



What stage is this document in the process?

- 01 Initial Written Assessment
- 02 Definition Procedure
- 03 Assessment Procedure
- 04 Report Phase

**Stage 03:** Attachment A: Detailed Assessment for P243

**P243: Generator Forward Availability by Fuel type**

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**About this document:**

This is Attachment A to the Assessment Consultation. This attachment provides additional detail on the development and impacts of the Proposed and Alternative Modifications.

## 1 Background

The aim of this section is to provide a high level summary of how Output Usable data by fuel type is presented in European countries.

### What are the information levels of Output Usable data across Europe?

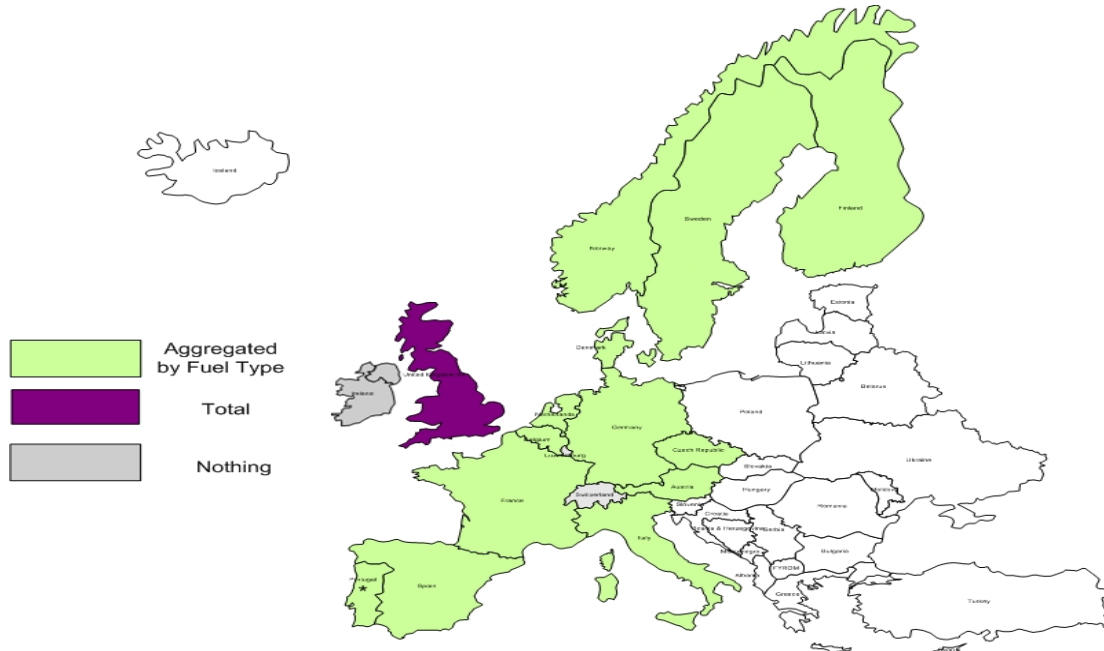


Figure 1: Map of Europe which shows countries that publish information on Output Usable data

As we can observe from the figure above, a number of countries provide Output Usable data broken down by fuel type. However, there are differences between how these countries present the data and the fuel types that this data is broken down into (see the examples below).

In the German electricity market, there is a trend to provide Output Usable data at a per station and fuel type level as a means to increase the transparency of market information. An example of this can be seen on [RWE's webpage](#), where the forward availability by fuel type is provided for each power station for each day. [E.ON](#) and [Vattenfall](#) are examples of two other Generators that provide this data in the German market.

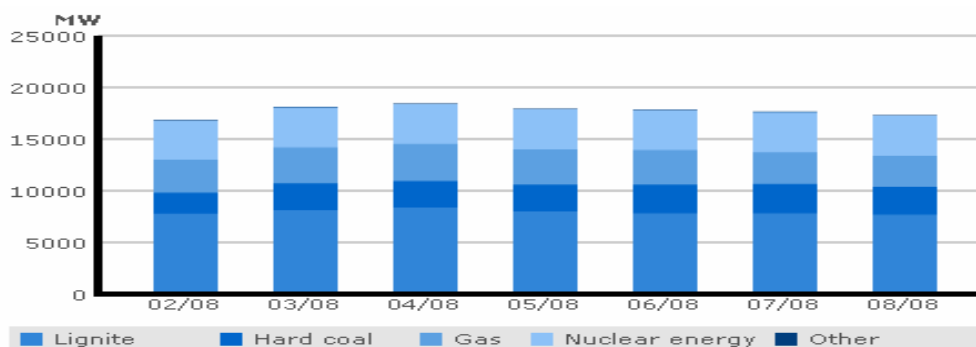


Figure 2: Output Usable data as shown on [RWE's](#) German webpage.

In Spain, Generator availability is aggregated by fuel type for each hour of a given week and published as a graph and data table (data can be accessed via the [e.sios](#) website).



#### Output Usable Data

Output Usable data is the forecast of the maximum level at which a Generator can export electricity to the Transmission System (Generator availability) and is based on information submitted by

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### Available Power Generation Capacity (GW). Weekly horizon Week from 27-07-2009 to 02-08-2009

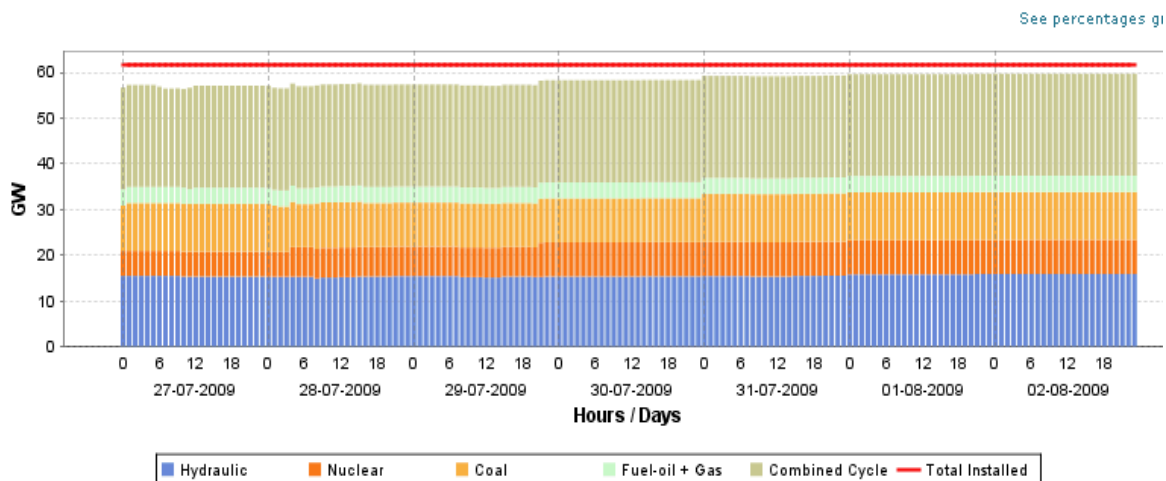


Figure 3: Output Usable data as shown on the [e.sios](#) (Spanish) website.

