

REQUIREMENTS SPECIFICATION for Modification Proposal P213 'Facilitating Microgeneration (Optional Single MPAN)'

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Proposed Modification P213 seeks to amend the current provisions for microgeneration to allow a single MPAN¹ to be used for both Import and Export in Non Half Hourly settlement. The aim of this modification is to reduce the associated industry costs and the complexity of settlement processes for Suppliers and Supplier Agents, and thereby facilitate increased settlement of microgeneration Export. Under the proposed Modification, the same Line Loss Factor Classes (LLFCs) would have to be assigned to Import and Export for Import/Export MPANs.

Potential Alternative Modification P213 seeks to amend the current provisions for microgeneration to allow a single MPAN to be used for both Import and Export in Non Half Hourly settlement as per the Proposed Modification, however it allow different LLFCs to be assigned to the Import and Export on the single MPAN.

BACKGROUND AND PURPOSE OF IMPACT ASSESSMENT

The BSC Panel considered P213 at its meeting on 10 May 2007 and submitted the proposal to a 3-month Assessment Procedure to be conducted by the P213 Modification Group (formed from members of the Volume Allocation Standing Modification Group and additional members from the Energy Networks Strategy Group (Work Program 4 Project 2 Team)). The P213 Modification Group ('the Group') has met once to date on 21 May 2007 and agreed the requirements for the Proposed Modification and a potential Alternative Modification. This document sets out the requirements agreed by the Group, and is issued by the Group for impact assessment by BSC Agents, BSC Parties, Party Agents the Transmission Company and BSCCo².

An Initial Consultation has been issued at the same time as this Impact Assessment. The aim of the Initial Consultation is to gain a greater understanding of why the defect exists (in particular costs and complexity), to aid the Group in assessing the Modification Proposal.

Any queries regarding the impact assessment requirements should be addressed to Ysanne Hills (020 7380 4162), e-mail address ysanne.hills@elexon.co.uk.

¹ MPAN (Metering Point Administration Number) is the term referred to in the MRA, which identifies a SVA Metering System and Metering System Identifier, or MSID, which is the term used under the BSC. For consistency with the term used in P213, this document shall use the term MPAN.

² The Balancing and Settlement Code Company (ELEXON).

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SUMMARY OF IMPACTED PARTIES AND DOCUMENTS

As far as the Modification Group has been able to assess, the following parties/documents would be impacted by P213.

Please note that this table represents a summary of the full initial impact assessment contained in Section 6.

Parties	Sections of the BSC	Code Subsidiary Documents
Distribution System Operators <input checked="" type="checkbox"/>	A <input type="checkbox"/>	BSC Procedures <input checked="" type="checkbox"/>
Generators <input type="checkbox"/>	B <input type="checkbox"/>	Codes of Practice <input type="checkbox"/>
Interconnectors <input type="checkbox"/>	C <input type="checkbox"/>	BSC Service Descriptions <input checked="" type="checkbox"/>
Licence Exemptable Generators <input type="checkbox"/>	D <input type="checkbox"/>	Party Service Lines <input type="checkbox"/>
Non-Physical Traders <input type="checkbox"/>	E <input type="checkbox"/>	Data Catalogues <input checked="" type="checkbox"/>
Suppliers <input checked="" type="checkbox"/>	F <input type="checkbox"/>	Communication Requirements Documents <input type="checkbox"/>
Transmission Company <input type="checkbox"/>	G <input type="checkbox"/>	Reporting Catalogue <input checked="" type="checkbox"/>
Party Agents		
Data Aggregators <input checked="" type="checkbox"/>	H <input type="checkbox"/>	Core Industry Documents
Data Collectors <input checked="" type="checkbox"/>	I <input type="checkbox"/>	Ancillary Services Agreement <input type="checkbox"/>
Meter Administrators <input type="checkbox"/>	J <input type="checkbox"/>	British Grid Systems Agreement <input type="checkbox"/>
Meter Operator Agents <input checked="" type="checkbox"/>	K <input type="checkbox"/>	Data Transfer Services Agreement <input type="checkbox"/>
ECVNA <input type="checkbox"/>	L <input type="checkbox"/>	Distribution Code <input type="checkbox"/>
MVRNA <input type="checkbox"/>	M <input type="checkbox"/>	Distribution Connection and Use of System Agreement <input type="checkbox"/>
BSC Agents		
SAA <input type="checkbox"/>	N <input type="checkbox"/>	Grid Code <input type="checkbox"/>
FAA <input type="checkbox"/>	O <input type="checkbox"/>	Master Registration Agreement <input checked="" type="checkbox"/>
BMRA <input type="checkbox"/>	P <input type="checkbox"/>	Supplemental Agreements <input type="checkbox"/>
ECVAA <input type="checkbox"/>	Q <input type="checkbox"/>	Use of Interconnector Agreement <input type="checkbox"/>
CDCA <input type="checkbox"/>	R <input type="checkbox"/>	BSCCo
TAA <input type="checkbox"/>	S <input checked="" type="checkbox"/>	Internal Working Procedures <input type="checkbox"/>
CRA <input type="checkbox"/>	T <input type="checkbox"/>	BSC Panel/Panel Committees
SVAA <input checked="" type="checkbox"/>	U <input type="checkbox"/>	Working Practices <input type="checkbox"/>
Teleswitch Agent <input type="checkbox"/>	V <input type="checkbox"/>	Other
BSC Auditor <input type="checkbox"/>	W <input type="checkbox"/>	Market Index Data Provider <input type="checkbox"/>
Profile Administrator <input type="checkbox"/>	X <input type="checkbox"/>	Market Index Definition Statement <input type="checkbox"/>
Certification Agent <input type="checkbox"/>		System Operator-Transmission Owner Code <input type="checkbox"/>
Other Agents		
Supplier Meter Registration Agent <input checked="" type="checkbox"/>		Transmission Licence <input type="checkbox"/>
Unmetered Supplies Operator <input type="checkbox"/>		
Data Transfer Service Provider <input type="checkbox"/>		

1 SUMMARY OF PROPOSED MODIFICATION SOLUTION

P213 was raised on 27 April 2007 by E.ON UK ('the Proposer'). P213 seeks to remove the requirement to have two separate MPANs for NHH Import/Export sites, and to allow (where requested) Import and Export to be registered to a single MPAN. The intention of P213 is to reduce the complexity and cost of the associated industry processes and, in doing so, facilitate increased settlement of microgeneration Export.

Under the process proposed by P213:

- A Supplier will no longer be required to request an additional MPAN if they wish to settle microgeneration at a particular customer site. Instead they would request that the existing MPAN is allocated to a new Standard Settlement Configuration (SSC) for NHH Import/Export;
- As a result there will be no appointment processes for an additional MPAN, just a reconfiguration request (for a new SSC) for the existing MPAN. The reconfiguration request would trigger the Non Half Hourly Meter Operator Agent (NHHMOA) and Non Half Hourly Date Collector (NHHDC) to install Import/Export metering and collect meter readings appropriately; and
- No change is proposed to the physical metering requirements for these sites and the solution proposed is intended to be an alternative to (rather than replacing) the current processes introduced by P081 'Removal of the Requirement for Half Hourly Metering on Third Party Generators at Domestic Premises'.

P213 proposes that changes are made to the settlement arrangements to ensure that profiling and thereby settlement, remains accurate for these Import/Export MPANs.

The profiling solution proposed by P213 is intended to apply the current profile shapes to microgenerators with a single MPAN, as well as those with two MPANs.

P213 notes that extending the profiling arrangements to single MPAN customers in this way would require profiles to be used in a different way to currently, in that:

- It would require profile coefficients from different Profile Classes to be assigned to different registers of the same Metering System. Currently settlement always applies a single Profile Class (i.e. the one registered in SMRS) to all the registers of a Metering System; and
- It would require settlement to attribute energy to both registers of a Metering System simultaneously. Currently the profiling rules are written on the premise that only a single register will be 'on' (i.e. recording the flow of energy) at a given point in time.

