Information Systems

Network Operations

Balancing Mechanism

BMRA & SAA Interface Specification

Location: IS/IS Transmission \UK Gas & Electricity - IS

Issue 16 Approved, 25 July 2011

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1 INTRODUCTION

1.1 Purpose and Scope

This document defines the Market Information that will be made available by National Grid to the Balancing Mechanism Reporting Agent (BMRA) and the Settlement Administration Agent (SAA). This information will be provided by National Grid to enable the BMRA to publish the appropriate Market Information on the BM Reporting Service (BMRS) and for the SAA to calculate settlement data.

Two new terms have been introduced Net Interconnector Export and Net Interconnector Import – these are defined in section 5.3.1. Also, the opportunity to revise the definitions in sections 5.3.2 & 1.1.1 has been made. The terms are now defined in the order that they are used and defined terms are used in later definitions.

The Applicable BSC Objectives (as defined in the Transmission Licence) are:

> The efficient discharge by the Licensee of the obligations upon it by the licence.
>
> The efficient, economic and co-ordinated operation by the Licensee of the Licensee's Transmission System.
>
> Promoting effective competition in the generation and supply of electricity, and (so far as consistent with) promoting such competition in the sale and purchase of electricity.
>
> Providing efficiency in the implementation and administration of the balancing and settlement arrangements.

All target times quoted in this document are in accordance with the BSC (see Related Document 7).

1.2 Definition

The Physical Notification (PN) for a BM Unit is the expected level of export or import for that BM Unit in the absence of any Balancing Mechanism Bid-Offer Acceptances from National Grid. The submissions of PN provided at the day-ahead stage for the following operational day are termed the Initial Physical Notification (IPN). It is expected that further PNs will be submitted after this time. At Gate Closure, the PN submissions applicable for the period for which the gate has closed then become the Final Physical Notification (FPN) for that period.

National Demand (ND) takes account of transmission losses but does not include station transformer load, pump storage demand and interconnector demand. Transmission System Demand (TSD) also takes account of transmission losses and additionally includes station transformer load, pump storage demand and interconnector demand added.

1.3 Version History

1.3.1 Version 16

Version 16 contains two updates. The first update is to include the MOL file. The MOL file contains SO-SO Trade prices that are exchanged on the BALIT system

between NGC & RTE. The second update is to change the periodicity of the data sent in the wind forecast (WINDFOR) file.

1.3.2 Version 15

The aim of version 15 is to introduce a clear and unambiguous description of the contribution that interconnectors make towards the National and Zonal Market Information totals. The new definitions mean that a generic approach will be adopted in reporting both current and future interconnectors.

1.3.3 Version 14

This version of the document has been consolidated with information from the ELEXON Interface Spec for all OC2 data. This, as part of the requirements in: 'P243 – Generator Forward Availability by Fuel Type', see Related Document 1, which changed the design where all existing OC2 data feeds to ELEXON were re-directed to BMRS together with additional (new) daily and weekly files to include Output Usable/Interconnector Capacity data by: **Fuel Type** and by **BMU and Fuel Type**.

1.4 Related Documents

The following documents are related to this document:

1. NETA EDT Interface Specification, CT/24.12.0002.
2. NETA Specification For The Balancing Mechanism & Imbalance Settlement, Version 1.2, July 1999, The Office of Gas and Electricity Markets.
3. Change Control, Reference – CR-99813-06A
4. NETA Timing Conventions, NGC/CT/AS/NETA/CRS.
5. NETA Data Validation, Consistency and Defaulting Rules, CT/24.12.0003.
6. BMRA/SAA Interface Standard, OF/CS KBC.NETA.008.
7. Balancing and Settlement Code (BSC) - Section Q (http://www.elexon.co.uk/bscrelateddocs/BSC/default.aspx)
8. Appendix F: Balancing Services Adjustment Data Methodology Statement [Adjusted for P74/P78] - Version 2.1 (http://www.nationalgrid.com/NR/rdonlyres/3A6A33ED-03F8-445F-B6FA-912F4732FD02/16055/BSADv42effectivefrom01apr07final.pdf).
9. Initial Assessment of Modification Proposal P033 – ELEXON Limited. Issue 1.0. Date: 17 August 2001
10. Specification for Format of System Warning Message files for Transmission from National Grid to Logica Central Systems
11. P022 Requirements Specification for Distribution of Generator Outage Information – ELEXON Limited 2001. Issue 1.0. Date: 24 Aug 2001.
12. NETA Project FILENOTE – FN0099-P022_Impact Assessment.
13. NETA Programme: Interface Definition and Design Part 1
14. NETA Programme: Interface Definition and Design Part 2
15. Balancing and Settlement Code (BSC) – Section Q (http://www.elexon.co.uk/ta/bscrel_docs/bsc_downloads.html)

16. Initial Assessment of Modification Proposal P033 – ELEXON Limited. Issue 1.0. Date: 17 August 2001

17. P243 – Generator Forward Availability by Fuel Type & P244 – Provision of BritNed data to BMRS, BRS: http://spcustapps/sites/ismc/D-OTC/PROJ/IS%20ESOC%20Projects/P243244/Project%20Documents/Forms/AllItems.aspx

18. EDI – Library: ETSO Reserve Resource Planning Version 3 Release 0. ENTSO-E - European Network of Transmission System Operators for Electricity

2 TRANSFER MECHANISM

2.1 Standard Mechanism

Data will be held in electronic files, the formats of which are outlined in later sections.

National Grid will transfer files to the BMRA/SAA target machines located at the BMRA/SAA main and Disaster Recovery sites via FTP (File Transfer Protocol). There will be no electronic acknowledgement of the file transfer, successful or otherwise. National Grid will not be checking the successful transfer of files. The BMRA/SAA operators will be able to log on to the National Grid online machine as and when required rather than permanently and manually retrieve any missing files from the root directory (see section 17 for format of filenames) within two days of normal published date and time. After two days the files are stored in save sets by the National Grid backup system. If a file older than two days is required, this retrieval should be arranged through the National Grid help desk.

Note that in VMS all filenames and file types are stored in uppercase. However, when copying, source filename and/or type can be specified in upper, lower or mixed case.

The specification of the connections between the National Grid machines and BMRA/SAA target machines is defined in Related Document 6.

2.2 Operating Code 2 (OC2) Data Transfer Mechanism

Note: This section has been added to this document as part of 'P243 – Generator Forward Availability by Fuel Type', where OC2 data is no longer sent to the ELEXON site but re-directed instead to BMRS.

P243 also delivers additional files, with Interconnector data, to BMRS. See related document 1.

OC2 Data which consists of Output Usable, Interconnector Capacity and Generating Plant Demand Margin are held in electronic files, the formats of which are outlined in later sections.

National Grid will transfer these files to the BMRS target machine via FTP (File Transfer Protocol). There will be no electronic acknowledgement of the file transfer, successful or otherwise.

2.3 BSAD and QAS Mechanism

Balancing Services Adjustment Data (BSAD) and Balancing Services Volume data will be held in electronic files, the formats of which are outlined in later sections. The Balancing Services Volume data is referred to by external parties as "QAS", this convention will be adopted throughout this document.

National Grid will transfer files to the BMRA/SAA target machine located at the BMRA/SAA main site only, via FTP (File Transfer Protocol). Unlike with the standard mechanism, BMRA/SAA operators will not be able to log on to the National Grid online machine and manually retrieve missing BSAD or QAS files as these files will not be held on the same system. Requests for missing files will have to be made via the National Grid Helpdesk.

3 SYSTEM TIME

The standard time of the interface will be GMT. The system clock will be kept referenced to a recognised global time base. The system time will be used to determine gate closure time and all times within the data will be GMT. The National Grid facility will operate at local time, thus the GMT time of issue of data files will vary with British summer time. Where a number of periods is specified in this document (eg 48, 54, etc), this is the typical number of periods; clock change days will result in this number varying by 2 periods either way.

To illustrate the use of system date and time, examples are shown below:

GMT time period:

05:00 day+1 to 05:00 day+2 (48 half hourly periods)

BST time period:

04:00 day+1 to 04:00 day+2 (48 half hourly periods)

Spring Clock Change:

05:00 day+1 to 04:00 day+2 (46 half hourly periods)

Autumn Clock Change:

04:00 day+1 to 05:00 day+2 (50 half hourly periods)

4 SYSTEM RESILIENCE

In situation of a National Grid system failure, disaster recovery systems will be made available.

Export files generated by the interface system will be replicated at the disaster recovery site (see Section 2). Balancing Services Adjustment Data (BSAD) and Balancing Services Volume data (QAS) will not be replicated at the disaster recovery site.

5 FORECAST & INDICATION DATA

The following section describes the data that will be made available by National Grid for the BMRA to utilise.

The National Grid National Demand Forecast is based on historically metered generation output for Great Britain. This value takes account of transmission losses but does not include station transformer load, pump storage demand and interconnector demand. TSD based demand forecasts (TSDF) include transmission losses, station transformer load, pump storage demand and interconnector demand All the forecasts are unrestricted i.e. any notified customer demand management is included in the history.

A summary of the types of demand forecasts published at the different times is shown below. It also shows the corresponding outturn data (see section 7).

Data	Frequency	Target Time	Data Types	
			National Demand	TSD
Forecasts				
2 – 52 Week	Weekly – Thursdays	15:00	NDFW	TSDFW
2 – 14 Day	Daily	15:00	NDFD	TSDFD
Day Ahead – National	Daily	09:00	NDF	TSDF
Day Ahead – Constraint Boundaries	Daily	09:00	-	TSDF
Current Day & Day Ahead Updated – National	½ hourly (except 09:00)	15 mins after period end	NDF	TSDF
Current Day & Day Ahead Updated – Constraint Boundaries	½ hourly (except 09:00)	15 mins after period end	-	TSDF
Outturn				
Half-hour period	½ hourly	15 mins after period end	INDO	ITSDO
Previous Day	Daily	15 mins after day end	INDOD	-
Notes. A dash indicates that there is no equivalent data type. Data types shown in parentheses are historic data flow types. They contain the same data as the data type indicated, but will become obsolete following implementation.				

The acronyms shown in brackets in this section refer to different file types described in section 19 – File Headers.

5.1 Long Term Forecast Data

Long term forecast data covers the period between day+2 to week 52 ahead. The next sections describe the data that will be made available for this period.

5.1.1 National Surplus

National Surplus information will be made available at the following target times (Related Document 9):

- 2 – 14 days ahead, ½ hour average MW value for the peak of the day (OCNMFD– Forecast Daily National Surplus based on OC2)

  Made available by 16:00 each business day.

- 2 – 52 weeks ahead, ½ hour average MW value for the peak of the week (OCNMFW – Forecast Weekly National Surplus based on OC2)

  Made available by 17:00 every Friday.

5.1.2 National Grid National Demand Forecast

National Grid National Demand Forecast information will be made available at the following target times:

- 2 – 14 days ahead, ½ hour average MW value for the peak of the day (NDFD – National Demand Forecast Day)

  Made available by 15:00 each day.

- 2 – 52 weeks ahead, ½ hour average MW value for the peak of the week (NDFW – National Demand Forecast Week)

  Made available by 15:00 every Thursday.

5.1.3 National Grid Transmission System Demand Forecast

National Grid Transmission System Demand forecast information will be made available at the following target times:

- 2 – 14 days ahead, ½ hour average MW value for the peak of the day (TSDFD – TSD Forecast Day)

  Made available by 15:00 each day.

- 2 – 52 weeks ahead, ½ hour average MW value for the peak of the week (TSDFW – TSD Forecast Week)

  Made available by 15:00 every Thursday.

5.2 Initial Day Ahead Demand Forecast

The Initial Day Ahead Demand Forecast information will be made available by the target time of 09:00 every day. 48, ½ hour average MW demand forecast values, will be supplied for each of the demand forecast types indicated below. Each set of data will appear in separate files. The data will cover the period between 05:00 day+1 and 05:00 day+2.

- National Demand Forecast (NDF)
- National and Local Transmission System Demand Forecast (TSDF)

5.3 Current Day & Day Ahead Updated Market Information

A diagram showing the pattern of updates may be found in APPENDIX A:.

Data covering the specified period will be made available every ½ hour, except for 09:00 (see below). For a target time of 12:00 each day, data will be issued for all ½ hour periods between that target time (ie 12:00) and 05:00 two days later, ie a total of 82 ½ hour periods. Each ½ hour thereafter, data will be issued for ½ hour periods starting at that target time and ending at the same time (ie 05:00 two days later). Each set of data will therefore contain data for one ½ hour period less than the previous target time. The data issued for a target time of 00:00 will also end at the same time as for the previous target time; however, as the new target time is at the start of the next day, the end time is now 05:00 one day later. The data issued for a target time of 11:30 will also end at 05:00 one day later (a total of 35 ½ hour periods). For the next target time, ie 12:00, the end date will move out by 24 hours to 05:00 two days later, so the data issued will increase by 47 ½ hour periods. At this point, the cycle will repeat.

