PUBLIC

Review of Metering Dispensations and non-standard BM Units
Final Report

Nicholas Rubin, Design Authority
Mike Smith, Metering
Katie Wilkinson, Settlement Operations

8 February 2017
METERING DISPENSATIONS AND NON-STANDARD BM UNITS

CONTENTS

EXECUTIVE SUMMARY ................................................................................................................................. 3

BACKGROUND .................................................................................................................................................... 6
  1. Background to this review .......................................................................................................................... 6
  2. Approved scope for this review ................................................................................................................. 7
  3. Industry consultation .................................................................................................................................. 7

METERING DISPENSATIONS .......................................................................................................................... 8
  4. Background ................................................................................................................................................ 8
  5. Observations .............................................................................................................................................. 11
  6. Issues and recommendations .................................................................................................................... 14
  7. Related risks and recommendations ........................................................................................................ 22
  8. Post-consultation – additional comments .................................................................................................. 23

NON-STANDARD BM UNIT APPLICATIONS ................................................................................................. 26
  9. Background ................................................................................................................................................ 26
  10. Observations and recommendations ....................................................................................................... 27
  11. Additional areas and recommendations ................................................................................................ 40

NEXT STEPS ..................................................................................................................................................... 45
  12. Implementing our recommendations ...................................................................................................... 45

APPENDIX 1: SUMMARY OF RECOMMENDATIONS .................................................................................... 46

APPENDIX 3: GLOSSARY & REFERENCES ..................................................................................................... 62

ABOUT THIS DOCUMENT

This document is ELEXON’s Final Report following a review of Metering Dispensations and non-standard Balancing Mechanism (BM) Unit applications. This report and its recommendations will be tabled at the Imbalance Settlement Group (ISG) at its meeting on 21 February 2017, the Supplier Volume Allocation Group (SVG) at its meeting on 28 February 2017, and presented to the BSC Panel at its meeting on 9 March 2017. Changes may be made to the report following each meeting in order to address any comments received from Committee members.

For more information on this review, please contact design.authority@elexon.co.uk.
EXECUTIVE SUMMARY

ELEXON has carried out a review of Metering Dispensations and non-standard Balancing Mechanism (BM) Unit applications. This review was initiated at the request of the Balancing and Settlement Code (BSC) Panel in light of the growing numbers of Metering Dispensations and non-standard BM Units that Parties have requested for sites being configured and re-configured to accommodate mid-sized renewables and the redevelopment of old generation sites.

Metering Dispensations

Between 1990 and 1 July 2016, 465 Metering Dispensation applications have been submitted, with around half of these having been raised as a result of major regulatory changes and the other half due to non-compliant or incorrectly located Metering Equipment. Of 29 million Supplier Volume Allocation (SVA) and Central Volume Allocation (CVA) Metering Systems, there are only 216 specific Metering Dispensations and 21 generic Metering Dispensations that are currently active.

We have already carried out a large amount of work to improve internal and external Metering Dispensation processes and produce guidance for participants, but we have identified further areas that could be improved and developed.

Based on our initial findings we believe that there are aspects of the requirements and the application process that can be improved as follows:

- We recommend that ELEXON sets up a working group to propose solutions to the issue of metering low voltage assets in Offshore wind farm substations (and onshore substations generally).
- We recommend that we improve our Metering Dispensation application guidance to provide clearer advice to applicants on timescales and requirements to provide detailed plans for rectifying non-compliances and accuracy/materiality assessments for temporary and lifetime Metering Dispensation applications.
- We recommend that if the metering CoPs are reviewed in future, extra effort should be made by the Panel (or its Committee), ELEXON and any relevant Modification or Issue Workgroup to ensure stakeholders that are not ordinarily included in BSC changes are consulted, such as Meter manufacturers. This should ensure that as part of the process an Implementation Date can be agreed for the new CoP Issue so that the Meters can be manufactured and tested for compliance in time.
- Further to the recommendations of the Issue 54 Group, ELEXON raised CP1479 on 23 November 2016 to change the DMP in relation to GSPs and Generating Plant connections so that it is clear that Registrants must install Metering Equipment at the point of connection to the Transmission System. If approved, CP1479 will be implemented on 2 November 2017 as part of the November 2017 (BSC Systems) Release.
- We proposed that we should improve the involvement by participants in relevant Metering Dispensation processes. We have already begun inviting applicants to attend the relevant Panel Committee meetings.

We also propose that ELEXON carries out one-off reviews to ensure the registration of certain Metering Systems remain fit for purpose. We recommend that all ‘differencing arrangement’ GSPs and related sites (Power Stations or DSCPs) are subject to a detailed review to determine:

- the location of the Metering Systems involved and any material changes to the site(s) that affect the Metering Dispensation or differencing arrangement;

1 Our work to date is summarised in paragraph 4.6.
METERING DISPENSATIONS AND NON-STANDARD BM UNITS

- whether appropriate compensation is applied for electrical losses from the AMP to the DMP (where necessary or appropriate); and
- whether any significant work is due to take place at that GSP such that Metering Equipment can be installed at the appropriate DMP(s) and the difference metering arrangement removed/modified so as to remove/reduce a potential ongoing risk to Settlement.

We will also promote awareness with the LDSOs (Registrants) and the Transmission System owners of the differing arrangements in order to reduce the risks of detrimental effects, by new connections, on the differing arrangements.

We will complete an ongoing review of all Metering Dispensations that have expired but do not have evidence confirming the Metering Dispensation is no longer required. We will report our findings to the ISG once this review is complete.

Finally, ELEXON will review its records of Metering Dispensations with a view to:

- completing and re-publishing records where there is missing information that is not confidential, e.g. MSIDs;
- determining, with the support of Registrants, whether (elements or all of) previously confidential Metering Dispensations can now be made public; and
- determining, with the support of Registrants and targeted site visits by the Technical Assurance Agent (TAA) where necessary, whether historical, lifetime Metering Dispensations are now redundant, e.g. because the BSC requirements have evolved or the configuration and provision of Metering Equipment at a site has over time been upgraded and now complies with the BSC.

Non-standard BM Unit applications

Since 2001, the Panel has approved 50 non-standard BM Unit configurations, with 11 having been approved between 1 January and 22 November 2016. However, a similar number of applications are anticipated to be submitted over the next six years, nearly doubling the number of non-standard BM Units.

We expect to see a number of these forthcoming non-standard BM Unit applications relating to the combination of:

- Offshore Power Park Modules (PPMs) and low voltage assets;
- Multiple low voltage assets relating to Offshore PPMs with multiple connections to the Transmission System;
- Generating Units that are controlled by a single Control Point; and
- Two or more onshore PPMs that are controlled as a single entity.

We recommend that the BSC Panel or a BSC Party raises a Modification to BSC Section K3.1 to enable the combinations above to be recognised as new standard BM Unit configurations, with thresholds on the extent to which low voltage assets can be combined. This threshold would be determined by a Modification Workgroup in consultation with the Transmission Company.

We also believe that there will be further common but as yet undefined categories of non-standard BM Unit configurations that could arise in the future as a result of changes in technology or market participation. To facilitate such developments, we believe that the Panel (or ISG if delegated by the Panel) should be able to approve ‘generic’ non-standard BM Unit configurations until such time that they can be considered for inclusion in the BSC as standard configurations. We therefore recommend that the BSC Panel or a BSC Party raises a Modification to introduce an ability into the BSC for the Panel to agree ‘generic’ non-standard BM Unit configurations.
Overall, we believe the current processes for non-standard BM Unit applications are fit for purpose. However, we think the process could be improved in a number of areas:

- We recommend that the BSC Panel or a BSC Party raises a Modification to BSC Section K3.1 to allow separate Import and Export BM Units for the same Plant and Apparatus to be registered by the same Party.

- We recommend the BSC Panel or a BSC Party to raise a Modification to insert a clause into Section 3.1 of the BSC to say that Parties with a non-standard BM Unit need to consider reapplying if the configuration of that non-standard BM Unit changes. We also recommend adding to Section 3.7 of BSCP15 'BM Units' reminding Registrants to look at why they are changing their Generation Capacity (GC) and consider whether they need to reapply for a non-standard BM Unit status or whether National Grid needs to agree the change. This will clarify how changes to the configuration of existing BM Units (both non-standard and standard) should be handled (e.g. through the addition of a further Generating Unit).

- ELEXON will raise a Change Proposal to add a form to BSCP15 to use to register non-standard BM Units. We will also propose including the process steps for non-standard BM Unit applications in Section 3.1 of BSCP15. This will standardise the process for applying for a non-standard BM Unit by making it clearer and introducing a standard application form in place of the existing requirement to submit a covering letter. We will look at whether any further guidance around the registration of standard and non-standard BM Units can be provided.

Finally, we are concerned that there are existing BM Units with unapproved non-standard BM Unit configurations. Rather than carry out a systematic review of all existing BM Units, we propose to review BM Units as and when they are processed as part of ELEXON’s normal operations. Where we identify a site that has an unapproved non-standard BM Unit configuration, we will work with National Grid to assess if this configuration is acceptable before seeking retrospective approval from the ISG.
BACKGROUND

1. **Background to this review**

1.1 The BSC Panel identifies key strategic work in its Strategic Work Programme. The Panel last reviewed and approved its Work Programme in October 2016. Amongst other things, the Work Programme summarised the need to complete a ‘Review of Dispensations and CoPs’.

1.2 The Panel’s Strategic Work Programme notes that the ISG continues to be concerned by the high volume of Metering Dispensations. This encompasses both new applications and requests to extend longstanding Metering Dispensations where corrective action has not been progressed. The Panel suggested that it may be appropriate to address this issue via a review of the relevant CoPs to ensure that they are fit for purpose.

**Metering Dispensations**

1.3 Concern at the numbers of Metering Dispensations that Parties raise is not new. Over the last 18 months we have reviewed and made changes to ELEXON’s own processes and to the BSC Procedures (BSCPs) and guidance that Parties must follow to ensure they are clear and efficient. For example, in November 2015, following **Change Proposal (CP) 1442 ‘Clarifying the application process for Metering Dispensations’**, we updated the Metering Dispensations application guidance notes, and Committee papers now contain more information regarding specific applications. We have summarised the changes made in more detail in paragraph 4.6.

1.4 Despite these improvements, the Panel remains concerned at the number of Metering Dispensation applications raised by Parties. This is particularly in light of the growing numbers of Metering Dispensations and non-standard BM Units that Parties have requested for sites being configured and re-configured to accommodate mid-sized renewables and the redevelopment of old generation sites, e.g. to participate in schemes such as the Electricity Market Reform’s (EMR) Capacity Mechanism (CM) or Contracts for Difference (CfDs).

1.5 The CoPs detail the technical requirements for Metering Equipment that, when combined, constitute a Metering System. The current ‘numeric’ CoPs were introduced in 1993 under the Pooling and Settlement Agreement and were consolidated when the New Electricity Trading Arrangements (NETA) went live in 2001. Whilst they have been the subject of incremental change since NETA, driven by BSC Parties, ELEXON and the BSC Panel, only CoPs 1 and 2 have received a full and comprehensive review in this time (these being fully reviewed in 2005/06).

1.6 Whilst a large amount of the ISG’s work is focussed on Metering Dispensations (17 of 37 decision papers in 2015/16, of which 10 where extensions to existing temporary Metering Dispensations), they account for a very small proportion of Metering Systems. When we reviewed the register of Metering Dispensations we found that of 29 million Metering Systems there were only 216 specific Metering Dispensations (of which 13 are temporary and 203 are lifetime) and 21 generic Metering Dispensations (of which one is temporary). Furthermore, the typical materiality of a Metering Dispensation is generally low and site specific, and approved Metering Dispensations typically have the effect of maintaining the Metering System’s accuracy within CoP accuracy limits (e.g. whilst an item of Metering Equipment might be non-compliant the level of accuracy typically remains within CoP limits). All existing Metering Dispensations apply to Half Hourly (HH) Metering Systems only.

**Non-standard BM Units**

1.7 Applications for non-standard BM Units peaked in 2005 with 13 non-standard BM Units (though 10 were designated by the Secretary of State as part of the British Electricity Trading and Transmission Arrangements (BETTA)). Since 2005 the number of applications has been very low, until 2016 when the ISG has considered
11 applications between 1 January and 22 November. At its March 2016 meeting, the ISG noted that it was likely that more non-standard BM Unit applications would be sought as novel site configurations are developed to accommodate Offshore windfarms, mid-sized renewables and the redevelopment of old generation sites, e.g. to participate in schemes such as the CM or CfDs. We estimate, based on National Grid’s Transmission Entry Capacity (TEC) register and conversations with potential applicants, that there may be 44 sites requiring non-standard BM Unit applications between now and 2022, although we note that the numbers of expressions of interest are typically much higher than the numbers of sites that are actually developed.

2. Approved scope for this review

2.1 On 12 May 2016, the Panel agreed the scope for this review (Panel 252/13).

2.2 Assuming that the overall level of assurance provided by the CoPs remains appropriate (e.g. in terms of Settlement accuracy), the Panel agreed that ELEXON will complete a review of Metering Dispensations and non-standard BM Units to:

- identify themes and observations from existing Metering Dispensations and non-standard BM Units that could identify the need for lifetime or generic Metering Dispensations and lead to a reduction in future Metering Dispensation and non-standard BM Unit applications; and

- consider reviewing the CoPs if ELEXON’s review of Metering Dispensations and non-standard BM Units identifies issues or opportunities for improvement.

2.3 Please note that the scope of this review has been set specifically to consider what we can learn from past applications, rather than to consider from first principles whether the requirements and processes for allowing and considering Metering Dispensations and non-standard BM Units are correct. Nevertheless, we would welcome views on whether you think these principles are clear and how we might review, refresh or make them clearer.

2.4 In addition, the Panel agreed that the review will be a BSC Review in accordance with BSC Section C ‘BSCCo and its Subsidiaries’ paragraph 3.8. ELEXON must complete such a review at least once every two years and not more often than once every year.

3. Industry consultation

3.1 On 5 December 2016, we published ‘Review of Metering Dispensations and non-standard BMU – Industry Consultation’, which contained our initial findings and recommendations for industry consultation. The consultation closed on 6 January 2017. We received five responses.

3.2 We reviewed responses and, where appropriate, have updated our findings and recommendations. We have also summarised respondents’ views, prepared our own views in response to respondents’ views and incorporated these into the body of this final report. Where responses were not confidential we have reproduced these in full in Appendix 2.

3.3 In general, respondents were supportive of our recommendations.
4. **Background**

4.1 The Registrant of each Metering System is required to ensure that Metering Equipment is installed and commissioned, and maintained and operated, in accordance with BSC Section L ‘Metering’ and the relevant CoP. This Metering Equipment is required to measure and record the quantities of electricity (Active Energy and, where relevant, Reactive Energy) Exported\(^2\) or Imported at a Boundary Point to the Total System or flowing between Systems at Systems Connection Points. All Metering Equipment must comply with or exceed the requirements of the relevant CoP.

4.2 As well as defining the accuracy class of individual items of Metering Equipment, the CoPs also define the points at which measurement of electricity is required. These points of measurement are referred to as the DMPs, and are set out in each CoP\(^3\).

4.3 BSC Section L3.4.1 allows the Registrant of a Metering System to apply to the Panel for a Metering Dispensation if, for financial reasons or reasons of practicality, the Metering Equipment will not or does not comply with some or all of the requirements of the relevant CoP. The Metering Dispensation processes are covered in BSCP32 ‘Metering Dispensations’.

4.4 The Panel has delegated responsibility for considering Metering Dispensation applications to the ISG and the SVG\(^4\). The vast majority of applications for Metering Dispensations relate to Central Volume Allocation (CVA) Metering Systems (368 of 465 applications since 1990), with 17 of the 37 decision papers considered by the ISG in 2015/16 being for Metering Dispensations. The breakdown of these 17 applications are illustrated in the following graphs:

\[\text{Metering Dispensations by application type}\]

\[\text{Modification, 1} \quad \text{Replacement, 1} \quad \text{Extension, 10} \quad \text{New application, 5}\]

---

\(^2\) Except in the case of Exports related to Exemptable Generating Plant where no Party has accepted responsibility for the Exports. A Party can accept responsibility for an Export, if it chooses to, by registering an Export Metering System.

\(^3\) The DMPs are defined in Appendix A of CoPs 1, 2, 3, 5 and 10 and in the body of the document in CoPs 6, 7, 8 and 9.

\(^4\) The ISG is responsible for CoPs 1-4 and the SVG is responsible for CoPs 3-10, meaning both Panel Committees share responsibility for CoPs 3 and 4.
4.5 Whilst Metering Dispensations are supposed to provide an exception to the requirements of the CoP, the Panel and the ISG are concerned that Parties may be seeking Metering Dispensations too often and as an afterthought to complying with the BSC in the first place.

4.6 Concerns with the numbers of and processes for raising and considering Metering Dispensations are not new. We have previously reviewed the Metering Dispensation processes and made changes to implement our recommendations. The following is a summary of some of the issues identified and improvements we have made:

- **Issue:** Last minute applications place a burden on the applicant, ELEXON and the relevant Panel Committee to prepare and consider.
  
  **What we did:**
  
  - In mid-2012, we produced [guidance which indicates the timescales](#) when a valid application for a Metering Dispensation can be taken to the next Panel Committee meeting. In addition, we recommend to applicants that they submit their application at least 14 weeks before a Metering System’s Effective from Date or the expiry date of an existing Metering Dispensation that requires extension.
  
  - At the same time we updated our working practices so that we send reminder letters and emails to applicants and Registrants at least three months before a temporary Metering Dispensation expires.
  
  - In early 2015, we published [guidance on the registration of Systems Connection Points](#) which included timescales for raising Metering Dispensations. Our guidance was reviewed by the Energy Networks Association’s Commercial Operations Group (on behalf of Licensed Distribution System Operators (LDSOs)) and National Grid.

- **Issue:** Developers and Registrants lack understanding of the BSC’s requirements for metering Offshore windfarms (especially in relation to measuring supplies to windfarm operator’s low voltage assets).
  
  **What we did:**
  
  - In September 2014, we produced [guidance for Offshore windfarm metering](#) which was circulated to Renewables UK, Energy UK and National Grid.

