July 2002

DEFINITION REPORT

MODIFICATION PROPOSAL P81 – Removal of the Requirement for Half Hourly Metering on Third Party Generators at Domestic Premises

Prepared by the Volume Allocation Modification Group on behalf of the Balancing and Settlement Code Panel

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Author	ELEXON Limited

I DOCUMENT CONTROL

a Authorities

Version	Date	Author	Signature	Change Reference
0.1	26/06/02	J Ellis		Peer Review by C. Hughes
0.2	02/07/02	J Ellis		Updated with peer review comments and issued for VAMG Review
0.3	10/07/02	J Ellis		Final Review incorporating VAMG & ELEXON comments
1.0	11/07/02	J Ellis		First Issue

Version	Date	Reviewer	Signature	Responsibility
1.0	11/07/02	D Warner		Change Delivery

b Distribution

Name	Organisation
Each BSC Party	Various
Each BSC Agent	Various
The Gas and Electricity Markets Authority	Ofgem
Each BSC Panel Member	Various
energywatch	energywatch
Core Industry Document Owners	Various
Other Industry Members	Various

c References

Electronic copies of these documents can be found on the ELEXON website, at www.elexon.co.uk unless otherwise stated.

Ref	Document	Owner	Issue Date	Version
1.	DCRP Consultation on Banding/Classification of Distributed Generation (www.ofgem.gov.uk/dso/consultations.htm).	Ofgem	28/05/02	
2.	Distributed generation: price controls, incentives and connection charging. Further discussion, recommendations and future action. (www.ofgem.gov.uk/projects/consultation.htm).	Ofgem	March 2002	
3.	Electricity Supply Licence Standard Conditions (www.dti.gov.uk/energy/gas-electricity.htm).	DTI	Sept 2001	
4.	Modification Proposal P81 “Removal of The Requirement for Half Hourly Metering on Third Party Generators at Domestic Premises”	ELEXON	03/05/02	
5.	Initial Written Assessment of P81	ELEXON	10/05/02	1.0
6.	First Consultation Document for Modification Proposal P81	ELEXON	12/06/02	1.0
7.	Letter from Ofgem to Electricity Association – Pattern Approval of New Meter Types	Ofgem	21/06/02	

d Intellectual Property Rights and Copyright

II CONTENTS TABLE

1 SUMMARY AND RECOMMENDATIONS

On the basis of the analysis, consultation and assessment undertaken in respect of Modification Proposal P81 during the Definition Procedure, and the resultant findings of this Definition Report, the Volume Allocation Modification Group (VAMG) recommends that the Balancing and Settlement Code Panel should:

- **NOTE the P81 Definition Report and the recommendations of the VAMG;**
- **ENDORSE the recommendation of the VAMG and proceed to the Assessment Procedure in accordance with Section F2.6 of the Code;**
- **AGREE the Assessment Procedure timetable such that an Assessment Report should be completed and submitted to the Panel for consideration at their meeting of 17 October 2002; and**
- **AGREE any refinement to the Modification Group Terms of Reference.**

1.1 Structure of Document

The document is structured as follows:

- Section 3 provides background to P81;
- Section 4 provides details of the VAMG membership;
- Section 5 provides an overview of P81 as defined by the VAMG;
- Sections 6 and 7 provide a summary of the issues discussed by the VAMG and the reasons for progressing P81;
- Section 8 contains a summary of the responses to the Definition consultation.

2 INTRODUCTION

This Report has been prepared by ELEXON Ltd., on behalf of the Balancing and Settlement Code Panel ('the Panel'), in accordance with the terms of the Balancing and Settlement Code ('the Code'). The BSC is the legal document containing the rules of the balancing mechanism and imbalance settlement process and related governance provisions. ELEXON is the company that performs the role and functions of the BSCCo, as defined in the Code.

An electronic copy of this document can be found on the BSC website, at www.elexon.co.uk.

3 BACKGROUND

3.1 Background to P81

TXU UK LTD submitted Modification Proposal P81 'Removal of the Requirement for Half Hourly Metering on Third Party Generators at Domestic Premises' (P81), reference 4, on 3 May 2002. The Initial Written Assessment (IWA), reference 5, was submitted to the Panel at their meeting on 16 May 2002. The Panel decided to submit P81 to the Definition Procedure in accordance with Section F2.5 of the Code, with a Definition Report due to be presented to the Panel on 18 July 2002.

P81 seeks to remove the requirement for domestic premises with Third Party Generating Plant to have half hourly metering installed, if the Exports are to be taken into account in Settlements. It

suggests that this will better facilitate competition in the supply and generation of electricity, by removing an obstacle to the use of micro-generation e.g. domestic Combined Heat and Power (CHP) and photovoltaic (PV) cells.

The New Metering Technology Working Group (NMTWG) and one of its sub committees, the Settlement Review Group (SRG), have been considering the current barriers to allowing new metering and generation technology and how these may be removed. The SRG has considered the profiling and other issues raised by P81 and some of their work has been used as a basis for progressing P81.

3.2 Related Industry Initiatives

Although P81 should be assessed on its own merits and against the applicable BSC Objectives, it should be noted that there are other initiatives that have taken place recently or are under way within the industry.

The Authority held a consultation in March 2002, which followed on from an initial consultation held in September 2001. The consultation covered various issues, one of which was micro generation. In the report (reference 2) the Authority states that they regard that basic Import/Export active power metering will be required as a minimum for all distributed generation, including domestic CHP. Such metering would support pricing likely to accurately reflect the varying behaviour of domestic CHP and micro-generation users as they connect to networks in increasing numbers and with higher-capacity generating units. Consistency with metering of the increasingly efficient PV units now being developed is another relevant consideration. Half-hourly and reactive power metering is not included as a necessary minimum.

The Technical Steering Group that reports to the joint DTI / Ofgem Distributed Generation Co-ordinating Group has a work stream dedicated to solutions for micro-generation. They have a number of projects looking at micro-generation issues, one of which corresponds with P81. ELEXON will feedback information and the decisions made by the VAMG to the Technical Steering Group.

4 MODIFICATION GROUP DETAILS

The VAMG with additional members from the SRG was assigned P81 and was set the Terms of Reference, as given in Annex 4, for the Definition Procedure. The membership was as follows:

Member	Organisation
Justin Andrews / Ceri Hughes	ELEXON (chairman)
Phil Russell	TXU (Proposer)
Dave Sowden	MicroGen (BG Group)
Katherine Bergin	SSE
Alec Thompson	LE Group
David Cooper	Electricity Association
Neil Magill	ScottishPower
Liz Cutting	TXU
Bob Brown	Cornwall Consulting
Rob Cullender	British Gas
Richard Westoby	Scottish & Southern
Martyn Hunter	St Clements
Malcolm Piper	Seeboard Energy
Chris Pooley	Cambell Carr
Richard Harrison	NPower

John Lucas	ELEXON (lead analyst)
Joanne Ellis	ELEXON

Attendee	**Organisation**
John Parsons	Advantica
Paul O'Donovan	OFGEM
Arthur Cooke	OFGEM
Claire Talbot	NGC

5 THE MODIFICATION PROPOSAL

5.1 The Current BSC Requirements

Section L of the Code states that Third Party Generating Plant wishing to trade in Supplier Volume Allocation (SVA) must have Half Hourly Metering Equipment installed.

Section K of the Code states that any Party responsible for any Exports or Imports of electricity at a boundary point of a premise shall ensure that Metering Equipment is installed that can separately measure quantities of Import and Export.

Third Party Generating Plant is defined in Section X as Exemptable Generating Plant for whose Exports a BSC Party has for the time being elected to be responsible. The BSC Party must not be the person who generates electricity at the Generating Plant.

Exemptable Generating Plant is defined in Sections K and X as being Generating Plant where the person generating electricity at that Generating Plant is exempt from the requirement to hold a Generation License, or would be exempt if they operated no other Generating Plant.

This gives rise to the following metering requirements:

- If the Exemptable Generator decides that the Exports are not to be used in Settlement and the Metering Equipment currently installed does not run backwards, the Imports could be registered as non half hourly (NHH). No additional registers would be needed and the Exported electricity would spill onto the grid. Therefore the spill is not directly accounted for in Settlements and is therefore smeared over all Suppliers in the Grid Supply Point (GSP) Group through the mechanism of GSP Group Correction.
- If the Exemptable Generator decides that the Exports are not to be used in Settlement and the Metering Equipment currently installed runs backwards, the Metering Equipment would need to be replaced, as net metering is not allowed.
- If the Exemptable Generator decides to use the Export in SVA Settlements and the Exemptable Generator is a Party to the Code and the Generating Plant is installed at non 100 kW premises, then NHH metering could be used. The NHH metering must be capable of measuring Import and Export separately as defined in section K of the Code. If any of these criteria are not met the Metering Equipment must be Half Hourly[1].
- If a Third Party seeks to register the Metering Systems on behalf of the Exemptable Generator and wishes to use the Exports in SVA Settlements, the Metering Equipment must be Half Hourly.

[1] It should be noted that this loophole is considered to be outside the scope of P81 and should be considered as a separate Modification Proposal should the Panel wish to progress it further.

5.2 The Modification Proposal

P81 seeks to relax these Code requirements, to allow Exports from Domestic Premises to be taken into account for Settlement purposes without Half Hourly Metering Equipment being installed. The rationale given for this is that the metering and data collection costs associated with Half Hourly metering are disproportionate for micro-CHP and PV technologies. P81 suggests that removing this obligation will better facilitate competition in the generation and supply of electricity (BSC Objective (c)). The VAMG also supported this view.

The VAMG discussed P81 including the terms of reference set by the Panel (see Annex 4) and have agreed that the definition of P81 should be as follows:

- P81 does not seek to change the current requirements for separate metering of Imports and Exports.
- The Supply Licence definition of 'domestic premises' will be used, however Condition 22 of the Supply Licence will not apply.
- The revised Profiling option C (as described in Annex 1) is the preferred solution for implementing P81, based on the assumption that it is possible to determine and implement acceptable profiles in a short timescale.
- It is possible to progress revised option C in shorter timescales than originally envisaged, therefore there will be no need to deliver an interim solution. The timescales for implementation of option C will be assessed during the Assessment Procedure.

These issues and other related options are described in more detail in section 6. The remaining revised Profiling option should be considered during the Assessment Procedure.

6 ISSUES RAISED BY THE MODIFICATION PROPOSAL

The issues raised in the IWA were discussed at the VAMG meeting on 30 May 2002 and details of the discussions can be found in this section. These issues were then included in the consultation which was issued to Parties and non-BSC Parties on 12 June 2002. The VAMG discussed the responses at their second meeting on 27 June 2002.

6.1 Requirement for Import/ Export Metering

At their first meeting the VAMG agreed that P81 does not seek to change the requirements, in section K1.2.1 of the Code, for separate metering of Imports and Exports at the boundary point of a premises. The VAMG noted that should a Party wish to consider other options such as net metering of the Imports and Exports at the boundary point of a premise, a new Modification Proposal should be raised as the issue is outside the scope of P81.

At their second meeting the VAMG also noted a letter from the Authority to the Electricity Association (reference 7) stating that any new meters developed "must always have a discrete register for total Import and a discrete register for total Export energy. For single energy direction meters positive protection should be incorporated to prevent any effect of reversal of energy flow on the accumulated energy in the normal flow direction". This is in line with the current Code requirements and would suggest that the Authority would not support a move away from them.

6.2 Profiling Options

P81 does not specify how Exports for NHH metering should be settled. The VAMG considered this at their first meeting and did not reach any decision. It was decided to seek BSC Party and non-BSC Party views on the options below as part of the consultation and the results were discussed at the second VAMG meeting.

The different profiling options possible are summarised below. A more detailed explanation can be found in Annex 2 of this Report:

Option A Use of existing demand profiles to settle the net consumption on the site. This can be split into two interpretations:

(i) Two single rate meters measuring Import and Export separately or a meter capable of measuring the Import and Export on separate registers. The demand profile would then be applied to the Export energy and to the Import energy separately.

(ii) Allow "net" metering e.g. use a meter that runs backwards at the boundary point of the premises and also measure gross generation at the generation unit. The Import and Export energy can then be calculated and the current demand profile applied to both. This option was seen to be outside the scope of P81, see section 6.1.

Option B The existing demand profiles would be used for both the Import and Export energy, as for option A, however the profile would be chunked to reduce the resultant profiling errors. The metering would be one of two options:

(i) two separate meters recording Export and Import quantities and the Export meter would have two or more cumulative energy registers; or

(ii) a single meter which recorded Import and Export energy on different registers and that the cumulative export energy could be recorded on two or more of these registers.

Option C Creation of new profiles for specific micro-generation technologies. This option potentially allows more accurate profiling, however it would need to be confirmed empirically for each type of micro-generation. There is potentially enough data currently available to allow the construction of acceptable profiles which could be used before load research is carried out. This option could potentially lead to relatively high development costs but this will be assessed in the next phase of the Modification Procedure.

The VAMG agreed that option C would be progressed to the Assessment Procedure on the assumption that some investigation would be carried out as to the feasibility of construction of profiles in the short term by using the available heat / gas consumption data to predict a micro-CHP profile and sunlight data to predict a PV profile. The rationale for this was that both option A and option B are fundamentally wrong in principle because they apply demand profiles to Export meter readings and data is already available for better determining the Export profile.