P213 proposes a mechanism for achieving this; the key features of this solution are as follows:

- The Import/Export MPAN would be registered in SMRS to the Import Profile Class (and a new special-purpose Import/Export SSC)
- Non Half Hourly Data Collector (NHHDC) and Non Half Hourly Data Aggregator (NHHDA) systems would treat this Import/Export SSC in the same way as other two-register SSCs.
- Supplier Volume Allocation Agent (SVAA) would not attempt to apply the normal profiling rules to Import/Export SSCs (as these profiling rules are not designed to handle two registers recording energy simultaneously). Instead, SVAA would refer to a 'substitution table' which would refer to the correct profile coefficients to be used for each register. This substitution table would instruct SVAA to use a normal demand profile for the Import register, and a P081 Export profile for the Export register. The substitution table would be approved by the Panel in advance in accordance with existing rules for the approval of new SSCs.

2 DETAIL OF PROPOSED MODIFICATION SOLUTION REQUIREMENTS

2.1 Registration of an Import/Export MPAN

P213 requires that, when a new customer microgeneration site is set up, the Supplier will be able to register the Import and Export for that site on a single MPAN. The Supplier would request that the existing Import MPAN is allocated to a new SSC for NHH Import/Export. The NHHMOA would then install additional metering (if required).

The following scenarios are intended to show how this would work practically.

2.1.1 The existing Supplier adds Export to an Import³ only site (Scenario 1 in P213)

This table is extracted from the P213 Modification Proposal and shows the proposed new process for updating a current Import only site to Import/Export.

	Current Process ⁴	Proposed New Process
1.	Supplier requests a second MPAN for the premises from the Licensed Distribution System Operator (LDSO)	N/A
2.	Supplier registers to supply the new MPAN in SMRS, specifying an Export SSC (and MTC). This should trigger the LDSO to assign an Export LLFC to the new MPAN (if they have not already done so).	N/A
3.	Supplier appoints agents (i.e. Meter Operator Agent, Non Half Hourly Data Collector, and Non Half Hourly Data Aggregator) for Export MPAN.	Agents are already appointed for existing MPAN.
4.	Supplier sends D0142 to Meter Operator Agent, instructing them to install Export metering for the new Export MPAN. As this flow relates to the Export MPAN, and doesn't explain the connection to the existing Import MPAN, the Supplier may need to use the 'Additional Information' field to explain the scenario.	Supplier sends D0142 to Meter Operator Agent, instructing them to install Import/Export metering for the existing MPAN.
5.	Meter Operator sends Meter Technical Details (D0149/D0150) for new MPAN to Supplier, NHHDC and LDSO. MTD show the new Export MPAN having a single settlement register (for Export).	Meter Operator sends Meter Technical Details (D0149/D0150) for existing MPAN to Supplier, NHHDC and LDSO. MTD show the MPAN having at least two settlement registers (one Export and one Import)
6.	N/A	Supplier updates the existing MPAN registration to have an Import/Export SSC (and MTC), rather than Import-only. (This should trigger the LDSO to make corresponding changes to the LLFC).

³ In this example, and throughout this document, the example of an MPAN with a single Export register and a single Import register is used to describe the P213 solution. This is not intended to preclude a situation where there are more than 1 Import register or more than 1 Export register on an Import/Export MPAN.

⁴ The Current Process descriptions are included in this document purely to aid in explaining how processes would change under P213; as such they are often simplified.

2.1.2 An existing Supplier wishes to use a single MPAN for Import and Export on a site with 2 separate MPANs (one for Export and another for Import)

In this case (where a site is effectively moving from the current requirements into the P213 solution) the Supplier will complete the following process. There are currently (as of 24 May 2007) only 25 Export MPANs registered under the current processes, so it is noted that this process is likely to be unusual.

	Current Process	Proposed New Process
1.	N/A	Supplier requests logical disconnection of the Export MPAN (making it clear in the request that physical disconnection of the property is not required).
2.		Supplier de-appoints agents (i.e. Meter Operator Agent, Non Half Hourly Data Collector, and Non Half Hourly Data Aggregator) for the Export MPAN. Agents are already appointed for existing Import MPAN.
3.		Supplier sends D0142 to Meter Operator Agent, instructing them to install Import/Export metering for the existing Import MPAN ⁵ .
4.		Supplier sends D0142 to Meter Operator Agent, instructing them to disconnect the metering associated with the Export MPAN ⁵ .
5.		Meter Operator sends Meter Technical Details (D0149/D0150) for existing Import MPAN to Supplier, NHHDC and LDSO. MTD show the MPAN having at least two settlement registers (one Export and one Import).
6.		Meter Operator sends Meter Technical Details (D0150) for Export MPAN, to confirm that there is no metering associated with the MPAN.
7.		Supplier updates the existing Import MPAN registration to have an Import/Export SSC (and MTC), rather than Import-only. (This should trigger the LDSO to make corresponding changes to the LLFC).

2.2 Processes for Change of Supplier/Discontinuing the Settlement of Microgeneration Export

The Change of Supplier process for Import/Export MPANs will vary depending on whether the Import and Export are to be transferred or just the Import (or just the Export) and whether, prior to the Change of Supplier, the site has separate Import and Export MPANs.

The following scenarios are intended to show how the Change of Supplier processes would work in different situations.

2.2.1 Process for discontinuing the settlement of microgeneration Export (no Change of Supplier)

This table is extracted from the P213 Modification Proposal and shows the proposed process for a Supplier who wishes to discontinue the NHH microgeneration Export.

	Current Process ⁴	Proposed New Process for single MPAN
1.	Supplier requests logical disconnection of the Export MPAN (making it clear in the request that physical disconnection of the property is not required)	N/A

⁵ This step may not be required if the existing metering solution is one meter with two registers recording Import and Export.

2.	Supplier de-appoints agents (i.e. Meter Operator Agent, Non Half Hourly Data Collector, Non Half Hourly Data Aggregator)	N/A
3.	Supplier sends D0142 to Meter Operator Agent, instructing them to logically disconnect the metering associated with the Export MPAN. As this flow relates to the Export MPAN, and doesn't explain the connection to the existing Import MPAN, the Supplier may need to use the 'Additional Information' field to explain the scenario.	Supplier sends D0142 to Meter Operator Agent, instructing them to use Import metering rather than Import/Export metering for the single MPAN.
4.	Meter Operator sends Meter Technical Details (D0150) for Export MPAN, to confirm that it is logically disconnected.	Meter Operator sends Meter Technical Details (D0149/D0150) for existing single MPAN to Supplier, NHHDC and LDSO. MTD show the single MPAN now has only Import settlement register(s).
5.	N/A	Supplier updates SSC (and MTC) in SMRS to Import rather than Import/Export for the single MPAN. (This may trigger the LDSO to make a change to the assigned LLFC).

2.2.2 Change of Supplier Process (Import and Export)

A change of Supplier for Import and Export (for a single Import/Export MPAN) would constitute a single Change of Supplier process, using the normal change of Supplier process.

It is noted that, for the P213 process, the Import and Export registers would both be assigned to a single MPAN, there would no longer be any possibility of erroneously transferring the Import to a new Supplier while leaving the Export with the old Supplier (or vice versa).

