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ASSESSMENT CONSULTATION DOCUMENT FOR MODIFICATION PROPOSAL P81 – REMOVAL OF THE REQUIREMENT FOR HALF HOURLY METERING ON THIRD PARTY GENERATORS AT DOMESTIC PREMISES

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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

c References

Ref.	Document	Owner	Issue Date	Version
1.	P81 Initial Written Assessment	ELEXON	10/05/02	1.0
2.	P81 Definition Report	ELEXON	11/07/02	1.0
3.	P81 Requirement Specification/Impact Assessment	ELEXON	09/08/02	1.0

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1 INTRODUCTION

The purpose of this document is to provide context and supporting information on the issues being considered by the Volume Allocation Modification Group (VAMG) during its assessment of Modification Proposal P81 (P81). It is intended that this document be used as a basis for responding to the attached consultation and impact assessment questions on P81. This consultation seeks to obtain Parties views on whether P81 better facilitates achievement of the Applicable BSC Objectives and whether any Alternative Modification would better facilitate the Applicable BSC Objectives over and above the Proposed Modification in relation to the issue or defect identified in the Modification Proposal.

2 BACKGROUND

TXU UK Ltd submitted P81 'Removal of the Requirement for Half Hourly Metering on Third Party Generators at Domestic Premises' on 3 May 2002. The Initial Written Assessment (IWA) was submitted to the Panel meeting on 16 May 2002, where it was agreed to submit P81 to the Definition Procedure in accordance with section F2.5 of the Code. A Definition Report was presented to the Panel on 18 July 2002 the Panel agreed to submit P81 to a 3-month Assessment Procedure.

P81 seeks to remove the requirement for domestic premises with Third Party Generating Plant to have Half Hourly (HH) Metering Equipment. P81 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 VAMG met on the 25 July 2002 to discuss the progression of P81 in the Assessment Procedure, any Alternative Modification that should be considered and to agree the scope of the different profiling options that should be considered further by an impact assessment. A requirements specification was written and issued (reference 3), and responses were received from the Supplier Volume Allocation Agent (SVAA), Logica (NHH Data Aggregation/EAC-AA/SVAA Software), the Profile Administrator, BSC Parties and from within ELEXON. The VAMG met on the 22 August 2002 to discuss the responses to the impact assessment and from this agreed on the implementation method of both the Modification Proposal and the Alternative Modification Proposal. The VAMG agreed that a consultation should be carried out to seek views on the implementation of P81 so that a decision can be reached on the recommendation for progressing P81. The VAMG agreed that a further impact assessment by BSC Parties, BSC Agents and Logica would be necessary.

3 MODIFICATION GROUP DETAILS

P81 was submitted to assessment by the VAMG augmented members of the Settlement Review Group.

Membership of the group is as follows:

Member	Organisation
Peter Davies	ELEXON (chairman)
Joanne Ellis	ELEXON (lead analyst)
Phil Russell	TXU (Proposer)
Katherine Bergin	SSE
Bob Brown	Cornwall Consulting
David Cooper	Electricity Association
Neil Magill	ScottishPower
Malcolm Piper	Seeboard Energy
Alec Thompson	LE Group

Richard Westoby	Scottish & Southern
Andy Holland	ELEXON
John Lucas	ELEXON
Jill Ashby (Attendee)	MRASCo
Philip Johnson (Attendee)	Ocean Power
Paul O'Donovan (Attendee)	Ofgem
John Parsons (Attendee)	Advantica
Ian Tilden (Attendee)	Ofgem

4 THE MODIFICATION PROPOSAL

P81 seeks to relax the current Code requirements, to allow Exports from domestic premises to be taken into account for Settlement purposes without HH Metering Equipment being installed. The rationale given for this is that the metering and data collection costs associated with HH Metering Equipment 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.

P81 does not seek to change the current requirements for separate metering of Imports and Exports. This also means that any site wishing to have the Exports settled will need to have an Import and an Export Meter Point Administration Number (MPAN) registered.

The P81 Definition Procedure did not address the mechanisms that should be used within Supplier Volume Allocation (SVA) for reporting Non Half Hourly (NHH) Export energy. The VAMG considered this issue as part of the Assessment Procedure, and section 6 of this document describes their proposals in detail.