The exception in this cycle is the target time of 09:00. This data will not be issued for this target time as the Initial National Demand Forecast data (see section 5.2) is issued at this time. Although this data is issued half-hourly, the underlying demand

forecast data is not necessarily updated as regularly as this. In general, the demand forecasts will be updated by the following target times for the time ranges indicated:

- 02:00 – Data from 02:00 day 0 to 05:00 on day+1
- 10:00 – Data from 10:00 day 0 to 05:00 on day+1
- 16:00 – Data from 05:00 day+1 to 05:00 on day+2
- 16:30 – Data from 16:30 day 0 to 05:00 on day+1
- 22:00 – Data from 22:00 day 0 to 05:00 on day+2

Between these target times, the demand forecast may be updated for operational reasons where required.

The values quoted will be ½ hour average MW values calculated by National Grid. The following sections identify the information that will be made available.

5.3.1 Net Interconnector Import/Export

The terms Net Interconnector Import/Export are defined as follows:

$$\text{Net Interconnector Import} = \sum_{1}^{n} if\left(\sum_{1}^{m} PN_{(\text{Generation \& Demand})}\right) > 0$$

i.e. a net positive PN position meaning a flow of power into the UK.

and

$$\text{Net Interconnector Export} = \sum_{1}^{n} if\left(\sum_{1}^{m} PN_{(\text{Generation \& Demand})}\right) < 0$$

i.e. a net negative PN position meaning a flow of power from the UK.

Where n is the number of Interconnectors in the corresponding area, i.e. either national or market constraint.

and m is the number of BM units trading on the Interconnector

5.3.2 National Information

- National Grid National Demand Forecast (NDF)
- Transmission System Demand Forecast (TSDF)

  NDF + Pump Storage$_{demand}$ - Net Interconnector Export + Station Demand
- Indicated Generation (INDGEN)

  $\Sigma PN_{generation}$ + Net Interconnector Import
- Indicated Imbalance (IMBALNGC)

  INDGEN – TSDF
- Indicated Margin (MELNGC)

  $\Sigma MEL_{generation}$ + Net Interconnector Import – TSDF
- Indicated Demand (INDDEM)

  ΣPN_{demand} + Net Interconnector Export

5.3.3 Constraint Boundary Information

- Transmission System Demand Forecast (TSDF)

  National Grid Demand Forecast + Pump Storage $_{demand}$ - Net Interconnector Export + Station Demand

- Indicated Generation (INDGEN)

  $\Sigma PN_{generation}$ + Net Interconnector Import

- Indicated Imbalance (IMBALNGC)

  INDGEN – TSDF

- Indicated Margin (MELNGC)

  Import Constraint = Boundary Transfer limit - TSDF + Net Interconnector Import + $\Sigma MEL_{generation}$

  Export Constraint = Boundary Transfer limit + TSDF - Net Interconnector Import - $\Sigma MEL_{generation}$

- Indicated Demand (INDDEM)

  ΣPN_{demand} + Net Interconnector Export

6 BALANCING MECHANISM DATA

The following sections describe the data that will be made available by National Grid to the BMRA/SAA.

6.1 Gate Closure Data

All BM data submitted to, accepted and/or defaulted by National Grid for missing data (i.e. not rejected as a result of validation or consistency checks) will be made available. Data will be provided within a target time of 5 or 15 minutes (as appropriate) after each gate closure and for one settlement period only i.e. for the ½ hour period just closed. The following data will be made available for each BM unit:

- PN (PN – Physical Notification)
- Quiescent PN (QPN)
- Bid – Offer Data (BOD)
- Maximum Export Limit & Maximum Import Limit (MELS & MILS)

6.2 Acceptance Data

Acceptance data will be made available within a target time of 15 minutes of National Grid accepting a Bid – Offer. The following information will be contained within the data:

- Bid – Offer Acceptance Level (BOAL)
- Bid – Offer Acceptance Level Flagged (BOALF)

Note that the BOAL file is sent for all Settlement Periods pre-P217 and the BOALF file is sent for all Settlement Periods post-P217. The BOALF file will additionally include a SO-Flag which, when set to 'TRUE', indicates that the BOA is potentially impacted by a transmission constraint. When a SO-Flag is set to 'FALSE' it indicates that a BOA is not impacted by a transmission constraint. Following the implementation of P217, the BOAL files will become redundant and they will be discontinued.

The new BOALF file will also contain a flag indicating whether the data within the file is an amendment. Where the flag is 'FALSE', this will indicate that the data is for a new BOA. Where the flag is 'TRUE', this will indicate that the data is an amendment to an earlier file.

6.3 Re-Declaration

Re-declaration data will be made available within a target time of 5 minutes of National Grid accepting a re-declaration. The following information will be contained within the data:

- Dynamic Data
- Maximum Export Limit & Maximum Import Limit (MELS & MILS).

Only updates to the MEL & MIL data within the BM window will be sent.

7 NATIONAL DEMAND OUT-TURN

Within a target time of 15 minutes of the end of a ½ hour settlement period the Initial Demand Out-Turn values will be made available. However on occasions due to lack of metering data, INDO and ITSDO files may not get produced. The values will be the ½ hour average MW demand for that period. The following values will be provided:

- Initial National Demand Out-Turn

  National Grid Operational Metered National Generated Out-Turn, this value takes account of transmission losses but does not include station transformer load, pump storage demand and interconnector demand.

  (INDO – Initial National Demand Out-Turn)

- Initial Transmission System Demand Out-Turn

  National Grid Operational Metered National Generated Out-Turn, this value takes account of transmission losses, station transformer load, pump storage demand and interconnector demand.

  (ITSDO – Initial Transmission System Demand Out-Turn)

At the end of each settlement day, a value for INDO for the previous day will also be made available. This will be the total of the half-hourly values (converted to MWh) and will be provided within a target time of 15 minutes of the end of each settlement day. (INDOD – Initial National Demand Out-Turn Daily).

8 BALANCING SERVICES ADJUSTMENT DATA

8.1 Modification Proposal P217

As a result of Modification Proposal P217, Balancing Services Adjustment Data (BSAD) will be submitted in two ways. Net BSAD for Settlement Days will continue to be published as Record Type "NETBSAD". Disaggregated BSAD will be published as DISBSAD.

There will be no change in the frequency of BSAD submission.

8.2 Net BSAD

Net Balancing Services Adjustment Data (NETBSAD) comprises National Grid's net half-hourly position resulting from trading of options, Short Term Operating Reserve and BM Start-Up BPA. The frequency and content of the NETBSAD files will accord with that detailed in the Balancing Services Adjustment Data Methodology Statement, Version 2.1 [8].

NETBSAD contains the following information on a Settlement Day/Settlement Period basis:

- EBCA - Net Buy Price Cost Adjustment (Energy)
- EBVA - Net Buy Price Volume Adjustment (Energy)
- SBVA - Net Buy Price Volume Adjustment (System)
- BPA - Buy-Price Price Adjustment
- ESCA - Net Sell Price Cost Adjustment (Energy)
- ESVA - Net Sell Price Volume Adjustment (Energy)
- SSVA - Net Sell Price Volume Adjustment (System)
- SPA - Sell–Price Price Adjustment

The format of the data file will not change for P217. Data sent prior to the implementation of P217 but not required after this (ie EBCA, EBVA, SBVA, ESCA, ESVA and SSVA) will be set to zero.

8.3 Disaggregated BSAD

Disaggregated BSAD comprises data for individual balancing services actions, eg Pre-Gate Closure BMU Transactions (PGBTs), short term forward trades and System Operator to System Operator Trades (SO-SO).

For each balancing action, the volume and cost is provided. A SO-flag is also included, which, if set, indicates that the balancing action is potentially impacted by a transmission constraint. Note that the cost can be NULL, indicating an exceptional action (eg intertrip).

For each balancing action within each Settlement Period, a unique ID is allocated. This ID will be the same for the same balancing action and Settlement Period in different reports (as submitted in different timescales). However, where a balancing action spans more than one period (as is usually the case), the ID of a section of the balancing action within a Settlement Period may be different to that in other Settlement Periods.

8.4 BSAD Submission Frequency

NETBSAD will continue to be sent pre-P217 and Post-217. DISBSAD will be sent post-P217 only. Both will be sent at the following frequencies:

8.4.1 Day Ahead Data

The Day Ahead NETBSAD and DISBSAD (post-P217) will contain a preliminary view of National Grid's trading position for all Settlement Periods within the next calendar day.

National Grid will ensure that Day Ahead NETBSAD and DISBSAD (post-P217) are delivered in line with the time scales set out for BSAD provision in Section Q Paragraph 6.3 of the Balancing and Settlement Code [7]. This commitment is restated in the Section 1.3 of the BSAD Methodology Statement [8].

8.4.2 Post Event Data

The Post-Event NETBSAD and DISBSAD (post-P217) will contain a revised view of National Grid's trading position for Settlement Periods within earlier calendar days.

National Grid will ensure that the Post Event NETBSAD and DISBSAD (post-P217) are delivered in line with the time scales set out in Section Q Paragraph 6.3.3 of the Balancing and Settlement Code [7] and restated in Section 1.5 of the BSAD Methodology Statement [8].

8.4.3 Additional Frequencies

As stated in Section 1.3 of the BSAD Methodology Statement [8] National Grid will supply Balancing Services Adjustment Data "on a half hour basis as soon as possible after Gate Closure".

9 BALANCING SERVICES VOLUME DATA

Files will only contain energy imbalance for BM Units and Settlement Periods where a relevant Ancillary Service has been instructed.

A single file will be produced and sent for each Settlement Day no later than the second Business Day after such Settlement Day. These files may be reproduced with revised volumes for Settlement Days that have already been included in earlier files.

10 SYSTEM WARNINGS

National Grid will make system warnings available in a free format text file as appropriate. The file name will have the following format:

SYS_WARN_<CREATION DATE>.bmr

An example file warning file name created on 20 December 2000 at 01:20pm is, SYS_WARN_200012201320.bmr

Typically, this currently takes the form of a single A4 sheet of text document. A specification of standard system warnings may be found in reference 10.

11 SYSTEM GENERATION BY FUEL TYPE

System generation totals for generation by fuel type will be provided. Every five minutes the average metered system generation will be determined since the last

measurement as a MW value by Fuel Type. This data will be sent in FUELINST files.

In addition, half-hourly average period values will be calculated and sent in FUELHH files.

The Fuel Types for which values should be calculated are:

a. Combined Cycle Gas Turbine (CCGT) Modules;
b. Oil Plant;
c. Coal Plant;
d. Nuclear Plant;
e. Power Park Modules (Wind) metered by National Grid;
f. Pumped Storage Plant;
g. Non Pumped Storage Hydro Plant;
h. Open Cycle Gas Turbine (OCGT) plant;
i. Other;
j. External Interconnection flows from France to England; and
k. External Interconnection flows from Ireland to Scotland.
l. External Interconnection flows from Netherlands to England.

The other category contains all generation that cannot be placed within any of the other categories.

Note that this data will be limited to units for which National Grid has operational meters readings.

12 SYSTEM FREQUENCY

The system frequency will be made available at regular intervals. The system frequency will be sampled every 15 seconds. Values will be collected together over a period of two minutes to give eight separate values in each file transferred to the BMRA. Note that it is possible that less than eight values may appear in a file.

13 TEMPERATURE

An average UK temperature as at 12:00 Local Time on the previous day will be provided every day no later than 17:00 Local Time. The value will be a weighted average of the values for different locations.

14 WIND GENERATION FORECAST

Forecasts for wind generation will be provided. The forecasts will be provided every day no later than 17:00 Local Time. Forecasts will be provided at hourly resolution for the period 21:00 Current Day to 21:00 2 Days Ahead (D+2), i.e. 49 periods as the start and end times are inclusive.

Note that, for times for which forecasts are provided, there will over time be more than one forecast generation figure. Publication times will be included in the data to ensure that the latest figures can be determined.

15 NON-BM STOR GENERATION

The volume of instructions issued to non-BM units under Short Term Operating Reserve (STOR) contracts will be made available. Total volumes for each Settlement Period will be determined and provided to the BMRA within a target time of 15 minutes after the end of the Settlement Period.

16 OC2 DATA

Note1: This section has been copied to this document from the ELEXON Interface spec as part of 'P243 – Generator Forward Availability by Fuel Type', where all OC2 data sent to the ELEXON site has been re-directed instead to BMRS.

P243 also delivers additional files with Interconnector data to BMRS. See related document 1.