- **Issue:** Registrants and Meter Operator Agents lacked visibility of existing approved Metering Dispensations.
What we did:

- In August 2014, we published a list of existing non-confidential Metering Dispensations to assist Registrants/Meter Operator Agents, and we now maintain this list. (A list of generic Metering Dispensations was already published and maintained on the Metering Dispensation page on the ELEXON website.)

- **Issue**: An increase in the number of Metering Dispensation applications was seen due to a discrepancy between the BSC and CoPs in relation to DMPs.

What we did:

- In February 2014, we raised Issue 54 'Discrepancies between the points of measurement required in the BSC and the CoPs and the physical points of connection' to consider the issue and develop proposals for changing the requirements for the location of Metering Equipment for three DMPs. We presented the findings of the Issue 54 Group to the Panel at its June 2014 meeting and raised CP1479 on 23 November 2016.

- **Issue**: It was considered that the Metering Dispensation Review Group (MDRG) could provide more detailed rationale when providing advice to Panel Committees.

What we did:

- In December 2013, we updated the request for comments template used by MDRG members to emphasise the need to provide rationale.

- In July 2015, we made changes to the MDRG's Terms of Reference to emphasise the need for MDRG members to provide rationale to support any recommendations they provide.

- **Issue**: No defined escalation process existed for when temporary Metering Dispensations expire without either achieving full compliance or being replaced by a new Metering Dispensation.

What we did:

- In mid-2014, we defined a process that could be used to escalate instances where a Metering Dispensation had expired that resulted in non-compliance to the ISG or SVG, the Performance Assurance Board (PAB) and, where necessary, the Panel.

- **Issue**: There were concerns that unjustified claims for confidentiality meant that participants making an application may limit the details they provided that might otherwise be shared with interested parties, and that information demonstrating an applicant’s assessment of risk and materiality was not always provided up front by the applicant.

What we did:

- In May 2015 we raised CP1442 to require applicants to justify requests for confidentiality, to guarantee that ELEXON could publish certain limited details about any application (Metering Dispensation reference number and site name) and require that applicants provide an assessment of risk and materiality as part of their application. CP1442 was implemented on 5 November 2015.

- **Issue**: Requiring Metering Dispensation applications relating to shared CoPs to be considered by both the ISG and the SVG may be inefficient.

What we are doing:

- We are preparing a proposal to change the ISG and SVG terms of reference so that, despite shared CoPs, a Metering Dispensation is only considered by one of the Panel Committees depending on
whether the Metering System is registered in a Supplier Meter Registration Service (SMRS) or the Central Meter Registration Service (CMRS).

5. Observations

5.1 We maintain an internal register containing details of all formal applications for Metering Dispensations made since 1990. Based on our register of Metering Dispensations and records of decisions, we have reviewed all applications to identify the number of approvals, the types and terms of the Metering Dispensations, and the circumstances for approval.

5.2 As of 1 July 2016, there have been 465 applications for Metering Dispensations since September 1990. All of these applications have been against the HH Metering Equipment requirements of a HH CoP, including CoP4 which relates to commissioning, testing and record-keeping for HH and Non Half Hourly (NHH) Metering Equipment.

5.3 368 (79%) of these applications related to CVA registered Metering Systems, 47 (10%) related to Supplier Volume Allocation (SVA) Metering Systems and 50 (11%) were generic Metering Dispensations which apply to Metering Equipment that could be used in CVA or SVA registered Metering Systems.

5.4 Of the 368 CVA applications, 216 Metering Dispensations have a current approved status, of which 203 are lifetime Metering Dispensations and 13 are temporary Metering Dispensations.

5.5 The table below provides a breakdown of Metering Dispensation applications by status, type and term, as at 1 July 2016:

<table>
<thead>
<tr>
<th>Status</th>
<th>Site Specific</th>
<th>Generic</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lifetime</td>
<td>Temporary</td>
<td>Lifetime</td>
</tr>
<tr>
<td>Approved</td>
<td>182</td>
<td>12</td>
<td>21</td>
</tr>
<tr>
<td>Expired</td>
<td>3</td>
<td>73</td>
<td>0</td>
</tr>
<tr>
<td>Not required</td>
<td>9</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Rejected</td>
<td>4</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Superseded</td>
<td>5</td>
<td>52</td>
<td>2</td>
</tr>
<tr>
<td>Withdrawn</td>
<td>37</td>
<td>37</td>
<td>4</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>240</strong></td>
<td><strong>175</strong></td>
<td><strong>28</strong></td>
</tr>
</tbody>
</table>

Industry consultation
Page 11 of 64  
Version 2.0  © ELEXON 2017
5.6 The graph below illustrates the number of Metering Dispensation applications per year (up to 1 July 2016):

![Graph showing number of applications per year from 1990 to 2016]

5.7 The above graph shows three prominent periods of application activity: the 1990s (in particular 1992); 2005; and between 2013 and 2015. These peak periods correspond with significant changes in the electricity industry. Many of these significant industry changes have resulted in changes to the requirements for the location of and/or requirements for Metering Equipment, such as:

- Privatisation of the electricity industry in the 1990s, which led to changes in the requirements to locate metering for the commercial interfaces for Distribution Systems. At this time, measurement for Settlement moved from Bulk Supply Points (typically at 66kV) to GSPs (typically at 132kV);

- The creation of new CoPs in 1990 for the opening of competition for premises with a demand greater than 1MW (the ‘alpha’ CoPs in 1990 and then the ‘numeric’ CoPs in 1993), and again in 1994 when this was extended to premises with a demand between 100kW and 1MW (introduction of further ‘numeric’ CoPs);

- The inclusion of Scotland in the Great Britain Settlement arrangements under BETTA in 2005 (the ‘Scottish’ CoPs);

- The introduction of the Offshore Transmission Regime in 2009, which encouraged the development of large Offshore windfarms connected to onshore Distribution Systems or the onshore Transmission System at greater than 132kV. The transfer of the transmission assets to OFTOs resulted in operational challenges as Metering Equipment needed to be located Offshore to measure high voltage Imports and Exports and both onshore and Offshore to measure low voltage Imports; and

- The introduction of the Electricity and Gas (Internal Market) Regulations 2011, which required private networks operators to provide their customers with access to the competitive supply market.
5.8 The number of applications for each of the above reasons are summarised in the table below:

<table>
<thead>
<tr>
<th>Reason</th>
<th>Total applications</th>
<th>Current applications</th>
</tr>
</thead>
<tbody>
<tr>
<td>Privatisation of the electricity industry and the creation of new CoPs under the Pooling and Settlement Arrangement</td>
<td>148</td>
<td>32% 47</td>
</tr>
<tr>
<td>Scottish Generators requiring Metering Dispensations due to BETTA</td>
<td>39</td>
<td>8% 29</td>
</tr>
<tr>
<td>Introduction of the OFTO arrangements</td>
<td>37</td>
<td>8% 14</td>
</tr>
<tr>
<td>Customers embedded within a private network seeking a competitive supply</td>
<td>10</td>
<td>2% 8</td>
</tr>
<tr>
<td>Other reasons</td>
<td>231</td>
<td>50% 118</td>
</tr>
</tbody>
</table>
| **Total**                                                            | **465**            | **100%** 216         | **100%**

5.9 Below is a breakdown of the other reasons for Metering Dispensation applications:

- Location of measurement (only) non-compliances (43 applications, 27 current);
- Location of measurement and the use of difference metering (seven applications, three current);
- Notification of change of Registrant for an approved Metering Dispensation\(^5\) (five applications, zero current);
- The Actual Metering Point (AMP) coincides with the DMP, but this point is not the commercial interface (seven applications, four current);
- Non-compliance of the Metering Equipment itself (143 applications, 56 current), such as:
  - Meters non-compliant for site Metering System;
  - Meters non-compliant with CoP (generic Metering Dispensation) (totalling 34 applications\(^6\));
  - Measurement transformers non-compliant with CoP for site Metering System;
  - Outstations non-compliant with CoP for site Metering System; or
  - Outstations non-compliant with CoP (generic Metering Dispensation);
- Metering Equipment and location non-compliances (20 applications, seven current);
- Metering Equipment, location and the use of difference metering (five applications, four current); and
- Flow of energy for Distribution System equipment included in measurement by Settlement Meters (one application, zero current).

---

\(^5\) No longer a required process under BSCP32.

\(^6\) 22 of these related to Meters not complying with CoP5, Issues 1-4 (Issue 1 was released in December 1992).
6. Issues and recommendations

6.1 Our review of Metering Dispensations that have been raised since 1990 has identified a number of issues where we believe there may be opportunities for improving or updating the requirements, guidance and processes relating to Metering Dispensations and CoP compliance.

Location of Metering Equipment

6.2 Registrants applied for 75 Metering Dispensations because Metering Equipment did not comply with the requirement for it to be installed at the DMP (possibly among other reasons). This is one of the most popular reasons for requiring a Metering Dispensation.

6.3 The common reasons for why Registrants seek Metering Dispensations for Metering Equipment at locations that are not the DMP are:
- that the location of Metering Equipment predates the definition of or changes to the definition of DMPs;
- that the Metering Equipment is installed at the Boundary Point or the Systems Connection Point defined in the BSC, rather than the DMP; or
- for practical or financial reasons.

6.4 A significant number of Metering Dispensation applications (148, or 32%, of all applications) related to changes in the regulatory arrangements during the 1990s as the electricity industry was progressively privatised and opened to competition. In particular, Registrants applied to allow the continued use of existing Metering Equipment despite changes in the prevailing requirements for the provision of Metering Equipment and measurement of flows of energy at Boundary Points and Systems Connection Points. Of the 148 applications, 64 were approved and are current lifetime Metering Dispensations. Only one current Metering Dispensation from the 1990s was approved as a temporary Metering Dispensation, due to a change in the site’s configuration superseding an earlier lifetime Metering Dispensation for the site.

6.5 We observed the following specific issues in relation to the location of metering, and discuss each in more detail below:
- Difference metering arrangements
- Scottish arrangements and the introduction of BETTA
- The Internal Markets Regulations and private networks
- Offshore Transmission Regime

Difference metering arrangements

6.6 A particularly prevalent and enduring reason for seeking a Metering Dispensation during the 1990s was to put in place difference metering arrangements that made best use of the existing Metering Equipment, which was often not located at the DMPs. A difference metering arrangement is one where metered data from two or more metered System Connection Points and/or Boundary Points are combined (typically subtracted one from the other) to determine the flow of energy at another related but un-metered System Connection Point or Boundary Point. Of the current Metering Dispensations remaining from the 1990s, 36 relate to GSPs where a difference metering arrangement is in place and Metering Equipment is not located at the DMPs.

6.7 The diagram below provides a simple illustration of the configuration of a GSP where a difference metering arrangement has been applied. Two Distribution Systems are connected to the Transmission System via a common busbar. Each GSP is a Systems Connection Point. Ordinarily, Metering Equipment should be installed at the DMPs, which are on the Distribution System side of the busbar. In this example, possibly because of the historical configuration and ownership of the assets, Metering Equipment for GSP1 is installed on the Transmission System side of the Transmission System Boundary (M1) and at a point below the DMP for GSP2.
(M2). Consequently the two LDSOs have established a difference metering arrangement to determine the Metered Volume that would otherwise be measured at the DMP for GSP1. The difference metering arrangement subtracts the Metered Volume measured at M2 from the Metered Volume measured at M1.

6.8 A difference metering arrangement by itself doesn’t require a Metering Dispensation, but the circumstances associated with difference metering arrangements mean the related Metering Equipment is not compliant with the CoPs. This is typically because the Metering Equipment isn’t at the DMP as illustrated in the example above. In this example, the AMPs for Metering Equipment at M1 and M2 are not located at the correct DMPs, and so a Metering Dispensation for the location of the Metering Equipment and a scheme to correct Metered Volumes at M1 (likely a minimal correction) and M2 (likely a bigger correction as the AMP could be a kilometre or so away) for electrical losses are required.

6.9 Differencing arrangements pose a risk to Settlement and to BSC Parties if the calculations of losses and the allocation of energy between Metering Systems is, or becomes, inaccurate. In light of the risk of inaccurate losses being calculated, ELEXON already plans to raise a CP to introduce a review mechanism to ensure any losses scheme presented as part of a Metering Dispensation is subject to an independent technical review by experts to ensure its method is reasonably accurate.

6.10 We consider the issue of difference metering further in section 7.

**Scottish arrangements and the introduction of BETTA**

6.11 Another considerable regulatory change occurred in 2005 when the trading arrangements in England and Wales were extended to Scotland as part of the introduction of BETTA. Because of BETTA, Registrants made
39 applications for Metering Dispensations. At the time, the Authority approved 27 of these, rather than the Panel or Panel Committees. Of the 39 applications that were approved, 29 remain in place.

6.12 22 of the 39 applications were due to the AMP not being at the DMP defined in the CoPs in force at the time. In particular these applications highlighted how the commercial boundary between Generating Plant and the Transmission Systems in Scotland was typically different to that in England and Wales. The CoPs define the DMP as the high voltage side of the generator transformer(s) and station transformer(s). In England and Wales this coincides with the commercial boundary between the Generating Plant (including onshore PPMs such as windfarms) and the Transmission System. However, in Scotland the Transmission System owner usually provides the power transformers, and the commercial boundary tends to be on the low voltage side of these.

6.13 Since 2005, 37 further windfarms have connected to the Transmission System in Scotland. In all cases Metering Equipment was installed at the commercial interface on the low voltage side of the power transformer, which were owned by the Scottish Transmission Owners and considered part of the Transmission System.

6.14 In 2005, we made a pragmatic decision not to require Registrants to apply for Metering Dispensations where Metering Equipment was measuring the flow of electricity at the commercial interface. Our decision recognised the decisions made as part of implementing BETTA and the subsequent application for new Scottish sites, and that the DMPs in the CoPs did not precisely apply to generator sites in Scotland. The ‘numeric’ CoPs were developed in 1993 for England and Wales, with the commercial boundaries for existing generators subsequently established as the high voltage side of the generator and station transformers (referred to as the commercial interfaces). The DMP for Generating Plant connecting to the Transmission System has remained the same since then and through BETTA go-live. Existing generators in Scotland in 2005 needed Metering Dispensations as their metering was located on the low voltage side. However, newer windfarms in Scotland tend to connect directly to the Transmission System without generator and station transformers and the power transformer is usually owned by the Transmission Owner. In the absence of a clear requirement in the CoPs we reverted to the requirements in the Code that defines Imports and Exports as flows between Plant and Apparatus of a Party and the Total System, which means that Metering Equipment should measure the flow of electricity at Boundary Points between Plant & Apparatus and the Total System.

6.15 In February 2014, we raised Issue 54. The Issue recognised the experiences relating to historical GSPs and the regional differences in connecting Generating Plant to the Transmission System. The Issue 54 Group agreed that the DMPs for Systems Connection Points and for Generating Plant connecting to the Transmission System should be changed to ‘at the point of connection to the Transmission System’. On 23 November 2016, ELEXON raised CP1479 to implement the recommendations of the Issue 54 Group.

**Post-consultation**

**Consultation Question 1:** Do you agree that a CP should be raised to make it clear that Metering Equipment must be installed at the point of connection to the Transmission System?

6.16 Two respondents agreed with the intent of our initial recommendation. Whilst they agreed that a CP should be raised and the general principle of installing metering at the commercial boundary, one respondent noted that they didn’t agree with all the recommendations made by Issue 54.

6.17 One respondent did not agree that a CP should be raised as it believed that it is sufficiently clear in the BSC that metering should be installed at the point of connection to the Transmission System and does not think further clarification is necessary.
The Internal Markets Regulations and private networks

6.18 In 2011 the Department of Energy and Climate Change (DECC) introduced The Electricity and Gas (Internal Markets) Regulations 2011. Amongst other things, the Regulations made clear that a customer connected to a licence exempt Distribution System (referred to as a private network) must be allowed to participate in the competitive supply market. To enable a customer that is embedded within a private network to choose its own Supplier, the customer’s premises would need to be metered separately from the Boundary Point Metering System between the private network and the Total System. This scenario meant that, unless every customer on a private network was metered separately and in accordance with the BSC and the Boundary Point Metering System deregistered (creating an Associated Distribution System), a difference metering arrangement and losses scheme would be needed to subtract the customer’s Metered Volumes from the private network operator’s Metered Volumes measured at the Boundary Point between the private network and the Total System.

6.19 Since 2008, the ISG has considered 10 applications for Metering Dispensations relating to customers connected to a private network seeking a competitive supply. Of these, eight remain current. Three of the 10 applications occurred prior to the Internal Markets Regulations taking effect. One of these applications was raised by ELEXON (generic Metering Dispensation D/380) to cater for this new regulation, but it can only be used providing:

- the application relates to a CoP3 or CoP5 Metering System;
- the same Meter Operator Agent (MOA) and Half Hourly Data Collector (HHDC) are appointed to the main Boundary Point Metering System and the customer’s Metering System under a difference metering arrangement;
- there are no other Metering Equipment non-compliances; and
- the apportionment of losses within the private network is agreed between the parties involved.

Post-consultation

Consultation Question 2: Do you agree that no further changes are required to the BSC or BSCPs for Third Party Access?

6.20 Three respondents responded to Consultation Question 2. All three respondents agreed with our initial recommendation to monitor applications but take no immediate action to review or reform existing generic Metering Dispensation D/380.

6.21 One respondent noted that at the time ISG agreed D/380 there was a fear that there might be a significant increase in the number of Third Party Access arrangements. In practice, the number of Third Party Access applications has been low. In light of this the respondent agreed that our recommendation was appropriate.
Final Recommendation 2: In light of existing generic Metering Dispensation D/380 we believe that no further changes are required to the BSC or its Code Subsidiary Documents in respect of Third Party Access. However we propose to monitor applications for Metering Dispensations, and should the numbers rise due to the criteria of D/380 not being met then we will report to the ISG with options for tackling any perceived defects (e.g. allowing the use of different class accuracy Metering Equipment provided that evidence is available to confirm overall accuracy is maintained within CoP limits).

