

REQUIREMENTS SPECIFICATION for Modification Proposal P218 'Facilitating Microgeneration within the BSC'

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Proposed Modification P218 seeks to create a mechanism to allow more microgeneration to be accounted for within Settlement by treating it in a similar way to (but not the same as) Non Half Hourly (NHH) Unmetered Supply (UMS). This Modification aims to introduce a new agent; the Microgeneration Export Operator (MEO) who would collate microgeneration data and create Export Estimated Annual Consumptions (EACs) which would be passed into Settlement using the existing Non Half Hourly Data Aggregator (NHHDA) systems. Suppliers would need to register a portfolio Export Meter Point Administration Number¹ (MPAN) per Distributor so as to settle microgeneration in each GSP Group (but would be restricted to one Export MPAN per Distributor, per GSP Group).

Alternative Modification P218 (Solution 1) seeks to create a similar process to the Proposed Modification, however, Suppliers would be able to register separate portfolio Export MPANs for different microgeneration technologies in each GSP Group per Distributor. Each MPAN would have an associated Export EAC representing the estimated Export for that technology type.

Alternative Modification P218 (Solution 2) seeks to create a process similar to the Proposed Modification with the distinction that the MEO collates the microgeneration information into a Supplier Purchase Matrix (SPM) file. This file could be sent directly to the Supplier Volume Allocation Agent (SVAA), therefore bypassing the NHHDA. Suppliers would not be required to register any Export MPANs.

BACKGROUND AND PURPOSE OF IMPACT ASSESSMENT

The BSC Panel considered P218 at its meeting on 9 November 2007 and submitted the proposal to a 4-month Assessment Procedure to be conducted by the P218 Modification Group (formed from members of the Volume Allocation Standing Modification Group and representatives of the Electricity Networks Strategy Group). The P218 Modification Group ('the Group') has met three times; on 12 November 2007, 11 December 2007 and 07 January 2008, and agreed the requirements for the Proposed Modification and a number of potential Alternative Solutions. This document sets out the requirements agreed by the Group, and supports impact assessment by BSC Agents, BSC Parties, Party Agents, MRASCo², the Transmission Company and BSCCo.³

Any queries regarding the impact assessment requirements should be addressed to Dina Solanki (020 7380 4114), e-mail address Dina.Solanki@elexon.co.uk.

¹ MPAN is the term referred to in the MRA, which identifies a SVA Metering System and Metering System Identifier, or MSID is the term used under the BSC. For consistency with the term used in the MRA, this Requirement Specification shall refer to MPAN.

² The Master Registration Agreement Company.

³ 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 P218.

Please note that this table represents a summary of the full initial impact assessment contained in Section 7.

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 checked="" type="checkbox"/>
Non-Physical Traders <input type="checkbox"/>	E <input checked="" 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	H <input type="checkbox"/>	Core Industry Documents
Data Aggregators <input checked="" type="checkbox"/>	I <input type="checkbox"/>	Ancillary Services Agreement <input type="checkbox"/>
Data Collectors <input checked="" type="checkbox"/>	J <input checked="" type="checkbox"/>	British Grid Systems Agreement <input type="checkbox"/>
Meter Administrators <input type="checkbox"/>	K <input type="checkbox"/>	Data Transfer Services Agreement <input type="checkbox"/>
Meter Operator Agents <input checked="" type="checkbox"/>	L <input type="checkbox"/>	Distribution Code <input type="checkbox"/>
ECVNA <input type="checkbox"/>	M <input type="checkbox"/>	Distribution Connection and Use of System Agreement <input type="checkbox"/>
MVRNA <input type="checkbox"/>	N <input type="checkbox"/>	Grid Code <input type="checkbox"/>
BSC Agents	O <input type="checkbox"/>	Master Registration Agreement <input checked="" type="checkbox"/>
SAA <input type="checkbox"/>	P <input type="checkbox"/>	Supplemental Agreements <input type="checkbox"/>
FAA <input type="checkbox"/>	Q <input type="checkbox"/>	Use of Interconnector Agreement <input type="checkbox"/>
BMRA <input type="checkbox"/>	R <input type="checkbox"/>	BSCCo
ECVAA <input type="checkbox"/>	S <input checked="" type="checkbox"/>	Internal Working Procedures <input type="checkbox"/>
CDCA <input type="checkbox"/>	T <input type="checkbox"/>	BSC Panel/Panel Committees
TAA <input type="checkbox"/>	U <input type="checkbox"/>	Working Practices <input type="checkbox"/>
CRA <input type="checkbox"/>	V <input type="checkbox"/>	Other
SVAA <input checked="" type="checkbox"/>	W <input type="checkbox"/>	Market Index Data Provider <input type="checkbox"/>
Teleswitch Agent <input type="checkbox"/>	X <input checked="" type="checkbox"/>	Market Index Definition Statement <input type="checkbox"/>
BSC Auditor <input checked="" type="checkbox"/>		System Operator-Transmission Owner Code <input type="checkbox"/>
Profile Administrator <input type="checkbox"/>		Transmission Licence <input type="checkbox"/>
Qualification Agent <input checked="" type="checkbox"/>		
Other Agents		
Supplier Meter Registration Agent <input type="checkbox"/>		
Unmetered Supplies Operator <input type="checkbox"/>		
Data Transfer Service Provider <input type="checkbox"/>		

1 SUMMARY OF PROPOSED MODIFICATION SOLUTION

The Proposed Modification aims to introduce a new agent; the Microgeneration Export Operator (MEO) who would collate microgeneration⁴ data and create export Estimated Annual Consumptions (EACs) which would be passed into Settlement using the existing NHHDA systems. Suppliers would be able to register a single portfolio Export MPAN for microgeneration in each GSP Group per Distributor⁵. It should be noted that the term pseudo MPAN was used in the Modification Proposal. However, this is already defined in the MRA, therefore the term portfolio MPAN has been used within this document.

It is envisaged that the MEO would receive details of the microgeneration Export site. The MEO would then be able to calculate the Annual Export for the site using the Panel-approved Export Factor (available from the ELEXON website). The Annual Export value would be calculated using the equation below (where the 8766 is derived from 365.25 days*24hours and the Microgeneration Capacity is confirmed by the Supplier to the MEO):

$$\text{Annual Export} = \text{Microgeneration Capacity} * 8766 \text{ hours} * \text{Export Factor}$$

The MEO would aggregate the Annual Exports for all the sites within a Supplier's portfolio for a particular Distributor within a GSP Group to form an EAC for the portfolio MPAN. This EAC value would be passed to a NHHDA. The NHHDA would then process the EAC in the same way as all other EACs and submit it to the SVAA. The SVAA systems would apply the unrestricted Standard Settlement Configuration (SSC) and Profile Class 8 to calculate Half Hourly (HH) values and pass these to the Settlement Administration Agent (SAA).

2 DETAIL OF PROPOSED MODIFICATION SOLUTION REQUIREMENTS

2.1 Requirement 1 – Creation of the MEO

P218 would require the establishment of one central MEO which would be responsible for storing all the microgeneration information, producing all the Export EACs and passing the information to the relevant NHHDA for Settlement processing. The MEO would be a new BSC Agent procured during the implementation of P218. The MEO would be able to track all registered microgenerators to ensure that sites are not duplicated within Settlements.

For the purposes of this proposal, two impact assessment responses are requested from BSCCo based on a) the MEO managing the registration of up to 3,000 microgeneration sites; and b) the MEO managing up to 10,000 microgeneration sites.

2.1.1 Microgeneration Data

P218 requires the MEO to store information regarding individual microgeneration sites. For each microgeneration site the MEO would need to hold the following information:

- Details of Location (e.g. address with postcode where available);
- GSP Group;
- Distributor;
- Import MPAN where available (for sites with related MPANs, the primary Import MPAN should be used. For unrelated sites with multiple Import MPANs, all Import MPANs should be listed);

⁴ For the purposes of P218, microgeneration refers to Export from a Small Scale Third Party Generating Plant as defined in the BSC.

⁵ It should be noted that the Modification Proposal referred to one MPAN for microgeneration in each GSP Group. However the Group agreed that this was not a workable solution as information would be required separately for different Distributors.

- Supplier;
- Microgeneration Technology (wind, hydro, micro photo voltaic (PV), micro combined heat and power (CHP));
- Microgeneration Capacity; and
- Effective To and From Date (where To Date is applicable).

Upon any change to the above registration details for a particular site, an 'Effective To Date' would be applied to the current record and a new record would be added with a new 'Effective From Date'. This would allow the MEO to keep a record of changes such as change of Supplier.

2.1.2 Portfolio MPAN Data

The MEO would also need to keep a record of portfolio MPANs and the EACs applied. Information would include:

- MPAN;
- Supplier;
- GSP Group;
- Distributor;
- NHHDA;
- Energisation Status;
- EAC; and
- Effective To and From Date

On recalculation of an EAC for a specific MPAN, the MEO would add a new record with new effective dates.

2.1.3 Export Factor Data

The MEO would also need to keep a record of approved Export Factors for use in the EAC calculation. Information would include:

- Microgeneration Technology;
- Export Factor; and
- Effective To and From Date.

