

Stage 03: Assessment Consultation

What stage is this document in the process?

- 01 Initial Written Assessment
- 02 Definition Procedure
- 03 **Assessment Procedure**
- 04 Report Phase

P238: Removal of the requirement to Meter each Boundary Point for Offshore Power Park Modules

The BSC requires Party's Exports and/or Imports to be determined at each Boundary Point to the Transmission System or a Distribution System, via metering.

P238 proposes to treat all Exports from (or Imports to) a Balancing Mechanism Unit comprising Offshore Power Park Modules as a single Export (or Import).

P238 will allow metering to be installed to determine the Export (or Import), provided that appropriate compensation is applied to meter readings to account for losses between the location of the metering and the commercial boundary.

P238 progresses one of the recommendations of the Issue 37 Group.



Modification Group initially recommends
Approval of P238



High Impact:
Offshore intermittent Generators



Medium Impact:
ELEXON and the Transmission Company

P238
Assessment Consultation

28 July 2009

Version 1.0

Page 1 of 14

© ELEXON Limited 2009

Contents

1	Summary	3
2	Why Change?	5
3	Solution	7
4	Impacts, Costs & Implementation Approach	10
5	The Case for Change	12
6	Further Information	14
	Attachment A : Detailed Assessment	14
	Attachment B : Consultation Questions	14

About this document:

The purpose of this Assessment Consultation is to obtain views or further evidence from BSC Parties and other interested parties on the merits of the change discussed in this document.

The Modification Group particularly seeks the views of both onshore and offshore intermittent Generators on the merits of P238.

There are 3 parts to this document:

- This is the main document. It outlines the solution, impacts, costs, benefits and implementation approach for this change. It includes the Group's initial view as to whether the change should be approved.
- Attachment A explains how the Group's discussions have led it to its initial views.
- Attachment B is the form for submitting a response to this consultation. The Group invites your views on the specific questions contained in this form.

The main document and Attachment A of this document will also be used by the Transmission Company and ELEXON to establish the extent of any impacts from P238 on their organisations. The Group is undertaking these impact assessments in parallel with this industry consultation.

The P238 Modification Group will consider the consultation and impact assessment responses at its meeting on 14 August 2009, when it will make its final recommendation as to whether the change should be made. The Panel will consider this recommendation and the Group's full Assessment Report at its meeting on 10 September 2009. The Panel will then consult on its own recommendation to the Authority.



Any questions?

Contact:
Mike Smith



mike.smith@elexon.co.uk



020 7380 4033

P238
Assessment Consultation

28 July 2009

Version 1.0

Page 2 of 14

© ELEXON Limited 2009



What is a Power Park Module?

This is the Grid Code term for a collection of Generating Units which are powered by an intermittent power source (e.g. by wind, wave or solar power).

Why Change?

The Balancing and Settlement Code (BSC) currently requires metering to be installed to determine the flows of electricity (Exports and Imports) at each Boundary Point to the Total System (the Transmission System and each Distribution System).

Changes introduced into the Grid Code will mean that Offshore **Power Park Modules** (PPM) that connect to an offshore Transmission System at multiple points (i.e. multiple Boundary Points under the new regime) will require metering at each connection.

Since a PPM is considered under the BSC to meet the criteria to form a standard Balancing Mechanism (BM¹) Unit configuration, metered data (energy volumes) from Offshore PPMs with multiple Boundary Points will need to be aggregated up to a BM Unit level.

The increase in the amount of Metering Equipment that will be needed will introduce disadvantages to offshore intermittent Generators compared to onshore intermittent Generators and the increased administrative and data collection requirements will create inefficiencies in the implementation of the Balancing and Settlement arrangements.

Solution

P238 proposes that all Exports from (or Imports to) a BM Unit comprising Offshore PPMs can be treated as a single Export (or Import).

The effect of this change would be to remove the requirement for separate metering of every Boundary Point of Offshore PPMs. The overriding consideration would be that the installed metering was able to measure and record the energy Exported (or Imported) by each BM Unit. P238 proposes that there should be nothing within the solution to prevent Generators from metering each Boundary Point and aggregating the metered data to a BM Unit level if they prefer (particularly as some Generators may have already designed their offshore platform on that basis).

The solution proposed envisages that this would require amendments to the Codes of Practice to introduce additional flexibility for the location of the Actual Metering Points for offshore platforms and remove the need for Metering Dispensations in such cases.