Offshore Transmission Regime

6.22 In 2009, DECC and Ofgem established the Offshore Transmission (Owners) Regime. The new regime meant that Metering Equipment needed to be located Offshore at the boundary between the Offshore windfarm and the Offshore Transmission System. In 2011, Registrants applied for six Metering Dispensations because there was no space on the Offshore platforms to install new Metering Equipment, and so the applications sought for the Metering Equipment to be installed onshore but corrected for losses to the Offshore DMP. These six applications applied to three existing windfarms7 (the first to ‘go OFTO’ in needing to have Meters Offshore).

6.23 Since 2009, Registrants have applied for a further 37 Metering Dispensations that relate to the introduction of the OFTO arrangements. Of these, 14 are current. Due to the number of applications, we produced guidance that explains the requirements for metering Offshore. In addition, we have worked closely with developers, trade associations and National Grid to educate them on the BSC’s requirements in order to minimise the need for Metering Dispensations. Whilst Registrants still apply for Metering Dispensations for Offshore sites, the numbers appear to have reduced and are often related to direct current (DC) metering, shared supplies which cannot be split and sharing losses in alternating current (AC)/DC rectification equipment between the OFTO and the generator.

Measurement of supplies to windfarm operators’ low voltage assets

6.24 As noted above, the introduction of the Offshore Transmission Regime led to Registrants applying for Metering Dispensations because it was impossible or impractical to install Metering Equipment Offshore. Later some windfarm designs did not provide compliant Metering Equipment (accounting for 21 applications) or did not take account of the requirement to measure supplies to windfarm operators’ low voltage assets in the onshore and Offshore substations (accounting for eight applications). As a result Registrants applied for Metering Dispensations as retrofitting Metering Equipment would have been expensive. The Metering Dispensations estimated the low voltage consumption and included these in the Aggregation Rules for the high voltage Metering System(s). As a result we issued specific guidance (on 2 September 2014) for metering of Offshore windfarms and in particular supplies to windfarm operators’ low voltage assets.

6.25 Following the guidance there were five applications related to a lack of Offshore low voltage Meters. Three of these were for a lack of low voltage AC Meters (one was a request for a lifetime after conditions were met for a previous temporary Metering Dispensation, while two were for windfarms that were already designed and partly built). One was a generic application for the use of DC metering at Offshore windfarms as there are no DC specific metering requirements in a CoP8. The final one was a site specific Metering Dispensation seeking to use DC metering, which included a slightly different solution to the generic approved Metering Dispensation for DC metering.

7 These were originally given temporary Metering Dispensations, which were subsequently approved as lifetime Metering Dispensations after the OFTO confirmed it was not impacted by the Metering Dispensations.

8 This is primarily because we are not aware of any specific ‘standards’ for DC Metering Equipment that could be incorporated into CoP5 or, alternatively, used to create a new CoP for DC Metering Equipment.
6.26 Several of the applications for low voltage assets mention sharing certain assets (e.g. Supervisory Control and Data Acquisition (SCADA)\(^9\) systems, communication or navigational lights) between the windfarm operator and the OFTO in order to run the windfarms. Some Registrants accounted for the windfarm operator’s share (50%) of this consumption and one has not.

**Post-consultation**

**Consultation Question 3:** Do you agree that the relevant CoPs should be amended to not require metering for supplies where assets to run a windfarm are shared by the windfarm operator and the OFTO?

6.27 Two of three respondents agreed with our initial recommendation. One respondent who agreed with our initial recommendation recognised the benefits in having flexible and pragmatic arrangements.

6.28 One respondent who agreed with our initial recommendation in his consultation response later clarified that he believed that the total low voltage site supply should be metered for Settlement purposes. This consumption should be included in a BM Unit of one of the parties responsible (site operator) for the platform. The split of the low voltage consumption between the various users of the platform is then a private arrangement between themselves (outside of Settlements). This could be done by installing non-settlement metering, using estimates or they may wish to ignore the consumption or agree a nominal value. In this way all the energy used for site supplies on the Offshore platform is accounted for within the Settlement arrangements. The respondent does not see the need for a Metering Dispensation (to not require metering for supplies where assets to run a windfarm are shared by the windfarm operator and the OFTO) if a DMP can be established on the low voltage side of the site supplies transformer. This may need a change to the DMP in the CoPs via a Change Proposal. This approach avoids the need for trying to meter multiple small low voltage supplies or even DC supplies. It allows for new equipment and evolution of the platform without having the worry about metering new or different circuits. The approach ensures that the users of the platform have a suitable commercial imperative to minimise the energy usage on the platform -they are paying for all the energy use on the platform. The respondent also notes that they see the usage on the Offshore platform as identical to the site supplies used on a land site. Again, all the site supplies should be metered/settled and how the energy is split between the various users of the site is a private arrangement between the users of the site. This framework would equally apply to the site supplies used at any transmission site – the site operator should pay for the energy used on site – either through a metered low voltage supply from the transmission system (CVA) and/or connection taken from the local distribution network (SVA). This removes the site energy use from the losses calculation and puts the clear commercial incentive on the site operator to minimise their own energy usage. This approach is also consistent with the approach already enshrined in the distribution price controls that require the distribution companies to meter (or include unmetered energy) in the SVA arrangement for their substation usage.

6.29 One respondent did not agree with our initial recommendation. They noted that OFTOs’ networks can be integrated to link between multiple Offshore wind farms. This means that the allocation of energy between the OFTO and different wind farm operators can be complicated without clear metering at all Boundary Points and Systems Connection Points. Consequently, they believe that the Metering Dispensation process should continue to be used on a case-by-case basis for supplies shared between an OFTO and wind farm operator. However, this respondent also noted that they may be willing to agree to supplies not being metered if they are below a certain threshold such that the Transmission Company would not be exposed to material adverse effects, e.g. additional energy balancing costs or impacts on transmission loss calculations and costs.

---

\(^9\) Supervisory Control and Data Acquisition is a system for remote monitoring and control.
Consultation Question 4: Do you have a view on the approach proposed for allocating the estimates of the windfarm operator’s share of consumption? Please provide any views you have on any threshold for this share to be considered immaterial.

6.30 Three respondents responded to this question. One respondent suggested any estimates for a windfarm operator’s share of consumption could be allocated between BM Units using an Aggregation Rule but that such a rule would need to handle situations where there is an outage. One respondent believes 1kW is too low as an immateriality threshold and that a threshold of 25kW would be more appropriate. One respondent said that all energy should be attributable and settled by a single BSC Party and any allocation between relevant parties should be in accordance with any private commercial arrangement between the BSC Party and the other parties.

6.31 In light of the different responses received to the consultation question ELEXON proposes to revise its initial recommendation and suggests setting up a working group to discuss the issues.

Final Recommendation 3: We recommend that ELEXON sets up a working group to propose solutions to the issue of metering LV supplies in Offshore wind farm substations (and onshore substations generally).

Managing disruption caused by regulatory change

6.32 As noted above, regulatory changes, such as market liberalisation and the introduction of the Offshore Transmission Regime, can have significant effects on the operation of market participants in the electricity industry, for example by introducing or changing the requirements for Metering Equipment. Consequently, we can attribute a large number of Metering Dispensations to significant changes in regulatory arrangements.

6.33 There have been 34 applications for generic Metering Dispensations relating to Meters that were available at the time not being able to comply with the relevant CoP. 22 of these followed the introduction of CoP5 Issue 1 in December 1992 and the subsequent Issues 2, 3 and 4. Our understanding is that these Metering Dispensations were necessary because manufacturers of Metering Equipment did not have sufficient time to develop HH Meters with integral Outstations from the implementation of CoP5 Issue 1 before they were required for Settlement when the mandatory HH market opened up in 1994 to greater than 100kW and less than 1MW customers. An additional issue was that there were no CoP3 compliant Meters available at the time, so a generic Metering Dispensation was raised to use two CoP5 Meters to form a CoP3 Metering System.

6.34 Following a review of CoPs 1 and 2 in 2005, we implemented new Issues (2 and 4 respectively) in February 2006. Despite a manufacturer trade body being represented on the Review Group, there were no Meters available in February 2006 that could comply fully with CoP1 Issue 2 or CoP2 Issue 4. We raised a temporary generic Metering Dispensation (D/339) to allow Meters that were fully compliant with previous Issues (1 and 3) to be installed for a two year period.

Post-consultation

Consultation Question 5: Do you agree with the proposed approach to ensuring stakeholders such as Meter manufacturers that are not normally consulted on BSC changes are consulted when metering CoPs are impacted?

6.35 All three respondents agreed with our initial Recommendation 4.
6.36 One respondent noted that this would allow any changes to the CoPs to account for and reflect existing and emerging metering technologies. They also noted that early engagement of manufacturers should help to minimise implementation timescales.

6.37 Another respondent noted that there ought to be a longer overlap between different versions of the same CoP. Presumably this is to enable a smoother transition between CoP requirements, particularly where changes are introduced at short notice or may have considerable impacts on metering practices.

**Final Recommendation 4:** We recommend that if metering CoPs are reviewed in future, extra effort should be made by the Panel (or its Committee), ELEXON and any relevant Modification or Issue Workgroup to ensure stakeholders that are not ordinarily included in BSC changes are consulted, such as Meter manufacturers. This should ensure that as part of the process an Implementation Date can be agreed for the new CoP Issue so that the Meters can be built and tested for compliance in time.

**Extending temporary Metering Dispensations**

6.38 On occasions, Registrants require a temporary Metering Dispensation to give them enough time to rectify Metering Equipment non-compliance against a CoP. There are times when Registrants need to apply for extensions to temporary Metering Dispensations, for example because:

- the Registrant underestimates the time it will take for a replacement item of Metering Equipment to be delivered from the manufacturer;
- contractors are not available to carry out the work within the period granted under the existing temporary approved Metering Dispensation; or
- the Panel Committee(s) refuses to grant the period initially requested for a temporary Metering Dispensation and grants a shorter period to try to encourage compliance sooner. The Registrant is not able to comply in the shorter timescale and so seeks a further temporary Metering Dispensation.

6.39 As some temporary Metering Dispensations have required more than one extension, the Panel and the ISG have raised concerns that regular consideration of these sites occupies ELEXON’s and the Panel Committees’ time.

6.40 We have started to invite applicants for Metering Dispensations to attend the relevant Panel Committee meetings, in order to put forward their case in person. We intend to continue with this approach.

**Post-consultation**

**Consultation Question 6:** Do you agree that additional advice and guidance on the detailed plans for rectifying non-compliances and providing accuracy assessments for Metering Dispensation applications should be provided? Is there particular guidance you’d like us to include or improve?

6.41 All three respondents agreed with our initial Recommendation 5.

6.42 One respondent suggested that applicants should provide simple project plans with intermediate milestones, which ELEXON can monitor. In addition, applicants should highlight project dependencies (outside the control of the applicant) such as weather (to access offshore locations), delivery of equipment, planned shutdown opportunities, etc. This will help to demonstrate to the ISG the risks with an applicant’s plan and whether the term of the original temporary Metering Dispensation application (or extension) is realistic.

6.43 ELEXON proposes to consider the Respondent’s suggestions when preparing changes to its guidance.
Expired Metering Dispensations

6.44 Our review has identified at least 15 Metering Dispensations that expired but have not been replaced with a new Metering Dispensation or where the Registrant has not confirmed that Metering Equipment is now fully compliant with the CoPs.

Post-consultation

Consultation Question 7: Do you agree with the proposed approach to investigating and resolving expired Metering Dispensations?

6.45 All three respondents agreed with our initial Recommendation 6. One respondent suggested that if ELEXON does not receive a satisfactory response from the registrant, it should instruct a Technical Assurance Agent (TAA) audit visit. Should the TAA visit identify non-compliances, the Performance Assurance Framework would then manage these using the Error and Failure Resolution process.

6.46 ELEXON will consider the respondent’s recommendation when developing a plan of action for the ISG to consider.

Final Recommendation 6: We will complete an ongoing investigation into those Metering Dispensations that have expired but where ELEXON has no evidence to confirm the Metering Dispensations are no longer required (e.g. a BSCP32/4.5 withdrawal form confirming compliance). We will report back to the ISG with our findings and any recommendations for mitigating action(s).

7. Related risks and recommendations

Difference metering arrangements

7.1 Difference metering arrangements can present a risk to Settlement in a number of situations, for example:

- where new customers or generators connect between the AMPs included in an existing differencing arrangement and their flows are not accounted for in the arrangement. This can be exacerbated by an asymmetry of information between Parties that may influence a difference metering arrangement; or
- due to inadequate or out-of-date loss compensation schemes.

7.2 The first risk was the subject of three Trading Disputes in 2010 (DA505, DA532 and DA605) and one in 2014 (DA759). On both occasions new sites were connected but not included in the difference metering arrangement for GSPs. This resulted in significant Settlement Errors, not all of which could be corrected through the BSCP11 ‘Trading Disputes’ process.

7.3 Trading Disputes DA505, DA532 and DA605 were characterised by the connection of a new Offshore windfarm to a National Grid busbar at a GSP where the LDSO had a differencing arrangement in place to determine its GSP volumes. The LDSO did not know about the new windfarm and therefore did not update its GSP Aggregation Rule to include the windfarm volumes. After a year the network assets connecting the Offshore windfarm to the mainland became OFTO assets and so the original onshore Meters were deregistered and Offshore Meters were registered. Each of the Trading Disputes used onshore metered data until the OFTO go-live date, then used Offshore metered data. Once a solution was in place, these were
METERING DISPENSATIONS AND NON-STANDARD BM UNITS

corrected for Offshore-to-onshore losses via the three separate Trading Disputes. The LDSO now uses Offshore Meters corrected for losses, and has recently refined the loss calculation.

7.4 Trading Dispute DA759 was raised to resolve an error caused by an SVA Metering System that was connected above a Distribution System Connection Point (DSCP) feeding another GSP Group that was also subject to a Metering Dispensation. To resolve the issue a CVA Outstation was installed at the SVA site to allow a CVA Metering System to be registered and for its metered data to be used in the GSP differencing arrangement.

7.5 Whilst the Panel and Panel Committees consider the nature of any difference arrangement or losses scheme submitted as part of Metering Dispensation application, we are concerned that without a thorough review of historical Metering Dispensations that pre-date the BSC, there may be more connections (particularly GSPs) that have difference arrangements that are no longer fit for purpose because of changes to the circumstances on site.

Post-consultation

Consultation Question 8: Do you agree that ‘differencing arrangement’ GSPs and related sites should be subject to the proposed review and investigations?

7.6 Both respondents agreed with our initial Recommendation 7.

7.7 One respondent considered that whenever a site subject to a differencing arrangement is subject to any planned work, the Registrant should seek to make changes to remove the need for differencing. Where this is not possible the Registrant should ensure a Metering Dispensation is in place or should be renewed (i.e. updated) where appropriate. The respondent also suggested that all existing sites subject to differencing arrangements should be subject to a Metering Dispensation to ensure a clear record on the Metering Dispensation register of the site and its differencing arrangement.

Final Recommendation 7: We recommend that all ‘differencing arrangement’ GSPs and related sites (Power Stations or DSCPs) are subject to a detailed review to determine:

- the location of the Metering Systems involved and any material changes to the site(s) that affect the dispensation or differencing;
- whether appropriate compensation is applied for electrical losses from the AMP to the DMP (where necessary or appropriate); and
- whether any significant work is due to take place at that GSP such that Metering Equipment can be installed at the appropriate DMP(s) and the difference metering arrangement removed/modified so as to remove/reduce a potential ongoing risk to Settlement.

We will also promote awareness with the LDSOs (Registrants) and the Transmission System owners of the differencing arrangements in order to reduce the risks of detrimental effects by new connections on the differencing arrangements.

8. Post-consultation – additional comments

Consultation Question 9: Do you have any further comments on any part of the Metering Dispensations review?

8.1 One respondent welcomed the review. They noted that such an open process had successfully facilitated the recognition of novel metering arrangements in the past. They hoped that this review would support new and
innovative metering arrangements being developed today to ensure that the energy landscape remains flexible within reasonable limits. ELEXON notes that this review was established in part to consider how changes in metering practices should be better accommodated by the BSC. In this regard we hope the review satisfies the respondent. However, we also note that the scope of this review was specifically set to take account of all historical applications, rather than to consider any new technologies or configurations that have not yet been the subject of a Metering Dispensation.

8.2 Another respondent suggested additional areas for ELEXON to consider. They noted that:

- A number of guidance documents (e.g. listed in paragraph 4.6) indicate ambiguities in the BSC or Code Subsidiary Documents and that these would benefit from review and revision.
  - ELEXON notes that this review was focused on learning from the reasons for historical Metering Dispensations. It did not review from first principles whether the requirements of the BSC in relation to Metering Dispensations are clear or if there are conflicts between the BSC and its CSDs and guidance documents. Nevertheless we appreciate that there may be opportunities to review and improve the clarity of the Code, its CSDs and guidance documents.

- ELEXON’s ‘Statement of non-confidential Site Specific Metering Dispensations’ and confidential record of Metering Dispensations should be considerably reviewed and updated. In particular, the respondent identified three areas that should be reviewed: i) ensuring all Metering Dispensations have an associated MSID, ii) whether previously declared confidential Metering Dispensations remain confidential and if not that their details are published, and iii) determining whether existing lifetime Metering Dispensations remain necessary. Consequently, the respondent recommended that ELEXON review these Metering Dispensations and update its records to ensure they are complete and easy to search by Parties and Party Agents.
  - ELEXON completed a preliminary review of its non-confidential site specific Metering Dispensation records and has identified 10 Metering Dispensations without an associated MSID.
  - We recognise that whilst it is not critical, incomplete and confidential Metering Dispensation records can make it difficult for Parties and Party Agents to determine whether a site they acquire (e.g. through the Change of Supplier or Change of Registrant process), is subject to a Metering Dispensation.

- A number of Metering Dispensations exist to resolve issues with Metering Equipment used specifically to record Reactive Energy. The respondent noted that the BSC doesn't actually rely on Reactive Energy in order to perform Imbalance Settlement. Therefore they considered that it may be an opportune time to consider whether requirements in the BSC and CoPs for measuring Reactive Energy remain fit for purpose or are better governed by other industry codes (e.g. Connection and Use of System Code (CUSC) and/or Distribution Connection Use of System Agreement (DCUSA)).
  - ELEXON note the respondent’s observation that Reactive Energy is not used in the calculation of Imbalance Settlement. However, the scope of this review was not set to consider whether the overall arrangements in relation to the measurement of Reactive Energy remain fit for purpose.

