

ASSESSMENT REPORT for Modification Proposal P191

Revised definition of Balancing Mechanism Unit to include Power Park Module

Prepared by: P191 Modification Group

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|--------------------------|--------------------|------------------------------|-----------|
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This document has been distributed in accordance with Section F2.1.10¹ of the Balancing and Settlement Code.

RECOMMENDATIONS

The P191 Modification Group invites the Panel to;

- **AGREE that the Proposed Modification P191 should be made;**
- **AGREE a provisional Implementation Date for Proposed Modification P191 of 10 Working Days following an Authority decision ;**
- **AGREE the draft legal text for Proposed Modification P191;**
- **AGREE that Modification Proposal P191 be submitted to the Report Phase; and**
- **AGREE that the draft Modification Report be issued for consultation and submitted to the Panel Meeting of 10 November 2005.**

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¹ The current version of the Balancing and Settlement Code (the 'Code') can be found at <http://www.elexon.co.uk/bscrelateddocs/BSC/default.aspx>

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SUMMARY OF IMPACTED PARTIES AND DOCUMENTS

As far as the P191 Modification Group has been able to assess the following parties/documents have been identified as being potentially impacted by Modification Proposal P191.

| Parties | Sections of the BSC | Code Subsidiary Documents |
|-------------------------------------------------------------------|---------------------------------------|------------------------------------------------------------------|
| Suppliers <input checked="" type="checkbox"/> | A <input type="checkbox"/> | BSC Procedures <input type="checkbox"/> |
| Generators <input checked="" type="checkbox"/> | B <input type="checkbox"/> | Codes of Practice <input type="checkbox"/> |
| Licence Exemptable Generators <input checked="" type="checkbox"/> | C <input type="checkbox"/> | BSC Service Descriptions <input type="checkbox"/> |
| Transmission Company <input checked="" type="checkbox"/> | D <input type="checkbox"/> | Service Lines <input type="checkbox"/> |
| Interconnector <input type="checkbox"/> | E <input type="checkbox"/> | Data Catalogues <input type="checkbox"/> |
| Distribution System Operators <input checked="" type="checkbox"/> | F <input type="checkbox"/> | Communication Requirements Documents <input type="checkbox"/> |
| Non-Physical Traders <input type="checkbox"/> | G <input type="checkbox"/> | Reporting Catalogue <input type="checkbox"/> |
| Party Agents | H <input type="checkbox"/> | MIDS <input type="checkbox"/> |
| Data Aggregators <input type="checkbox"/> | I <input type="checkbox"/> | Core Industry Documents |
| Data Collectors <input type="checkbox"/> | J <input type="checkbox"/> | Grid Code ² <input checked="" type="checkbox"/> |
| Meter Operator Agents <input type="checkbox"/> | K <input checked="" type="checkbox"/> | Supplemental Agreements <input type="checkbox"/> |
| ECVNA <input type="checkbox"/> | L <input type="checkbox"/> | Ancillary Services Agreements <input type="checkbox"/> |
| MVRNA <input type="checkbox"/> | M <input type="checkbox"/> | Master Registration Agreement <input type="checkbox"/> |
| BSC Agents | N <input type="checkbox"/> | Data Transfer Services Agreement <input type="checkbox"/> |
| SAA <input type="checkbox"/> | O <input type="checkbox"/> | British Grid Systems Agreement <input type="checkbox"/> |
| FAA <input type="checkbox"/> | P <input type="checkbox"/> | Use of Interconnector Agreement <input type="checkbox"/> |
| BMRA <input type="checkbox"/> | Q <input type="checkbox"/> | Settlement Agreement for Scotland <input type="checkbox"/> |
| ECVAA <input type="checkbox"/> | R <input type="checkbox"/> | Distribution Codes <input type="checkbox"/> |
| CDCA <input type="checkbox"/> | S <input type="checkbox"/> | Distribution Use of System Agreements <input type="checkbox"/> |
| TAA <input type="checkbox"/> | T <input type="checkbox"/> | Distribution Connection Agreements <input type="checkbox"/> |
| CRA <input type="checkbox"/> | U <input type="checkbox"/> | BSCCo |
| Teleswitch Agent <input type="checkbox"/> | V <input type="checkbox"/> | Internal Working Procedures <input checked="" type="checkbox"/> |
| SVAA <input type="checkbox"/> | W <input type="checkbox"/> | Other Documents |
| BSC Auditor <input type="checkbox"/> | X <input checked="" type="checkbox"/> | Transmission Licence <input type="checkbox"/> |
| Profile Administrator <input type="checkbox"/> | | System Operator-Transmission Owner Code <input type="checkbox"/> |
| Certification Agent <input type="checkbox"/> | | |
| MIDP <input type="checkbox"/> | | |
| Other Agents | | |
| SMRA <input type="checkbox"/> | | |
| Data Transmission Provider <input type="checkbox"/> | | |

X = Identified in Report for last Procedure
N = Newly identified in this Report

Acronyms

Frequently used Acronyms in this document:

PPM – Power Park Module

TC – Transmission Company

² There is no impact on the Grid Code by P191, but it proposes to make a direct reference to the Grid Code definition of Power Park Module.

