

REQUIREMENTS SPECIFICATION for Modification Proposal P220 'Provision of new data items for improving market information'

Prepared by: P220 Modification Group

Date of Issue: 28 November 2007

Reason for Issue: For impact assessment

Document Reference: P220AS

Version Number: 1.0

Proposed Modification P220 would publish the following new data items on the Balancing Mechanism Reporting Service (BMRS):

- a) Outturn and reference temperatures;
- b) Wind generation forecast;
- c) Instantaneous and half-hourly generation by fuel type;
- d) Daily energy volumes transported across the Transmission System; and
- e) Non-Balancing Mechanism (BM) Short Term Operating Reserve (STOR) Instructed Volumes.

These new data items would be provided to the Balancing Mechanism Reporting Agent (BMRA) by the Transmission Company and, with the exception of the Non-BM STOR data, would also be included in an 'Electricity Data Summary Page' on the BMRS.

Alternative Modification P220 would publish the same data items as those listed above, but would include some additional trend data associated with the daily energy volumes. The Alternative Modification would also publish one further new data item as follows:

- f) 'Real time' Transmission System Frequency data.

This additional data would be included in the BMRS Electricity Data Summary Page.

BACKGROUND AND PURPOSE OF IMPACT ASSESSMENT

The BSC Panel considered P220 on 9 November 2007 and submitted the proposal to a three-month Assessment Procedure. The P220 Modification Group ('the Group') has met twice to date on 13 November and 20 November 2007, and has agreed the requirements for the Proposed Modification and a potential Alternative Modification as set out in this Requirements Specification. It should be noted that the Proposed and Alternative Modification requirements contained in this document do not necessarily represent the Group's final solutions at this stage, and will be subject to further discussion at its subsequent meetings.

This document supports impact assessment by BSC Agents, BSC Parties, Party Agents, Core Industry Document Owners, the Transmission Company and BSCCo (ELEXON).

The Group will consider all responses received to this impact assessment at its meeting on 17 December 2007. A separate industry consultation on the merits of the Proposed and Alternative Modifications will subsequently be conducted during January 2008.

Any queries regarding the impact assessment requirements should be addressed to Kathryn Coffin (020 7380 4030), e-mail address kathryn.coffin@elexon.co.uk.

CONTENTS TABLE

Summary of Impacted Parties and Documents	3
1 Summary of Proposed Modification Solution	4
2 Summary of Alternative Modification Solution.....	5
3 Detail of Proposed Modification Solution Requirements.....	5
3.1 Outturn and reference temperatures.....	5
3.2 Wind generation forecast.....	7
3.3 Instantaneous and half-hourly generation by fuel type.....	10
3.4 Daily energy volumes.....	15
3.5 Non-BM STOR Instructed Volumes.....	16
4 Detail of Alternative Modification Solution Requirements	17
4.1 Outturn and reference temperatures.....	17
4.2 Wind generation forecast.....	17
4.3 Instantaneous and half-hourly generation by fuel type.....	17
4.4 Daily energy volumes.....	17
4.5 Non-BM STOR Instructed Volumes.....	19
4.6 'Real-time' Transmission System Frequency	19
5 Impact Assessment Requirements	20
5.1 BMRA.....	20
5.2 Transmission Company	22
5.3 BSC Parties and Party Agents.....	23
5.4 BSCCo.....	23
6 Estimated Impact of Modification on Systems, Processes and Documentation..	24
7 Terms Used in this Document.....	26
8 Document Control.....	27
8.1 Authorities.....	27
8.2 References	27

Intellectual Property Rights, Copyright and Disclaimer

The copyright and other intellectual property rights in this document are vested in ELEXON or appear with the consent of the copyright owner. These materials are made available for you for the purposes of your participation in the electricity industry. If you have an interest in the electricity industry, you may view, download, copy, distribute, modify, transmit, publish, sell or creative derivative works (in whatever format) from this document or in other cases use for personal academic or other non-commercial purposes. All copyright and other proprietary notices contained in the document must be retained on any copy you make.

All other rights of the copyright owner not expressly dealt with above are reserved.

No representation, warranty or guarantee is made that the information in this document is accurate or complete. While care is taken in the collection and provision of this information, ELEXON Limited shall not be liable for any errors, omissions, misstatements or mistakes in any information or damages resulting from the use of this information or action take in reliance on it.

SUMMARY OF IMPACTED PARTIES AND DOCUMENTS

As far as the P220 Modification Group ('the Group') has been able to assess, the following parties/documents would be impacted by P220.

Please note that this table represents a summary of the full initial impact assessment contained in Section 6.

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

Definitions of the capitalised terms used in this document can be found in Section 7.

1 SUMMARY OF PROPOSED MODIFICATION SOLUTION

Proposed Modification P220 would publish the following new data items on the Balancing Mechanism Reporting Service (BMRS):

- a) Outturn and reference temperatures;
- b) Wind generation forecast;
- c) Instantaneous and half-hourly generation by fuel type (including 'real-time' total demand outturn data);
- d) Daily energy volumes transported across the Transmission System; and
- e) Non-Balancing Mechanism (BM) Short Term Operating Reserve (STOR) Instructed Volumes.

These new data items would be provided to the Balancing Mechanism Reporting Agent (BMRA) by the Transmission Company. With the exception of the Non-BM STOR data, the new data items would also be included in an 'Electricity Data Summary Page' (hereafter referred to as the 'Summary Page') on the BMRS.¹ Table 1 below shows the high-level BMRS publication requirements for the Proposed Modification.

Table 1 – BMRS Publication Requirements for Proposed Modification

Data item	New Summary Page graph	New Summary Page table	New 'current data' page	New 'historic data' page
Outturn and reference temperatures	Yes (rolling 3 months)	No	No	Yes (rolling 6 months)
Wind generation forecast	Yes (D-1, D and D+1)	Yes (D and D+1)	Yes (D-1, D and D+1)	No*
Instantaneous generation by fuel type	No	Yes (current snapshot)	No	Yes (rolling 24 hours)
Half hourly generation by fuel type	Yes	Yes (rolling half hour and 24 hours)	No	Yes (rolling 3 months)
Real-time total demand outturn	Yes (rolling 60 minutes)	No	No	Yes (rolling 48 hours)
Daily energy volumes	Yes (rolling 3 months)	No	No	Yes (rolling 6 months)
Non BM-STOR Instructed Volumes	No	No	Yes (rolling 24 hours)	No

*Available separately as part of half-hourly generation by fuel type data.

Further detail regarding the requirements for each of these new data items can be found in Section 3 of this Requirements Specification. For further details of the background to the Modification Proposal, please refer to the P220 Initial Written Assessment (IWA, Reference 1).

¹ The existing version of the BMRS Data Summary Page can be found at: <http://www.bmreports.com/dsr.htm>. This represents a high-level 'quick wins' page, containing links to existing market data. Work is currently underway by BSCCo and the BMRA to expand this into an actual Summary Page, containing graphs and summaries for data which is already available on the BMRS. This 'Phase 1' Summary Page, which excludes any of the P220 data, is planned for implementation during the first quarter of 2008. P220 has been raised to introduce further items to the Phase 1 Summary Page, in relation to data which is not currently available on the BMRS and which is therefore not currently specified in the Balancing and Settlement Code ('the Code'). Further information can be found in Section 1.3 of the P220 IWA.

2 SUMMARY OF ALTERNATIVE MODIFICATION SOLUTION

Alternative Modification P220 would publish all of the data items included in the Proposed Modification, but would include some additional trend data associated with the daily energy volumes.

The Alternative Modification would also publish one further additional data item of 'real-time' Transmission System Frequency.

The additional data required by the Alternative Modification would be provided to the BMRA by the Transmission Company, and would be included on the BMRS Summary Page. Table 2 below shows the high-level BMRS publication requirements for the Alternative Modification.

Table 2 – BMRS Publication Requirements for Alternative Modification

Data item	New Summary Page graph	New Summary Page table	New 'current data' page	New 'historic data' page
Real-time System Frequency	Yes (rolling 60 minutes)	No	No	Yes (rolling 48 hours)
Outturn and reference temperatures	As per Proposed Modification.			
Wind generation forecast	As per Proposed Modification.			
Instantaneous generation by fuel type	As per Proposed Modification.			
Half hourly generation by fuel type	As per Proposed Modification.			
Real-time total demand outturn	As per Proposed Modification.			
Daily energy volumes	As per Proposed Modification, but with additional trend data.			
Non BM-STOR Instructed Volumes	As per Proposed Modification.			

Further detail regarding the requirements for each data item contained in the Alternative Modification can be found in Section 4 of this Requirements Specification.

3 DETAIL OF PROPOSED MODIFICATION SOLUTION REQUIREMENTS

3.1 Outturn and reference temperatures

The Transmission Company would be required to provide the BMRA with new daily temperature data for the previous day, as shown in Table 3 below.

Table 3 – New outturn and reference temperature data

Data Item	Submission Time	Description
Outturn temperature	No later than 17:00 each day	The following data applicable for the day preceding the current day: the outturn (i.e. actual) GB temperature, expressed as a composite variable average Celsius value deemed to be representative of the temperature measured at midday.