Note2: National and Zonal 2 – 49 days ahead output usable data – NOU2T49D & ZOU2T49D: These files are not produced by BM (National Grid) **as** these are not currently required to be sent to BMRS/ELEXON. This is as per Section Q6.5.2 of the BSC code document and section 6.1.2.B of the P243 solution spec which states: this data would be provided "Whenever provided to any User pursuant to the Grid Code" (quote from Q6.5.2 of the BSC Code document but similar statement in section 6.1.2B of the P243 solution document. Therefore, as this is not provided to any user it is also not produced or sent to the BMRS/ELEXON systems. File structure, format etc.. are defined and available in this document if the requirement changes.

16.1 Long Term Output Usable MW OC2 Data

Long term output usable data covers the period between current day+2 and 5 years ahead. Sections below describe the data that will be made available for this period. Codes shown in the next two sections in brackets are file name prefixes to identify the different files.

- The first character represents data group. (Z) for System Zone and (N) for National.
- OU – Output Usable
- The period. Examples: 2T14D, refers to 2 – 14 Days ahead and Y1 refers to Year 1 ahead data sets.

16.1.1 System Zones Output Usable MW OC2 Data

System Zones Output Usable data will be made available at the following target times:

- 2 – 14 days ahead, (ZOU2T14D) – Output Usable data.

  Made available by 16:00 each business day.
- 2 – 49 days ahead, (ZOU2T49D) – Output Usable data.

(This file is not produced by NG, See section note above).

- 2 – 52 weeks ahead, (ZOU2T52W) – Output Usable data.

  Made available by 17:00 every Friday.
- Year 1 ahead, (ZOUY1) – Output Usable data.

  Made available as soon as the data is ready.
- Year 2 ahead, (ZOUY2) – Output Usable data.

  Made available as soon as the data is ready.
- Year 3 ahead, (ZOUY3) – Output Usable data.

  Made available as soon as the data is ready.
- Year 4 ahead, (ZOUY4) – Output Usable data.

  Made available as soon as the data is ready.
- Year 5 ahead, (ZOUY5) – Output Usable data.

  Made available as soon as the data is ready.

16.1.2 National Output Usable MW OC2 Data

National Output Usable data will be made available at the following target times:

- 2 – 14 days ahead, (NOU2T14D) – Output Usable data.

  Made available by 16:00 each business day.
- 2 – 49 days ahead, (NOU2T49D) – Output Usable data.

  (This file is not produced by NG, See section note above)
- 2 – 52 weeks ahead, (NOU2T52W) – Output Usable data.

  Made available by 17:00 every Friday.
- Year 1 ahead, (NOUY1) – Output Usable data.

  Made available as soon as the data is ready.
- Year 2 ahead, (NOUY2) – Output Usable data.

  Made available as soon as the data is ready.
- Year 3 ahead, (NOUY3) – Output Usable data.

  Made available as soon as the data is ready.
- Year 4 ahead, (NOUY4) – Output Usable data.

  Made available as soon as the data is ready.
- Year 5 ahead, (NOUY5) – Output Usable data.

  Made available as soon as the data is ready.

(All yearly files will be made available twice a year; approximately at six monthly intervals.)

16.1.3 National Output Usable MW OC2 Data by Fuel Type

P243 related new files: National Output Usable/Interconnector Capacity data will be made available at the following target times:

- 2 – 14 days ahead, (FOU2T14D) – Output Usable/Interconnector Capacity data.

  Made available by 16:00 each business day.

- 2 – 52 weeks ahead, (FOU2T52W) –Output Usable/Interconnector Capacity data.

  Made available by 17:00 every Friday.

16.1.4 National Output Usable MW OC2 Data by BMU & Fuel Type

P243 related new files: National Output Usable/Interconnector Capacity data will be made available at the following target times:

- 2 – 14 days ahead, (UOU2T14D) – Output Usable/Interconnector Capacity data.

  Made available by 16:00 each business day.

- 2 – 52 weeks ahead, (UOU2T52W) – Output Usable/Interconnector Capacity data.

  Made available by 17:00 every Friday.

16.2 Generating Plant Demand Margin based on OC2 Data

Note: This section has been copied to this document from the ELEXON Interface spec as part of 'P243 – Generator Forward Availability by Fuel Type' where, all OC2 data sent to the ELEXON site has been re-directed instead to BMRS.

P243 also delivers additional files with Interconnector data to BMRS. See related document 1.

16.2.1 Generating Plant Demand Margin based on OC2 Data

Generating Plant Demand Margin information will be made available at the following target times:

- 2 – 14 days ahead, ½ hour average MW value for the peak of the day (OCNMFD2 – Generating Plant Demand Margin)

  Made available by 16:00 each business day.

- 2 – 52 weeks ahead, ½ hour average MW value for the peak of the week (OCNMFW2 – Generating Plant Demand Margin)

Made available by 17:00 every Friday.

(Generating Plant Demand Margin = Output Usable – Forecast Demand where Forecast Demand = National Demand + Station Demand).

17 CROSS BORDER BALANCING DATA

NGC & RTE trade energy reserves over the IFA interconnector on the BALIT trading platform. Every hour each SO makes available up to 500MW of reserves (positive & negative) for the other party to buy/sell. The 500MW of reserve are broken down into 50MW blocks with each block given a separate price (Euros). If 500MW is not available then the number of blocks submitted is restricted to the amount of reserve available. These prices are made available on the BMRA website.

This data is provided in the "MOL" (Merit Order List) file and is the same format which is used to convey the details of the BALIT prices to the SOs. The file is different from other BMRA files in that it is XML in format and it adopts the format specified in ETSO ERRP II standards (see reference 18 for details). The format of these files is not covered in this document.

The file names of these files is that inherited from the BALIT system, i.e. BALIT#MOL_yyyymmdd_hhmm_hhmm#1.xml where yyyymmdd is the date of the corresponding BALIT period and the first hhmm is that start time of the BALIT period and the second hhmm is the corresponding end time.

e.g. BALIT#MOL_20110527_1900_2000#1.xml

A separate FTP login is used separate the MOL file from the other market files when transferring the files to the BMRA.

18 FILE NAMING CONVENTION

Each BMRA/SAA transfer file will have a unique file name consisting of 3 parts and a file extension. The extension will be .bmr for all files. Each type of data will be submitted in a separate file. The same type of data for different BM units and trading parties may be submitted within the same file e.g. PN data for many BM units.

Title	Description	Field Size	Field Format	Comment
DATA TYPE	The type of data which the file contains. See the definition of Data Record Types in Section 20 below for a list of allowable values	8	Alphabetic	Variable length field up to a maximum of field size dependant on the name of the record type.
OC2 START DATE / CREATION DATE	Start Date / Date and time of file creation	8 / 12	YYYYMMDD / YYYYMMDDHH24MI	Start Date with Data Type can be used to overwrite existing files.
SEQUENCE NO	Sequence number of a file created within a file type.	5	NNNNN	Fixed length field with incremental rotating values ranging from 00000 to 99999. Value reset to 00000 after 99999.

Thus the filename will be of the form <DATA TYPE>_<CREATION DATETIME>_<SEQUENCE NO>.bmr.

For example, for a submission of PN data created at 02:04 on 1 November 2000, the file name would be PN_200011010204_00000.bmr.

Each file comprises one or more data records. Each record consists of a data header record followed by a set of data fields.

The format of the data fields for submission data will be defined in the related document NETA Data Validation, Consistency and Defaulting Rules (reference 5).

19 FILE HEADER AND FOOTERS

19.1 File Headers

The file headers will consist of five records at the beginning of a file. Each header record will be prefixed with the character '*'. There will be no space between the asterisk and any of the file header information.

The first record will contain the filename as specified in section 9.

The third record will contain a brief description of the file type.

The fifth record will describe the columns of data stored in the subsequent data records.

The second and fourth record will only contain a single '*' character.

19.2 File Footers

The file footers will consist of a single record at the end of the file. The record will contain the '<EOF>' string.

19.3 Engineering Week/Year

Engineering Week and Year are based on International Standard Organisation (ISO) standards. Weeks will always begin on a Monday and end on a Sunday.

Week 1 normally will be the first Monday of the New Year. However, if there are 4 or more days of the last week of the previous year falls in the New Year, then Week 1 will begin on last Monday of the previous year. Example, Week 1 for Year 2003 begins on the 30th of December 2002.

A year will have a minimum of 52 weeks and maximum of 53 weeks.

20 RECORD HEADERS

20.1 BM Unit Related Headers

The data header record for BM unit related data e.g. PNs, Bid-Offer acceptances etc is as follows:

Field	Format	Comments
Data Record Type	Alphanumeric	One of: PN Physical Notification QPN Quiescent Physical Notification BOD Bid-Offer Data BOAL Bid-Offer Acceptance Levels (obsolete) BOALF Bid-Offer Acceptance Levels Flagged MELS Maximum Export Limit

Field	Format	Comments
		MILS Maximum Import Limit RURE Run Up Rates Export RURI Run Up Rates Import RDRE Run Down Rates Export RDRI Run Down Rates Import NDZ Notice to Deviate from Zero NTO Notice to Deliver Offers NTB Notice to Deliver Bids MZT Minimum Zero Time MNZT Minimum Non-Zero Time SEL Stable Export Limit SIL Stable Import Limit MDV Maximum Delivery Volume MDP Maximum Delivery Period QAS Balancing Services Volume
BM Unit Name	Alphanumeric	Up to 9 Characters

20.2 OC2 Related Headers

Note: This section has been copied to this document from the ELEXON Interface spec as part of 'P243 – Generator Forward Availability by Fuel Type', where all OC2 data sent to the ELEXON site has been re-directed instead to BMRS.

P243 also delivers additional files with Interconnector data to BMRS. See related document 1.

The data header record for OC2 related data e.g. Output Usable, Interconnector Capacity, Generating Plant Demand Margin etc is as follows:

Field	Format	Comments
Data Type	Alphanumeric	OC2 Data ZOU2T14D System Zones 2-14 Days Ahead NOU2T14D National 2-14 Days Ahead FOU2T14D National 2-14 Days Ahead by Fuel Type (Incls Interconnector data) UOU2T14D National 2-14 Days Ahead by BMU & Fuel Type (Incls Interconnector data) ZOU2T49D System Zones 2-49 Days Ahead NOU2T49D National 2-49 Days Ahead ZOU2T52W System Zones 2-52 Weeks Ahead NOU2T52W National 2-52 Weeks Ahead FOU2T52W National 2-52 Weeks Ahead by Fuel Type (Incls Interconnector data) UOU2T52W National 2-52 Weeks Ahead by BMU & Fuel Type (Incls Interconnector data) ZOUY1 System Zones Year 1 Ahead NOUY1 National Year 1 Ahead ZOUY2 System Zones Year 2 Ahead NOUY2 National Year 2 Ahead

Field	Format	Comments	
		ZOUY3	System Zones Year 3 Ahead
		NOUY3	National Year 3 Ahead
		ZOUY4	System Zones Year 4 Ahead
		NOUY4	National Year 4 Ahead
		ZOUY5	System Zones Year 5 Ahead
		NOUY5	National Year 5 Ahead
		OCNMFD2	Generating Plant Demand Margin based on OC2 data for 2-14 days
		OCNMFW2	Generating Plant Demand Margin based on OC2 data for 2-52 weeks

20.3 General Headers

Field	Format	Comments
Data Record Type	Alphanumeric	One of: INDGEN Indicated Generation INDDEM Indicated Demand NDF National Demand Forecast TSDF Transmission System Demand Forecast INDO Initial National Demand Out-Turn INDOD Initial National Demand Outturn Daily ITSDO Initial Transmission System Demand Outturn NDFD National Demand Forecast Day TSDFD Transmission System Demand Forecast Day NDFW National Demand Forecast Week TSDFW Transmission System Demand Forecast Week OCNMFD Forecast Daily National Surplus based on OC2 data for 2-14 days OCNMFW Forecast Weekly National Surplus based on OC2 data for 2-52 weeks MELNGC Indicated Margin IMBALNGC Indicated Imbalance NETBSAD Net Balancing Services Adjustment Data DISBSAD Disaggregated Balancing Services Adjustment Data FUELINST Instantaneous generation by fuel type FUELHH Half-hourly Generation by fuel type FREQ System frequency TEMP Temperature WINDFOR Wind generation forecast NONBM Non-BM STOR

21 RECORD DATA FORMAT

21.1 BM Unit Related Data

Record Type	Field	Format	Units	Comments
PN	Time from	Date Time	-	
	PN Level from	Numeric	MW	
	Time to	Date Time	-	
	PN Level to	Numeric	MW	
QPN	Time from	Date Time	-	
	QPN Level from	Numeric	MW	
	Time to	Date Time	-	
	QPN Level to	Numeric	MW	
BOD	Time from	Date Time	-	
	Time to	Date Time	-	
	Bid-Offer Pair Number	Numeric		
	Bid-Offer Level from	Numeric	MW	
	Bid-Offer Level to	Numeric	MW	
	Offer Price	Numeric	£ / MWh	
	Bid Price	Numeric	£ / MWh	