1 DESCRIPTION OF PROPOSED MODIFICATION AND ASSESSMENT AGAINST THE APPLICABLE BSC OBJECTIVES

1.1 Modification Proposal

Modification Proposal P191 'Revised definition of Balancing Mechanism Unit to include Power Park Module' ('P191') was raised on 25 July 2005 by RWE npower (the 'Proposer').

1.1.1 Background

The current wording of Section K3.1.4 (a) of the BSC states that a single Balancing Mechanism (BM) Unit may be comprised of any Generating Unit or Combined Cycle Gas Turbine (CCGT) Module which has one or more Metering Systems whose exports are registered in the Central Meter Registration Service (CMRS). As such, each individual wind turbine on a wind farm would qualify as a BM Unit and thus be subject to all procedures associated with BM Units. Parties can apply for non-standard BM Unit configuration(s), however the process of applying for non standard BM Unit Configuration entails the Panel³ making a determination on the proposed BM Unit configuration, taking into account any representations by the relevant Party and the electrical configuration of the proposed BM Unit (with the aid of the TC).

1.1.2 Proposed Solution

P191 proposes that Section K3.1.4 (a) of the BSC be amended to allow a single BM Unit to be comprised of a 'Power Park Module' (PPM). In addition, a definition of 'Power Park Module' should be added to Annex X-1 of the BSC which will refer directly to the definition in the Grid Code. The current Grid Code definition is as follows:

"A collection of Non-synchronous Generating Units (registered as a Power Park Module under the Planning Code) that are powered by an Intermittent Power Source, joined together by a System with a single electrical point of connection to the GB Transmission system (or User System if Embedded). The connection to the GB Transmission System (or User System if Embedded) may include a Direct Current Converter."

This definition includes the majority of wind farms⁴. An example of a PPM is shown in Figure 1. Each 'T' represents an individual wind turbine.

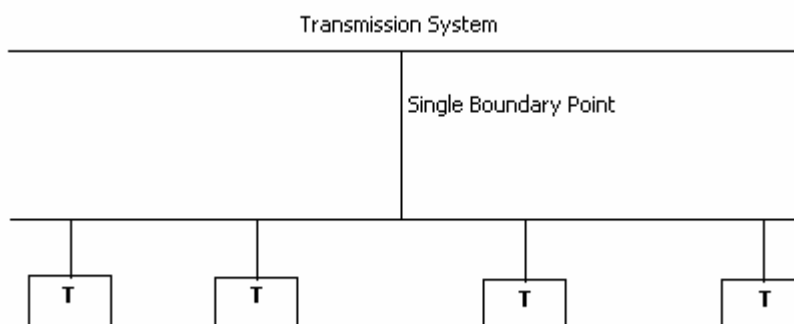


Figure 1: A Power Park Module as defined in the Grid Code

The Proposer believes that allowing PPMs to be registered in the CMRS in this manner would simplify the current administrative arrangements in this area. In addition to resolving the defects, it is also believed that P191 would align the BSC with the Grid Code which has already been updated to reflect the increasing number of wind farms in the UK.

³ This is currently delegated to the Imbalance Settlement Group (ISG)

⁴ A wind farm could be made up of multiple Power Park Modules

1.1.3 Modification Process

The P191 Initial Written Assessment was presented to the Panel on 8 September 2005, where it was agreed that P191 would be submitted to the Assessment Procedure, such that an Assessment Report could be presented to the Panel at the 13 October 2005 Panel meeting.

The P191 Modification Group (the Group) met for the first time on 23 August 2005. Following the meeting, the views of the Group were captured in the Assessment consultation document and questionnaire which were both sent to industry. The responses to the consultation were discussed at the second and final Group meeting held on 21 September 2005.

1.2 Proposed Modification

The Group believes that there is an issue with the requirement for generators owning wind farms to apply for non-standard BM Unit status as it is not only inefficient from an administrative point of view, but it may also present a barrier to entry to potential new generators wishing to build wind farms because of the complex registration process and uncertainty over BM Unit configuration.

Having identified and resolved the issues outlined in section 1.3, the Group agreed that the solution in 1.1.2 required no further development and is the Proposed Modification.

