

Review of the Balancing Mechanism Reporting Service (BMRS) zones

1. Executive Summary

Currently 5 zones are used for short term reporting purposes under the BMRS, 8 zones are used for reporting Output Usable data, with 17 zones used in the SYS. A number of industry parties have highlighted in a recent National Grid consultation the potential benefits from the alignment of some/all of the zones. The benefits cited by respondents include improved consistency and granularity of information, more economic investment decisions, the facilitation of more effective analysis and potential reduction in associated costs. Industry support for a review of the zones also highlighted the extended period during which the zones have remained unchanged.

This paper requests the BSC Panel to initiate a working group to examine the existing zones used across different timescales and to determine whether some/all of the zones merit alignment.

2. Background

A large amount of market information is published on the BMRS website¹ in order to facilitate efficient operation of the electricity market.

Operational information such as forecast generation, demand and margin is provided at both national and zonal levels. The short term (day / day ahead) zonal information is provided for 5 individual BMRS zones whilst information on a national level is provided on both a short term (day / day ahead) and longer term (2-14 day ahead and 2-52 week ahead) basis.

Information on Output Usable² is also available on the BMRS, in both zonal and national form, for the following timescales:

- 2-14 Days ahead
- 2-49 Days ahead
- 2-52 Weeks ahead
- 1 year ahead
- 2 year ahead
- 3 year ahead
- 4 year ahead
- 5 year ahead

The Output Usable information is published for 8 OC2 zones rather than 5 BMRS zones. The discontinuity between information reported on the 5 BMRS zones and 8 OC2 zones makes it difficult to compare the data; for example,

¹ www.bmreports.com

² Output Usable data is the forecast of how much generation will be available and is based on information submitted by Generators in compliance with Grid Code obligations under OC2.

Output Usable figures cannot be compared to the day / day ahead forecast generation, demand and margin.

National Grid proposed changes in 2005 as part of a package of proposals for improving the electricity market information to align the number of zones between OC2 and BMRS zones. The alignment of zones was not progressed for a number of reasons including unacceptable costs for IT changes and a lack of justification with regards to market benefits.

National Grid issued a Constraint Information Transparency Consultation on the 5th November 2010; the consultation had a number of proposals relating to information transparency one of which was the review and alignment of OC2 / BMRS zonal information. A number of industry parties supported the alignment of zones and considered that there would be market benefits from such an outcome.

In addition to discontinuity between BMRS and OC2 zones, some zonal based information is published in the Seven Year Statement (SYS) based on 17 zones. Another proposal in the Information Transparency consultation was to align the number of zones used in the BMRS/OC2 with the SYS zones; this was also supported by a number of respondents as this alignment would increase granularity of zonal information.

Further details of the Information Transparency consultation and responses received are shown in section 7.

This paper provides an explanation of the existing zones and zonal information published and seeks the Panel's view as to whether a review of the number of zones is justified. If a review is deemed justified, it requests the Panel to initiate a working group to examine the current zones in more detail with a view to aligning these zones.

3. BMRS Zones

The 5 BMRS Zones (A-E) were established at NETA Go-Live, Zone A was later amended as part of BETTA to include Scotland but the 5 zones have otherwise remained unchanged.

The 5 zones were formed from four Transmission constraint boundaries on the Transmission System. The residual part of England and Wales not covered by a reportable constraint boundary (the Midlands and Yorkshire) was established as Zone B. The South Import boundary runs from South Wales across to the Wash and forms Zone D. Zone E is 'nested' within constraint D, hence the sum of the zonal figures does not equal the national figures unless the Zone E value is subtracted from the zonal total.

The table below shows the data currently available on the BMRS for each of the 5 BMRS zones.

Table 2 – Zonal information on BMRS

Information Type	Period	Information available	Format
Demand	Day /Day ahead	TS Demand Forecast (TSDF) Indicated Demand Forecast (INDDM) Indicated Generation (INDGEN)	Graphical and CSV/XLM data download
Margin	Day /Day ahead	Indicated Margin (MELNGC) Indicated Imbalance (IMBALNGC)	Graphical and CSV/XLM data download
Pictorial Representation	Day / Day ahead	Pictorial representation of TSDF, INDDM, INDGEN, MELNGC, IMBALNGC	Graphical

4. Grid Code Zones

The 8 Grid Code Zones (7 relating to England and Wales with an 8th Scottish zone) are used to report Output Usable data on the BMRS. These zones have remained unchanged apart from the addition of the Scottish Zone at BETTA. Both the OC2 zones and the BMRS zones reflect main constraint boundaries on the transmission system.

The table below shows the data available on the BMRS for the 8 zones.