- In light of the expected pipeline of new connections (as summarised in paragraph 10.16), it would be beneficial for ELEXON to gain sight of planned metering arrangements as soon as possible. This would enable ELEXON to, as soon as possible, alert Registrants to issues that may result in non-compliance with the BSC and the CoPs, and either help the Registrant to design Metering Systems that are compliant or where this is not possible identify the need for a Metering Dispensation early in the process.
  - ELEXON agrees with the respondent that early sight of new and modifications to existing connections can enable ELEXON to more effectively work with Registrants in ensuring compliance.
with the BSC. ELEXON already meets with the Transmission Company to discuss new upcoming Transmission System connections. ELEXON is also made aware of upcoming Distribution connected generator’s by National Grid where the generator has a Bilateral Exemptable Generation Agreement (BEGA). ELEXON has produced guidance notes for new Generators and also for LDSOs for new Systems Connection Points (GSP and DSCPs) and additional circuits at existing GSPs and DSCPs which reminds the Registrant (LDSO) to ensure Metering Equipment complies with the relevant CoPs or seeks a Metering Dispensation.

Final Recommendation 8: ELEXON will work with the respondent to identify the perceived ambiguities. ELEXON will then determine what changes may be appropriate to guidance notes, the BSC or the CSDs and where it is able to make these changes (e.g. to guidance) or recommend changes for the Panel or relevant Committee(s) to progress.

Final Recommendation 9: ELEXON will review its records of Metering Dispensations with a view to:

- Completing and re-publishing records where there is missing information that is not confidential, e.g. MSIDs;
- Determining, with the support of Registrants, whether (elements or all of) previously confidential Metering Dispensations can now be made public; and
- Determining, with the support of Registrants and targeted site visits by the TAA where necessary, whether historical, lifetime Metering Dispensations are now redundant, e.g. because the BSC requirements have evolved or the configuration and provision of Metering Equipment at a site has over time been upgraded and now complies with the BSC.
METERING DISPENSATIONS AND NON-STANDARD BM UNITS

NON-STANDARD BM UNIT APPLICATIONS

9. **Background**

9.1 BSC Parties must ensure that all Plant and Apparatus for whose Exports and Imports they are responsible is comprised in BM Units registered with the Central Registration Agent (CRA). The requirements and standard configurations for BM Units are defined in BSC Section K ‘Classification and Registration of Metering Systems and BM Units’, and the processes for registering BM Units are covered in BSCP15 ‘BM Unit Registrations’.

9.2 Section K3.1.4 states that the following are standard BM Units:

(a) any Generating Unit, Combined Cycle Gas Turbine (CCGT) Module or PPM whose Metering System(s) for its Exports is registered in CMRS;

(b) the Plant and Apparatus which comprises part of, and which Imports electricity through the station transformer(s) of, a Generating Plant, where the Metering System(s) for such Imports is registered in CMRS;

(c) the premises of a Customer supplied by the Party which is directly connected to the Transmission System (provided that the premises are only connected at one Boundary Point);

(d) an Interconnector BM Unit;

(e) a Base BM Unit or an Additional BM Unit (collectively referred to as Supplier BM Units);

(f) the non-standard configurations of Plant and Apparatus that were agreed at BETTA go-live; and

(g) any two or more Offshore PPMs where the Party wishes to combine these as a single BM Unit and the Transmission Company determines that such a configuration is suitable to constitute a single Combined Offshore BM Unit.

9.3 Section K3.1.2 states that a BM Unit must satisfy the following conditions:

(a) only one Party is responsible for the Exports and/or Imports;

(b) the Exports and/or Imports of electricity from and to the Plant and/or Apparatus comprised in the BM Unit are capable of being controlled independently of the Exports or Imports of electricity from or to any Plant or Apparatus which is not comprised in the BM Unit;

(c) the Metered Volumes from the BM Unit’s Plant and Apparatus are submitted separately from any Plant and Apparatus not part of the BM Unit;

(d) the BM Unit’s Imports and Exports are not measured by both CVA and SVA Metering Systems; and

(e) there are no smaller aggregations of the BM Unit’s Plant and Apparatus satisfying (a), (b) and (c).

9.4 However, in certain circumstances listed in BSC Sections K3.1.5 and K3.1.6 the responsible Party may apply to the BSC Panel to determine a configuration that does or most nearly achieves the requirements for a BM Unit. Where the Panel determines such a configuration, it is known as a non-standard BM Unit. The Panel has delegated responsibility for considering such applications to the ISG. In practice Parties send an application for a non-standard BM Unit to ELEXON. ELEXON then presents the application on the applicant’s behalf to the ISG for determination.

9.5 The circumstances in which a Party may apply for a non-standard BM Unit are:

- where the relevant Plant and Apparatus does not fall into one of the standard configurations;
where the relevant Plant and Apparatus do fall into a standard configuration, but the Party considers a different configuration would satisfy the requirements for BM Units; or

where the relevant Plant and Apparatus Exports or Imports at a CVA Boundary Point at which there are other Exports or Imports for which another person is responsible.

10. Observations and recommendations

10.1 In accordance with BSC Section K3.1.7, we maintain a register of all non-standard BM Unit applications. Based on our register, we have reviewed each approved non-standard BM Unit to identify the number of approvals, the types of configurations and circumstances for approving them.

10.2 Our analysis shows that current and planned non-standard BM Units generally fall into five different categories:

- **Offshore windfarms**: To allow small low voltage assets (either unmetered or with BSC compliant Metering) to be incorporated into the offshore PPM BM Units or into a single BM Unit for low voltage assets.

- **Incorporation of small generators**: To incorporate a number of small generators into one BM Unit with a single point of connection to the Distribution System and a single set of Metering Equipment at the Boundary Point.

- **Complex onshore windfarms**: Where the ownership boundary is at more than one point but the whole windfarm is controlled as a single unit.

- **Cascade Hydro Schemes**: To allow the hydro Generating Units at the sites to be associated with a BM Unit and to allow the generators within the BM Unit to be operated in a cascade mode (where the common energy source, the water, is used through the Generating Units as it makes its way from the high level catchment areas to sea level).

- **Import/Export combo**: Allowing the Imports and Exports associated with a site to be registered as separate BM Units where the registrant is the same. However, where the Imports and Exports are the responsibility of different Parties then they must be registered in separate BM Units.

10.3 Since NETA go-live in 2001, the Panel (and the ISG, acting on the Panel’s behalf) has approved all 50 non-standard BM Units submitted. The table below summarises the numbers of approved and planned non-standard BM Units:\n
<table>
<thead>
<tr>
<th>Type</th>
<th>Approved</th>
<th>Potential/Planned (up to 2022)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Offshore windfarms</td>
<td>10</td>
<td>27</td>
</tr>
<tr>
<td>Incorporation of small generators</td>
<td>7</td>
<td>15</td>
</tr>
<tr>
<td>Complex onshore windfarms</td>
<td>10</td>
<td>0</td>
</tr>
<tr>
<td>Cascade Hydro Schemes</td>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>Import/Export combo</td>
<td>0</td>
<td>1</td>
</tr>
</tbody>
</table>

10 Correct as of November 2016.
METERING DISPENSATIONS AND NON-STANDARD BM UNITS

<table>
<thead>
<tr>
<th>Type</th>
<th>Approved</th>
<th>Potential/Planned (up to 2022)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conversion of CCGT to OCGT</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Individual requirements for NETA</td>
<td>9(^{11})</td>
<td>0</td>
</tr>
<tr>
<td>Individual requirements since NETA</td>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>Temporary</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Now included as a standard BM Unit due to P191</td>
<td>2</td>
<td>0</td>
</tr>
</tbody>
</table>

10.4 The graph below illustrates the number of non-standard BM Unit applications per year (up to 22 November 2016):

10.5 The number of non-standard BM Units approved to date is low. However the applications planned over the next six years will, should the ISG approve them, almost double the number of non-standard BM Units registered by the CRA.

10.6 The development of renewable and smaller scale generator technologies means that there are a growing number of developments being built with these technologies. It is clear from recent experience and expected future indications that the configuration of Plant and Apparatus at these sites challenge the existing BM Unit categories and requirements.

10.7 In the past the BSC has been modified in response to changes in actual or expected common practice. For example, Approved Modification P237 ‘Standard BM Unit Configuration for Offshore Power Park Modules’ introduced a new standard BM Unit type for Combined Offshore Power Park Modules. At the time, one of the arguments for introducing this new BM Unit type was to accommodate an expected change in practice and to prevent large volume of applications for ‘non-standard’ Offshore BM Unit configurations. It was argued that failure to change the BSC as proposed would call into question whether the standard types of BM Unit

\(^{11}\) Plus two ‘generic’ types of non-standard BM Unit.
reflected what was expected to become common practice. The P237 Workgroup also believed that the non-standard BM Unit application process did not provide Offshore developers with certainty about permitted configurations\(^{12}\), as a Party cannot be sure that the ISG will grant its request. The group also felt that the inefficiencies and operational difficulties which this creates for Offshore generators are a potential barrier to the development of existing and future Offshore projects. It highlighted that, when considering a Party’s application for a non-standard BM Unit, the BSC requires the ISG to determine which configuration will best satisfy the conditions set out in BSC Section K3.1.2.

10.8 The number of non-standard BM Unit applications in the last twelve months is close to having exceeded the number of applications in the preceding 10 years. We also note that the ISG considers non-standard BM Unit applications on a case by case basis. Therefore we agree with the P237 Modification Groups’ observation that the non-standard BM Unit application process makes the registration of BM Units less certain for sites that use new technologies or designs. In light of the uncertain nature of the non-standard BM Unit process and the growing number and types of non-standard BM Unit applications, we feel that now is a good time to consider whether certain non-standard configurations should become standard.

10.9 The following subsections describe the different types of non-standard BM Units and the case for change.

**Offshore windfarms**

10.10 Since 2013, the ISG has approved 10 non-standard BM Units for Offshore Windfarms to allow small low voltage import assets to be included with the Offshore PPMs or Combined Offshore BM Units (two or more Offshore PPMs).

10.11 ‘Low voltage assets’ typically represent smaller demands for the operation of the site and are often measured in kW. The Offshore PPM generally imports via a separate connection to the Transmission System, and in some cases, a windfarm’s design may result in it having multiple Boundary Points for different low voltage assets, with each connection needing its own BM Unit. By comparison a traditional power station is likely to have a Station transformer for demand, which is more likely to be in the order of tens of MW. Such a Station transformer will have a single separate connection to the Transmission System and be registered with a single standard BM Unit, separate to the BM Unit(s) covering the Station’s generation units.

10.12 The BSC requires a BM Unit to be associated with each Transmission System Boundary Point (TSBP) for any assets, including low voltage assets at Offshore Windfarms. Alternatively the registrant may apply for a non-standard BM Unit to incorporate low voltage assets from more than one Boundary Point as a single demand BM Unit or with the BM Unit(s) for its PPM(s).

10.13 Applicants have argued that the incorporation of small low voltage assets with Offshore PPMs is an efficient means of registering a site’s Plant and Apparatus and measuring the resulting Imports and Exports. They noted that registering low voltage assets separately from Offshore PPMs would require them to register many standard BM Units, which would cost more than incorporating Offshore PPMs and low voltage assets into fewer non-standard BM Units. In one case the ISG agreed a non-standard BM Unit to incorporate 11 separate low voltage assets and four Offshore PPMs into one non-standard BM Unit, rather than register 12 standard BM Units (11 BM Units covering each individual low voltage asset, and one Combined Offshore BM Unit).

10.14 In November 2016, the ISG approved a non-standard BM Unit to incorporate the low voltage assets from multiple Boundary Points into a single BM Unit.

10.15 On all occasions the Transmission Company did not identify any concerns with applicants’ proposals.

\(^{12}\) This could be mitigated by a BSC Party applying for a non-standard BM Unit configuration during the design stage, rather than waiting until completion, however that assumes that the developer has a BSC Party involved at that stage.
10.16 According to the current version of National Grid’s TEC register (sites with consents approved), we expect a steady connection of six to eight offshore windfarms per year between 2017 and 2020 and a further eight over the subsequent two years. Each Offshore windfarm is likely to consist of Offshore PPMs and low voltage assets. Therefore, we expect each Offshore windfarm to consider applying for a non-standard BM Unit either to incorporate its Offshore PPMs with its low voltage assets or to allow one BM Unit to incorporate low voltage assets connected to multiple Boundary Points.

10.17 In our opinion, applications for non-standard BM Units to incorporate small low voltage assets with Offshore PPMs do not pose any more risk to Settlement than if the responsible Party had registered standard BM Units. This is because in both cases the responsible Party must account for all Imports from and Exports to the Total System in accordance with BSC requirements. We also note the efficiency gains that Parties derive in control and communications from minimising the numbers of BM Units they must register, that the instances being considered are for low voltage assets that are unlikely to actively participate in the BM if they were BM Units in their own rights, and that the Transmission Company has not raised concerns with this approach.

10.18 However, we believe that consideration needs to be given as to whether thresholds should be set for the maximum size of a low voltage asset and for the maximum combined size of such assets (either the number of separate assets and/or the combined load (in kW) of those assets). We recommend that this should be considered further by the Panel, the ISG or a Modification Workgroup, in conjunction with National Grid.

10.19 We have made recommendations later in this section that stem from our observations here; please see paragraph 10.57.

**Incorporation of small generators**

10.20 Since March 2016, the ISG has approved seven applications\(^\text{13}\) to incorporate multiple Generating Units into single non-standard BM Units. The sites in question consist of many small Generating Units that either have or are intended to have a single point of connection to the Distribution System. This is illustrated in the diagram below:

![Diagram of Incorporation of small generators](image)

10.21 Amongst other requirements, BSC Section K3.1.2 requires that a standard BM Unit be the smallest aggregation of Plant and Apparatus that can be controlled independently. With this requirement in mind, Parties applying to incorporate many small Generating Units into a single non-standard BM Unit recognise in their applications that they could register individual standard BM Units for each of their Generating Units.

\(^{13}\) Correct at November 2016.
10.22 However, applicants have sought to incorporate their individual Generating Units into single non-standard BM Units to minimise the administrative and operational costs of registering multiple standard BM Units. They have successfully argued that a single non-standard BM Unit would minimise annual BM Unit registration fees, as well as the costs of installing and maintaining metering and separate control systems for each standard BM Unit. Applicants have also argued that registering and metering a single non-standard BM Unit is likely to provide a more accurate calculation for Settlement. As the sites in question have or will have a single Boundary Point, if BM Units were registered for each Generating Unit these would need to be individually metered and the metered data would need to be corrected for losses back to the Boundary Point (the DMP). In addition, correcting each Metering System for losses between the AMP and the DMP would require corresponding Metering Dispensations.

10.23 On all occasions the Transmission Company did not identify any concerns with applicants’ proposals. However, based on correspondence with National Grid during this review, it has emphasised that it would want the Plant and Apparatus connected to individual connection points to be separate BM Units, so that it is able to issue explicit instructions against each connection to the Transmission System.

10.24 We are aware of at least 15 projects that are likely to request non-standard BM Units to incorporate multiple Generating Units. In addition to the projects we are aware of, we note that over recent years there has been a steady growth in the numbers of embedded generators and smaller scale generators connecting to the Distribution and Transmission Systems. This growth can be explained by improvements in the technical and commercial viability of renewable technologies, as well as encouragement to connect embedded and smaller scale generating technologies through explicit and implicit schemes (e.g. subsidies, embedded benefits or locational charging arrangements). Through the procurement of Balancing Services and development of industry Codes, National Grid has also been seeking to extend opportunities and requirements to provide services to the System Operator by smaller and embedded generators, which may require participation in the BM. Such generators may also wish to participate for commercial reasons. We expect this trend to continue and so expect that Parties are increasingly likely to seek to incorporate small Generating Units into single non-standard BM Units.

10.25 During our review a BSC Party expressed an interest in raising a BSC Modification that would enable BSC Parties to incorporate multiple Generating Units into a single standard BM Unit. The BSC Party is actively involved in the development of and registration of sites that are described in the paragraphs above. It believes that recognising the incorporation of multiple Generating Units as a single standard BM Unit would reduce the administrative and operational costs of registering multiple standard BM Units, without materially affecting the accuracy of Settlement.

10.26 In our opinion, applications for non-standard BM Units to incorporate multiple small Generating Units into a single BM Unit do not pose any more risk to Settlement than if the responsible Party had registered standard BM Units. This is because in both cases the responsible Party must account for all Imports from and Exports to the System in accordance with BSC requirements. Indeed the examples we have to date suggest that registering a single non-standard BM Unit may actually provide a more accurate Settlement solution. This is because it avoids the need to estimate and correct for losses between the DMP and the AMP for individual standard BM Units and associated Metering Systems. A single non-standard BM Unit has also proven less costly from an administrative and operational point of view for ELEXON, as it avoids the initial and on-going costs of registering and maintaining multiple standard BM Units and avoids the costs of considering and monitoring Metering Dispensations for each standard BM Unit to allow Parties to correct for losses.

10.27 However, we believe that consideration needs to be given as to whether thresholds should be set for the maximum size of a ‘small’ Generating Unit and for the maximum combined size of such Generating Units (either the number of units and/or the combined output of those units). We recommend that this should be considered further by the Panel, the ISG or a Modification Workgroup, in conjunction with National Grid.
10.28 We note that P191 ‘Revised definition of Balancing Mechanism Unit to include Power Park Module’, implemented in 2005, was raised to include PPMs as a standard BM Unit configuration. Prior to this change, windfarms had to apply for non-standard BM Units to combine all their wind turbine generating units into a single BM Unit. We believe that there are similarities between P191 and the combining of multiple small Generating Units, and that given the rise in the number of applications for this design it would be appropriate to define this new way of combining units as a standard BM Unit configuration.

10.29 We have made recommendations later in this section that stem from our observations here; please see paragraph 10.57.