	Current Process ⁴	Proposed New Process
1.	New Supplier registers as the Supplier for the Import MPAN.	New Supplier registers as the Supplier for the Import/Export MPAN.
2.	New Supplier registers as the Supplier for the Export MPAN.	N/A
3.	New Supplier appoints Agents (i.e. Meter Operator Agent, Non Half Hourly Data Collector and Non Half Hourly Data Aggregator) for the Import MPAN.	New Supplier appoints Agents (i.e. Meter Operator Agent, Non Half Hourly Data Collector and Non Half Hourly Data Aggregator) for the MPAN.
4.	New Supplier appoints Agents for the Export MPAN.	N/A
5.	Existing Supplier de-appoints Agents for the Import MPAN.	Existing Supplier de-appoints Agents.
6.	Existing Supplier de-appoints Agents for the Export MPAN.	N/A
7.	Meter Operator sends the new Supplier MTDs (D0149/D0150) for the Import MPAN.	Meter Operator sends the new Supplier MTDs (D0149/D0150). The Supplier confirms that the MPAN is Import/Export.
8.	Meter Operator sends the new Supplier MTDs (D0149/D0150) for the Export MPAN.	N/A
9.	New Supplier receives CoS reading for Import Meter.	New Supplier receives CoS readings for Import and Export.

10.	New Supplier receives CoS reading for Export Meter.	N/A
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2.2.3 Change of Supplier Process (Import or Export)

If Import or Export needs to be transferred then the existing Supplier would reconfigure their MPAN to Import or Export (depending on which they will continue to be the Supplier for) and the new Supplier will request an additional MPAN for the other. In this situation the current arrangements would apply, and there would be an MPAN for Import and another MPAN for Export (as they are registered to different Suppliers).

Where the Metering System installed is an Import/Export Meter, the Shared Meter Arrangements will apply, and the Export Supplier will ensure that they use the same NHHMOA and NHHDC as the Import Supplier, as set out in Section J 4.1.4 and 4.1.5 of the BSC.

The table below shows an example for the process when a new Supplier takes on the Export and the existing Supplier keeps the Import.

	Current Process ⁴	Proposed new process (change from a single MPAN to 2 MPANs)
1.	N/A	The new Supplier and existing Supplier will liaise to manage the transition from the existing <u>Import/Export</u> MPAN to two separate MPANs.
2.	N/A	Import MPAN - Existing Supplier updates SSC (and MTC) in SMRS to <u>Import</u> rather than <u>Import/Export</u> . (This may trigger the LDSO to make corresponding changes to the assigned LLFC).
3.	New Supplier registers as the Supplier for the existing <u>Export</u> MPAN.	Export MPAN - New Supplier registers as the Supplier for a new <u>Export</u> MPAN.
4.	New Supplier appoints Agents for the <u>Export</u> MPAN (i.e. Meter Operator Agent, Non Half Hourly Data Collector, and Non Half Hourly Data Aggregator) for the MPAN.	Export MPAN - New Supplier appoints Agents (i.e. Meter Operator Agent, Non Half Hourly Data Collector, Non Half Hourly Data Aggregator) for the MPAN.
5.	N/A	Import MPAN - Existing Supplier sends D0142 to Meter Operator Agent, instructing them to use <u>Import</u> metering rather than <u>Import/Export</u> metering for the single MPAN. Additional information should be added to explain that the <u>Export</u> will now be recorded on a separate MPAN.
6.	N/A	Export MPAN – New Supplier sends D0142 to Meter Operator Agent, instructing them to use <u>Export</u> metering for the new MPAN. Additional information should be provided to explain that <u>Export</u> metering may already be on site.

7.	N/A	<p>Import MPAN - Meter Operator sends Meter Technical Details (D0149/D0150) for existing MPAN to the existing Supplier, NHHDC and LDSO. MTD show the MPAN now has only Import settlement register.</p> <p>Export MPAN - Meter Operator sends Meter Technical Details (D0149/D0150) for new MPAN to the new Supplier, NHHDC and LDSO. MTD show the new MPAN has an Export only settlement register.</p>
8.	Existing Supplier de-appoints Agents for the Export MPAN.	Export MPAN - Existing Supplier de-appoints Agents.
9.	Meter Operator sends the new Supplier MTDs (D0149/D0150) for the Export MPAN.	Export MPAN - Meter Operator sends the new Supplier MTDs (D0149/D0150). The Supplier confirms that the MPAN is Export.
10.	New Supplier receives CoS readings for the Export MPAN.	<p>Export MPAN - New Supplier receives initial readings.</p> <p>Import MPAN – existing Supplier continues to receive readings.</p>

2.2.4 Change of Supplier Process (for an Import only site, which is being converted to Import/Export)

2.2.4.1 *New Supplier takes on Export only*

In this situation the new Supplier is required to use the existing requirements to register an additional (Export only) MPAN. This process is set out in section 2.1.1 (Current Process).

2.2.4.2 *New Supplier takes on Export and Import*

In this situation the Change of Supplier process would take place as usual for an Import only NHH site. Once the Change of Supplier process is complete, the new Supplier would follow the procedure set out in 2.1.1 (Proposed New Process).

2.3 Processing for Import/Export MPANs

P213 requires that MPANs registered as Import/Export are treated differently by the SVAA, to ensure that the same level of profile and settlement accuracy is maintained for Import/Export MPANs when compared to current Export and Import MPANs. P213 therefore looks to apply the current profile shapes to microgenerators with a single MPAN, as well as those with two MPANs.

In effect, this Modification Proposal is seeking to waive (for microgeneration customers) two constraints that are built into the design of the SVA market:

- that each SVA Metering System is assigned to a single Profile Class (built into SMRS and Supplier Agent systems); and
- that only one of the Time Pattern Regimes (TPRs) associated with a given SSC can be recording energy at a given instant in time (contained within the profiling component of SVAA).

Rather than directly change these requirements (which is considered to be a significant change and therefore costly) P213 proposes that Annex S-2 of the BSC is amended to state that:

- The normal provisions for calculation of profile coefficients (i.e. sections 6.2 to 6.8 of Annex S-2) shall not apply to SSCs that include both Import and Export registers; and
- Instead, for these Import/Export SSCs, the profile coefficients for each TPR will be set equal to the profile coefficients that would have been used (in the opinion of the BSC Panel), had the Import and

Export been assigned to two MPANs rather than one. In practice, this will be achieved by providing the SVAA system with a 'substitution table' detailing which profile coefficients to use for each TPR.

The changes to systems and processes required to achieve this can be summarised as follows:

- Amendments are required to the profiling component of the SVAA system, so that profile coefficients for Import/Export SSCs are selected by reference to the substitution table. This requires a new value of the SSC Type flag to identify Import/Export SSCs. These changes are described in section 2.3.1 below;
- A process is required for providing the substitution table to SVAA. Section 2.3.1.1 below identifies three different options (differing in the degree of transparency to industry as a whole); and
- The meter reading processing carried out by Non Half Hourly Data Collectors should remain unchanged, with Import/Export metering systems handled in a similar way to any other multi-register Metering System. This is discussed further in section 2.3.2 below. No changes are envisaged to the EAC/AA calculator used by the NHHDC or the NHHDA software.

More detail on how these requirements should be met is provided in the following Appendices:

- Appendix 1 (End-to-End settlement Process) provides an example of how an Import/Export MPAN would be managed within settlement, and the data flows reported to participants.
- Appendix 2 ('Changes to SVAA and Market Domain Data Management (MDDM) Software') describes in more detail the changes required to the SVAA and MDDM software.