The VAMG recommended that these refined options should be consulted upon further in the Assessment Procedure to establish BSC Party and non-BSC Party preferences.

6.3 Criteria for Allowing Non Half Hourly Metering

P81 seeks to change the requirement for half hourly metering on Third Party Generators at Domestic Premises, however the term 'Domestic Premises' is not defined within the Code.

At their first meeting the VAMG discussed what constitutes 'Domestic Premises' for the purposes of P81 and agreed that the Supply Licence definition should be used (see ref. 3). On further investigation, ELEXON found that there is a simple definition used in the Supply Licence, this is given below, but there are other circumstances defined in Condition 22 of the Supply Licence where the term Domestic Premises may apply. The consultation addressed this issue and at their second meeting, the VAMG discussed the responses and agreed that the simple definition is adequate and should not be complicated by the use of Condition 22.

The definition given in the Electricity Supply Licence Standard Conditions is:

'domestic premises means premises at which a supply is taken wholly or mainly for domestic purposes'

It was also suggested that a capacity related limitation or a Profile Class based banding could be progressed as a potential Alternative Modification should the Panel agree to submit P81 to the Assessment Procedure.

It was noted that there is a consultation underway on the banding of generation, which is being carried out by the Distribution Code Review Panel (DCRP). In their paper (reference 2) the DCRP suggest that a band is created to include Domestic CHP and all micro-generation up to either 5 kW or 16 Amps per phase (the value to be used has not yet been defined), including both single and three phase installations.

6.4 Long and Short Term Solutions

At their first meeting, on 30 May 2002, the VAMG discussed the issue of whether P81 should be seen as an interim solution to the problem or as a long term solution. The VAMG reached no decision on this and consulted on it as part of the Definition Procedure consultation.

One reason for defining an interim solution is that field trials are still at an early stage and the ultimate level of take-up remains uncertain, it may therefore be appropriate to determine a solution that could be revisited when and if the volume of micro-generation becomes significant.

After reviewing the consultation responses at their second meeting, the VAMG agreed that it was not appropriate at this stage to consider a short term solution that is different to the long term solution. The VAMG reached this conclusion on the basis that if in future participants thought the profiling rules for micro-generation were no longer appropriate they could raise a further Modification Proposal at a later date.

7 THE NEED FOR FURTHER ASSESSMENT AND EVALUATION

The VAMG believe that a three-month Assessment Procedure should be recommended to the Panel to ensure a full review of the revised options and any Alternative Modification Proposal(s) that may be suggested. The initial stage of the Assessment Procedure should be used to focus on the potential solutions that will require consultation and impact assessment. The VAMG noted that assessment of P81 would need to produce some profiles for PV and micro CHP in order that a full assessment of the profiling options can be undertaken.

The VAMG believed that further assessment of the profiling options and the option of using a generation capacity or Profile Class of the Import MPAN instead of "domestic premises", identified during the Definition Procedure should be undertaken. This will be achieved by a further consultation and impact assessment from BSC Parties, BSC Agents and other interested industry participants, to ensure that all the costs and impacts are identified.

The VAMG also agreed that the Assessment Procedure should establish the following:

- the impact on distribution businesses and Distribution Use of System (DUOS) charging and consequently any changes to Meter Timeswitch Codes and Line Loss Factor Classes that would be necessary;
- an assessment of the costs associated with the metering requirements for the revised profiling options;
- the impact on Core Industry Documents;
- a cost benefit analysis of P81; and
- consult with meter manufacturers on whether it is possible for Seasonal Time of Day (StoD) meters to record multiple Import and Export readings.

8 REPRESENTATIONS BY PARTIES AND INTERESTED THIRD PARTIES

8.1 Summary of Representations

Seventeen responses, representing 52 BSC Parties and 49 non-BSC Parties, were received. The tables below show the responses to question 1-6. Question 7 and 8 have not been shown as they asked for additional comments. The responses were discussed in detail by the VAMG at their second meeting and their comments have been taken into account in section 6. Full details of the consultation questions and the responses received can be found in Annex 2. In addition the summary used by the VAMG for discussions at their second meeting is given in Annex 3.

Q	N/A		?		No		Yes	
	Responses	Parties	Responses	Parties	Responses	Parties	Responses	Parties
1	1	1	1	9	1	1	13	41 + 49 non
2	1	1	1	9	3	21 + 3 non	11	21 + 46 non
3	1	1	0	0	6	6	9	45 + 49 non
4	1	1	2	21 + 45 non	2	6 + 2 non	11	24 + 2 non
5	1	1	2	10	4	3 + 1 non	9	38 + 48 non

Q	N/A or ?		Option A		Option B		Option C		Option A & C		Option B & C	
	Response	Parties	Response	Parties	Response	Parties	Response	Parties	Response	Parties	Response	Parties
6	2	2	2	2 non	8	40 + 2 non	2	2	1	45 non	1	8

Grey shading shows the majority view of the consultation responses

8.2 Comments and Views of the Modification Group

The VAMG at their second meeting on 27 June 2002 discussed the consultation responses received within the consultation period. A summary of the views of the VAMG on these consultation responses are noted below.

The VAMG agreed with the consultation responses that in principle removing the requirement for half hourly metering on Third Party Generators at domestic premises better facilitates applicable BSC objective (c). They noted however that certain assumptions have been made when reaching this decision. These were:

- HH metering is more accurate than NHH metering but that it is currently too expensive and is impractical for the small Exports that P81 is aimed at. Therefore there is a trade off between facilitating competition in generation and accuracy in Settlements.
- If and when HH metering and associated services becomes cheaper a Party could raise another Modification Proposal to amend the Code to make HH metering mandatory again.

The VAMG noted that the majority of responses to the consultation suggested that profiling option B, 'chunking' of profiles, should be progressed as the solution. However, the VAMG also noted that the consultation document had not mentioned that it may be possible to develop acceptable micro-generation profiles in a relatively short timescale by using available gas consumption and sunshine data (revised option C). Consequently the VAMG agreed that the Assessment Procedure should highlight all options for consideration, with revised option C as the preferred approach.

The VAMG noted the issues raised that should be considered when progressing P81 and agreed that these should be considered further as part of the Assessment Procedure and have been detailed in section 7.

ANNEX 1 – PROFILING AND METERING OPTIONS

It should be noted that the options detailed below (A, B and C) have been updated from those presented in the consultation document, following discussions held at the second VAMG meeting. The metering options have also been modified to take into account the VAMG view that P81 does not seek to change the requirement to meter Import and Export separately at the boundary point of a premises.

A1.1 Option A: Settling Micro-generation on current Demand Profiles

The first option identified is a 'do-nothing' option, and is as follows:

- No profiling changes i.e. customers with micro-generation are settled on the standard demand profiles. It should however be noted that if a significant proportion of customers adopt any particular micro-generation technology, it would eventually be included in the random samples of customers used for load research purposes.
- No special metering requirements other than a requirement to ensure that all Imports and Exports are measured separately.

Metering Configurations Supported by Option A

All meter advances would be settled on demand profiles, irrespective of whether they represented Import or Export. Possible metering options are:

- Two single rate meters measuring Import and Export separately or a meter capable of measuring the Import and Export on separate registers. The demand profile would them be applied to the Export energy and to the Import energy separately.
- Allow "net" metering e.g. use a meter that runs backwards at the boundary point of a premise and also measure gross generation at the generation unit with a separate meter. The Import and Export energy can then be calculated and the current demand profile applied to both.

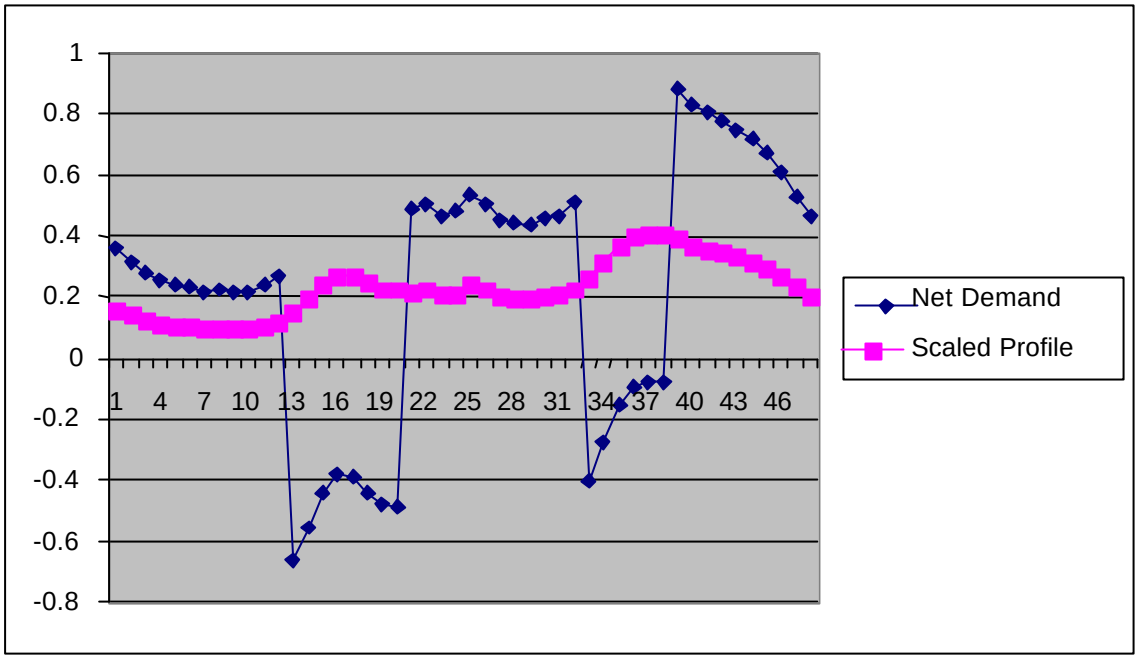
The second option is not considered possible under P81 as the VAMG agreed that it did not seek to change the requirement for measuring separate Import and Export quantities at the Boundary Point of a premise.

Assessment of Profile Errors Under Option A

This option clearly leads to a significant error in profile shape for those customers with micro-generation but given the current small numbers of such premises the overall impact on Settlements would be minimal. This profile error can be regarded as having two separate components. It should be noted that these two errors will have equal and opposite energy volumes when considered over the whole of a Meter Advance Period. In this sense the overall error can be regarded as an error in profile shape, rather than profile volume.

1. As the profile used in Settlement doesn't allow for micro-generation, the profile shape will be inaccurate at those times of the day when the micro-generation is running.
2. Because the presence of generation reduces the meter readings (and hence the Annualised Advances used in Settlement), the profile used in Settlement will be scaled down, reducing the profiled consumption at all times of the day.

The graph below illustrates a hypothetical example of these profile errors:



- The blue curve (◆) represents the actual consumption of the customer. For most of the day the consumption closely matches the standard demand profile, but in the periods 6:00-10:00 and 16:00-19:00 micro-generation starts running, reducing the overall demand by 1 kW, and causing energy to spill onto the distribution system.
- The pink curve (■) represents the profiled consumption used in Settlement i.e. the standard demand profile, but scaled down because of the effect of the generation on the meter readings.

The effect of these profile errors on BSC Parties can be summarised as follows:

- The profiled consumption for the customer in question will typically be too high when the micro-generation is running, and too low at other times of the day. However, the mechanism of GSP Correction will compensate for this, with the following results:
  (a) At times of the day with significant micro-generation, the Non-Half Hourly metered volumes for all Suppliers in the GSP Group will be scaled down.
  (b) At times of the day without micro-generation, the Non-Half Hourly metered volumes for all Suppliers in the GSP Group will be scaled up.
- Unless all Suppliers (not just those with such customers in their portfolios) take this into account in their contractual positions, the effect of this will be to shift energy imbalance volumes from periods without micro-generation into periods with micro-generation:
  (a) At times of the day with significant micro-generation, Suppliers' energy imbalances will become larger (i.e. the amount of spill sold at System Sell Price (SSP) will be increased, or the amount of top-up purchased at System Buy Price (SBP) will be decreased).
  (b) At times of the day without micro-generation, Suppliers' energy imbalances will become smaller (i.e. the amount of spill sold at System Sell Price will be decreased, or the amount of top-up purchased at System Buy Price will be decreased).

- Because of the dual cash-out prices used in Settlement, the materiality of these disturbances in imbalance volumes depends significantly upon the contractual position of the Supplier:
  (a) A hypothetical Supplier who would have been in balance[2], had the profiling errors not occurred, would be left with a negative energy imbalance in periods without micro-generation, and an equal and opposite positive energy imbalance in periods with micro-generation. As the Supplier is paid for positive energy imbalances at SSP, but pays for negative energy imbalances at SBP, the cost to the Supplier is the volume of energy shifted, multiplied by the SBP/SSP spread.

  (b) A Supplier who is in balance on average (i.e. energy imbalance volumes average to zero), but whose imbalances volumes in individual periods are larger than the profiling errors, would be much less affected. In this case the Supplier will be paid SSP for a mixture of positive and negative profiling errors (unlike in case (a), where only the positive profiling errors are paid for at SSP). Similarly, the Supplier will pay SBP for a mixture of positive and negative profiling errors. The financial effects of the profiling errors will therefore tend to cancel out, leading to a much smaller impact on the Supplier.