Table 3

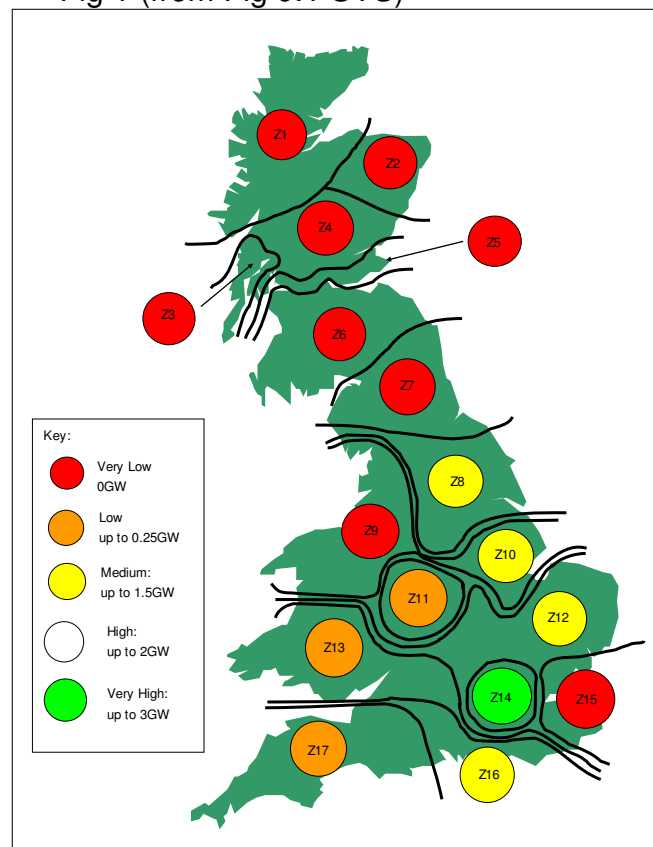
Information Type	Period	Information available	Format
Output Usable	2-14 Day ahead 2-49 Days ahead 2-52 Weeks ahead 1 Year ahead 2 Year ahead 3 Year ahead 4 Year ahead 5 Year ahead	MW Output Usable for period	CSV/XLM data download

5. Seven Year Statement Zones

The Seven Year Statement (SYS) utilises 17 study zones with 17 associated constraint boundaries.

A number of data tables in the SYS differentiate the information by SYS zone (summary shown in Table 6 below). The 17 study zones are also used to display new generation connection opportunity by zone without the associated need for major transmission reinforcement, as shown in figure 1 below.

Fig 1 (from Fig 9.1 SYS)



Generation connection opportunities vary across the 17 zones ranging from very low (0GW) to very high (up to 3GW). This information may enable interested parties to make more informed judgements on the location of new generation, although the information on generation opportunities currently includes contracted generation; with the implementation of connect and manage the zonal opportunity could be higher in the majority of zones.

It should be noted that, although these zones have remained unchanged since BETTA the zone and boundaries may change as a result of changing electricity flow patterns from increased connections (eg renewable and new interconnectors).

Aligning the BMRS/OC2 zones with SYS zones may enable longer term investment information (SYS) to be compared with information published for the BMRS and OC2 zones.

Table 6

SYS Table	Title
Table 3.2	Generation projects under construction
Table 3.3	Generation projects with consents granted
Table 3.5	Changes in Power Station Capacity (TEC (MW)), 2005/06 to 2009/10
Table 3.6	New Power Station Capacity (TEC (MW)), 2010/11 to 2016/17
Table 3.9	Unavailable Generating Units
Table 3.11	Growth in Generation Capacity (MW) by Plant Type and SYS Study Zone, 2009/10 to 2016/17
Table 3.12	Subtotals of TEC (MW) by Plant Type and SYS Study Zone, 2009/10
Table 3.14	Transmission Contracted Generation beyond 2016/17

6. Cost of change

In 2005, the BMRS did not contain the underlying functionality to add additional zones without incurring additional costs. The initial costs at that time for adding 3 zones to the BMRS plus some additional functionality to add additional zones in the future (at a lower cost) were estimated at £260k with 27 weeks lead time.

With the appointment of a new service provider, the current estimated costs to add 3 zones to the BMRS equate to £110k with 20 weeks lead time, with the flexibility to increase the number of BMRS zones beyond 8 without incurring significant additional costs.

The impact on National Grid systems to move to a different number of zones from the 8 existing OC2 zones would be relatively low.

7. Changes to Existing Zones

BMRS zones are defined in Annex X-1 of the BSC as: *‘the zones set from time to time by the Panel in consultation with the Transmission Company for the purposes of Section V’.*

The BMRS zones can thus be amended by the BSC Panel although, as stated above, no changes have been made since NETA Go-Live (apart from the addition of Scotland at BETTA Go-Live).