Record Type	Field	Format	Units	Comments
BOAL	Bid Offer Acceptance Number	Numeric	-	Note that BOAL data will become obsolete following implementation of P217. The bid offer acceptance number is an incremental number ranging from 1 to ((2 to the power 31) minus 1), value reset to 1 after maximum is reached.
	Acceptance Time	Date Time	-	
	Deemed Bid Offer Flag	Alphanumeric	-	Either 'FALSE' or 'TRUE'
	Time from	Date Time	-	
	Acceptance Level from	Numeric	MW	Between –9999 and +9999
	Time to	Date Time	-	
	Acceptance Level to	Numeric	MW	Between -9999 and +9999
BOALF	Bid Offer Acceptance Number	Numeric	-	The bid offer acceptance number is an incremental number ranging from 1 to ((2 to the power 31) minus 1), value reset to 1 after maximum is reached.
	Acceptance Time	Date Time	-	
	Deemed Bid Offer Flag	Alphanumeric	-	Either 'FALSE' or 'TRUE'
	SO-Flag	Alphanumeric	-	Either 'FALSE' or 'TRUE'
	Time from	Date Time	-	
	Acceptance Level from	Numeric	MW	Between –9999 and +9999
	Time to	Date Time	-	
	Acceptance Level to	Numeric	MW	Between -9999 and +9999

Record Type	Field	Format	Units	Comments
	Amendment Flag	Alphanumeric	-	Either 'FALSE' or 'TRUE' 'FALSE' indicates that the file contains data for a new BOA 'TRUE' indicates that the file contains data amending an earlier reported BOA
MELS	Time from	Date Time	-	
	Maximum Export Level from	Numeric	MW	
	Time to	Date Time	-	
	Maximum Export Level to	Numeric	MW	
	Notification Time	Date Time	-	Including seconds
	Notification Sequence	Numeric	-	Between 0 and +999999999 Indicates the order of receipt for data where the notification time is the same. Higher numbers should take precedence as they indicate later receipt than lower numbers. Note that the sequence numbers will not necessarily be contiguous and may start with any number.
MILS	Time from	Date Time	-	
	Maximum Import Level from	Numeric	MW	
	Time to	Date Time	-	
	Maximum Import Level to	Numeric	MW	
	Notification Time	Date Time	-	Including seconds

Record Type	Field	Format	Units	Comments
	Notification Sequence	Numeric	-	Between 0 and +999999999 Indicates the order of receipt for data where the notification time is the same. Higher numbers should take precedence as they indicate later receipt than lower numbers. Note that the sequence numbers will not necessarily be contiguous and may start with any number.
RURE	Effective time	Date Time	-	
	Run-Up Rate 1	Numeric	MW/ minute	
	Run-Up Elbow 2	Numeric	MW	
	Run-Up Rate 2	Numeric	MW/ minute	
	Run-Up Elbow 3	Numeric	MW	
	Run-Up Rate 3	Numeric	MW/ minute	
RURI	Effective time	Date Time	-	
	Run-Up Rate 1	Numeric	MW/ minute	
	Run-Up Elbow 2	Numeric	MW	
	Run-Up Rate 2	Numeric	MW/ minute	
	Run-Up Elbow 3	Numeric	MW	
	Run-Up Rate 3	Numeric	MW/ minute	
RDRE	Effective time	Date Time	-	
	Run-down Rate 1	Numeric	MW/ minute	
	Run-down Elbow 2	Numeric	MW	
	Run-down Rate 2	Numeric	MW/ minute	

Record Type	Field	Format	Units	Comments
	Run-down Elbow 3	Numeric	MW	
	Run-down Rate 3	Numeric	MW/ minute	
RDRI	Effective time	Date Time	-	
	Run-down Rate 1	Numeric	MW/ minute	
	Run-down Elbow 2	Numeric	MW	
	Run-down Rate 2	Numeric	MW/ minute	
	Run-down Elbow 3	Numeric	MW	
	Run-down Rate 3	Numeric	MW/ minute	
NDZ	Effective time	Date Time	-	
	Notice to Deviate from Zero	Numeric	Minutes	
NTO	Effective time	Date Time	-	
	Notice to Deliver Offers	Numeric	Minutes	
NTB	Effective time	Date Time	-	
	Notice to Deliver Bids	Numeric	Minutes	
MZT	Effective time	Date Time	-	
	Minimum Zero Time	Numeric	Minutes	
MNZT	Effective time	Date Time	-	
	Minimum Non-Zero Time	Numeric	Minutes	
SEL	Effective time	Date Time	-	
	Stable Export Limit	Numeric	MW	

Record Type	Field	Format	Units	Comments
SIL	Effective time	Date Time	-	
	Stable Import Limit	Numeric	MW	
MDV	Effective time	Date Time	-	
	Maximum Delivery Volume	Numeric	MWh	
MDP	Effective time	Date Time	-	
	Maximum Delivery Period	Numeric	Minute	
QAS	Settlement Day	Date	-	
	Settlement Period	Numeric	-	1-50
	Applicable Balancing Services Volume	Numeric	MWh	Format (10.3)

21.2 OC2 Related Data

Note: This section has been copied to this document from the ELEXON Interface spec as part of 'P243 – Generator Forward Availability by Fuel Type', where all OC2 data sent to the ELEXON site has been re-directed instead to BMRS.

P243 also delivers additional files with Interconnector data to BMRS. See related document 1.

Record Type	Field	Format	Units	Comments
ZOU2T14D	Publishing Datetime	Date Time		YYYY-MM-DD HH24:MI

Record Type	Field	Format	Units	Comments
	System Zone	Character		Currently A, B, C, D, E, F G or S. Zones can change and overlap. Zones can change and overlap.
	Day of Forecast	Date		YYYY-MM-DD
	System Zone Output Usable	Numeric	MW	Between 0 and 99999
NOU2T14D	Publishing Datetime	Date Time		YYYY-MM-DD HH24:MI
	System Zone	Character		N for National
	Day of Forecast	Date		YYYY-MM-DD
	National Output Usable	Numeric	MW	Between 0 and 99999
ZOU2T49D	Publishing Datetime	Date Time		YYYY-MM-DD HH24:MI
	System Zone	Character		Currently A, B, C, D, E, F G or S. Zones can change and overlap. Zones can change and overlap.
	Day of Forecast	Date		YYYY-MM-DD
	System Zone Output Usable	Numeric	MW	Between 0 and 99999
NOU2T49D	Publishing Datetime	Date Time		YYYY-MM-DD HH24:MI
	System Zone	Character		N for National
	Day of Forecast	Date		YYYY-MM-DD
	National Output Usable	Numeric	MW	Between 0 and 99999
ZOU2T52W	Publishing Datetime	Date Time		YYYY-MM-DD HH24:MI
	System Zone	Character		Currently A, B, C, D, E ,F G or S. Zones can change and overlap. Zones can change and overlap.

Record Type	Field	Format	Units	Comments
	Engineering Week Number	Numeric		see section 19.3 for further details.
	Engineering Year	Numeric		YYYY
	System Zone Output Usable	Numeric	MW	Between 0 and 99999
NOU2T52W	Publishing Datetime	Date Time		YYYY-MM-DD HH24:MI
	System Zone	Character		N for National
	Engineering Week Number	Numeric		see section 19.3 for further details.
	Engineering Year	Numeric		YYYY
	National Output Usable	Numeric	MW	Between 0 and 99999
ZOUY1	Publishing Datetime	Date Time		YYYY-MM-DD HH24:MI
	System Zone	Character		Currently A, B, C, D, E, F G or S. Zones can change and overlap. Zones can change and overlap.
	Engineering Week Number	Numeric		see section 19.3 for further details.
	Engineering Year	Numeric		YYYY
	System Zone Output Usable	Numeric	MW	Between 0 and 99999
NOUY1	Publishing Datetime	Date Time		YYYY-MM-DD HH24:MI
	System Zone	Character		N for National.
	Engineering Week Number	Numeric		see section 19.3 for further details.

Record Type	Field	Format	Units	Comments
	Engineering Year	Numeric		YYYY
	National Output Usable	Numeric	MW	Between 0 and 99999
ZOUY2	Publishing Datetime	Date Time		YYYY-MM-DD HH24:MI
	System Zone	Character		Currently A, B, C, D, E, F G or S. Zones can change and overlap. Zones can change and overlap.
	Engineering Week Number	Numeric		see section 19.3 for further details.
	Engineering Year	Numeric		YYYY
	System Zone Output Usable	Numeric	MW	Between 0 and 99999
NOUY2	Publishing Datetime	Date Time		YYYY-MM-DD HH24:MI
	System Zone	Character		N for National.
	Engineering Week Number	Numeric		see section 19.3 for further details.
	Engineering Year	Numeric		YYYY
	National Output Usable	Numeric	MW	Between 0 and 99999
ZOUY3	Publishing Datetime	Date Time		YYYY-MM-DD HH24:MI
	System Zone	Character		Currently A, B, C, D, E, F G or S. Zones can change and overlap. Zones can change and overlap.
	Engineering Week Number	Numeric		see section 19.3 for further details.
	Engineering Year	Numeric		YYYY

Record Type	Field	Format	Units	Comments
	System Zone Output Usable	Numeric	MW	Between 0 and 99999
NOUY3	Publishing Datetime	Date Time		YYYY-MM-DD HH24:MI
	System Zone	Character		N for National.
	Engineering Week Number	Numeric		see section 19.3 for further details.
	Engineering Year	Numeric		YYYY
	National Output Usable	Numeric	MW	Between 0 and 99999
ZOUY4	Publishing Datetime	Date Time		YYYY-MM-DD HH24:MI
	System Zone	Character		Currently A, B, C, D, E, F G or S. Zones can change and overlap. Zones can change and overlap.
	Engineering Week Number	Numeric		see section 19.3 for further details.
	Engineering Year	Numeric		YYYY
	System Zone Output Usable	Numeric	MW	Between 0 and 99999
NOUY4	Publishing Datetime	Date Time		YYYY-MM-DD HH24:MI
	System Zone	Character		N for National.
	Engineering Week Number	Numeric		see section 19.3 for further details.
	Engineering Year	Numeric		YYYY
	National Output Usable	Numeric	MW	Between 0 and 99999

Record Type	Field	Format	Units	Comments
ZOUY5	Publishing Datetime	Date Time		YYYY-MM-DD HH24:MI
	System Zone	Character		Currently A, B, C, D, E, F G or S. Zones can change and overlap Zones can change and overlap.
	Engineering Week Number	Numeric		see section 19.3 for further details.
	Engineering Year	Numeric		YYYY
	System Zone Output Usable	Numeric	MW	Between 0 and 99999
NOUY5	Publishing Datetime	Date Time		YYYY-MM-DD HH24:MI
	System Zone	Character		N for National.
	Engineering Week Number	Numeric		see section 19.3 for further details.
	Engineering Year	Numeric		YYYY
	National Output Usable	Numeric	MW	Between 0 and 99999
OCNMFD2	Publishing Datetime	Date Time		YYYY-MM-DD HH24:MI
	Day of Forecast	Date		YYYY-MM-DD
	Margin	Numeric	MW	Between –99999 and 99999
OCNMFW2	Publishing Datetime	Date Time		YYYY-MM-DD HH24:MI
	Engineering Week Number	Numeric		see section 19.3 for further details.
	Engineering Year	Numeric		YYYY
	Margin	Numeric	MW	Between –99999 and 99999

Record Type	Field	Format	Units	Comments
FOU2T14D	Fuel Type	Text(8)		One of: CCGT OIL COAL NUCLEAR WIND PS NPSHYD OCGT OTHER INTFR INTIRL INTNED
	Publishing Datetime	Date Time		YYYY-MM-DD HH24:MI
	System Zone	Character		N for National
	Day of Forecast	Date		YYYY-MM-DD
	National Output Usable / Interconnector Capacity	Numeric	MW	Between 0 and 99999
UOU2T14D	BM Unit Name / Interconnector Name	Alphanumeric	Up to 9 Characters	BMUnit or the Interconnector Name

Record Type	Field	Format	Units	Comments
	Fuel Type	Text(8)		One of: CCGT OIL COAL NUCLEAR WIND PS NPSHYD OCGT OTHER INTFR INTIRL INTNED
	Publishing Datetime	Date Time		YYYY-MM-DD HH24:MI
	System Zone	Character		N for National
	Day of Forecast	Date		YYYY-MM-DD
	National Output Usable / Interconnector Capacity	Numeric	MW	Between 0 and 99999