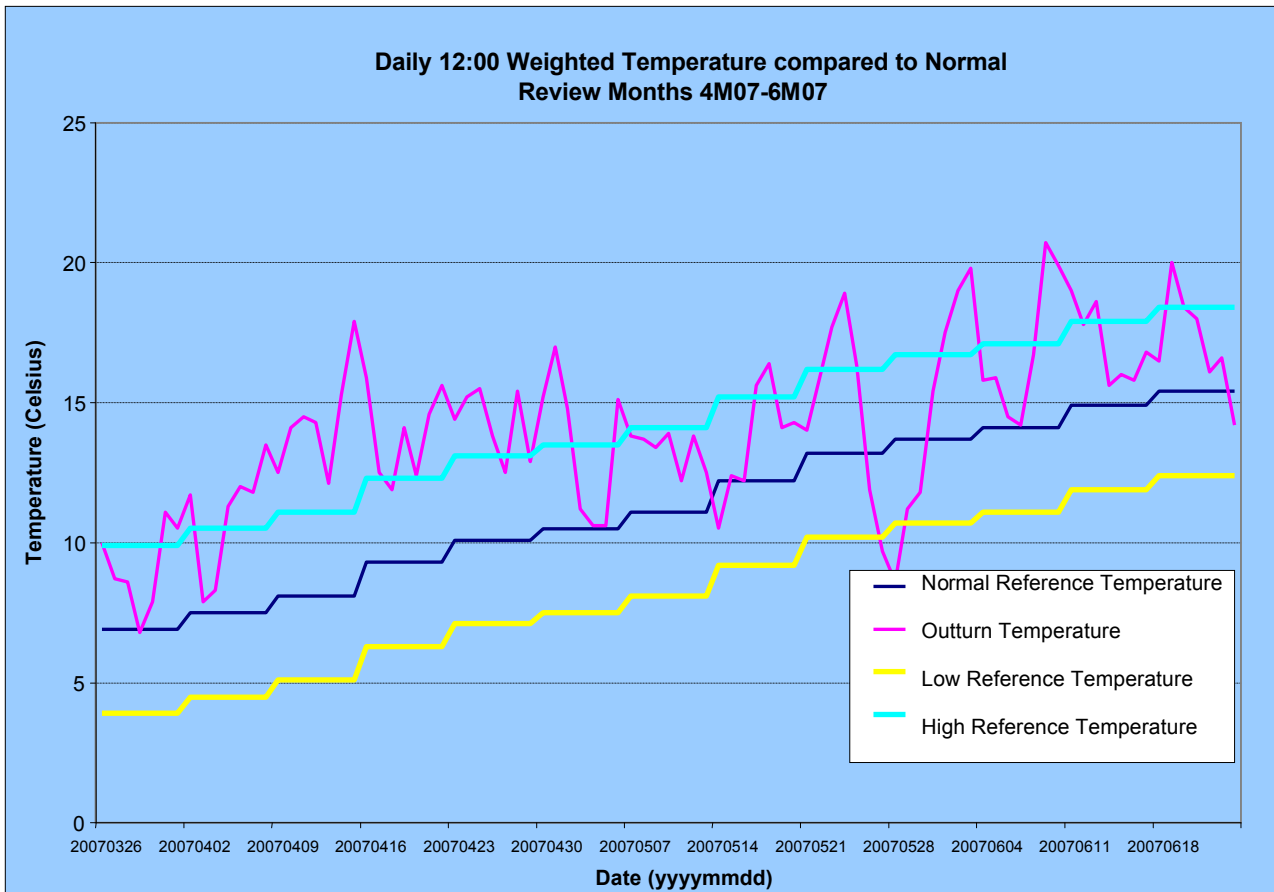
Data Item	Submission Time	Description
Reference temperatures	No later than 17:00 each day	The following data applicable for the day preceding the current day: <ul style="list-style-type: none"> a) The Normal Reference Temperature expressed as a degrees Celsius value; b) The Low Reference Temperature expressed as a degrees Celsius value; and c) The High Reference Temperature expressed as a degrees Celsius value.

Each different temperature data item (outturn, Normal, Low, High) would be a separate daily GB figure.

The Code requirement would be for the High, Normal and Low Reference Temperature data to be submitted by the Transmission Company no later than 17:00 each day. However, in practice these new reference temperature data items would be provided to the BMRA as standing data at the beginning of each calendar year for all days in that year – although the BMRA would only publish the values a day at a time. This standing data would be provided to the BMRA as a 'comma-separated' (.csv) file in a format agreed between the BMRA and the Transmission Company. The BMRA would be required to manually extract and publish the data for each day. The outturn temperature data file would be submitted by the Transmission Company to the BMRA on a daily basis.

The BMRA would be required to publish a new graph on the BMRS Summary Page in a format similar to that shown in Figure 1 below, containing all of the daily temperature data items listed in Table 3 over a rolling three-month period.

Figure 1 – Summary Page display for new outturn and reference temperatures



(Please note that the above graph is indicative only, and has been produced using hypothetical data.)

In addition, the BMRA would be required to publish historic values for this data for each day in the past rolling 6-month period. This data would not be published on the Summary Page itself, but would be made available as a table on a separate new page of the BMRS and also via a .csv file download from that page. A link to this new page would be provided on the Summary Page.

An explanation of the new data would be provided on the BMRS, including:

- Definitions of High, Normal and Low Reference Temperatures;
- Details of the data points used to derive the outturn temperature as a composite variable (for example, these might be 09:00, 10:00, 11:00 and 12:00);
- Clarifications of the times shown in the graph/spreadsheet (e.g. that '12:00' represents 12 noon);
- Details of the sample of different weather stations used by the Transmission Company to derive the temperature data; and
- Clarification that, if data from a particular weather station was unavailable on a given day, the Transmission Company would temporarily substitute this with data from another station.

These explanations/clarifications would either be added to the BMRS Help page, or would be provided via another method such as the use of local mouse-over pop-ups on the Summary Page. The precise format and wording would be agreed between the BMRA, the Transmission Company and BSCCo during the implementation period for P220.

3.2 Wind generation forecast

The Transmission Company would be required to provide the BMRA with new wind generation forecast data for the current day, day ahead and 2 days ahead, as shown in Table 4 below.

Table 4 – New wind generation forecast data

Data Item	Time	Description
Forecast wind generation (day, day ahead, and 2 day ahead values)	No later than 17:00 each day	The following data applicable for the period commencing at 21:00 on the current day (D) and ending at 21:00 on D+2: <ol style="list-style-type: none"> a) The forecast total generation across all Power Park Modules metered by the Transmission Company, in respect of those Settlement Periods for which the Transmission Company has forecast data; b) The time associated with each Settlement Period defined in (a) above; c) The Total Metered Capacity for each Settlement Period defined in (a) above, expressed as an average MW value of the Registered Capacity of all Power Park Modules metered by the Transmission Company.

3.2.1 BMRS Summary Page requirements

3.2.1.1 New Summary Page table

The BMRA would be required to publish a new table on the BMRS Summary Page in a similar format to Figure 2 below, containing the following data:

- 1) The Transmission Company’s forecast of total ‘peak’ generation across all Power Park Modules which are metered by the Transmission Company, in relation to:

- a) The current day (D); and
- b) The day ahead (D+1),
expressed as the highest MW value amongst the sample of Settlement Period forecast figures provided by the Transmission Company for the day concerned;
- 2) The time of day (i.e. time of the Settlement Period) associated with the 'peak' generation as defined under 1) above; and
- 3) The Total Metered Capacity associated with the 'peak' generation Settlement Period as defined under 1) and 2) above.

Figure 2 – Summary Page display for new wind generation forecast data

Thursday 19/07/2007	<u>Forecast Today</u>	<u>Forecast Tomorrow</u>
Time of Maximum Wind Generation:	12:00	17:00
Peak (Max) MW	64	55
Total Metered Capacity (MW)	870	870
<i>Data last updated: 19-Jul-2007 17:29:48</i>		

(Please note that the above table is indicative only, and has been produced using hypothetical data.)

The 'peak' values published by the BMRA for a given day would be the highest MW value amongst the sample of Settlement Period forecast figures provided by the Transmission Company for that day. For the avoidance of doubt, since the Transmission Company would not provide forecast values for each Settlement Period in the day, the published 'peak' value would not necessarily be a forecast of the true peak for that day.

The values shown in the table would be updated daily by the BMRA at the point at which revised forecast figures were submitted by the Transmission Company (which would be submitted no later than 17:00 each day). If the 'peak' values in the revised forecast data were different to the original values already in the table, these would overwrite the previous values. In addition, the calendar dates represented by 'today' and 'tomorrow' in the table would automatically change on the BMRS display at 00:00 each day (i.e. the day which had been represented by 'tomorrow' would become 'today'). The table would therefore contain a time stamp, showing the date and time at which the data was last updated.