Should the Panel agree new Export Factors, these would be sent to the MEO by BSCCo and a new record would be added with new effective dates. It should be noted that although separate Export Factors would be stored for different microgeneration technologies, the values could be identical.

2.1.4 Data Retention

The MEO should be able to make changes retrospectively when requested by the Supplier. Changes should only be made up to 14 months after the relevant date unless the change is being carried out as part of an accepted Trading Dispute. Data should be stored for 40 months to allow it to be used for resolving Trading Disputes where necessary.

2.1.5 Non Functional Requirements

As a BSC Agent the MEO would be procured and audited in accordance with Section E of the BSC. BSCCo would need to put in place new Service Descriptions for the MEO and revise Section E to account for the new BSC Agent. The BSC Agent contract would include requirements on the MEO to develop and maintain a contingency plan and disaster recovery plan. In addition the MEO would be required to keep an audit trail of its activities.

2.1.6 DTN Connection

The MEO would be required to send EAC information to the relevant NHHDA. The MEO would require a DTN connection to enable it to send and receive flows. All flows between the MEO and the Supplier should also be sent via the DTN.

2.2 Requirement 2 – Export Factors

Export Factors would need to be calculated for each type of microgeneration. However, it is proposed that the values would initially be the same i.e. one Export Factor would be calculated and applied to all technology types. The Panel would be responsible for determining a methodology for calculating Export Factors. Having separate Export Factors would allow flexibility for the Panel to determine whether there is a benefit in producing separate Export Factors for different technology types at a later date, for example if more data becomes available.

Appendix 1 contains the methodology developed by the group and used to determine the Export Factors as part of the Assessment Procedure. It is assumed that the methodology agreed by the Panel would be similar to the attached. Once calculated, the values would be approved by the Panel, published on the BSC Website and sent to the MEO. To ensure the Export Factors are accurate and fit for purpose the Panel would be able to review the values from time to time.

2.3 Requirement 3 – Creation of Portfolio MPANs

2.3.1 Supplier Request to Create an MPAN

P218 would require the formation of portfolio MPANs for the different Suppliers. These must be unique and clearly identify vital information. Individual MPANs would be created for each Distributor to cover Microgeneration within the relevant Distribution Network. The creation of portfolio MPANs would be undertaken by the relevant Distribution System Operator (DSO). A pre-arranged structure to the portfolio MPAN agreed by the DSOs would be preferable; as this facilitates identification of portfolio MPANs quickly. Therefore DSOs should consider whether they can set aside a distinct set of MPAN numbers to accommodate this.

When a Supplier wishes to settle microgeneration through the P218 process, it would request an MPAN from the relevant DSO using the D0168 'Request for Additional/New MPAN Core(s)' flow as per the existing procedures set out in the Master Registration Agreement (MRA). The 'Additional Information' field of the D0168 would need to be used to inform the DSO that the request relates to a portfolio Export MPAN. A footnote may need to be added to the DTC to make this mandatory.

The DSO would then provide details of the new MPAN to the Supplier using the D0169 'Allocation of New/Additional MPAN Core(s)' flow.

2.3.2 Bulk Creation on Implementation

It is proposed that as part of the initial implementation approach, DSOs would set up skeleton portfolio MPANs for all Suppliers within areas that they are operating at the time of implementation. These would be

skeleton MPANs with no registration data provided. Therefore the process set out above would only need to be followed when new Suppliers or DSOs enter the market.

Respondents are specifically asked to confirm whether they believe skeleton portfolio MPANs should be created by the DSOs for all Suppliers as part of a bulk implementation process or whether Suppliers should request the creation of portfolio MPANs if and when they decide to use the P218 process.

2.3.3 Assignment to Line Loss Factor Class (LLFC)

The DSO would need to assign each portfolio Export MPAN to a particular LLFC. It is envisaged that new LLFCs would be set up by each DSO for Export portfolio MPANs. LLFs would also need to be calculated for each LLFC and submitted to BSCCo for approval as per the existing process in BSCP528.⁶

2.4 Requirement 4 – Registration and Appointment of Agents

On receipt of the MPAN details the Supplier would need to register the new MPAN in SMRS together with details of the agents appointed to that MPAN and the SSC, Profile Class and Measurement Class to be used to process the metered data within Settlement. This information would be sent to the SMRS using existing processes i.e. the D0055 'Registration of Supplier to Specified Metering Point' flow. Amongst other things the D0055 would need to contain the following information:

2.4.1 SSC

An SSC representing unrestricted export would be used for all Export portfolio MPANs. BSCP516 would require amending to set out the rules for assigning the SSC.

2.4.2 Profile Class

Profile Class 8 would be used for all Export portfolio MPANs. BSCP516 would require amending to set out the rules for assigning Profile Class 8.

2.4.3 Measurement Class

Measurement Class B would be used for all Export portfolio MPANs to identify them as Non Half Hourly Unmetered MPANs.

2.4.4 Meter Timeswitch Code

It is proposed that a new Meter Timeswitch Code be created to identify Export portfolio MPANs. This would be similar to the way that Meter Timeswitch Codes are used to identify portfolio MPANs for Meter splitting. (BSCP550 'Shared SVA Meter Arrangement of Half Hourly Import and Export Active Energy')

2.4.5 Energisation Status

The energisation status would initially be set to de-energised. Once an MPAN is registered the MEO would be responsible for submitting EAC data, therefore zero EACs should be submitted. Once a microgeneration site is assigned to a particular MPAN, the Supplier would be responsible for updating the energisation status of the MPAN by submitting a D0205 'Update Registration Details' flow, to enable non zero EACs to be processed in Settlements.

⁶ Note – this aspect of P218 interacts with Modification Proposal P216 'Audit of LLF Production'

2.4.6 NHHDC

For the purposes of P218 the MEO would be responsible for undertaking the role (normally that of the NHHDC) of submitting the EAC to the relevant NHHDA using the D0019 'Metering System EAC/AA Data' flow. Therefore the MEO would, for the purposes of the D0055 be effectively the NHHDC. It should be noted that this does not mean that the MEO would need to be Qualified as a NHHDC as it would not be carrying out all of the NHHDC activities prescribed under the Code. The MEO would however need to be registered in a similar means as the NHHDC, for portfolio MPANs to ensure that the registration is complete and to enable the NHHDA to receive EAC data from the MEO.

To ensure that the SMRS would accept the D0055 with the MEO registered as NHHDC and so that the NHHDA can accept the D0019 flow containing the EAC, the MEO should be registered in MDD with a NHHDC role code.

On registration of a new portfolio MPAN the Supplier would also send a NHHDC appointment flow (D0155) to the MEO. This would ensure the MEO is aware of the new MPAN so it can be registered in the MEO database. To prevent erroneous appointments it would be mandatory for the 'Agreed Service Details' field to refer to the MPAN being a portfolio Export MPAN. Should the MEO receive an appointment flow without this information then it would query the appointment with the Supplier. This should prevent the MEO from being registered to a non portfolio MPAN.

As there are numerous rules relating to the role of NHHDC that the MEO would not be required to undertake, the Code and any subsidiary documents would need to be clear that whilst the MEO is assigned a role code of NHHDC in MDD, it is not actually a NHHDC and therefore would not be able to undertake any other NHHDC activities not related to its role as MEO.

2.4.7 NHHDA

The Supplier would be required to appoint a NHHDA using the existing appointment flow (D0153). The Supplier would also need to include details of the NHHDA in the D0055 being sent to the SMRS. On receipt of the D0055, the SMRA would send a D0209 'Instruction to NHH or HH Data Aggregator' flow to the NHHDA to confirm the registration details.

2.4.8 MOA

Under P218 there would be no requirement for an MOA to be registered to the MPAN. However failure to provide details of an MOA on the D0055 would lead to an incomplete registration. Therefore it is proposed that the MEO should be recorded as the MOA. In order to prevent the SMRS from rejecting this registration, the MEO should be registered in MDD with a MOA role code.

It should be noted that although the MEO would be registered as MOA to ensure a complete registration, the MEO would not be able to, or obliged to, carry out any activities associated with the MOA role under the BSC.

2.4.9 Bulk Registration on Implementation

It is proposed that as part of the initial implementation approach, each SMRS would register the relevant portfolio MPANs for all Suppliers. These would be assigned the registration data described above. Therefore the process set out above would only need to be followed when new Suppliers or DSOs enter the market.

Respondents are specifically asked to confirm whether they believe portfolio MPANs should be registered in SMRS for all Suppliers as part of a bulk implementation process or whether Suppliers should choose to register portfolio MPANs if and when they decide to use the P218 process.

2.5 Requirement 5 - MEO Processes

The MEO working day would end at 18:00hrs. All flows received up to 18:00 hrs would be processed and, where necessary, the MEO would send any outbound flows caused by that processing before 06:00 hrs the following day. Flows received after 18:00 hrs would be treated as being received on the next working day. The following sections set out the specific processes that the MEO would need to undertake:

2.5.1 Portfolio MPAN Registration

As part of the implementation, portfolio MPANs for all current Suppliers and Distributors would be created and registered in SMRS. These MPANs would also be registered in the MEO database, although the energisation status would be set to de-energised. When a Supplier decides to create a new portfolio MPAN it would send a NHHDC Appointment flow (D0155) to the MEO stating that the appointment relates to a portfolio MPAN. The MEO would add the new MPAN to the database with the energisation status set to de-energised.