Record Type	Field	Format	Units	Comments
FOU2T52W	Fuel Type	Text(8)		One of: CCGT OIL COAL NUCLEAR WIND PS NPSHYD OCGT OTHER INTFR INTIRL INTNED
	Publishing Datetime	Date Time		YYYY-MM-DD HH24:MI
	System Zone	Character		N for National
	Engineering Week Number	Numeric		see section 19.3 for further details.
	Engineering Year	Numeric		YYYY
	National Output Usable / Interconnector Capacity	Numeric	MW	Between 0 and 99999
UOU2T52W	BM Unit Name / Interconnector Name	Alphanumeric	Up to 9 Characters	BMUnit or the Interconnector Name

Record Type	Field	Format	Units	Comments
	Fuel Type	Text(8)		One of: CCGT OIL COAL NUCLEAR WIND PS NPSHYD OCGT OTHER INTFR INTIRL INTNED
	Publishing Datetime	Date Time		YYYY-MM-DD HH24:MI
	System Zone	Character		N for National
	Engineering Week Number	Numeric		see section 19.3 for further details.
	Engineering Year	Numeric		YYYY
	National Output Usable / Interconnector Capacity	Numeric	MW	Between 0 and 99999

21.3 General Record Data

Record Type	Field	Format	Units	Comments
INDGEN	Publishing Period Commencing Time	Date Time	-	
	Start Time of ½ hr Period	Date Time	-	
	National/Boundary Identifier	Alpha Numeric		Either N or A…E
	ΣPN Generation	Numeric	MW	Between 0 and +99999
INDDEM	Publishing Period Commencing Time	Date Time	-	
	Start Time of ½ hr Period	Date Time	-	
	National/Boundary Identifier	Alpha Numeric		Either N or A…E
	ΣPN Demand	Numeric	MW	Between –99999 and 0
NDF	Publishing Period Commencing Time	Date Time	-	
	Start Time of ½ hr Period	Date Time		
	National/Boundary Identifier	Alpha Numeric		Always N
	Demand	Numeric	MW	Between 0 and +99999
TSDF	Publishing Period Commencing Time	Date Time	-	
	Start Time of ½ hr Period	Date Time		
	National/Boundary Identifier	Alpha Numeric		Either N or A…E
	Demand	Numeric	MW	Between 0 and +99999
INDO	Publishing Period Commencing Time	Date Time		
	Start Time of ½ hr Period	Date Time		
	Demand	Numeric	MW	Between 0 and +99999

Record Type	Field	Format	Units	Comments
INDOD	Publish Time	Date Time		
	Settlement Day	Text(10)		Format: YYYY-MM-DD
	Daily Generation Volume for D-1	Numeric	MWh	
ITSDO	Publishing Period Commencing Time	Date Time		
	Start Time of ½ hr Period	Date Time		
	Demand	Numeric	MW	Between 0 and +99999
OCNMFD	Publishing Period Commencing Time	Date Time		
	Day of Forecast	Date Time		
	Surplus	Numeric	MW	Between –99999 and 99999
OCNMFW	Publishing Period Commencing Time	Date Time		
	Calendar Week Number	Numeric		1 – 53, the first calendar week to contain 4 or more days in the new calendar year is defined as week 1.
	Surplus	Numeric	MW	Between –99999 and 99999
MELNGC	Publishing Period Commencing Time	Date Time		
	Start Time of ½ hr Period	Date Time		
	National/Boundary Identifier	Alpha numeric		Either N or A…E
	Margin	Numeric	MW	Between –99999 and 99999
IMBALNGC	Publishing Period Commencing Time	Date Time		
	Start Time of ½ hr Period	Date Time		
	National/Boundary Identifier	Alpha numeric		Either N or A…E

Record Type	Field	Format	Units	Comments
	Imbalance Value	Numeric	MW	Between –99999 and +99999
NDFD	Publishing Period Commencing Time	Date Time		
	Day of forecast	Date Time		
	Demand	Numeric	MW	Between 0 and 99999
TSDFD	Publishing Period Commencing Time	Date Time		
	Day of forecast	Date Time		
	Demand	Numeric	MW	Between 0 and 99999
NDFW	Publishing Period Commencing Time	Date Time		
	Calendar Week Number	Numeric		1 – 53, the first calendar week to contain 4 or more days in the new calendar year is defined as week 1.
	Demand	Numeric	MW	Between 0 and 99999
TSDFW	Publishing Period Commencing Time	Date Time		
	Calendar Week Number	Numeric		1 – 53, the first calendar week to contain 4 or more days in the new calendar year is defined as week 1.
	Demand	Numeric	MW	Between 0 and 99999

Record Type	Field	Format	Units	Comments
NETBSAD	Settlement Day	Text(10)		Format: YYYY-MM-DD
	Settlement Period	Numeric		Between 1 and 50
	Net Buy Price Cost Adjustment (Energy) EBCA	Numeric	£	Format (10.2) Post P217 implementation, this will always be zero
	Net Buy Price Volume Adjustment (Energy) EBVA	Numeric	MWh	Format (10.3) Post P217 implementation, this will always be zero
	Net Buy Price Volume Adjustment (System) SBVA	Numeric	MWh	Format (10.3) Post P217 implementation, this will always be zero
	Buy-price Price Adjustment - BPA	Numeric	£/ MWh	Format (10.2)
	Net Sell Price Cost Adjustment (Energy) ESCA	Numeric	£	Format (10.2) Post P217 implementation, this will always be zero
	Net Sell Price Volume Adjustment (Energy) ESVA	Numeric	MWh	Format (10.3) Note: Sell Volumes will be either zero or negative Post P217 implementation, this will always be zero
	Net Sell Price Volume Adjustment (System) SSVA	Numeric	MWh	Format (10.3) Note: Sell Volumes will be either zero or negative Post P217 implementation, this will always be zero
	Sell-price Price Adjustment - SPA	Numeric	£/ MWh	Format (10.2)
DISBSAD	Settlement Day	Text(10)		Format: YYYY-MM-DD
	Settlement Period	Numeric		Between 1 and 50

Record Type	Field	Format	Units	Comments
	ID	Numeric		Format (4.0) Incremental integer starting at 1, unique within each Settlement Day and Period
	Cost	Numeric	£	Format (10.2) The Cost may be positive (amount paid), negative (amount received), zero or NULL (ie no value present; applicable for exceptional actions)
	Volume	Numeric	MWh	Format (10.3) The Volume may be positive (buy) or negative (sell) but not zero
	SO-Flag	Alphanumeric	-	Either 'FALSE' or 'TRUE'

Record Type	Field	Format	Units	Comments
FUELINST	Fuel Type	Text(8)		One of: CCGT Combined Cycle Gas Turbine OIL Oil Plant COAL Coal Plant NUCLEAR Nuclear Plant WIND Power Park Modules metered by the PS Transmission Operator NPSHYD Pumped Storage Plant OCGT Non Pumped Storage Hydro Plant OTHER Open Cycle Gas Turbine Plant INTFR Undefined INTIRL External Interconnector flows with INTNED France External Interconnector flows with Ireland External Interconnector flows with Netherlands
	Publish Time	Date Time		Note that this time must be the same for all records for each fuel type within the same file.
	Sample Time	Date Time		This will be on a five minute boundary, ie :00, :05, :10, etc
	Generation	Numeric	MW	Between -99999 and +99999 Note: Although only positive values will be used to sum the total TSD-based demand, FUELINST will still report any negative generation (eg Interconnectors and pumping).

Record Type	Field	Format	Units	Comments
FUELHH	Fuel Type	Text(8)		One of: CCGT Combined Cycle Gas Turbine OIL Oil Plant COAL Coal Plant NUCLEAR Nuclear Plant WIND Power Park Modules PS Pumped Storage Plant NPSHYD Non Pumped Storage Hydro Plant OCGT Open Cycle Gas Turbine Plant OTHER Undefined INTFR External Interconnector flows with France INTIRL External Interconnector flows with Ireland INTNED External Interconnector flows with Netherlands
	Publish Time	Date Time		Note that this time must be the same for all records within the same file.
	Start Time of ½ hr Period	Date Time		
	Generation	Numeric	MW	Between -99999 and +99999 Note: Although only positive values will be used to sum the total TSD-based demand, FUELINST will still report any negative generation (eg Interconnectors and pumping).

Record Type	Field	Format	Units	Comments
FREQ	Measurement Time	Date Time		This time will be provided to the nearest second. Measured system frequencies will be provided for 15 second intervals, with eight readings per file covering a total period of two minutes.
	Metered Frequency	Numeric	Hz	Positive number in the form 99.999
TEMP	Publish Time	Date Time		
	Time of Forecast	Date Time		TEMP data will be provided for 12:00 Local Time each day (converted to a GMT value).
	Actual Temperature	Numeric	℃	Number in the form -99.9
WINDFOR	Publish Period Commencing Time	Date Time		21:00 Current Day
	Time of Forecast	Date Time		The forecasted wind generation for the UK will be shown at hourly resolution from 21:00 Current Day to 21:00 2 Days Ahead (D+2)
	Forecast Wind Generation	Numeric	MW	
NONBM	Publish Period Commencing Time	Date Time		
	Start Time of ½ hr Period	Date Time		
	Total of non-BM units instructed under STOR contracts for the Settlement Period	Numeric	MWh	Between 0 and +99999

22 EXAMPLE TRANSFER FILE LAYOUT

The following data is intended to show formatting layout only and is not intended to represent accurate, consistent or validated operational data.

22.1 Physical Notification File

*PN_200010280205_00000.bmr
*
*Physical Notification Data
*
*Data,BMU Name,Time From,Level From,Time To,Level To
PN,BMUNIT01,2000-10-28 05:30,0,2000-10-28 06:00,350
<EOF>

22.2 Quiescent Physical Notification File

*QPN_200010280205_00000.bmr
*
*Quiescent Physical Notification Data
*
*Data,BMU Name,Time From,Level From,Time To,Level To
QPN,BMUNIT01,2000-10-28 05:30,0, 2000-10-28 06:00,-350
<EOF>

22.3 Bid – Offer Data File

*BOD_200010280205_00000.bmr
*
*Bid – Offer Data
*
*Data,BMU Name,Time From,Time To,Pair ID,Level From,Level To,Offer,Bid
BOD,BMUNIT01,2000-10-28 12:00,2000-10-28 12:30,1,50,50,30,25
<EOF>

22.4 Bid – Offer Acceptance Level File

*BOAL_200010281505_00000.bmr
*
*Bid – Offer Acceptance Level Data
*
*Data,BMU Name,Acceptance Number,Time,Deemed BO Flag,Time From,Level From,Time To,Level To
BOAL,BMUNIT01,123456,2000-10-28 15:00,FALSE,2000-10-28 16:05,0,2000-10-28 17:10,200
<EOF>

22.5 Bid – Offer Acceptance Level Flagged File

*BOALF_200010281505_00000.bmr
*
*Bid – Offer Acceptance Level Flagged Data
*
*Data,BMU Name,Acceptance Number,Time,Deemed BO Flag,SO-Flag,Time From,Level From,Time To,Level To,Amendment Flag
BOALF,BMUNIT01,123456,2000-10-28 15:00,FALSE,FALSE,2000-10-28 16:05,0,2000-10-28 17:10,200,FALSE
<EOF>

22.6 Maximum Export Limit File

*MELS_200010280200_00000.bmr
*
*Maximum Export Limit Data

*
*Data,BMU Name,Time From,Level From,Time To,Level To,Notification Time,Notification Sequence
MELS,BMUNIT01,2000-10-28 05:50,300,2000-10-28 09:00,300,2000-10-28 05:02:15,52375
<EOF>

22.7 Maximum Import Limit File

*MILS_200010280200_00000.bmr
*
*Maximum Import Limit Data
*
*Data,BMU Name,Time From,Level From,Time To,Level To,Notification Time,Notification Sequence
MILS,BMUNIT21,2000-10-28 05:50,0,2000-10-28 09:00,0,2000-10-28 05:02:15,52468
<EOF>

22.8 Run Up Rate Export File

*RURE_200010280205_00000.bmr
*
*Run up Rate Export Data
*
*Data,BMU Name,Time,Rate-1,Elbow-2,Rate-2,Elbow-3,Rate-3
RURE,BMUNIT02,2000-10-28 02:00,6,200,2,350,1.5
<EOF>

22.9 Run Up Rate Import File

*RURI_200010280205_00000.bmr
*
*Run up Rate Import Data
*
*Data,BMU Name,Time,Rate-1,Elbow-2,Rate-2,Elbow-3,Rate-3
RURI,BMUNIT21,2000-10-28 02:00,5,-150,2,-100,1
<EOF>

22.10 Run Down Rate Export File

*RDRE_200010280205_00000.bmr
*
*Run down Rate Export Data
*
*Data,BMU Name,Time,Rate-1,Elbow-2,Rate-2,Elbow-3,Rate-3
RDRE,BMUNIT01,2000-10-28 02:00,3,250,2,200,5
<EOF