2.3.1 SVAA and MDDM

In light of the requirements described above, P213 requires that SVAA:

1. recognises a third value of SSC Type (e.g. 'X'), for use with Import/Export SSCs (existing values are 'I' for Import and 'E' for Export);
2. for SSCs with an SSC Type of 'X', the SVAA software would also include a flag at the TPR level, distinguishing Import registers from Export registers;
3. has a new database table to store a substitution table, which will tell the software which profile coefficients to use for each Import/Export SSC (see the below example of the format for this data). A business process would also be required for this substitution data to be approved by SVG, and entered into the SVAA system. The mechanism for entering the data into SVAA would depend on how it was published to industry, as described in section 2.3.1.1 below;
4. has amended the Daily Profile Production module of SVAA to exclude SSCs of Type 'X' from the calculation of profile coefficients, and instead substitute other profile coefficients (in accordance with the data in the substitution table); and
5. currently the Volume Allocation module of SVAA handles 'I' type SSCs (treating all TPRs as Import), and 'E' type SSCs (treating all TPRs as Export). It would require amendment to handle 'X' type SSCs (treating each TPR as either Import or Export, in accordance with the flag held against the TPR in MDD).

P213 will require MDDM to:

1. recognise a third value of SSC Type (e.g. 'X'), for use with Import/Export SSCs. This would not affect the structure of MDD, just the valid data set for the SSC data item.

In addition P213 option (b) (described below) will require MDDM to:

2. for SSCs with an SSC Type of 'X', the MDDM software would include a flag at the TPR level, distinguishing Import registers from Export registers. This change would affect the structure of MDDM and the format of MDD flows, and the potentially the systems that receive them; and

3. hold the substitution data in a new table. This change would affect the structure of MDDM and the format of MDD flows, and the potentially the systems that receive them.

2.3.1.1 Options for Publishing Substitution Table

There are three options for the extent to which the substitution table would be published to industry, differing in the level of transparency, and the impact on participant systems:

- (a) Substitution table used by SVAA only** – for this option, the substitution table would be used by the SVAA only and would not be provided for use by any other participant. Profile coefficients reported by SVAA would be constructed using the substitution table, but the substitution table data used to construct them would not (except perhaps through the paper and minutes of the Panel Committee that approved the data).

This option would only require change 1 to be made to MDDM (as described above in 2.3.1 for MDDM). The advantage of this approach is that it minimises the impact on participant systems, but there is reduced transparency.

- (b) MDD data flows include the substitution table information** – for this option, the data used in the substitution table would be included in MDDM (and MDD data flows received by participants). This would increase the visibility of the data applied. MDDM software and MDD data flows would need be updated (as described above in changes 1-3) to allow:

1. allow a third value of SSC Type (e.g. 'X'), for use with Import/Export SSCs;
2. allow the Export/Import flag to be assigned at a register level for type 'X' meters ; and
3. create a new table to hold the substitution table used by SVAA.

There are 3 possible options for the MDD data flow(s) that could be used to send this information. These form subcategories for option (b) and are:

- i. D0269 and D0270 – additional data would be provided to all participants to ensure transparency, but would potentially impact all participant systems receiving the flows;
- ii. D0280 - additional data would be provided to Suppliers to aid transparency, but would potentially impact all Supplier systems receiving the flows; or
- iii. a new MDD data flow created specifically for this purpose. This would help ensure that only those participant types who need the data are impacted.

- (c) Data published on the BSCCo website (rather than included in MDD)** – this option is intended to provide transparency (so that the values applied in SVAA are visible) while reducing the impact on participants systems. Data would not be provided in MDD; however, it would be available to view on the BSCCO website if required.

This option would only require change 1 to be made to MDDM (as described above in 2.3.1).

The approval process adopted for substitution table data would also depend on which option was used. For option (b), the data would form part of MDD, and would be approved in accordance with BSCP509 ('Changes to Market Domain Data'). For options (a) and (c) the data would not form part of MDD, and it would be proposed therefore to treat it as standing data, and add an appropriate approval process to BSCP507 ('Supplier Volume Allocation Standing Data Changes').

2.3.1.2 Supplier Reports/DUoS Reports

Under the Proposed Modification, the substitution table would not be used to 're-label' any of the Supplier Purchase Matrix (SPM) data on reports to Suppliers i.e. each SPM cell would be reported against the Profile Class, SSC and LLFC with which it was registered in SMRS. This is because, under the Proposed Modification, the substitution table relates only to the construction of profile coefficients. In contrast, the potential Alternative Modification also uses the substitution table to affect the processing and reporting of SPM cells, as discussed on section 3 below.

2.3.2 Supplier Agents

Most of the normal processes followed by agents when processing a meter reading will not change, as the substitution of additional data for the Export register will not occur until SVAA. As such agents will continue to collect and process the MPAN as they would any other 2 register MPAN.

If option (b) of section 2.3.1.1 above is followed, P213 requires that MDD is updated as described in section 2.2.1; this information will also be provided on the MDD data files sent to participants. Participants who receive the D0269 and D0270 flows would be required to update their internal systems to ensure that they can still receive, validate and load these files, as appropriate.

2.3.2.1 Meter Operator and Data Collectors

The Meter Operator and NHHDC will be aware that the MPAN is Import/Export through looking at the Meter Technical Details (via the Measurement Quantity Id), where each register will be recorded as Import or Export. Under option (b) the MDD file received will also indicate that the MPAN is Import/Export as the SSC will be an Import/Export SSC. Meter reads will be collected as normal, with both the Import and the Export registers being read at the same time.

2.3.2.2 NHHDA and EAC/AA Calculations

No change is proposed to the NHHDA or EAC/AA systems. EAC/AA will receive Daily Profile Coefficients for each TPR of an Import/Export SSC, and will use these to calculate EAC/AA values in exactly the same way as any other SSC. NHHDA will then aggregate these EAC/AA values into SPM cells, again in exactly the same way as any other SSC. The examples of end-to-end settlement processing in Appendix 1 illustrate this further.

2.3.3 Suppliers

P213 does not require all Suppliers to convert current microgeneration sites that are using the arrangements introduced by P081, or to set up all new microgeneration sites under the P213 arrangements (as they may continue to use the current arrangements). However, through the Change of Supplier Process, Suppliers may find that they take on an Import/Export MPAN. P213 requires that Suppliers are able to accommodate this. It is noted that a Supplier may choose to convert a single MPAN microgeneration site to a 2 MPAN microgeneration site once they have taken the MPAN on, or choose not to settle the Export.

If option (b) of section 2.3.1.1 is followed, P213 requires that MDD is updated as described in section 2.2.1; this information will also be provided on the MDD data files sent to participants. Participants who receive the D0269 and D0270 flows would be required to update their internal systems to ensure that they can still receive, validate and load these files, as appropriate.

2.3.4 LDSOs

P213 requires that LDSOs are able to manage Import/Export MPANs within their systems.

If option (b) of section 2.3.1.1 is followed, P213 requires that MDD is updated as described in section 2.2.1; this information will also be provided on the MDD data files sent to participants. Participants who receive the D0269 and D0270 flows would be required to update their internal systems to ensure that they can still receive, validate and load these files, as appropriate.

It is noted that the solution to the P213 Proposed Modification would not allow LDSOs to assign more than 1 LLFC per MPAN. This means that the Import and Export on an Import/Export MPAN would have to be assigned to the same LLFC.

The potential Alternative Modification (described in sections 3 and 4 below) suggests a way for different LLFCs to be applied to the Import and Export for a single MPAN.

2.3.5 Supplier Meter Registration Agents (SMRAs)

If option (b) of section 2.3.1.1 is followed, P213 requires that MDD is updated as described in section 2.2.1; this information will also be provided on the MDD data files sent to participants. Participants who receive the D0269 and D0270 flows would be required to update their internal systems to ensure that they can still receive, validate and load these files, as appropriate.

If options (a) or (c) of section 2.3.1.1 are selected, it is not envisaged that there will be an impact on SMRAs, as data is held at an MPAN level. SMRAs are requested to confirm any impact.

3 SUMMARY OF POTENTIAL ALTERNATIVE MODIFICATION SOLUTION

One potential⁶ Alternative Modification for P213 is currently being considered by the P213 Modification Group. There are two differences between the potential Alternate and the Proposed Modifications.