1.3 Issues Raised by the Proposed Modification

This section outlines the discussions of the Modification Group regarding the following issues raised by the Proposed Modification:

1.3.1 Existing Methods of Registration for Wind Farms

The Group considered whether there is a defect within BSC relating to the existing method of registering a wind farm as a single BM Unit i.e. registering it as a non-standard BM Unit. This process is described in paragraph K3.1.6 in the BSC and can be summarised as follows:

- the relevant Party and/or the Central Data Collection Agent (CDCA) or Central Registration Agent (CRA) sends a letter detailing the request for a non-standard BM Unit application to the BSCCo;
- the BSCCo holds discussions with the Party to confirm that the site satisfies the criteria for becoming a BM Unit as stated in paragraph K3.1.2 in the Code and consults with the TC;
- the BSCCo writes a paper for the ISG detailing the application to be a non-standard BM Unit; and
- if there is a dispute and further details are required, the BSCCo further consults the TC and Party, and the ISG either approves the application or determines a configuration of the Plant and Apparatus that would most satisfy the criteria K3.1.2.

It was the Group's unanimous view that the current process of registering a wind farm as a non-standard BM Unit was inefficient and that introducing a method which reduced the number of non-standard BM Unit applications would be desirable.

The Group also considered whether registering the wind farm as a Trading Unit would improve the process. However, this was dismissed since Trading Units must be formed from existing BM Units so there would be no saving in efficiency. The Group noted that this did not preclude a wind farm from participating in a Trading Unit, including the scenario whereby the wind farm itself has some demand for electricity.

1.3.2 Quantitative Analysis of Potential Benefits

The Group considered the benefit that P191 could bring and whether it was sufficient to justify the cost of implementation. It was noted that, to date, four wind farms have been registered as non-standard BM Units and that three of these were approved by the ISG at its meeting on 23 August 2005 (prior to the first meeting of the Group). The BSCCo stated that a non-trivial amount of time was spent in driving one application through the process, let alone three at once. It has been estimated that 2 man days of ELEXON effort could be saved per non standard BM Unit application. The TC and Parties also provide input during this process, preparing and providing analysis for the ISG to consider when assessing the non standard BM Unit registration.

Analysis provided by the Transmission Company (TC) shows that there are approximately 250 connection offers from wind farms which could be energised within the next five years. Of the 250 approximately 140 wind farms⁵ will probably be registered⁶ as PPMs as defined within the Grid Code.

Assuming an even distribution, this approximates to two per month. Furthermore, it was noted that a wind farm could be built within four months, thus not giving much time to process an application for a non-standard BM Unit. It was acknowledged that it was likely that a fraction of those wind farms would not come to fruition; however this is difficult to estimate as the decisions on the viability and registration of the wind farm lie with the Party.

The 8 responses received from consultation questions (See section 6) revealed that potentially, between 37 and upwards of 49 PPMs are expected to be built in next 5 years.

The Group noted the amount of time and effort involved in processing one non-standard BM Unit application, and the number of wind farms potentially planned to be energised in the next 5 years. In light of this, it was the unanimous view of the Group that it would be desirable to reduce the number of wind farms applying to have non-standard BM Unit configurations in relation to wind farms, because of the efficiency saving to BSCCo and Industry.

1.3.3 Impact of Grid Code Definition

P191 proposes to refer the BSC to the definition of 'Power Park Module' in the Grid Code and allow such a module to constitute a BM Unit. This definition was introduced to the Grid Code in order to facilitate the submission of Final Physical Notifications for wind farms (i.e. treat them as a single module of identical Generating Units rather than individual Generating Units), and was the subject of a lengthy and complex consultation process. The TC provided a rationale behind various parts of the definition as follows:

- the definition refers to non-synchronous Generating Units. Wind farms are usually non-synchronous (i.e. the wind turbine output is not at the same frequency or phase as the Transmission System);
- the definition also refers to "an intermittent power source" as this would then allow wave and solar farms to be classified as PPMs; and
- the limitation of a single point of connection (Boundary Point) was used within the definition as it is important that the TC knows the magnitude of any in-feed (or off-take) of electrical power onto the GB Transmission System at any given point so that it can then exercise control over such flows if required. If the definition did allow connection through two Boundary Points, it may not be possible for the TC to exercise such control. Furthermore by allowing only a single

⁵ These wind farms are either directly connected to the Transmission System or they are expected to enter into a Bilateral Embedded Generation Agreement.

⁶ The remaining wind farms may not be Licensable or Directly Connected to the Transmission System and need not be registered in the CMRS

point of connection this removes the possibility that the Generating Units forming the PPM would parallel⁷ the GB Transmission System in the event of a fault on the GB Transmission System between the two boundary points. If this were to occur and any on-site protection were to also fail, then there is a significant chance that the Generating Unit at the PPM could be significantly overloaded, with Transmission System flows being redirected through wind farm assets which may have the potential to lead to Health and Safety Issues.

The Group noted that the Grid Code definition of PPMs includes connections to User Systems, which would normally be Distribution Systems. As such, P191 also applies to Embedded PPMs.

