

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

P242: Treatment of Exemptable Generation Connected to Embedded Offshore Transmission Networks

Currently, Offshore Exemptable Generators that connect onshore to a Distribution System are treated in the same way as onshore Exemptable Embedded Generators. However, when the Offshore Transmission Arrangements 'Go-Live' in June 2010, Offshore Exemptable Generators will be treated in the same way as directly-connected Generators.

P242 proposes to give Offshore Exemptable Generators the option to be treated as Embedded.



Modification Group initially recommends
Approval of P242



High Impact:
Generators, Licence Exemptable Generators and the
Transmission Company



Medium Impact:
LDSOs

P242
Assessment Consultation

02 October 2009

Version 1.0

Page 1 of 14

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Contents

1	Summary	3
2	Why Change?	5
3	Solution	7
4	Alternative Solution	9
5	Impacts & Costs	10
6	Implementation	11
7	The Case for Change	12
8	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.

There are 3 parts to this Assessment Consultation:

- This is the main document. It outlines the solution, impacts, costs, benefits and the potential implementation activities associated with this change.
- **Attachment A** sets out the Modification Group's discussions, which resulted in the proposed solution.
- **Attachment B** is the Assessment Consultation Questions response form, which includes all the questions highlighted in Part 1 of the Assessment Consultation document.

The Group will consider the consultation and impact assessment responses at its meeting on 20 October 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 12 November 2009. The Panel will then consult on its own recommendation to the Authority.



Any questions?

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P242

Assessment Consultation

02 October 2009

Version 1.0

Page 2 of 14

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Why Change?

When the Government and Ofgem introduced Offshore Transmission Arrangements Go Live in June 2010, the 132kV (or above) cable that connects an Offshore Exemptable Generator to a Distribution System will become Transmission Assets owned and operated by the Offshore Transmission Operator (OFTO). The OFTO owned cable will mean that the Generator can no longer be classed as an Embedded Generator in a similar manner to an Onshore Exemptable Embedded Generator. Instead it will be treated as a Transmission Connected Generator liable for all related transmission charges, while still being liable for Distribution Charges.

The Proposer believes this change in status, as a result of the Offshore Transmission Arrangements, gives rise to undue discrimination against existing Offshore Exemptable Generators and future developments. After Go Live, Offshore Exemptable Generators will be classed as being Transmission Connected Generators, becoming liable for Transmission Charges while still being liable for DUoS charges. This causes the undue discrimination against existing Offshore Exemptable Generators, who will be liable for both Transmission Charges and DUoS charges rather than just the DUoS charges that the Onshore Embedded Generator is liable for.

Solution

To enable Offshore Exemptable Generators, that connect to Embedded Transmission after Go Live, the ability to be treated as Embedded Generators, P242 proposes to:

- have a **deemed Onshore Boundary Point** to enable the Offshore Generator to be:
 - treated as an **Embedded Generator**;
 - responsible for the **Metering** at the deemed Boundary Point; and
 - responsible for the **Transmission Losses** on the Embedded Transmission they use.
- allow both CMRS and SMRS Registration through the creation of a new **Embedded Transmission BM Unit** configuration; and
- limit Offshore Exemptable Embedded Generation to Generators connecting to a Distribution System via Embedded Transmission that is only used by them ('Sole Use').

Related changes

There are 3 other Offshore Transmission Modifications in the Modification Process. These were raised to address issues identified by the Issue 37 Group, and consist of [P237](#)¹, [P238](#)² and [P240](#)³. While they all concern Offshore Transmission, P242 is not contingent on these other Modifications.

The Proposer of P242 is also seeking to progress related changes to National Grid's Grid Code (GC), Connection and Use of System Code (CUSC) and Charging Methodology. These changes are being progressed in parallel to clarify issues relating to P242. As with the other Offshore Transmission Modifications, P242 is not contingent on these changes and can be considered on its own merits.

¹ Standard BM Unit Configuration for Offshore Power Park Modules

² Removal of the requirement to Meter each Boundary Point for Offshore Power Park Modules

³ Switching Plant and Apparatus between BM Units

Impacts & Costs

The P242 solution involves no system or participant impacts.

P242 will require changes to Section K to effect the solution of having a deemed Boundary Point and a new Embedded Transmission BM Unit configuration. It will also require new Defined Terms to be added to Annex X-1 of the BSC. Changes to BSCP15 will also be needed to include the new Embedded Transmission BM Unit configuration in the BM Unit registration process.