3.2.1.2 New Summary Page graph

The BMRA would also be required to publish a new graph on the BMRS Summary Page, showing the following data items for the current day, day ahead and 2 days ahead (D, D+1 and D+2):

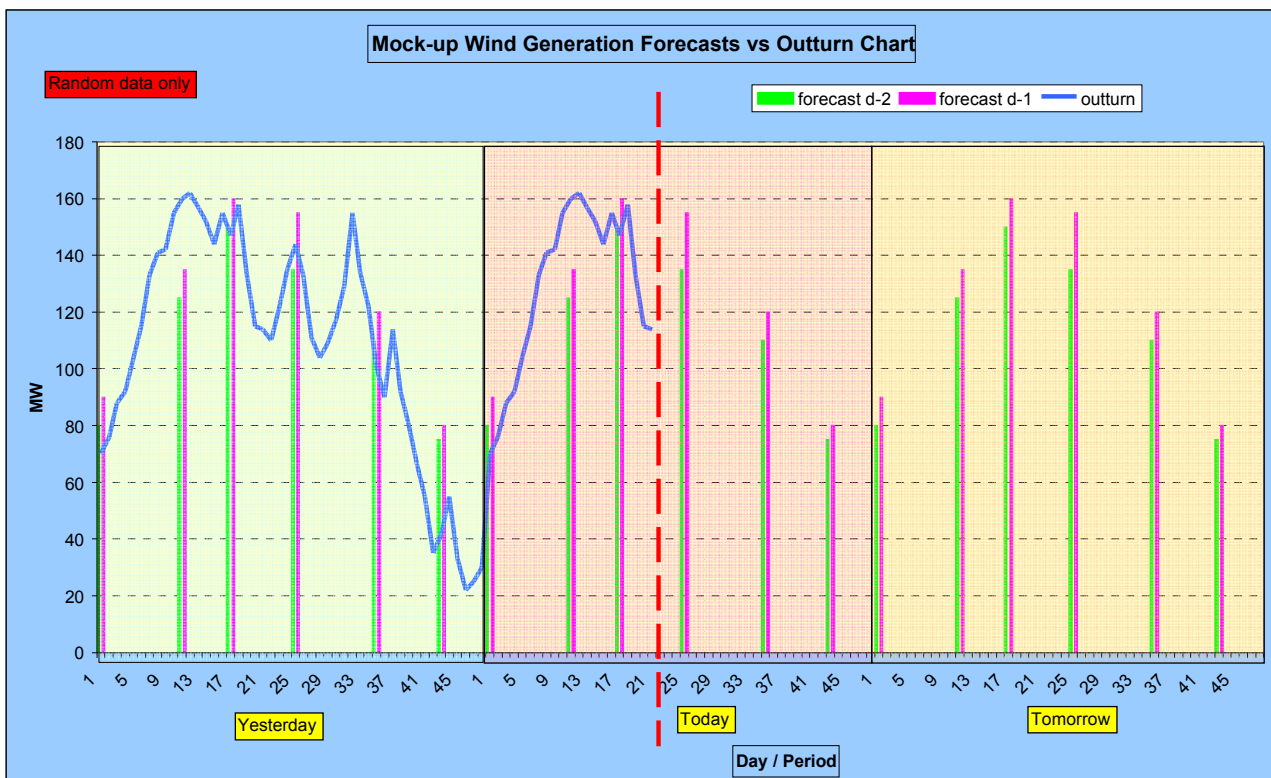
- 1) The original forecast total generation across all Power Park Modules metered by the Transmission Company, in relation to each of the Settlement Periods for which the Transmission Company had provided forecast data in accordance with Section 3.2.1.1 of this Requirements Specification;
- 2) The revised forecast data for those same Settlement Periods, as received a day later than the original forecast under (1) and as provided in accordance with Section 3.2.1.1 of this Requirements Specification; and
- 3) The actual outturn wind generation for each Settlement Period in each of the 3 days (whether or not there was a forecast value associated with that Settlement Period).

Note that (3) would not require a new data item to be submitted by the Transmission Company specifically for the purposes of this data, since these values would be derived by the BMRA using the half-hourly outturn by fuel type data provided by the Transmission Company in accordance with Section 3.3.1 of this Requirements Specification.

The new Summary Page graph would be published in a similar format to that shown in Figure 3 below. It would show a fixed, rather than a rolling, 3-day period – containing all Settlement Periods from Settlement Period 1 (00:00) on the current day up to and including Settlement Period 48 (23:30) on D+2 (giving 144 Settlement Periods in total). The original and revised forecast data would be shown as two differently-coloured bars on the graph, whilst the outturn data would be shown as a line. Original forecast data would always be shown for each of the 3 days, whilst revised forecast data (submitted daily) and outturn data (submitted half-hourly) would be published as these data items were received by the BMRA.

Those Settlement Periods for which forecast data had not been provided by the Transmission Company would be left blank (i.e. they would not have bars associated with them). The graph would contain a time stamp, showing the date and time at which the graph was last updated.

Figure 3 – New Summary Page display for wind generation forecast and outturn data



(Please note that the above graph is indicative only, and has been produced using hypothetical data.)

3.2.2 Other BMRS requirements

In addition, the BMRA would be required to publish a table showing the values underpinning this graph for the current day, day ahead and 2 days ahead. This table would not be published on the Summary Page itself, but would be made available on a separate new page of the BMRS and also via a .csv file download from that page. A link to this new page would be provided on the Summary Page.

No further historic wind forecast data would be made available. However, a rolling 3 months of historic outturn generation data for those Power Park Modules metered by the Transmission Company would be provided separately, as part of the half-hourly outturn by fuel type data published in accordance with Section 3.3.1 of this Requirements Specification.

Finally, an explanation of the new data would also be provided on the BMRS – including the following:

- Details of the data points (i.e. Settlement Periods) for which the Transmission Company would provide wind generation forecast data for each day (for example, these might be 00:00, 05:00, 08:00, 12:00, 17:00 and 21:00);
- Clarification that not all Settlement Periods shown in the graph would have associated forecast data;
- Clarification that, since the Transmission Company would not provide forecast values for each Settlement Period in a day, the published 'peak' value would not necessarily be a forecast of the true peak for the day;
- Clarification that the 'peak' wind forecast table would be updated daily as revised forecast data is received by the BMRA;
- Clarification that the wind generation/outturn graph would be updated with revised forecast data (daily) and outturn data (half-hourly) as this data is received by the BMRA;
- Clarification that each data item shown in the table and graph would represent a single MW figure across all Power Park Modules metered by the Transmission Company;
- Clarification that the new wind generation forecast and outturn data would therefore represent only a subset of total GB wind capacity, as it would exclude any wind generators which are not metered by the Transmission Company;²
- Clarification that the figures would be based on the Transmission Company's operational metering rather than BSC Settlement data;
- Clarification that, if for any reason, forecast data was not submitted by the Transmission Company then it would not be published on the BMRS;
- Definitions of Power Park Module and Total Metered Capacity; and
- An up-to-date list of all the Power Park Modules which are metered by the Transmission Company (for the avoidance of doubt, the outturn values of individual Power Park Modules would not be published).³

These explanations/clarifications would either be added to the BMRS Help page, or would be provided via another method such as the use of local mouse-over pop-ups on the Summary Page. The precise format and wording would be agreed between the BMRA, the Transmission Company and BSCCo during the implementation period for P220.

3.3 Instantaneous and half-hourly generation by fuel type

The Transmission Company would be required to provide the BMRA with new 'instantaneous' and half-hourly outturn generation data by fuel type, as shown in Table 5 on the following page.

² A link would be provided on the BMRS Help page to the following page of the British Wind Energy Association (BWEA) website, which contains details of the total capacity across all currently-operational wind farms in Great Britain:

<http://www.bwea.com/ukwed/index.asp>.

³ This would not require a new data item to be submitted by the Transmission Company, as the list would be taken from the BM Unit fuel-type categorisation spreadsheet provided by the Transmission Company in accordance with Section 3.3.1 of this Requirements Specification.

Table 5 – New outturn by fuel type data

Data Item	Time	Description
Outturn 'instantaneous' generation by fuel type (including Interconnector flows)	Every 5 minutes	<p>The outturn total instantaneous generation, expressed as a MW 'snapshot' spot value for each of the following categories:</p> <ul style="list-style-type: none"> a) Combined Cycle Gas Turbine (CCGT) Modules; b) Oil Plant; c) Coal Plant; d) Nuclear Plant; e) Power Park Modules metered by the Transmission Company; f) Pumped Storage Plant; g) Non Pumped Storage Hydro Plant; h) Open Cycle Gas Turbine (OCGT) plant; i) External Interconnection flows from France to England; j) External Interconnection flows from Ireland to Scotland; and k) Other.
Outturn 'half-hourly' generation by fuel type (including Interconnector flows)	No later than 15 minutes following the end of each Settlement Period	<p>The outturn total generation expressed as an average MW value for that Settlement Period for each of the following categories:</p> <ul style="list-style-type: none"> a) CCGT Modules; b) Oil Plant; c) Coal Plant; d) Nuclear Plant; e) Power Park Modules metered by the Transmission Company; f) Pumped Storage Plant; g) Non Pumped Storage Hydro Plant; h) OCGT plant; i) External Interconnection flows from France to England; j) External Interconnection flows from Ireland to Scotland; and k) Other.