An example of a wind farm registered as two non-standard BM Units was considered by the Group. This wind farm consists of four banks of wind turbines connected to a common busbar⁸. Although this busbar has two Boundary Points branching off, it also has a bus section between these Boundary Points. If this bus section is kept open, two of the turbine banks will use one Boundary Point while the other two banks will use the other. This configuration is depicted in Figure 2. This wind farm was approved as two non-standard BM Units on the basis that the bus section will always be kept open unless an emergency situation requires it to close. The Group noted that should a similar application arise and P191 be approved, the applying Party could register the two sides as two separate standard BM Units (one for each PPM).

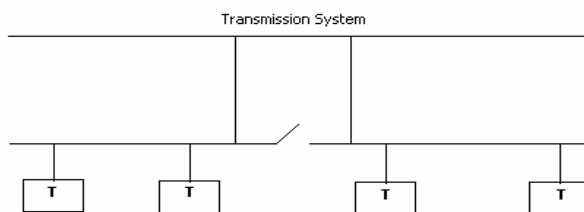


Figure 2: A bus section allowing a wind farm with two Boundary Points to operate as two PPMs

The Group also considered wind farms similar to that at Blacklaw. This wind farm was built in Scotland before the introduction of BETTA and as such was subject to the Scottish transmission arrangements. Although there is only a single circuit from the main Transmission System to this wind farm, this circuit splits into two to connect to two transformers (owned by the local transmission owner) each of which provides a separate 33kV Boundary Point for half of the wind farm. This configuration is depicted in Figure 3; the circuitry above the dotted line is owned by the local transmission owner.

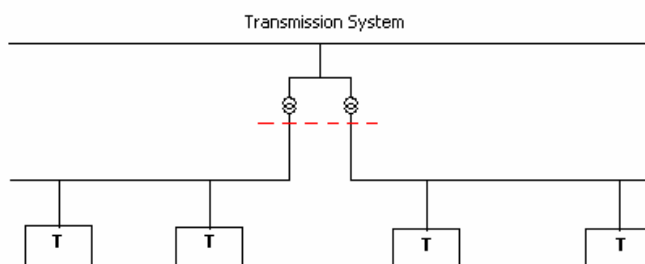


Figure 3: Two Boundary Points resulting from a single branch off the main Transmission System line

The Group noted that such a configuration would not qualify as a PPM since there are two Boundary Points. However, it was also noted that the Blacklaw wind farm has been approved as a single BM Unit via the non-standard route, subject to a number of conditions being placed on its operation and

⁷ The event where there is a fault on the Transmission System between the two Boundary points resulting in Transmission System flows being re-directed into one Boundary Point and out through the other.

⁸ An electrical conductor in the form of rigid bars that serves as a common connection for several electric circuits

connection. Two members of the Group stated that their companies each expected to build a few more wind farms each with a similar configuration to Blacklaw.

These members suggested that it may be worth expanding on the current definition of PPM in order to include configurations similar to Blacklaw. Based on the 8 responses to the consultation question, it is expected that 4 or 5 wind farms could be developed in the next 5 years which have a similar configuration to that of Blacklaw. The TC Analysis on the same question suggested that between 15 and 20 may be developed. This issue is discussed further in section 1.3.4.

The Group also considered whether it would be compulsory to register a wind farm as a PPM, should it fit the criteria. The Group's unanimous view was that it would be too restrictive to make this compulsory, as a Party may have business reasons for registering its wind farm via the non-standard route.

The Group also considered whether offshore wind farms could register as PPMs and came to the conclusion that nothing precludes offshore wind farms from doing this, as long as they satisfy the criteria.

It was the Group's unanimous view that by allowing PPMs as currently defined in the Grid Code to be registered as BM Units, there would be a significant reduction in the number of non-standard BM Unit applications resulting from wind farms. This was reinforced by the fact that there is likely to be a large number of wind farms registered in the next five years. The Group also noted that the definition of PPM could also include generators using other forms of energy, particularly wave and solar energies.

1.3.4 Alternatives Solutions

The Group considered three alternative solutions which were submitted in the consultation responses and suggested by Group Members.

1.3.4.1 Cascade Hydroelectric Power

Firstly, the Group considered whether the current definition of PPM' would hinder other forms of renewable energy e.g. cascade hydroelectric power.

The Group held the unanimous view that the definition was designed to cover all energies that could be suitably grouped e.g. wind, wave and solar power, and that cascade hydroelectric power was too different. This was particularly noted given that cascade hydroelectric power uses more than one Boundary Point by its very nature and would go against the desire of the TC to know the magnitude of and potentially control every infeed to the Transmission System.

1.3.4.2 Blacklaw Configuration

A similar argument was given against expanding the current definition of PPM to cover wind farms similar to the Blacklaw configuration (figure 3). Although two members of the Group suggested that there could be benefit in expanding the definition in this way, the majority of the Group held the view that doing so would contravene the principles by which the TC wished to run the Transmission System (see section 1.3.3).

A consultation response suggested that wind farms with connection arrangements similar to Blacklaw could be covered by the provisions of section K, and would allow them to register as BM Units through the standard route. It suggested adding a clause into section K3.1.4(b) which allowed any number of PPMs which are registered in the CMRS to constitute a BM Unit provided they are connected at a site which has a single connection to the Total System.