22.11 Run Down Rate Import File

*RDRI_200010280205_00000.bmr
*
*Run down Rate Import Data
*
*Data,BMU Name,Time,Rate-1,Elbow-2,Rate-2,Elbow-3,Rate-3
RDRI,BMUNIT21,2000-10-28 02:00,3,-200,2,-250,5
<EOF>

22.12 Notice To Deviate From Zero File

*NDZ_200010280205_00000.bmr
*
*Notice To Deviate From Zero Data
*
*Data,BMU Name,Time,Notice

NDZ,BMUNIT01,2000-10-28 02:00,200
<EOF>

22.13 Notice to Deliver Offers File

*NTO_200010280205_00000.bmr
*
*Notice To Deliver Offers Data
*
*Data,BMU Name,Time,Notice
NTO,BMUNIT01,2000-10-28 02:00,2
<EOF>

22.14 Notice To Deliver Bids File

*NTB_200010280205_00000.bmr
*
*Notice To Deliver Bids Data
*
*Data,BMU Name,Time,Notice
NTB,BMUNIT21,2000-10-28 02:00,2
<EOF>

22.15 Minimum Zero Time File

*MZT_200010280205_00000.bmr
*
*Minimum Zero Time Data
*
*Data,BMU Name,Time,Period
MZT,BMUNIT01,2000-10-28 02:00,200
<EOF>

22.16 Minimum Non – Zero Time File

*MNZT_200010280205_00000.bmr
*
*Minimum Non - Zero Time Data
*
*Data,BMU Name,Time,Period
MNZT,BMUNIT01,2000-10-28 02:00,200
<EOF>

22.17 Stable Export Limit File

*SEL_200010280205_00000.bmr
*
*Stable Export Limit Data
*
*Data,BMU Name,Time,Level
SEL,BMUNIT01,2000-10-28 02:00,200
<EOF>

22.18 Stable Import Limit File

*SIL_200010280205_00000.bmr
*
*Stable Import Limit Data
*
*Data,BMU Name,Time,Level
SIL,BMUNIT21,2000-10-28 02:00,-200
<EOF>

22.19 Maximum Delivery Volume File

*MDV_200010280205_00000.bmr
*
*Maximum Delivery Volume Data
*
*Data,BMU Name,Time,Volume
MDV,BMUNIT21,2000-10-28 02:00,200
<EOF>

22.20 Maximum Delivery Period File

*MDP_200010280205_00000.bmr
*
*Maximum Delivery Period Data
*
*Data,BMU Name,Time,Period
MDP,BMUNIT21,2000-10-28 02:00,200
<EOF>

22.21 Indicated Generation File

*INDGEN_200010281200_00000.bmr
*
*Indicated Generation Data
*
*Data,Publish Time,Start Time,National/Boundary Identifier,Generation
INDGEN,2000-10-28 12:00,2000-10-29 05:00,N,35000
<EOF>

22.22 Indicated Demand File

*INDDEM_200010281200_00000.bmr
*
*Indicated Demand Data
*
*Data,Publish Time,Start Time,National/Boundary Identifier,Demand
INDDEM,2000-10-28 12:00,2000-10-29 05:00,N,-29000
<EOF>

22.23 National Demand Forecast File

*NDF_200010281630_00000.bmr
*
*National Demand Forecast Data
*
*Data,Publish Time,Start Time,National/Boundary Identifier,Demand
NDF,2000-10-28 16:30,2000-10-28 16:30,N,34500
<EOF>

22.24 Transmission System Demand Forecast File

*TSDF_200010281630_00000.bmr
*
* Transmission System Demand Forecast Data
*
*Data,Publish Time,Start Time,National/Boundary Identifier,Demand
TSDF,2000-10-28 16:30,2000-10-28 16:30,N,35000
<EOF>

22.25 Initial National Demand Out-Turn File

*INDO_200010281705_00000.bmr
*
*Initial National Demand Out-Turn Data
*
*Data,Publish Time,Start Time,Demand
INDO,2000-10-28 17:05,2000-10-28 16:30,20000
<EOF>

22.26 Initial National Demand Out-Turn Daily File

*INDOD_200804210035_00000.bmr
*
*Initial National Demand Out-Turn Daily Data
*
*Data,Publish Time,Date,Demand
INDOD,2008-04-21 00:35,2008-04-20,20000
<EOF>

22.27 Initial Transmission System Demand Out-Turn File

*ITSDO_200010281705_00000.bmr
*
*Initial Transmission System Demand Out-Turn Data
*
*Data,Publish Time,Start Time,Demand
ITSDO,2000-10-28 17:05,2000-10-28 16:30,20000
<EOF>

22.28 National Demand Forecast Day File

*NDFD_200010281500_00000.bmr
*
*National Demand Forecast Day Data
*
*Data,Publish Time,Start Time,Demand
NDFD,2000-10-28 15:00,2000-10-29 00:00,36000
<EOF>

22.29 Transmission System Demand Forecast Day File

*TSDFD_200010281500_00000.bmr
*
*Transmission System Demand Forecast Day Data
*
*Data,Publish Time,Start Time,Demand
TSDFD,2000-10-28 15:00,2000-10-29 00:00,36000
<EOF>

22.30 National Demand Forecast Week File

*NDFW_200010261500_00000.bmr
*
*National Demand Forecast Week Data
*
*Data,Publish Time,Week,Demand
NDFW,2000-10-26 15:00,50,37000
<EOF>

22.31 Transmission System Demand Forecast Week File

*TSDFW_200010261500_00000.bmr
*
*Transmission System Demand Forecast Week Data
*
*Data,Publish Time,Week,Demand
TSDFW,2000-10-26 15:00,50,37000
<EOF>

22.32 Forecast Daily National Surplus Based on OC2 Data for 2 – 14 days File

*OCNMFD_200010261600_00000.bmr
*
*Forecast Daily National Surplus Based On OC2 (2 – 14 days) Data
*
*Data,Publish Time,Forecast Day,Surplus
OCNMFD,2000-10-26 16:00,2000-10-29 00:00,1500
<EOF>

22.33 Forecast Weekly National Surplus Based on OC2 Data for 2 – 52 weeks File

*OCNMFW_200010271700_00000.bmr
*
*Forecast Weekly National Surplus Based On OC2 (2 – 52 weeks) Data
*
*Data,Publish Time,Forecast Week,Surplus
OCNMFW,2000-10-27 17:00,50,1600
<EOF>

22.34 Indicated Margin File

*MELNGC_200010281200_00000.bmr
*
*Indicated Margin Data
*
*Data,Publish Time,Start Time,National/Boundary Identifier,Margin
MELNGC,2000-10-28 12:00,2000-10-29 05:00,N,1400
<EOF>

22.35 Indicated Imbalance File

*IMBALNGC_200010281200_00000.bmr
*
*Indicated Imbalance Data
*
*Data,Publish Time,Start Time,National/Boundary Identifier,Imbalance
IMBALNGC,2000-10-28 12:00,2000-10-29 05:00,N,1400
<EOF>

22.36 Net Balancing Services Adjustment Data (Pre-P217)

*NETBSAD_200310280030_00000.bmr
*
*Net Balancing Services Adjustment Data
*
*Data, Settlement Day, Settlement Period, Net Buy Price Cost Adjustment (Energy), Net Buy Price Volume Adjustment (Energy), Net Buy Price Volume Adjustment (System), Buy Price Price Adjustment, Net Sell Price Cost Adjustment (Energy), Net Sell Price Volume Adjustment (Energy), Net Sell Price Volume Adjustment (System), Sell Price Price Adjustment
NETBSAD,2003-10-28,1,11.11,22.222,33.333,44.44,55.55,-66.666,-77.777,88.88
NETBSAD,2003-10-28,2,11.11,22.222,33.333,44.44,55.55,-66.666,-77.777,88.88
NETBSAD,2003-10-28,3,11.11,22.222,33.333,44.44,55.55,-66.666,-77.777,88.88
NETBSAD,2003-10-28,4,11.11,22.222,33.333,44.44,55.55,-66.666,-77.777,88.88
NETBSAD,2003-10-28,5,11.11,22.222,33.333,44.44,55.55,-66.666,-77.777,88.88
NETBSAD,2003-10-28,6,11.11,22.222,33.333,44.44,55.55,-66.666,-77.777,88.88
NETBSAD,2003-10-28,7,11.11,22.222,33.333,44.44,55.55,-66.666,-77.777,88.88
NETBSAD,2003-10-28,8,11.11,22.222,33.333,44.44,55.55,-66.666,-77.777,88.88
NETBSAD,2003-10-28,9,11.11,22.222,33.333,44.44,55.55,-66.666,-77.777,88.88
<EOF>

22.37 Net Balancing Services Adjustment Data (Post-P217)

*NETBSAD_200310280030_00000.bmr
*
*Net Balancing Services Adjustment Data
*
*Data, Settlement Day, Settlement Period, Net Buy Price Cost Adjustment (Energy), Net Buy Price Volume Adjustment (Energy), Net Buy Price Volume Adjustment (System), Buy Price Price Adjustment, Net Sell Price Cost Adjustment (Energy), Net Sell Price Volume Adjustment (Energy), Net Sell Price Volume Adjustment (System), Sell Price Price Adjustment
NETBSAD,2003-10-28,1,0,0,0,44.44,0,0,0,88.88
NETBSAD,2003-10-28,2,0,0,0,44.44,0,0,0,88.88
NETBSAD,2003-10-28,3,0,0,0,44.44,0,0,0,88.88
NETBSAD,2003-10-28,4,0,0,0,44.44,0,0,0,88.88
NETBSAD,2003-10-28,5,0,0,0,44.44,0,0,0,88.88
NETBSAD,2003-10-28,6,0,0,0,44.44,0,0,0,88.88
NETBSAD,2003-10-28,7,0,0,0,44.44,0,0,0,88.88
NETBSAD,2003-10-28,8,0,0,0,44.44,0,0,0,88.88
NETBSAD,2003-10-28,9,0,0,0,44.44,0,0,0,88.88
<EOF>

22.38 Disaggregated Balancing Services Adjustment Data

*DISBSAD_200912280030_00000.bmr
*
*Disaggregated Balancing Services Adjustment Data
*
*Data, Settlement Day, Settlement Period, ID, Cost, Volume, SO-Flag
DISBSAD,2009-12-28,1,1,11.11,22.222,FALSE
DISBSAD,2009-12-28,1,2,-22.22,-33.333,TRUE
<EOF>

22.39 BM Unit Applicable Balancing Services Volume Data

*QAS_200310280030_00000.bmr
*
*BM Unit Applicable Balancing Services Volume Data
*
*Data,BMU Name,Settlement Date,Settlement Period,QASij
QAS,BMUNIT01,2003-10-28,1,11.111

QAS,BMUNIT01,2003-10-28,2,-22.222
QAS,BMUNIT02,2003-10-28,5,-33.333
QAS,BMUNIT03,2003-10-28,45,44.444
<EOF>

22.40 Instantaneous Generation by Fuel Type

*FUELINST_200804160000_00000.bmr
*
*Instantaneous Generation by Fuel Type
*
*Data,Fuel Type,Publish Time,Sample Time,Generation
FUELINST, CCGT, 2008-04-16 16:14, 2008-04-16 16:00, 18137
FUELINST, OIL, 2008-04-16 16:14, 2008-04-16 16:00, 0
FUELINST, COAL, 2008-04-16 16:14, 2008-04-16 16:00, 15315
FUELINST, NUCLEAR, 2008-04-16 16:14, 2008-04-16 16:00, 7308
FUELINST, WIND, 2008-04-16 16:14, 2008-04-16 16:00, 189
FUELINST, PS, 2008-04-16 16:14, 2008-04-16 16:00, 15
FUELINST, NPSHYD, 2008-04-16 16:14, 2008-04-16 16:00, 15
FUELINST, OCGT, 2008-04-16 16:14, 2008-04-16 16:00, 1850
FUELINST, OTHER, 2008-04-16 16:14, 2008-04-16 16:00, 0
FUELINST, INTFR, 2008-04-16 16:14, 2008-04-16 16:00, 55
FUELINST, INTIRL, 2008-04-16 16:14, 2008-04-16 16:00, -152
FUELINST, INTNED, 2008-04-16 16:14, 2008-04-16 16:00, 100
<EOF>