The fuel type of each BM Unit for both the 'instantaneous' and half-hourly outturn data would be determined by the Transmission Company using data provided to it by generators under the Grid Code and as part of the production of its Seven Year Statement (SYS). This categorisation would be based on the primary fuel type of each power station, such that all BM Units for a particular power station would be classed as having the same fuel type for the purposes of the data.⁴

⁴ For example, all BM Units of a power station whose main fuel type was 'CCGT', but which was also capable of running on distillate, would be categorised and reported as CCGT even during the periods when the station was temporarily running on distillate.

The values published for the 'instantaneous' outturn data would be single 'snapshot' spot values as polled and provided by the Transmission Company every 5 minutes. The half-hourly outturn data would be single average figures for each fuel-type category in each Settlement Period. These values would be derived from the Transmission Company's operational metering rather than BSC Settlement data.

3.3.1 New 'instantaneous' and half-hourly outturn data by fuel type

3.3.1.1 New Summary Page table

The BMRA would be required to publish a new table on the BMRS Summary Page in a similar format to that shown in Figure 4 below. The table would include a time stamp, showing when the data was last updated.

The table would include the following:

- 1) The most recent update of the 'instantaneous' outturn generation data for each fuel-type category (as provided by the Transmission Company every 5 minutes), expressed as 'snapshot' MW spot values for each category;
- 2) The values of the total outturn generation for each fuel-type category for the last half-hour (i.e. for the last complete Settlement Period, as submitted by the Transmission Company no later than 15 minutes after the end of each Settlement Period), expressed as average MW figures;
- 3) The total outturn generation for each fuel-type category (as defined under (2) above) expressed as a percentage of the total average MW generation across all fuel-type categories for the last complete Settlement Period (these percentages would be calculated by the BMRA);
- 4) The values of the total MW outturn generation for each fuel-type category for the previous rolling 24-hour period (to be calculated as MWh values by the BMRA by summing the average MW values provided under (3) across all 48 Settlement Periods in that 24 hours, and then dividing this total by two to derive a MWh value); and
- 5) The total outturn generation of each fuel-type category (as defined under (4) above) expressed as a percentage of the total MWh generation across all fuel-type categories for the previous rolling 24-hour period (these percentages would be calculated by the BMRA).

Figure 4 – Summary Page display for new 'instantaneous' outturn data by fuel type

Generation By Fuel Type						
GB Generating Plant	Current		Last Half Hour (03:00-03:30)		Last 24 Hours (03:30-03:30)	
	MW	%age	MW	%age	MWh	%age
CCGT	18137	42.1%	18274	42.4%	402038	41.4%
OCGT	1850	4.3%	1400	3.2%	37800	3.9%
Oil	0	0.0%	35	0.1%	385	0.0%
Coal	15315	35.6%	15625	36.3%	375321	38.6%
Nuclear	7308	17.0%	7155	16.6%	143128	14.7%
Power Park Modules (Wind)	189	0.4%	65	0.2%	2600	0.3%
Pumped Storage Plant	15	0.0%	145	0.3%	3423	0.4%
Non-PS Hydro Plant	15	0.0%	20	0.0%	488	0.1%
Other	0	0.0%	65	0.3%	1397	0.1%
Interconnectors						
French Interconnector	55	0.1%	125	0.3%	2250	0.2%
Irish Interconnector	152	0.4%	175	0.4%	2800	0.3%
TOTAL	43036	100%	43084	100%	971630	100%
<i>Data last updated: 19-Nov-2007 16:52:23</i>						

(Please note that the above table is indicative only, and has been produced using hypothetical data.)

The 'Total' generation figure shown in Figure 4 above would be derived by the BMRA as the sum of the total generation across all fuel-type categories, and the resulting figure would be equivalent to Transmission System Demand. This overall total would be updated every 5 minutes along with the total figures for each category.

In addition, the BMRA would be required to publish historic 5-minute-apart 'snapshot' values for the past rolling 24-hour period. This data would not be published on the Summary Page itself, but would be made available as a table on a separate new page of the BMRS and also via a .csv file download from that page. A link to this new page would be provided on the Summary Page.

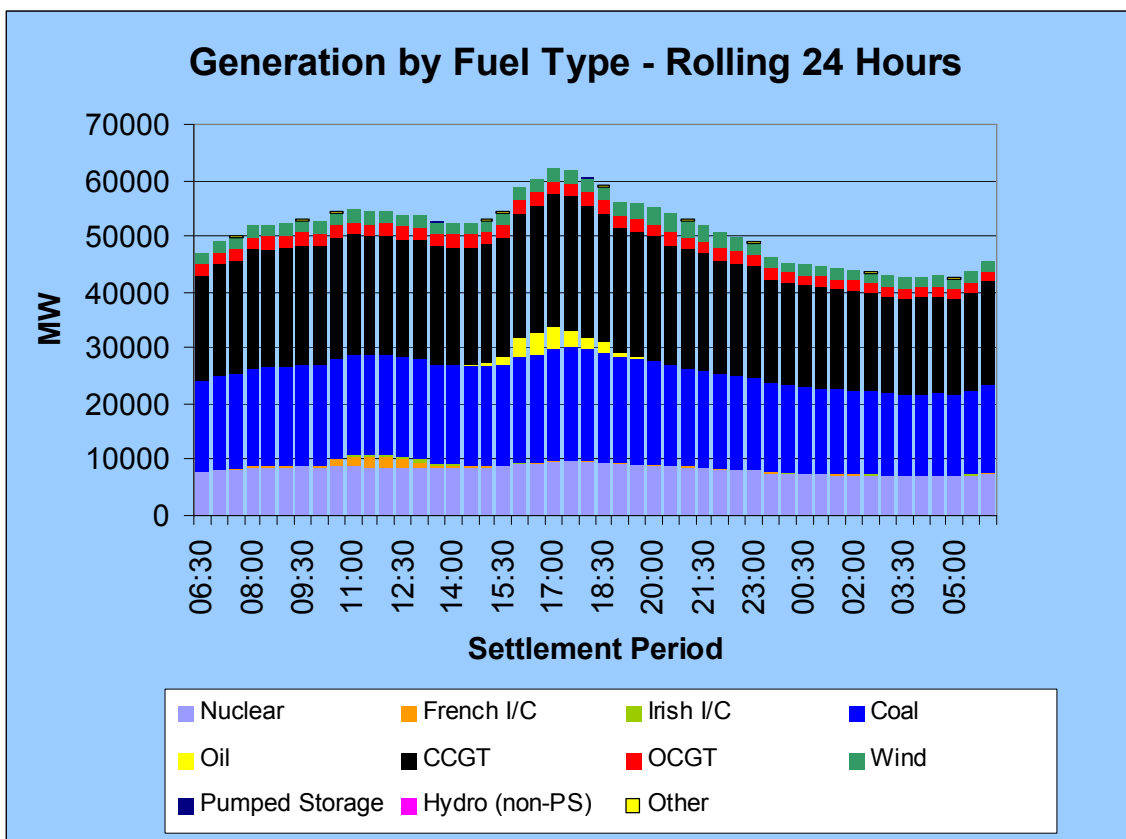
For the avoidance of doubt, only positive or zero generation values for each fuel-type category would be provided. Where Interconnector Exports, station load or pumping resulted in the overall MW for a category being a negative 'demand' value, these negative values would not be provided or published – instead, the values in these circumstances would be shown as zero.

The Group does not anticipate that changes would be made to the eleven fuel-type categories in the foreseeable future. For this reason, it is not a requirement of the P220 solution for the BMRA to develop flexibility regarding the number of categories which could be held in its systems.

3.3.1.2 New Summary Page graph

As well as the table shown in Figure 4, the BMRA would be required to publish a new bar chart on the BMRS Summary Page, containing the average outturn values for each different fuel-type category in each Settlement Period during the previous rolling 24-hour period. This would be published in a similar format to that shown in Figure 5 below.

Figure 5 – Summary Page display for new half-hourly outturn data by fuel type



(Please note that the above chart is indicative only, and has been produced using hypothetical data.)