It was also noted that there was a lengthy consultation process behind the current Grid Code definition and to change it for the sake of a relatively small number of wind farms would not be appropriate. The Group also noted that the Panel highlighted a desire not to have a different definition in the BSC from

that in the Grid Code definition and that this type of wind farm will become decreasingly common, since wind farms planned post-BETTA will be subject to the GB Transmission Arrangements and as such will have a single Boundary Point only.

The TC in their analysis of potential alternatives also considered this option. The TC concluded that such configurations should go through the non standard BM Unit registration process, so that all options could be considered to ensure that the TC's operations are not adversely affected. The TC would not want to lose the opportunity to examine such applications on an individual basis, which would be the case if this type of configuration could form BM Units through the standard route. The Group were referred to the 2 examples given in section 1.3.3, where the TC were able to analyse the configuration and put certain restrictions on operation, before agreeing on the BM Unit configuration.

A number of different configurations were considered by the Group, but the Group came to the conclusion that although there was a single circuit infeed (see figure 2), the actual connections to the Total System were at the Boundary Point, and therefore in reality there were 2 connections to the Total System (indicated by dotted line in figure 2). On this basis and for the reasons outlined by the TC, it was felt that this alternative solution would not be viable.

1.3.4.3 Limit Size of Power Park Module comprising a BM Unit.

This alternative solution was derived from a single respondent's view that allowing all PPMs to automatically qualify as a BM Unit, would remove protections for the TC and BSC Parties and was unfair to other types of generation. The Group discussed the reasons given for this view individually:

- Information about potentially large component blocks or Generating Units in a PPM, would be lost to the TC under P191, and would therefore hinder system operation and balancing, which is paid for by Parties.
 - *The Group did not share the concerns raised. As long as any connection to the Total System is made through a single connection, the TC is content with the level of control available for balancing purposes for a PPM. The TC can still exercise control by accepting balancing actions from PPMs, the same as they can for all other types of Generating Units. The internal network and size of PPMs does not concern the TC as long as the connection is in compliance with the Grid Code. The TC treats the size of PPM the same as any other Generating Unit or CCGT Module.*
 - *The Group drew the analogy with CCGT Modules, which are made up of large Generating Units (certainly larger than individual wind farm turbines). The Group said, that similar concerns are not held regarding the size of individual Generating Units within a CCGT, hence they should not apply to PPMs either.*
- The respondent also referred to potential advantages that PPMs registered as BM Units would have which other units don't have; such as submission of aggregation data, possibility of self balancing activities, balancing services that they could provide and the cost of settlement quality meters reduced. The Group did not share any of the concerns raised by the respondent, for a number of reasons.
 - *Regarding balancing advantages (with the unpredictability of weather conditions), it would be very difficult for wind farms to achieve balancing activities to a good degree of accuracy which might benefit the PPM.*
 - *The Group also stated that balancing is a secondary concern for wind farms, as the Renewable Obligation Certificate (ROC) scheme means generators have incentives to stay running.*

- *The Group did not feel that any of the other advantages mentioned in the consultation response would be of significant materiality. It was added that were generators required to progress BM Unit registrations of PPMs through the current non-standard route, it is expected that their application would most likely be accepted. Any perceived advantages a PPM has over other Generating Units would still be there, but the applications process would remain inefficient and bureaucratic.*

The alternative proposed was to either limit the size of a PPM which automatically qualifies as a BM Unit or limit the size of blocks of Generating Units within the PPM, which do not require separate BM Units.

The Group did not believe limiting the size of a PPM or individual Generating Units would bring any benefit to the BSC. Any concerns over size, are the same concerns held on other types of generation.

The Group recognised that the Proposed Modification was aimed at improving the efficiency of registration of wind farms and promoting competition. However, putting restrictions on PPM would in effect act to the detriment of these objectives as wind farms would still be being treated differently to other types of generation. The Group questioned whether limiting was necessary at all considering the current size of generation from wind farms in comparison with other generation⁹.

1.3.5 Other Issues

One consultation respondent commented on whether multiple Generating Units with independent control forming a BM Unit was relaxing the principles of a BM Unit. The respondent stated that rather than an expansion of definition of a BM Unit, a clear set of rules should be applied to cover all circumstances, which is equitable across all BM Units, as the respondent believed BM Units with multiple Generating Units have advantages in operation over other types of generation.

The Group felt that allowing PPMs to register as BM Units, was not relaxing BM Unit principles, but taking a pragmatic approach to the expected increase in non standard BM Unit registrations for wind farms and further that P191 was simply aligning the Code with Grid Code.

The Proposer references that BM Units are required for the smallest controllable component of import/export, in which case each individual wind turbine would have to be registered as a BM Unit. The Group felt that keep the arrangement as they are is a highly inefficient approach and did not agree with the respondents view that switching on or off units meant the units were controllable.