As there are no system or participant impacts caused by the P242 Proposed solution the estimated implementation cost to implement the changes to the Code and CSD is estimated at £1,100 which equates to 5 Man Days of ELEXON effort.

Implementation

If approved, the Group recommends P242 be implemented **5 Working Days** after the Authority's decision.

The Case for Change

The Group's initial view is that P242 will promote efficient network design by providing developers with the option to develop Offshore Exemptable Generators that can be treated as Embedded if it is the most efficient and economic option. It will also promote competition by removing an existing discrimination thus ensuring similar situations Onshore and Offshore are treated the same.

Recommendations

The Groups initial majority view is that P242 should be approved.

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

Why has P242 been raised?

Change in Status from treatment as an Offshore Exemptable Embedded to a Transmission Connected Generator

When the new Offshore Transmission Arrangements (as introduced by the Secretary of State) 'Go Live' in June 2010, Offshore Exemptable Generators that are connected directly to a Distribution System by cables rated 132kV or above will stop being treated as Embedded Exemptable Generators. Instead they will be considered as a Transmission Connected Generator.

The reason for the change in status is that under the new arrangements the 132kV cable (and potentially part of the Offshore substation) connecting the Offshore Exemptable Generator to the Distribution System will be operated by the Offshore Transmission Operator (OFTO) and become part of the Transmission System. The change in classification of the assets will mean the Offshore Generator will be classed as being a Transmission Connected Generator. The Transmission Assets in this situation can be described as 'Embedded Transmission'.

Once the Offshore Exemptable Generator is classed as being a Transmission Connected Generator, they will become liable for transmission charges while still being liable for DUoS charges. This gives rise to undue discrimination as they will be liable for transmission charges and DUoS charges rather than just the DUoS charges that the Onshore Embedded Generator is liable for.

Movement of the Boundary Point Offshore

Due to the 132kV cable being part of the Transmission System the Boundary Point will move. Before Go Live the Boundary point is where the Offshore Generators Assets (the 132kV cable) connects to the onshore Distribution System, which enables it to be treated as Embedded and to get 'Embedded Benefits'. After Go Live the Boundary point will be where the Offshore Generator connects to the Offshore Transmission Assets (i.e. the Offshore end of the 132kV cable). The movement of the Boundary Point Offshore creates a barrier to the Offshore Exemptable Generator being able to be treated as Embedded, as a Generator needs to connect to a Distribution System directly.

The Generator will be responsible for installing and being the registrant of the metering at the Offshore Boundary Point. The meter and the registrant of the metering at the Offshore Transmission Connection Point will be the responsibility of National Grid

With the shift of the Boundary Point Offshore and the change in status to a Transmission Connected Generator after Go Live, the Offshore Exemptable Generators will have to register their metering at the Boundary point via the Central Meter Registration Service (CMRS). This is in contrast to Onshore Exemptable Embedded Generators which have the option to register in either CMRS or in the Supplier Meter Registration Service (SMRS).

What does all this mean?

The change in classification of the offshore assets to Embedded Transmission and the movement of the Boundary Point Offshore means that the Offshore Exemptable Generator that, before Go Live, could be treated as an Embedded Generator can no longer do so. Further still the Offshore Exemptable Generator will be liable for all transmission charges, including socialised losses. Before Go Live the Generators Losses were directly attributed



What is an Exemptable Generator?

An Exemptable Generator is a licence Exempt Generator as they typically generate less than 100MW.



What is Embedded Transmission?

Offshore Transmission Assets that connect Onshore to a Distribution System.



What is a Boundary Point?

A Boundary Point is where a Generator connects to the Total System (which consists of the Transmission System or Distribution Systems).



What are 'embedded benefits'?

Embedded benefits are savings incurred by the Exemptable Generator, as they are not liable for some of the charges that Transmission Connected Generators are. This is due to them making little or no use of the Transmission System.

to them and not socialised, which means that while the Generator was not liable for other Generators losses, other Generators did not share the Offshore Exemptable Embedded Generators losses. The issue over the losses and transmission charges gives rise to undue discrimination against the Offshore Exemptable Generator as the only difference between the Onshore and Offshore equivalents is the presence of the Embedded Transmission.