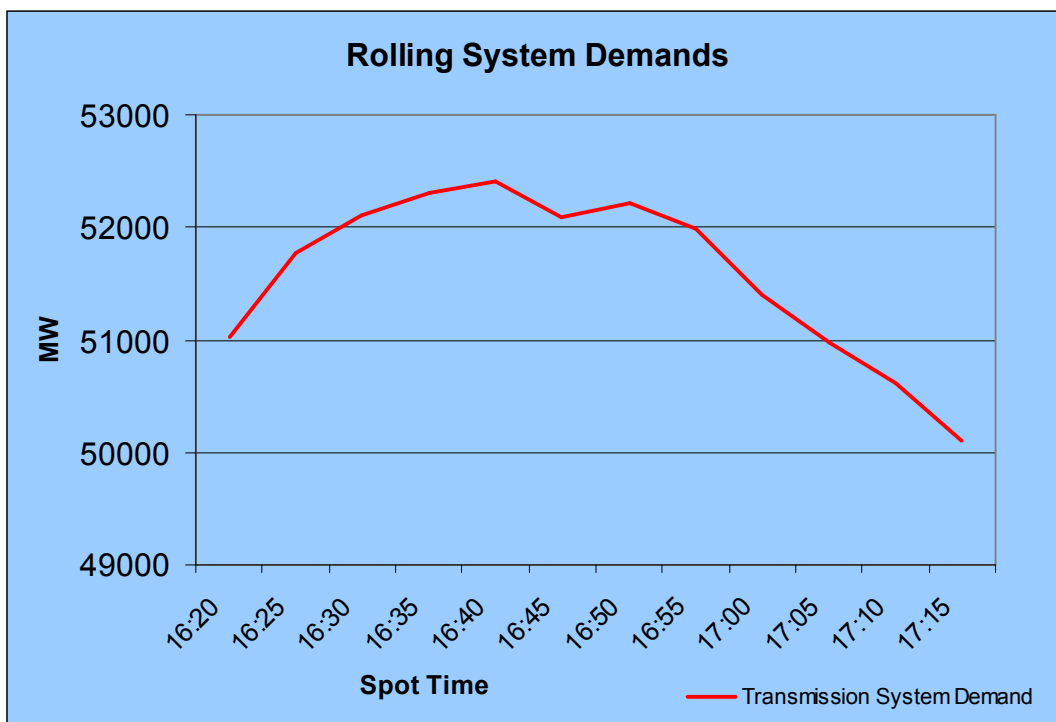
The BMRA would also be required to publish historic Settlement Period values for this data over a rolling three-month period. This data would not be published on the Summary Page itself, but would be made available as a table on a separate new page of the BMRS as well as via a .csv download file from that page. A link to this new page would be provided on the Summary Page.

3.3.2 New ‘real-time’ total demand outturn data

The BMRA would be required to publish a new graph containing 5-minute-apart ‘snapshot’ MW values of Transmission System Demand, as derived from the ‘instantaneous’ outturn data as described in Section 3.3.1.1 above. This graph would contain a single value for every 5 minutes in the past rolling 60-minute period, and would be published on the BMRS Summary Page in a similar format to that shown in Figure 6 below.

This graph would replace the ‘real-time’ demand graph which is currently available on the BMRS Summary Page as a ‘framed’ link to National Grid’s website. The P220 graph would show lower-granularity data than is currently available from the National Grid graph (i.e. it would be updated every 5 minutes rather than every 15 seconds). National Grid would continue to separately publish the 15-second update graph on its own website, and a normal web link to the National Grid website (rather than the existing ‘framed’ version of the graph itself) would be provided from the BMRS Summary page under P220 for participants who wished to view this higher-granularity data.

Figure 6 – Summary Page display for new ‘real-time’ demand data



(Please note that the above graph is indicative only, and has been produced using hypothetical data.)

In addition, the BMRA would be required to publish historic ‘snapshot’ Transmission System Demand values for every 5 minutes over the past rolling 48-hour period. This data would not be published on the Summary Page itself, but would be made available as a table on a separate new page of the BMRS as well as via a .csv download file from that page. A link to this new page would be provided on the Summary Page.

3.3.3 Other BMRS requirements

An explanation of the new data would be provided on the BMRS, including:

- Definitions of each fuel-type category used in the 'instantaneous' and half-hourly outturn generation data;
- A definition of Transmission System Demand;
- Clarification that the fuel-type categorisation for this outturn data had been undertaken by the Transmission Company using Grid Code/SYS data rather than the BM Unit registration data held by the Central Registration Agent (CRA) under the BSC;
- A list of all the BM Units which fell within each fuel type as categorised by the Transmission Company (this spreadsheet would be provided to the BMRA by the Transmission Company upon the registration/deregistration of any BM Unit, or upon any change in a BM Unit's categorisation);⁵
- Clarification that the outturn and 'real-time' demand figures were based on the Transmission Company's operational metering rather than BSC Settlement data;
- Clarification that only positive or zero generation values for each fuel-type category would be provided, and that any 'demand' due to Interconnector Exports, station load, or pumping would not be shown;
- Details of the other types of generation (e.g. biomass) which would be included in the 'Other' fuel-type category; and
- Clarification that, if the data for one or more BM Units within a fuel-type category was incomplete, there would be no flag on the BMRS to indicate this – and that participants would therefore need to take their own view as to the reliance which could be placed on operational metering data (statistics regarding the historic reliability of operational metering would be provided to help participants make this judgement).

These explanations/clarifications would either be added to the BMRS Help page, or would be provided via another method such as the use of local mouse-over pop-ups on the Summary Page. The precise format and wording would be agreed between the BMRA, the Transmission Company and BSCCo during the implementation period for P220.

3.4 Daily energy volumes

The Transmission Company would be required to provide the BMRA with new daily energy volume data for the previous day, as shown in Table 6 below.

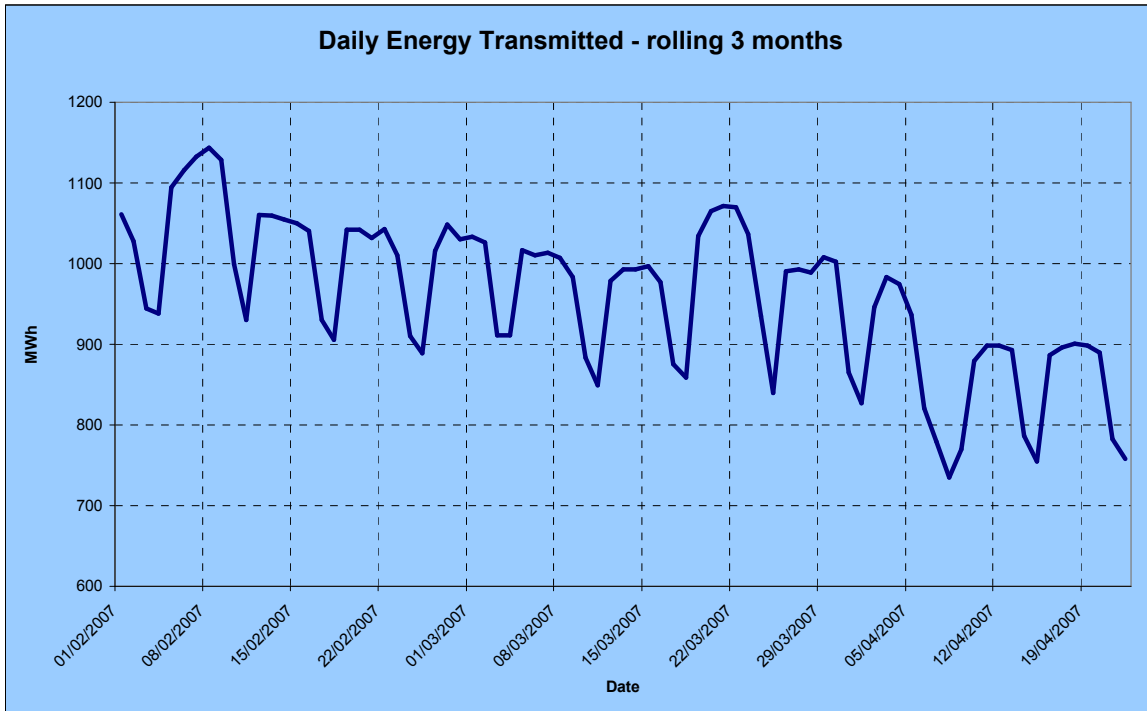
Table 6 – New daily energy volume data

Data Item	Time	Description
Outturn energy	No later than 17:00 each day	The following data applicable for the day preceding the current day: the outturn Transmission System Energy transmitted across the Transmission System, expressed in MWh.

The BMRA would be required to publish a new graph on the BMRS Summary Page in a similar format to that shown in Figure 7 on the following page, containing daily volumes for a rolling three-month period.

⁵ For the avoidance of doubt, the spreadsheet would not contain the outturn values for individual BM Units.

Figure 7 – Summary Page display for new daily energy volume data



(Please note that the above graph is indicative only, and has been produced using hypothetical data.)

In addition, the BMRA would be required to publish daily historic values for this data for a rolling 6-month period. This data would not be published on the Summary Page itself, but would be made available as a table on a separate new page of the BMRS as well as via a .csv download file from that page. A link to this new page would be provided on the Summary Page.

An explanation of the new data would be provided on the BMRS – including definitions of Transmission System Demand and Transmission System Energy, and clarification that the graph and spreadsheet would be derived from the Transmission Company’s operational data rather than BSC Settlement data. These explanations/clarifications would either be added to the BMRS Help page, or would be provided via another method such as the use of local mouse-over pop-ups on the Summary Page. The precise format and wording would be agreed between the BMRA, the Transmission Company and BSCCo during the implementation period for P220.

3.5 Non-BM STOR Instructed Volumes

The Transmission Company would be required to provide the BMRA with new half-hourly Non-BM STOR Instructed Volume data, as shown in Table 7 below.