  (c) In the case of a Supplier who is significantly out of balance (i.e. the magnitude of his energy imbalance volumes is much larger than that of the profiling errors), all the profiling errors will be settled at a single cash-out (i.e. SSP if the energy imbalance volumes are positive, or SBP if the energy imbalance volumes are negative). In this case the errors will again tend to cancel out, leading to a small effect on the Supplier.

In summary, therefore, the impact on Suppliers of profiling errors caused by micro-generation depends significantly upon the Suppliers' imbalance positions. However, in the worst possible case of all Suppliers being in balance except for the effects of the profiling error, the overall cost to Suppliers in the GSP Group will be[3]:

(Magnitude of profiling error) x (SBP/SSP spread)

In this worst case scenario, the impact on Suppliers of the profiling errors arising from a single domestic micro-CHP customer generating 1500 KWh per annum[4] would amount to £37.50 per annum (assuming a SBP/SSP spread of £25/MWh).

In all cases where profiling errors increase the imbalance charges paid by Suppliers, the money is redistributed to BSC Parties in proportion to their Credited Energy Volumes, through the mechanism of Residual Cashflow Reallocation.

Potential Cost Implications of Option A

Of all the metering and Settlement options discussed in this document, option A places the least requirements on BSC Systems and on Suppliers of customers with micro-generation, and is therefore a least cost option:

[2] i.e. whose energy imbalance volumes would have been zero (or small compared to the effect of the profiling error).

[3] In other cases, the effect on Suppliers of the profiling errors may cancel out over the Meter Advance Period, reducing the overall financial impact.

[4] This worst case estimate is based on the assumption that the total amount of profile error is equal to the amount of generation. This is actually a slight over-estimate of the profile error.

- There are potentially no changes to BSC Systems, as existing profiles and Standard Settlement Configurations would continue to be used.
- The Supplier would be free to install any meter they choose, provided it was capable of measuring Export, thus minimising metering costs. It should be noted however that meter replacement would still be required in many cases, as many domestic meters cannot accurately record Export onto the distribution system.

A1.2 Option B: Use of Multi-Rate Metering and Chunked Profiles

One way of reducing the profile errors caused by settling micro-generation on demand profiles would be to oblige Suppliers to install multi-rate metering, in order that the standard demand profiles can be 'chunked' appropriately:

- For each type of micro-generation technology, the Panel (or an appropriate sub-committee) would agree which blocks of time should be separately measured. This would preferably be done following analysis of metered Half Hourly data from a sample of customers, or would be determined from existing heat and electricity demand profiles or sunshine data and electricity demand profiles. For instance, if analysis showed that the load shape for customers with domestic CHP installed was significantly different to the Profile Class average between 6:00 and 10:00 on weekdays, this might be defined as one of the blocks of time to be measured separately.
- A new Standard Settlement Configuration (SSC) would then be defined, whose Time Pattern Regimes (TPR) corresponded to the agreed time blocks. Suppliers would be obliged to install multi-rate metering for those customers, with the registers programmed to match the defined TPR.

This approach is potentially a simple and cost-effective way of reducing the errors in imbalance volumes attributed to Suppliers, without the need for significant development costs:

- As described below, it could reduce significantly the magnitude of the profile errors caused by using demand profiles to model micro-generation.
- Unlike option C (discussed below), it avoids the need for an additional ongoing program of load research to create and maintain new profiles for micro-generation. The only BSC development cost would potentially be the analysis and administrative overhead required to agree the new SSCs.
- As multi-rate Seasonal Time of Day (SToD) meters are relatively inexpensive, the additional metering cost is small. However it would need to be assessed if these meters are capable of measuring more than one Export quantity at a time.

It should however be noted that the extent to which this option reduces profiling error depends significantly on how accurately the defined timeslots match the actual behaviour of customers with micro-generation.

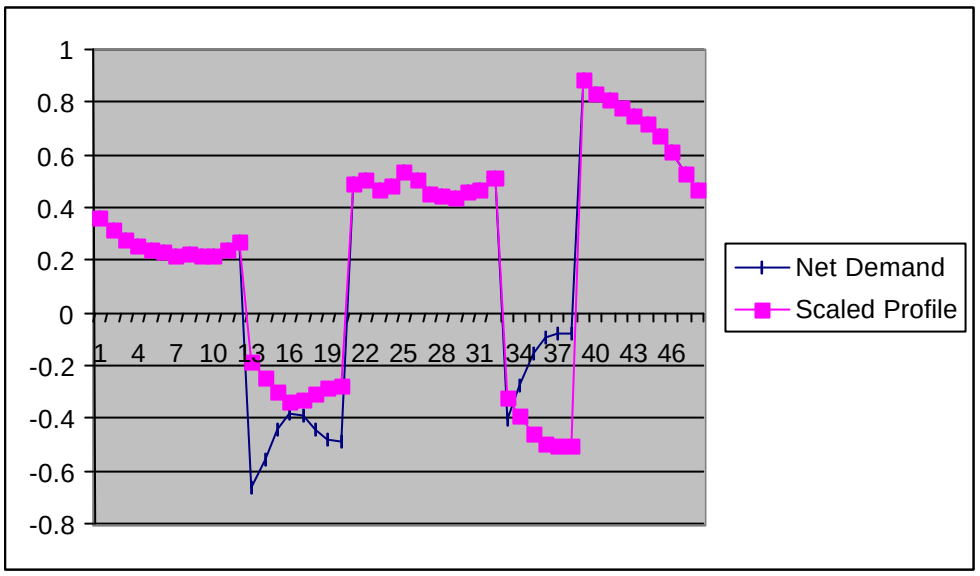
Metering Configurations Supported by Option B

The metering installed would need to be able to measure different time bands of both Import and Export energy on separate registers. If it is found that the meters are not capable of doing this then potentially two meters would need to be installed, one to measure Import quantities and one to measure Export quantities.

Assessment of Profile Errors Under Option B

Under option B, the customer's meter advances (both Import and Export quantities) are still settled on the demand profile. However, the different 'chunks' of the profile corresponding to the different Time Pattern Regimes are scaled up and down separately, to ensure that the total profiled volume over the Meter Advance Period matches the meter advance for the associated meter register.

The graph below illustrates a hypothetical example of this:



- The blue curve (◆) represents the actual consumption of the customer. For most of the day the consumption closely matches the standard demand profile, but in the periods 6:00-10:00 and 16:00-19:00 micro-generation starts running, reducing the overall demand by 1 kW, and causing energy to spill onto the distribution system.
- The pink curve (■) represents the 'chunked' demand profile used to model this. The day is assumed to be divided into two Time Pattern Regimes: the part of the day when the generation is running (i.e. 6:00-10:00 and 16:00-19:00); and the remainder (i.e. 00:00-06:00, 10:00-16:00 and 19:00-00:00).

Points to note about this graph are as follows:

- It shows the actual net demand as being equal to the scaled profile during the part of the day without generation. In practice, of course, this wouldn't be the case, as the actual demand of any individual customer will differ from the profile shape for reasons unconnected with the presence of micro-generation.
- Typically each individual 'chunk' of a chunked demand profile will have the same shape as the basic unchunked profile, but scaled up or down to match the appropriate meter advance. In the case shown above, however, the 'chunk' of the profile corresponding to the periods with generation has been scaled to match a negative meter advance, which has the effect of inverting the profile shape.
- In practice, it would not be possible to define a TPR that corresponded exactly to those times of the day when the micro-generation was running, because these times would differ from customer to customer.

In summary it would appear that the 'chunking' technique has the potential to significantly reduce the profile errors arising from the use of demand profiles to settle micro-generation. However, further analysis (preferably using Half Hourly data from a sample of actual customers) would be required to quantify this.

Potential Cost Implications of Option B

Option B requires a multi-rate meter to be installed, and does therefore increase the cost per customer of metering. Further assessment of this would be required in order fully to evaluate the merits of this option, although anecdotal evidence from one of the SRG members suggests the additional cost could be quite low[5].

The only BSC cost under option B is the cost of approving new SSCs, which is relatively low, but this will be assessed further during the Assessment Phase of P81 .

A1.3 Option C: New Profiles for Micro-generation

The third option identified is to use separate profiles for micro-generation, as follows:

- Develop acceptable Import and Export profiles using heat/gas consumption data for a micro-CHP profile and sunlight data for PV profile. This should be developed in as short a timescale as possible using available market data.
- The Profile Administrator may at a later stage carry out additional load research to maintain these profiles and determine any others that were felt to be necessary for specific generation technologies.
- Each of these new profiles would be in the same format as the existing demand profiles6, and would be identified by a new Profile Class. For example, Profile Class 9 might be micro-CHP, and Profile Class 10 might be PV cells. Alternatively, more than one Profile Class might be required for a single micro-generation technology, to allow for different types of customer e.g. domestic, non-domestic, Maximum Demand.

Metering Configurations Supported by Option C

Because this option has separate profiles for Import and Export, it would require separate metering of these quantities either by using two single rate meters or one meter capable of measuring both quantities.

- The Export energy would be assigned to one of the new Export Profile Classes, and settled on an Export profile.
- The Import energy would be assigned to one of the existing demand Profile Classes, and settled on a demand profile.

If there were a requirement to ensure that the two metering systems were registered by the same Supplier, this would be achieved by registering the Metering Systems as 'related' in the Supplier Meter Registration Service[7]. Alternatively, if they weren't registered as related, the two could potentially be traded independently. Even if the same physical meter metered consumption and generation, it is assumed that two separate MPANs would be created for the Import and the Export.

The disadvantages associated with this option are:

[5] It was suggested to the SRG that a meter capable of measuring Import and Export separately on up to eight registers might be available for approximately £30, as opposed to £15-£20 for a one-rate meter.

[6] The format for demand profiles includes regression coefficients for the Noon Effective Temperature and Time of Sunset.

[7] Subject to confirmation that this is consistent with the definition of Related Metering Point in the Master Registration Agreement.

- Separate profiles would potentially be required for each combination of micro-generation and demand (e.g. a profile for non-domestic customers with Economy 7 and photo-voltaic cells). This could lead to an unmanageable increase in profile numbers. The use of separate profiles for demand and generation would require a much smaller number of profiles in total.
- The Profile Administrator expressed concern that statistical anomalies could arise when carrying out regression analysis on the very small energy volumes that might result from netting off demand and generation.

Potential Cost Implications of Option C

The "full" option C has the highest potential BSC costs of the three options, as although initially profiles will be constructed from existing heat and sunlight data, additional load research would also be required to maintain the new profiles. Further impact assessment would be required to establish these costs. As a very rough guide, the load research contract for the current eight Profile Classes and two switched load profiles costs is in excess of £1m per annum, suggesting that costs could be in the region of £100,000 per profile required.

Further points to note include:

- The attractiveness of this option is that although the initial profiles would be approximate, being produced from existing heat / sunlight data, their cost would be low. It is only when a large number of units have been installed that field measurements would be used to produce a true profile. For a large number of customers, a new profile would be very cost effective.
- One of the disadvantages of this option is that separate profiles would be required for each specific micro-generation technology. It might therefore be appropriate to adopt this solution only for the more popular micro-generation technologies.

ANNEX 2 – CONSULTATION RESPONSES

The consultation was issued on 12 June 2002, with responses due back on 25 June 2002, to all BSC Parties and other interested industry members.

Representations were received from the following parties:

No	Company	File Number	No. of Non BSC Parties Represented	No. BSC Parties Represented
1.	Electricity Direct (UK) Ltd	P81_DEF_001		1
2.	Professor Marmont, West Beacon Farm	P81_DEF_002	1	
3.	SEEBOARD Power Networks	P81_DEF_003		1
4.	British Photovoltaic Association	P81_DEF_004	45	
5.	Intersolar Group	P81_DEF_005	2	
6.	IMServ	P81_DEF_006		1
7.	Energy Saving Trust	P81_DEF_007	1	
8.	SEEBOARD Energy	P81_DEF_008		1
9.	NEDL/YEDL	P81_DEF_009		1
10.	Aquila Networks	P81_DEF_010		1
11.	TXU	P81_DEF_011		21
12.	Scottish Power	P81_DEF_012		6
13.	British Gas Trading	P81_DEF_013		1
14.	London Electricity	P81_DEF_014		8
15.	Innogy	P81_DEF_015		9
16.	Western Power Distribution	P81_DEF_016		1
17.	MicroGen (late response)	P81_DEF_017	1	
		TOTAL	**50**	**52**

P81_DEF_001 – Electricity Direct (UK) Ltd

Respondent:	Gareth Swales
Responding on Behalf of	Electricity Direct (UK) Limited
Role of Respondent	Supplier

	Question	Response
Q1	**Do you believe that the principle of removing the requirement for half hourly metering on Third Party Generators at Domestic Premises better facilitates the applicable BSC objectives?**	**Yes**
Rationale:		
Q2	**Do you believe that the Modification as defined by the Modification Group in Section 4 of this report is the most appropriate interpretation?**	**Yes**
Rationale:		
Q3	**Do you believe that there are any alternative Modifications that the Modification Group should consider during the Assessment Procedure, should the Panel decide to submit the Modification to the Assessment Procedure?**	**No**
Rationale:		
Q4	**Do you agree with the Modification Group view that "Domestic Premises" should be the same as the definition in the Electricity Supply Licence?** **If YES do you believe that the definition used, should be the simple definition at the start of the Licence or that the extra conditions defined in Condition 22 of the Licence should also apply?**	**Yes**
Rationale:		
Q5	**Do you believe that there is a need for a short term solution that is potentially different to the long term solution to this issue?** **If so what do you believe are the triggers for a change to a longer term solution?**	**Yes**
Rationale: The take up of such devices is unknown and could potentially only develop into a niche market. The short term and long term solutions do not necessarily have to be worlds apart and could potentially be a phased implementation after certain criteria was met.		
Q6	**Which of the three profiling options do you believe better facilitates the applicable BSC objectives and should be used in progressing this Modification?**	**Option C**
Rationale: C, but please note my comments in 'further comments'		

Q7	**Does the Modification Proposal raise any issues that you believe have not been identified so far and that should be progressed as part of the Assessment Procedure for this Modification, should the Panel decide to submit the Modification to the Assessment Procedure?**	**No**
Q8	**Do you have any further comments on Modification Proposal P81 that you wish to make?**	**Yes**

I am in agreement with the idea that HH metering should not be required, but believe initially that there would not be substantial volume hitting the system for either Profiling Option B or C to be considered.