## Proposer's suggested benefits of providing Output Usable data by fuel type in the UK market

Research published by Ofgem (['Liquidity in the GB wholesale energy market'](#)) indicates that markets such as Germany have shown that an increase in the transparency level of Output Usable data has a positive influence on the market liquidity. This is shown in the German market (where the data was introduced in 2006), where there is a significant increase in the churn rate (ratio of traded volumes to final consumption) since it was introduced. In contrast the UK market has shown a significant decrease in the same period.

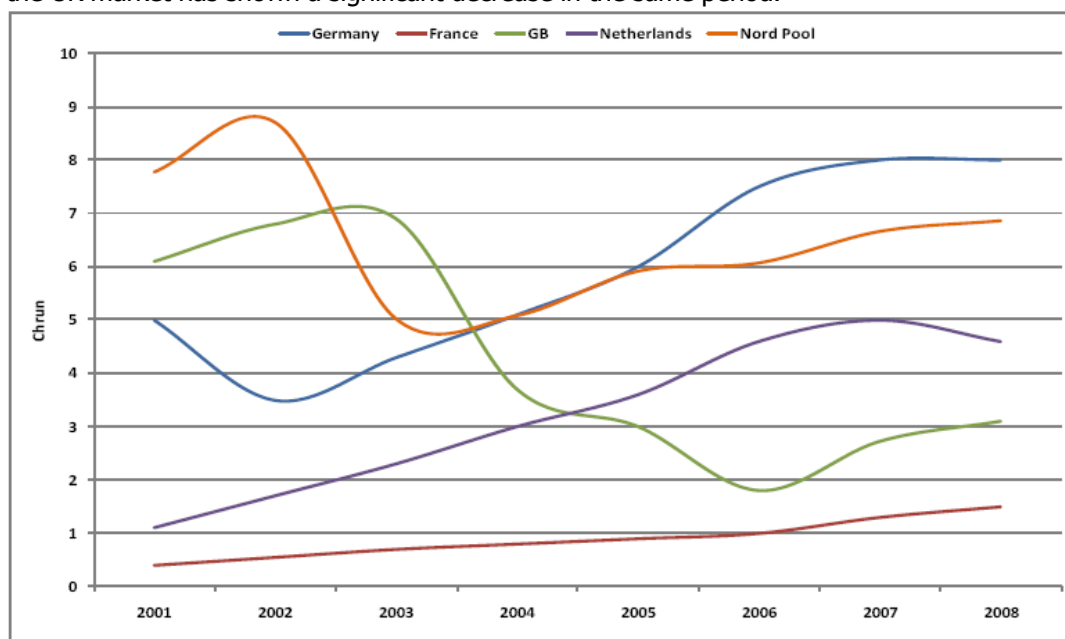


Figure 4: Churn rates in the GB and European markets 2001 – 2008.

Source: [Ofgem Ref 62/09: 'Liquidity in the GB wholesale energy market'](#)

In conclusion, the Proposer believes that the publication of forward availability by fuel type could help increase the liquidity in the UK electricity market as well as providing other benefits such as increased market competition.



### Market Liquidity

The term market liquidity refers to the volume of transactions within a market. With sufficient buyers and sellers, a market enjoys continuous offers, bidding, and consummated transactions, thus achieving market liquidity.

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## 2 Terms of Reference



### Who are the SSMG?

A standing group of industry experts, appointed by the Panel to consider potential Code changes in a number of subject areas – including Settlement invoicing and payment

The P243 Modification Group consists of members of the Settlement Standing Modification Group (SSMG) and those that were involved with Modifications P219 and P220. Section 10 contains full details of the Group's membership.

Table 1 shows the areas which the Group has considered in accordance with its Terms of Reference, and where you can find its discussions of each area (consultation document or detailed consultation).

Area of Terms of Reference	See:
Whether it is feasible to publish the required information - <i>Is it possible for National Grid to obtain and consequently publish this data, broken down by fuel types, and what the impacts of publishing this information are on industry</i>	Section 7
Whether there are any confidentiality issues surrounding the publication of such data - <i>Publishing such information may provide information into how particular generators may behave</i>	Section 7
Consider how the 'Output Usable data broken down by fuel type' will be published - <i>Should the data be published as a graph, CSV file, tabulated?</i>	Section 7
Consider whether the continued publication of Output Usable data on the BSC and National Grid websites is appropriate - <i>If Output Usable data is broken down by fuel type and published on the BMRS, it would mean duplication of data across three different website</i>	Section 7
The Implementation approach for P243 - <i>Whether P243 should be implemented in a standard BSC release or as a Standalone Modification</i>	Section 5 (part 1)
The benefits and drawbacks of P243, including: <ul style="list-style-type: none"><li>- <i>Impacts of publishing Output usable data in the GB market compared to European markets</i></li><li>- <i>Any cost benefit analysis.</i></li><li>- <i>Would the transparency of data published by P243 result in issues with Gaming?</i></li></ul>	Section 7 (part 1)
Whether an Alternative Modification is required	Section 7

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### 3 Detailed P243 solution

The requirements for the Proposed P243 solution are described below:

#### National Grid amends its IT systems

National Grid would be required to amend its systems in order to submit Output Usable data on a National basis (aggregate BM unit data by fuel type nationally) to the Balancing Mechanism Reporting Agent (BMRA; this is the BSC Agent responsible for the running of the BMRS).

#### Publication of national '2-14' day ahead and '2-52' week ahead national Output Usable data by fuel type to the BMRS

The Data should be broken down by the same fuel types as the Out-turn data (Generation by Fuel-type) that is published on the BMRS. Currently the Fuel types are:

- Oil;
- Coal;
- Wind;
- Nuclear;
- Others;
- French Interconnector;
- Irish Interconnector;
- Pumped Storage;
- Hydro;
- OCGT; and
- CCGT.

This would apply to:

Data	Frequency	Target time
<b>2-14</b> day ahead daily Total Output Usable – daily peak half hour values	Whenever provided to any User pursuant to the Grid Code	16.00 Daily on Business Days only
<b>2-52</b> week ahead weekly Total Output Usable – weekly	Whenever provided to any User pursuant to the Grid Code	Weekly at 17.00 on the last Business Day of the week

**Please note** that although Interconnectors currently do not provide Output Usable data to the BMRS, National Grid will be required to publish such data as and when it becomes available in the same frequency as is indicated in the table above. Output Usable data that is submitted to the BMRS will include the forecast Import for each Interconnector fuel type.