Related Changes

P238 progresses one of the recommendations of the **Issue 37**² Group, which considered 4 issues with the BSC's metering and BM Unit requirements for offshore Generators.

Modification Proposal P237³ addresses another of these separate (but related) issues. The Group is consulting on P238 and P237 in parallel. You can download the P237 consultation documents [here](#).

Modification Proposals P240⁴ and **P241**⁵ have also now been raised to address the remaining two issues. ELEXON will present Initial Written Assessments for these proposals to the Panel at its meeting on 13 August 2009, when the Panel will decide how to progress

¹ BM Units are the 'units of trade' in the Balancing Mechanism. Each BM Unit is a collection of Plant and/or Apparatus (e.g. Generating Units such as wind turbines). You can download an [information sheet](#) from ELEXON's website which explains BM Units in more detail.

² 'Boundary Point Metering and BM Unit Issues in Section K'.

³ 'Standard BM Unit configuration for Offshore Power Park Modules'.

⁴ 'Switching Plant and Apparatus between BM Units'

⁵ 'Relaxation of Requirement to Separately Meter Licensable Generating Units'.

them. You will therefore have the opportunity to comment on [P240](#) and [P241](#) at a future point.

Impacts & Costs

P238 will require changes to Section K of the BSC and the Codes of Practice.

The Group is undertaking an impact assessment in parallel with this consultation, to establish the extent of any impact on the Transmission Company, ELEXON and BSC Agents. It does not expect that any associated costs will be significant.

Implementation

If the Authority approves P238, the Group recommends that the changes to the BSC and the Codes of Practice are implemented **5 Working Days** after the Authority's decision.

The Case for Change

The Group believes that P238 will ensure that the BSC's metering requirements are not an unnecessary barrier to offshore renewable generation.

Its initial view is that P238 should therefore be approved.

The Group invites you to comment on this view as part of the consultation.



Why has P238 been raised?

A new competitive Offshore Transmission Regime has been introduced by the Government and Ofgem which is due to 'Go-Live' in June 2010. As part of the process the Government introduced changes into all the electricity codes to facilitate the new regime. The changes impact all offshore generation that is connected at 132 kilovolts (kV) and above and came into effect on 24 June 2009 ('Go-Active').

The changes introduced into the Grid Code included an amended definition of a Power Park Module, which allows an Offshore PPM to include **Power Park Strings** (strings of intermittently powered Generating Units) connected to an offshore Transmission System at more than one Boundary Point. Onshore PPMs will still be limited to a single Boundary Point.

Since the BSC requires flows of electricity at each Boundary Point to the Transmission and Distribution Systems to be determined by metering, the change will mean that more metering (i.e. Metering Equipment⁶) will be required for Offshore PPMs with multiple points of connection to an offshore Transmission System.

The BSC also considers a PPM as a standard configuration of Plant and Apparatus which meets the criteria to form a single BM Unit and therefore the Grid Code definition change will affect the amount of aggregation of metered data required in order to calculate BM Unit level energy volumes.

The changes create inefficiencies for:

- **Offshore intermittent Generators** (who will have to install and maintain more Metering Equipment);
- **Registrants** of offshore Metering Systems (who will have to register more Metering Systems (potentially), submit more Meter Technical Detail information and more complex aggregation rules for their offshore Metering System(s)); and
- **ELEXON** and **BSC Agents** (who will have to record the Metering Systems' details and Meter Technical Details, validate Aggregation Rules and collect and aggregate more metered data from Metering Systems' Outstations⁷).

The Proposer considers that the BSC requirement to separately determine the flows at each Boundary Point is inappropriate for offshore Generators given the potential locations of these Boundary Points are determined by the Offshore Transmission Regime and can lead to excessive metering.

Are onshore intermittent Generators disadvantaged by P238?

The Group believes that the specific issue which P238 identifies is limited to offshore intermittent Generators, because it arises from the Grid Code's different technical requirements for Offshore Power Park Modules. You can find the Group's full reasons for this view in Section 3 in Attachment A of this document.

When was the term Power Park Module added to the BSC?

Modification Proposal [P191](#) introduced this term to the BSC in 2005, following its inclusion in the Grid Code and to support intermittent generation.

⁶ Metering Equipment means Meters, measurement transformers (voltage, current or combination units), metering protection equipment including alarms, circuitry, associated Communications Equipment and Outstations and wiring.

⁷ An Outstation receives and stores data from a Meter(s) for the purpose of transferring that metered data to the Central Data Collection Agent.