Before considering profiling options there are several more Important issues that must be investigated such as the take up, reliability, maintenance etc of the devices. Assessing against this criteria would give a more accurate prediction of what profiling was needed. These devices have to be proven to both the customers and installers alike. There is no economic sense in setting up a costly solution if the take up is limited or restricted to a niche market. The value of the Export to each domestic premise will be very minimal, that is to say if there was Export occurring, and so the need for allowing Exports, in the first instance, is not required.

It seems to me that we are trying to build a basket without knowing what is going to fill it and what size it should be.

If/When the take up of devices increases and the Exports had the potential to become significant enough to meter then the profiling options should be considered.

(My response is mainly aimed at the heat led devices (micro CHP) and not PV, as I believe most discussions are.)

P81_DEF_002 – Professor Marmont, West Beacon Farm.

Respondent:	Professor Tony Marmont
Responding on Behalf of	Please list all Parties responding on behalf of (including the respondent company if relevant).
Role of Respondent	Generator – West Beacon Farm

	Question	**Response**
Q1	**Do you believe that the principle of removing the requirement for half hourly metering on Third Party Generators at Domestic Premises better facilitates the applicable BSC objectives?**	**Yes**
Rationale:		
Q2	**Do you believe that the Modification as defined by the Modification Group in Section 4 of this report is the most appropriate interpretation?**	**Yes**

Rationale: If the UK is to achieve its CO_2 targets (not possible as now) we need to encourage (not discourage) renewable energy generating. The allowing of net metering would be the single most encouraging step (without imposing a tax burden).		
Q3	**Do you believe that there are any alternative Modifications that the Modification Group should consider during the Assessment Procedure, should the Panel decide to submit the Modification to the Assessment Procedure?**	**Yes**
Rationale:		
Q4	**Do you agree with the Modification Group view that "Domestic Premises" should be the same as the definition in the Electricity Supply Licence?** **If YES do you believe that the definition used, should be the simple definition at the start of the Licence or that the extra conditions defined in Condition 22 of the Licence should also apply?**	**Yes**
Rationale:		
Q5	**Do you believe that there is a need for a short term solution that is potentially different to the long-term solution to this issue?** **If so what do you believe are the triggers for a change to a longer-term solution?**	**No**
Rationale: I think net metering HAS to come and it is a long-term solution as well as short term.		
Q6	**Which of the three profiling options do you believe better facilitates the applicable BSC objectives and should be used in progressing this Modification?**	**Option A**
Rationale: Cheap and simple – worry about any inaccuracies in the future**.**		
Q7	**Does the Modification Proposal raise any issues that you believe have not been identified so far and that should be progressed as part of the Assessment Procedure for this Modification, should the Panel decide to submit the Modification to the Assessment Procedure?**	**No**
Please state your views:		
Q8	**Do you have any further comments on Modification Proposal P81 that you wish to make?**	**No**
Please state your comments		

P81_DEF_003 – SEEBOARD Power Networks

Respondent:	SEEBOARD Power Networks plc
Responding on Behalf of	Please list all Parties responding on behalf of (including the respondent company if relevant). Party: SBPN
Role of	(~~Generator/Supplier~~/Distribution Business/~~Other~~)

Respondent	

	Question	**Response**
Q1	**Do you believe that the principle of removing the requirement for half hourly metering on Third Party Generators at Domestic Premises better facilitates the applicable BSC objectives?**	**Yes/~~No~~**
Rationale:		
Q2	**Do you believe that the Modification as defined by the Modification Group in Section 4 of this report is the most appropriate interpretation?**	**Yes/~~No~~**
Rationale: The modification proposes to amend Section L of the Code but not Section K. This is correct, there is no justification for changing the current obligation to separately meter and settle Imports and Exports of electricity at a boundary point		
Q3	**Do you believe that there are any alternative Modifications that the Modification Group should consider during the Assessment Procedure, should the Panel decide to submit the Modification to the Assessment Procedure?**	**~~Yes~~/No**
Rationale: The proposed modification reflects the best solution to this issue. The two alternative modifications mentioned in section 5 have a number of flaws. Allowing a meter to run backwards risks opening a door to larger amounts of meter fraud (currently a backwards running meter is a reliable indicator of theft) the second proposal for gross metering seem unnecessarily complex.		
Q4	**Do you agree with the Modification Group view that "Domestic Premises" should be the same as the definition in the Electricity Supply Licence?** **If YES do you believe that the definition used, should be the simple definition at the start of the Licence or that the extra conditions defined in Condition 22 of the Licence should also apply?**	**Yes/~~No~~**
Rationale: A simple definition easily understandable by all would appear to be the most appropriate.		
Q5	**Do you believe that there is a need for a short term solution that is potentially different to the long term solution to this issue?** **If so what do you believe are the triggers for a change to a longer term solution?**	**Yes/No**

Rationale: Consideration of long terms/short terms solutions is inappropriate at this point in the Modification process. The Modification process should result in proposing the correct/best solution for all parities. Only if the implementation time for this solution is then considered excessive should a short term interim solution should be considered		
Q6	**Which of the three profiling options do you believe better facilitates the applicable BSC objectives and should be used in progressing this Modification?**	**Option A / Option B / Option C**
Rationale: Settlement should be on the basis of Import/ Export metering at the boundary point. Import could settle either on the existing Profile Classes, possibly with new SSCs or on new Profile Classes developed to reflect the Import profiles of micro-generation customers. Export should be settled on new Profile Classes developed to reflect the Export profiles of micro-generation customers.		
Q7	**Does the Modification Proposal raise any issues that you believe have not been identified so far and that should be progressed as part of the Assessment Procedure for this Modification, should the Panel decide to submit the Modification to the Assessment Procedure?**	**~~Yes~~/No**
Please state your views:		
Q8	**Do you have any further comments on Modification Proposal P81 that you wish to make?**	**Yes/~~No~~**
Please state your comments Net metering is inconsistent with the requirements of Distribution Businesses under the current price control methodology.		

P81_DEF_004 – British Photovoltaic Association

Respondent:	**Rodney Hacker**
Responding on Behalf of	**The British Photovoltaic Association (PV-UK)** **National Energy Centre, Davy Avenue, Knowlhill, Milton Keynes, MK5 8**
Role of Respondent	**Trade Association representing 45 companies ranging from major multi-nationals to one man PV installer businesses**

	Question	**Response**
Q1	**Do you believe that the principle of removing the requirement for half hourly metering on Third Party Generators at Domestic Premises better facilitates the applicable BSC objectives?**	**Yes**

Rationale: Photovoltaic systems generate power in daylight and not necessarily in time and in balance with domestic demand. The Export of surplus power for reward can significantly enhance the value of a PV system to the householder. The present requirement for half hourly metering on small generators is one of the major barriers to arranging such paid-for Export. The cost of half hourly outweighs the value of the modest quantities of power available for Export. This therefore contributes to depressing the market for PV, and restricts the equality of opportunity for the technology to contribute to reducing CO_2 emissions and improve diversity of supply.		
Q2	**Do you believe that the Modification as defined by the Modification Group in Section 4 of this report is the most appropriate interpretation?**	**Yes**
Rationale: Within the definition of the modification as being related to Domestic Premises the intepretation is considered reasonable, however, see comments below in relation to detail and alternatives. The Association supports the intent not to change the requirement for metering of Export and Import, at least in the short term. This will provide maximum flexibility to adopt possible future schemes for Export tariffs or net metering and also schemes to enable ROCs to be gained for small PV generators. The use of profiling is seen as a rational way to deal with valuing small amounts of power from the PV systems, avoiding complex and expensive administration.		
Q3	**Do you believe that there are any alternative Modifications that the Modification Group should consider during the Assessment Procedure, should the Panel decide to submit the Modification to the Assessment Procedure?**	**Yes**
Rationale: The definition of Domestic Premises is convenient but not definitive as regards plant size. Broadly, domestic PV systems will usually be less than 10 kW peak output. This size category also embraces many other buildings and sites which could benefit from a PV system, for example schools, clinics, community buildings. Generators on these sites suffer the same disbenefit from the half hourly metering requirement as domestic premises. Therefore PV-UK believes that the modification should embrace all small PV systems up to say 10kW peak output regardless of the location. Above this size the cost of metering and administration should clearly be less than the value of the Export. The PV-UK view is supported by the suggestion from the Distribution Code Review Panel in their consultations that all micro-generation up to a size limit be permitted within a category exempt from half hourly metering**.**		
Q4	**Do you agree with the Modification Group view that "Domestic Premises" should be the same as the definition in the Electricity Supply Licence?** **If YES do you believe that the definition used, should be the simple definition at the start of the Licence or that the extra conditions defined in Condition 22 of the Licence should also apply?**	
Rationale: The short consultation period has not allowed this association time to research and consider the Importance of Condition **22.**		
Q5	**Do you believe that there is a need for a short term solution that is potentially different to the long term solution to this issue?**	**Yes**

	If so what do you believe are the triggers for a change to a longer term solution?	
Rationale: See answer to Q2. The Association believes that the widespread introduction of micro-generation will force change upon the present regulatory structure under which DNOs and supply companies deal with micro-generators, beyond tweaking the present rules. New paradigms will emerge for the investment framework and tariff structures and we may also see solutions to the ROCs issue for micro-generation. Therefore flexibility is required to address new opportunities as they arise. The Association would not wish to close off prematurely avenues for exploitation of the technology.		
Q6	**Which of the three profiling options do you believe better facilitates the applicable BSC objectives and should be used in progressing this Modification?**	**Option A / Option C**
Rationale: Option A is seen as a simple, short term solution which would introduce insignificant error in the cost structures while penetration into the network remains minute. Option C would be better long term solution. The association takes the view that a separate generation profile could be easily developed from existing stochastic solar data and scaled to system size. This would not result in high central development costs. In any case, one of the impacts of micro-generation and policies to improve energy efficiency will be to bring change to domestic demand patterns which will require continued updating of the demand profiles. Therefore the claimed high cost of option C should be carefully examined.		
Q7	**Does the Modification Proposal raise any issues that you believe have not been identified so far and that should be progressed as part of the Assessment Procedure for this Modification, should the Panel decide to submit the Modification to the Assessment Procedure?**	**No**
Please state your views: Non identified in the time available.		
Q8	**Do you have any further comments on Modification Proposal P81 that you wish to make?**	**No**
Please state your comments		

P81_DEF_005 –

Respondent:	***Intersolar Group Plc***
Responding on Behalf of	Please list all Parties responding on behalf of (including the respondent company if relevant). ***Subsidiary companies including Solapak Limited***
Role of Respondent	(~~**Generator/Supplier/Distribution Business**~~/Other) ***Photovoltaic manufacturer***

	Question	**Response**
Q1	**Do you believe that the principle of removing the requirement for half hourly metering on Third Party Generators at Domestic Premises better facilitates the applicable BSC objectives?**	**Yes/~~No~~**

Rationale: *Will improve the efficient operation of the market in the longer term by enabling value to be recognised appropriately without incurring undue excessive cost. Longer term will increase the competition in generation. The requirement was not set in contemplation of micro generation as Export.*		
Q2	**Do you believe that the Modification as defined by the Modification Group in Section 4 of this report is the most appropriate interpretation?**	**~~Yes~~/No**
Rationale: *The term domestic is being used as a de-minimis level for HH metering on generation. It may be more appropriate to define the level absolutely as a maximum kW value.*		
Q3	**Do you believe that there are any alternative Modifications that the Modification Group should consider during the Assessment Procedure, should the Panel decide to submit the Modification to the Assessment Procedure?**	**Yes/~~No~~**
Rationale: *The requirement for domestic as the criterion should be replaced with a kW capacity value regardless of premises*		
Q4	**Do you agree with the Modification Group view that "Domestic Premises" should be the same as the definition in the Electricity Supply Licence?** **If YES do you believe that the definition used, should be the simple definition at the start of the Licence or that the extra conditions defined in Condition 22 of the Licence should also apply?**	**~~Yes~~/No**
Rationale: *The 'domestic' aspect of the definition is not that Important so the extended definition in Condition 22 should not apply, but the volume assessment work of the DCRP should apply; see Q2 and Q3.*		
Q5	**Do you believe that there is a need for a short term solution that is potentially different to the long term solution to this issue?** **If so what do you believe are the triggers for a change to a longer term solution?**	**Yes/~~No~~**
Rationale: *Profiling is an economic alternative to period metering. The costs of maintaining profiles will be identified during the modification assessment process. These should be recorded for comparison with metering costs such that the threshold is known for determining the trigger.*		
Q6	**Which of the three profiling options do you believe better facilitates the applicable BSC objectives and should be used in progressing this Modification?**	**~~Option A~~ / Option B / ~~Option C~~**
Rationale: *Option B serves both Settlement and non-Settlement purposes as a reasonable interim arrangement until low cost HH metering technology is brought to market.*		
Q7	**Does the Modification Proposal raise any issues that you believe have not been identified so far and that should be progressed as part of the Assessment Procedure for this Modification, should the Panel decide to submit the Modification to the Assessment Procedure?**	**Yes/No**