Complex onshore windfarms

10.30 Since 2010, the ISG has approved 10 applications for a non-standard BM Unit where the site configuration has consisted of two or more PPMs where the ownership boundary is at more than one point and at a lower voltage than is normal for the Transmission System, but which come together to a true Transmission voltage further down the line. The whole windfarm is controlled as a single unit. Mandatory or Commercial services can only be delivered as one BM Unit from the single Transmission Connection Voltage Point. This is illustrated in the diagram below:

10.31 BSC Section K3.1.4 requires that each PPM needs to be a separate BM Unit. However, Section K3.1.2(b) states that Imports and Exports from or to Plant and Apparatus comprised in the BM Unit must be capable of being controlled independently from Plant and Apparatus not included in the BM Unit. In contrast to the issue with multiple Generating Units discussed above, in this scenario the PPMs are controlled as a single unit, meaning each PPM cannot be an individual BM Unit. Applicants also argue that the Mandatory and Commercial Services that they provide to National Grid can only be delivered from this one point of control, making it appropriate to be one BM Unit.

10.32 It is not possible to predict the numbers for this type of application we may see in the future as many onshore windfarms are designed to meet standard BM Unit requirements. Whilst we can see that there are 60 onshore windfarms on National Grid’s TEC Register that are under construction or with consents approved, we do not know if any of these would apply for a non-standard BM Unit for the reasons detailed above.
METERING DISPENSATIONS AND NON-STANDARD BM UNITS

10.33 In our opinion, an application for a non-standard BM Units to incorporate more than one PPM into a single BM Unit where the windfarm is controlled as a single unit is required as there is no standard BM Unit configuration that fits this design. These cannot be registered as separate PPM BM Units as they are not individually controllable. Under this non-standard BM Unit, the responsible Party must account for all Imports from and Exports to the System in accordance with BSC requirements. Therefore Settlement is not at any more risk.

10.34 We note that the Grid Code is most concerned with the controllability of a BM Unit, and requires that, in these examples, the control point is on the 275kV side of the transformer, and not at each individual PPM. In addition, as the combination of PPMs would be fully metered and subject to Aggregation Rules, it would not have any adverse impact on Settlement. Furthermore, the registrant would realise efficiency gains through registering a single BM Unit with a single control unit, in similar fashion to a combination of multiple small Generating Units as discussed above. Finally, this set-up is not dissimilar to that of a Combined Offshore BM Unit, which is recognised as a standard BM Unit configuration if agreed by the Transmission Company.

Cascade Hydro Schemes

10.35 As part of the implementation of BETTA, non-standard BM Units were designated for six Cascade Hydro Schemes in Scotland. These non-standard BM Units are listed in BSC Section I ‘Transitional Arrangements for Implementation of BETTA’ Annex I-2 Table A. They are also specifically defined in the Grid Code definition of a Cascade Hydro Scheme, which is defined in the Glossary and Definitions section as ‘two or more hydro-electric Generating Units, owned or controlled by the same Generator, which are located in the same water catchment area and are at different ordnance datums and which depend upon a common source of water for their operation, known as: (a) Moriston; (b) Killin; (c) Garry; (d) Conon; (e) Clunie; and (f) Beauly, which will comprise more than one Power Station.’

10.36 At the time the BSC required Parties to register individual Generating Units as standard BM Units. The responsible Party could have registered each of the Generating Units that made up a Cascade Hydro Scheme as individual BM Units. However, non-standard BM Units were designated for these Cascade Hydro Schemes because they operate together as a combination of Generating Units that share a single source reservoir that controls the flow through the units.

10.37 Since BETTA we have not received an application to consider any new Cascade Hydro Scheme as a non-standard BM Unit, and we are not aware of any new schemes being planned that feature on National Grid’s TEC Register.

10.38 We do not believe any further change is necessary or appropriate, as we don’t know of any future developments. We also note that National Grid has a specific interest in the design and development of such sites, which is why it lists specific sites that are Cascade in the Grid Code. In this regard, National Grid has expressed an interest in Cascade Hydro Schemes continuing to require non-standard BM Units to ensure they are individually reviewed. In light of National Grid’s views and the frequency of such schemes, we do not believe any changes are required.

Import/Export combinations

10.39 Most new generators registering now do not have Imports through the Station transformers, and so register one BM Unit for both the Imports and Exports relating to the generator, in line with BSC Section K3.1.4(a). However, if the Imports and Exports relating to the generator were to be the responsibility of different Parties, then separate Import and Export BM Units would be registered to be consistent with Section K3.1.2(a).

10.40 If the Registrant of the Imports and Exports was the same company but they were intending to set up Metered Volume Reallocation Notifications (MVRNs) to allocate the Imports and Exports to different companies, the easiest way to achieve this is to set up separate BM Units for the Imports and Exports. An
METERING DISPENSATIONS AND NON-STANDARD BM UNITS

MVRN has to be applied to the net Metered Volume from a given BM Unit, so separate BM Units would be needed for the Import and Exports to facilitate the above approach.

10.41 BSC Section K3.1.3 states:

Subject to [PPMs belonging to Switching Groups], the same Plant and Apparatus may be comprised in more than one BM Unit only to the extent that different persons are responsible for the Exports from and the Imports to such Plant and Apparatus.

We have recently interpreted this to mean that if a single company is the registrant of the plant and apparatus it must register its Imports and Exports in the same BM Unit.

10.42 A Party recently considered separate BM Units for Import and Export, though it subsequently elected to register the Exports in CVA and the Imports in SVA. There have, however, been a handful of sites registered in the past with separate BM Units for Import and Exports despite having the same registrant. We believe that this has been to use MVRNs to allocate the Imports and Exports to separate Parties, and the assumption is that at that stage the BSC requirement was interpreted such that the presence of MVRNs implied different persons being responsible for Imports and Exports.

10.43 We have considered whether a Party could apply for a non-standard BM Unit to have separate BM Units for Imports and Exports; however non-standard BM Units can only be applied for against BSC Section K paragraphs 3.1.2 and 3.1.4, and not against paragraph 3.1.3.

10.44 It would seem appropriate that if separate BM Units can be set up for Imports and Exports where the Registrant for each is different, there is no risk to Settlement to set up separate BM Units for Imports and Exports where the Registrant is the same for both. In either scenario, the responsible Party must account for all Imports from and Exports to the System in accordance with BSC requirements. While this has not been an issue to date, we believe this is an incongruity that should be clarified for the future.

Post-consultation

Consultation Question 10: Do you agree that a clarification should be added that allows separate Import and Export BM Units to be registered by the same Party though the same Systems Connection Point?

10.45 From the consultation, three respondents agreed with our initial recommendation, one confidentially agreed and one had no comments.

10.46 One respondent noted that some LDSOs require separate Metering System Identifiers for Import and Export within the same BM Unit to allow the LDSO to apply different Line Loss Factors to the Import and Export. ELEXON notes that this is already common practice for Embedded BM Units.

10.47 Another respondent stated that they felt that maximum flexibility in the rules for registering BM Units would help streamline the registration process.

10.48 We believe that our recommendation would be clearer if it referred to the registration of Import and Export BM Units for the same Plant and Apparatus, rather than BM Units that use the same Systems Connection Point. Consequently we have amended our recommendation as follows.

Final Recommendation 10: We recommend that the BSC Panel or a BSC Party raises a Modification to BSC Section K3.1 to allow separate Import and Export BM Units for the same Plant and Apparatus to be registered by the same Party.
Conversion of CCGT to OCGT

10.49 The BSC requires that CCGT Modules are considered as a single, standard BM Unit.

10.50 National Grid is aware of at least one CCGT Module whose owner is considering removing the steam turbine, thus converting the plant to an Open Cycle Gas Turbine (OCGT). A consequence of this is that the responsible Party will need to register each remaining Generating Unit as an individual standard BM Unit or seek a non-standard BM Unit that incorporates all of the remaining Generating Units.

10.51 It may be appropriate to allow Generating Units that were originally comprised together as a CCGT Module (and thus a single BM Unit) to continue to be combined together as a single BM Unit.

10.52 Whilst we are aware of at least one CCGT Module that is considering conversion to an OCGT Module, we have limited information about the circumstances, the likely operation of such conversions or the numbers of potential conversions.

Post-consultation

Consultation Question 11: Please describe any plans you are aware of to convert CCGT Modules to OCGT Modules. We are particularly interested in whether non-standard BM Units would be sought and the likely numbers of conversions per year.

10.53 Whilst ELEXON has in the past held discussions with at least one Party interested in converting CCGT Modules to OCGT Modules, Respondents did not describe any plans to do so.

10.54 In light of this lack of interest or activity, ELEXON proposes no changes to the BSC to specifically accommodate CCGT Modules converting to OCGT Modules.

Expansion of the list of standard BM Unit configurations

10.55 Modifications have been raised in the past to expand the list of standard BM Unit configurations to reflect changes in technology and the increase in new types of design. As mentioned above, both P191 and P237 were raised for this purpose.

10.56 The recent and projected rise in the number of non-standard BM Unit applications are centred on the small number of themes discussed in this document. These reflect the common circumstances being experienced by Registrants or the rise of new designs. We believe we will see more applications for some of the areas discussed above in the future.

10.57 Following our observations in the above sections, we believe it is appropriate to further expand the list of standard BM Unit configurations to account for some of the developments that have been discussed, i.e.

- Offshore PPMs or Combined Offshore BM Units that may include any related onshore and offshore low voltage assets;
- Multiple low voltage assets relating to Offshore PPMs that may have more than one TSBP;
- Any combination of Generating Units where all the units are connected to the Distribution System at a single Boundary Point and all units are controlled as a single Unit; and
- Two or more onshore PPMs that are controlled as a single entity, with the express agreement of National Grid.

Post-consultation

Consultation Question 12: Do you agree that the list of standard BM Unit configurations listed in the Code should be updated with the four suggestions put forward?
10.58 From the consultation, three respondents agreed with our initial recommendation, one confidentially agreed and one had no comments.

10.59 One respondent stated that they felt that the categories should not be exclusive of each other and applicants should be able to register a single standard BM Unit that satisfies more than one standard BM Unit configuration, rather than applying for multiple standard BM Units or a non-standard BM Unit. The respondent has subsequently clarified that this would, for example, enable the use of one BM Unit per platform in an Offshore wind farm (i.e. a Combined Offshore BM Unit) incorporating both Onshore and Offshore low voltage assets.

10.60 ELEXON feels that the categories already available, and that we propose, reflect distinct configurations that have been applied for to date and that we expect to be applied for going forward but these should allow the variety of combinations of Offshore Power Park Modules and low voltage assets that can already exist. Any new combination of the Plant and Apparatus that does not fall into one of the existing or proposed new standard categories would have to be a non-standard BM Unit. For example if there was an offshore windfarm with two PPMs and onshore and offshore low voltage assets, the following should be allowable configurations:

- One BM Unit combining the two PPMs (as a Combined Offshore BM Unit with the agreement of National Grid), plus onshore and offshore low voltage assets
- Two BM Units, one for each PPM and each containing a number of the low voltage assets
- Two BM Units, one for each PPM, one of which contains all of the low voltage assets
- Three BM Units, one for each PPM and a separate BM Unit containing all low voltage assets
- Four BM Units, one for each PPM, one for onshore Low voltage assets and one for offshore low voltage assets

10.61 Another respondent stated that the proposed new BM Unit types should be approved on two provisions. First that any onshore demand included in an offshore BM Unit should not be significant enough to affect the accuracy of the flows that are metered on the cable to shore. They noted that this could be achieved by setting a threshold for this demand, as had been proposed, or each BM Unit application of this nature would need the express agreement of National Grid (in a similar way to Combined Offshore BM Units). Note that as part of the current process for registering a BM Unit, the application and date has to be agreed by National Grid where the BSC BM Unit application has a corresponding National Grid BM Unit Id. The respondent also suggested a change in terminology in the recommendation where multiple generating units are included in a single BM Unit, these are ‘controlled as a single BM Unit’ as opposed to ‘from a single control point’. ELEXON notes that this recommendation should only apply to generators connected to a Distribution System, the use of Total System suggested that it would also apply to Transmission connected generators. This will be amended in the final recommendation.

10.62 Another respondent agreed that, from their perspective, our initial recommendation would remove significant time constraints and administrative burden by reducing reliance on the non-standard BM Unit registration process.

10.63 Two respondents agreed with our initial recommendation to introduce thresholds, one confidentially agreed, one disagreed and one had no comments.
10.64 The two respondents that agreed that thresholds were appropriate referred specifically to the combination of low voltage assets with Offshore Power Park Modules. One respondent felt that thresholds should be set to avoid the System Operator being exposed to additional costs and to ensure that there is no impact on the accuracy of the flows Metered over the Transmission System, especially on the cable to shore. In a response to a previous question, one of the respondents stated that onshore demands included in an offshore BM Unit should not be significant enough to affect the accuracy of the flows that are metered on the cable to shore. No values of thresholds of low voltage assets being combined with Offshore Power Park Modules were proposed nor was it made clear what might constitute a significant or material affect on the overall accuracy of metered volumes. One respondent suggested that the ISG may be best placed to determine the appropriate levels.

10.65 The respondent that disagreed with thresholds did so in relation to the incorporation of a number of small generators into one BM Unit which are controlled as one and have a single Boundary Point to the Distribution System. They felt that existing rules already put in place natural limits on participation and scale. That is embedded generators relying on embedded benefits would naturally be limited in size by connection capabilities and embedded generation thresholds. The respondent felt that if a limit were proposed then it should be at least 50MW.

10.66 In response to the respondent who disagreed with setting a threshold, ELEXON considers that there would be no difference between a generator consisting of many small units and a generator with a single generating unit as both would be delivering energy through one boundary point. We therefore do not believe that a threshold (above which a non-standard BM Unit must be sought) would be necessary in this scenario, or if it is, it should be set at 100MW to include all licence exempt embedded generators with a statutory exemption.

**Consultation Question 14:** Are you planning any non-standard BM Unit applications in the future that would fall into one of the proposed new standard configurations? If so, please provide details of your plans.

10.67 One respondent to the consultation stated that they are looking at whether to register all of their embedded power stations as non-standard BM Units. Whilst only one respondent identified plans to register non-standard BM Units, ELEXON is aware of a number of sites that would potentially apply for a non-standard BM Unit going forwards. We summarised these in paragraph 10.3. In addition, ELEXON has recently had two Parties who did not respond to the consultation asking about the process for applying for a non-standard BM Unit.

**Consultation Question 15:** Are you planning any non-standard BM Unit applications in the future that would not fall into one of the proposed new standard configurations? If so, please explain the configuration.

10.68 No respondents plan any new non-standard BM Units that would not fit into the proposed new standard BM Units.

10.69 One respondent felt that the design of standard BM Units should be flexible to take into account future design. For example, another respondent highlighted that National Grid is considering the introduction of non-geographic BM Units to permit the aggregation of more than one distinct Demand Side Response provider in the same BM Unit. This would enable greater participation in the Balancing Mechanism by

---

Class Exempt A Small Generators have a 50MW limit or applicants can apply to the Secretary of State for a statutory exemption, normally with a 100MW limit.
Demand Side Response providers, via an aggregator. In general, ELEXON considers that the arrangements must strike a balance between providing flexibility, certainty and assurance. In this regard ELEXON believes that it may be risky to define standard BM Units for configurations which are hypothetical. Therefore, ELEXON believes that any proposal for non-geographic BM Units should be progressed separately as this would likely be a substantive change and requires National Grid’s proposals to be better defined.

Final Recommendation 11: We recommend that the BSC Panel or a BSC Party raises a Modification to BSC Section K3.1 to enable the following circumstances to be recognised as new standard BM Unit configurations:

- Offshore PPMs or Combined Offshore BM Units that may include any related onshore and / or offshore low voltage assets, subject to thresholds that are to be determined by a Modification Workgroup in consultation with the Transmission Company;
- Multiple low voltage assets situated onshore and / or offshore relating to Offshore PPMs that may have more than one TSBP, subject to thresholds that are to be determined by a Modification Workgroup in consultation with the Transmission Company;
- Any combination of Generating Units where all the units are connected to the Distribution System at a single Boundary Point and all units are controlled as a single Unit; and
- Two or more onshore PPMs that are controlled as a single entity, with the express agreement of National Grid.

We do not recommend any specific thresholds to the circumstances described above but expect that the development of any forthcoming Modification will consider whether thresholds are appropriate.

10.70 As noted above, a BSC Party has already expressed an interest in raising a BSC Modification to standardise the incorporation of Generating Units into a single standard BM Unit, as proposed by the third bullet of Final Recommendation 9.

10.71 In addition to expanding the list of standard BM Unit configurations in response to existing, emerging practices, we believe the BSC would benefit from a mechanism that enables it to react more quickly and flexibly to future changes. That is, a mechanism should be introduced to ease situations where a particular change in technology or market participation is likely to result in an increase in applications for a particular type of non-standard BM Unit. For example, the Panel could respond by approving a ‘generic’ non-standard BM Unit configuration to cater for these situations. This would be similar to the existing provisions that allow the approval of a generic Metering Dispensation.

10.72 To achieve this, we propose that the concept of ‘generic’ non-standard BM Unit configurations should be introduced into the BSC. The approval of any ‘generic’ non-standard BM Unit configuration would require the Panel’s and the Transmission Company’s combined consent (noting that the Panel could delegate its responsibility to the ISG). If approved, any configuration of Plant and Apparatus that satisfied the provisions of the ‘generic’ non-standard BM Unit could be registered by ELEXON without requiring the Panel’s specific determination, as though it was a standard BM Unit. This approach would cater for new and emerging types of non-standard BM Unit (e.g. potential non-standard BM Units relating to battery storage, which have not been considered by the ISG so far and which is not appropriate to add to the BSC as a standard BM Unit at this stage).

10.73 The intention would be that in time the configurations approved as ‘generic’ non-standard BM Unit configurations could be added to the BSC as standard BM Units if it was felt that the configuration should become an enduring standard configuration. In the meantime, the ‘generic’ list would manage the time lag it takes to update the BSC. A process will need to be developed to transfer approved ‘generic’ configurations...
into the BSC, for example by allowing the Panel to raise a Modification to update the list of standard BM Unit configurations listed in BSC Section K3.1.4.

**Consultation Question 16:** Do you agree that that Panel should be able to agree ‘generic’ non-standard BM Unit configurations?