The above issues have an immediate effect on current Offshore Exemptable Generators going through transition to the new Offshore Transmission Arrangements. However they may also affect future decisions made by Parties about how new builds of Offshore Generation are connected, as the current proposed regime is likely to cause them to request a full extension of the onshore Transmission System to the shoreline, even if connection to the nearest Distribution System is the most efficient solution.

Attachment A (Section 1) provides further details on the Background of the Modification and further information on Embedded Generation.



What is an Offshore Transmission Connection Point?

Is a Systems Connection Point at which the Offshore Transmission System connects to a Distribution System.

How will P242 resolve the issue?

P242 seeks to allow Offshore Exemptable Generators that are connected to or are considering connecting to a Distribution System via Embedded Transmission to have the option of being treated as an Embedded Generator. By doing this it would remove the inconsistencies in the treatment of Onshore Exemptable Generators and Offshore Exemptable Generators that will occur at Go-Live.

To achieve this, P242 proposes that Offshore Exemptable Generators that are connected to Embedded Transmission:

- are metered at the point where the Offshore Exemptable Generator connects to the Distribution system;
- are responsible for any Losses from the Embedded Transmission, and not spread across other market participants;
- qualify for embedded benefits;
- have a choice as to whether they register in Supplier Meter Registration Service (SMRA) or Central Meter Registration Service (CMRS); and
- are the Registrant for the onshore metering as they are responsible for the Exports from the Generator.

What are the Changes that are required?

The key areas that require changes are:

- **Boundary Point** – the Boundary Point would be deemed to be onshore between the Generator and the Distribution System (this will allow an Offshore Exemptable Generator to be treated as Embedded);
- **'Sole Use' (Dedicated Assets)** – For an Offshore Exemptable Generator to be treated as Embedded the Embedded Transmission would have to be used by the one Generator. If another Generator wants to connect to those assets, the status of the original Generator will change and they would need to re-register as a directly connected Generator;
- Allowing both **SMRS and CMRS registration** – to achieve the aims of the Modification (detailed above) and to match the pre Go Live options, the ability to register the metering in SMRS and CMRS would be included; and
- **Losses** – By having the deemed Boundary Point onshore the Offshore Transmission Losses would be attributed directly to the Generator, while the Generator would not be liable for socialised Onshore Losses.

For the avoidance of doubt the P242 Proposed Solution will apply to both existing transitional Offshore Exemptable Generators and future Offshore developments. Details of the solution are provided below:

Boundary Point

For the purpose of an Offshore Exemptable Generators that want to be treated as an Offshore Exemptable Embedded Generator, the Boundary Point between the Generator and Total System (in this case the Distribution System) will be **deemed** to be Onshore at the Offshore Transmission Connection Point between the Embedded Transmission and Distribution System.

While the Boundary Point will be deemed to be Onshore for the purposes of the BSC, the physical connection between the Generator and Transmission System remains offshore.

However by deeming the Boundary Point to be Onshore the Transmission Assets will effectively be invisible thus allowing the Exemptable Offshore Generator to be treated as being Embedded and will ensure that the Offshore Exemptable Generator is fully responsible for the losses incurred on the Offshore assets.

The metering at the deemed Boundary point will still be under the ownership of the Transmission Company, however for the purposes of Settlement the Generator (if registered in CMRS) or Supplier (if registered in SMRS) will be the registrant and therefore responsible for the onshore metering.

Registration

Currently Embedded Onshore and Offshore Exemptable Generators can register in both CMRS and SMRS. To retain this option, changes are needed to allow meter registration in both CMRS and SMRS. The process for both types of registration are set out below:

CMRS

A new option for registering a BM Unit will be added to identify that it is using Embedded Transmission. This would involve an extra option in the existing forms (in BSCP15) to include Embedded Transmission under BM Unit Configuration. The Generator would need to prove that it has 'Sole Use' of the Embedded Transmission.

Once the Generator is registered in CMRS as an Exempt Export BM Unit (Section K 3.2) it would then automatically join the Base Trading Unit as set out in Section K 4.7 and be classed as Embedded.

Changes may also be needed to deal with the situation with withdrawal of registration in CMRS where an Embedded Transmission BM Unit has to change as a result of the loss of 'Sole Use' or the Generator increases Generation capacity (i.e. 100MW or above).

SMRS

To register in SMRS, the Offshore Exemptable Generator would agree a connection with the Distribution System through the System Operator and set up their metering in SMRS as set out in Section K 2.4.