The Group invites interested parties (and especially onshore intermittent Generators) to comment on this view.

Consultation Question: Scope of issue

The Group considers that the specific issue which P238 identifies is limited to offshore intermittent Generators.

It therefore believes that P238 creates no disadvantage for onshore intermittent Generators.

Do you agree?

The Group invites you to give your views using the response form in Attachment B.



How will P238 resolve the issue?

P238 proposes to make changes to Section K of the BSC such that all Exports from (or Imports to) a BM Unit comprising Offshore PPMs can be treated as a single Export (or Import).

The effect of this change would be to remove the requirement for separate metering of every Boundary Point of Offshore PPMs.

P238 proposes to allow metering to be installed anywhere on the offshore platform provided that it was able to measure and record the energy Exported (or Imported) by each BM Unit and that the meter readings were (where necessary) adjusted to compensate for any losses between the metering point (s) and the commercial boundary.

This flexible approach would still allow Generators to meter each Boundary Point and aggregate the metered data to a BM Unit level if they prefer (particularly as some Generators may have already designed their offshore platform on that basis).

The solution proposed envisages that this would require amendment to the Codes of Practice to introduce additional flexibility for the location of the Actual Metering Points for offshore platforms and remove the need for Metering Dispensations against the relevant Code of Practice.

This will deliver cost and administrative efficiencies to offshore intermittent Generators, Registrants of offshore Metering Systems, ELEXON and BSC Agents by:

- Reducing the amount (and cost) of Metering Equipment (and ancillary equipment, detailed below) that needs to be installed by Generators on offshore platforms. It will also reduce the number of spare parts that need to be kept in store over the lifespan of the Metering Equipment in case of faults;
- Reducing the space required (and associated costs) on offshore platforms to accommodate Metering Equipment, switchboards and back-up metering power supplies (to enable remote reading of Outstation in the event of a power supply failure);
- Reducing the number (and cost) of Meter calibration checks required on offshore platforms (in accordance with Code of Practice 4 - required every 5, 10 or 15 years depending on the relevant Code of Practice and regime chosen (CoP1 and 2 Meters only));
- Reducing the administrative burden on Registrants for submitting Meter Technical Details and more complex Aggregation Rules to the Central Data Collection Agent (CDCA) and registering more Metering Systems (potentially) with the Central Registration Agent (CRA);
- Reducing the time taken to validate Aggregation Rules against Meter Technical Details submitted to the CDCA (ELEXON supports this process);
- Reducing the time taken by (and cost associated with) Meter Operator Agents carrying out Meter fault investigations on offshore platforms;
- Reducing the time taken for Technical Assurance Agent audits of offshore Metering Systems;

Has the Group developed the solution from the original Modification Proposal?

No, the Group's solution is identical to that proposed by the Issue 37 Group and by the Proposer in the original Modification Proposal.

P238
Assessment Consultation

28 July 2009

Version 1.0

Page 7 of 14

© ELEXON Limited 2009

- Reducing the number of Metering System Outstations (potentially) that the CDCA is required to dial each day; and
- Reducing the volume of metered data collected, stored and aggregated by the CDCA.

Section 3 in Attachment A provides worked examples of these benefits for different types of metering configurations that could satisfy BM Unit requirements.

The Group invites you to provide details of the specific benefits of P238 to your organisation, if applicable. To support its arguments against the Applicable BSC Objectives (see Section 5), the Group welcomes details of any cost-savings which you might achieve from P238.

Consultation Question: Merits of P238

Would P238 deliver efficiency/administrative benefits for your organisation?

The Group invites you to give your views using the response form in Attachment B.

Which Codes of Practice will be impacted by P238?

The Group believes that the following Codes of Practice will need to be changed in order to deliver the P238 solution:

- **CoP1** 'Code of Practice for the Metering of Circuits with a Rated Capacity **Exceeding 100MVA** For Settlement Purposes';
- **CoP2** 'Code of Practice for the Metering of Circuits with a Rated Capacity **Not Exceeding 100MVA** For Settlement Purposes'; and
- **CoP3** 'Code of Practice for the Metering of Circuits with a Rated Capacity **Not Exceeding 10MVA** For Settlement Purposes'.

The Group believe that the other mandatory Half Hourly Code of Practice, CoP5 'Code of Practice for the Metering of Energy Transfers with a Maximum Demand of up to (and Including) 1MW For Settlement Purposes', is out of scope as it is unlikely that an individual Power Park String circuits will be rated at below 1 MVA⁸ and hence 'higher' Code of Practice Metering will need to be installed.