- The potential Alternative Modification would allow different Line Loss Factors to be applied to the Import and Export registers on an Import/Export MPAN. To achieve this, the additional Export LLFCs would be included in the SVAA substitution table (with the Export Profile Class etc) and would be used by SVAA in their calculations.
- The potential Alternative Modification would also allow the possibility of the substituted Profile Class, SSC and LLFC being reported on the D0030 DUoS report and the D0082 Supplier report. This would mean data shown on these reports is the same, irrespective of whether the Supplier chooses to settle NHH export using separate MPANs for import and export or a single Import/Export MPAN.

There are therefore 3 sub-options (within this potential Alternative Modification), for how widely reported this additional data would be:

1. **Multiple LLFCs allowed** – for this option the LLFC would be included in the substitution table, and used by the SVAA, but the information would not be passed on to be included in the DUoS or other reporting;
2. **Multiple LLFCs allowed and included in the Distribution Use of System (DUoS) Reports** – LLFCs would be included in the substitution table as described above, however, in this case the LLFCs (as applied by SVAA) would be shown in the DUoS reporting (D0030); or
3. **Multiple LLFCs allowed and included in DUoS reports and the D0082 (Supplier) Reporting** – LLFCs would be included in the substitution table as described above, however, in this case the LLFCs (as applied by SVAA) would be shown in the D0030 and D0082 reports.

Appendix 1 provides examples of how these options would work.

The options described in section 2.1.1.1 provide different levels of visibility for the substitution tables. It is noted that, should this solution for a P213 Alternative Modification be progressed, it is likely that the visibility of the LLFCs and other substitution table information would be aligned.

4 DETAIL OF POTENTIAL ALTERNATIVE MODIFICATION SOLUTION REQUIREMENTS

4.1 Multiple LLFCs Allowed (Option 1)

These requirements are in addition to those described in the Proposed Modification (sections 1 and 2).

⁶ It should be noted that the Modification Group have yet to agree whether this option will form an Alternative Modification to P213.

4.1.1 SVAA/MDDM

SVAA would be required to use the LLFCs included in the substitution table when performing calculations for Import/Export MPANs. SVAA would not be required to include the LLFCs applied in its reporting, but would report using the single LLFC provided for that MPAN through the normal processes.

Given that this sub-option is intended to minimise impact on data flows, it is assumed that it would be used in conjunction with option (a) or (c) as defined in section 2.3.1.1, i.e. one of the options in which the substitution table data is not included in MDD. As such, the additional substitution table data would be included in SVAA, but not in MDD.

4.1.2 LDSOs

LDSOs would be required to assign a single LLFC for Import/Export MPANs, in the same way that a single Profile Class is assigned by the Supplier. However, if the LDSO required different Line Loss Factor Classes to be used for settlement purposes, they could do so by assigning the Export Register to a different LLFC in the substitution table. The process for updating the substitution table would be defined in BSCP507, as discussed in section 2.3.1.1.

4.1.3 Supplier Agents, Suppliers and SMRAs

No additional requirements for Suppliers, Supplier Agents or SMRAs.

4.2 Multiple LLFCs allowed and included in the DUoS Reports (Option 2)

These requirements are in addition to those described in the Proposed Modification (sections 1 and 2) and those described above for Option 1 (section 4.1).

4.2.1 SVAA/MDDM

4.2.1.1 SVAA

SVAA would be required to use the LLFC values in the substitution table when producing the DUoS (D0030) reports.

4.2.1.2 MDDM

There are no additional impacts on MDDM other than those described under 4.1.1.

4.2.2 LDSOs

DUoS reporting received from the SVAA would take account of the data defined in the substitution table i.e. each profiled SPM cell would be reported against the Profile Class, SSC and LLFC defined in the substitution table (where these differed from the values registered in SMRS). The effect of this would be to permit different LLFC values to be applied to different registers of the same Import/Export MPAN. Provided LDSOs use the same LLFC in the substitution table as they use for Export only MPANs raised under P081, the DUoS reports received will be identical irrespective of whether the Supplier elects to settle NHH Export using one MPAN or two.

4.2.3 Supplier Agents, Suppliers and SMRAs

There are no additional impacts other than those described under 4.1.1.

4.3 Multiple LLFCs allowed and included in all SVAA reporting (Option 3)

These requirements are in addition to those described in the Proposed Modification (sections 1 and 2) and those described above for Options 1 and 2 (sections 4.1 and 4.2).

4.3.1 SVAA/MDDM

4.3.1.1 SVAA

Under Option 3, SVAA would report SPM data against the Profile Class, SSC and LLFC in the substitution table (rather than that registered in SMRS) on both the D0030 and D0082 reports. This is expanded further in Appendix 1.

4.3.2 Suppliers

If Option 3 is selected, Suppliers should expect D0082 reports from SVAA that include multiple LLFCs for a single MPAN. Suppliers may need to update their internal systems to ensure that they can still receive, validate and load these files as appropriate.

4.3.3 Supplier Agents, LDSOs, SMRAs and MDDM

There are no additional impacts other than those described under 4.1.1.

5 IMPLEMENTATION OPTIONS

To implement P213, changes will be needed to SVAA software and participants' processes/systems for microgeneration sites. Changes may also be needed to MDDM software, MDD data flow formats and participant systems depending on which of the options described above is chosen.

To allow participants to use a single MPAN for Import and Export a change to the MRA may be required. The Proposer (E.ON UK) intends to raise this change.

The implementation date for P213 will need to be set to take into account the raising, progression and implementation of any SVAA, MDD and other changes that might be required to support the Modification Proposal.

This Modification Proposal would be implemented such that settlement systems and processes are capable of supporting an Import/Export MPAN from the implementation date of the Modification.

6 ESTIMATED IMPACT OF MODIFICATION ON SYSTEMS, PROCESSES AND DOCUMENTATION

It is noted that the potential Alternative Modification is likely to have a greater impact than the Proposed Modification. In addition the options for publishing the substitution table will have somewhat differing impacts.

6.1 Impact on BSC Systems and Processes

System / Process	Impact of Proposed/Alternative Modification
SVAA Software	Changes would be required to the SVAA software as described in section 2.2.1 to allow profiling for Import and Export on a single MPAN, and to allow energy to be attributed to 2 registers at the same point in time.
MDD Software	Changes would be required to recognise an Import/Export MPAN within MDD and to allow individual registers to be flagged as Import or Export. MDD flows may also need to be updated to contain this information depending on the option chosen.

6.2 Impact on BSC Agent Contractual Arrangements

An initial assessment has been undertaken in respect of BSC Agent contractual arrangements and no areas have been identified as potentially being impacted by the Modification Proposal.

6.3 Impact on BSC Parties and Party Agents

The change to MDD data flows could impact Supplier, Supplier Agent (NHH and HH), LDSO and SMRA processes and systems, depending on how individual participants process the MDD files.

Suppliers may not be impacted by the proposed Modification, if they do not adopt the new processes, and continue to use two MPANs for microgeneration sites (one for Import and another for Export) or do not have any microgeneration customers.

NHH Supplier Agents (particularly Meter Operators) may need to update their systems and will need to update their processes for identifying collecting, recording and aggregating Import and Export data from a single MPAN. This is described more fully in section 2.

LDSOs will be impacted by the Proposed Modification as they will need to accept new SSCs for Import/Export MPANs and assign the correct LLFCs, etc. LDSOs may also find themselves restricted in the LLFCs that can be assigned for Export on an Import/Export MPAN under the Proposed Modification. The potential Alternative Modification suggests a way for LLFCs to be applied separately to the Import and Export on a single MPAN.

6.4 Impact on Transmission Company

No impact identified.

6.5 Impact on BSCCo

Area of Business	Impact of Proposed/Alternative Modification
Implementation	ELEXON will be required to implement changes to the Code, CSDs and BSC Systems to support this Modification Proposal.
MDD	There may be a minor impact on the Customer Operations Team, depending on the solution chosen for Market Domain Data.