10.74 From the consultation, three respondents agreed with this recommendation, one confidentially agreed and one had no comments. One respondent noted that this would allow more efficient processing of non-standard BM Units. Another respondent felt that each generic non-standard BM Unit would need to be created via a Modification Proposal including a consultation process or delegated to the ISG following consultation with the System Operator. ELEXON is not proposing that each generic non-standard BM Unit is created as a new standard BM Unit configuration via a Modification Proposal as this is the current process. It requires a Party to raise a Modification Proposal for each new type of BM Unit and there is a time lag between raising a Modification, it completing the process, being approved (if appropriate) and implemented.

10.75 This proposal is for a simpler process, so if a Party has a non-standard application that they feel will be repeated across more than one site, instead of applying for a site specific non-standard BM Unit (as currently), they would apply for a generic non-standard BM Unit detailing the set up and criteria to be met for than type of non-standard BM Unit. This application would be passed to the System Operator for comment and then taken to the ISG (delegated from the Panel) for approval. If agreed, when a Party wanted to use the generic non-standard BM Unit, they would fill in the BSCP15/4.1 BM Unit application form and highlight which type of generic non-standard BM Unit they were applying for. Currently as part of the registration process, BSCP15/4.1 application forms with a National Grid BM Unit Id are passed to the System Operator for comment. This would continue to apply in the case of generic non-standard BM Units, and for these ELEXON could also include the site diagram. The System Operator would then be able to comment on the application as part of the normal process. We would need to determine with National Grid whether they would wish to see BM Unit applications using an approved generic non-standard BM Unit where there is no National Grid BM Unit ID. Once the generic non-standard BM Unit type is agreed, there would not be a requirement for Parties using this to complete an extra application form, submit a letter or ISG approve each use of the generic non-standard BM Unit.

10.76 It should be noted that there were two types of generic non-standard BM Units at NETA, so this isn’t a new concept, however it is not set out in the Code and no generic non-standard BM Units have been approved since NETA.

10.77 It is the intention that in time, generic non-standard BM Units would be included in the BSC. We don’t however want to just shift the workload from the ELEXON’s registration team to the Modification team and so it is envisaged that the BSC would only be updated once every three to five years and when there is more than one new configuration to be considered.

10.78 A more radical approach would be to take all BM Unit configurations out of the Code and for ISG to maintain this list as acceptable BM Unit configurations. This would make new combinations quicker to approve and does not pose any greater risk to Settlement than the current process where the ISG can approve non-standard BM Units but would mean that the creation of new Standard BM Units would not need to go through the Modification Process, be issued for consultation or approved by Ofgem.
Conversion of CCGT to OCGT

10.79 The BSC requires that CCGT Modules are considered as a single, standard BM Unit.

10.80 National Grid is aware of at least one CCGT Module whose owner is considering removing the steam turbine, thus converting the plant to an Open Cycle Gas Turbine (OCGT). A consequence of this is that the responsible Party will need to register each remaining Generating Unit as an individual standard BM Unit or seek a non-standard BM Unit that incorporates all of the remaining Generating Units.

10.81 It may be appropriate to allow Generating Units that were originally comprised together as a CCGT Module (and thus a single BM Unit) to continue to be combined together as a single BM Unit.

10.82 Whilst we are aware of at least one CCGT Module that is considering conversion to an OCGT Module, we have limited information about the circumstances, the likely operation of such conversions or the numbers of potential conversions.

Consultation Question 11: Please describe any plans you are aware of to convert CCGT Modules to OCGT Modules. We are particularly interested in whether non-standard BM Units would be sought and the likely numbers of conversions per year.

10.83 No respondents highlighted any plans to convert CCGT plant to OCGT plant, although ELEXON has been approached by one BSC Party looking at this (who did not respond to the consultation). ELEXON believes that this is a configuration to be explored in the future, if we see BSC Parties applying for a non-standard BM Unit of this type.

11. Additional areas and recommendations

Process for making changes to an existing BM Unit configuration

11.1 The configuration of Plant and Apparatus that constitute a BM Unit must satisfy the requirements of the BSC or any determination of the Panel. This is to ensure the accuracy and integrity both of Settlement and of the Transmission Company’s operation of the BM. Any change to the configuration of a BM Unit may mean that it no longer complies with requirements of the BSC or any determination of the Panel. For example the addition of a Generating Unit or the addition or removal of certain Plant or Apparatus may mean that an existing BM Unit no longer satisfies the requirements to be a standard BM Unit or any original determination of a non-standard BM Unit.

11.2 At present BSC Section K3.2.8 requires that the Lead Party for a BM Unit shall, in accordance with BSCP15, keep its registration\(^\text{15}\) up-to-date by notifying the CRA of any change in any of the details contained in the registration. In practice the Lead Party is most likely to update the BM Unit Metered Volumes used to derive the Generating Capacity (GC) for its BM Unit registration.

\(^{15}\) A BM Unit’s registration details include: the identity of the applicant Party; the registration’s Effective From Date; estimates of BM Unit Metered Volumes (in order to estimate GC and Demand Capacity (DC) values); the CVA Metering Systems associated with the BM Unit; and the Switching Group the BM Unit belongs to (if any).
11.3 When a BM Unit’s Metered Volumes change, the Lead Party reports this by completing the relevant form (BSCP15/4.4) and submitting it to the CRA. This form can be sent one Working Day prior to any expected increase in GC.

11.4 However, a change in GC may be for a number of reasons. On one side, the operation of the existing Plant may change, and therefore impact the expected GC. On the other side, the addition or removal of Plant or Apparatus may affect the GC. The BSCP15 process does not require the Party to identify the reason for a change in GC, even though the addition or removal of Plant or Apparatus may mean the validity of the original BM Unit registration is in question because it is no longer a standard configuration or is materially different to the approved non-standard configuration. The BSC does not set out a process or guidance on how changes to the configuration of a BM Unit should be treated.

11.5 We have had recent examples of standard and non-standard BM Units increasing their GC values. We have advised that these should be treated as a standard increase in this value. Whilst recent examples have not had a material impact on Settlement, we believe there may be a gap in the BSC’s processes.

11.6 We believe that an addition is needed to either the BSC or BSCP15 to detail how changes to existing approved BM Units should be treated. While the main concern is with subsequent changes to an approved non-standard configuration, we believe clarification should also be added for when a change is made to a standard BM Unit configuration (for example a CCGT Module converting to an OCGT Module). Where the change does not affect the original application, this should simply be treated as a change in the BM Unit’s GC. Where the change may materially affect the BM Unit’s configuration (e.g. by adding an additional generating unit), the Transmission Company should be consulted before the change is agreed, but ISG approval would not be needed providing the change is consistent with the original approved configuration and the Transmission Company is in agreement with the change. A complete change to the configuration of the site would require a new (non-standard) BM Unit application.

Consultation Question 17: Do you agree that the BSC or BSCP15 should be updated to include a clause for how changes to non-standard BM Unit configurations should be treated?

11.7 From the consultation, three respondents agreed with this recommendation, one confidentially agreed and one had no comments. One respondent commented that if the application for non-standard BM Units was to be made simpler then this seems unnecessary and they are unclear of the risk implied due to a change of GC. Where GC changes without any change to the configuration of the BM Unit there is no risk to Settlement, but if GC changes due to a change to the configuration of a BM Unit, this poses a greater risk. National Grid would need to look at the configuration and confirm that this is suitable for its systems. ELEXON would also need to check whether any changes to a BM Unit configuration affected the Aggregation Rule to ensure that the BM Unit continued to be correctly included in Settlement.

Final Recommendation 13: We recommend the BSC Panel or a BSC Party to raise a Modification to insert a clause in to section 3.1 of the BSC to say that Parties with a non-standard BM Unit need to consider reapplying if the configuration of that non-standard BM Unit changes.

We also recommend adding to section 3.7 of BSCP15 ‘BM Units’ reminding registrants to look at why they are changing their GC and consider whether they need to reapply for a non-standard BM Unit status or whether National Grid needs to agree the change.

NETA and BETTA records

11.8 When BETTA went live, all sites in Scotland were reviewed and those classed as non-standard BM Units were designated in BSC Section I Annex I-2 with the details of the BM Unit name and a summary of the non-standard configuration.
11.9 At NETA go-live, it appears that although some non-standard BM Units were identified, these were not recorded in the BSC. We have reviewed all BSC Panel papers from 2000 and 2001. Two of these asked the Panel to approve non-standard BM Units for NETA (Panel 14/007 and Panel 15/024).

11.10 We are aware of a handful of sites of a non-standard BM Unit nature, one of which has been operating in this form since NETA, where the configuration does not appear to have been approved by the Panel or the ISG. These configurations include more than one Generating Unit or demand at more than one Boundary Point having been combined into a single BM Unit.

11.11 The BSC places the onus on the registrant to identify and apply for a non-standard BM Unit. The BSC also allows the CRA and the Central Data Collection Agent (CDCA) to identify a non-standard BM Unit where they see evidence of this. However, site diagrams from which this could be identified were not routinely submitted until June 2014, when CP1403 ‘Additional requirements to BSCP15 and BSCP25 for System Operators to provide more information on new connections’, which requires these diagrams to be submitted as part of a BM Unit registration, was implemented. Since then we have reviewed all BM Unit registrations to confirm whether they should be a standard or a non-standard BM Unit.

11.12 We are concerned that there may be a number of existing BM Units that are registered with a non-standard configuration but which are missing the associated Panel approval. At this stage, we do not know how big an issue this may be without looking at every BM Unit registered prior to CP1403’s implementation. However, we do note that the number of applications for non-standard BM Units is only a small fraction of the total number of BM Unit applications, so we do not believe the issue is large. In any event, the BM Unit is still required to have appropriate metering and Aggregation Rules in place, meaning any issue would not impact on Settlement.

11.13 We have considered our options for providing assurance that all existing BM Units are registered appropriately and not causing harm to Settlement. We could look to complete a thorough review of all BM Units to determine whether they are a standard or a non-standard configuration, and, where they are a non-standard configuration and missing the appropriate paperwork, we would work with the Registrant to seek the ISG’s approval of the configuration. An alternative approach is to only review BM Units as and when an issue arises as part of other BSC processes.

11.14 There are currently 447 registered physical BM Units. There have been 41 non-standard BM Unit applications since NETA. At NETA nine non-standard BM Units were registered, plus two generic non-standard configurations (one to incorporate Embedded Auxiliary Feeds at a power station into the station load and one to incorporate Auxiliary Gas Turbine Generators or diesel generators on nuclear power stations into the station demand and Auxiliary Generators).

11.15 Between January 2014 and September 2016, 27 physical BM Units have been registered. Eight of these BM Units were non-standard BM Units (five relating to the incorporation of low voltage assets at Offshore windfarms and three relating to the amalgamation of a number of small Generating Units).

11.16 To complete a thorough review of all BM Units, we would need to look at 394 BM Units (all BM Unit that have been registered as a standard configuration prior to 2014). If there are any unapproved non-standard BM Units in this list, we do not believe that this is having an impact on Settlement.

11.17 Furthermore, the Aggregation Rules for all BM Units were reviewed as part of BETTA, as part of the Aggregation Rule check carried out in 2011 or as sites have been registered since then. These checks confirmed that the Aggregation Rules reflect the site diagram (i.e. that all Imports and Exports are captured

16 Physical BM Units do not include Supplier BM Units or Interconnector BM Units.
METERING DISPENSATIONS AND NON-STANDARD BM UNITS

in the Aggregation Rules), thus ensuring accurate Settlement. There was no check at these times of whether the BM Unit was a standard configuration and, if not, that a non-standard BM Unit have been approved.

11.18 In light of our expectation that the issue poses a low risk to Settlement and the time required to check 394 existing BM Unit configurations, we do not believe it will be of benefit or efficient to review all BM Units in one go to determine whether their configuration is standard or non-standard.

Consultation Question 18: Do you agree with the proposed approach for handling currently registered BM Units that have a non-standard configuration but which are not registered as such with the ISG?

11.19 From the consultation, three respondents agreed with this recommendation, one confidentially agreed and one had no comments. One respondent felt that efforts should be focused on any suspected uncaptured metering flow rather than compliance with the standard BM Unit rules.

Final Recommendation 14: We recommend that, in carrying out ordinary BSC activities, we will monitor existing BM Units for those with an unapproved non-standard BM Unit configuration (bearing in mind any changes made as a consequence of this review, such as to the list of standard BM Unit configurations). When such sites are identified, we will liaise with the registrant to confirm the nature of the registration and notify them that we will seek the ISG and National Grid’s approval that the site be recognised as a non-standard BM Unit.

Further clarity for the registration process for non-standard BM Units

11.20 BSCP15 contains very little information on the requirement and process for registering a non-standard BM Unit. BSCP15 step 3.1.1 states that if an applicant wishes to register a non-standard BM Unit they need to submit a letter providing justification as to why the BM Unit is non-standard at least 60 Working Days prior to the Effective From Date of that BM Unit. Applicants often ask for advice on what needs to be included in their application letter. The BSC only contains the requirements around the applicant providing why they want to apply for a non-standard BM Unit, the need to consult the Transmission Company on this and the need for Panel approval of the application.

11.21 We believe that it would be helpful to expand the process in BSCP15 to describe the additional steps that are required for a non-standard BM Unit application. This would help highlight to applicants the need for the 60 Working Day lead time. We also feel that it would be helpful to replace the requirement in BSCP15 for a letter describing why a BM Unit should be deemed non-standard with an application form. In this way we can indicate to applicants the type of information that needs to be provided. ELEXON could also then return this form to the applicant at the end of the process listing the ISG’s final decision. This would be consistent with the Metering Dispensation application process.

Consultation Question 19: Do you agree that additional information on the non-standard BM Unit application process and an application form are added to BSCP15?

11.22 From the consultation, three respondents agreed with this recommendation, one confidentially agreed and one had no comments.

Final Recommendation 15: ELEXON will raise a Change Proposal to add a form to BSCP15 to use to register non-standard BM Units. We will also propose including the process steps for non-standard BM Unit applications in Section 3.1 of BSCP15. We will look at whether any further guidance around the registration of standard and non-standard BM Units can be provided, noting that ELEXON published new guidance on ‘Registration of new generating BM Units in the CVA Market’ in December 2016.
METERING DISPENSATIONS AND NON-STANDARD BM UNITS

Aggregation of BM Units

11.23 We received an email in May 2016 asking if it is possible to aggregate a number of sites that would ordinarily be individual BM Units into an aggregated CVA BM Unit, similar to how SVA sites in the same GSP Group with the same Supplier are aggregated into Supplier BM Units. This is not currently possible. A Party could apply for such a set-up to be approved as a non-standard BM Unit, though it is not clear whether this would be approved as the sites may not be adjacent, may have multiple connections to the Total System and would be individually controllable, thus failing many of the requirements set out in BSC Section K.

11.24 The argument put forward by the participant for aggregating these smaller sites is that they perceived that National Grid was dispatching one larger plant with a slow response time, as opposed to multiple small BM Units with a quicker response time, leaving these smaller plants unutilised in the BM. They believed that aggregating a number of smaller BM Units into a larger BM Unit would make the smaller plant more favourable within the BM.

11.25 National Grid noted that the System Operator is incentivised to despatch economically and is penalised if it despatches sub-optimally. It also despatches based on price and other dynamic parameters, which will affect which BM Units are chosen.

11.26 We therefore do not believe that this suggestion should be taken forwards as part of this review, though a BSC Party could raise this separately if it felt that it was appropriate.

11.27 One respondent to the consultation highlighted that National Grid has proposed the creation of non-geographic BM Units as a mechanism to allow aggregated small scale embedded generation and demand side response to participate directly in the balancing mechanism as a response to question 15. We continue to believe that this would have to be taken forwards as a separate Modification if National Grid decides to progress this idea.

Consultation Question 20: Do you have any further comments on any part of the non-standard BM Unit applications review?

11.28 One respondent asked that generators that are developing new and innovated solutions are supported, even if the designs are out of the ordinary. Generators should be allowed the flexibility to develop the optimum solution for their particular project, as long as it remains in reasonable limits.

11.29 Another respondent commented that it believed that the MSID registration system was hard capped to a 4-digit number which may be a problem if there was large scale registration in CVA. Although currently MSIDs are 4 digits, the CDCA system allows them to be up to 13 digits, though we appreciate Party’s systems may not have the same capabilities. We believe that approximately 900 MSIDs have been used so far, so even if Party systems are hard coded to 4 digits for MSIDs, there are currently plenty available, so we do not believe that this is a current issue.
12. Implementing our recommendations

12.1 You can find a full list of our recommendations in Appendix 1.

12.2 In general, where ELEXON has recommended raising a Modification, CP or to make changes to guidance documents, we will consider the most effective timetable for progressing these changes, whilst bearing in mind existing priorities of the BSC Panel, BSC Parties and ELEXON.

12.3 Where ELEXON has recommended changes that require a BSC Modification to be raised, we will either ask the BSC Panel to raise Modification(s) or will seek out interested BSC Parties to raise them.

12.4 This doesn’t preclude the Panel recommending a more urgent timetable or a BSC Party deciding to raise a CP to progress the recommendation(s) before ELEXON raises it.

12.5 ELEXON invites the Panel to endorse the recommendations contained in this report.
APPENDIX 1: SUMMARY OF RECOMMENDATIONS

Metering Dispensations

Final Recommendation 1: Further to the recommendations of the Issue 54 Group, ELEXON raised CP1479 on 23 November 2016 to change the DMP in relation to GSPs and Generating Plant connections so that it is clear that Registrants must install Metering Equipment at the point of connection to the Transmission System. If approved, CP1479 will be implemented on 2 November 2017 as part of the November 2017 (BSC Systems) Release.

Final Recommendation 2: In light of existing generic Metering Dispensation D/380 we believe that no further changes are required to the BSC or its Code Subsidiary Documents in respect of Third Party Access. However we propose to monitor applications for Metering Dispensations, and should the numbers rise due to the criteria of D/380 not being met then we will report to the ISG with options for tackling any perceived defects (e.g. allowing the use of different class accuracy Metering Equipment provided that evidence is available to confirm overall accuracy is maintained within CoP limits).