#### Publication of national and Zonal Output Usable data and Generating Plant Demand Margin data to the BMRS

As part of the Proposed Modification, National Grid would be required to stop submitting the following files to the BSC website:

- [Generating Plant Demand Margin](#) (GPDM);
- National Output Usable data (all timescales); and
- Zonal [Output Usable data](#) (all timescales).

National Grid would be required to submit this data to the BMRS instead. These files are being transferred to the BMRS as is, in addition to the new files created specifically for P243.

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## BSC Website amendments

As National Grid would no longer submit any Output Usable/GPDM data to ELEXON, the webpages which contain this information would be replaced by a single page containing a hyperlink to the BMRS and a note explaining that this data has been transferred to the BMRS.

## BMRS amendments

### Summary

The BMRS would require amendments to existing pages in order to receive, validate and display the data as graphs, tables and CSV/XML files. This will be for the '2-14 days and 2-52' weeks ahead data only.

Graphs for the above data would be present on the Electricity Data Summary page, as well as the 2-14 days ahead and 2-52 weeks ahead forecast pages in the National Data tab. For simplicity, this requirement is further broken down into sub requirements; for the Electricity Data Summary page and individual forecast pages.

The BMRS will be required to publish Output Usable data for the Interconnector Fuel Types for '2-14'days and '2-52' weeks ahead data. It is expected that this data will become available in the near future. Therefore until the time that such data becomes available, data will be published as **zero/not available**.

The BMRS will also receive additional data from National Grid, i.e. national and Zonal Output Usable data for other timescales as indicated under 'National Grid amends its IT systems'.

### Amendments to the Electricity Data Summary page:

Currently, the [Electricity Data Summary](#) page offers key information on the electricity market on a single scrollable web page.

Output Usable data published on the BMRS will exist as separate graphs, one for the 2-14 days ahead and one for the 2-52 weeks ahead data. These will look identical to the Out-turn '[Generation by fuel type](#)' graphs present. The BMRS will, where appropriate:

- Display warnings that will highlight that the data is to be used at the user's own risk; and
- Display help/information text explaining what the data items are (examples of this can be seen on the Electricity Data Summary page and in figures 1 and 2, where a user can point at the 'information' tab and 'help' text is displayed.)

Additionally, a similar table should be included as is present for the 'Generation by fuel type'; separate tables for the '2-14 Days ahead' and '2-52 Weeks ahead' data. An example of such a table is shown in Figure 2.

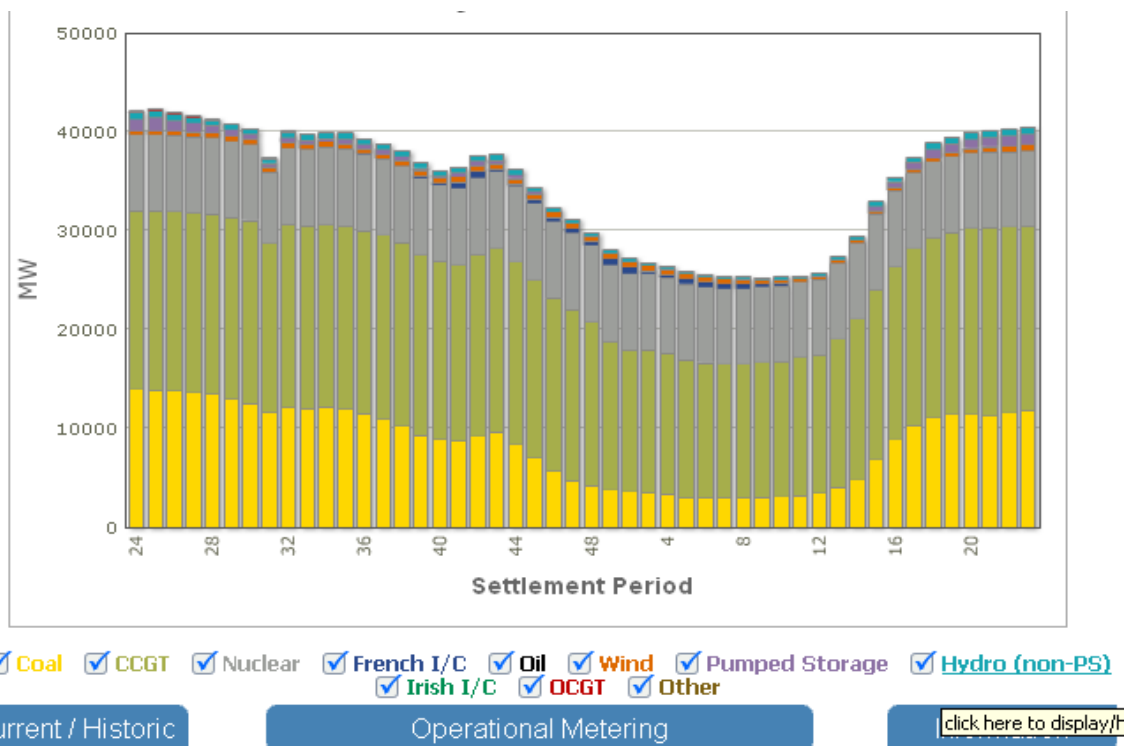


Figure 4: Current graphical presentation of Out-turn generation data by fuel type on the BMRS. Published Output Usable data will look identical to this graph

GB Generating Plant	Current		Last Half Hour (11:00-11:30)		Last 24 Hours (11:30-11:30)	
	MW	%age	MW	%age	MWh	%age
CCGT	18513	45.8%	18635	46.1%	407700	48.9%
OCGT	0	0.0%	0	0.0%	288	0.0%
OIL	0	0.0%	0	0.0%	0	0.0%
COAL	12234	30.2%	11843	29.3%	203795	24.5%
NUCLEAR	7612	18.8%	7610	18.8%	184275	22.1%
WIND	673	1.7%	629	1.6%	11546	1.4%
PS	788	1.9%	1080	2.7%	9689	1.2%
NPSHYD	639	1.6%	645	1.6%	11275	1.4%
OTHER	0	0.0%	0	0.0%	0	0.0%
Interconnectors	MW	%age	MW	%age	MWh	%age
INTFR	0	0.0%	0	0.0%	4447	0.5%
INTIRL	0	0.0%	0	0.0%	0	0.0%
TOTAL	40459	100%	40442	100%	833016	100%