However, for consistency, and only for changes that are made to the Defined Metering Points (i.e. to Appendix A of CoP1, 2 and 3), the Group believe there could be merit in aligning each of the other Codes of Practice that have an almost identical list of Defined Metering Points (see Appendix A of CoP5 and 10). CoP10 is an elective HH Code of Practice which can only be used for Metering Systems that are not '100kW Metering Systems' (i.e. not in the mandatory Half Hourly market) for imports and, for exports, below the Small Scale Third Party Generating Limit (i.e. below 30kW).

⁸ CoP5 is demand based (MW = Mega Watts) as opposed to circuit capacity based (MVA = Mega Voltamps). A circuit with a rated capacity of 1MVA will only deliver or export 1MW under perfect conditions of Power Factor (i.e. Unity Power Factor).

Consultation Question: Relevant Codes of Practice

The Group believes that CoP1, 2 and 3 are the relevant Codes of Practice that should be changed to deliver the P238 solution. Do you agree with the Group that any redline changes should be made to these Codes of Practice only?

If you agree or disagree please provide a view as to whether the Defined Metering Points appendices in Appendix A of CoP5 and 10 should be aligned for consistency or not.

The Group invites you to give your views using the response form in Attachment B.

Has the Group identified any other solutions?

The Modification Group has not identified any alternative solution which it believes might better address the issue.

Consultation Question: Solution

Do you believe that there any alternative solutions to the issue which the Modification Group has not identified, and which it should consider?

The Group invites you to give your views using the response form in Attachment B.



What are the likely impacts and costs of P238?

At this stage of its assessment, the Group believes that P238 will or may impact:

- **Section K** of the BSC, which contains the requirements for determining Exports and/or Imports at Boundary Points;
- **Annex X-1** of the BSC, which will need to include a new reference to the Grid Code's definition of an Offshore Power Park Module;
- **Offshore intermittent Generators**, who procure the design of offshore platforms and the installation of Settlement Metering Equipment;
- **Registrants of offshore Metering Systems**, who submit Metering System registration details to the CRA and Meter Technical Details to the CDCA;
- The **CRA**, who will need to validate and process applications to register Metering System information;
- The **CDCA**, who receives and validates Meter Technical Details and Aggregation Rules; and
- **ELEXON**, who supports these validation processes.

The Group is currently undertaking an impact assessment in parallel with this consultation, in order to establish the exact impact and any associated costs. The Group does not expect that these costs will be significant.

The Group does not anticipate that any changes will be required to the Grid Code, as the definition of an Offshore Power Park Module will remain unchanged.

When will P238 be implemented?

The Group believes that the current BSC requirement for metering each Boundary Point is presenting an unnecessary barrier to the development of offshore renewable generation.

The Group notes that this may affect offshore projects which are already in development, as well as those which are initiated after the new Offshore Transmission arrangements 'go live' in June 2010.

The Group therefore recommends that, if the Authority approves P238, the changes to the BSC and Codes of Practice are implemented 5 Working Days after the Authority's decision. This will resolve the issue as soon as possible.

The changes to the Codes of Practice are minor and include adding flexibility to the Actual Metering Points and removing the requirement to apply for a Metering Dispensation. The Group considers that it will be beneficial to deliver these changes in parallel with those to the BSC itself, so that they can be used straight away. It therefore agrees that the Codes of Practice changes should be drafted and consulted on before, rather than after, the Authority's decision.

ELEXON is therefore drafting the changes to the BSC and the Codes of Practice in parallel with this consultation. You will have an opportunity to comment on the draft redlined changes at a future point, before P238 is sent to the Authority.

Please note that the feasibility of a 5 Working Day implementation lead time is dependent on there being no material BSC System changes required to support P238. The Group will

When will I know the exact impacts and costs of P238?

The Group will include its recommended redlined changes to the BSC (the 'legal text') and to the Codes of Practice in its Assessment Report to the Panel. This report will also detail the full impacts and costs, as well as the Group's final recommended Implementation Date.

The Panel will then issue all of this information and its own recommendation for a further consultation, giving you another opportunity to comment on P238.

P238

Assessment Consultation

28 July 2009

Version 1.0

Page 10 of 14

© ELEXON Limited 2009

take a final view on this at its meeting on 14 August 2009, when it will consider the impact assessment responses.

Consultation Question: Implementation approach

The Group believes that the P238 changes to Section K and the relevant Codes of Practice should be implemented **5 Working Days** after an Authority decision.