Should the MEO receive a D0155 flow which does not refer to the MPAN as being a portfolio Export MPAN within the 'Agreed Service Details' field, then the MEO would reject the appointment by sending the 'Rejection of Agent Appointment' flow (D0261) to the Supplier.

When a microgeneration site is added to the MPAN, the Supplier would send a D0205 to the SMRS setting the energisation status to energised. A copy of this flow would also be sent to the MEO. On receipt of a D0205, the MEO would update the relevant MPAN record with the revised energisation status. Further changes to the energisation status of the MPAN would also be sent to the SMRS using the D0205 flow.

2.5.2 Microgeneration Registration (and Change of Supplier)

The microgeneration registration process described below is based on the current process followed by SMRS for registering MPANs. However, the process has been simplified in places due to the lower number of microgeneration sites expected to be registered by the MEO compared to the number of MPANs registered in SMRS. This section sets out the process to be followed by the MEO. Appendix 2 shows the high level registration process to be followed in various scenarios e.g. change of Supplier.

- A Supplier wishing to register a new microgeneration site would need to send details to the MEO using a new DTC flow (Microgeneration Registration Details). It is envisaged that this flow would include the registration details listed in section 2.1.1 above together with an 'event indicator' field, stating that the flow relates to a new registration. As the Supplier may not know whether the site is a completely new registration, or a change of Supplier registration then these are given the same event indicator and treated the same by the MEO.
- A new site can only be registered with the MEO for effective days between 1 and 28 calendar days into the future. No retrospective registrations would be allowed. The MEO should initially check that this requirement has been met, and if not, then the MEO would reject the registration flow.
- The MEO would then:
 1. Check that a site with the same address⁷ and Import MPAN⁸ (where provided) was not already registered within its database to a different Supplier.
 - If the site was registered to a different Supplier then the MEO would contact that Supplier (using a new Deregistration Notification flow) to inform the current Supplier that the site is being transferred to a new Supplier.

⁷ The Group agreed that only one Supplier could register microgeneration for one specific address. Therefore if there are a number of microgenerators at one address, they could only be registered under the P218 solution if they have the same Supplier.

⁸ The technology and capacity information will be available if additional information is required.

- Within 5 Working Days the current Supplier should either send a new 'Microgeneration Registration Details' flow to the MEO deregistering the site or an 'Objection' flow stating that it does not believe the site should be transferred. An objection can only be made if the current Supplier believes that they have a commercial contract in place with the Customer.
 - Should the MEO receive nothing from the current Supplier within 5 Working Days, then the MEO would progress the transfer i.e. the new Supplier would be assigned to the microgeneration site from the relevant effective from date. The MEO would also recalculate the EAC for both the old Supplier and the new Supplier's MPANs and send the revised EACs to the relevant NHHDA.
 - Should the MEO receive a request from the current Supplier to deregister the site, then the MEO would progress the transfer i.e. the new Supplier would be assigned to the microgeneration site from the relevant effective from date. The MEO would also recalculate the EAC for both the old Supplier and the new Supplier's MPANs and send the revised EACs to the relevant NHHDA.
 - Should the MEO receive an 'Objection' flow, then the MEO would not progress the transfer. The MEO would forward the 'Objection' flow to the new Supplier and the Suppliers would be responsible for resolving the issue. There would be no requirement for the Supplier to withdraw the objection; the new Supplier would simply submit a new registration flow once the issue was resolved.
2. If a site with the same address and Import MPAN was not already registered within its database, then the MEO would check whether an Export MPAN has been registered on ECOES with the same address.
- If an Export MPAN is already registered on ECOES then the MEO would contact that Supplier (using a new Deregistration Notification flow) to inform the current Supplier that the site is being registered to a new Supplier.
 - Within 5 Working Days the current Supplier should de-energise the Export MPAN or send an 'Objection' flow stating that it does not believe the site should be transferred. An objection can only be made if the current Supplier believes that they have a commercial contract in place with the Customer.
 - Should the MEO receive nothing from the current Supplier within 5 Working Days, then the MEO would register the site to the new Supplier. The MEO would also recalculate the EAC for the new Supplier's MPAN and send the revised EAC to the relevant NHHDA.
 - Should the MEO receive an 'Objection' flow, then the MEO would not progress the transfer. The MEO would forward the 'Objection' flow to the new Supplier and the Suppliers would be responsible for resolving the issue. There would be no requirement for the Supplier to withdraw the objection; the new Supplier would simply submit a new registration flow once the issue was resolved.
3. If a site with the same address and Import MPAN was not already registered within its database or on ECOES, then the MEO would add the site and calculate a new EAC for the relevant MPAN and submit this to the relevant NHHDA.
- In addition to the above, on receipt of a registration flow for a site, the MEO would 'lock' the record to prevent a potential third Supplier from attempting to register the site whilst the MEO checks are being carried out. The record would be 'locked' to prevent further registration requests from being processed within 10 Working Days of the initial request. Any registration requests received within the 'locked' period would be rejected by the MEO with the reason for rejection provided.

- Also whilst a Supplier's registration is pending, the MEO would reject any further registration requests with an effective date up to and including the effective date of the initial registration for the same site. For example if Supplier A submits a registration flow to become effective in 28 days time; Supplier B cannot register the same site with the same (or earlier effective date).

2.5.3 Microgeneration Deregistration

- A Supplier wishing to deregister a microgeneration site would need to send details to the MEO using a new DTC flow (Microgeneration Registration Details). It is envisaged that this flow would include the registration details listed in section 2.1.1 above together with an 'event indicator' field, stating that the flow relates to deregistration. The Supplier should include an Effective To Date on the flow to indicate that it relates to a deregistration. The Supplier can not deregister a site more than 28 days in the future. In addition the Supplier must include a reason for deregistration in the 'Additional Information' field.
- The MEO would confirm that the relevant site was registered to that Supplier.
- If the site was not registered to that Supplier then the MEO would reject the flow.
- If the site was registered to that Supplier then the MEO would remove reference to the Supplier from the relevant microgenerator record for the effective from date specified in the deregistration flow – the Supplier and MPAN fields would be set to the given Effective To Date.
- The MEO would also confirm whether there are any pending registration requests in relation to the specific site. If there are pending registrations, then the MEO would forward the deregistration flow to the potential new Supplier. The new Supplier could then check that they are still in a position to take over responsibility for the site.
- The MEO would then calculate a new EAC for the relevant MPAN and submit this to the relevant NHHDA.

2.5.4 Registration Updates

Suppliers may, from time to time, send updated registration details to the MEO via the new microgeneration registration flow. The MEO would be required to update the registration data within 1WD and if necessary send updated EACs to the NHHDA. Changes to data can only be made retrospectively to cover the last 14 months. Changes would only be made to registration data relating to the Supplier informing the MEO of the change. If the site has been the subject of a change of Supplier, then the records relating to other Suppliers would not be amended.

2.5.5 Obligation to Provide Portfolio Details

In addition to the registration activities described above, the MEO would be obliged to send portfolio details to Suppliers or DSOs on request. This information could be sent manually via email i.e. it would not need to be classified as a new DTC flow.

2.5.6 EAC Calculation

When a microgeneration site is either added or removed to or from a portfolio Export MPAN (or the Export Factor/ registration data is updated) the MEO would recalculate the EAC for that MPAN as follows:

- The Annual Export value for the EAC to be added or removed would be calculated as follows:

$$\text{Export Factor} * \text{Microgeneration Capacity} * 8766 - \text{Annual Export}$$
- The record for the microgeneration site would be updated to include the Annual Export value;

- This individual Annual Export value would either be added to or subtracted from the EAC value for the relevant MPAN; and
- The record for the relevant portfolio Export MPAN would be updated to include the new EAC value.

2.5.7 Submission of EACs

The MEO would need to submit EACs to the NHHDA via the D0019 flow. EACs should be submitted at least 5WDs after the effective date of the change and in time for the NHHDA to include the values in their Initial Settlement (SF) Run. Therefore the MEO would require software that allows it to create a D0019 and submit it to the NHHDA via the DTN. In addition to the EAC, the D0019 requires information such as SSC, Profile Class and Measurement Class. This information would be the same for all Export portfolio MPANs therefore the MEO would not be required to store it against individual MPANs.

The NHHDA requires flows to be sent from an NHHDC in sequential order, therefore the MEO would need to ensure that flows to each individual NHHDA are sequential with no gaps.

Should the D0019 file fail validation by the NHHDA, then the NHHDA would send a D0023 'Failed Instructions' flow. The MEO would therefore need to be able to receive this flow and manage the exception.

2.6 Requirement 6 – Supplier Processes

2.6.1 Registration of P081 Export MPAN

Currently Suppliers are required to register microgeneration Export MPANs if the energy is to be taken into account in Settlements. It is proposed that the P218 solution is implemented alongside the P081 solution. Therefore the P218 solution needs to allow for sites to transfer from a P218 portfolio MPAN to a P081 MPAN and vice versa. Appendix 2 contains the various scenarios that may occur when switching between the two solutions, together with diagrams setting out the step by step process that should be followed.