Data last updated: 2009-08-21 10:50:00 (GMT)

24H Instant. Data

BMU Fuel Type EXCEL Spreadsheet

Information

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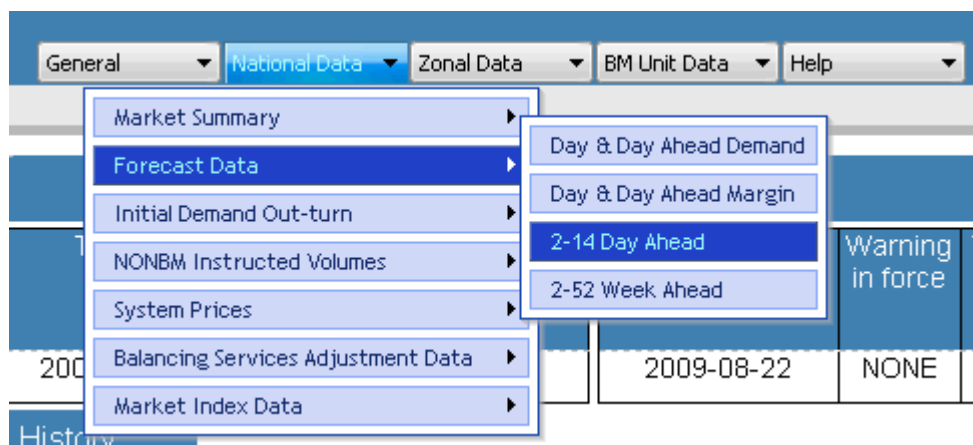
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*Figure 5: Current tabular presentation of Output Usable data: Published Output Usable data will be presented in a similar format*

The BMRS will contain health warning that the BM Units contained in the Output Usable data and those contained in the Out-turn data are not the same. The BMRS would list these BM units on the respective Output Usable and Out-turn webpages.

### Publishing Output Usable data on the forecast pages:

This data is accessible via the 'National Data' tab from the tabs that exist on the BMRS. This allows the 2-14 days ahead and 2-52 weeks ahead forecast pages to be accessed. This is shown below



*Figure 6: Output Usable data forecast webpages*

For each of the pages, data for the respective Output Usable data will be presented in graphical, tabular, CSV and XML formats. An example of this is demonstrated below, for the 2-14 day ahead page.

### 2-14 Day ahead forecast page

Currently the '2-14 Day Ahead Data' page of the BMRS contains three separate graphs which are:

- National Demand Forecast Day (NDFD);
- Transmission System Demand Forecast Day (TSDFD); and
- Surplus Data (SPLD)



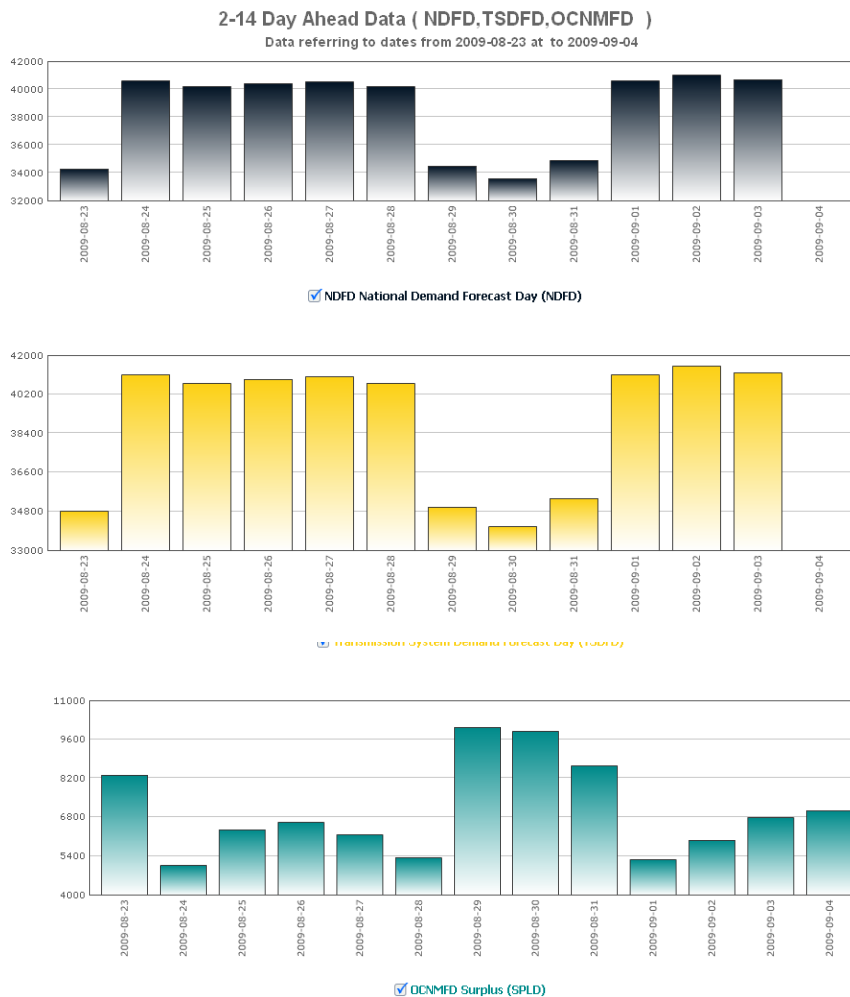


Figure 7: Demonstrates the current layout of the '2-14 Day ahead' data page on the BMRS website.

It also has a table containing the underlying NDFD, TSDFD and SPLD figures and a facility to download this data in CSV or XML format. The required change for P243 is to add the 2-14 Day Ahead National Output Usable data' as:

- A fourth graph, identical to the Graph shown in Figure 1;
- A separate table containing data by fuel type; and
- Additional columns in the CSV and XML file to highlight the Output Usable data.

Appropriate warnings will highlight that the data is to be used at the user's own risk. The warning will include information that the BM Units contained for the Output Usable data and those contained for the Out-turn data are not the same. The BMRS would list these BM units on the respective Output Usable and Out-turn webpages.

## 2-52 week ahead forecast page

Like the 2-14 day ahead forecast page, the '2-52 Week Ahead Data' page of the BMRS contains three separate graphs which are:

- National Demand Forecast Week (NDFW);
- Transmission System Demand Forecast Week (TSDFW); and
- Surplus Data (SPLW)

There is also a table containing the underlying NDFW, TSDFW and SPLW and a facility to download this data in CSV or XML format.

The required change for P243 is to add the 2-52 Week Ahead National Output Usable data' as:

- A fourth graph, identical to the Graph shown in Figure 1;
- A separate table containing data broken down by fuel type; and
- Additional columns in the CSV and XML file to highlight the Output Usable data.