Final Recommendation 3: We recommend that ELEXON sets up a working group to propose solutions to the issue of metering low voltage supplies in Offshore wind farm substations (and onshore substations generally).

Final Recommendation 4: We recommend that if metering CoPs are reviewed in future, extra effort should be made by the Panel (or its Committee), ELEXON and any relevant Modification or Issue Workgroup to ensure stakeholders that are not ordinarily included in BSC changes are consulted, such as Meter manufacturers. This should ensure that as part of the process an Implementation Date can be agreed for the new CoP Issue so that the Meters can be built and tested for compliance in time.

Final Recommendation 5: We recommend that we improve our Metering Dispensation application guidance to provide clearer advice to applicants on timescales and requirements to provide detailed plans for rectifying non-compliances and accuracy/materiality assessments for temporary and lifetime Metering Dispensation applications.

Final Recommendation 6: We will complete an ongoing investigation into those Metering Dispensations that have expired but where ELEXON has no evidence to confirm the Metering Dispensations are no longer required (e.g. a BSCP32/4.5 withdrawal form confirming compliance). We will report back to the ISG with our findings and any recommendations for mitigating action(s).

Final Recommendation 7: We recommend that all ‘differencing arrangement’ GSPs and related sites (Power Stations or DSCPs) are subject to a detailed review to determine:

- the location of the Metering Systems involved and any material changes to the site(s) that affect the dispensation or differing;
- whether appropriate compensation is applied for electrical losses from the AMP to the DMP (where necessary or appropriate); and
- whether any significant work is due to take place at that GSP such that Metering Equipment can be installed at the appropriate DMP(s) and the difference metering arrangement removed/modified so as to remove/reduce a potential ongoing risk to Settlement.

We will also promote awareness with the LDSOs (Registrants) and the Transmission System owners of the differing arrangements in order to reduce the risks of detrimental effects by new connections on the differing arrangements.

Final Recommendation 8: ELEXON will work with the respondent to identify the perceived ambiguities. ELEXON will then determine what changes may be appropriate to guidance notes, the BSC or the CSDs and where it is able to make these changes (e.g. to guidance) or recommend changes for the Panel or relevant Committee(s) to progress.
Final Recommendation 9: ELEXON will review its records of Metering Dispensations with a view to:

- Completing and re-publishing records where there is missing information that is not confidential, e.g. MSIDs;
- Determining, with the support of Registrants, whether (elements or all of) previously confidential Metering Dispensations can now be made public; and
- Determining, with the support of Registrants and targeted site visits by the TAA where necessary, whether historical, lifetime Metering Dispensations are now redundant, e.g. because the BSC requirements have evolved or the configuration and provision of Metering Equipment at a site has over time been upgraded and now complies with the BSC.

Non-Standard BM Units

Final Recommendation 10: We recommend that the BSC Panel or a BSC Party raises a Modification to BSC Section K3.1 to allow separate Import and Export BM Units for the same Plant and Apparatus to be registered by the same Party.

Final Recommendation 11: We recommend that the BSC Panel or a BSC Party raises a Modification to BSC Section K3.1 to enable the following circumstances to be recognised as new standard BM Unit configurations:

- Offshore PPMs or Combined Offshore BM Units that may include any related onshore and / or offshore low voltage assets, subject to thresholds that are to be determined by a Modification Workgroup in consultation with the Transmission Company;
- Multiple low voltage assets relating to Offshore PPMs that may have more than one TSBP, subject to thresholds that are to be determined by a Modification Workgroup in consultation with the Transmission Company;
- Any combination of Generating Units where all the units are connected to the Distribution System at a single Boundary Point and all units are controlled as a single Unit; and
- Two or more onshore PPMs that are controlled as a single entity, with the express agreement of National Grid.

We do not recommend any specific thresholds to the circumstances described above but expect that the development of any forthcoming Modification will consider whether thresholds are appropriate.

Final Recommendation 12: We recommend that the BSC Panel or a BSC Party raises a Modification to introduce an ability into the BSC for the Panel to agree ‘generic’ non-standard BM Unit configurations. Once approved, any BM Unit configuration that meets the ‘generic’ non-standard configuration could be registered by ELEXON without needing the Panel’s approval. The Panel could delegate this responsibility to the ISG.

Final Recommendation 13: We recommend the BSC Panel or a BSC Party to raise a Modification to insert a clause in to section 3.1 of the BSC to say that Parties with a non-standard BM Unit need to consider reapplying if the configuration of that non-standard BM Unit changes.

We also recommend adding to section 3.7 of BSCP15 ‘BM Units’ reminding registrants to look at why they are changing their GC and consider whether they need to reapply for a non-standard BM Unit status or whether National Grid needs to agree the change.

Final Recommendation 14: We recommend that, in carrying out ordinary BSC activities, we will monitor existing BM Units for those with an unapproved non-standard BM Unit configuration (bearing in mind any changes made as a consequence of this review, such as to the list of standard BM Unit configurations). When such sites are identified, we will liaise with the registrant to confirm the nature of the registration and notify them that we will seek the ISG and National Grid’s approval that the site be recognised as a non-standard BM Unit.
Final Recommendation 15: ELEXON will raise a Change Proposal to add a form to BSCP15 to use to register non-standard BM Units. We will also propose including the process steps for non-standard BM Unit applications in Section 3.1 of BSCP15. We will look at whether any further guidance around the registration of standard and non-standard BM Units can be provided, noting that ELEXON published new guidance on ‘Registration of new generating BM Units in the CVA Market’ in December 2016.
We received five responses to the consultation; however one of these was confidential in its entirety. The non-confidential answers from the other four respondents are included in the table below:

### Question 1

Do you agree that a CP should be raised to make it clear that Metering Equipment must be installed at the point of connection to the Transmission System?

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Agree?</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dong</td>
<td>×</td>
<td>DONG Energy believes that it is sufficiently clear in the BSC that metering should be installed at the point of connection to the Transmission System and does not think that further clarification is necessary.</td>
</tr>
<tr>
<td>National Grid</td>
<td>√</td>
<td>National Grid agrees that a CP should be raised. We would like to reiterate that what classifies the Transmission System is not defined by the Voltage level, but by the Asset Owner.</td>
</tr>
<tr>
<td>UK Power Reserve</td>
<td>No Comment</td>
<td></td>
</tr>
<tr>
<td>Association of Meter Operators</td>
<td>√</td>
<td>Don’t wholly agree with all the recommendations of Issue 54, but the key aspect of installing metering at the commercial boundary seems sensible.</td>
</tr>
</tbody>
</table>

### Question 2

Do you agree that no further changes are required to the BSC or BSCPs for Third Party Access?

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Agree?</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dong</td>
<td>√</td>
<td>Agree</td>
</tr>
<tr>
<td>National Grid</td>
<td>√</td>
<td>National Grid agrees that no further changes are required.</td>
</tr>
<tr>
<td>UK Power Reserve</td>
<td>No Comment</td>
<td></td>
</tr>
<tr>
<td>Association of Meter Operators</td>
<td>√</td>
<td>The concern at the time that third party access becomes established was that the number of installations would increase significantly, thankfully that has not happened. While I do not believe the generic dispensation was the correct approach, I equally cannot justify any further action while the volume of applicants is very low.</td>
</tr>
</tbody>
</table>
### Question 3

Do you agree that the relevant CoPs should be amended to not require metering for supplies where assets to run a windfarm are shared by the windfarm operator and the OFTO?

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Agree?</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dong</td>
<td>√</td>
<td>DONG Energy believes that there is merit in providing as much flexibility as possible with regards to metering arrangements offshore and in combination with metering for shared and/or OFTO assets. Therefore, DONG Energy supports amendments to not require metering for supplies where assets to run a windfarm are shared between generator and OFTO.</td>
</tr>
</tbody>
</table>
| National Grid             | ×      | National Grid does not agree that the CoPs should be modified to not require metering simply because the supplies are shared between a TO and windfarm. The proposed solution would cause issues in a scenario where elements of Off-Shore TO network are integrated to link between Off-Shore windfarms.  

  We agree that separate metering may not be required if this is not practicable or economic, and the TO and windfarm operator agree the share of the energy usage, but this should continue to be reviewed on a case by case basis by the relevant Panel (or its Committee).  

  We would agree to supplies not being metered if they are below a certain threshold. This threshold being set to avoid NGET being exposed to material additional energy balancing costs and to avoid any impact on transmission loss calculations and costs. |
| UK Power Reserve          | No     | No Comment                                                                                                                                 |
| Association of Meter Operators | √    | For settlement purposes they should be allocated to a singles parties BM unit. It then becomes a commercial decision between the parties whether they enter into a private sub-metering arrangement for private billing between the parties. |

### Question 4

Do you have a view on the approach proposed for allocating the estimates of the windfarm operator’s share of consumption? Please provide any views you have on any threshold for this share to be considered immaterial.

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dong</td>
<td>In DONG Energy's view the proposed solution is reasonable, however 1kW seems too low as an immateriality threshold. We believe that a number above 25kW appears more appropriate. We would like to highlight that this threshold should always be in relation to expected consumption rather than the rating of a specific circuit.</td>
</tr>
</tbody>
</table>
Question 4

<table>
<thead>
<tr>
<th>National Grid</th>
<th>National Grid’s view is that the windfarm operator’s share can be estimated and allocated through the BM Unit aggregation rule. However, allowance would need to be made during outages, e.g. if the Platform supplies are allocated equally between two BM Units and one BM Unit is on outage, then the whole site supply value would need to be allocated to the remaining BM Unit.</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK Power Reserve</td>
<td>No Comment</td>
</tr>
<tr>
<td>Association of Meter Operators</td>
<td>All the energy should be attributable/settled with a BSC Party and the split with this should be a private commercial arrangement between the party responsible in settlement and any other parties.</td>
</tr>
</tbody>
</table>

Question 5

Do you agree with the proposed approach to ensuring stakeholders such as Meter manufacturers that are not normally consulted on BSC changes are consulted when metering CoPs are impacted?

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Agree?</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dong</td>
<td>√</td>
<td></td>
</tr>
<tr>
<td>National Grid</td>
<td>√</td>
<td>National Grid agrees that meter manufacturers should be included in consultations when CoPs are being revised. This will allow the CoP to make allowance for existing and emerging metering technologies where possible. It will also allow manufacturers to have foresight of the new requirements which will help to reduce the implementation timescales.</td>
</tr>
<tr>
<td>UK Power Reserve</td>
<td>No Comment</td>
<td></td>
</tr>
<tr>
<td>Association of Meter Operators</td>
<td>√</td>
<td>Where necessary a longer overlap of both CoP versions should be allowed.</td>
</tr>
</tbody>
</table>

Question 6

Do you agree that additional advice and guidance on the detailed plans for rectifying non-compliances and providing accuracy assessments for Metering Dispensation applications should be provided? Is there particular guidance you’d like us to include or improve?

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Agree?</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dong</td>
<td>√</td>
<td></td>
</tr>
</tbody>
</table>
### Question 6

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Agree?</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Grid</td>
<td>✓</td>
<td>National Grid agrees that additional guidance should be provided for metering dispensation applications.</td>
</tr>
<tr>
<td>UK Power Reserve</td>
<td>No Comment</td>
<td></td>
</tr>
<tr>
<td>Association of Meter Operators</td>
<td>✓</td>
<td>Agree to provide further detail. The applicant should provide a simple project plan within intermediate milestones, which can be monitored by ELEXON. A more detailed plan should highlight any dependencies (outside the control of the applicant) such as weather (to access off shore location), deliveries of equipment, planned shutdown windows, etc. This will ensure that the requested timescales of any temporary extension is realistic, or will highlight that it has a high risk of failure.</td>
</tr>
</tbody>
</table>

### Question 7

**Do you agree with the proposed approach to investigating and resolving expired Metering Dispensations?**

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Agree?</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dong</td>
<td>✓</td>
<td></td>
</tr>
<tr>
<td>National Grid</td>
<td>✓</td>
<td>National Grid agrees that expired derogations should either be confirmed as corrected, or an application submitted for an extension. We agree that Elexon should investigate expired derogations and report their findings to the ISG.</td>
</tr>
<tr>
<td>UK Power Reserve</td>
<td>No Comment</td>
<td></td>
</tr>
<tr>
<td>Association of Meter Operators</td>
<td>✓</td>
<td>If there is not a satisfactory response from the applicant, then a specific TAA audit visit should provide information to ISG/SVG on compliance. Where compliance is not occurring, then PAA can be asked to monitor corrective action through the error and failure resolution process.</td>
</tr>
</tbody>
</table>

### Question 8

**Do you agree that ‘differencing arrangement’ GSPs and related sites should be subject to the proposed review and investigations?**

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Agree?</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dong</td>
<td>N/A</td>
<td></td>
</tr>
</tbody>
</table>
### Question 8

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Grid</td>
<td>National Grid agrees that it would be beneficial to review all ‘differencing arrangement’ to confirm their continuing validity.</td>
</tr>
<tr>
<td>UK Power Reserve</td>
<td>No Comment</td>
</tr>
<tr>
<td>Association of Meter Operators</td>
<td>Wherever work is planned at an existing differencing site, then the arrangement should be re-engineered to not require differencing. Where this is not possible, then a dispensation should be requested to demonstrate the reasons why a non-differencing arrangement cannot be put in place.</td>
</tr>
<tr>
<td></td>
<td>To ensure that all existing differencing sites are correctly identified then it might be wise to ensure that they are all subject to a dispensation so that the existence of differencing is captured on the dispensation register and can be reviewed whenever necessary.</td>
</tr>
<tr>
<td></td>
<td>Differencing arrangements have not been effective for reactive power. It is not possible to correctly difference reactive energy. This is a weakness of any differencing where reactive energy is an important commercial value (not within the BSC settlement arrangements, although the BSC sets out certain metering requirements).</td>
</tr>
</tbody>
</table>

### Question 9

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>DONG</td>
<td>DONG Energy welcomes the review of the Metering Dispensation process and specific issues. We are convinced that the open process to facilitate out of the ordinary metering arrangements helped accommodating innovative metering designs in the past. With more and more first of a kind projects coming online in the future we would expect that additional dispensations might be necessary. We would appreciate if any change resulting from the Metering Dispensation review should be considered as to whether it helps supporting these new and innovative designs to ensure that the energy landscape remains flexible within reasonable limits.</td>
</tr>
<tr>
<td>National Grid</td>
<td>No further comments</td>
</tr>
<tr>
<td>UK Power Reserve</td>
<td>No Comment</td>
</tr>
</tbody>
</table>
### Question 9

<table>
<thead>
<tr>
<th>Association of Meter Operators</th>
</tr>
</thead>
<tbody>
<tr>
<td>The list of activities (3.6) includes a number of guidance documents. A number of these indicate ambiguities with the current BSC or Code Subsidiary documents which would benefit from a more enduring review and revision, ideally making the guidance unnecessary. A number of these documents may have benefited from a review by the Metering Dispensation Review Group (MDRG) and/or the Association of Meter Operators (AMO) to ensure they are as clear as possible. Whilst it is not possible to change the past, this should be an improvement for the future. Meter Operators are the BSC role that is seeking to ensure the metering arrangements are designed, installed and commissioned correctly.</td>
</tr>
</tbody>
</table>

Publication of the list of site specific dispensations (3.6) is welcomed, however, there are a significant number included in the list which do not have a MSID identified. A document and stakeholder review should be performed to correctly associate all dispensations with an MSID, or the dispensation should be deemed as invalid. Similarly, the reason for confidentiality of 'confidential' dispensations has probably long passed, so these should be reviewed and unless there are clear reasons expressed to ISG/SVG should also be published. Once all dispensations are associated with a MSID, then the Registrant should be asked to confirm (or not) whether the lifetime dispensation is still applicable/required or whether changes to the metering arrangements have occurred which have removed the need for the dispensation (possibly any more than [5] years old). |

A number of dispensations have been initiated to resolve deficiencies with reactive metering equipment. Although the BSC defines a number of requirements, the BSC arrangements do not use the reactive data. It may also be opportune to consider whether the metering CoPs requirement for reactive measurement are correct or are better left to other governance arrangements (CUSC and/or DCUSA). This may be best consider as a joint review group covering BSC/DCUSA/CUSC. |

The BM section (8.13) of the document indicates the forward pipeline of new connections. It would be beneficial for ELEXON to have sight of the planned metering arrangement as many years in advance of the connection as possible. This would help alert the Registrant of any difficulties with the arrangement and the need to apply for a dispensation with as much notice as possible. It is considered that some dispensations have been agreed due to the short time before the plant has been due to become operational. Longer notice would reduce this pressure on ISG/SVG. |
# Question 10

Do you agree that a clarification should be added that allows separate Import and Export BM Units to be registered by the same Party though the same Systems Connection Point?

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Agree?</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dong</td>
<td>√</td>
<td>DONG Energy believes that a maximum of flexibility when registering BMUs can significantly help streamlining any registration process in the future. We therefore are in favour of providing registrants with the option to create separate Import and Export BMUs for the same System Connection Point.</td>
</tr>
<tr>
<td>National Grid</td>
<td>√</td>
<td>National Grid agrees with clarifying the BSC so it allows separate Import and Export BM Units to be registered by the same Party though the same Systems Connection Point.</td>
</tr>
<tr>
<td>UK Power Reserve</td>
<td>√</td>
<td>We would agree with this recommendation – we would note on this topic that in our own applications for nonstandard BM units that our DNO has asked us to put forward our unit with separate MSIDs for both import and export as a means to allow separate loss factors to be applied.</td>
</tr>
<tr>
<td>Association of Meter Operators</td>
<td>No Comment</td>
<td></td>
</tr>
</tbody>
</table>

# Question 11

Please describe any plans you are aware of to convert CCGT Modules to OCGT Modules. We are particularly interested in whether non-standard BM Units would be sought and the likely numbers of conversions per year.

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dong</td>
<td>N/A</td>
</tr>
<tr>
<td>National Grid</td>
<td>N/A</td>
</tr>
<tr>
<td>UK Power Reserve</td>
<td>No Comment</td>
</tr>
<tr>
<td>Association of Meter Operators</td>
<td>No Comment</td>
</tr>
</tbody>
</table>
# METERING DISPENSATIONS AND NON-STANDARD BM UNITS

**Question 12**

Do you agree that the list of standard BM Unit configurations listed in the Code should be updated with the four suggestions put forward?