22.41 Half Hour Generation by Fuel Type

*FUELHH_200804160000_00000.bmr
*
*Half Hour Generation by Fuel Type
*
*Data,Fuel Type,Publish Time,Start Time,Generation
FUELHH,CCGT, 2008-04-16 16:34, 2008-04-16 16:00, 18137
FUELHH,OIL, 2008-04-16 16:34, 2008-04-16 16:00, 0
FUELHH,COAL, 2008-04-16 16:34, 2008-04-16 16:00, 15315
FUELHH,NUCLEAR, 2008-04-16 16:34, 2008-04-16 16:00, 7308
FUELHH,WIND, 2008-04-16 16:34, 2008-04-16 16:00, 189
FUELHH,PS, 2008-04-16 16:34, 2008-04-16 16:00, 15
FUELHH,NPSHYD, 2008-04-16 16:34, 2008-04-16 16:00, 15
FUELHH,OCGT, 2008-04-16 16:34, 2008-04-16 16:00, 1850
FUELHH,OTHER, 2008-04-16 16:34, 2008-04-16 16:00, 0
FUELHH,INTFR, 2008-04-16 16:34, 2008-04-16 16:00, 55
FUELHH,INTIRL, 2008-04-16 16:34, 2008-04-16 16:00, -152
FUELHH,INTNED, 2008-04-16 16:34, 2008-04-16 16:00, 100
<EOF>

22.42 System Frequency

*FREQ_200804161010_00000.bmr
*
*System Frequency
*
*Data,Measurement Time,Frequency
FREQ,2008-04-16 10:08:15, 50.011
FREQ,2008-04-16 10:08:30, 50.011
FREQ,2008-04-16 10:08:45, 50.012
FREQ,2008-04-16 10:09:00, 50.012
FREQ,2008-04-16 10:09:15, 50.014
FREQ,2008-04-16 10:09:30, 50.014
FREQ,2008-04-16 10:09:45, 50.014

FREQ,2008-04-16 10:10:00, 50.013
<EOF>

22.43 Temperature

*TEMP_200804160000_00000.bmr
*
*Temperature
*
*Data,Publish Time,Start Time,Temperature
TEMP,2008-04-16 15:34, 2008-04-15 12:00, 17.1
<EOF>

22.44 Wind Generation Forecast

*WINDFOR_200804160000_00000.bmr
*
*Wind Generation Forecast
*
*Data,Publish Time,Start Time,Generation
WINDFOR,2008-04-16 15:34, 2008-04-16 20:00, 1000
<EOF>

22.45 Non-BM STOR

*NONBM_200804160000_00000.bmr
*
*Non-BM STOR
*
*Data,Publish Time,Start Time,Generation
NONBM,2008-04-16 16:34, 2008-04-15 16:00, 1000
<EOF>

22.46 OC2 Related File Format

Note: This section has been copied to this document from the ELEXON Interface spec as part of 'P243 – Generator Forward Availability by Fuel Type', where all OC2 data sent to the ELEXON site has been re-directed instead to BMRS.

P243 also delivers additional files with Interconnector data to BMRS. See related document 1.

22.46.1 System Zone Output Usable MW Data (ZOU2T14D)

*ZOU2T14D_200201041600_00000.bmr
*
*System Zone Output Usable MW Based on OC2 (2 – 14 days) Data
*
*Data,Publish Time,System Zone,Forecast Date,Output Usable(MW)
ZOU2T14D,2002-01-02 15:50,A,2002-02-04,1500
…
<EOF>

22.46.2 National Output Usable MW Data (NOU2T14D)

*NOU2T14D_200201041600_00000.bmr
*
*National Output Usable MW Based on OC2 (2 – 14 days) Data

*
*Data,Publish Time,System Zone,Forecast Date,Output Usable(MW)
NOU2T14D,2002-01-02 15:50,N,2002-02-04,1500
…
<EOF>

22.46.3 National Output Usable / Interconnector Capacity by Fuel Type MW Data (FOU2T14D)

*FOU2T14D_201003111600_00000.bmr
*
*National Output Usable MW Based on OC2 (**2 – 14 days**) Data – **by Fuel Type**
*
*Data,Fuel Type,Publish Time,System Zone,Forecast Date,Output Usable/IC Capacity(MW)
FOU2T14D,CCGT,2010-01-02 15:50,N,2010-02-04,1500
FOU2T14D,OIL,2010-01-02 15:50,N,2010-02-04,1500
FOU2T14D,COAL,2010-01-02 15:50,N,2010-02-04,1500
FOU2T14D,NUCLEAR,2010-01-02 15:50,N,2010-02-04,1500
FOU2T14D,WIND,2010-01-02 15:50,N,2010-02-04,1500
FOU2T14D,PS,2010-01-02 15:50,N,2010-02-04,1500
FOU2T14D,NPSHYD,2010-01-02 15:50,N,2010-02-04,1500
FOU2T14D,OCGT,2010-01-02 15:50,N,2010-02-04,1500
FOU2T14D,OTHER,2010-01-02 15:50,N,2010-02-04,1500
FOU2T14D,INTFR,2010-01-02 15:50,N,2010-02-04,1500
FOU2T14D,INTIRL,2010-01-02 15:50,N,2010-02-04,1500
FOU2T14D,INTNED,2010-01-02 15:50,N,2010-02-04,1500
<EOF>

22.46.4 National Output Usable / Interconnector Capacity by BMU & Fuel Type MW Data (UOU2T14D)

*UOU2T14D_201003111600_00000.bmr
*
*National Output Usable MW Based on OC2 (**2 – 14 days**) Data – **by BM Unit / Interconnector** & **Fuel Type**
*
*Data,BMU Name/Interconnector Name,Fuel Type,Publish Time,System Zone,Forecast Date,Output Usable/IC Capacity(MW)
UOU2T14D,BMUNIT01,CCGT,2010-01-02 15:50,N,2010-02-04,150
UOU2T14D,BMUNIT02,COAL,2010-01-02 15:50,N,2010-02-04,150
UOU2T14D,BMUNIT03,OIL,2010-01-02 15:50,N,2010-02-04,150
UOU2T14D,INTFR, INTFR,2010-01-02 15:50,N,2010-02-04,500
UOU2T14D,INTIRL,INTIRL,2010-01-02 15:50,N,2010-02-04,600
UOU2T14D,INTNED,INTNED,2010-01-02 15:50,N,2010-02-04,700
<EOF>

22.46.5 System Zone Output Usable MW Data (ZOU2T49D)

*ZOU2T49D_200201040000_00000.bmr
*
*System Zone Output Usable MW Based on OC2 (2 – 49 days) Data
*
*Data,Publish Time,System Zone,Forecast Date,Output Usable(MW)
ZOU2T49D,2002-01-02 15:50,A,2002-02-04,1500
…
<EOF>

22.46.6 National Output Usable MW Data (NOU2T49D)

*NOU2T49D_200201040000_00000.bmr

*
*National Output Usable MW Based on OC2 (2 – 49 days) Data
*
*Data,Publish Time,System Zone,Forecast Day,Output Usable(MW)
NOU2T49D,2002-01-02 15:50,N,2002-02-04,1500
…
<EOF>

22.46.7 System Zone Output Usable MW Data (ZOU2T52W)

*ZOU2T52W_200201141700_00000.bmr
*
*System Zone Output Usable MW Based On OC2 (2 – 52 weeks) Data
*
*Data,Publish Time,System Zone,Eng. Week,Eng. Year,Output Usable(MW)
ZOU2T52W,2002-01-02 15:50,A,3,2002,1500
…
<EOF>

22.46.8 National Output Usable MW Data (NOU2T52W)

*NOU2T52W_200201141700_00000.bmr
*
*National Output Usable MW Based on OC2 (2 – 52 weeks) Data
*
*Data,Publish Time,System Zone,Eng. Week,Eng. Year,Output Usable(MW)
NOU2T52W,2002-01-02 15:50,N,3,2002,1500
…
<EOF>

22.46.9 National Output Usable / Interconnector Capacity by Fuel Type MW Data (FOU2T52W)

*FOU2T52W_201003111700_00000.bmr
*
*National Output Usable MW Based on OC2 (**2 – 52 weeks**) Data – **by Fuel Type**
*
*Data,Fuel Type,Publish Time,System Zone,Eng. Week,Eng. Year,Output Usable/IC Capacity(MW)
FOU2T52W,CCGT,2010-01-02 15:50,N,3,2010,1500
…….etc for the rest of the Fuel Types…..
<EOF>

22.46.10 National Output Usable / Interconnector Capacity by BMU & Fuel Type MW Data (UOU2T52W)

*UOU2T52W_201003111700_00000.bmr
*
*National Output Usable MW Based on OC2 (**2 – 52 weeks**) Data – **by BM Unit / Interconnector** & **Fuel Type**
*
*Data,BMU Name/Interconnector Name,Fuel Type,Publish Time,System Zone,Eng. Week,Eng. Year,Output Usable/IC Capacity(MW)
UOU2T52W,BMUNIT01,CCGT,2010-01-02 15:50,N,12,2010,1000
UOU2T52W,BMUNIT02,COAL,2010-01-02 15:50,N,12,2010,1000
UOU2T52W,BMUNIT03,OIL,2010-01-02 15:50,N,12,2010,1000
UOU2T52W,INTFR,INTFR,2010-01-02 15:50,N,12,2010,2500
UOU2T52W,INTIRL,INTIRL,2010-01-02 15:50,N,12,2010,5000
UOU2T52W,INTNED,INTNED,2010-01-02 15:50,N,12,2010,7000
<EOF>

22.46.11 System Zone Output Usable MW Data (ZOUY1)

*ZOUY1_200212300000_00000.bmr
*
*System Zone Output Usable MW Based on OC2 (Year 1) Data
*
*Data,Publish Time,System Zone,Eng. Week,Eng. Year,Output Usable(MW)
ZOUY1,2002-03-08 15:50,A,1,2003,1500
…
<EOF>

22.46.12 National Output Usable MW Data (NOUY1)

*NOUY1_200212300000_00000.bmr
*
*National Output Usable MW Based on OC2 (Year 1) Data
*
*Data,Publish Time,System Zone,Eng. Week,Eng. Year,Output Usable(MW)
NOUY1,2002-03-08 15:50,N,1,2003,1500
…
<EOF>

22.46.13 System Zone Output Usable MW Data (ZOUY2)

*ZOUY2_200312290000_00000.bmr
*
*System Zone Output Usable MW Based on OC2 (Year 2) Data
*
*Data,Publish Time,System Zone,Eng. Week,Eng. Year,Output Usable(MW)
ZOUY2,2002-03-08 15:50,A,1,2004,1500
…
<EOF>

22.46.14 National Output Usable MW Data (NOUY2)

*NOUY2_200312290000_00000.bmr
*
*National Output Usable MW Based on OC2 (Year 2) Data
*
*Data,Publish Time,System Zone,Eng. Week,Eng. Year,Output Usable(MW)
NOUY2,2002-03-08 15:50,N,1,2004,1500
…
<EOF>

22.46.15 System Zone Output Usable MW Data (ZOUY3)

*ZOUY3_200501030000_00000.bmr
*
*System Zone Output Usable MW Based on OC2 (Year 3) Data
*
*Data,Publish Time,System Zone,Eng. Week,Eng. Year,Output Usable(MW)
ZOUY3,2002-03-08 15:50,A,1,2005,1500
…
<EOF>

22.46.16 National Output Usable MW Data (NOUY3)

*NOUY3_200501030000_00000.bmr
*
*National Output Usable MW Based on OC2 (Year 3) Data
*
*Data,Publish Time,System Zone,Eng. Week,Eng. Year,Output Usable(MW)
NOUY3,2002-03-08 15:50,N,1,2005,1500
…

<EOF>

22.46.17 System Zone Output Usable MW Data (ZOUY4)

*ZOUY4_200601020000_00000.bmr
*
*System Zone Output Usable MW Based on OC2 (Year 4) Data
*
*Data,Publish Time,System Zone,Eng. Week,Eng. Year,Output Usable(MW)
ZOUY4,2002-03-08 15:50,A,1,2006,1500
…
<EOF>

22.46.18 National Output Usable MW Data (NOUY4)

*NOUY4_200601020000_00000.bmr
*
*National Output Usable MW Based on OC2 (Year 4) Data
*
*Data,Publish Time,System Zone,Eng. Week,Eng. Year,Output Usable(MW)
NOUY4,2002-03-08 15:50,N,1,2006,1500
…
<EOF>

22.46.19 System Zone Output Usable MW Data (ZOUY5)

*ZOUY5_200701010000_00000.bmr
*
*System Zone Output Usable MW Based on OC2 (Year 5) Data
*
*Data,Publish Time,System Zone,Eng. Week,Eng. Year,Output Usable(MW)
ZOUY5,2002-03-08 15:50,A,1,2007,1500
…
<EOF>

22.46.20 National Output Usable MW Data (NOUY5)

*NOUY5_200701010000_00000.bmr
*
*National Output Usable MW Based on OC2 (Year 5) Data
*
*Data,Publish Time,System Zone,Eng. Week,Eng. Year,Output Usable(MW)
NOUY5,2002-03-08 15:50,N,1,2007,1500
…
<EOF>

22.46.21 Generating Plant Demand Margin Based on OC2 Data for 2 – 14 days File

*OCNMFD2_200209040000_00000.bmr
*
*Generating Plant Demand Margin Based On OC2 (2 – 14 days) Data
*
*Data,Publish Time,Forecast Day,Margin
OCNMFD2,2002-09-02 16:00,2002-09-04,1500
…
<EOF>

22.46.22 Generating Plant Demand Margin Based on OC2 Data for 2 – 52 weeks File

*OCNMFW2_200209160000_00000.bmr
*
*Generating Plant Demand Margin Based On OC2 (2 – 52 weeks) Data

```
*
*Data,Publish Time,Eng. Week,Eng. Year,Margin
OCNMFW2,2000-09-06 17:00,38,2002,1600
…
<EOF>
```

23 MATRIX OF DATA REQUIRED BY BMRA & SAA

The table below indicates the data that may be used by each of the organisations.