Most of the steps in the process are covered by the sections on registration and deregistration above. However, to ensure that microgeneration sites are not processed via both the P218 and P081 solutions in parallel, a new obligation would be placed on Suppliers wishing to register Export MPANs under the P081 solution to inform the MEO via a new flow (P081 MPAN Registration flow) that a new MPAN is being registered.

The MEO would then need to search its database to see whether a microgeneration site has been registered with the same address, technology type, capacity and Import MPAN.

- If the database does not contain the site then no further action would be taken by the MEO.
- If a microgeneration site is already registered with the MEO then the MEO would inform the current Supplier that the site is being registered as an Export MPAN and this would be flagged as an exception on the database. Within 5 Working Days the current Supplier should request that the relevant site be deregistered with the effective to date being the day before the effective from date of the new MPAN.
 - Should the MEO receive a request from the Supplier to deregister the site, then the MEO would set the Supplier and MPAN fields to null and would calculate a new EAC for the relevant MPAN and submit this to the relevant NHHDA.
 - Should the MEO receive nothing from the current Supplier then the MEO would leave the site flagged as an exception but take no further action (as it has not received a request from any Party to undertake any actions).

- Should the MEO receive an 'Objection' flow, then the MEO would remove the exception flag and take no further action. The Supplier would be responsible for resolving any inconsistency.

2.6.2 Updating Registration Data

An additional obligation would also be placed on Suppliers to send updated microgeneration registration data to the MEO within 5 WDs of becoming aware of the change. Changes to registration data should be submitted using the new microgeneration registration flow.

In addition the Supplier should send updates to portfolio MPAN registration data to the SMRS using the D0205 'Update Registration Details' flow if any of the information set out in section 2.4 needs updating. A copy of the D0205 would also be sent to the MEO so they are aware of any energisation status changes.

2.7 Requirement 7 – DSO Processes

In addition to the requirement to create MPANs and LLFCs as set out in section 2.3 the DSO would be required to carry out the following process.

2.7.1 DSO Disconnection of P081 MPAN

Should a Supplier wish to move from the P081 solution to the P218 solution, it would initially request that the DSO disconnect the MPAN. It should be noted that the group believed that some DSOs would not allow the MPAN to be disconnected if there was still exporting capability at the site. If the MPAN were to remain, the Supplier would have to logically de-energise the MPAN and de-appoint the agents. However, the agents would not be able to be deregistered from SMRS.

DSOs are specifically asked to confirm whether they would allow Export MPANs to be disconnected or whether the MPAN would need to remain.

2.8 Requirement 8 – Data Flows

2.8.1 New Non DTC Flow

In order to inform the MEO of changes to the Export Factor Data, BSCCo would send the following information to the MEO via email. It should be noted that this is not a DTC flow as BSCCo does not communicate with any BSC Agent via the DTN.

Export Factor Data Flow

- Microgeneration Technology;
- Export Factor; and
- Effective To and From Date.

2.8.2 New DTC Flows

A number of new DTC flows would be required to manage the flow of information to and from the MEO. These have been listed below, together with the information that must be provided.

Microgeneration Registration Details

This flow would transfer data between the Supplier and the MEO dealing with requests to register and deregister microgeneration sites. The following information would be required:

- Event Indicator (e.g. registration, deregistration or update)

- Details of Location (e.g. address with postcode where available);
- GSP Group;
- Distributor;
- Import MPAN where available;
- Supplier ID;
- Microgeneration Technology;
- Microgeneration Capacity;
- Effective To and From Date; and
- Additional Information (if the flow relates to a deregistration then the reason for deregistration must be provided here).

Note the effective to date should be left blank unless the flow relates to deregistration.

P081 Export MPAN Registration

This flow would transfer data between the Supplier of a P081 Export MPAN and the MEO to inform the MEO that a new P081 Export MPAN is being registered. The flow could also be sent from the MEO to the current Supplier registered to the site within the MEO database (if necessary). The following information would be required:

- MPAN;
- Effective From Date;
- Details of Location (e.g. address with postcode where available);
- Import MPAN (if available);
- Microgeneration Technology;
- Microgeneration Capacity;
- P081 Supplier ID; and
- Additional Information.

Note – the additional information field would be used by the MEO when this flow is sent to the current Supplier, registered in the MEO database, to inform it that a new P081 Export MPAN is being registered.

Deregistration Notification

This flow would be sent from the MEO to the current Supplier registered in the MEO database when a request is received from a new Supplier to register a particular microgeneration site. The following information would be required:

- Details of Location (e.g. address with postcode where available);
- Import MPAN (if available);
- Microgeneration Technology;
- Microgeneration Capacity;

- New Supplier ID;
- Effective From Date of the New Supplier Request; and
- Additional Information.

Objection Flow

This flow would be sent from the current Supplier if it believes that a request to register a site within the MEO database by a new Supplier is erroneous. It would also be sent from the MEO to the new Supplier to inform it of the objection. The following information would be required:

- Details of Location (e.g. address with postcode where available);
- Import MPAN (if available);
- Microgeneration Technology;
- Microgeneration Capacity; and
- New Supplier ID.

Rejection Flow

This flow would be sent by the MEO to a new Supplier wishing to register a microgeneration site where the current Supplier has lodged an objection; or when a Supplier wishes to deregister a microgeneration site for which it is not specified as the current Supplier; or possibly other reasons as detailed above. This flow would contain all of the information from the registration flow with an additional information field which the MEO would use to explain the reason for rejection.

Respondents are specifically asked to confirm whether they believe all of the flows described in this section should be DTC flows. It should be noted that MRASCo will be carrying out a P218 impact assessment in parallel with the Party impact Assessment.

2.8.3 Current DTC Flows

In addition to new flows the MEO would also need to be added to the list of recipients or senders for the following flows:

- D0019 – EAC/AA Submission flow to submit EACs to the NHHDA – see section 2.5.7;
- D0023 – Failed Instructions flow – should the NHHDA reject a flow provided by the MEO;
- D0155 – DC Appointment flow - see section 2.4.6;
- D0205 - Update Registration Details flow see section 2.5.1; and
- D0261 – Rejection of Agent Appointment flow should the MEO receive an appointment flow in relation to a non portfolio MPAN – see section 2.5.1.

2.9 Requirement 9 – NHHDA

P218 would require the NHHDA to accept EAC data from the MEO. On receipt of the flow the NHHDA would check that the file was received from an agent with the NHHDC role code in MDD. It is not envisaged that changes would be required to the NHHDA software as the EAC data would be provided via the existing flow. The NHHDA would then aggregate the data into the Supplier Purchase Matrix (SPM) for the relevant Settlement Day and send this to SVAA via the D0041 data flow. The format of the SPM is not expected to change although there may be additional rows to account for the new type of MPAN.

2.10 Requirement 10 – SVAA

2.10.1 Consumption Component Classes (CCC)

- Current CCCs for Unmetered Supply could not be used for portfolio Export MPANs as this would lead to data entering Settlement with the wrong sign.
- Current CCCs for Export MPANs could be used, however the estimated data associated with the portfolio Export MPAN would affect the Supplier's percentage of actual reads taken before Final Reconciliation for the purposes of Performance Assurance reporting.
- Therefore it is proposed that a new Consumption Component Classes (CCC) would be required for portfolio Export MPANs to ensure that the SVAA processes the data correctly and the Supplier's percentage of actual reads is not affected.

2.10.2 SVAA Software

The SVAA software would require amendment to account for the new CCC and to ensure that the portfolio Export MPAN data is entered into Settlement correctly i.e. on receipt of data relating to Measurement Class B and the relevant unrestricted Export SSC, the SVAA would apply the rules relating to the new Unmetered Export CCC.

Following the changes required for the SVAA, the remaining processes of Settlement are completed without any changes. The SVAA system would forward the volume quantities allocated to the individual Suppliers to the SAA which carries out the Settlement Run.

2.11 Requirement 11 – Assurance

P218 requires assurance to be established to ensure that errors are not introduced into Settlement through defects in the processes.

Assurance should be considered for all areas where there is potential for an error to occur in Settlement that could be material. To date the following key areas have been highlighted, namely:

- Suppliers' claimed generation capacity for microgeneration sites;
- connection and operational status of microgeneration equipment;
- Supplier processes for settling Microgeneration; and
- MEO processes.

2.11.1 Suppliers

Suppliers are already required under the BSC to provide accurate information to Settlement, to the best of their knowledge (Section U 1.2).

In addition, an obligation shall be placed upon Suppliers to update the MEO with appropriate information in an accurate and timely manner in accordance with the BSC and/or any relevant BSCP.

Under P218 Suppliers would be required to demonstrate, upon request, to the best of their knowledge, that they have provided accurate information about the generation capacity of the registered microgeneration site. The Suppliers would also be required to confirm that the connection and operational status of the microgeneration equipment is up to date and accurate.