Regarding concerns on the application of current BM Unit principles, the Group did not have any concerns in this area.

1.4 Assessment of how the Proposed Modification will Better Facilitate the Applicable BSC Objectives

The Group unanimously agreed that P191 better facilitates Applicable BSC Objectives:

- d) The promotion of efficiency in the implementation and administration of the balancing and settlement arrangements*

as P191 would remove the current inefficient requirement for generators to apply for non standard BM Unit configurations in respect of their wind farms; and

⁹ Individual Turbines within wind farms operate currently at 2 MW or 3 MW. The largest current Power Park Module has an output at 200 MW. For comparison purposes, at a BM Unit level Power Stations Operate at 500/600 MW and Interconnector at 1000 MW. PPMs do not currently exceed the size of other types of generation. Any information the TC requires about PPMs is specified in the Grid Code.

c) The promotion of 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;

as P191 removes a potential barrier to entry for wind farms because of the current complex registration process and a lack of certainty over their BM Unit configurations.

1.5 Alternative Modification

Three alternative solutions were considered, however the Group determined that these should not be progressed as they did not better facilitate the Applicable BSC Objective when compared to the Proposed Modification.

1.6 Governance and Regulatory Framework Assessment

No impact identified

2 COSTS¹⁰

PROGRESSING MODIFICATION PROPOSAL

| | |
|------------------------|---------------------------------|
| Meeting Cost | £ 1,000 |
| Legal/expert Cost | £ 0 |
| Impact Assessment Cost | £ 3,000 |
| ELEXON Resource | 25 Man days equating to £ 4,560 |

IMPLEMENTATION COSTS

| | | Stand Alone Cost | P191 Incremental Cost | Tolerance |
|-------------------------------------|--|---------------------|-----------------------|-----------|
| ELEXON Implementation Resource Cost | | 3 Man days £ 660 | 3 Man days £ 660 | +/- 0% |
| Total Implementation Cost | | £ 660 | £ 660 | +/- 0% |

ONGOING SUPPORT AND MAINTENANCE COSTS

There are no ongoing support and maintenance costs.

¹⁰ Clarification of the meanings of the cost terms in this section can be found in annex 7 of this report

3 RATIONALE FOR MODIFICATION GROUP'S RECOMMENDATIONS TO THE PANEL

The unanimous recommendation of the Group is that the Proposed Modification would better facilitate the achievement of Applicable BSC Objectives (c) and (d), and should therefore be recommended for implementation for the reasons given in section 1.4.

The Group recommends an Implementation Date for the Proposed Modification of 10 Working Days following an Authority Decision. The Group has reviewed and agreed the draft legal text (Annex 1).

4 IMPACT ON BSC SYSTEMS AND PARTIES

An assessment has been undertaken in respect of BSC Systems and Parties and the following area has been identified as potentially being impacted by the Proposed.

4.1 BSCCo

P191 does not impact any BSC Systems. ELEXON's internal procedures and guidance documentation will need to be updated by the relevant teams.

Service Delivery has indicated that if implemented, P191 will not increase the department workload but would reduce the bureaucracy associated with registering Wind Farms as it may result in a reduced number of non-standard BM Unit applications. It is estimated that 2 man days effort could be saved per application made, if P191 were approved.

5 IMPACT ON CODE AND DOCUMENTATION

5.1 Balancing and Settlement Code

| Item | Potential Impact of Proposed Modification |
|------|-----------------------------------------------------------------------------------------|
| K | Section K will need to allow a BM Unit to be comprised of a Power Park Module |
| X | Annex X-1 will need to define the term 'Power Park Module' as defined in the Grid Code. |

5.2 Code Subsidiary Documents

No impact identified.

5.3 BSCCo Memorandum and Articles of Association

No Impact Identified

5.4 Impact on Core Industry Documents and Supporting Arrangements

No impact has been identified. The Code will directly reference the Grid Code definition of a PPM.

6 SUMMARY OF CONSULTATIONS

An industry-wide consultation was issued on 6 September 2005 with responses due on 19 September 2005. Nine responses were received, representing 39 Parties.

| Consultation question | Respondent agrees | Respondent disagrees | Opinion unexpressed |
|-----------------------|-------------------|----------------------|---------------------|
|-----------------------|-------------------|----------------------|---------------------|

| | | | |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|---------------|--------------|
| Do you believe Proposed Modification P191 better facilitates the achievement of the applicable BSC Objectives? Please give rationale and state objective(s) | 6(33) | 1 (5) | 1 (1) |
| Do you believe there are any alternative solutions that the Modification Group has not identified and that should be considered? Please give rationale | 5 (27) | 2 (11) | 1 (1) |
| How many Power Park Modules is your company likely to build in the next five years? | Consultation Responses: 37 - 49+ TC data: 140 | | |
| How many wind farms similar in configuration to that at Blacklaw is your company likely to build in the next five years? | Consultation Responses: 4-5 TC data: 15-20 | | |

6.1 Modification Group's Summary of the Consultation Responses

6.1.1 Applicable BSC Objectives

A majority of the respondents agreed that P191 better facilitates the Applicable BSC Objectives (c) and (d). P191 would reduce the administrative burden of processing non-standard BM Unit applications for PPMs (d) and it would remove potential barriers to entry for wind farms (c).