Appropriate warnings will highlight that the data is to be used at the user's own risk. The warning will include information that the BM Units contained for the Output Usable data and those contained for the Out-turn data are not the same. The BMRS would list these BM units on the respective Output Usable and Out-turn webpages.

## BMRS publishes forecast data for Interconnectors

Currently, the BMRS publishes Out-turn data for the French and Irish Interconnectors. However, as National Grid does not receive and publish Interconnector future availability, the publication of such data would form a new requirement. National Grid will submit (as and when it becomes available) the Interconnector availability ('2-14 days ahead' and '2-52 weeks ahead') to the BMRS for the French, Irish and any future Interconnectors. The requirements for submitting this data are shown below:

Data	Frequency	Target time
<b>2-14</b> day ahead daily Total Output Usable – daily peak half hour values	Whenever provided to any User pursuant to the Grid Code	16.00 Daily on Business Days only
<b>2-52</b> week ahead weekly Total Output Usable – weekly	Whenever provided to any User pursuant to the Grid Code	Weekly at 17.00 on the last Business Day of the week

Until the time when National Grid submits this data to the BMRA, the BMRS will be required to publish the availability for each Interconnector fuel type as zero/not available.

Once this data is available, graphical displays of this information would be capped at zero if an Interconnector(s) were importing (taking electricity off the Transmission System). However any data contained in tables, CSV or XML files will report the Interconnector data 'as is' received from National Grid.

## **Transferring GPDM, National and Zonal Output Usable data from the BSC website to the BMRS**

The BMRS would be required to publish the data (submitted by National Grid) relating to:

- [Generating Plant Demand Margin \(GPDM\)](#): currently this is only provided for the '2-14' Days ahead and '2-52' Weeks ahead time points;
- National Output Usable data (all timescales: '2-14' Days ahead, '2-49' Days ahead, '2-52' Weeks ahead, 1-5 years); and
- Zonal Output Usable data (all timescales: '2-14' Days ahead, '2-49' Days ahead , '2-52' Weeks ahead, 1-5 years);
- Explanatory text as is present on the Output Usable and GPDM webpages on the BSC website; and
- A number of additional files i.e. Systems maps and BM Unit mapping zones.

Data relating to the '2-14' Days ahead and '2-52' Weeks ahead time points would be published on the '2-14' Days ahead and '2-52' Weeks ahead forecast webpages. New webpage(s) would be required for the other time points.

This data will not be presented as graphs or tables, but there will be a facility to download this data in CSV/XML formats.

The BMRS is also required to maintain the same access to historic versions of this data as the BSC website.

## **Impacts on the TIBCO messaging service**

TIBCO is a messaging software used by the BMRS across the high grade network. Changes to the TIBCO messaging service would be needed so as to send to market participants the Output Usable data that is submitted by National Grid to the BMRS.

## **Impacts on Market Participant systems**

Market participants that use the TIBCO messaging service may need to amend their systems in order to receive the Output Usable data issued by the BMRS using the TIBCO messaging service.

## 4 Alternative P243 solution

The Requirements for the Alternative Modification are identical to the Proposed Modification, but includes Output Usable data published for each BM Unit. This would provide information on the fuel type and the forward availability for each BM Unit.

Therefore:

- **National Grid** will be required to submit to the BMRA the '2-14' days ahead and '2-52' weeks ahead Output Usable data by BM unit. National Grid will also be required to submit to the BMRA the above data aggregated by fuel type;
- **The BMRA** will be required to display the information received as is described in section 2 (for the data that is aggregated by fuel type). The Output Usable data broken down by BM unit will need to be published via TIBCO and in CSV and XML file formats.

## 5 Development of the Proposed Modification

The Initial P243 solution had the minimum requirements of publishing Output Usable data:

- by fuel type, so as to enable comparisons between Out-turn and Output Usable data;
- for the same 11 'Fuel type categories' used for Out-turn data; and
- for the 2-14 days and 2-52 weeks ahead periods.

On behalf of the Group, ELEXON carried out an initial National Grid/BMRA impact assessment on the initial Proposed Solution as described in the bullet points above and three suggested options which where:

- Publishing Output Usable data for Interconnectors;
- Moving existing Output Usable data from the BSC website onto the BMRS; and
- Increasing the granularity of publishing Output Usable data, by breaking the data down by BM Unit and by Fuel type.

The Group noted the results of the impact assessment and believed that the Proposed Modification should be further developed. The Group noted that as National Grid and the BMRA systems would be amended under P243, it would be more cost effective to make numerous amendments to the system on one occasion. The development of the Proposed Modification is outlined below:

## **Publishing Output Usable data for Interconnectors**

Currently, Output Usable data is not provided for Interconnectors as there are no obligations under the Grid Code (OC2) for Interconnectors to provide their forward availability.

The Group had a desire for Interconnector forward availability to be published, as they believe it provides a fuller picture of the market with respect to Output Usable data. The Group also believed that there was an aspect of discrimination present as a major 'Generation' source of electricity on the national transmission system is excluded when such data exists for other Generators.

National Grid highlighted that they are seeking to raise a Grid Code Modification in order to obtain Output Usable data for Interconnectors (under OC2). As such Interconnectors would provide similar data as Generators currently do under OC2. This Grid Modification would help facilitate the provisions of P243, but both these Modifications are not contingent on each other. Should the Authority approve both P243 and the Grid Code Modification, the P243 Legal text is flexible in its drafting to accommodate any delays that may arise in obtaining Output Usable data for Interconnectors.

The Group noted that there are several Interconnectors which are scheduled to be operational from 2011 and there will be costs incurred in providing this data to the BMRS. National Grid noted that their new BM system would be operational in a similar time span, and the National Grid costs for adding data from any further Interconnectors would be substantially lower.

In conclusion, the Group believed that the provision of Interconnector forward availability should be included as part of the Proposed Modification.



### **OC2 Obligations**

OC2 places obligations on Generators to provide their forward availability to National Grid for a number of timescales.

## **Transfer of Output Usable data/GPDM data from the BSC website to the BMRS**

Currently the BSC website hosts the national Output Usable data (all timescales<sup>1</sup>) as well as other related data such as Zonal [Output Usable data](#) (all timescales) and Output Usable data and [Generating Plant Demand Margin](#) (GPDM).

As part of the P243 solution, the '2-14 Days ahead and 2-52 Weeks ahead' Output Usable data would be published on the BMRS. This would mean that current publication of the same data on the BSC website would be redundant. Some Group members noted that this had the potential to confuse new/small market participants, in trying to obtain all the Output Usable (different timescales) data from multiple sources.