In essence therefore, Suppliers would be required to maintain an audit trail of appropriate evidence to demonstrate the reliability of the information provided to the MEO and their processes, including any checks and measures in place to deter exploitation of P218, surrounding the Settlement of microgeneration.

Examples of evidence for an audit trail could include:

- Contractual agreement with the customer;
- Record of Customer confirmation capacity;
- Record of Customer notification to Supplier of change in situation i.e. de-energisation /disconnection/downtime, etc; and
- Record of Supplier site visit.

The Group has agreed that the Performance Assurance Board (PAB) should be responsible for overseeing the assurance of microgeneration Settlement, however, they have not yet confirmed exactly how the particular processes would be achieved. The Group agreed to consult⁹ on this matter and the following options for deriving assurance have been raised:

- P218 could draft an obligation for the PAB to conduct an annual check on Supplier processes;
- P218 could place an obligation on a Category A BSC Signatory to provide an annual declaration that the information provided is accurate; and
- P218 could use the current Technical Assurance technique and allow the PAB to conduct checks at its discretion, based on the perceived risk in accordance with the principles established under Modification P207 'Introduction of a new governance regime to allow a risk based Performance Assurance Framework (PAF) to be utilised and reinforce the effectiveness of the current PAF'.

Suppliers choosing to use the P218 process would be required to comply with all BSCPs outlining the processes for microgeneration, i.e. registration of microgeneration with MEO, Change of Supplier (CoS) and transfer between P081 and P218.

2.11.2 MEO Processes

During the procurement for the MEO all the necessary checks would be undertaken by BSCCo to confirm that the successful MEO has all the necessary processes and procedures in place to fulfil the role and responsibilities of the MEO. Examples to demonstrate the MEO's capacities include displaying the ability to send and receive DTC flows via the DTN and process and maintain standing data.

P218 would require the MEO to fulfil their obligations as a BSC Agent under the BSC and as such the MEO would have to maintain visibility of their processes and systems to BSC Parties through a BSC Service Description as all other BSC Agents. Again, and in parallel with all other BSC Agents the MEO would be subject to the BSC Audit processes as determined by the Audit scope.

3 SUMMARY OF ALTERNATIVE MODIFICATION SOLUTION 1

Alternative Modification P218 solution 1 seeks to create a similar process to the Proposed Modification, however it would be possible for EACs to be calculated for each microgeneration technology and applied to separate MPANs for each microgeneration technology per GSP Group, per Distributor. The Panel would be responsible for deciding whether individual technology specific EACs/MPANs should be used. The following changes would be required to the process described above to allow for technology specific EACs/MPANs:

- When registering a new MPAN the Supplier would be able to fill in the SSC field on the D0055 with the SSC for the relevant microgeneration technology. These are already available in MDD;
- When creating the D0019 to submit the EAC to the NHHDA, the MEO would need to include the correct SSC for the particular microgeneration technology. Therefore the MEO would need to store SSC details for each MPAN;

⁹ The P218 Assessment Consultation is due to be issued early February 2008.

- When calculating the EACs the MEO would only aggregate the Annual Export values for sites using the same microgeneration technology; and
- It would be possible for the DSO to create separate LLFCs for each technology type.

4 SUMMARY OF ALTERNATIVE MODIFICATION SOLUTION 2

P218 Alternative Modification solution 2 seeks to create a process similar to the Proposed Modification with the distinction of the MEO collating the microgeneration information into a Supplier Purchase Matrix (SPM) file. This information would then be sent directly to the SVAA using the existing flow (D0041). The process for registering the microgeneration with the MEO and the process of calculating the EAC would be the same as the Proposed Modification. However the Supplier would not be required to register MPANs for microgeneration Export and would therefore not be required to appoint any agents other than the MEO.

In addition, the Group agreed that the solution should be flexible so that initially one EAC would be calculated for microgeneration in each GSP Group per Distributor. However, the Panel would have the ability to decide whether to allow separate EACs to be calculated for each technology type at a later date.

5 DETAIL OF ALTERNATIVE MODIFICATION SOLUTION 2 REQUIREMENTS

This solution would not require any changes to the NHHDA systems and processes as these would be bypassed. The formation of the MEO would still be required, along with furnishing the MEO with the appropriate software and DTN access to transfer information to the SVAA in the correct format. Additional requirements for P218 Alternative Modification solution 2 are outlined below.

5.1 Requirement 1 – Creation of the MEO

As per the Proposed Modification, although the MEO would not be required to hold information regarding portfolio MPANs.

5.2 Requirement 2 – Export Factors

As per the Proposed Modification.

5.3 Requirement 3 – Creation of Portfolio MPANs

This requirement is not needed under this Alternative Modification.

5.4 Requirement 4 – Registration and Appointment of Agents

This requirement is not needed under this Alternative Modification.

5.5 Requirement 5 – MEO Processes

5.5.1 Portfolio MPAN Registration

This requirement is not needed under this Alternative Modification.

5.5.2 Microgeneration Registration (and Change of Supplier)

As per the Proposed Modification.

5.5.3 Microgeneration Deregistration

As per the Proposed Modification.

5.5.4 Registration Updates

As per the Proposed Modification.

5.5.5 Obligation to Provide Portfolio Details

As per the Proposed Modification.

5.5.6 EAC Calculation

As per the Proposed Modification.

5.5.7 Submission of Export Data

The MEO would need to create a SPM to contain information regarding the microgeneration Export. Amongst other things, the following information would be required:

- **SSC** – An SSC representing unrestricted Export would be used for all unmetered microgeneration Export. In addition the MEO may be required to assign different SSCs for each microgeneration technology if the Panel decide that data should be aggregated to the microgeneration technology level. BSCP516 would require amending to set out the rules for assigning the SSC.
- **Profile Class** – Profile Class 8 would be used for all unmetered microgeneration Export. BSCP516 would require amending to set out the rules for assigning Profile Class 8.
- **Line Loss Factor Class** – The MEO would need to assign unmetered microgeneration Export to a particular LLFC. It is envisaged that new LLFCs would be set up by the DSO for unmetered microgeneration Export that the MEO could then refer to in the SPM. LLFs would also need to be calculated for each LLFC and submitted to BSCCo for approval as per the existing process in BSCP528. To ensure that the correct LLFCs are used, BSCCo would ask the DSO to confirm which LLFCs apply to unmetered microgeneration Export each time the annual submission of LLFs is received. BSCCo would then send this information to the MEO. To ensure that the MEO has all the required information to know which sites to assign to which LLFC, the DSO would be limited to the creation of one LLFC per GSP Group per microgeneration technology, although less LLFCs may be created if the DSO prefers.
- **Measurement Class** – Measurement Class B would be used for all unmetered microgeneration Export to identify it as Non Half Hourly Unmetered energy.
- **EAC** – The EAC calculated by the MEO would be included in the total Unmetered Consumption.

The MEO would require the appropriate software to create a SPM. This SPM (D0041) would need to be transmitted to the SVAA in accordance with the Settlement Calendar set out in BSCP01 'Overview of Trading Arrangements', therefore, the MEO would require a connection to the DTN to facilitate transfer of data.

5.5.8 Settlement Calendar

In order to submit SPMs in accordance with the Settlement Calendar, the MEO would need to maintain historic data for each MPAN to allow EACs to be submitted for all Settlement Runs.

5.6 Requirement 6 – Supplier Processes

5.6.1 Registration of P081 Export MPAN

As per the Proposed Modification.

5.6.2 Updating Registration Data

As per the Proposed Modification.

5.7 Requirement 7 – DSO Processes

5.7.1 DSO Disconnection of P081 MPAN

In addition to the requirements for the Proposed Modification, under this Alternative Modification, the DSO would be required to inform BSCCo which SVA LLFCs should be applied to specific microgeneration sites.

5.8 Requirement 8 – Data Flows

5.8.1 New Non DTC Flow

In addition to the requirements for the Proposed Modification, under this Alternative Modification there would be an additional flow from BSCCo to the MEO to inform them which LLFC to apply.

5.8.2 New DTC Flows

Under this Alternative Modification, there would be a requirement for the BSCCo to send an additional non DTC flow to inform them which LLFC to apply to each combination GSP Group and DSO export.

5.8.3 Current DTC Flows

Under the Alternative Modification the MEO would not be required to send or receive any of the same current data flows as the Proposed Modification (2.8.2). However, the MEO would need to send the SPM flow (D0041) to the SVAA.

5.9 Requirement 9 – NHHDA

There would be no impact on the NHHDA under this Alternative Modification as the microgeneration data is submitted directly to the SVAA.

5.10 Requirement 10 – SVAA

The impact on the SVAA would be the same as the Proposed Modification with one additional requirement: The Alternative Modification would require the SVAA to accept SPM data from the MEO. On receipt of the flow the SVAA would check that the file was received from an agent registered as a NHHDA within its systems. The impact of amending the SVAA system to include the MEO as a valid NHHDA is being considered as part of the impact assessment. .

5.11 Requirement 11 – Assurance

As per the Proposed Modification.

6 IMPLEMENTATION OPTIONS

To implement P218, the MEO would need to be established which would require a procurement exercise to be undertaken by BSCCO. The new MEO would require software to calculate EACs and maintain a database that registers the different microgenerators and portfolio MPANs. The MEO would also require a connection to the DTN.