4.1 Premise Type

During the P81 Definition Procedure the VAMG agreed that the definition given in the Supply Licence Standard Conditions for domestic premises should be used:

`Domestic Premises' premises at which a supply is taken wholly or mainly for domestic purposes

There are also other circumstances defined in Condition 22 of Supply Licence where the term Domestic Premises may apply. Following the consultation carried out as part of the Definition Procedure the VAMG agreed that Condition 22 would not apply.

5 ALTERNATIVE MODIFICATION

The VAMG discussed possible alternatives to 'domestic premises' as defined in P81 and agreed that a capacity based alternative would better facilitate competition of Supply over the Proposed Modification and so should be progressed further.

5.1 Premise Type

The VAMG agreed that the Alternative Modification would only apply to a premise where the total generation is no more than 16 Amps per phase. This is to maintain consistency with the Distribution Code Review Panel, which is currently developing a capacity banding for small generators connecting to distribution networks. This banding will be set to 16 Amps per phase, approximately 4 kW for a single phase supply and 12 kW for a 3-phase supply.

The VAMG were concerned that using 'domestic premise' as a limit rather than a size/capacity based limit would lead to the possible use of large generation sets at domestic premises, which would lead to a greater inaccuracy in the profiling of such premises. The Alternative Modification would reduce the inaccuracy in the profiling, but would not disadvantage customers wishing to generate more than 16A per phase, as Half Hourly Metering would still be an option.

The VAMG agreed that both the Modification Proposal and the Alternative Modification proposal better facilitate Applicable BSC Objective (c), as they will widen the market and therefore facilitate competition in the generation and supply of electricity. The VAMG also agreed that the Alternative Modification further facilitates competition as it does not restrict P81 to domestic premises but will also include small commercial premises.

6 IMPLEMENTATION METHOD

The implementation mechanism for both the Modification Proposal and the Alternative Modification Proposal requires the same implementation method, as the only difference is the premise type described in sections 4.1 and 5.1 respectively.

The implementation includes the profiling method, the handling of Export meter readings, the creation of additional Consumption Component Classes (CCCs) and the addition of a new data item to Market Domain Data (MDD) to indicate if a Standard Settlement Class (SSC) is to be for Import or Export meter readings. These items are discussed in further detail below.

6.1 Profiling Method

During the P81 Definition Procedure the VAMG discussed several profiling options these were defined in further detail by the VAMG at the first Assessment Procedure meeting on 25 July 2002 and included in the requirements specification (reference 3). At the second meeting the VAMG agreed that of the three profiling methods discussed and assessed in the impact assessment the chunked profile method should be the method used for implementation. The impact assessment responses indicated that this option had the least impact on the BSC Party systems and processes, and while the number of installed units remains low, the inaccuracies of this method can be tolerated. It was also agreed by the VAMG that the benefits of the other methods did not merit the additional cost over and above the chunked profiling method.

The key features of this method are as follows:

- No new Profile Classes would be created for Export metering systems i.e. Export meter readings would be settled on the existing demand Profiles.
- In order to increase the accuracy of the profiling, and avoid 'smearing' Export meter readings over the whole day, use would be made of the existing functionality for 'chunking' Profiles, based on the switching times of an SSC.

The VAMG identified two possible variants on this basic approach, differing on whether or not multi-rate metering was installed:

- In the first variant, multi-rate metering would not be used i.e. there would only be a single Export register and a single Import register. In this case, the meter readings would not provide any information on which times of the day Import and Export occurred. However, new SSCs would be created to allocate the Export energy into the appropriate part of the day. For example, if existing research showed that a particular micro-generation technology typically exported onto the

distribution system between 10:00 and 15:00 in Summer, and 12:00 and 14:00 during the rest of the year, an SSC would be set up with these switching times.

- In the second variant, multi-rate metering would be used to obtain actual metered data for different parts of the day. At its simplest, the Export could be measured using two registers, one corresponding to those parts of the day in which Export is regarded as likely to occur, and one corresponding to those parts of the day in which Export is regarded as unlikely to occur. The difference between this and the first variant is that any Export falling outside the period in which Export is predicted to occur would be smeared over the remainder of the day, rather than being forced into the predicted hours. If required, inaccuracies could be further reduced by defining additional Export registers to further sub-divide the day. In all cases (as for any multi-rate meter), the switching times programmed into the meter would need to match the defined switching times for the SSC.