Please state your views:		
Q8	**Do you have any further comments on Modification Proposal P81 that you wish to make?**	**Yes / ~~No~~**
Please state your comments: *Those most affected by this modification are not parties to the BSC.*		

P81_DEF_006 – IMServ

Respondent:	Damian Bannister
Responding on Behalf of	IMServ
Role of Respondent	HHDC, NHHDC, HHMO and NHHMO

	Question	Response
Q1	**Do you believe that the principle of removing the requirement for half hourly metering on Third Party Generators at Domestic Premises better facilitates the applicable BSC objectives?**	**N/A**
Rationale:		
Q2	**Do you believe that the Modification as defined by the Modification Group in Section 4 of this report is the most appropriate interpretation?**	**N/A**
Rationale:		
Q3	**Do you believe that there are any alternative Modifications that the Modification Group should consider during the Assessment Procedure, should the Panel decide to submit the Modification to the Assessment Procedure?**	**N/A**
Rationale:		
Q4	**Do you agree with the Modification Group view that "Domestic Premises" should be the same as the definition in the Electricity Supply Licence?** **If YES do you believe that the definition used, should be the simple definition at the start of the Licence or that the extra conditions defined in Condition 22 of the Licence should also apply?**	**N/A**
Rationale:		
Q5	**Do you believe that there is a need for a short term solution that is potentially different to the long term solution to this issue?** **If so what do you believe are the triggers for a change to a longer term solution?**	**N/A**

Rationale:		
Q6	**Which of the three profiling options do you believe better facilitates the applicable BSC objectives and should be used in progressing this Modification?**	**N/A**
Rationale:		
Q7	**Does the Modification Proposal raise any issues that you believe have not been identified so far and that should be progressed as part of the Assessment Procedure for this Modification, should the Panel decide to submit the Modification to the Assessment Procedure?**	**N/A**
Please state your views:		
Q8	**Do you have any further comments on Modification Proposal P81 that you wish to make?**	**Yes**
Please state your comments There are no foreseen effects or changes required on IMServ systems although we would need to be kept aware of the proposal, as there may be some changes to operational procedures.		

P81_DEF_007 – Energy Saving Trust

Respondent:	Energy Saving Trust
Responding on Behalf of	Energy Saving Trust
Role of Respondent	Other

Q8	**Do you have any further comments on Modification Proposal P81 that you wish to make?**	**Yes**

We have undertaken research about the potential cost of half-hourly metering for domestic and other small-scale generation (Solar PV, micro-CHP). As a result of this, it has become clear to us that the cost of 1/2 –hourly metering is prohibitive in the domestic setting. Compared to the potential income generated from the sale of electricity generated at a domestic installation, the cost of ½-hourly metering will far exceed this, and therefore make the sale of the electricity uneconomic. We also have doubts about the need to ½-hourly meter the very small amounts of electricity generated from domestic and other small-scale generators. While the current solution of spilling the electricity onto the grid without reward would avoid the cost of metering, it also removes the potential to trade the electricity, and structure a joint supply/leasing contract around the generation equipment. This will reduce the financial appeal of purchasing/leasing such equipment, and will consequently reduce the potential market for it. A smaller potential market for these technologies will have negative environmental consequences, since electricity generated from domestic and other small-scale generation technologies is either renewable, or generated at far higher efficiency than electricity Imported from the grid (provided the micro-CHP operates in heat-led mode or uses a thermal store). Spilled electricity from these sources is equally valuable in environmental terms. In order to support the market development for these technologies, we would ask the panel to consider agreeing to the modification proposal.

P81_DEF_008 – SEEBOARD Energy

Respondent:	Dave Morton
Responding on Behalf of	SEEBOARD Energy Limited
Role of Respondent	Supplier

	Question	**Response**
Q1	**Do you believe that the principle of removing the requirement for half hourly metering on Third Party Generators at Domestic Premises better facilitates the applicable BSC objectives?**	**Yes**
Rationale: Removal will assist in the promotion of generation and competition		
Q2	**Do you believe that the Modification as defined by the Modification Group in Section 4 of this report is the most appropriate interpretation?**	**Yes**
Rationale:		
Q3	**Do you believe that there are any alternative Modifications that the Modification Group should consider during the Assessment Procedure, should the Panel decide to submit the Modification to the Assessment Procedure?**	**No**
Rationale:		

Q4	**Do you agree with the Modification Group view that "Domestic Premises" should be the same as the definition in the Electricity Supply Licence?** **If YES do you believe that the definition used, should be the simple definition at the start of the Licence or that the extra conditions defined in Condition 22 of the Licence should also apply?**	**Yes** **No**
Rationale:		
Q5	**Do you believe that there is a need for a short term solution that is potentially different to the long term solution to this issue?** **If so what do you believe are the triggers for a change to a longer term solution?**	**No**
Rationale:		
Q6	**Which of the three profiling options do you believe better facilitates the applicable BSC objectives and should be used in progressing this Modification?**	**Option B**
Rationale: High cost of Option C could not be justified for a potentially small improvement in accuracy compared with Option B		
Q7	**Does the Modification Proposal raise any issues that you believe have not been identified so far and that should be progressed as part of the Assessment Procedure for this Modification, should the Panel decide to submit the Modification to the Assessment Procedure?**	**No**
Please state your views:		
Q8	**Do you have any further comments on Modification Proposal P81 that you wish to make?**	**Yes**
Please state your comments Modification proposal only refers to Domestic premises. Similar small generators maybe installed in Business premises and the approach for these needs to be considered.		

P81_DEF_009 - NEDL/YEDL

Respondent:	Sue Calvert
Responding on Behalf of	NEDL/ YEDL
Role of Respondent	Distribution Business

	Question	**Response**
Q1	**Do you believe that the principle of removing the requirement for half**	**Yes**

	hourly metering on Third Party Generators at Domestic Premises better facilitates the applicable BSC objectives?	
Rationale:		
Q2	**Do you believe that the Modification as defined by the Modification Group in Section 4 of this report is the most appropriate interpretation?**	**Yes**
Rationale:		
Q3	**Do you believe that there are any alternative Modifications that the Modification Group should consider during the Assessment Procedure, should the Panel decide to submit the Modification to the Assessment Procedure?**	**No**
Rationale:		
Q4	**Do you agree with the Modification Group view that "Domestic Premises" should be the same as the definition in the Electricity Supply Licence?** **If YES do you believe that the definition used, should be the simple definition at the start of the Licence or that the extra conditions defined in Condition 22 of the Licence should also apply?**	**Yes**
Rationale: All the additional terms within Condition 22 will fall away over time. Therefore given that EM Gen is going to ramp up the need to reflect these in the mod would seem unnecessary.		
Q5	**Do you believe that there is a need for a short term solution that is potentially different to the long term solution to this issue?** **If so what do you believe are the triggers for a change to a longer term solution?**	**No**
Rationale: The solution being developed should be acceptable as a long term one as well as short		
Q6	**Which of the three profiling options do you believe better facilitates the applicable BSC objectives and should be used in progressing this Modification?**	**Option B**
Rationale: **The least cost and fair reflection of reality**		
Q7	**Does the Modification Proposal raise any issues that you believe have not been identified so far and that should be progressed as part of the Assessment Procedure for this Modification, should the Panel decide to submit the Modification to the Assessment Procedure?**	**No**
Please state your views:		
Q8	**Do you have any further comments on Modification Proposal P81 that**	**No**

	you wish to make?	
Please state your comments		

P81_DEF_010 – Aquila Networks

Respondent:	Richard Smith, System Commercial Manager
Responding on Behalf of	Aquila Networks plc (a subsidiary of Midlands Electricity plc)
Role of Respondent	Distribution Business

	Question	**Response**
Q1	**Do you believe that the principle of removing the requirement for half hourly metering on Third Party Generators at Domestic Premises better facilitates the applicable BSC objectives?**	~~**Yes**~~**/No**
Rationale: As the BSC requires accurate measurement of energy within half hourly Settlement periods, any move away from half hourly metering to non half hourly metering, which is inherently less accurate, cannot better facilitate some objectives of the BSC. We note that some other consultations have been rejected on these grounds, but we do recognize the Importance of this issue and its role in developing competition in the generation and supply of electricity. The modification therefore receives our support in principle.		
Q2	**Do you believe that the Modification as defined by the Modification Group in Section 4 of this report is the most appropriate interpretation?**	**Yes/**~~**No**~~
Rationale: Given the objectives of the review, we feel that the modification group have put together an appropriate interpretation of the actions required.		
Q3	**Do you believe that there are any alternative Modifications that the Modification Group should consider during the Assessment Procedure, should the Panel decide to submit the Modification to the Assessment Procedure?**	~~**Yes**~~**/No**
Rationale:		
Q4	**Do you agree with the Modification Group view that "Domestic Premises" should be the same as the definition in the Electricity Supply Licence?** **If YES do you believe that the definition used, should be the simple definition at the start of the Licence or that the extra conditions defined in Condition 22 of the Licence should also apply?**	**Yes/**~~**No**~~

Rationale: Any definitions should be aligned with those already existing within the industry where possible, to avoid confusion with differences in the future. We suggest that the extra conditions under Condition 22 would help provide clarity over the exact meaning of 'domestic customer', and therefore should be adopted from the outset.		
Q5	**Do you believe that there is a need for a short term solution that is potentially different to the long term solution to this issue?** **If so what do you believe are the triggers for a change to a longer term solution?**	**Yes / ~~No~~**
Rationale: We believe that profiling of consumption will be subject to errors until significant load research is carried out to establish profiles for small generation such as Photo-Voltaic and Micro CHP. However load research will take time and the reality is that there are already customers who wish to connect and use this equipment. Whilst numbers remain small the potential for errors is low, however as numbers increase, we believe that suitable profiles should be introduced as a longer term solution. The trigger should be the point assessed as that when the number of customers connected are likely to lead to significant errors in profiled consumption. Load research should be complete by that time.		
Q6	**Which of the three profiling options do you believe better facilitates the applicable BSC objectives and should be used in progressing this Modification?**	**~~Option A / Option B /~~ Option C**
Rationale: Option C is the only option that provides fully for separate Import and Export registers and accurate profiles. We note that the other options confuse the issues of measurement and Settlement of energy. We are opposed in principle to net metering and would not support any option which permitted this. However, from a pragmatic perspective we are not against the use of profiles developed for Import registers (whether chunked or not) being applied to Export registers in the short term until appropriate Export profiles have been developed. As a matter of principle Import and Export energy must be recorded separately.		
Q7	**Does the Modification Proposal raise any issues that you believe have not been identified so far and that should be progressed as part of the Assessment Procedure for this Modification, should the Panel decide to submit the Modification to the Assessment Procedure?**	**~~Yes~~ / No**
Please state your views:		
Q8	**Do you have any further comments on Modification Proposal P81 that you wish to make?**	**Yes / ~~No~~**
Please state your comments This proposal is one of a growing number that on a strict interpretation of BSC objectives should not be considered. Its consideration is achieved because it is perceived to fulfil the more generic objective of facilitating competition and as such we support it. However, we are of the view that as more change proposals are based on this generic objective, there needs to be clarification within the BSC to ensure consistent application.		