The Implementation Date for P218 would need to be set to take into account the raising, progression and implementation of changes to SVAA, MDD, the BSC and its subsidiary documents.

This Modification Proposal would be implemented such that Settlement systems and processes are capable of supporting portfolio MPANs from the Implementation Date. It is proposed that DSOs would create portfolio MPANs for all Suppliers prior to the Implementation Date. In addition these MPANs would be set up with registration data as set out in section 2.4. P218 would be implemented on a Settlement Day basis i.e. microgeneration sites could be registered on or after the Implementation Date with the Effective From Date of Implementation Date + 1 at the earliest. Data for registered sites would therefore enter Settlements at the SF Run for the Implementation Date +1.

7 ESTIMATED IMPACT OF MODIFICATION ON SYSTEMS, PROCESSES AND DOCUMENTATION

a) Impact on BSC Systems and Processes

System / Process	Impact of Proposed Modification and Alternative Solution 1	Impact of Alternative Solution 2
SVAA	The SVAA software would need to be amended to account for the new CCC and to ensure that the portfolio Export MPAN data is entered into Settlement correctly. For the Proposed Modification, the SVAA would need to apply an unrestricted SSC and Profile Class 8 to calculate Half Hourly values. For the Alternative Modification, solution 1 the SVAA would need to apply the specific Export SSC for the microgeneration type and Profile Class 8 to calculate Half Hourly values.	The impact on SVAA would be the same as the Alternative Modification, solution 1. In addition, the SVAA system would need to accept the D0041 file from the MEO.
New Microgeneration Export Operator	A new BSC Agent would need to be procured to undertake the role of MEO. This agent would need to store information regarding microgeneration sites registered under the P218 process and also portfolio MPAN data. In addition, the MEO would need to develop an EAC calculator and would need software to create DTC flows such as the D0019 which would need to be transmitted via the DTN. Finally the MEO would need to communicate with various Suppliers regarding registration and deregistration of microgeneration sites and portfolio MPANs, and where necessary, search the ECOES database for duplicate sites.	As per the Proposed Modification, apart from the following: the MEO would not need to store information regarding portfolio MPANs as these would not be created; the MEO would need to create D0041 files for submission to the SVAA rather than D0019 files; and the MEO would not need to communicate with Suppliers regarding portfolio MPAN registration.

b) Impact on BSC Agent Contractual Arrangements

BSC Agents	Impact of Proposed Modification, and both alternative solutions
Cap Gemini (SVA AO)	It is not anticipated that this contractual agreement will be effected by P218, but it is subject to change, depending on the extent of amendments required to the SVAA system.
PwC (BSC Auditor)	As a new BSC Agent, the MEO systems and processes would be added to the scope of the BSC Audit.

BSC Agents	Impact of Proposed Modification, and both alternative solutions
Technical Assurance Agent	It is not anticipated that this contractual agreement will be effected by P218, although addition TAA checks may be required.
New MEO Agent	BSCCo would be required to procure, establish contracts and manage a new BSC Agent.

c) Impact on BSC Parties and Party Agents

As the P081 and P218 processes are expected to run parallel with each other, existing Suppliers may not be impacted. Should a Supplier choose to register microgeneration using the P218 process then the impact on their systems and processes is detailed below. Some Supplier processes would need to manage two different arrangements and the change of Supplier processes would need to allow for smooth transfer between the arrangements of P081 and P218. NHH Supplier Agents would need to amend their processes to enable them to process portfolio MPAN data.

BSC Parties and Party Agents	Impact of Proposed Modification and Alternative Solution 1	Impact of Alternative Solution 2
Suppliers	Suppliers wishing to use the P218 process would need to communicate with the MEO regarding registration and deregistration of microgeneration sites. Suppliers would also need to register portfolio MPANs with SMRS containing the registration data set out in section 2.4. Suppliers would be obliged to deregister microgeneration sites when they are no longer responsible for the Export. In addition, all Suppliers would be obliged to inform the MEO when they wish to register a microgeneration Export MPAN under the current P081 rules.	As per the Proposed Modification, except Suppliers wishing to use the P218 process would not be required to register portfolio MPANs.
Distribution System Operator (DSO)	As part of the initial implementation exercise, DSOs would be required to create a number of portfolio MPANs for each Supplier per GSP Group, per Distributor. As an ongoing process DSOs would need to create portfolio MPANs on request from a Supplier. In addition DSOs would need to create a LLFC for portfolio Export MPANs and submit LLFs for approval through the current process.	As per the Proposed Modification. Note – BSCCo would need to inform the MEO which LLFCs to use within the SPM.
Supplier Meter Registration System (SMRS)	As part of the initial implementation exercise, SMRS would be required to register a number of portfolio MPANs for each Supplier per GSP Group per Distributor with the registration data set out in section 2.4. For Alternative Modification Solution 1, MPANs would need to be registered for each microgeneration type and these would have specific SSCs relating to the microgeneration technology. As an ongoing process SMRS would need to register portfolio MPANs on request from a Supplier.	There would be no impact on the SMRS as no portfolio MPANs are created.
NHHDA	Only NHHDA which have been contracted by Suppliers wishing to use the P218 process would be affected by this Modification. Affected NHHDA would need to accept D0019	NHHDA would not be affected by P218 Alternative Modification Solution 2.

BSC Parties and Party Agents	Impact of Proposed Modification and Alternative Solution 1	Impact of Alternative Solution 2
	data from the MEO. As this information should look as though it has been submitted by a normal NHHDC, it is not anticipated that there would be any changes required to NHHDA systems and processes.	
Meter Operators and Data Collectors	Meter Operators and Data Collectors would not be affected by P218.	As per Proposed Modification.

d) Impact on Transmission Company

No impact.

e) Impact on BSCCo

Area of Business	Impact of Proposed Modification and both alternative solutions
Implementation	BSCCo would be required to implement changes to the Code, Code Subsidiary Documents (CSDs) and BSC Systems to support this Modification Proposal.
Procurement	BSCCo would be required to procure a new BSC Agent to undertake the role of MEO.
LLF processing	Under Alternative Modification solution 2, BSCCo would be required to send the MEO details of the LLFC to be used in the SPM for each GSP Group/Distributor.
BSC Panel processes	The BSC Panel would be required to approve Export Factors to be used in the calculation of microgeneration Export EACs. BSCCo would facilitate this process and undertake reviews of the process where requested by the Panel. BSCCo would also ensure that the approved Export values are published on the BSC website and sent to the MEO.
Market Domain Data (MDD)	Under the Proposed Modification and Alternative solution 1, the MEO would be registered in MDD as a NHHDC and potentially a MOA. Therefore there would be additional information contained within MDD as a result of P218. However it is assumed that these new data items would be added via the current processes set out in BSCP 509 'Changes to Market Domain Data', therefore no changes to the actual systems would be required.
Performance Assurance	The PAB would be required to ensure that the Suppliers are fulfilling their obligations by updating the MEO with the appropriate information in a timely manner and that the audit trail of information between the Supplier and Customers are maintained. The actual technique required is yet to be agreed.

f) Impact on Code

Code Section	Impact of Proposed Modification and both alternative solutions
Section E	Amendment to reflect new BSC Agent role.
Section J	Amendment to reflect the fact that NHHDCs and MOAs are not required for portfolio MPANs.
Section K	Amendment to reflect the fact that microgeneration Exports would not need to be metered.
Section S, Annex S-2	Amendment to include the role of MEO and the rules for registering Microgeneration sites and calculating the EAC for Export portfolio MPANs. Additional obligations to be added for Suppliers to deregister microgeneration sites for which they are no longer responsible. Also an obligation on all Suppliers should be added to inform the MEO when registering a P081 Export MPAN.
Section X, Annex X-1, X-2	Amendment to the General and Technical Glossary section would be required to represent the Proposed/Alternative Solution. This would include the addition of a new CCC to table 8 in Annex X-2.
Section Z	Amendment to reflect any new assurance requirements.

g) Impact on Code Subsidiary Documents

Document	Impact of Proposed Modification and Alternative Solution 1	Impact of Alternative Modification 2
New Microgeneration Export Operator BSCP	A new BSCP would need to be produced setting out the role of the MEO and the processes to be followed relating to registration and deregistration of microgeneration sites and portfolio MPANs.	Same as Proposed Modification, except the BSCP would not contain reference to portfolio MPANs.
BSCP 01 Overview of Trading Arrangements	This BSCP would be amended to add the MEO as a new BSC Agent.	Same as Proposed Modification.
BSCP 505 Non Half Hourly Data Aggregation for SVA Metering Systems Registered in SMRS	Possible minor change to ensure that NHHDCs would process D0019 files received from the MEO.	No impact.
BSCP 507 Supplier Volume Allocation Standing Data Changes	Possible minor change to account for the registration of portfolio Export MPANs.	No impact.
BSCP 508 Supplier Volume Allocation Agent	Possible minor change to describe the relationship between the MEO and SVAA.	Same as Proposed Modification.
BSCP 514 SVA Meter Operations for Metering Systems registered in SMRS	Possible minor change.	No impact.
BSCP 516 Allocation of Profiles & SSCs for Non Half Hourly Metering	This BSCP would be amended to describe allocation of Profile Classes	This BSCP would be amended to describe allocation of Profile