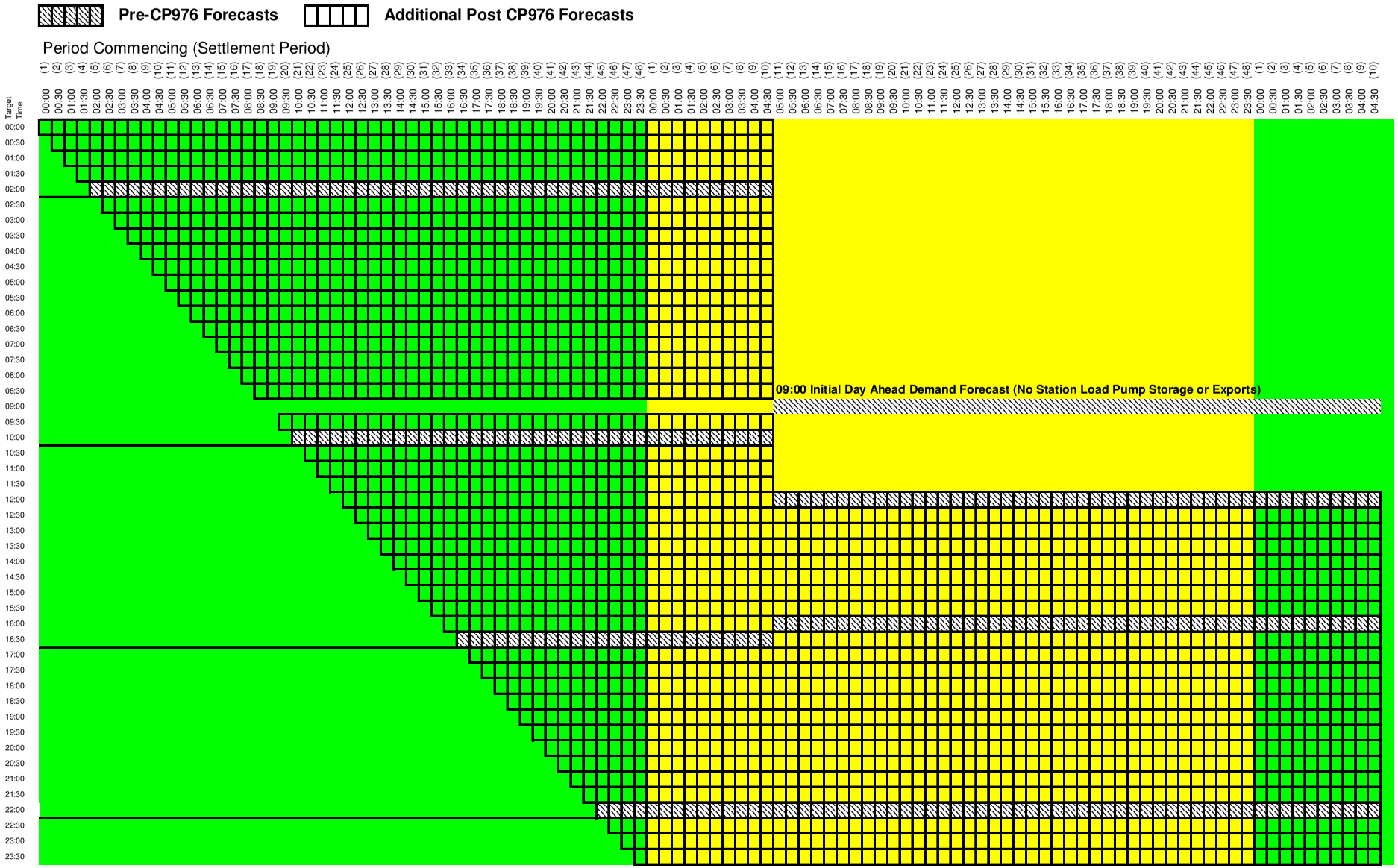
Data	BMRA	SAA
Physical Notification	X	X
Quiescent Physical Notification	X	
Bid – Offer Data	X	X
Bid – Offer Acceptance Level	X	X
Bid – Offer Acceptance Level Flagged	X	X
MEL & MIL	X	
Dynamic Data	X	
Indicated Generation	X	
National Demand Forecast	X	
Transmission System Demand Forecast	X	
Initial National Demand Out-Turn	X	
Initial Transmission System Demand Out-turn	X	
National Demand Forecast Day	X	
Transmission System Demand Forecast Day	X	
National Demand Forecast Week	X	
Transmission System Demand Forecast Week	X	
Forecast Daily National Surplus based on OC2 data for 2 – 14 days	X	
Forecast Weekly National Surplus based on OC2 data for 2 – 52 weeks	X	
Indicated Plant Margin	X	
Indicated Imbalance	X	
System Warnings	X	
NETBSAD	X	X
DISBSAD	X	X
Balancing Services Volume	X	X
Generation by fuel type	X	
System Frequency	X	
Temperature	X	
Wind generation forecast	X	
Non-BM STOR	X	

ZOU2T14D System Zones 2-14 Days Ahead	**X**	
NOU2T14D National 2-14 Days Ahead	**X**	
FOU2T14D National 2-14 Days Ahead by Fuel Type (Incls Interconnector data)	**X**	
UOU2T14D National 2-14 Days Ahead by BMU & Fuel Type (Incls Interconnector data)	**X**	
ZOU2T49D System Zones 2-49 Days Ahead	**X**	
NOU2T49D National 2-49 Days Ahead	**X**	
ZOU2T52W System Zones 2-52 Weeks Ahead	**X**	
NOU2T52W National 2-52 Weeks Ahead	**X**	
FOU2T52W National 2-52 Weeks Ahead by Fuel Type (Incls Interconnector data)	**X**	
UOU2T52W National 2-52 Weeks Ahead by BMU & Fuel Type (Incls Interconnector data)	**X**	
ZOUY1 System Zones Year 1 Ahead	**X**	
NOUY1 National Year 1 Ahead	**X**	
ZOUY2 System Zones Year 2 Ahead	**X**	
NOUY2 National Year 2 Ahead	**X**	
ZOUY3 System Zones Year 3 Ahead	**X**	
NOUY3 National Year 3 Ahead	**X**	
ZOUY4 System Zones Year 4 Ahead	**X**	
NOUY4 National Year 4 Ahead	**X**	
ZOUY5 System Zones Year 5 Ahead	**X**	
NOUY5 National Year 5 Ahead	**X**	
OCNMFD2 Generating Plant Demand Margin based on OC2 data for 2-14 days	**X**	
OCNMFW2 Generating Plant Demand Margin based on OC2 data for 2-52 weeks	**X**	

Note: All data provided to the BMRA are for indicative purposes only.

APPENDIX A: FORECAST DATA

Overleaf may be found a diagram showing the pattern of submission for forecast data (see section 5.2 and 5.3). It shows the forecast data provided before implementation of CP976 and the additional data provided after implementation. The times down the left-hand side indicate the target time by which each set of forecasts is issued. Across the top are the period start times and numbers. For each target issue time, the range of data is indicated by the blocked bar.


Pre-CP976 Forecasts
Additional Post CP976 Forecasts
Period Commencing (Settlement Period)
Target Time
09:00 Initial Day Ahead Demand Forecast (No Station Load Pump Storage or Exports)

DOCUMENT STATUS

AMENDMENT RECORD

Issue	Draft	Date	Author	Description of changes
16	1	20/05/11	RDG	Two updates: 1. Add reference to MOL file. 2. Change periodicity of Wind forecast Data.
15	1	03/02/11	RDG	Added greater clarity to the National & Constraint Boundary Information with regard to the contribution of interconnectors
14.3	-	01/06/10 02/08/10 16/11/10	HS	Updated as part of 'P243 – Generator Forward Availability by Fuel Type'. 1. Updated to clarify why NOU2T49D & ZOU2T49D day ahead output usable data is not produced and sent to BMRS/ELEXON 2. Changed 'Eng Week/Year' to 'Eng. Week/Year' i.e. added the '.' in the field names for file F/OU2T52W in file example sections, starting 21.46 3. Added 'Time' element as part of the names that did not have one as BMRA system was not processing files without this value. ELEXON had not taken this into account while deciding to move all the files from ELEXON to BMRS. Made these changes in NG to help out Elexon. 4. Accepted all changes and checked-in the document in and moved to the Solution Architect Interface site: http://spcustapps/sites/ismc/D-OTC/DesAuth/Interfaces/Forms/AllItems.aspx
14.2	-	07/05/10	HS	Updated as part of 'P243 – Generator Forward Availability by Fuel Type'. 5. Approver Name changes on the front page. 6. Systems Zones value 'S'cotland included for OC2 data.
14.1	-	20/04/10	HS	Updated as part of 'P243 – Generator Forward Availability by Fuel Type'. Updates following review by ELEXON/Logica/Cognizant, incls: 1. Minor updates mainly to the existing data copied over from the ELEXON Interface spec for the OC2 data including: removing info re: P022 and P033, cross

				reference Eng Week descr to the Eng Week/Yr section descr, replace INTBN with INTNED as name for BritNed, a typo in filename.
14.0	-	09/04/10	HS	Updated as part of 'P243 – Generator Forward Availability by Fuel Type'. Updated following internal review comments received. Updates incl: 1. Corrected Typos (additional commas) in the field descr for FOU2T14D and UOU2T14D sample files. 2. Changed all file suffix to '.bmr' for files that moved here from the ELEXON spec. 3. Previous Headers/Footers formatting errors – Corrected 4. Accepted all changes from versions 13.1 and changes above to create this Issue version of the doc.
13.1	1	27/03/10	HS	Updated as part of 'P243 – Generator Forward Availability by Fuel Type'. Updates incl: 1. All OC2 data is re-directed to BMRS and no longer to be sent to ELEXON. Moved all OC2 data sections from ELEXON Int Spec into this spec. 2. Added sections with the details of the new files generated as part of P243 i.e: FOU2T14D, UOU2T14D, FOU2T52W, UOU2T52W
13	2	29/01/09	BC	Revisions following external review Addition of Amendment Flag to BOALF. Updated Approvers on Front Page
13	1	11/12/08	BC	Updates for P217
12	-	05/08/08	BC	Minor updates following implementation of P219/220
11	-	22/05/08	IW/BC	P 219/220 and removal of redundant BSAD format
10	-	15/03/04	BC	CP976 and CP921
9	-	12/11/02	IW	Modified Data Type BSAD for revised variables of the P78 Revision, and new QAS data file for P71
8	-	10/07/02	JS	Modified Data Type SPLD and SPLW to OCNMFD and OCNMFW respectively
7	-	25/04/02	EVS	ELEXON P33 Modification Proposal Changes
6	-	26/0202	EVS	National Grid Events 1908/2742/3417 & ELEXON P8 Modification Proposal Changes
5	-	19/12/00	EVS	Changes related to National Grid Events 503, 1013 and 3078.

4	-	24/02/00	BKO	Changes incorporated following a meeting held on the 17th February 2000 with PDO & Logica.
3	-	08/02/00	BKO	Third Issue
2	-	28/01/00	BKO	Second Issue (after inclusion of comments from external parties)
1	-	23/12/99	GPE	First Issue

Document Location

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CHANGE FORECAST

Once issued this document is not expected to change, however if it does it would be re-issued whole.

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James Sidwell	Project Manager	Approval
Nigel Fisher	Senior Project Manager	Approval
Adrian Davis	BM System Manager	Approval
Rob Golding	BM Design Authority	Approval
James Sathiaraj	BM Support	Review
Afe Ogun	Design Authority	Review
Hitesh Patel (MicroGen)	Project Manager	Review
Brian Andrews	Business Analyst	Review
SharePoint Site		File

A copy of the issued document will be given to the ELEXON for distribution to parties external to National Grid.

— End of Document —