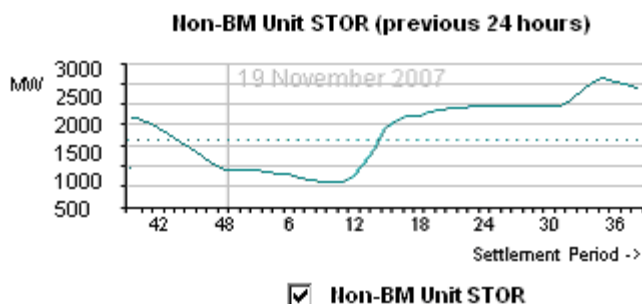
Table 7 – New Non-BM STOR data

Data Item	Time	Description
Non-BM STOR Instructed Volume	No later than 15 minutes following the end of each Settlement Period	The Non-BM STOR Instructed Volume for that Settlement Period.

The new data would be provided as a single value for each Settlement Period.

The Non-BM STOR data would not be published on the BMRS Summary Page. Instead, the BMRA would be required to create a separate new BMRS page containing the data. This page would include both a graph showing the Instructed Volume for each Settlement Period during the past rolling 24-hour period, and a table containing the individual Settlement Period values underpinning this graph. The format of the new graph would be similar to that shown in Figure 8 below. The values given in the table would also be available as a .csv file download.

Figure 8 – Summary Page display for new Non-BM STOR data



(Please note that the above graph is indicative only, and has been produced using hypothetical data.)

Participants would be able to request historic Non-BM STOR Instructed Volume data for any past Settlement Day, in line with the process for other existing BMRS data.

An explanation of the new data would be provided on the BMRS, including a definition of Non-BM STOR Instructed Volumes. The precise format and wording of this explanation would be agreed between the BMRA, the Transmission Company and BSCCo during the implementation period for P220.

4 DETAIL OF ALTERNATIVE MODIFICATION SOLUTION REQUIREMENTS

4.1 Outturn and reference temperatures

The requirements regarding the submission and publication of outturn and reference temperature data are identical to those for the Proposed Modification, as outlined in Section 3.1 of this Requirements Specification.

4.2 Wind generation forecast

The requirements regarding the submission and publication of wind generation forecast data are identical to those for the Proposed Modification, as outlined in Section 3.2 of this Requirements Specification.

4.3 Instantaneous and half-hourly generation by fuel type

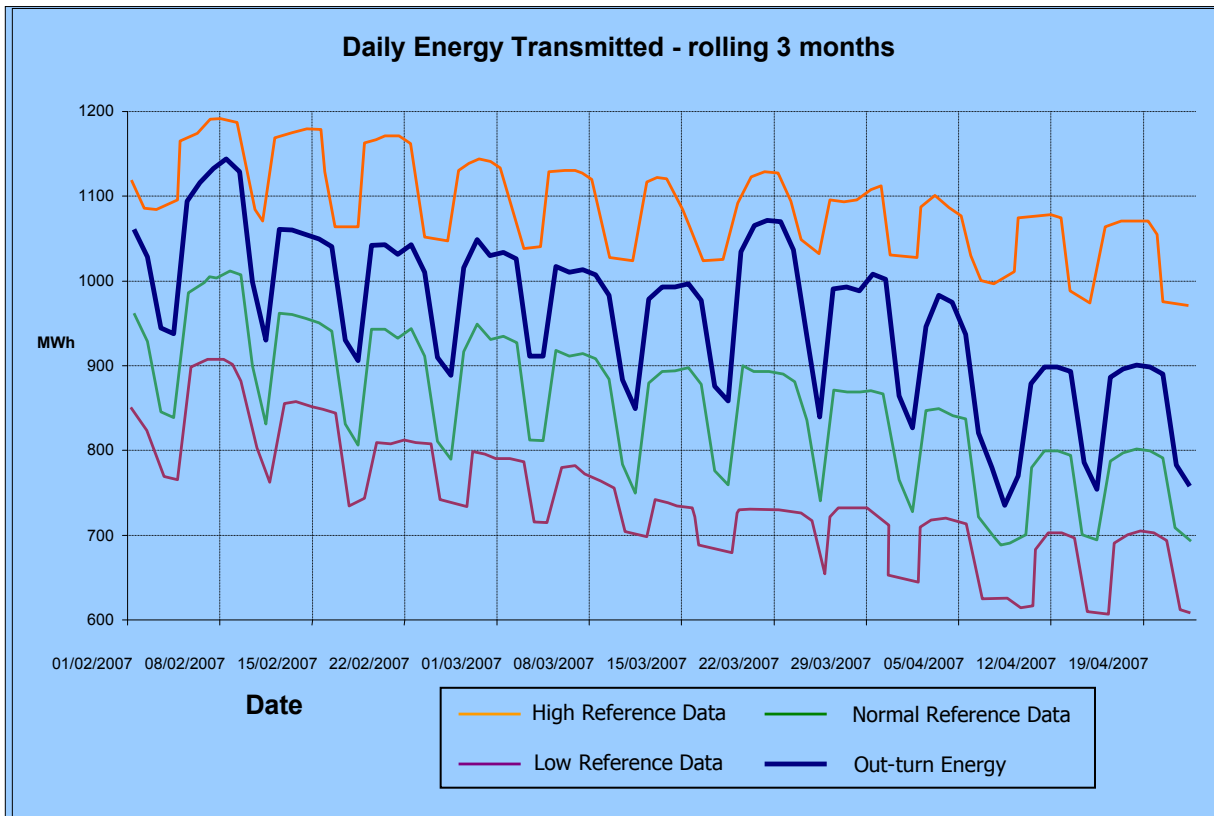
The requirements regarding the submission and publication of the 'instantaneous' and half-hourly generation outturn by fuel type data are identical to those for the Proposed Modification, as outlined in Section 3.3 of this Requirements Specification).

4.4 Daily energy volumes

The requirements regarding the submission and publication of the daily energy volume data are the same as those for the Proposed Modification (as outlined in Section 3.4 of this Requirements Specification), with the exception that additional information would be provided on the Summary Page graph under the Alternative Modification as described below.

The Transmission Company would be required to submit additional new 'trend' data, containing details of the typical level of daily energy volumes transmitted across the Transmission System during 'normal', 'hot' and 'cold' years – such that these could be shown as 'tramlines' on the graph to compare against the current daily energy volumes. The additional data would be published on the graph in a similar format to that shown in Figure 9 below.

Figure 9 – Summary Page format for additional new 'trend' energy volume data



(Please note that the above graph is indicative only, and has been produced using hypothetical data.)

The trend data would be submitted by the Transmission Company to the BMRA as standing data in a .csv file at the beginning of each calendar year for each day in that year. The format of this .csv file would be agreed between the BMRA and the Transmission Company. The BMRA would be required to manually extract and publish this data for each day.

The values underpinning the trend data 'tramlines' would also be included in the rolling 6-months history table for the daily energy volume data.

An explanation of the trend data would be provided on the BMRS, with the precise format and wording of this explanation to be agreed between the BMRA, Transmission Company and BSCCo during the implementation period for P220.

The Group is currently considering two options for publishing this additional trend data under the Alternative Modification, as follows:

- Option 1: Publish trend data as tramlines shown against energy volumes based on Transmission System Demand (consistent with the use of Transmission System Demand in the Proposed Modification); or
- Option 2: Publish trend data as tramlines shown against energy volumes based on Initial National Demand Outturn (INDO) rather than Transmission System Demand (this option would require all associated table and history data to also be based on INDO).

Note that Option 2 is being considered due to concerns expressed by the Transmission Company over the feasibility of Option 1. The relative feasibility and costs of the two options will be explored further as part of the Transmission Company’s response to this impact assessment.

4.5 Non-BM STOR Instructed Volumes

The requirements regarding the submission and publication of Non-BM STOR Instructed Volume data are identical to those for the Proposed Modification, as outlined in Section 3.5 of this Requirements Specification.

4.6 ‘Real-time’ Transmission System Frequency

The Alternative Modification would also include one additional data item of ‘real-time’ Transmission System Frequency, which would not form part of the Proposed Modification.

The Transmission Company would be required to provide the BMRA with the new Transmission System Frequency data, as shown in Table 8 below.