Document	Impact of Proposed Modification and Alternative Solution 1	Impact of Alternative Modification 2
System Registered in SMRS	and SSCs applied to portfolio Export MPANs in Settlement.	Classes and SSCs to microgeneration data in the SPM.
BSCP 528 Supplier Volume Allocation Line Loss Factors for Half Hourly and Non-Half Hourly SVA Metering Systems registered in SMRS	Possible minor change to account for the LLFC applied to the microgeneration.	This BSCP would be amended to describe how Distributors would be required to indicate to BSCCo which LLFCs would need to be applied to microgeneration.
PSL100	Possible minor generic amendment to PSL100.	Same as Proposed Modification.
SVA Data Catalogues	The Data Catalogues would be amended to reflect changes to the recipients of certain data flows and also the new data flows required for communication with the MEO.	Same as Proposed Modification.
SVAA Service Description	The SVAA Service Description would need to be amended to take into account the new CCC and the process that the SVAA would follow to ensure microgeneration data is accurately entered into Settlement.	Same as Proposed Modification.
SVAA User Requirements Specification	The SVAA URS would need to be amended to reflect the changes to the SVAA processes.	Same as Proposed Modification.
SVAA (ISRA) Functional Definition	The SVAA Functional Definition would need to be amended to reflect the changes to the SVAA processes.	Same as Proposed Modification.
SVAA (ISRA) Logical Data Design	The SVAA Logical Data Design would need to be amended to reflect the changes to the SVAA processes.	Same as Proposed Modification.
SVAA (ISRA) Release Notes	The SVAA Release Notes would need to be amended to reflect the changes to the SVAA processes.	Same as Proposed Modification.
SVAA (ISRA) Technical Specification	The SVAA Technical Specification would need to be amended to reflect the changes to the SVAA processes.	Same as Proposed Modification.
BSCCO Agents model	Amendments required if software changes are undertaken.	Same as Proposed Modification.

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

Document	Impact of Proposed Modification and Alternative Solution 1	Impact of Alternative Solution 2
Master Registration	DTC changes would be required to enable new DTC flows to be created for communication between the Supplier and MEO. The recipients of a number of	As per the Proposed Modification although the flows affected would differ.

Document	Impact of Proposed Modification and Alternative Solution 1	Impact of Alternative Solution 2
Agreement	current DTC flows would also need amending to add the MEO to the list.	

i) Impact on Other Configurable Items

No impact.

j) Impact on BSCCo Memorandum and Articles of Association

No impact.

k) Impact on Governance and Regulatory Framework

No impact.

8 DEVELOPMENT PROCESS

For the purposes of the impact assessment, respondents should assume that P218 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 and User Acceptance Testing BSCCo – Pre-Production Testing
Party, Party Agent, SMRA and LDSO internal systems	Relevant Party, Party Agent, SMRA or LDSO
BSCCo internal process changes	BSCCo
Documentation Changes	BSCCo

9 TERMS USED IN THIS DOCUMENT

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

Acronym/Term	Definition
BSC	Balancing and Settlement Code
BSCP	Balancing and Settlement Code Procedure
CCC	Consumption Component Class
CoS	Change of Supplier
DTC	Data Transfer Catalogue
DTN	Data Transfer Network
EAC	Estimated Annual Consumption
FAA	Funds Administration Agent
GSP Group	Grid Supply Point Group

HH	Half Hourly
DSO	Distribution System Operator
LLF	Line Loss Factor
MEO	Microgeneration Export Operator
MOA	Meter Operator Agent
NHHDA	Non Half Hourly Data Aggregator
NHHDC	Non Half Hourly Data Collector
PAB	Performance Assurance Board
SAA	Settlement Administration Agent
SMRS	Supplier Meter Registration Service
SPM	Supplier Purchase Matrix
SSC	Standard Settlement Class/Configuration
SVAA	Supplier Volume Allocation Agent

10 DOCUMENT CONTROL

10.1 Authorities

Version	Date	Author	Reviewer	Reason for Review
0.1	dd/mm/yy	Change Delivery	BSCCo	For technical review
0.2	10/12/07	Change Delivery	P218 MG	For Modification Group Meeting
0.3	17/12/07	Change Delivery	BSCCo	For internal review
0.4	24/12/07	Change Delivery	P218 MG	For Modification Group review
0.5	07/01/08	Change Delivery	P218 MG	For Modification Group review
0.6	14/01/08	Change Delivery	BSCCo	For quality review
1.0	14/01/08	P218 Modification Group	BSCCo	For impact assessment

10.2 References

Ref.	Document Title	Owner	Issue Date	Version
1	<u>Initial Written Assessment for P218</u>	BSCCo	29/10/07	1.0

APPENDIX 1 P218 ANALYSIS – EXPLANATORY NOTES

The following analysis looks at the volume error and profiling error that would be created by the Proposed and Alternative solutions. Volume error would be created when using export factors to calculate EACs. This analysis considers the difference in the error created by using:

- different export factors for each technology type and;
- one export factor for all technology types.

Regarding profiling error, this analysis looks at the difference in error between using the current P81 profiling solution and using an unrestricted Profile Class 8 profile for all technology types.

The tables referred to below are within the Excel spreadsheet to which this explanatory note is attached.

Export Factor Analysis

The data used for this analysis was taken from the British Electrotechnical and Allied Manufacturers (BEAMA) trial. Only those sites with a full year of export data were included as actual export totals for the whole year were needed. Four wind sites and fifteen photovoltaic (PV) sites with differing generation capacities and 19 micro combined heat and power (CHP) sites all with a generation capacity of 1kW were used.

Assumption 1: The data used is a representative sample of the microgeneration sites in GB.

Description of Tables

Table 1.1 shows the export factors calculated for each technology type and the general microgeneration export factor. The technology specific export factors were calculated by summing the total amount of export across all the sites and dividing it by the total maximum generation across all the sites. The general microgeneration export factor was calculated as a weighted average of the previously calculated export factors. The weightings were determined from a table contained in the government's microgeneration strategy published in March 2006:

Technology	No. Installations
Micro-wind	650
Micro-hydro	90
Ground source heat pumps	546
Biomass boilers (pellets)	150
Solar water heating	78,470
Solar PV	1,301
MicroCHP	990
Fuel Cells	5
Total	82,202

Assumption 2: The proportions in the above table are the same as the proportions of sites that would be entering Settlement.

Table 1.2 contains the following information for each site used in the analysis:

Generation Capacity	The kWh value of the sites declared generation capacity
Actual Export	The kWh values of the energy exported from the site over the whole year
Individual Export Factor	The percentage value of the energy exported calculated by dividing the actual export by the maximum generation: $(\text{Actual export} / (\text{generation capacity} * 365 * 24)) * 100$
Technology Specific EAC	The EAC value that would be submitted to Settlement if the technology specific export factors in table 1.1 were used: $\text{generation capacity} * 24 * 365 * \text{technology specific export factor}$

% Difference	The percentage difference between the technology specific EAC and the actual export
Error	The volume difference in kWh between the technology specific EAC and the actual export
Non-Technology Specific EAC	The EAC value that would be submitted to Settlement if the general microgeneration export factor in table 1.1 were used: generation capacity*24*365*general microgeneration export factor
% Difference	The percentage difference between the non-technology specific EAC and the actual export
Error	The volume difference in kWh between the non-technology specific EAC and the actual export

Table 1.3 is a gross error comparison between using the technology specific and the non-technology specific export factors. It contains the total gross error across all the sites for each technology type for both export factors and the totals. The last two columns are the errors per site (the first two columns divided by the amount of sites). The 'TOTAL' row for these columns contains the total errors per site (the values in the first two columns divided by the total number of sites) and not the sum of the above rows.

Table 1.4 is a net error comparison between using the technology specific and the non-technology specific export factors. It contains the net error across all the sites for each technology type for both export factors and the totals. The last two columns are the errors per site (the first two columns divided by the amount of sites). The 'TOTAL' row for these columns contains the total errors per site (the values in the first two columns divided by the total number of sites) and not the sum of the above rows.

Outcomes

The gross error is greater when using the technology specific export factors, this seems counter intuitive. The probable cause is the sample size and the variance of the sample. These factors combined mean that removing any outliers (values showing significant deviation from the main sample) would be a very subjective process and is not really appropriate. When the weighted average is taken the effects of any outliers is reduced.

The net error is the opposite of this with the technology specific export factors yielding less error. This is not that statistically significant though as the export factors were calculated from a sample and then applied back to the same sample as the population. Although it is expected that using site specific export factors would in practice (when applied to the whole market) give a lower net error, the difference proportionally between the two solutions may be very different. To give a better indication of the net error an out of sample test could be used. This involves using most of the sample to create the export factor and then relating it to the rest of the sample to determine the error. This would mean that the sample was not also being treated as the population. There is not enough data here however to make this a valid approach.

One thing to note is the relatively low error for the micro CHP calculations. This may be due to two factors:

- All the sites in the sample have the same generation capacity meaning the same weight was given to each site in the calculation and/or;
- Micro CHP export is more predictable (generally the generation will correlate to the customers demand) and therefore more uniform.