OC2 zones can be amended by National Grid without the need for Grid Code amendments. OC2.2.4 states: *“the boundaries of the System Zones will be determined by NGET from time to time taking into account the disposition of Generators’ Power Stations within the System Zones.”*

Under OC2.2.4, a review of OC2 zones can also be requested by users with changes being made if National Grid considers they are justified. These zones have also remained unchanged since NETA Go-Live (apart from addition of Scotland at BETTA Go-Live).

8. Industry Views and Justification for Zonal alignment

National Grid has set up an industry working group, CSBG (Commercial Balancing Services Group) to discuss and develop, amongst other areas, transparency of market information.

An industry consultation issued on the 5th November 2010 asked a number of questions relating to BMRS/OC2/SYS zonal alignment. The table below shows the relevant questions and summarises the responses received from the seven parties who replied to the consultation.

Table 7

	Question	Answer			
		Yes	No	Neutral	Other
Q1 (i):	Is BMRS zonal information beneficial?	5	0	1	0
Q1 (ii):	Could BMRS zonal information be removed?	0	2	1*	0
Q2	Would alignment of BMRS zones with OC2 zones be beneficial?	7	0	0	0
Q3	Should BMRS and OC2 zones be reviewed to assess their appropriateness?	5	0	1	0
Q4	Should BMRS and OC2 zones be aligned with Seven Year Statement (SYS) study zones?	4	0	0	2
Q5	Does SYS provide sufficient information on opportunities for generation connections?	4	1	1	1

* This respondent stated that any changes to the reporting of BMRS zonal data would require changes to the BSC (e.g. section V).

All 7 respondents felt the alignment of BMRS zones with OC2 zones would be beneficial (question 2), with 5 out of 7 supporting a review of BMRS/OC2 zones (question 3). A selection of respondent comments from questions 2 and 3 are shown in Tables 8 and 9 below. The full report summarising the consultation can be seen at <http://www.nationalgrid.com/uk/Electricity/Balancing/consultations/>

Table 8 & 9

Q2 Comments - Would alignment of BMRS zones with OC2 zones be beneficial?
Alignment will support publication of OC2 outage data on the BMRS
Alignment will facilitate more effective analysis and should reduce associated costs
Alignment will make it easier for parties to look at short and long term data
Alignment will provide consistent information across planning and operation timescales
Alignment of zones with current and likely future constraint areas will lead to more economic investment decisions and improve efficiency of operations
Following publication of OC2 data at BMU level, there is less need to align the zones. The OC2 boundary flow information is only of benefit if it is active data, like the BMRA
The number of zones should be increased to obtain meaningful information on the impact of constraints, rather than plant availability
Increasing the number of BMRS zones from 5 to 8 would improve information granularity and would allow comparisons to be made between OC2 and BMRS data
It would be preferable to align the OC2 zones to BMRS zones (thus reducing the number of OC2 zones from 8 to 5)

Q3 Comments - Should BMRS and OC2 zones be reviewed to assess their appropriateness?
Given that the zones have not changed for five years (and only then with the inclusion of Scotland), it would seem sensible to review the zones. The review might, for example, seek to increase the number of parties in zones where such number is relatively low ("whilst being mindful of the methodology for 'constructing' the OC2 zones").
The zones were drawn up some time ago and need reviewing. The nesting of zone E within zone D adds unnecessary complication
The review of the BMRS and OC2 zones is a logical extension of the work on aligning the BMRS and OC2. Furthermore, since NETA go-live, there has been a significant change in the UK electricity market in terms of the plant mix (e.g. renewables), system development, system usage and connection
4. The review should establish: <ul style="list-style-type: none"> a. Whether the zonal data provides information that is useful or meaningful to users; b. The extent to which revised zones would facilitate competition; c. Whether the data can be presented in different ways
A joint review of BSC and Grid Code could be carried out to assess the impact across

9. Comparison of Zones

The three different types of zones, BMRS, OC2 and SYS have differing number of parties within the individual zones. A minimum of three parties in a zone is normally considered sufficient to ensure that commercial confidentiality is not breached.

Zone	Minimum Parties in a single zone
BMRS	10
OC2	3
SYS	2

The minimum number of parties in a SYS zone is two; however, this may no longer cause further confidentiality issues because, following implementation of P243, the Output Usable data is published at an individual BMU level.

10. Way forward

BMRS and OC2 zones have not changed since the introduction of NETA (aside from the inclusion of Scotland). Following industry feedback, National Grid considers that there would be benefits in reviewing and, if appropriate, aligning zones.

The BSC Panel is therefore requested to consider whether a review of the existing zones is justified. If such a review is deemed justified, it is recommended that the Panel initiates a working group to examine the zonal alignment issue in more detail.