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Agree?</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dong</td>
<td>√</td>
<td>DONG Energy welcomes the approach proposed. We believe that it is particularly important to allow Offshore Power Park Modules to be combined into one BMU as long as they are connected via one offshore substation under the standard arrangements. Furthermore, we believe there is a need to address the inclusion of LV meters into offshore BMUs (i.e. grouped together with HV meters) as it appears that with more complex systems this will continue to be one of the preferred designs. However, we would like to highlight that in our opinion these categories should not be exclusive of each other but rather that a generator can tick several of these categories at the same time without having to go through a Non-Standard BMU application.</td>
</tr>
<tr>
<td>National Grid</td>
<td>√</td>
<td>National Grid agrees that the four suggestions should be adopted as standard BM Unit configurations with the following provisos: 1. That any onshore demands that are included in an offshore BMU metering aggregation are not significant enough to affect the accuracy of the flows that are metered on the cable to shore. 2. Where multiple generating units are included in a single BMU, that these are controlled as a single unit rather than from a single ‘Control Point’. Control Point is a Grid Code definition, it’s use in this context could cause confusion.</td>
</tr>
<tr>
<td>UK Power Reserve</td>
<td>√</td>
<td>We would agree with this recommendation. From our own perspective this would remove significant time restraints and administrative burden for our own proposed nonstandard BM unit registration plans. We would highlight that National Grid have proposed the creation of non-geographic BM units as a mechanism to allow aggregated small scale embedded generation and demand side reduction methods to participate directly in the Balancing Mechanism and that although this has not yet materialised that it should be considered what the impact of this would be on the registration of BM units, both standard and not. The previous decision not to permit aggregated BM units therefore might not last in a future reform of the BM as a whole.</td>
</tr>
<tr>
<td>Association of Meter Operators</td>
<td>No Comment</td>
<td></td>
</tr>
</tbody>
</table>
## Question 13

Do you agree that thresholds need to be introduced for some of the proposed new standard configurations? If so, please provide any views you have on what those thresholds should be.

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Agree?</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dong</td>
<td>✓</td>
<td>We believe that some thresholds might be appropriate and that the ISG is in a position to find the appropriate levels.</td>
</tr>
<tr>
<td>National Grid</td>
<td>✓</td>
<td>National Grid agrees that thresholds should be agreed for some of the proposed new standard configurations. These thresholds should be set to avoid the System Operator being exposed to material additional energy balancing costs, to avoid any impact on transmission loss calculations and costs, and to not affect the accuracy of the flows that are metered over the transmission system, especially on the cable to shore.</td>
</tr>
<tr>
<td>UK Power Reserve</td>
<td>×</td>
<td>We see no practical reason that nonstandard BM units should be limited in size at this point. The majority of cases we envision of nonstandard multiple generating assets being registered as a BM unit would be for embedded generation which is naturally limited in size by not only the nature of connection capabilities at the distribution level but also by the hard caps at 50MW and 100MW where embedded benefits are lost. Although we do note that embedded benefits may be lost altogether in any case pending Ofgems decision at this time. If a limit was imposed on the capacity of a nonstandard BM unit applying under the basis of multiple independently controlled generation assets we would suggest this should be at least 50MW so as to allow embedded generation unrestricted access to the process. We would be interested to hear what concerns may arise from a lack of a scale restrain on nonstandard BM unit applications.</td>
</tr>
<tr>
<td>Association of Meter Operators</td>
<td>No Comment</td>
<td></td>
</tr>
</tbody>
</table>

## Question 14

Are you planning any non-standard BM Unit applications in the future that would fall into one of the proposed new standard configurations? If so, please provide details of your plans.

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dong</td>
<td>N/A</td>
</tr>
<tr>
<td>National Grid</td>
<td>N/A</td>
</tr>
</tbody>
</table>
## METERING DISPENSATIONS AND NON-STANDARD BM UNITS

### Question 14

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>UK Power Reserve</td>
<td>We currently have two non-standard BM unit applications that were recently approved but are pending processing into live status due to ongoing discussions with the DNO. As a current open plan we potentially could want to register all of UKPR’s current generating fleet of embedded power stations as non-standard BM Units, principally to achieve access to the Balancing Market. This decision is currently under review pending other decisions Ofgem are reviewing on embedded benefits as well as the changing nature of the markets we operate in.</td>
</tr>
<tr>
<td>Association of Meter Operators</td>
<td>No Comment</td>
</tr>
</tbody>
</table>

### Question 15

**Are you planning any non-standard BM Unit applications in the future that would not fall into one of the proposed new standard configurations? If so, please explain the configuration.**

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dong</td>
<td>Not currently, however we would like to see that any design that might be different is treated with an open mind as it is currently done and that generators should have a maximum of flexibility as long as key requirements for accuracy are appropriately addressed.</td>
</tr>
<tr>
<td>National Grid</td>
<td>N/A</td>
</tr>
<tr>
<td>UK Power Reserve</td>
<td>We are currently not planning any such units, however as mentioned above we would like to highlight the scope that National Grid have proposed non geographic BM units as mechanism that would permit aggregated DSR to participate in the Balancing Market. This would presumably not fit in the established models and would necessitate another form of nonstandard BM Unit to prevent an administrative block forming in front of these units.</td>
</tr>
<tr>
<td>Association of Meter Operators</td>
<td>No Comment</td>
</tr>
</tbody>
</table>
## METERING DISPENSATIONS AND NON-STANDARD BM UNITS

### Question 16

Do you agree that the Panel should be able to agree ‘generic’ non-standard BM Unit configurations?

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Agree?</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dong</td>
<td>✓</td>
<td>It is DONG Energy’s view that generic non-standard BMUs could allow a more efficient processing of future projects and therefore we are much in favour of this solution.</td>
</tr>
<tr>
<td>National Grid</td>
<td>✓</td>
<td>National Grid agrees that the Panel should be able to agree ‘generic’ non-standard BM Unit configurations providing that this is either via a Modification Proposal and open to industry consultation, or delegated to the ISG and following consultation with the System Operator.</td>
</tr>
<tr>
<td>UK Power Reserve</td>
<td>✓</td>
<td>We support this approach.</td>
</tr>
<tr>
<td>Association of Meter Operators</td>
<td>No</td>
<td>Comment</td>
</tr>
</tbody>
</table>

### Question 17

Do you agree that the BSC or BSCP15 should be updated to include a clause for how changes to non-standard BM Unit configurations should be treated?

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Agree?</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dong</td>
<td>✓</td>
<td>With more non-standard BMU configurations it seems only reasonable to provide a transparent framework for changes to such configurations. Therefore, DONG Energy agrees with the above proposal.</td>
</tr>
<tr>
<td>National Grid</td>
<td>✓</td>
<td>National Grid agrees that the BSC or BSCP15 should be updated to include a clause for how changes to non-standard BM Unit configurations should be treated.</td>
</tr>
<tr>
<td>UK Power Reserve</td>
<td>✓</td>
<td>We agree with the premise of the change to the BSC however we are unclear of the risk implied from the changes to GC. If the application of nonstandard BM units is to be made simpler it seems unnecessary for existing BM units to be held under this constraint.</td>
</tr>
<tr>
<td>Association of Meter Operators</td>
<td>No</td>
<td>Comment</td>
</tr>
</tbody>
</table>
## Question 18

Do you agree with the proposed approach for handling currently registered BM Units that have a non-standard configuration but which are not registered as such with the ISG?

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Agree?</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dong</td>
<td>√</td>
<td>Agree</td>
</tr>
<tr>
<td>National Grid</td>
<td>√</td>
<td>National Grid agrees with the proposed approach for handling currently registered BM Units that have a non-standard configuration.</td>
</tr>
<tr>
<td>UK Power Reserve</td>
<td>√</td>
<td>We agree that if the overall purpose of this modification is accepted and nonstandard generic templates are permitted that there would be little to no benefit to an in depth review of existing BM units. We would agree that any efforts should be focused rather on any suspected uncaptured metering flow rather than compliance with standard BM unit’s rules.</td>
</tr>
<tr>
<td>Association of Meter Operators</td>
<td>No Comment</td>
<td></td>
</tr>
</tbody>
</table>

## Question 19

Do you agree that additional information on the non-standard BM Unit application process and an application form are added to BSCP15?

<table>
<thead>
<tr>
<th>Respondent</th>
<th>Agree?</th>
<th>Comment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dong</td>
<td>√</td>
<td>Agree</td>
</tr>
<tr>
<td>National Grid</td>
<td>√</td>
<td>National Grid agrees that additional information, including an application form, is added to BSCP15 for non-standard BM Unit applications.</td>
</tr>
<tr>
<td>UK Power Reserve</td>
<td>√</td>
<td>We firmly agree with this recommendation having had to go through this process ourselves. We would heartily endorse the creation of sample letters as well as an overall ‘idiots’ guide to the entire process of BM registration for both nonstandard and standard BM units.</td>
</tr>
<tr>
<td>Association of Meter Operators</td>
<td>No Comment</td>
<td></td>
</tr>
<tr>
<td><strong>Question 20</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>---</td>
<td></td>
</tr>
<tr>
<td><strong>Do you have any further comments on any part of the non-standard BM Unit applications review?</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Respondent</strong></td>
<td><strong>Comment</strong></td>
<td></td>
</tr>
<tr>
<td>Dong</td>
<td>As mentioned above for Metering Dispensations, we would like to highlight the importance for continued support of generators who are developing new and innovative solutions even if this means that designs need to be approved that might be out of the ordinary. We believe this worked well in the past and that any change as a result of this review should be considered in the light of whether or not it reduces the flexibility to allow generators to develop the optimum solution for their specific project as long as it remains in reasonable limits.</td>
<td></td>
</tr>
<tr>
<td>National Grid</td>
<td>No further comments.</td>
<td></td>
</tr>
<tr>
<td>UK Power Reserve</td>
<td>We would highlight the potential issue that the MSID registration system is we believe hard capped to a 4-digit number system. This might pose a potential issue if a large scale registration of smaller assets took place leading to this limit being reached or at least posing an administration burden as the availability of numbers is lessened. This could be accelerated if current review ongoing by Ofgem on embedded benefits provide an unintended incentive to become BM registered for other reasons. We would also highlight the potential risk on the CDCA and Elexons manpower if this proved to be the case and significant number of BM units applications were made simultaneously.</td>
<td></td>
</tr>
<tr>
<td>Association of Meter Operators</td>
<td>No Comment</td>
<td></td>
</tr>
</tbody>
</table>
### Acronyms

Acronyms used in this document are listed in the table below.

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>AC</td>
<td>alternating current</td>
</tr>
<tr>
<td>AMP</td>
<td>Actual Metering Point</td>
</tr>
<tr>
<td>BETTA</td>
<td>British Electricity Trading and Transmission Arrangements</td>
</tr>
<tr>
<td>BM</td>
<td>Balancing Mechanism</td>
</tr>
<tr>
<td>BSC</td>
<td>Balancing and Settlement Code <em>(industry Code)</em></td>
</tr>
<tr>
<td>BSCP</td>
<td>Balancing and Settlement Code Procedure <em>(Code Subsidiary Document)</em></td>
</tr>
<tr>
<td>CCGT</td>
<td>Combined Cycle Gas Turbine</td>
</tr>
<tr>
<td>CDCA</td>
<td>Central Data Collection Agent <em>(BSC Agent)</em></td>
</tr>
<tr>
<td>CMRS</td>
<td>Central Meter Registration Service</td>
</tr>
<tr>
<td>CoP</td>
<td>Code of Practice <em>(Code Subsidiary Document)</em></td>
</tr>
<tr>
<td>CP</td>
<td>Change Proposal</td>
</tr>
<tr>
<td>CRA</td>
<td>Central Registration Agent <em>(BSC Agent)</em></td>
</tr>
<tr>
<td>CVA</td>
<td>Central Volume Allocation</td>
</tr>
<tr>
<td>DC</td>
<td>direct current</td>
</tr>
<tr>
<td>DC</td>
<td>Demand Capacity <em>(parameter)</em></td>
</tr>
<tr>
<td>DECC</td>
<td>Department of Energy and Climate Change <em>(former Government department)</em></td>
</tr>
<tr>
<td>DMP</td>
<td>Defined Metering Point</td>
</tr>
<tr>
<td>DSCP</td>
<td>Distribution System Connection Point</td>
</tr>
<tr>
<td>GC</td>
<td>Generating Capacity <em>(parameter)</em></td>
</tr>
<tr>
<td>GSP</td>
<td>Grid Supply Point</td>
</tr>
<tr>
<td>HH</td>
<td>Half Hourly</td>
</tr>
</tbody>
</table>
### METERING DISPENSATIONS AND NON-STANDARD BM UNITS

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>HHDC</td>
<td>Half Hourly Data Collector (<em>Party Agent</em>)</td>
</tr>
<tr>
<td>ISG</td>
<td>Imbalance Settlement Group (<em>Panel Committee</em>)</td>
</tr>
<tr>
<td>LDSO</td>
<td>Licenced Distribution System Operator (<em>BSC Party</em>)</td>
</tr>
<tr>
<td>MDRG</td>
<td>Metering Dispensation Review Group</td>
</tr>
<tr>
<td>MOA</td>
<td>Meter Operator Agent (<em>Party Agent</em>)</td>
</tr>
<tr>
<td>MVRN</td>
<td>Metered Volume Reallocation Notification</td>
</tr>
<tr>
<td>NETA</td>
<td>New Electricity Trading Arrangements</td>
</tr>
<tr>
<td>NHH</td>
<td>Non Half Hourly</td>
</tr>
<tr>
<td>OCGT</td>
<td>Open Cycle Gas Turbine</td>
</tr>
<tr>
<td>OFTO</td>
<td>Offshore Transmission Owner</td>
</tr>
<tr>
<td>PAB</td>
<td>Performance Assurance Board (<em>Panel Committee</em>)</td>
</tr>
<tr>
<td>PPM</td>
<td>Power Park Module</td>
</tr>
<tr>
<td>SCADA</td>
<td>Supervisory Control and Data Acquisition</td>
</tr>
<tr>
<td>SMRS</td>
<td>Supplier Meter Registration Service</td>
</tr>
<tr>
<td>SVA</td>
<td>Supplier Volume Allocation</td>
</tr>
<tr>
<td>SVG</td>
<td>Supplier Volume Allocation Group (<em>Panel Committee</em>)</td>
</tr>
<tr>
<td>TEC</td>
<td>Transmission Entry Capacity</td>
</tr>
<tr>
<td>TSBP</td>
<td>Transmission System Boundary Point</td>
</tr>
</tbody>
</table>

### External links

A summary of all hyperlinks used in this document are listed in the table below in the order they appear. All external documents and URL links listed are correct as of the date of this document.

<table>
<thead>
<tr>
<th>Description</th>
<th>URL</th>
</tr>
</thead>
</table>
# METERING DISPENSATIONS AND NON-STANDARD BM UNITS

<table>
<thead>
<tr>
<th>Description</th>
<th>URL</th>
</tr>
</thead>
<tbody>
<tr>
<td>CP1442 page on the ELEXON website</td>
<td><a href="https://www.elexon.co.uk/change-proposal/cp1442/">https://www.elexon.co.uk/change-proposal/cp1442/</a></td>
</tr>
<tr>
<td>BSC Panel 252 Meeting page on the ELEXON website</td>
<td><a href="https://www.elexon.co.uk/meeting/bsc-panel-252/">https://www.elexon.co.uk/meeting/bsc-panel-252/</a></td>
</tr>
<tr>
<td>BSC Sections page on the ELEXON website</td>
<td><a href="https://www.elexon.co.uk/bsc-related-documents/balancing-settlement-code/bsc-sections/">https://www.elexon.co.uk/bsc-related-documents/balancing-settlement-code/bsc-sections/</a></td>
</tr>
<tr>
<td>Codes of Practice page on the ELEXON website</td>
<td><a href="https://www.elexon.co.uk/bsc-related-documents/related-documents/codes-of-practice/">https://www.elexon.co.uk/bsc-related-documents/related-documents/codes-of-practice/</a></td>
</tr>
<tr>
<td>BSCPs page on the ELEXON website</td>
<td><a href="https://www.elexon.co.uk/bsc-related-documents/related-documents/bscps/">https://www.elexon.co.uk/bsc-related-documents/related-documents/bscps/</a></td>
</tr>
<tr>
<td>Metering Dispensations page on the ELEXON website</td>
<td><a href="https://www.elexon.co.uk/reference/technical-operations/metering/metering-dispensations/">https://www.elexon.co.uk/reference/technical-operations/metering/metering-dispensations/</a></td>
</tr>
<tr>
<td>BM Units page on the ELEXON website</td>
<td><a href="https://www.elexon.co.uk/reference/technical-operations/balancing-mechanism-units/">https://www.elexon.co.uk/reference/technical-operations/balancing-mechanism-units/</a></td>
</tr>
<tr>
<td>Issue 54 page on the ELEXON website</td>
<td><a href="https://www.elexon.co.uk/smg-issue/issue-54/">https://www.elexon.co.uk/smg-issue/issue-54/</a></td>
</tr>
<tr>
<td>P237 page on the ELEXON website</td>
<td><a href="https://www.elexon.co.uk/mod-proposal/p237-standard-bm-unit-configuration-for-offshore-power-park-modules/">https://www.elexon.co.uk/mod-proposal/p237-standard-bm-unit-configuration-for-offshore-power-park-modules/</a></td>
</tr>
<tr>
<td>P191 page on the ELEXON website</td>
<td><a href="https://www.elexon.co.uk/mod-proposal/p191-revised-definition-of-balancing-mechanism-unit-to-include-power-park-module/">https://www.elexon.co.uk/mod-proposal/p191-revised-definition-of-balancing-mechanism-unit-to-include-power-park-module/</a></td>
</tr>
<tr>
<td>CP1403 page on the ELEXON website</td>
<td><a href="https://www.elexon.co.uk/change-proposal/cp1403/">https://www.elexon.co.uk/change-proposal/cp1403/</a></td>
</tr>
<tr>
<td>Exemptions from the requirement to hold a Generation Licence</td>
<td>Legislation.gov.uk</td>
</tr>
</tbody>
</table>