Profiling Error Analysis

The data used for this analysis were all the sites in the BEAMA trial with export data. An average profile was created for each technology by taking an average of the volume in each half hour. It is worth noting that a different amount of sites were used to create the average profile for each technology. Generally, the more sites used in the average, the flatter the profile would be as erratic export would be smoothed over when averaged over more sites. For this analysis the same profiles were used to compare each profiling solution. As it is the comparison that is being looked at this averaging shouldn't be an issue. However, the percentage

of misallocated energy would tend to be higher for individual sites than is shown here for the average profile for this reason.

Assumption 3: The profiles calculated are representative of the profiles of all sites of that technology.

Description of Tables

Table 2.1 shows the energy misallocated when using each profiling solution. The left hand side of the table shows the energy misallocated for each of the average profiles and the total misallocated energy. The total percentage figure is calculated using the total volumes. On the right hand side of the table the data is weighted in the same proportions as the table taken from the government's microgeneration strategy above.

Table 2.2 shows the imbalance costs associated with the misallocated energy when the volumes are related to the system prices. The Settlement error cost in £/MWh is calculated by dividing the net charge by the appropriate total volume taken from table 2.1.

Outcomes

The percentage of misallocated energy when using separate Standard Settlement Configurations (SSC) is the current level of profiling error under the P81 solution. The increase in error if switching to the PC8 unrestricted solution is 7.4%. However, as stated above, the fact that these are averaged profiles means that the error of individual sites may be higher (or in some cases lower) in reality and so the difference between the two solutions may also differ. The analysis is based on the assumptions above.

Regarding the imbalance costs calculated, the fact that the separate SSCs solution comes out at a higher cost is again counter intuitive. The reason for this anomaly is that the system prices are highly variable and the outcome will just depend on the price allocated to those half hours where more energy is misallocated. Presumably more error will be misallocated over night using the PC8 unrestricted solution when prices would be on average lower. These costs would vary depending on which time period and therefore prices were used. The analysis also make assumptions that a Supplier is perfectly in balance before the inclusion of the microgeneration sites and also that they're the only Supplier operating in that GSP Group (as the misallocation will come out in the GSP Group Correction Factor).

ATTACHMENT 1 P218 ANALYSIS SPREADSHEET

APPENDIX 2 SCENARIOS

P218 Scenarios

The following scenarios detail the process that would be required for Change of Supplier and for switching between the arrangements under P218 (portfolio MPAN) and P81 (two-MPANs plus physical meter).

It should be noted that the scenarios do not separate out situations under P81 where the site has one meter compared to the site having two meters as this is not impacted by the implementation of P218. Therefore reference to meter under P81 could also be taken to refer to meters.

The scenarios detailed below are based on the Proposed Modification i.e. one portfolio MPAN per Supplier, per GSP Group, per Distributor. Alternative Solution 1 would be very similar although only one of the Suppliers portfolio MPANs in the GSP Group would be impacted by any change. This would introduce added complication as the parties would need to ensure that the correct portfolio MPAN was affected.

The scenarios are listed below:

- a) P218 solution (portfolio MPAN) to P81 solution (actual MPAN) **no** Change of Supplier (CoS);
- b) P218 solution (portfolio MPAN) to P81 solution (actual MPAN) **with** Change of Supplier (CoS);
- c) P081 solution (actual MPAN) to P218 solution (portfolio MPAN) no Change of Supplier;
- d) P081 solution (actual MPAN) to P218 solution (portfolio MPAN) **with** Change of Supplier;
- e) P218 solution with Change of Supplier;
- f) P218 solution to Microgeneration Export not registered no Change of Supplier; and
- g) P218 solution to Microgeneration Export not registered with Change of Supplier

1. P218 – P81 no CoS

A single site would need to be removed from the Supplier's portfolio Export MPAN in the relevant GSP Group. The Supplier would need to inform the MEO so that a new EAC is calculated for the relevant portfolio MPAN and submitted into Settlements.

The Supplier would have to set up a new MPAN and appoint a MOA, NHHDC and NHHDA of its choice. The NHHDC would need to be provided with an appropriate EAC for the MPAN. The initial EAC would be zero in line with the rules set out under P81 where the Profile Class Average EAC for new Export MPANs is set to zero until actual metered data is received. The Supplier may also need to install a Meter if there is not already an appropriate Meter on site. If there is only one Meter recording Import and Export separately, then the Supplier would need to ensure that the same MOA is appointed to both Import and Export MPANs.

2. P218 – P81 with CoS

A single site would need to be removed from a Supplier's portfolio and hence removed from the Supplier's portfolio Export MPAN in the relevant GSP Group. The old Supplier would need to inform the MEO so that a new EAC is calculated for the relevant portfolio MPAN and submitted into Settlements.

The new Supplier would have to set up a new MPAN and appoint a MOA, NHHDC and NHHDA of its choice. The NHHDC would need to be provided with an appropriate EAC for the MPAN. The initial EAC would be zero in line with the rules set out under P81 where the Profile Class Average EAC for new Export MPANs is set to zero until actual metered data is received. The new Supplier may also need to install a Meter if there is not already an appropriate Meter on site. If there is only one Meter recording Import and Export separately, then the new Supplier would need to ensure that the same MOA is appointed to both Import and Export MPANs.

It is assumed that the Import MPAN would also be transferred, however this process would be carried out separately following the current CoS rules.

3. P81 - P218 no CoS

Under this scenario the Supplier would need to disconnect the Export MPAN and ensure that the site is added to its portfolio Export MPAN. Note that this is only logical disconnection, there is no requirement for the Meter to be physically removed. The Supplier would need to obtain information regarding the Microgenerator capacity and possibly the type of technology and inform the MEO so that the EAC for the portfolio MPAN can be recalculated taking into account the new site.

4. P81 – P218 with CoS

Under this scenario the old Supplier would be responsible for disconnecting the Export MPAN, therefore only the Import MPAN would be transferred to the New Supplier using the current CoS process. The old Supplier would disconnect the Export. The new Supplier would need to obtain information regarding the Microgeneration Capacity and possibly the type of technology from the customer. The new Supplier would provide this information to the MEO for calculation of the EAC.

5. CoS only – under P218

A single site would need to be removed from the old Supplier's portfolio and hence removed from the old Supplier's portfolio Export MPAN in the relevant GSP Group. The old Supplier would need to inform the MEO so that a new EAC is calculated for the relevant portfolio MPAN and submitted into Settlements. The new Supplier would need to obtain information regarding the Microgeneration Capacity and possibly the type of technology from the customer.

The new Supplier would need to inform the MEO so that the EAC for its portfolio Export MPAN is recalculated taking into account the new site.

It is assumed that the Import MPAN would also be transferred, however this process would be carried out separately following the current CoS rules.

6. P218 – Microgeneration Export not registered

Under this scenario the Supplier would decide not to register the Microgeneration Export within Settlements any longer. The Supplier would simply need to inform the MEO who would remove the site from its portfolio Export MPAN in the relevant GSP Group. The MEO would also need to calculate a new EAC for the relevant pseudo MPAN and submit it into Settlements.

7. P218 – Microgeneration Export not registered on CoS

Under this scenario the new Supplier would decide not to register the Microgeneration Export within Settlements and take no action other than transfer the Import MPAN using current processes. The old Supplier would need to remove the site from its portfolio Export MPAN in the relevant GSP Group. The old Supplier would need to inform the MEO so that a new EAC is calculated for the relevant portfolio MPAN and submitted into Settlements. If the new Supplier were not aware of the site having Export then this process could accidentally happen on CoS.

Key to diagrams:

The diagrams show three streams; the main process steps in the centre; the key issues on the right and indication of either new or existing process on the left of the page. Significant issues are shown in red. DTC flows are shown in green.

Terms:

MPANI	= Import only MPAN
MPANE	= Export only MPAN
S1	= Old Supplier
S2	= New Supplier

MEO	= Microgeneration Export Operator
MOA	= Meter Operator Agent
NHHDA	= Non Half Hourly Data Aggregator
NHHDC	= Non Half Hourly Data Collector
SMRS	= Supplier Meter Registration Service

Key assumptions:

- The diagrams have assumed that the same Supplier is taking both the Import and Export site. However the same process would be followed if the Import and Export are transferred to different Suppliers.
- It is assumed that one central MEO will be created. This MEO can therefore check whether a site is already registered to another Supplier when it receives a request to register an Export site. If it is registered to another Supplier, the MEO can check that the other Supplier is requesting removal of this site from its portfolio MPAN.
- There will be an obligation on Suppliers to remove an Export site from its portfolio MPAN when it is no longer responsible for that site. It is therefore assumed that the MEO will not do any additional checks when it receives a request from a Supplier to remove a site from its portfolio MPAN i.e. the MEO will not check that the site is being registered elsewhere.
- It is assumed that the rules relating to the registration of Export MPANs will not change e.g. a new Export MPAN will be assigned a zero EAC until actual metered data is received.

ATTACHMENT 2 P218 SCENARIO DIAGRAMS