P81_DEF_011 – TXU

Respondent:	Phillip Russell
Responding on Behalf of	21 TXU BSC Parties
Role of Respondent	Generator & Supplier

	Question	**Response**
Q1	**Do you believe that the principle of removing the requirement for half hourly metering on Third Party Generators at Domestic Premises better facilitates the applicable BSC objectives?**	**Yes**
Rationale: The requirement to install HH Metering on the Export results in the requirement for HH data to be collected and submitted to Settlement. The combined cost of these requirements is considered to be a barrier to the development of embedded micro-generation, photo-voltaics and related technology. Consequently the removal of this barrier would promote competition in the generation and supply of electricity.		
Q2	**Do you believe that the Modification as defined by the Modification Group in Section 4 of this report is the most appropriate interpretation?**	**No**
Rationale: We would propose that the Modification be amended to relate to all Profile Classes 01-04 Import MPANs supplied at single phase or 3 phase rather than restricted to Domestic Premises. This allows the development of similar technologies for small non domestic premises to be settled along similar lines.		
Q3	**Do you believe that there are any alternative Modifications that the Modification Group should consider during the Assessment Procedure, should the Panel decide to submit the Modification to the Assessment Procedure?**	**Yes**
Rationale: We would add that all meter registers must be read by the appointed NHHDC and submitted to Settlements.		
Q4	**Do you agree with the Modification Group view that "Domestic Premises" should be the same as the definition in the Electricity Supply Licence?** **If YES do you believe that the definition used, should be the simple definition at the start of the Licence or that the extra conditions defined in Condition 22 of the Licence should also apply?**	**See response to Q2**
Rationale: Use of Profile Class definitions fits comfortably within existing definitions and is clear and easy to implement.		
Q5	**Do you believe that there is a need for a short term solution that is potentially different to the long term solution to this issue?** **If so what do you believe are the triggers for a change to a longer term**	**Yes**

	solution?	
Rationale: The preferred solution is partially related to the numbers of sites applicable. Option C represents the optimal position if the numbers of installations reach a critical number. We would suggest that the Panel reviews the numbers annually, and assesses the relative costs of Option C in relation to the numbers of sites. Whilst detailed impact assessments need to be made on central and party systems, as well as profile development/maintenance costs when reviewing this, we anticipate that installed numbers would have to reach at least 50,000. We note that should there be such a modification in future, it would necessitate changes to the treatment of sites that were developed using P81.		
Q6	**Which of the three profiling options do you believe better facilitates the applicable BSC objectives and should be used in progressing this Modification?**	**Option B**
Rationale: It strikes an appropriate balance between accuracy, practicality and overall development cost unless and until the numbers of installations involved reaches a critical number.		
Q7	**Does the Modification Proposal raise any issues that you believe have not been identified so far and that should be progressed as part of the Assessment Procedure for this Modification, should the Panel decide to submit the Modification to the Assessment Procedure?**	**Yes**
Please state your views: Although the issues of DUoS are not pertinent to the relevant objectives there are associated practical issues about the creation and use of Meter Timeswitch Codes and Line Loss Factor Classes that do need to be considered and could usefully be debated as part of the Assessment Procedure. We would prefer Meter Timeswitch Codes to be common across all DNOs.		
Q8	**Do you have any further comments on Modification Proposal P81 that you wish to make?**	**Yes**
Please state your comments. If Option B is to be adopted as part of the Modification the approach and timescale and methodology for defining the TPRs should be addressed as part of the implementation approach. We also note that if the Import and Export is recorded on 1 physical multi-rate meter that it will not be possible for the Export and Import to be traded by separate Suppliers. Requiring physically separate meters (as opposed to registers) would get round this "problem" but would inevitably cost more in the provision and installation of the Metering Equipment.		

P81_DEF_012 – Scottish Power

Respondent:	Man Kwong Liu
Responding on Behalf of	Scottish Power UK Plc.; SP Manweb Plc; Scottish Power Energy Trading Ltd.; Scottish Power Generation Ltd.; Scottish Power Energy Retail Ltd.; SP Transmission Ltd.
Role of Respondent	Generator/Supplier/Distribution Business/Agents

	Question	**Response**
Q1	**Do you believe that the principle of removing the requirement for half hourly metering on Third Party Generators at Domestic Premises**	Yes

	better facilitates the applicable BSC objectives?	
Rationale: It will enable the development of micro-generation technologies, providing customers with alternative means of obtaining electricity and giving suppliers opportunities to market new supply products to such customers and, potentially, obtain renewable benefits in return.		
Q2	**Do you believe that the Modification as defined by the Modification Group in Section 4 of this report is the most appropriate interpretation?**	Yes
Rationale: See Q4 below.		
Q3	**Do you believe that there are any alternative Modifications that the Modification Group should consider during the Assessment Procedure, should the Panel decide to submit the Modification to the Assessment Procedure?**	Yes
Rationale: See Q4 below.		
Q4	**Do you agree with the Modification Group view that "Domestic Premises" should be the same as the definition in the Electricity Supply Licence?** **If YES do you believe that the definition used, should be the simple definition at the start of the Licence or that the extra conditions defined in Condition 22 of the Licence should also apply?**	No
Rationale: It would be more appropriate to include small commercial premises in the modification also. Small commercial customers are more likely to invest in micro-generation installations, at least in the early days of the technology. The "banding" that is the subject of current Distribution Code consultation seems appropriate, i.e. up to 16 amps per phase.		
Q5	**Do you believe that there is a need for a short term solution that is potentially different to the long term solution to this issue?** **If so what do you believe are the triggers for a change to a longer term solution?**	Yes
Rationale: It seems unwise to spend money on an expensive, highly accurate solution until we see just how big the take-up of micro-generation is going to be. However, there are pilot schemes taking place right now. A short term solution is therefore needed while we see how the market develops. We don't need a longer term solution until the numbers are in the tens of thousands nationally.		
Q6	**Which of the three profiling options do you believe better facilitates the applicable BSC objectives and should be used in progressing this Modification?**	Option B
Rationale: Option B seems reasonably low cost but does provide some mitigation of the profiling error. Option C has some potential to be a longer term solution but we don't yet know if the numbers will justify it or, indeed, enough installations to form a realistic sample.		
Q7	**Does the Modification Proposal raise any issues that you believe have not been identified so far and that should be progressed as part of the**	No

	Assessment Procedure for this Modification, should the Panel decide to submit the Modification to the Assessment Procedure?	
Please state your views:		
Q8	**Do you have any further comments on Modification Proposal P81 that you wish to make?**	No
Please state your comments		

P81_DEF_013 – British Gas Trading

Respondent:	Rob Cullender
Responding on Behalf of	British Gas Trading
Role of Respondent	Supplier

	Question	**Response**
Q1	**Do you believe that the principle of removing the requirement for half hourly metering on Third Party Generators at Domestic Premises better facilitates the applicable BSC objectives?**	**Yes / ~~No~~**
Rationale: The introduction of new technology will inevitably increase competition in that the number of products that suppliers will be able to provide will increase. Domestic generation is just one of these new technologies. The current requirement to install half hourly metering would mean that many such technologies would not be economically viable and therefore the removal of this requirement is desirable.		
Q2	**Do you believe that the Modification as defined by the Modification Group in Section 4 of this report is the most appropriate interpretation?**	**Yes / ~~No~~**
Rationale: Section 4.1 adequately sets out the interpretation as discussed in the Modification Group.		
Q3	**Do you believe that there are any alternative Modifications that the Modification Group should consider during the Assessment Procedure, should the Panel decide to submit the Modification to the Assessment Procedure?**	**Yes / ~~No~~**
Rationale:		
Q4	**Do you agree with the Modification Group view that "Domestic Premises" should be the same as the definition in the Electricity Supply Licence?** **If YES do you believe that the definition used, should be the simple definition at the start of the Licence or that the extra conditions**	**Yes / ~~No~~**

	defined in Condition 22 of the Licence should also apply?	
Rationale: For the sake of clarity, Condition 22 should apply. This will reduce confusion as to the type of premise that is exempt from HH metering. The clearer the definition the better. In this way, there is no inconsistency in approach.		
Q5	**Do you believe that there is a need for a short term solution that is potentially different to the long term solution to this issue?** **If so what do you believe are the triggers for a change to a longer term solution?**	**Yes / ~~No~~**
Rationale: At present HH metering is relatively expensive, but it may well become much more affordable in future with new technology. Depending upon the financial incentives upon customers and suppliers, HH metering may become the preferred method of metering. If this were the case, then no longer-term solution would be required. Therefore it is prudent to opt for a short-term solution commensurate, not only with the potential economics of the HH option, but also with the level of uptake of domestic generation. As to the triggers for a longer-term solution, these must be based upon any inaccuracies being introduced into Settlements as a result of the short-term solution. How these inaccuracies would be assessed (or indeed the level of inaccuracy) is open to question and further consultation, but the key point is that if there is no significant impact, then the option should be for the status quo.		
Q6	**Which of the three profiling options do you believe better facilitates the applicable BSC objectives and should be used in progressing this Modification?**	**~~Option A~~ / Option B / ~~Option C~~**
Rationale: Option A as described does not produce a profile that is particularly satisfactory. Its merit is that in theory, no change of meter is required, but in practise, most meters would need to be changed. Option C will be expensive to implement and could only be considered as a longer-term solution. In addition, whilst it would address micro-CHP and PV technologies, it would not address wind generation. Option B is preferred as it is a relatively low cost solution and presents the least profiling error.		
Q7	**Does the Modification Proposal raise any issues that you believe have not been identified so far and that should be progressed as part of the Assessment Procedure for this Modification, should the Panel decide to submit the Modification to the Assessment Procedure?**	**~~Yes~~/No**
Please state your views:		
Q8	**Do you have any further comments on Modification Proposal P81 that you wish to make?**	**~~Yes~~/No**
Please state your comments		

P81_DEF_014 – London Electricity

Respondent:	Liz Anderson (LE Group)
Responding on Behalf of	London Electricity Group Plc, London Electricity Plc, SWEB Ltd, Jade Power Generation Ltd, Sutton Bridge Power Ltd, West Burton Power, London Power Network Plc and Eastern Power Network Distribution Ltd.
Role of Respondent	Generator, Supplier, Distribution Business and Supplier Agent

	Question	**Response**
Q1	**Do you believe that the principle of removing the requirement for half hourly metering on Third Party Generators at Domestic Premises better facilitates the applicable BSC objectives?**	**Yes**
Rationale: Further promotes competition in generation and supply of electricity.		
Q2	**Do you believe that the Modification as defined by the Modification Group in Section 4 of this report is the most appropriate interpretation?**	**Yes**
Rationale:		
Q3	**Do you believe that there are any alternative Modifications that the Modification Group should consider during the Assessment Procedure, should the Panel decide to submit the Modification to the Assessment Procedure?**	**Yes**
Rationale: By allowing domestic premises to negate HH metering obligation there will be a band of small business customers that will not be able to exploit NHH Export metering. LE Group believes that the criteria could be moved to small businesses of up to 100kW demand or DCRP Band 2 premises for small commercial customers. This will further facilitate competition in generation and supply of electricity.		
Q4	**Do you agree with the Modification Group view that "Domestic Premises" should be the same as the definition in the Electricity Supply Licence?** **If YES do you believe that the definition used, should be the simple definition at the start of the Licence or that the extra conditions defined in Condition 22 of the Licence should also apply?**	**Yes**
Rationale: It is appropriate to have a single definition of "domestic", but also to ensure that the same principle applies to the whole of the NHH market.		
Q5	**Do you believe that there is a need for a short term solution that is potentially different to the long term solution to this issue?** **If so what do you believe are the triggers for a change to a longer term solution?**	**Yes**

Rationale: Presently there are not enough domestic generators to justify a long term solution that would require new profiles for accurate Settlement. Market uptake of domestic generating plant would need to reach over 3% of the total number of NHH premises in the market place to produce a noticeable effect on Settlements, from spill onto networks. LE Group would be in favour of setting a trigger that is expressed as a percentage (not an absolute number), as this will make the process robust to BETTA.		
Q6	**Which of the three profiling options do you believe better facilitates the applicable BSC objectives and should be used in progressing this Modification?**	**Option B / Option C**
Rationale: Option B for short term, as it allows a more accurate estimate of the premises consumption and production, reduces profiling errors and allows monitoring of the number of domestic generation units. Option C for long term, as it will produce reasonable accuracy as penetration increases without HH metering.		
Q7	**Does the Modification Proposal raise any issues that you believe have not been identified so far and that should be progressed as part of the Assessment Procedure for this Modification, should the Panel decide to submit the Modification to the Assessment Procedure?**	**Yes**
Please state your views: If profiling Option A is used how will the impact of market uptake be monitored, unless additional data is provided.		
Q8	**Do you have any further comments on Modification Proposal P81 that you wish to make?**	**Yes**
Please state your comments There will be an effect on distribution system Line Losses. This is a preliminary response, based on the information available at this point, and our response may change as the Modification progresses.		