The VAMG agreed that the second of these variants is potentially more accurate than the first, but that both should be considered together, and the changes to systems and processes should be such that the customer / Supplier could chose which option they wished to be settled on.

Regardless of which variant a Supplier chooses, this method of profiling requires appropriate Import and Export SSCs to be defined for each micro-generation technology[1], combination of technologies and tariff. The BSC Procedure for Changes to MDD (BSCP509) specifies that new SSCs are proposed by Suppliers, and approved by the Panel[2]. Given the key role of these new Import and Export SSC in ensuring the accuracy of settlement, it is anticipated that the Panel (or SVG) would take a more pro-active role in the process, helping to define the switching times for each SSC on the basis of available data on the typical generation Profile for each technology. The SSC will be defined initially from available data, and then modified over time when more accurate data is available.

The SSCs developed for use with NHH Import and Export metering systems are data changes only and do not require any modifications to the MDD system or data flows. However, in order to assist market participant systems in distinguishing these SSC, a new data item would be added to the SSC data in MDD to distinguish between Import and Export SSC as described in section 6.4, this would require changes to MDD and data flows.

The VAMG agreed that once the appropriate SSC had been defined, profiling of Export meter readings would take place as follows:

- The Import and the Export MPAN for the premise would be settled separately but using the existing demand Profile Class of the premise.
- The Supplier would be obliged to register the Export MPAN to an appropriate Export SSC, and the Import MPAN to an appropriate Import SSC. In order to oblige Suppliers to do this, it is anticipated that the legal drafting would contain a specific obligation on Suppliers to register Import and Export MPANs only to SSCs approved by the Panel for this purpose. This new obligation would be in addition to the existing obligation to choose an SSC that matched the actual switching times of the metering system.
- Having defined the Export and Import SSCs, the SVAA system would automatically calculate 'chunked' Profiles for the Export and Import MPAN. These 'chunked' Profiles would then be applied

[1] As a minimum, each micro-generation technology would require a single-register Import SSC and a single-register Export SSC, to support those Suppliers who chose a meter with a single Export register and a single Import register. Additional multi-register Import and Export SSC could also be required for those Suppliers who chose variant 2 (i.e. multi-rate metering).

[2] The Panel has delegated authority for approving SSC to the Supplier Volume Allocation Group (SVG).

to the aggregated Export and Import meter readings received from Data Aggregators, with the result that:

i) The main Import reading would be applied to the "Import" periods of the day and the additional Import (if using a multi-rate meter) or zeros (if using a single rate meter) would be applied to the "Export" periods of the day.

ii) Similarly the main Export reading would be applied to the "Export" periods of the day and the additional Export (if using a multi-rate meter) or zeros (if using a single rate meter) would be applied to the "Import" periods of the day.

It should be noted that the Import and Export switching times do not need to be the same time but could be staggered to allow greater accuracy in periods where a premise could be both importing and exporting.

6.2 Handling of Export meter readings

The VAMG agreed that the meter readings that NHH Data Collectors would be required to collect from Export metering systems should be treated as positive values in NHH Data Collector and NHH Data Aggregator systems.

The Logica impact assessment indicated that using positive meter readings would not require any changes to EAC/AA or NHH Data Aggregation software. The impact assessment also indicated that the SVAA software would need changes and would only be able to accommodate the positive Export readings if a flag was added to MDD to indicate if an SSC was an Import or Export quantity.

The VAMG originally proposed that the Export meter readings were treated as negative values. This was due to concern that using positive meter advances might require expensive changes to data flows and NHH Data Collector systems to allow Import and Export meter readings to be distinguished (e.g. adding Measurement Requirement to Non Half Hourly data flows). However, in considering the impact assessment responses, the VAMG concluded that is not necessary for the NHH Data Collector or NHH Data Aggregator to identify NHH Imports and Exports, although it is necessary for SVAA. Therefore an Import/Export flag will be added to the SSCs to identify if readings are Import or Export, this is detailed further in section 6.4. Additionally, the VAMG agreed that treating the NHH Exports as positive values would avoid erroneous treatment by meter readers and NHH Data Collectors.