Do you agree?

The Group invites you to give your views using the response form in Attachment B.

5 The Case for Change

Why will P238 be better than the existing BSC requirements?

The Group believes that P238 will better facilitate the achievement of **Applicable BSC Objectives (c) and (d)**.

The table below sets out the Group's views against each Applicable BSC Objective. The Group invites you to comment on these views as part of the consultation.

Applicable BSC Objective	Benefit(s)
Objective (a)	None identified.
Objective (b)	None identified.
Objective (c)	P238 ensures that offshore Generators do not face excessive metering requirements (the consequences of which are highlighted in section 3) compared with other Generators. This is particularly the case for offshore Generators in the transitional regime that have either planned, built, or are in the process of constructing to designs that did not require or envisage the need extra metering.
Objective (d)	P238 ensures that BSC Agents will not have to accommodate excessive metering data collection requirements.

Consultation Question: Merits of P238

The Group believes that P238 will better facilitate the achievement of **Applicable BSC Objectives (c) and (d)** when compared with the existing BSC requirements.

Do you agree?

The Group invites you to give your views using the response form in Attachment B.

Are there additional benefits if P238 is combined with P237 and P240?

Yes, the Group has identified wider benefits from P238 if it is delivered in combination with other Issue 37 changes.

The Group believes that all four Modification Proposals address separate (although related) issues, and are not dependant on each other. Each therefore delivers potential benefits in isolation of the others, and benefits from a separate assessment against the current BSC rules.

However, the Group notes that 3 of the changes support each other (P237, P238 and P240) as part of a package of measures to remove barriers to offshore generation. In combination, the benefits of these changes will be greater than at the individual proposal level. The Group believes that it is helpful to highlight these wider benefits, so that the Authority can take them into account when making its decisions.

For each worked example in Attachment A of this document, the Group has therefore identified:

- The benefits of P238 on its own; and
- The benefits of P238 when combined with the other changes.

You can find further information on these benefits in Section 3 of Attachment A.



What is the Group's view?

The Group believes that P238 will facilitate the current and future development of Offshore generation projects, by removing an unnecessary barrier caused by the BSC's existing metering requirements.



What are the Applicable BSC Objectives?

- (a) The efficient discharge by the Transmission Company of the obligations imposed upon it by the Transmission Licence
- (b) The efficient, economic and co-ordinated operation of the GB Transmission System
- (c) Promoting effective competition in the generation and supply of electricity and (so far as consistent therewith) promoting such competition in the sale and purchase of electricity
- (d) Promoting efficiency in the implementation of the balancing and settlement arrangements

P238
Assessment Consultation

28 July 2009

Version 1.0

Page 12 of 14

© ELEXON Limited 2009

Consultation Question: Combined benefits of Issue 37 changes

The Group believes that the combined benefits of P237 and P238 will be greater than those which arise individually from each proposal.

Although P240 and P241 have yet to receive further assessment, the Group believes it is likely that P240 will also have additional benefits in combination with P237/P238.

Do you agree?

The Group invites you to give your views using the response form in Attachment B.



You can find more information in:

Attachment **A**: Detailed Assessment

See this attachment for full details of the Group's discussions of the areas set by the Panel in its Terms of Reference.

These include:

- An explanation of the relevant Grid Code definitions;
- Background information on the new Offshore Transmission regime;
- Detailed worked examples of:
 - The effect of the issue on the metering requirements for an offshore intermittent Generator under the new Offshore Transmission Regime;
 - The resulting benefits of P238 for metering requirement for offshore intermittent Generators under the new Offshore Transmission Regime; and
 - The wider benefits from combining P238 with P237 and P240;
- The reasons why the Group believes that the issue is limited to Offshore intermittent generation;
- Details of the Group's membership;
- A copy of the Group's Terms of Reference; and
- A timetable showing the Group's assessment so far, as well as planned dates for its remaining activities.

Attachment **B**: Consultation Questions

Please use this form to submit your consultation response. The Group invites you to give your views on each of the questions in this form.

Where can I find more information on the Issue 37 Group's discussions?

Section 3 in Attachment A gives an explanation of the other 2 changes recommended by the Issue Group, and how these interact with P238.

These 2 changes have been raised as P237 and P240.

You can also find further information on the [Issue 37](#) page of ELEXON's website, in ISG paper [99/08](#), and on the [P237](#), [P240](#) and [P241](#) web pages.