One respondent agreed that the Proposed Modification would improve the efficiency of the registration of PPMs, and therefore meets Applicable BSC Objective (d). However the respondent believed P191 would be to the detriment of the Applicable BSC Objectives (b) and (c) as it would remove certain protections for the TC and BSC Parties and allowing PPM to automatically register as BM Units is unfair to other Generating Unit types.

6.1.2 Alternative Solutions

A majority of respondents did not suggest alternative solutions.

One respondent believed that P191 removes certain protections for the TC and other BSC Parties if any PPM were automatically allowed to form a BM Unit. This respondent suggested an alternative solution should either limit the size of PPMs which can automatically qualify as a single BM Unit or limit the size of individually and independently switchable blocks of Generating Units within the PPM. This would alleviate some of the concerns the respondent has with the Proposed Modification.

Another respondent believed an alternative solution should allow PPMs in configurations similar to Blacklaw to be registered as BM Units through the standard route. The respondent stated that it is important for wind farm developers to be certain at an early stage of a project, what the BM Unit arrangement is going to be and this alternative would allow developers the comfort needed to finalise

the wind farm design and arrange contracts without having to use the non-standard application process.

6.1.3 Power Park Modules to be developed in next five years

Some respondents did not give an actual expected number of wind farms to be developed, but confirmed that some would be developed. Based on the consolidated 8 responses, the expected number of PPMs to be developed in the next 5 years is between 37 and upwards of 49.

The analysis provided by the TC, shows that there are currently over 250 Connection Offers from wind farms, which may not all come to fruition. Of these, 80 are proposed to be directly connected and approximately 60 are expected to elect to enter into a Bilateral Embedded Generation Agreement (BEGA) and will need to register their PPMs as BM Units.

This gives a total of 140 expected to be developed in the next 5 years, which may need to be registered as BM Units.

6.1.4 Wind farms similar in configuration to that at Blacklaw

Based on the consolidated 8 responses, the expected number of wind farms to be developed in the similar to Blacklaw configuration in the next 5 years is 4 or 5.

Analysis from TC shows that of the 140 potential wind farms expected to be developed, between 15 and 20 may have connections similar to the Blacklaw configuration. That is approximately 12% of wind farms that may need to be registered as BM Units which may have this type of configuration.

6.1.5 Any other Issues

A respondent stated that the current specification requirements for a BM Unit in the BSC is not adequate, and believed the Group should consider whether a revised set of principles is required in the BSC. The respondent feels that BM Units which are made up of multiple Generating Units have advantages that other Generating Units do not have, and believed it is desirable to apply the same BM Unit principles equally to all Parties.

Another respondent recommended that the Blacklaw configuration should be provided for in the BSC and should be discussed by the Group, as discussed in their response to question 2.

6.2 Comments and Views of the Modification Group

The Groups views are described in detail in section 1.3 and are summarised here. The Group:

- Noted the single objection to P191 better facilitating the BSC Objectives, but agreed with the majority response that P191 better facilitates Applicable BSC Objectives c) and d);
- Noted the two alternatives suggested in the responses, but did not feel either better facilitated the Applicable BSC Objectives than P191;
- Noted the high number of wind farms expected to register as PPMs, which supported the Groups unanimous view that P191 should be approved;
- Noted the lower number of wind farms expected to be built in configurations similar to the Blacklaw configuration, which supported the Group's view that an Alternative Modification to include Blacklaw type configurations would not be required; and
- Noted the additional comments, but did not feel any changes were required to P191 or that any alternatives are required.

7 SUMMARY OF TRANSMISSION COMPANY ANALYSIS

7.1 Analysis

The TC Analysis on P191 has revealed the following points:

- No impact has been identified from the Proposed Modification on the ability of the TC to discharge its obligations under the Transmission Licence;
- The TC believes that P191 would better facilitate Applicable Objective d);
- No impact has been identified on the computer systems of the TC;
- No costs have been identified as a result of the implementation of the Proposed Modification;
- The proposed amendment will enable the current Grid Code definition of "Power Park Module" to be reflected in the BSC and no consequential changes on Core Industry Documents have been identified;
- There are currently over 250 Connection Offers from wind farms, which may not all come to fruition. Of these 80 are proposed to be directly connected and approximately 60 are expected to elect to enter into a Bilateral Embedded Generation Agreement (BEGA) and will need to register their PPMs as BM Units; and
- Of the 250+ wind farms National Grid has Connection Offers for, between 15 and 20 may have connections similar to the Blacklaw configuration.