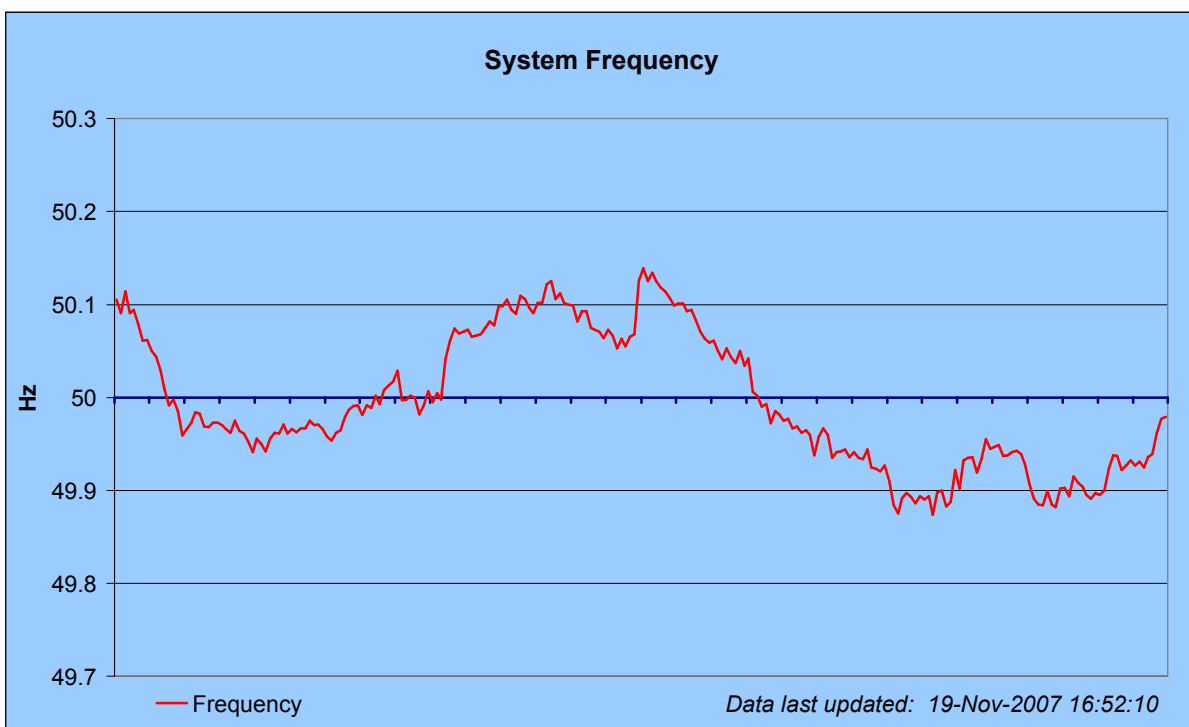
Table 8 – New ‘real-time’ Transmission System Frequency data

Data Item	Time	Description
Transmission System Frequency	Every 2 minutes	The Frequency of the Transmission System as measured by the Transmission Company.

Although a data file would only be provided by the Transmission Company every 2 minutes, each file would contain a ‘package’ of frequency values as measured every 15 seconds within that 2-minute period. All of these frequency values would be expressed as Hertz (Hz) figures.

The BMRA would be required to publish a new Summary Page graph showing the frequency data provided by the Transmission Company for the past rolling 60-minute period. This graph would be published on the BMRS Summary Page in a similar format to that shown in Figure 10 below. Although the graph would only be updated every 2 minutes (each time a new data file was received from the Transmission Company), it would display the frequency data at a 15-second granularity as provided in those data files. The graph would include a time stamp, showing when the data was last updated.

Figure 10 – Summary Page display for additional new ‘real-time’ Frequency data



(Please note that the above graph is indicative only, and has been produced using hypothetical data.)

This graph would replace the 'real-time' Transmission System Frequency graph which is currently available on the BMRS Summary Page as a 'framed' link to National Grid's website. Although the P220 graph would be updated less frequently than the current National Grid graph (i.e. it would be updated every 2 minutes rather than every 15 seconds), it would continue to display frequency values for every 15 seconds in the past hour. National Grid would continue to separately publish its more-frequently-updated graph on its own website, and a normal web link to the National Grid website (rather than the existing 'framed' version of the graph itself) would be provided from the BMRS Summary page under P220 for participants who wished to view this higher-granularity data.

In addition, the BMRA would be required to publish the historic values underpinning the new BMRA graph for every 15 seconds over the past rolling 48-hour period. This data would not be published on the Summary Page itself, but would be made available as a table on a separate new page of the BMRS as well as via a .csv download file from that page. A link to this new page would be provided on the Summary Page.

An explanation of the additional new 'real-time' Frequency data would be provided on the BMRS. The precise format and wording of this explanation would be agreed between the BMRA, the Transmission Company and BSCCo during the implementation period for P220.

5 IMPACT ASSESSMENT REQUIREMENTS

5.1 BMRA

As part of its impact assessment of P220, the BMRA is requested to provide information relating to the areas outlined below.

General questions - applicable to P220 as a whole

- 1) The default position for P220 is that all of the proposed new data would be published via TIBCO messages as well as BMRS web pages. The BMRA is requested to propose the appropriate TIBCO message formats for both the Proposed Modification and Alternative Modification as part of its impact assessment.
- 2) P220 proposes the publication of certain historic data. The BMRA is requested to confirm as part of its impact assessment that the proposed historic data requirements can be met through the existing BMRS functionality. The BMRA is also requested to provide an estimate of any additional costs which would be incurred by publishing all the proposed historic data on the Implementation Date, compared with only deriving this data as it gradually becomes available after the Implementation Date. For the purposes of this impact assessment, this estimate may be expressed as a percentage increase rather than an exact figure if necessary.
- 3) Modification Proposal P219 also proposes changes to BMRS data. Although the two proposals are not dependent on each other, the BMRA is requested to provide an estimate of any cost savings which may result from implementing P219 and P220 in parallel.⁶ For the purposes of this impact assessment, this estimate may be expressed as a percentage reduction rather than an exact figure if necessary.

⁶ P219 'Consistency between forecast and outturn demand'.

- 4) Change Proposal (CP) 1217 separately proposes to remove the BMRS High Grade Service website such that the same public website would be used for both Low Grade Service Users (via the normal internet) and High Grade Service Users (via the private High Grade network). Existing TIBCO functionality would be retained for High Grade Service Users.⁷ For the purposes of the P220 impact assessment, the BMRA is requested to estimate the costs of the Proposed Modification based on the assumption that the new data would still be published on the High Grade Service website (as this is the existing baseline). However, the BMRA is requested to also separately estimate any cost savings which may be achieved by removing the requirement to publish on the High Grade site. This estimate may be expressed as a percentage reduction rather than an exact figure if necessary.

Specific questions – Proposed Modification only

- 5) The BMRA is requested to provide an estimate of the costs and required lead time for implementing the Proposed Modification (as described in Section 3 of this Requirements Specification):
 - a) As a 'stand-alone' project during the period following the June 2008 Release and prior to the November 2008 Release;
 - b) As an 'incremental' change in the November 2008 Release; and
 - c) As an 'incremental' change in the June 2009 Release (noting that the BSC Panel has agreed that only critical changes should be delivered in the February 2009 Release due to the interaction with ELEXON's Project Isis).
- 6) For each of the different potential releases in (3) above, the BMRA is requested to provide an estimation of the additional BMRA release overheads which would result from any interaction with Project Isis (this may be in a similar format to that recently provided for Modification Proposal P214).⁸
- 7) The BMRA is requested to provide an estimate of what proportion (e.g. percentage) of the Proposed Modification costs/effort would be attributable to each proposed new data item set out in Section 3 of this Requirements Specification (recognising that there may be 'base' development costs which are shared across all items). This may be presented in a similar format to that provided for Standing Issue 17, and more recently for Modification Proposal P214.⁹
- 8) The BMRA is requested to provide a high-level estimate of any additional costs which would result from the inclusion of an extra requirement (over and above the Proposed Modification solution set out in Section 3) to publish a real-time flag on the BMRS, indicating whether any of the 'instantaneous' outturn generation by fuel type data has been identified by the Transmission Company as being incomplete. This estimate may be provided as a percentage increase rather than as an exact figure if necessary. The BMRA is also requested to suggest how such a flag might be delivered in practice.
- 9) The BMRA is requested to provide a high-level estimate of any additional costs which would result from the inclusion of an extra requirement (over and above the Proposed Modification solution set out in Section 3) to design the P220 BMRS functionality such that its systems could easily be amended in the future to take account of changes in the submission time of, and number of data points in, the forecast wind generation data contained in Table 5. For the purposes of this impact assessment, it should be assumed that any future changes would not exceed a maximum of one forecast value for every Settlement Period up to the end of D+2, and that any future data would be submitted at no less than 30-minute intervals. This estimate may be provided as a percentage increase rather than an exact figure if necessary.

⁷ CP1217 'Discontinuing the BMRS High Grade website'.

⁸ P214 'Issues relating to Funds Administration'.

⁹ Issue 17 'Review of electricity market information'.

- 10) The BMRA is requested to provide a high-level estimate of any differences in costs which would result from a requirement to display Non-BM STOR data graph on an entire Settlement Day basis (for the previous day and current day), instead of a rolling 24-hour period as outlined in Section 3.4. This estimate may be provided as a percentage rather than an exact figure if necessary.

Specific questions – Alternative Modification

- 11) The BMRA is requested to provide an estimate of any additional costs and lead time which would result from the extra Alternative Modification requirements for the daily energy volume data (as outlined in Section 4) compared with the Proposed Modification. For the purposes of the impact assessment, the additional costs may be provided as a percentage increase rather than as an exact figure if necessary.
- 12) The BMRA is requested to provide an estimate of any additional costs and lead time (as compared with the Proposed Modification) which would result from the publication of 'real-time' Transmission System Frequency data under the Alternative Modification as outlined in Section 4. For the purposes of the impact assessment, the additional costs may be provided as a percentage increase rather than as an exact figure if necessary.
- 13) The BMRA is requested to provide an estimate of the proportion of development costs which would be shared between all of the data items proposed for publication under the Alternative Modification if implemented as a whole (i.e. based on the full Alternative Modification requirements, including any requirements which are identical to those for the Proposed Modification). For the purposes of the impact assessment, this may be provided as a percentage rather than as an exact figure if necessary.