With this in mind, the Group believed that the other data items relating to Output Usable data on the BSC website should also be transferred to the BMRS, even though this aspect of the solution was not initially included as part of the Modification Proposal. The rationale for this is that the BMRS has high accessibility, reliability and resilience especially when compared to a non operational website like the BSC website.

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<sup>1</sup> '2-14' days ahead, '2-49' days ahead, '2-52' weeks ahead and 1-5 years ahead

This would require National Grid to stop submitting data to ELEXON relating to:

- Generating Plant Demand Margin (GPDM);
- National Output Usable data (all timescales<sup>1</sup>); and
- Zonal Output Usable data (all timescales<sup>1</sup>).

Instead this data would be submitted to the BMRS. As a result, this information would be replaced by a single webpage on the BSC website containing a hyperlink notifying users that this data has been moved to the BMRS.



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#### **Generating Plant Demand Margin (GPDM)**

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Generating Plant Demand Margin is the difference between "Output Usable" and forecast "National Demand"

Therefore the BMRS would publish:

- Generating Plant Demand Margin (GPDM): currently this is only provided for the '2-14' Days ahead and '2-52' Weeks ahead time points;
- National Output Usable data (all timescales); and
- Zonal Output Usable data (all timescales);

In addition the BMRS would also accommodate

- Explanatory text as is present on the Output Usable and GPDM web pages on the BSC website; and
- A number of additional files i.e. Systems maps and BM Unit mapping files.

The Group also noted that the BMRS would have the same level of access to historic versions of the data on the BSC website.

A suggestion was made that if users wished to access any information quickly, without having to navigate the BMRS, they could access the [Simple Object Access Protocol \(SOAP\) server](#). This server provides an interface for users to make requests for particular types of data and the ability to download this data as XML/CSV formats.

ELEXON explained to the Group that no significant cost savings to ELEXON would be achieved by transferring this data to the BMRS, as the cost of having this functionality on the BSC website is sunk. However, there would be efficiencies gained in having the data on one central location as opposed to maintaining the same data over several sources.

#### ***Comparisons between Output Usable and Out-turn data***

As part of the development of the Proposed Solution, the Group noted that a truly like for like comparison between Output Usable data and Out-turn data cannot be made. This is because the BM units that submit Output Usable data to National Grid are not the same as the BM Units that have operational metering and provide Out-turn data. For example, Out-turn data that is published on the BMRS includes National Grid BM Units which may not be BSC BM units such as Embedded Exemptable Large Power Stations (EELPS).

To avoid any confusion, the BMRS will include a 'health warning' in the BMRS help text which indicates to all BMRS users that the Output Usable data and Out-turn data for each fuel type category is not a like for like comparison.

This will be complemented with a published list of BM Units that make up the Fuel type categories under the Output Usable and Out-turn data.

## 6 Development of an Alternative Modification

**The Group did not provide any views against the Applicable BSC Objectives for the P243 consultation as they sought views from industry on the benefits/drawbacks of this solution.**

Some members of the Group believed that industry may find it useful to receive Output Usable data by BM Unit as well as Output Usable data aggregated by fuel type. This increases the overall granularity of information when compared to the Proposed Modification. Some Group members also believed that this would resolve any discrimination issues under the Proposed Modification. The discrimination might arise in fuel categories with low number of Generators where some Group members believed that this could reveal the Outage plans and trading position of certain Generators. Please see section 7 for a more detailed explanation.

Some members expressed their concerns that there may be a case of information overload with the vast amounts of data that are being transferred from the BMRS to BMRS users. Although Parties can choose which TIBCO data feeds they receive, the volume of data the flows through TIBCO will be significantly greater at BM Unit level when compared to the Proposed Modification (i.e. under the Proposed Modification you would receive data relating to the 11 fuel types, whereas under this Alternative you would receive data for approximately 323 CVA BM Units for the '2-14' days ahead and '2-52' weeks ahead time periods). As such the Proposer indicated that they only require aggregate Output Usable data by fuel type.

The Group also noted that there were inconsistencies between the way the BSC and National Grid define a BM Unit. Out-turn data that is published on the BMRS includes National Grid BM Units which may not be BSC BM units e.g. EELPS. As part of the solution, a mapping spreadsheet will be published on the BMRS which maps National Grid BM Units (that submit OC2 data) to BSC BM Units.

Therefore clarity would be required for this solution, in explaining which definition of BM Units was being used, as well as having data that shows the mapping of BSC to National Grid BM Units and the link to the Output Usable data. This was felt to be an appropriate way forward by the group.

## 7 Modification Group's Discussions

**Note: For simplicity, references to BM Unit are assumed to be BSC Units, unless specified otherwise.**

### Feasibility of publishing P243 Output Usable data

National Grid has indicated that they are able to publish Output Usable data (on a national basis) for the 2-14 days ahead and 2-52 Weeks ahead time points. However, there are instances where Output Usable data cannot be obtained and consequently published:

- Currently, there are no OC2 Obligations on Interconnectors to provide Output Usable data to National Grid, and as a result the forward availability for Interconnectors is kept as zero.
- Output Usable data can only be provided for sites that provide this information to National Grid under the Grid Code. In this context not all wind farms and other sources of generation, e.g. landfill gas, are operationally metered.

The Group concluded that not all sources of generation would be covered by the published Output Usable data under P243.

### Presentation of the P243 data

The Group strongly believed that having access to the P243 data in a single location was of high importance. In keeping with this principle, it was unanimously believed that the data should be hosted on the BMRS as it offers high availability, accessibility, reliability and resilience in the provision of market information.

In line with other data published on the BMRS, the Group suggested that the data be presented in graphic, tabular, CSV and XML formats. For further details on the presentation of the data and P243 solution, please refer to Section 3 of this document.

### Confidentiality and Discrimination

The Group considered whether the publication of P243 Output Usable data would create any confidentiality issues for Generators. The Group noted that the data would not contain any confidential information, and concluded that there was no reason why the data should not be made public.

However, the Group did have concerns that there were discriminatory aspects for certain Generators under P243

#### *Discrimination under the Proposed Modification*

Some Group members believed that there was an aspect of discrimination to certain Generators under the Proposed Modification. The discrimination arises in fuel categories



#### P243 data

- '2-14' Days ahead and '2-52' Weeks ahead national Output Usable data (by fuel type) published on the BMRS
- '2-49' Days ahead, '1-5' Years ahead national Output Usable data
- Zonal Output Usable data (all timescales and not broken down by fuel type)
- Generating Plant Demand Margin (GPDM) for '2-14' Days ahead and '2-52' Weeks Ahead time periods.