7.2 Comments and Views of the Modification Group

The Group were satisfied with the analysis provided, and had no further comments.

8 SUMMARY OF EXTERNAL ADVICE

No external advice was sought.

9 IMPLEMENTATION APPROACH

The recommended Implementation Date of P191 is 10 Working Days following an Authority decision if approved.

It is proposed that Parties could make applications to register their PPMs as BM Units prior to the P191 Implementation Date if it is approved.

If a BM Unit registration is received prior to the P191 Implementation Date but after P191 has been approved, with a registration Effective From Date (EFD) which occurs after the P191 Implementation Date, (and the configuration matched that of a Power Park Module), the Party would not be requested to complete the non-standard BM Unit Configuration approval process, as the BM Unit would be considered standard for the purposes of the BSC from the time it is due to be registered.

A BM Unit registration (with the same configuration) received prior to the P191 Implementation Date with an EFD which occurs prior to the P191 Implementation Date would need to go through the non-standard process, as at the time of registration the BM Unit would be non-standard for the purposes of the BSC.

10 DOCUMENT CONTROL

10.1 Authorities

| Version | Date | Author | Reviewer | Change Reference |
|---------|----------|------------|-------------------------|------------------|
| 0.1 | 26/09/05 | Sakib Azam | P191 Modification Group | |
| 0.2 | 04/10/05 | Sakib Azam | Sarah Jones | |
| 0.3 | 05/10/05 | Sakib Azam | Martin Thompson | |
| 1.0 | 07/10/05 | Sakib Azam | Panel | |

10.2 References

| Ref | Document | Owner | Issue date | Version |
|-----|----------|-------|------------|---------|
| | | | | |
| | | | | |

ANNEX 1 DRAFT LEGAL TEXT

Attachment 1

ANNEX 2 MODIFICATION GROUP DETAILS

| Member | Organisation | Email | 23/8 | 21/9 |
|----------------|--------------------------|--------------------------------------------------------------------------------------------------|------|------|
| Ben Willis | RWE npower (Proposer) | ben.willis@npower.com | ✓ | ✓ |
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ANNEX 3 ASSESSMENT CONSULTATION RESPONSES

Attachment 2

ANNEX 4 TRANSMISSION COMPANY ANALYSIS

Attachment 3

ANNEX 5 CLARIFICATION OF COSTS

The cost breakdowns are shown below:

| PROGRESSING MODIFICATION PROPOSAL | |
|-----------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Meeting Cost | This is the cost associated with holding Modification Group meetings and is based on an estimate of the travel expenses claimed by Modification Group members. |
| Legal/expert Cost | This is the cost associated with obtaining external expert advice, usually legal advice. |
| Impact Assessment Cost | Service Provider Impact Assessments are covered by a pre-determined monthly contractual charge. Therefore the cost included in this report is an estimate based on the level of impact assessment that the modification is expected to require and may not reflect the actual cost attributed to the modification, which will be based on a percentage of the contractual impact assessment costs for each month that it is assessed. |
| ELEXON Resource | This is the ELEXON Resource requirement to progress the Modification Proposal through the Modification Procedures. This is estimated using a standard formula based on the length of the Modification Procedure. |

| TOTAL DEMAND LED IMPLEMENTATION COSTS |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| This is calculated as the sum of the total Service Provider(s) Cost and the total Implementation Cost. The tolerance associated with the Total Demand Led Implementation Cost is calculated as the weighted average of the individual Service Provider(s) Costs and Implementation Costs tolerances. This tolerance will be rounded to the nearest 5%. |

| ELEXON IMPLEMENTATION RESOURCE COSTS |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Cost quoted in man days multiplied by project average daily rate, which represents the resources utilised by ELEXON in supporting the implementation of the release. This cost is typically funded from the "ELEXON Operational" budget using existing staff, but there may be instances where the total |

resources required to deliver a release exceeds the level of available ELEXON resources, in which case additional Demand Led Resources will be required.

The ELEXON Implementation Resource Cost will typically have a tolerance of +/- 5% associated with it.

| ONGOING SUPPORT AND MAINTENANCE COSTS | |
|------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ELEXON Operational Cost | Cost, in man days per annum multiplied by project average daily rate, of operating the revised systems and processes post implementation. |
| Service Provider Operation Cost | Cost in £ per annum payable to the Service Provider(s) to cover staffing requirements, software or hardware licensing fees, communications charges or any hardware storage fees associated with the ongoing operation of the revised systems and processes. |
| Service Provider Maintenance Cost | Cost quoted in £ per annum payable to the Service Provider(s) to cover the maintenance of the amended BSC Systems. Note that from 1 January 2005, Service Provider Maintenance costs will be covered by a fixed contractual charge and so any Modification Proposals implemented after this date will not incur an ongoing Service Provider Maintenance cost. |