6.6 Impact on Code

Code Section	Impact of Proposed/Alternative Modification
Annex S-2 (Supplier Volume Allocation)	There would be changes needed to profiling in Annex S-2 and possibly other sections of the Code. Changes may be needed for other processes set out in Section S.

6.7 Impact on Code Subsidiary Documents

Document	Impact of Proposed/Alternative Modification
BSCP504	The obligation on Suppliers to register Import and Export MPANs separately will need to be updated. The Group envisage that new interface and timetable sections will be developed for this (as opposed to updating the existing sections to set out the new processes). The Group have reviewed the Validation Rules and agreed that no changes are needed.
BSCP505	Possible Impact depending on final solution, the obligations for Shared Metering may need to be clarified and/or updated to cover situations where the Import and Export on a single site and recorded by a single Meter, but where one Supplier has Import and a second has the Export.
BSCP507	Changes may be needed depending on the option chosen, to update the Substitution table data held by SVAA.
BSCP508	Changes are likely to be needed to describe the use of the substitution table by SVAA.
BSCP509	Changes to MDD forms are possible, depending on the final solution.
BSCP514	Changes may be required (depending on final solution) to set out how Meter Operators should manage requests relating to Import/Export Meters. It is expected that these changes would be relatively minor.

Document	Impact of Proposed/Alternative Modification
BSCP516	The rules for allocating SSCs are very likely to need to be updated to allow for Import/Export SSCs.
SVA Data Catalogue	P flows may need to be amended. Any changes to D-flows will affect DTC although, some notes may need to be added to the SVA DCs.
ELEXON BPM	Changes may be needed to reflect the modified processes.
SVAA URS	Changes would be required to the SVAA software (and supporting documentation) to allow the use of more than one PC and TPR for a single MPAN at any given time. The extent of the changes required will be dependent on the solution chosen.
SVAA SD	Changes would be required to the SVAA software (and supporting documentation) to allow the use of more than one PC and TPR for a single MPAN at any given time. The extent of the changes required will be dependent on the solution chosen.

6.8 Impact on Core Industry Documents/System Operator-Transmission Owner Code

Document	Impact of Proposed/Alternative Modification
Master Registration Agreement	P213 notes that an amendment to Schedule 8 of the MRA is required to give effect to the changes suggested in the Modification Proposal. Any changes needed to the MRA, to allow the use of a single MPAN would be processed through the normal MRA change process.
ECOES (Electricity Central Online Enquiry Service)	If the potential Alternative Modification is progressed, ECOES will not reflect the information held at SVAA, where there are different LLFCs for Import and Export on an Import/Export MPAN.

6.9 Impact on Other Configurable Items

No impact identified.

6.10 Impact on BSCCo Memorandum and Articles of Association

No impact identified.

6.11 Impact on Governance and Regulatory Framework

No impact identified.

7 DEVELOPMENT PROCESS

For the purposes of the impact assessment, respondents should assume that P213 would be implemented as a stand-alone development project managed by BSCCo.

System	Responsible for Changes as described above
SVAA	Logica – system changes Cap Gemini – ongoing system management (use of substitution tables etc) and User Acceptance Testing

	BSCCo – Pre-Production Testing ⁷
MDDM	Logica – system changes Cap Gemini – ongoing system management and User Acceptance Testing BSCCo – Pre-Production Testing ⁷
Party, Party Agent, SMRA and LDSO internal systems	Relevant Party, Party Agent, SMRA or LDSO
BSCCo internal process changes	BSCCo
Documentation Changes	BSCCo

8 TERMS USED IN THIS DOCUMENT

Other acronyms and defined terms take the meanings defined in Section X of the Code.

Acronym/Term	Definition
CoS	Change of Supplier
CSD	Code Subsidiary Documents
HH	Half Hourly
LLFC	Line Loss Factor Class
MDD	Market Domain Data
MDDM	Market Domain Data Management
MTD	Meter Technical Details
NHH	Non Half Hourly
MPAN	Meter Point Administration Number
NHHDA	Non Half Hourly Data Aggregator
NHHDC	Non Half Hourly Data Collector
NHHMOA	Non Half Hourly Meter Operator Agent
SVAA	Supplier Volume Allocation Agent

9 DOCUMENT CONTROL

9.1 Authorities

Version	Date	Author	Reviewer	Reason for Review
0.1	23/05/07	Change Delivery	ELEXON	For technical review
0.2	25/05/07	Change Delivery	P213 MG	For Modification Group review
1.0	01/06/07	P213 Modification Group	-	For impact assessment

9.2 References

Ref.	Document Title	Owner	Issue Date	Version
1	Initial Written Assessment for P213	BSCCo	10/05/07	1.0

⁷ as per the new release test strategy.

APPENDIX 1 – END TO END SETTLEMENT PROCESS

This Appendix is intended to illustrate the difference in end-to-end settlement process between the P81 'two MPAN' solution; the proposed P213 'single MPAN' solution; and the potential solution for a P213 Alternative Modification⁸. It uses the scenario of a domestic (Profile Class 1) customer with a photovoltaic microgeneration system (extracted from the Proposed Modification). For illustrative purposes it also uses a hypothetical Import/Export SSC '0666' (as used in the Modification Proposal).

A1.1 - Data Registered in SMRS

Under the current BSC rules (P81 solution), the micro-generation customer would have two MPANs registered in SMRS, with associated data items as follows:

	Import MPAN	Export MPAN
Profile Class	1	8
LLFC	Import LLFC selected by Distributor	Export LLFC selected by Distributor
SSC	0393	0482

Under P213 (Proposed or potential Alternative) the micro-generation customer would have a single MPAN registered as follows:

	Import/Export MPAN
Profile Class	1
LLFC	Import LLFC selected by Distributor
SSC	0666

A1.2 - Time Pattern Regime Data in Market Domain Data

For each SSC used in SMRS, details are defined in MDD of the associated Time Pattern Regimes. These can be thought of as the logical settlement registers (and associated switching times). Under the P81 solution, both SSC 0393 (for the Import MPAN), and SSC 0482 (for the Export MPAN) have a single TPR, as follows:

IMPORT MPAN					
Profile Class	SSC Id	SSC Description	SSC Type	TPR Id	TPR 'On' Times
1	0393	Unrestricted	I	00001	00:00 – 24:00

EXPORT MPAN					
Profile Class	SSC Id	SSC Description	SSC Type	TPR Id	TPR 'On' Times
8	0482	Micro-PV Export Import Profile Class 1	E	00378	Deemed 'On' times agreed by Panel, and varying by month (e.g. 07:30 – 16:00 in April, 04:30 – 17:00 in May).

Note that each SSC has an SSC Type (held as part of the SSC definition in Market Domain Data) that distinguishes Import (type 'I') from Export (type 'E'). A third value ('X') would be introduced for Import/Export SSCs.

For example, the 'single MPAN' SSC for our Profile Class 1 PV customer might be:

⁸ It should be noted that the Modification Group have yet to agree whether this option will form an Alternative Modification to P213.

IMPORT/EXPORT MPAN					
Profile Class	SSC Id	SSC Description	SSC Type	TPR Id	TPR 'On' Times
1	0666	Micro-PV Import/Export Profile Class 1	X	00001	00:00 – 24:00
				00378	Deemed 'On' times agreed by Panel, and varying by month (e.g. 07:30 – 16:00 in April, 04:30 – 17:00 in May).