P81_DEF_015 – Innogy

Respondent:	Richard Harrison
Responding on Behalf of	**Innogy plc, Innogy Cogen Limited, Innogy Cogen Trading Limited, Npower Limited, Npower Direct Limited, Npower Northern Limited, Npower Northern Supply Limited, Npower Yorkshire Limited and Npower Yorkshire Supply Limited**
Role of Respondent	Generator/Supplier/ Other

	Question	**Response**
Q1	**Do you believe that the principle of removing the requirement for half hourly metering on Third Party Generators at Domestic Premises better facilitates the applicable BSC objectives?**	**?**

Rationale: It would appear at first sight to further BSC Objectives including facilitating competition in the generation & supply of electricity, although this requires debate because of possible issues (see below).		
Q2	**Do you believe that the Modification as defined by the Modification Group in Section 4 of this report is the most appropriate interpretation?**	**?**
Rationale: We need to understand the implications in full. We are a bit concerned that the BSC appears to say that NHH metering equipment can be used for generating plant owned by the Supplier himself – Has something been "lost in translation" from the P&SA?		
Q3	**Do you believe that there are any alternative Modifications that the Modification Group should consider during the Assessment Procedure, should the Panel decide to submit the Modification to the Assessment Procedure?**	**Yes**
Rationale: Given the dangers of creating an artificially inflated incentive for introducing such technology, and uncertainties about the mode of operation and its effects on Settlement & Imbalances, it would seem sensible to introduce a process for requiring Panel approval for such schemes, with the ability to impose conditions or volume limits, at least during the trial stage.		
Q4	**Do you agree with the Modification Group view that "Domestic Premises" should be the same as the definition in the Electricity Supply Licence?** **If YES do you believe that the definition used, should be the simple definition at the start of the Licence or that the extra conditions defined in Condition 22 of the Licence should also apply?**	**Yes** ?
Rationale: It isn't clear why the customer changing Supplier should affect eligibility or, indeed, why it makes a difference whether the premises is 'domestic' or not.		
Q5	**Do you believe that there is a need for a short term solution that is potentially different to the long term solution to this issue?** **If so what do you believe are the triggers for a change to a longer term solution?**	**?** **Numbers**

Rationale:		
There appears to be a need for a solution which is deliverable short-term to facilitate trials. However, there is a risk of opening up a market opportunity based on a distortion of the true economics and ignoring potential problems, which it is then very difficult to get back under control. If such technologies are to make a significant contribution to meeting environmental objectives longer-term, there is a strong possibility that significant market penetration will give rise to major issues for Settlement volume allocation, network operation and potentially network planning and system security, which may require different provisions. It may therefore be preferable to go for a properly thought-out solution from the outset.		
Q6	**Which of the three profiling options do you believe better facilitates the applicable BSC objectives and should be used in progressing this Modification?**	**Probably Option B**
Rationale:		
Option A would potentially lead to distorted economics (cross-subsidies) and new uncertainties in the balance of demand and generation as capacity increased (possibly leading to security of supply risks). Option B would allow these issues to be addressed, using a mechanism similar to that already used for Unmetered Supplies (However, some work would still be needed to find identify suitable TPRs etc). Option C could be a better long-term solution.		
Q7	**Does the Modification Proposal raise any issues that you believe have not been identified so far and that should be progressed as part of the Assessment Procedure for this Modification, should the Panel decide to submit the Modification to the Assessment Procedure?**	**Yes**
Please state your views:		
The following issues need to be addressed: Distribution & Safety issues (Is there a weakness in the BSC Objectives here cf the gas Network Code?) Effects of 'net' metering on the 'normal' Load Research sampling process, if there is significant market penetration. Are there potential 'REMA' type issues relating to the ownership of the Third Party Generating Plant?		
Q8	**Do you have any further comments on Modification Proposal P81 that you wish to make?**	**No**
Please state your comments		

P81_DEF_016 – Western Power Distribution

Respondent:	Graham Smith
Responding on Behalf of	Western Power Distribution (South West) Western Power Distribution (South Wales)
Role of Respondent	Distribution Business

	Question	Response
Q1	**Do you believe that the principle of removing the requirement for half hourly metering on Third Party Generators at Domestic Premises better facilitates the applicable BSC objectives?**	**Yes**
Rationale:		
Q2	**Do you believe that the Modification as defined by the Modification Group in Section 4 of this report is the most appropriate interpretation?**	**Yes**
Rationale:		
Q3	**Do you believe that there are any alternative Modifications that the Modification Group should consider during the Assessment Procedure, should the Panel decide to submit the Modification to the Assessment Procedure?**	**No**
Rationale:		
Q4	**Do you agree with the Modification Group view that "Domestic Premises" should be the same as the definition in the Electricity Supply Licence?** **If YES do you believe that the definition used, should be the simple definition at the start of the Licence or that the extra conditions defined in Condition 22 of the Licence should also apply?**	**Yes**
Rationale: Leave as the simple one at the start of the licence. However, we also consider that modification P81 should include a capacity related limitation of 15KVA, the typical supply capacity for domestic premises.		
Q5	**Do you believe that there is a need for a short term solution that is potentially different to the long term solution to this issue?** **If so what do you believe are the triggers for a change to a longer term solution?**	**No**
Rationale: By the time a trigger point has been reached for a change from one solution to another, there would be a large number of premises with the 'interim' solution. Issues associated with discrimination between premises treated under the old or new solution are inevitable. It must be more efficient to do this once.		
Q6	**Which of the three profiling options do you believe better facilitates the applicable BSC objectives and should be used in progressing this Modification?**	**Option B**

Rationale: Option A does not collect the data required for DUoS billing. Option B appears to be the most economic route to establishing an approximate profile without the costs of option C. Whilst the profile error will be smaller than that under option A it will not be as small as indicated by the graphs in the paper as these assume that the times of generation are accurately known. In addition, creating internal domestic wiring to meter gross Import and Export (option C) is likely to be a significant barrier to the technology. We note that the definition report makes reference to the fact that Distributors may require separate meter readings for Import and Export, in order to be able to accurately recover Use Of System charges. As a Distribution Business we can confirm this is an absolute requirement. If these readings were not provided by the Settlement metering, separate non-Settlement metering would be needed to provide us with the necessary data. The cost to the customer of providing this extra metering and the additional cost of separate data collection and processing would possibly act as a barrier to the introduction of the technology. We therefore recommend that only those Settlement options involving metering that meets Distributor requirements be taken forward for assessment.		
Q7	**Does the Modification Proposal raise any issues that you believe have not been identified so far and that should be progressed as part of the Assessment Procedure for this Modification, should the Panel decide to submit the Modification to the Assessment Procedure?**	**No**
Please state your views:		
Q8	**Do you have any further comments on Modification Proposal P81 that you wish to make?**	**No**
Please state your comments Consideration should be given to mandating the use of separate MPANS for Import and Export. This would add clarity to the Settlement data collected from the metering system and would facilitate separate trading of the energy Exported.		

P81_DEF_017 – MicroGen (late response)

Respondent:	Dave Sowden
Responding on Behalf of	MicroGen – BG Group
Role of Respondent	(Other)

	Question	**Response**
Q1	**Do you believe that the principle of removing the requirement for half hourly metering on Third Party Generators at Domestic Premises better facilitates the applicable BSC objectives?**	**Yes**

Rationale:

Removing the requirement for half-hourly metering better facilitates the objectives of:

Promoting effective competition in the generation and supply of electricity and (so far as consistent therewith) promoting competition in the sale and purchase of electricity

Removing the requirement for half-hourly metering lowers a significant cost barrier to microgeneration. This increases competition in generation. In addition, an Important route to market for energy efficient products such as DCHP will be through the provision of Energy Services. This also increases competition in supply.

Promoting efficiency in the implementation and administration of the balancing and Settlement arrangements

"Efficiency" in this context should be viewed with the total cost in mind. Removing the requirement for half-hourly metering will remove substantial cost from the system overall, with only a marginal relative loss in economic efficiency.

Q2	**Do you believe that the Modification as defined by the Modification Group in Section 4 of this report is the most appropriate interpretation?**	**No**

Rationale:

The proposer's issue or defect description seeks to avoid inappropriate costs being imposed on MicroCHP plant and PV technologies. The remaining requirement in Section K to meter Imports and Exports separately could, depending on the interpretation of Section K, leave this defect in place for the smallest types of Microgeneration.

Q3	**Do you believe that there are any alternative Modifications that the Modification Group should consider during the Assessment Procedure, should the Panel decide to submit the Modification to the Assessment Procedure?**	**Yes**

Rationale:

The Modification Group should consider the impact of corresponding changes to Section K of the code to address the defect raised by the proposer. In particular, the Assessment Procedure should also consider the cost / benefit impact of removing the requirement for separate metering of Imports and Exports for generators in the smallest generation band emerging from the DCRP consultation exercise.

Q4	**Do you agree with the Modification Group view that "Domestic Premises" should be the same as the definition in the Electricity Supply Licence?** **If YES do you believe that the definition used, should be the simple definition at the start of the Licence or that the extra conditions defined in Condition 22 of the Licence should also apply?**	**Yes**

Rationale:

Q5	**Do you believe that there is a need for a short term solution that is potentially different to the long term solution to this issue?** **If so what do you believe are the triggers for a change to a longer term solution?**	**Yes**
Rationale: A short term solution should be to facilitate the connection of microgeneration during the initial stages. Early penetration of microgeneration technologies should be monitored carefully across a representative sample of the population to understand the true likely impact of widespread uptake. In this way, a longer term solution can develop that is justifiable on the grounds of actual experience. Prior to this, additional cost burden on these new technologies should be avoided, as the impact on the Settlements system is likely to be negligible. By contrast, the cost impact on domestic scale generating devices of any additional metering is likely to be relatively large.		
Q6	**Which of the three profiling options do you believe better facilitates the applicable BSC objectives and should be used in progressing this Modification?**	**Option A / Option B / Option C**
Rationale: Option A should be adopted initially. As outlined in the answer to Q5, careful monitoring should take place so that the most appropriate solution can be applied (which could be Option B, C, or some other option) in the longer term.		
Q7	**Does the Modification Proposal raise any issues that you believe have not been identified so far and that should be progressed as part of the Assessment Procedure for this Modification, should the Panel decide to submit the Modification to the Assessment Procedure?**	**Yes**
Please state your views: The Assessment procedure should undertake a robust cost / benefit analysis to determine the mean and standard deviation error per customer in Settlement for given options. This should be compared to the full cost of each metering / profiling configurations. It is particularly Important that this takes full account of all metering costs – the capital cost of the meter, the installation costs, and any consequential costs arising from the need to scrap, recycle, or reallocate the existing meter.		
Q8	**Do you have any further comments on Modification Proposal P81 that you wish to make?**	**No**
Please state your comments		

I ANNEX 3 – SUMMARY OF CONSULTATION RESPONSES

Given below is the summary of the responses to the consultation that was used by the VAMG at their second meeting on 27 June 2002. It should be noted that it does not include the late response received from Microgen (P081_Def_017), however a representative was at the meeting and their responses were included in the discussions.

QUESTION 1 Do you believe that the principle of removing the requirement for half hourly metering on Third Party Generators at Domestic Premises better facilitates the applicable BSC objectives?

For

It will enable the development of micro-generation technologies, providing customers with alternative means of obtaining electricity and giving suppliers opportunities to market new supply products to such customers and, potentially, obtain renewable benefits in return.

It will improve the efficient operation of the market in the longer term by enabling value to be recognised appropriately without incurring undue cost. In the longer term it will increase the competition in generation.

Photovoltaic systems generate power in daylight and not necessarily in time and in balance with domestic demand. The Export of surplus power for reward can significantly enhance the value of a PV system to the householder. The present requirement for half hourly metering on small generators is one of the major barriers to arranging such paid-for Export. The cost of half hourly metering (and associated data collection) outweighs the value of the modest quantities of power available for Export. This therefore contributes to depressing the market for PV, and restricts the equality of opportunity for the technology to contribute to reducing CO2 emissions and improve diversity of supply.

The introduction of new technology will inevitably increase competition in that the number of products that Suppliers will be able to provide will increase. Domestic generation is just one of these new technologies. The current requirement to install half hourly metering would mean that many such technologies would not be economically viable and therefore the removal of this requirement is desirable.

Against

As the BSC requires accurate measurement of energy within half hourly Settlement periods, any move away from half hourly metering to non half hourly metering, which is inherently less accurate, cannot better facilitate some objectives of the BSC. We note that some other consultations have been rejected on these grounds, but we do recognise the importance of this issue and its role in developing competition in the NHH generation market.

QUESTION 2 Do you believe that the Modification as defined by the Modification Group in section 4 of the report is the most appropriate interpretation?

For

The PV Association supports the intent not to change the requirement for metering of Export and Import, at least in the short term. This will provide maximum flexibility to adopt possible future schemes for Export tariffs or net metering and also schemes to enable Renewable Obligation Certificates (ROCs) to be gained for small PV generators. The use of profiling is seen as a rational way

to deal with valuing small amounts of power from the PV systems, avoiding complex and expensive administration.

Against

The term domestic is being used as a de-minimis level for HH metering on generation. It may be more appropriate to define the level absolutely as a maximum kW value.

We would propose that P81 be amended to relate to all Profile Classes 01-04 (Import MPANs supplied at single phase or 3 phase) rather than restricted to Domestic Premises. This allows the development of similar technologies for small non domestic premises to be settled along similar lines.

We need to understand the implications in full. We are a bit concerned that the BSC appears to say that NHH metering equipment can be used for generating plant owned by the Supplier himself – Has something been "lost in translation" from the P&SA?

QUESTION 3 Do you believe that there are any Alternative Modifications that the Modification Group should consider during the Assessment Procedure?

- Given the dangers of creating an artificially inflated incentive for introducing such technology, and uncertainties about the mode of operation and its effects on Settlement & Imbalances, it would seem sensible to introduce a process for requiring Panel approval for such schemes, with the ability to impose conditions or volume limits, at least during the trial stage.
- We would add that all meter registers must be read by the appointed NHHDC and submitted to Settlements.
- The definition of Domestic Premises is convenient but not definitive as regards plant size. Broadly, domestic PV systems will usually be less than 10 kW peak output. This size category also embraces many other buildings and sites which could benefit from a PV system, for example schools, clinics, community buildings. Generators on these sites suffer the same disbenefit from the half hourly metering requirement as domestic premises. Therefore P81 should embrace all small generations systems up to say 10kW peak output regardless of the location. Above this size the cost of metering and administration should clearly be less than the value of the Export. This view is supported by the suggestion from the DCRP in their consultations that all micro-generation up to a size limit be permitted within a category exempt from half hourly metering.
- By allowing domestic premises to negate HH metering obligation there will be a band of small business customers that will not be able to exploit NHH Export metering. The criteria could be moved to small businesses of up to 100kW demand or DCRP Band 2 premises for small commercial customers. This will further facilitate competition in generation and supply of electricity.