The SMRS registered Offshore Exemptable Generator would then join the Supplier BM Unit (Section K 3.3) and would automatically belong to the Base Trading Unit as set out in Section K 4.7 and be classed as Embedded.

At the same time as joining the Supplier BM Unit, the Generator would be required to register an Additional Supplier BM Unit via BSCP15/4.1. This would provide the necessary indicators that it is a BM Unit using Embedded Transmission, in the similar manner to CMRS registration.

Sole Use (Dedicated Assets) or Increase in generation Capacity

For an Offshore Exemptable Generator to be treated as Embedded, the Embedded Transmission connecting the Generator onshore would have to be used only by the one Generator (Sole Use). This is because of the requirement to separately meter different Party's outputs to maintain the integrity of Settlement.

The situations where an Offshore Exemptable Generator, that elected to be treated as Embedded, can no longer be consider as Embedded are:

- where the Embedded Transmission that the Offshore Exemptable Generator uses to connect to the Distribution System stops being used solely by that Generator (i.e. another generator connects to the Embedded Transmission); or

- the Generator increases its generating capacity above the Exemptable limit (i.e. 100MW+) In these situations the Offshore Exemptable Generator would need to re-register as a Transmission Connected Generator via CMRS.

At this point the Transmission Company would be the registrant of the Onshore metering at the Offshore Transmission Connection Point, and the Generator would be the registrant of the metering at the Boundary Point Offshore between the Generator and Embedded Transmission.

Losses

The Offshore Exemptable Generator will be automatically responsible for the losses along the Embedded Transmission. This is due to the Offshore Exemptable Generator being metered at the deemed Boundary Point Onshore where the Transmission Assets connects to the Distribution System.

Step by Step details on how CMRS and SMRS registration would work in relation to the P242 proposed solution can be found in Attachment A, Section 3.

Question 1

Would the Proposed Modification P242 help to achieve the Applicable BSC Objectives?

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



What is an Alternative Modification?

An Alternative modification must better facilitate the Applicable BSC Objectives compared with the Proposed Modification and address the issue or defect identified in the Modification Proposal.

4 Alternative Solution

Has the Group identified any other solutions?

The Modification Group considered one alternative solution that was suggested by one of the Modification Group members. The Group concluded by a majority that it did not achieve the aims of P242 as set out in the proposal form and detailed in Section 3 above and consequently not better than the proposed solution.

Full details of the Alternative solution that was considered by the Group is provided in Attachment A Section 3.

Question 2

Do you believe that there are 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 of P242?

The impacts on participants will be minimal as no central system changes will be required.

BSC Impacts

To deliver the solution set out in Section 3 above the Group believes changes will be needed to:

- **Section K;**
- **Annex X-1;** and
- **BSCP15.**

Costs

The estimated implementation cost of P242 is £1,100 which equates to **5 Man Days** of ELEXON effort.

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

Wider Impacts

As set out in the Modification Group's Terms of Reference the P242 Modification Group had to consider the wider impacts of the Modification on other Codes and other industry work that is underway or will commence in the future.

Details of the Group's discussion around the impacts on other Codes and Industry Work can be found in Attachment A Section 4

When will I know the exact impacts and costs of P242?

The Group will include its recommended redlined changes to the BSC (the 'legal text') and to BSCP15 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 P242.



How will P242 be implemented?

Changes to the BSC and BSCP15

The Group believes that there is nothing preventing a prompt implementation following an Authority decision on P242. This is providing the decision is reached suitably **in advance** of the Offshore Transmission Arrangements going live in June 2010. This period of time in advance would need to allow any Parties affected by P242 to make any necessary changes to their Transition Plans for the Offshore Transmission Arrangements..

The Group therefore recommends that, if the Authority approves P242, the changes to the BSC and BSCP15 are implemented 5 Working Days after the Authority's decision. This will enable the changes to take affect promptly while providing Parties with suitable notice to change any Transition Plans they are carrying out.

The changes to BSCP15 are minor and include adding the new Embedded Transmission BM Unit configuration to the BM Unit registration form used by Parties. There is benefit in delivering these changes in Parallel with those to the BSC itself, so that they can be used straight away. The Group agrees that ELEXON should draft and consult on the BSCP15 changes before, rather than after the Authority's decision.

ELEXON will draft the changes to the BSC and BSCP15 in parallel with this consultation. You will have an opportunity to comment on the draft redlined changes at a future point before P242 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 P242. The Group will take a final view on the implementation timescales at its meeting on 21 October 2009, when it will consider the impact assessment responses.