A1.3 - Data Collection and Aggregation Process

Under both P81 and P213 (Proposed or Alternative), the data collection and data aggregation processes remain largely unchanged. In each case, the physical meter advances are assigned to the correct Time Pattern Regimes, and converted to Annualised Advances using the Daily Profile Coefficient data provided by SVAA for the appropriate GSP Group, Profile Class, Standard Settlement Configuration and Time Pattern Regime. These Annualised Advances are then passed to the NHHDA, who uses them to construct the SPM.

In all cases, the SPM cell provided to SVAA will reflect the metering system details registered in SMRS. In the P81 scenario, the Export data would be in the SPM cell for Profile Class 8, SSC 0482 and TPR 00378. In the P213 scenario (Proposed or Alternative) the Export data would be in the SPM cell for Profile Class 1, SSC 0666 and TPR 00378.

A1.4 - Calculation of Profile Coefficients by SVAA

SVAA would not attempt to calculate profile coefficients for 'X' type SSCs such as this (as the overlapping TPRs would cause the current profiling algorithms to fail). Instead, the software would be provided with a substitution table that tells it which profile coefficients to use.

For example:

EXAMPLE SUBSTITUTION TABLE FOR USE BY SVAA IN PROFILING IMPORT/EXPORT SSCs					
IMPORT/EXPORT SSC			SUBSTITUTE SSC		
Profile Class	SSC	TPR	Profile Class	SSC	TPR
1	0666	00001	1	0393	00001
1	0666	00378	8	0482	00378

To continue the example, whenever SVAA required profile coefficients for the Export Register of a single MPAN microgeneration customer (i.e. PC1, SSC 0666, TPR 00378) it would consult the above substitution table, and substitute the profile coefficients for the Export Register of a two MPAN microgeneration customer (i.e. PC8, SSC 0482, TPR 00378). In particular, SVAA would do this substitution when:

- Profiling EAC/AA values provided to NHH settlement by Data Aggregators;
- Producing Daily Profile Coefficient files for use by Non Half Hourly Data Collectors; and
- Producing NHH DUoS reports for Distributors.

The effect of using substitute profile coefficients in this way is that it should make no difference to settlement (or DUoS charging) whether a microgeneration customer was settled on a single MPAN, or two MPANs.

A1.5 - Calculation of Line Losses by SVAA

Once SVAA has profiled the consumption for a given SPM cell, it calculates distribution line losses by applying the Line Loss Factors for the appropriate LLFC, as registered in SMRS. In the P81 scenario, this potentially allows different Line Loss Factors to be applied to the Import and Export registers. In the P213 Proposed scenario, a single LLFC has been registered in SMRS, and it therefore impossible to apply different line losses to the two registers.

P213 potential Alternative seeks to address this, by extending the substitution table to allow substitution of Line Loss Factor Classes as well. For example, a given Distributor might register Import/Export SSCs against LLFC 103, but use the substitution table to specify that the Export Register should be settled using LLFC 203 instead:

EXAMPLE SUBSTITUTION TABLE FOR USE WITH P213 ALTERNATIVE								
DATA REGISTERED IN SMRS					SUBSTITUTE DATA			
Profile Class	SSC	TPR	Distributor	LLFC	Profile Class	SSC	TPR	LLFC
1	0666	00001	XXXX	103	1	0393	00001	103
1	0666	00378	XXXX	103	8	0482	00378	203

This substitution table would instruct SVAA to apply LLF values for LLFC 203 for the Export register, rather than LLF values for the LLFC registered in SMRS.

A1.6 - Reporting of Non Half Hourly Consumption Data to Suppliers and Distributors

SVAA reports Non Half Hourly consumption data (at the level of individual SPM cells, rather than aggregated to portfolio level) on the following reports:

- The Non Half Hourly DUoS Report (D0030) is provided to Suppliers and Distributors; and
- The Supplier Purchase Matrix Report (D0082) is provided to Suppliers.

In P213 Proposed and P213 potential Alternative Option 1 the SPM data in these reports would match that registered in SMRS and provided to SVAA by the NHHDA, i.e. the Export Register consumption would be shown as allocated to PC1, SSC 0666, TPR 0378 and LLFC 103.

In P213 Alternative Option 2, the D0030 DUoS report would show the Export Register consumption against the SSC and PC used to construct the profile coefficients (i.e. SSC 0482, PC8), and the LLFC used in settlement (i.e. LLFC 203). The D0082 report would still show the Export Register consumption against the data as registered in SMRS i.e. PC1, SSC 0666, TPR 0378 and LLFC 103.

In P213 Alternative Option 3, both the D0030 and D0082 reports would show the Export Register consumption against the SSC and PC used to construct the profile coefficients (i.e. SSC 0482, PC 8), and the LLFC used in settlement (i.e. LLFC 203).

APPENDIX 2 – CHANGES REQUIRED TO SVAA AND MDDM SOFTWARE

This Appendix is intended to provide further detail on the changes required to the SVAA and MDDM software, expanding on the overview given in sections 2.3.1, 4.1.1, 4.2.1 and 4.3.1 of the document. It is aimed primarily at the developers of the SVAA and MDDM systems, as the basis for their impact assessments, and is structured as follows:

- Section A2.1 describes the core changes required to SVAA and MDDM, regardless of which of the substitution table option (described in section 2.3.1.1) is selected;
- Section A2.2 describes the additional changes required for each of the three substitution table options; and
- Section A2.3 describes the additional changes required for the potential Alternative Modification Proposal, under each of the three options (as described in section 4 of the document).

ELEXON's agents and software developers are requested to structure their impact assessments in the same way, i.e. provide assessments of the basic functionality described in A2.1; the additional cost of each of the options described in A2.2; and the additional cost of each of the three options described in A2.3.

A2.1 – Core Changes to SVAA and MDDM Software

The following changes are required for all sub-options of P213 or it's Alternative.

A2.1.1 - Extension to Valid Set of SSC Type

Currently, the valid set of the 'Standard Settlement Configuration Type' data item is defined as follows:

I	Import
E	Export

P213 requires a third value to be added to the valid set, for Import/Export SSCs:

X	Import/Export
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This change to the valid set potentially affects both the MDDM system (which stores SSC data) and the SVAA application (which loads it for use in calculating profile coefficients). MDDM must permit an 'X' value to be stored and published (on the D00269 version 003, D0270 version 003 and D0278 version 002 data flows), and SVAA must allow it to be loaded into the for Standard Settlement Configuration table.

A2.1.2 – New Import/Export Flag Held Against Measurement Requirement

For Import/Export SSCs, a new flag will be required at the TPR level (i.e. on the Measurement Requirement entity), to indicate which registers are Import and which register is Export. This new data item will be referred to as the 'Import/Export Register Type', and will be added to the Measurement Requirement entity in both the SVAA and MDDM applications. It will always be null for SSCs with a Standard Settlement Configuration Type of 'I' or 'E', but for SSCs with a Standard Settlement Configuration Type of 'X' it must be set to one of the following values:

I	Import
E	Export

In addition to being added to the MDDM and SVAA systems, this new attribute of Measurement Requirement will be added to the TPR record of the D0278 file, so that it can be automatically loaded into SVAA.

Changes to other MDD flows (e.g. the D0269) form part of the optional functionality, and are therefore described in section A2.2 below.

A2.1.3 - SVAA to Hold Substitution Table

In order to calculate profile coefficients for Import/Export SSCs, SVAA must hold a table of substitution table. The logical entity description for this data is as follows:

Entity: Profile Coefficient Substitution Instruction

Description: An instruction (approved by SVG on behalf of the BSC Panel) to use Period Profile Class Coefficients for one Valid Measurement Requirement Class (the ‘substitute’ VMRPC) in place of another VMRPC (the ‘registered’ VMRPC). SVG will provide an instruction of this type in order to allow Metering Systems to be registered to an SSC for which profile coefficient cannot be calculated using the normal profiling rules e.g. an Import/Export SSC.