6.3 Additional Consumption Component Classes

To allow SVAA to provide explicit reporting of the total volume of Export energy it is necessary to implement four additional CCCs for NHH Exports. This also provides consistency with the HH market, where HH Export energy is assigned to specific Export CCCs. The following tables show the current NHH CCCs, and the additional ones that would be added:

EXISTING NHH CONSUMPTION COMPONENT CLASSES				
CCC Id	**Measurement Quantity**	**Metered / Unmetered**	**Consumption / Losses**	**AA / EAC**
17	AI	M	C	E
18	AI	M	C	A
19	AI	U	C	E
20	AI	M	L	E
21	AI	M	L	A
22	AI	U	L	E

PROPOSED NEW NHH CONSUMPTION COMPONENT CLASSES				
CCC Id	**Measurement Quantity**	**Metered / Unmetered**	**Consumption / Losses**	**AA / EAC**
t.b.d.	AE	M	C	E
t.b.d.	AE	M	C	A
t.b.d.	AE	M	L	E
t.b.d.	AE	M	L	A

The SVAA system would then assign each aggregated NHH meter reading to either an Import CCC or Export CCC depending on the Profile Class or SSC.

The impact assessment responses from Logica indicated that there would be no changes required to EAC/AA or NHH Data Aggregation software to add additional CCC, although changes would be required to SVAA software and processes.

6.4 Changes to Market Domain Data

The method of identifying Import and Export SSCs discussed and agreed by the VAMG is to have an additional field in MDD. The field will be added to MDD as a data item in the D269/D270 so that each SSC has an associated Import or Export flag. This will require a new version of the D269 and D270 to be published. Once implemented all current SSCs will be marked as Import and any new ones will be defined as either Import or Export when they are created.

It should be noted that the changes to the Data Transfer Catalogue and data flows will need to be assessed under the Master Registration Agreement (MRA) and agreed by the MRA Development Board before either the Modification Proposal or the Alternative Modification Proposal can be implemented.

A further impact assessment is being sought from SVAA to investigate if a simpler approach exists that does not involve changes to the DTC flow structures.

7 SUMMARY OF NEW REQUIREMENTS ON MARKET PARTICIPANTS

The following section describes the new requirements identified for the implementation of P81. Further requirements may be needed and these should be highlighted in the consultation or impact assessment responses.

7.1 Suppliers

If a Supplier wishes to trade the exported energy in Settlements they would need to ensure that the Line Loss Factor and the SSC chosen, when registering the Export MPAN, are the correct ones for use with Export Metering systems.

The Supplier would need to ensure that premise type complies with the definition used in the Modification Proposal or the Alternative Modification Proposal.

7.2 NHH Data Aggregators

There are not expected to be any changes to the obligations on NHH Data Aggregators as the Export meter readings will be processed as positive readings with an associated Export LLF and SSC.

7.3 NHH Data Collectors

The NHH Data Collector will be required to collect and process both Import and Export meter readings from NHH Metering Equipment. The meter readings will all be treaded as positive advances and should be assigned to the correct MPAN for the premise.

7.4 NHH Meter Operators

On single-phase sites where there is generation, Meter Operators will be required to ensure that both the Import and the Export quantities are measured. This will preferably be achieved by installation of one meter however it would also be possible to install two separate single-phase meters. If two meters are installed they must be clearly marked to indicate which is measuring Import energy and which is measuring Export energy and any necessary circuit re-labelling within the meter cover.

On 3-phase sites where there is generation, Meter Operators will be required to install one polyphase meter that is capable of measuring and recording the Import and the Export energy separately.

7.5 Supplier Volume Allocation Agent

The SVAA will be required to process the aggregated Export volumes through their current processes and treat them as negative values, this will be identifiable from the SSC.

7.6 Distribution System Operators

The Distribution System Operators will be required to create NHH Export LLFs for use when a Supplier registers an Export MPAN. It may also be necessary for new Meter Timeswitch Codes to be defined.