Question 3

The Group believes that the P242 changes to the BSC and BSCP15 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.

Recommendation

The initial majority view of the P242 Modification Group is that P242 is approved



Why will P242 be better than the existing BSC Requirements?

The Group's initial view is that P242 will better facilitate the achievements of **Applicable BSC Objective (a), (c)** and to a lesser extent **(b)**.

Applicable BSC Objective	Benefit(s)	Drawback(s)
Objective (a)	Promotes efficient network design solutions. The current Baseline provides a disincentive for Offshore Generators to connect via Embedded Transmission even when this would be the most efficient solution.	The Offshore Exemptable Generators will only be able to meter onshore in limited situations. Having different treatment may impact the Transmission company's ability to discharge its duties efficiently.
Objective (b)	Ensures that there is no unnecessary economic impact on the Transmission System from the cost of retrofitting Offshore Metering. This impact would be, in part, from the required network outages to fit this metering. Promotes Offshore renewable Generation by introducing an extra option for small generation, when new offshore sites are being developed.	Treating Offshore Generators differently may make the Operation of the Offshore Transmission system more difficult.
Objective (c)	Promote competition in generation by removing any undue discrimination between the onshore and offshore situation. Ensures that the correct costs associated with the Embedded Transmission are targeted at the Offshore Exemptable Generator.	Allowing different treatment of transmission connected generation may create further discrimination between Generators. Licensable generators have to install and meter offshore at the Boundary Point, involving higher costs over metering onshore. Have different treatment could have a negative impact on competition.
Objective (d)	None identified	None identified

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 national Electricity 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

Question 4

The Group initial views are that it believes that P242 will better facilitate the achievement of Applicable BSC Objectives (a), (b) and (c) 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.

P242

Assessment Consultation

02 October 2009

Version 1.0

Page 12 of 14

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Discrimination

One of the Modification Group's Terms of Reference was to consider whether there was undue discrimination between the treatment of Offshore Exemptable Generators when compared to Offshore Exemptable Embedded Generators after the Offshore Transmission Arrangements Go Live in June 2010. The Group considered this discrimination issue in relation to the arguments for and against what P242 is trying to achieve.

The Group's provided arguments in relation to discrimination and whether this can be considered due discrimination with regard to:

- Offshore Embedded Transmission Exemptable Generators and Onshore Exemptable Embedded Generators;
- Offshore Embedded Transmission Exemptable Generators and Onshore Exemptable Transmission Connected Generators in Scotland (with 132kV connections); and
- Offshore Licensable Generators having to meter Offshore and Exemptable Generators and being able to meter Onshore under P242

Full details of the views for and against P242 in relation to the question of discrimination and how they relate to the Applicable BSC Objectives is provided in Attachment A section 5.

Question 5

Do you agree there is Undue Discrimination between the treatment of Onshore Exemptable Embedded Generators and the Offshore Equivalent?

[The Group invites you to give your views using the response form in Attachment B.](#)

Incentives/Disincentives to become Offshore Exemptable Embedded as a result of P242.

During the Group's discussions of what P242 was trying to achieve, the Group discussed and considered whether P242 (if approved) would act as an incentive for Offshore Generators to try to be treated as Offshore Exemptable Embedded Generators.

Following the provision of some background information provided by the Proposer on where Offshore developments currently stand, the Group concluded that the likelihood of large Offshore Generators splitting their sites up and connecting them separately to Distribution Systems would be negligible. Whilst, a small incentive would exist for an Offshore Generator to develop their site in such a way as to meet the necessary requirements in order to be regarded as an Offshore Exemptable Embedded Generator the practicalities and inconvenience of doing so significantly outweigh this incentive.

Full details of the Group's discussion on this subject is provided in Attachment A Section 4.

8 Further Information

More information is available in

Attachment **A**: Detailed Assessment.

This information includes:

- Background on the Offshore Transmission Arrangement and P242;
- The Modification Groups Terms of reference and how each has been completed;
- Modification Group discussions on the Proposed Solution, the suggested Alternative and Wider Impacts;
- Benefits and Drawbacks of the Proposal;
- Cost Analysis of exemptable generation with and without P242 Post Go Live;
- Process followed for P242; and
- Modification Group membership.

Attachment **B**: Consultation Questions

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