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(i.e. hydro, nuclear and pumped storage) where there are a low number of Generators. It was believed that this may reveal the Outage plans and trading position of certain Generators.

Other Generators/market participants would be able to view these plans without having to reveal their own.

However, there were those members that believed that the Proposed Modification did not pose any further discrimination to Generators than the current arrangements as:

- the plans of individual plants are unlikely to be exposed any further than from the publication of Maximum Export Limits (MELs), which are already available from the BMRS; and
- It would still be difficult to predict a Generator's forward availability, and any prediction would be an 'aggregated availability' coupled with assumptions. Additionally, it is possible that a Generator's availability could change, especially in the case of a Portfolio Generators who may wish not to make use of any one type of Generation.

### ***Discrimination under the Alternative Modification***

To combat this information asymmetry under the Proposed Modification, it was suggested that Output Usable data for each BM Unit could be published as it would be more equitable for the entire market; all market participants would have the same information. While it was agreed that the Alternative Modification increased the transparency of market information, some Group members believed that the Alternative Modification transferred the issue of discrimination from certain Generators to independent Generators. In these instances, these members believed that the Output Usable data is strongly correlated to a Generator's Outage programme/trading position and may put such Generators at a disadvantage.

The Group also explored the possibility of publishing Output Usable data broken down by fuel type for each OC2 system zone. However, the Group did not pursue this further as they noted there are still instances where a single Generator for a given fuel type in a single zone exist. As such the Group believed this would create an unfair situation where the forward availability for some Generators was easily viewable, and for others not.

In conclusion, some of the Group believed that both solutions were discriminatory towards market Participants whereas others noted the discrimination but did not believe it was material.

### **Gaming in the market**

The Group considered whether P243 increased the risk of gaming in the market. While some respondents had concerns that the increased transparency of information might lead to gaming, others believed that it would only increase competitive behaviour between market participants.

The Group noted that the introduction of transparent market data can lead Parties to change their behaviour as a result of having the data. Indeed, the reason for increasing data transparency is to enable Parties to make better informed (and therefore more efficient and economic) commercial decisions, and thereby to maximise the potential profit from their trading.

Depending on your point of view, this change in behaviour can be seen as:

- A rational commercial response to increased information, with a positive effect on market competition and the economic efficiency of the Transmission System; or
- Potential for parties to misuse/game the data by changing their behaviour to gain a financial advantage to their own organisation with a negative effect on market competition, i.e. it reduces the usefulness of data for other Parties.

Therefore, a Party may use the transparency of data to estimate the Outage plans of another Generator in the same geographical area and use it to its advantage. This advantage could be either a commercial response or a misuse of the information.

For example, a Generator may use such information (Output Usable data published under P243) to align its planned Outages at a time when its competitors were less likely to fill in the 'Generation gap', and in doing so would increase its profits. In turn, this could lead to a more efficient spread of Outages across the national Transmission System if a number of Generators used the Output Usable data in the same manner.

On the other hand, Generator(s) could misuse this data and change its generation status (between 'generating' and being 'offline') so as to gain financial advantage. One way that this could be achieved is by causing a system constraint (too little or too much generation in a geographical area). As such National Grid may thereby instruct the Generator(s) to generate more/less electricity, which could mean the Generator gains financially compared to what it would have gained/lost if it did not change its generation status. This also decreases the value of the Output Usable data provided and decreases the efficiency of the Transmission System.

However, the Group noted that if a Generator(s) behaved in such a manner it would be in breach of its Generation licence and could be the subject of an anti-competitive investigation and financial penalties. As the market data is more transparent to the whole market, such behaviours would be easier to observe than the current arrangements; it would be easy to spot where a Generator deviated from its published Output Usable data submission and in doing so would be at risk of an investigation and negative publicity associated with it. As such, increased transparency may act as a deterrent to such inappropriate behaviours.

## Impact of publishing Output Usable data in the GB market compared to Europe

The Group noted that Output Usable data by fuel type is provided in many European countries and that these countries have shown a positive increase in market liquidity.

The Group agreed that it would be difficult to make any detailed comparisons between the GB and European markets as their arrangements are fundamentally different. However, the Group concluded that in spite of these differences that there was no reason why the publishing of Output Usable data for the GB market should have a different outcome.



### Market Liquidity

The term market liquidity refers to the volume of transactions within a market. With sufficient buyers and sellers, a market enjoys continuous offers, bidding, and transactions, thus achieving market liquidity.

## 8 Industry views

This section summarises the views expressed by respondents received during the P243 consultation. Eleven responses were received which were in overall support of the Group's views.

### • Does the Proposed Modification facilitate the Applicable BSC Objectives?

The majority of respondents (8 out of 11) believed that the Proposed Modification better facilitated BSC Objectives (b) and (c). Respondents believed that the improvement in market information will create a level playing field for all market participants, enable economical decisions to be taken and increase competition, all of which would have a positive impact on the operation of the national Transmission system.

However, some respondents believed that the Proposed Modification was discriminatory towards certain Generators.

The Group noted that the views were the same as the Group's discussions in Section 7 of this document. A respondent also highlighted a concern that Parties may use the published data could be used to make wrong commercial decisions. However, it was noted that as part of the solution disclaimers/explanations would accompany the P243 data explaining the origins of this data and that it was to be used at a Party's own risk.

### • Impacts?

The majority of respondents (8 out of 11 for the Proposed Modification and 10 out of 11 for the Alternative Modification) stated that their systems would require amendments so as to obtain the P243 data. Respondents noted that the impacts under the Alternative Modification would be greater than the Proposed Modification because of the increased volume of data.

### • Does the Alternative Modification facilitate the Applicable BSC Objectives?

The majority of respondents (7 out of 11) believed that the Proposed Modification better facilitated BSC Objectives (b) and (c), for the same reasons as the Proposed Modification. Respondents noted that the increased granularity of information would maximise information for all market participants.

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However, some respondents believed that the Alternative Modification would place undue emphasis on the data provided, and would disadvantage Generators with one or few BM Units; the market positions would be revealed as their forward availability would be strongly correlated to their trading position.

The Group noted that the views provided were the same as the Group's discussions in Section 7 of this document.

- **Is there a preference for the Proposed Modification or Alternative Modification?**

The majority of respondents (7 out of 11) highlighted their preference for the Alternative Modification as it provided a greater transparency in market information. These respondents believed that greater transparency would help new market entrants further (when compared to the Proposed Modification) and this would be consistent with the level of detail that is provided in other European countries. Those that preferred the Proposed Modification (4 out of 11), believed that the Alternative Modification would expose the position of independent Generators disproportionately to larger Generators, and the increased volume of data may cause resource issues for smaller Generators.