Attributes:

- Registered Profile Class Id (Prime Foreign)
- Registered Standard Settlement Configuration Id (Prime Foreign)
- Registered Time Pattern Regime Id (Prime Foreign)
- Effective From Settlement Date {PCSI} (Prime)
- Substitute Profile Class Id (Foreign)
- Substitute Standard Settlement Configuration Id (Foreign)
- Substitute Time Pattern Regime Id (Foreign)
- Effective To Settlement Date {PCSI}

Note that the mechanism for loading this data into SVAA (e.g. manual data entry or automated load of MDD file) varies between the options described in section A2.2 below, and is described in that section.

A2.1.4 - SVAA to Use Substitution Table in Calculation of Profile Coefficients

SVAA is required to use the data in the substitution table when constructing Period Profile Class Coefficients for Import/Export SSCs (i.e. any SSC with a Standard Settlement Configuration Type of ‘X’). Rather than applying the normal rules to construct PPCC data for each TPR, SVAA will ‘copy’ the PPCC data from the substitute VMRPC identified in the substitution table.

For example, P213 gives the following example of a substitution table:

EXAMPLE SUBSTITUTION TABLE FOR USE BY SVAA IN PROFILING IMPORT/EXPORT SSCs					
IMPORT/EXPORT SSC			SUBSTITUTE SSC		
Profile Class	SSC	TPR	Profile Class	SSC	TPR
1	0666	00001	1	0393	00001
1	0666	00378	8	0482	00378

With this data in the table, Period Profile Class Coefficients for SSC 0666, Profile Class 1 and TPR 00378 would (for all relevant GSP Groups) be copied from SSC 0482, Profile Class 8 and TPR 00378 (for the same GSP Group).

Potentially there would appear to be two different options for implementing this functionality:

- The substitution of the correct PPCC values could take place as part of the Daily Profile Production Run (so that PPCC values for Import/Export SSCs are populated into the idf_pd_pfl_class_coefs table, as they are for any other SSC);
- Alternatively, Import/Export SSCs could be excluded from the Daily Profile Production Run entirely (so that the idf_pd_pfl_class_coefs table remains unpopulated for these SSCs). In this case, the logic for

choosing substitute PPCC values would have to be replicated in each part of the software that uses PPCC data (e.g. the SSR Run, the DPC report to Data Collectors, and the Profile reports to Suppliers).

The developer should assess whichever of these options is the cheaper.

A2.1.5 - SVAA to Assign Import/Export Energy to Correct Consumption Component Class

Currently, SVAA uses the Standard Settlement Configuration Type (held against the SSC) to determine whether a profiled EAC/AA value should be assigned to an Import CCC or an Export CCC. For Import/Export SSCs only (i.e. those with a Standard Settlement Configuration Type of 'X'), P213 requires the new Import/Export Register Type flag (held on the Measurement Requirement entity) to be used to allocate energy to the appropriate CCC at the TPR level.

A2.2 – Additional Changes for Publication of Substitution Table

Section A2.1 above has described the core functionality needed to implement P213 in SVAA and MDDM. This section A2.2 describes the additional system changes necessary to publish to industry details of the substitution table and Import/Export Register Type flag. These options correspond to the different business options identified in section 2.3.1.1 of the document:

OPTION	ADDITIONAL IMPACT ON MDDM SOFTWARE AND DATA FLOWS	ADDITIONAL IMPACT ON SVAA SOFTWARE
Option (a) – data not published in MDD	No additional requirements other than those described in A2.1 above.	Manual data entry screen required for loading substitution table data.
Option (b) – data published in MDD	New entity required to hold substitution table data. Substitution table data added to D0278 data flow for transmission to SVAA. Substitution table data and Import/Export Register Type Flag also reported to Suppliers. As described in section 2.3.1.1, there are three options for doing this: <ul style="list-style-type: none"> • Create new version of D0269 and D0270 data flows, holding this new data • Create new version of D0280 data flow, holding this new data • Create entirely new data flow from MDD to Suppliers, holding the new data 	D0278 MDD load amended to include load of substitution table data. Manual data entry screen required as backup data load mechanism.
Option (c) – data published on ELEXON website	No additional requirements other than those described in A2.1 above.	Manual data entry screen required for loading substitution table data.

A2.3 – Additional Changes for potential Alternative Modification

As described in sections 3 and 4 of the document, the potential Alternative Modification makes use of the substitution table to select substitute Line Loss Factors, as well as substitute Profile Coefficients. Service Providers are asked to assess the three sub-options described in sections 4.1.1, 4.2.1 and 4.3.1 of the document. Full details of the required functionality are described in sections A2.3.1 to A2.3.3 below.

A2.3.1 – Extending the Substitution Table to Include LLFCs

The potential Alternative Modification would extend the substitution table to include LLFC data. The Profile Coefficient Substitution Instruction entity (defined in A2.1.3 above) would remain unchanged, but it would also have a child entity, specifying substitutions of LLFC:

Entity: LLFC Substitution Instruction

Description: An instruction from an LDSO to use a substitute LLFC in place of the registered LLFC for one or more TPRs of an Import/Export SSC.

Attributes:

Registered Profile Class Id (Prime Foreign)
 Registered Standard Settlement Configuration Id (Prime Foreign)
 Registered Time Pattern Regime Id (Prime Foreign)
 Distributor Market Participant Id (Prime Foreign)
 Distributor Market Participant Role Code (Prime Foreign)
 Registered Line Loss Factor Class Id (Prime Foreign)
 Effective From Settlement Date {PCSI} (Prime Foreign)
 Effective From Settlement Date {LLFCSI} (Prime)
 Substitute Line Loss Factor Class Id (Foreign)
 Effective To Settlement Date {LLFCSI}

This additional entity would be required to be held in the SVAA system and (if the option of including substitution table data in MDD was chosen) the MDDM system and MDD data flows. The SVAA screen for manual loading of substitution table data would also have to support this new entity.

The SSR component of SVAA would require amendment to refer to the substitution table when selecting the appropriate Line Loss Factors to use for each TPR of an Import/Export SSC.

A2.3.2 – Additional Change to DUoS Reporting

The additional change required for this option is that the D0030 report should be amended to report the substitute details for an SPM cell, not the registered details. In other words, the SVAA system would populate the VMR record of the D0030 report as follows:

- The Profile Class Id, Standard Settlement Configuration Id and Time Pattern Regime Id would be the Substitute Profile Class Id, Substitute Standard Settlement Configuration Id and Substitute Time Pattern Regime Id (if there is a relevant Profile Coefficient Substitution Instruction row); otherwise the registered values provided by the NHHDA; and
- The Line Loss Factor Class Id would be the Substitute Line Loss Factor Class Id (if there is a relevant LLFC Substitution Instruction row); otherwise the registered value provided by the NHHDA.

Note that this process of 'relabelling' DUoS report data in accordance with the Substitution Table may require two or more different SPM cells to be aggregated for purposes of DUoS reporting. For example, suppose that the SPM data for a given Supplier and GSP Group contains both:

- Aggregated Export data for P81-registered 'two MPAN' microgenerators (SSC 0482, PC 8, TPR 00378, LLFC 203); and
- Aggregated Export data for P213-registered 'single MPAN' microgenerators (SSC 0666, PC 1, TPR 00378, LLFC 103) which is to be 'relabelled' (as per the example Substitution Table in A1.5 above) to SSC 0482, PC 8, TPR 0378, LLFC 203

After relabelling, these two sets of data relate to exactly the same Supplier, GSP Group, SSC, PC TPR and LLFC. The data must therefore be summed to create a single aggregate row in the DUoS file (rather than left as two 'duplicate' rows).

A2.3.3 – Additional Change to Supplier Reporting

This option extends the 'relabelling' of SPM output described in A2.3.2 to the Supplier Purchase Matrix (D0082) Report, as well as the DUoS report.