QUESTION 4 Do you agree with the Modification Group that "Domestic Premises" should be the same as the definition in the Electricity Supply Licence? If YES do you believe that the definition used should be the simple definition at the start of the licence of that the extra conditions defined in Condition 22 of the Licence should also apply?

For

A simple definition easily understandable by all would appear to be the most appropriate.

All the additional terms within Condition 22 of the Supply Licence will fall away over time. Therefore given that EM Gen is going to ramp up the need to reflect these in P81 would seem unnecessary.

We suggest that the extra conditions under Condition 22 of the Supply Licence would help provide clarity over the exact meaning of 'domestic customer', and therefore should be adopted from the outset. This will reduce confusion as to the type of premise that is exempt from HH metering.

It is appropriate to have a single definition of "domestic", but also to ensure that the same principle applies to the whole of the NHH market.

It isn't clear why the customer changing Supplier should affect eligibility or, indeed, why it makes a difference whether the premises is 'domestic' or not.

Against

The 'domestic' aspect of the definition is not that important so the extended definition in Condition 22 of the Supply Licence should not apply, but the volume assessment work of the DCRP should apply.

QUESTION 5 Do you believe that there is a need for a short term solution that is potentially different to the long term solution to this issue? If so what do you believe are the triggers for a change to a longer term solution?

Against

By the time a trigger point has been reached for a change from one solution to another, there would be a large number of premises with the 'interim' solution. Issues associated with discrimination between premises treated under the old or new solution are inevitable.

There appears to be a need for a solution which is deliverable short-term to facilitate trials. However, there is a risk of opening up a market opportunity based on a distortion of the true economics and ignoring potential problems, which it is then very difficult to get back under control. If such technologies are to make a significant contribution to meeting environmental objectives longer-term, there is a strong possibility that significant market penetration will give rise to major issues for Supplier Volume Allocation, network operation and potentially network planning and system security, which may require different provisions. It may therefore be preferable to go for a properly thought-out solution from the outset.

Consideration of long terms/short terms solutions is inappropriate at this point in the Modification procedure. The Modification process should result in proposing the correct/best solution for all parities. Only if the implementation time for this solution is then considered excessive should a short term interim solution be considered.

For Short term solution

At present HH metering is relatively expensive, but it may well become much more affordable in future with new technology. Depending upon the financial incentives upon customers and Suppliers, HH metering may become the preferred method of metering. If this were the case, then no long-term solution would be required. Therefore it is prudent to opt for a short-term solution commensurate, not only with the potential economics of the HH option, but also with the level of uptake of domestic generation. As to the triggers for a longer-term solution, these must be based upon any inaccuracies being introduced into Settlements as a result of the short-term solution. How these inaccuracies would be assessed (or indeed the level of inaccuracy) is open to question and further consultation, but the key point is that if there is no significant impact, then the option should be for the status quo.

It seems unwise to spend money on an expensive, highly accurate solution until we see just how big the take-up of micro-generation is going to be. However, there are pilot schemes taking place right

now. A short term solution is therefore needed while we see how the market develops. We don't need a longer term solution until the numbers are in the tens of thousands nationally.

The short term and long term solutions do not necessarily have to be worlds apart and could potentially be a phased implementation after certain criteria was met.

Profiling is an economic alternative to period metering. The costs of maintaining Profiles will be identified during the Modification Assessment Procedure. These should be recorded for comparison with metering costs such that the threshold is known for determining the trigger.

Presently there are not enough domestic generators to justify a long term solution that would require new Profiles for accurate Settlement. Market uptake of domestic generating plant would need to reach over 3% of the total number of NHH premises in the market place to produce a noticeable effect on Settlements, from spill onto networks.

The trigger should be expressed as a percentage (not an absolute number), as this will make the process robust to BETTA.

The preferred solution is partially related to the numbers of sites applicable. Option C represents the optimal position if the numbers of installations reach a critical number. We would suggest that the Panel reviews the numbers annually, and assesses the relative costs of Option C in relation to the numbers of sites. Whilst detailed impact assessments need to be made on central and party systems, as well as Profile development/maintenance costs when reviewing this, we anticipate that installed numbers would have to reach at least 50,000. We note that should there be such a Modification in future, it would necessitate changes to the treatment of sites that were developed using P81.

We believe that profiling of consumption will be subject to errors until significant load research is carried out to establish Profiles for small generation such as Photo-Voltaic and Micro CHP. However load research will take time and the reality is that there are already customers who wish to connect and use this equipment.

Whilst numbers remain small the potential for errors is low, however as numbers increase, we believe that suitable Profiles should be introduced as a longer term solution. The trigger should be the point assessed as that when the number of customers connected are likely to lead to significant errors in Profiled consumption. Load research should be complete by that time.

The PV Association believes that the widespread introduction of micro-generation will force change upon the present regulatory structure under which DNOs and supply companies deal with micro-generators, beyond tweaking the present rules. New paradigms will emerge for the investment framework and tariff structures and we may also see solutions to the ROCs issue for micro-generation. Therefore flexibility is required to address new opportunities as they arise. The PV Association would not wish to close off prematurely avenues for exploitation of the technology.

QUESTION 6 Which of the three profiling options do you believe better facilitates the applicable BSC objectives and should be used in progressing this modification?

Settlement should be on the basis of Import/Export metering at the boundary point of a premise. Import could settle either on the existing Profile Classes, possibly with new SSCs or on new Profile Classes developed to reflect the Import Profiles of micro-generation customers. Export should be settled on new Profile Classes developed to reflect the Export Profiles of micro-generation customers.

Before considering profiling options there are several more Important issues that must be investigated such as the take up, reliability, maintenance etc of the devices. Assessing against this criteria would give a more accurate prediction of what profiling was needed. These devices have to be proven to both

the customers and installers alike. There is no economic sense in setting up a costly solution if the take up is limited or restricted to a niche market. The value of the Export to each domestic premise will be very minimal, that is to say if there was Export occurring, and so the need for allowing Exports, in the first instance, is not required. It seems to me that we are trying to build a basket without knowing what is going to fill it and what size it should be. If/When the take up of devices increases and the Exports had the potential to become significant enough to meter then the profiling options should be considered.

Option A

For

Cheap and simple – worry about any inaccuracies in the future.

It is seen as a simple, short term solution which would introduce insignificant error in the cost structures while penetration into the network remains minute.

Agree with the idea that HH metering should not be required, but believe initially that there would not be substantial volume hitting the system for either Profiling Option B or C to be considered.

Against

Option A as described does not produce a Profile that is particularly satisfactory. Its merit is that in theory, no change of meter is required, but in practise, most meters would need to be changed.

It would potentially lead to distorted economics (cross-subsidies) and new uncertainties in the balance of demand and generation as capacity increased (possibly leading to security of supply risks).

It does not collect the data required for DUoS billing.

B Rationale

It strikes an appropriate balance between accuracy, practicality and overall development cost unless and until the numbers of installations involved reaches a critical number.

It would allow the potential issues of distorted economics and uncertainties in the balance of demand and generation as capacity increases to be addressed, using a mechanism similar to that already used for Unmetered Supplies (however, some work would still be needed to find identify suitable TPRs etc).

Option B appears to be the most economic route to establishing an approximate Profile without the costs of option C and it serves both Settlement and non-Settlement purposes as a reasonable interim arrangement until low cost HH metering technology is brought to the market.

Whilst the Profile error will be smaller than that under option A it will not be as small as indicated by the graphs in the paper as these assume that the times of generation are accurately known.

As a short term solution it allows a more accurate estimate of the premise's consumption and production, reduces profiling errors and allows monitoring of the number of domestic generation units.

Option C

Against

High cost of Option C could not be justified for a potentially small improvement in accuracy compared with Option B.

Option C will be expensive to implement and could only be considered as a longer-term solution. In addition, whilst it would address micro-CHP and PV technologies, it would not address wind generation.

Creating internal domestic wiring to meter gross Import and Export (option C) is likely to be a significant barrier to the technology.

For

Option C has some potential to be a longer term solution but we don't yet know if the numbers will justify it or, indeed, enough installations to form a realistic sample.

Option C would be a better long term solution. The PV Association takes the view that a separate generation Profile could be easily developed from existing stochastic solar data and scaled to system size. This would not result in high central development costs. In any case, one of the impacts of micro-generation and policies to improve energy efficiency will be to bring change to domestic demand patterns which will require continued updating of the demand Profiles. Therefore the claimed high cost of option C should be carefully examined.

Option C is the only option that provides fully for separate Import and Export registers and accurate Profiles. We note that the other options confuse the issues of measurement and Settlement of energy. We are opposed in principle to net metering and would not support any option which permitted this. However, from a pragmatic perspective we are not against the use of Profiles developed for Import registers (whether chunked or not) being applied to Export registers in the short term until appropriate Export Profiles have been developed. As a matter of principle Import and Export energy must be recorded separately.

Option C for long term, as it will produce reasonable accuracy as penetration increases without HH metering.

QUESTION 7 Are there any other issues that should be progressed as part of the Assessment procedure?

- Although the issues of DUoS are not pertinent to the relevant objectives there are associated practical issues about the creation and use of Meter Timeswitch Codes and Line Loss Factor Classes that do need to be considered and could usefully be debated as part of the Assessment Procedure. We would prefer Meter Timeswitch Codes to be common across all Distribution Network Operators;
- Distribution & Safety issues (Is there a weakness in the BSC Objectives here cf the gas Network Code?);
- The effects of 'net' metering on the 'normal' Load Research sampling process, if there is significant market penetration;
- Are there potential 'REMA' type issues relating to the ownership of the Third Party Generating Plant? If profiling Option A is used how will the impact of market uptake be monitored, unless additional data is provided.

QUESTION 8 Further comments?

- Consideration should be given to mandating the use of separate MPANS for Import and Export. This would add clarity to the Settlement data collected from the metering system and would facilitate separate trading of the energy Exported.
- If Option B is to be adopted as part of P81, the approach and timescale and methodology for defining the TPRs should be addressed as part of the implementation approach. We also note that if the Import and Export is recorded on 1 physical multi-rate meter that it will not be possible for the Export and Import to be traded by separate Suppliers. Requiring physically

separate meters (as opposed to registers) would get round this “problem” but would inevitably cost more in the provision and installation of the Metering Equipment.

- Before considering profiling options there are several more important issues that must be investigated such as the take up, reliability, maintenance etc of the devices. Assessing against this criteria would give a more accurate prediction of what profiling was needed. These devices have to be proven to both the customers and installers alike. There is no economic sense in setting up a costly solution if the take up is limited or restricted to a niche market. The value of the Export to each domestic premise will be very minimal, that is to say if there was Export occurring, and so the need for allowing Exports, in the first instance, is not required. It seems to me that we are trying to build a basket without knowing what is going to fill it and what size it should be. If/when the take up of devices increases and the Exports had the potential to become significant enough to meter then the profiling options should be considered.
- Net metering is inconsistent with the requirements of Distribution Businesses under the current price control methodology.
- Those most affected by this modification are not parties to the BSC.
- There will be an effect on distribution system Line Losses.
- We note that the Definition Procedure consultation document makes reference to the fact that Distributors may require separate meter readings for Import and Export, in order to be able to accurately recover Use Of System charges. As a Distribution Business we can confirm this is an absolute requirement. If these readings were not provided by the Settlement metering, separate non-Settlement metering would be needed to provide us with the necessary data. The cost to the customer of providing this extra metering and the additional cost of separate data collection and processing would possibly act as a barrier to the introduction of the technology. We therefore recommend that only those Settlement options involving metering that meets Distributor requirements be taken forward for assessment

ANNEX 4 – TERMS OF REFERENCE

P81 has been considered by the VAMG during the Definition Procedure in accordance with the following VAMG Terms of Reference.

DEFINITION PROCEDURE

1 The Modification Group will carry out a Definition Procedure in respect of Modification Proposal P81 pursuant to section F2.5 of the BSC.

2 The Modification Group will produce a Definition Report for consideration at the BSC Panel Meeting on 18 July 2002.

3 The Modification Group shall consider and/or include in the Definition Report as appropriate:

- Clarification is needed of the metering requirements for Export e.g. should the current BSC requirement for separate metering of Imports and Exports (as specified in Section K1.2.1) apply to Export with Non Half Hourly metering equipment.
- Clarification is needed of the method to be used in profiling Non Half Hourly Export meter readings. (It should be noted that the choice of the best option may require detailed assessment of the profiling errors associated with each one, and may therefore have to wait until the Assessment Procedure).
- Clarification is needed of the scope of the Modification Proposal e.g. does it apply to all 'domestic premises' (as defined in the standard Supply Licence), or are additional restrictions appropriate (e.g. a limit on the capacity of the generation)?
- The Modification Group may also wish to consider whether it is appropriate to define a long-term solution for profiling of micro-generation, or whether (given that field trials are still at an early stage, and the ultimate level of take-up remains uncertain) it is more appropriate to define an interim solution, which could then be revisited when and if the volume of micro-generation becomes significant.