- **Are there any confidentiality issues associated with P243?**

The Group had concerns that publishing Output Usable data for certain fuel types with low numbers of Generators would divulge information such as Outage plans and market behaviour for individual Generators and sought views from industry on this.

The majority of respondent believed that there were no confidentiality issues under the Proposed Modification (7 out 11) or Alternative Modification (6 out of 11). Some respondents noted that market participants currently analyse information published to infer this. Other respondents believed that publication of such data could reveal their confidential commercial positions.

- **Are there any discriminatory issues associated with P243?**

As indicated in section 7, Group members were split on whether the Proposed or Alternative Modification was discriminatory to industry. The majority of respondents (7 out 11 for the Proposed Modification and 6 out 11 for the Alternative) believed that there were discriminatory issues under both the Proposed and Alternative Modifications.

The Group noted that the views provided are the same as the Group's views, which can be found in Section 7 of this document.

- **Are there any quantifiable benefits associated with P243?**

The Modification Group found it extremely difficult to quantify the benefits of increased data transparency and sought views from industry whether there were any quantifiable benefits to their organisations. Like the Modification Group, the majority of respondents (10 out of 11) highlighted the difficulty in associating quantifiable benefits with improved data transparency.

One respondent suggested that the cost incurred when deriving similar information from Zonal Output Usable data and historical generation would be saved. However, the Group considered this option and believed that Parties would still incur these costs if they wanted to ensure that they had a competitive edge and get a better view of market prices and forward availability.

- **Would publishing Output Usable data during winter 2010 create any issues when compared to publishing in February 2011?**

The Group considered whether publishing Output Usable data under P243, would cause any concerns for industry if P243 was implemented in November 2010, as it would be a time of peak electricity demand. The majority of respondents (6 out of 11) indicated that there would be no issues. However some respondents (3 out of 11) indicated that publication of data could reveal Outage plans, as well as posing a risk that market participants could make mistaken assumptions from the data provided thereby increasing market uncertainty.

- **Other comments?**

A respondent raised a generic comment regarding what information was used by the Panel and the Authority in making a decision on a Modification. ELEXON contacted the respondent and explained that the framework for the BSC Panel and the Authority to make decisions is described in Section F of the Code and Condition C3 of the Transmission licence.

## 9 Detailed impacts

### Impact on BSC Systems and process

BSC System/Process	Impact
BMRS	Changes will be required to the BMRS in order to make the new data items available to Parties via the website and (for High Grade users) the TIBCO messaging service.

### Impact on BSC Agent/service provider contractual arrangements

None

### Impact on BSC Parties and Party Agents

BSC Parties and non-Parties who currently use the BMRS High Grade Service will be able to receive the new and amended data items via the website and/or TIBCO messaging. Parties and non-Parties using the Low Grade Service would be able to access the new and amended data items via the public website.

### Impact on Transmission Company

Changes will be required to the National Grid systems (TOGA, BM and Registration systems), to submit the amended (new and existing) data files to the BMRS. Changes will also be required to the 'BMRS & SAA Interface Specification' and the 'ELEXON Interface Specification' which set out the format of data submitted to the BMRS and ELEXON.

### Impact on ELEXON

Area of ELEXON's business	Potential impact
Service Delivery	<ul style="list-style-type: none"> <li>Observing Operational Acceptance Testing (OAT), keeping track of development progress and the management in the provision of the BMRS.</li> </ul>
Change Delivery	<ul style="list-style-type: none"> <li>Liaise with the (Interim) AMD Service Provider to coordinate the implementation, including the production redlined documentation.</li> <li>Manage the testing effort required, including Participant Testing.</li> </ul>

### Impact on Code

Code section	Potential impact
Section Q	These sections will require amendment to reflect the P243 solution developed by the Modification Group
Section V	

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Impact on Code Subsidiary Documents	
CSD	Potential impact
BMRA Service Description	Changes would needed to reflect the P243 solution
Reporting Catalogue	

Impact on Core Industry Documents and other documents	
Document	Potential impact
Grid Code	<p>Changes would be required to reflect:</p> <ul style="list-style-type: none"> <li>• any aggregation and publication of Output Usable data; and</li> <li>• Publishing Output Usable data for Interconnectors</li> </ul>

Impact on other Configurable Items	
Configurable Item	Potential impact
BMRA Design Specification	Changes to these documents may be required to reflect the data items proposed under P243
BMRA Manual System Specification	
BMRA Operating Services Manual	
BMRA System Specification	
BMRA User Requirements Specifications (URS)	
Interface Definition and Design (IDD) Part 1	
Interface Definition and Design (IDD) Part 2	

Impacts on market participants	
	Potential impact
Market Participants	We believe that the impact on market participants is likely to be low.

## 10 Group membership and process followed

Member	Organisation	20/08/09	23/09/09	22/10/09
Adam Lattimore	ELEXON (Chairman)	✓	X	✓
Sherwin Cotta	ELEXON (Lead Analyst)	✓	✓	✓
Kathryn Coffin	ELEXON (Chairman)	X	✓	X
Kristian Lande	LDH (Proposer)	X	X	✓
Lea Bloechingler	LDH (Proposer's alternate)	✓	✓	X
Shafqat Ali	National Grid	✓	✓	✓
Esther Sutton	E.ON UK	✓	✓	✓
Martin McDonald	SAIC	✓	✓	✓
Garth Graham	Scottish and Southern	X	✓	✓
Martin Mate	EDF	✓	✓	✓
Chris Stewart	Centrica	✓	X	X
Bill Reed	RWE	✓	✓	✓
Attendee	Organisation	20/08/09		
Nicholas Brown	ELEXON (Lawyer)	✓ (part)	X	✓
Steve Francis	ELEXON	✓	✓	✓
James Grigor	Ofgem	✓	✓	✓
Paul Auckland	National Grid	✓	✓	✓
Tabish Khan	ELEXON	✓	X	X
Andy Howden	Logica	✓	✓	✓
Andrew Colley	SSE	✓	X	X
Jonathan Harley	Gas forum	✓ (part)	X	X
Ricky Hill	Centrica	X	✓	✓
Phil Hewitt	Enappsys	X	✓	X
Lisa Waters	Watersweye	X	✓ (part)	X
Emma Williams	FHC	X	X	✓ (part)

### Process followed

Date	Event
13/08/09	IWA presented to the Panel
20/08/09	First Modification Group meeting held
01/09/09	Initial Transmission Company/BMRA Impact assessment (with P244)
23/09/09	Second Modification Group meeting
02/10/09	P243 issued for industry impact assessment/consultation (with P244)
19/10/09	P243 consultation responses returned
22/10/09	Third Modification Group meeting
12/11/09	Assessment Report presented to the BSC Panel

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