5.2 Transmission Company

As part of its impact assessment of P220, the Transmission Company is requested to identify the following:

- 1) Any impact of the Proposed Modification or the Alternative Modification on the ability of the Transmission Company to discharge its obligations efficiently under the Transmission Licence, and on its ability to operate an efficient, economic and co-ordinated transmission system;
- 2) Any impact on the computer systems and processes of the Transmission Company, including details of any changes to such systems and processes that would be required as a result of the implementation of the Proposed Modification and the Alternative Modification;
- 3) An estimate of the development, capital and operating costs (broken down in reasonable detail) which the Transmission Company anticipates that it would incur in, and as a result of, implementing the Proposed Modification and the Alternative Modification;
- 4) Any consequential changes to Core Industry Documents and/or the System Operator Transmission Owner Code that would be required as a result of the implementation of the Proposed Modification and the Alternative Modification;
- 5) The lead time required by the Transmission Company (from the point of an Authority decision to approve P220) to make the changes identified under (2) to (4) above;
- 6) Any cost savings which may result from implementing P220 in parallel with Modification Proposal P219;
- 7) Any additional costs and lead time which would be incurred by compiling and submitting all the proposed historic P220 data to the BMRA for publication on the Implementation Date, compared with this data only being derived by the BMRA after the Implementation Date as it gradually becomes available;

- 8) Any additional costs and lead time which would be incurred by the inclusion of an additional requirement (over and above the solution set out in Sections 3-4 of this Requirements Specification) to identify to the BMRA in 'real-time' whether any of the submitted 'instantaneous' outturn generation by fuel type data is incomplete;
- 9) The feasibility, and any difference in costs and lead times, of the two trend data options for daily energy volumes under the Alternative Modification (as set out in Section 4.4 of this Specification);
- 10) The views and rationale of the Transmission Company as to whether there would be any confidentiality issues in using Grid Code/SYS data to categorise BM Unit fuel types for the purposes of P220 (and, in particular, whether there would be any conflict with the provisions of Sections 57 and 58 of the Energy Act in using this data for purposes other than which it was originally intended);
- 11) The views and rationale of the Transmission Company as to the most appropriate definitions of 'Non Pumped Storage Hydro Plant' and 'Nuclear Plant' to be used for the purposes of P220;¹⁰
- 12) Any issues relating to the security of supply arising from the Proposed Modification or Alternative Modification;
- 13) The views and rationale of the Transmission Company as to whether the Proposed Modification would better facilitate achievement of the Applicable BSC Objectives; and
- 14) The views and rationale of the Transmission Company as to whether the Alternative Modification would better facilitate the achievement of the Applicable BSC Objectives in relation to the issue or defect identified in the Modification Proposal, and when compared with the Proposed Modification.

5.3 BSC Parties and Party Agents

Parties and Party Agents are requested to provide details of:

- 1) Any impact on their organisation which would result from P220. Note that participants are invited to provide relevant cost information where appropriate. If explicitly requested by respondents, such information can be treated confidentially such that it is only provided to the Authority, and not to the Group or the BSC Panel.
- 2) The lead time required by their organisation (from the point of the Authority's approval of P220) in order to make any necessary changes to systems, processes and/or documentation.

Note that views on the merits of P220 are not sought from participants at this stage, and will form part of a subsequent industry consultation to be conducted during January 2008.

5.4 BSCCo

As part of its impact assessment, BSCCo will provide details of the man days' effort and lead time (from the point of an Authority decision to approve P220) which it would require to implement the Proposed Modification and the Alternative Modification, as well as an updated assessment of the impact of P220 on BSC systems, processes and documentation.

¹⁰ This question arises because there are no existing definitions of 'Non Pumped Storage Hydro Plant' or 'Hydro Plant' within the BSC or Grid Code. During discussion by the Group it was also queried whether the proposed definition of Nuclear Plant is the most appropriate definition to be used for the purposes of P220.

6 ESTIMATED IMPACT OF MODIFICATION ON SYSTEMS, PROCESSES AND DOCUMENTATION

An initial assessment has been undertaken by BSCCo in respect of all BSC systems, documentation and processes. The following have been identified as being potentially impacted by P220.

a) Impact on BSC Systems and Processes

BSC System / Process	Potential Impact of P220
BMRS	<p>Changes will be required to the system interfaces that transmit data from the Transmission Company to the BMRA, in order to send and receive the new data items proposed by P220.</p> <p>Changes will also be required to the BMRS in order to make the new data items available to participants via the website and (for High Grade Service users) the TIBCO messaging service.</p>

b) Impact on BSC Agent Contractual Arrangements

None anticipated, since the provisions of new data items would be covered by the terms of the existing BMRA contract.

c) Impact on BSC Parties and Party Agents

Parties and non-Parties who currently use the BMRS High Grade Service would be able to receive the new P220 data items via the BMRS website and/or TIBCO messaging. Parties and non-Parties using the BMRS Low Grade Service would be able to access the new data via the public website.

d) Impact on Transmission Company

Changes to Transmission Company systems and processes may be required in order that the new data items could be submitted to the BMRA. Changes would also be required to National Grid's 'BMRS & SAA Interface Specification', which sets out the format in which data is provided by the Transmission Company to the BMRA.¹¹ The new file formats for P220 would need to be agreed between the Transmission Company and the BMRA.

e) Impact on BSCCo

Area of Business	Potential Impact of P220
BM Unit registration	There would be no impact on BSCCo's working procedures, as the identification of the fuel type of each generator BM Unit would be undertaken by the Transmission Company prior to sending the new outturn generation data to the BMRA.

¹¹ The BMRA & SAA Interface Specification is not a BSC Configurable Item, but is owned by the Transmission Company and is published on the National Grid website at: <http://www.nationalgrid.com/uk/Electricity/Codes/gridcode/associateddocs/>.

f) Impact on Code

Code Section	Potential Impact of P220
Section Q 'Balancing Mechanism Activities'	New provisions would be required to describe the new data items submitted by the Transmission Company to the BMRA, and the timings of these submissions.
Section V 'Reporting', Annex V-1 'Reports': Table 1 'BMRS'.	The new data items would need to be added to this table, which lists all data published on the BMRS along with the frequency and format of this data.
Annex X-1 'General Glossary'	New defined terms may need to be added to this section.
Annex X-2 'Technical Glossary'	The new data items would need to be defined in this section.

g) Impact on Code Subsidiary Documents

Document	Potential Impact of P220
BMRA Service Description	Changes to the BMRA Service Description may be required to reflect the BMRA's receipt and publication of new data items under P220.

There would be no impact on any BSCPs, as the identification of the fuel type of each generator BM Unit would be undertaken by the Transmission Company prior to sending the new outturn generation data to the BMRA.

h) Impact on Core Industry Documents and Other Documents

No impact is anticipated on any Core Industry Documents as a result of P220 – since the Modification Proposal seeks to use terms which are either already defined in the BSC or the Grid Code, or which would be newly-defined in the BSC only.

i) Impact on Other Configurable Items

Document	Potential Impact of P220
Logica Interface Definition and Design (IDD) Part 1	Changes to these documents may be required to reflect the BMRA's receipt and publication of new data items under P220.
Logica IDD Part 2	
BMRA Design Specification	
BMRA Manual System Specification	
BMRA Operating Services Manual	
BMRA System Specification	
BMRA User Requirements Specification (URS)	

j) Impact on BSCCo Memorandum and Articles of Association

No impact anticipated.

k) Impact on Governance and Regulatory Framework

No impact anticipated.

7 TERMS USED IN THIS DOCUMENT

Other acronyms and defined terms take the meanings as defined in Section X of the BSC.

Acronym/Term	Definition
Coal Plant	A Power Station which uses coal as the primary source of fuel.
CP	Change Proposal.
Combined Cycle Gas Turbine (CCGT)	Has the meaning as defined in the Grid Code (Reference 2).
External Interconnection	Has the meaning as defined in the Grid Code.
Frequency	Has the meaning as defined in the Grid Code.
High Reference Temperature	The daily average UK temperature which was exceeded on 12% of days during a 30 year historic period.
IWA	Initial Written Assessment.
Low Reference Temperature	The daily average UK temperature which was exceeded on 88% of days during a 30 year historic period.
Non-BM STOR Instructed Volume	Volume of STOR instructed outside of the Balancing Mechanism in order to increase generation or reduce demand.
Non Pumped Storage Hydro Plant	Non Pumped Storage Hydro Plant is not currently defined in the BSC or the Grid Code. The intention is that this definition would capture all Hydro generating plant other than Pumped Storage. As part of its analysis of P220, the Transmission Company is requested to suggest what it believes would be the most appropriate definition of Non Pumped Storage Hydro Plant for the purposes of the proposed data.
Normal Reference Temperature	The daily average UK temperature which was exceeded on 50% of days during a 30 year historic period.
Nuclear Plant	The proposed definition of 'Nuclear Plant' is 'a Power Station which uses nuclear energy to generate electricity'. As part of its analysis of P220, the Transmission Company is requested to confirm that it believes this to be the most appropriate definition for the purposes of the proposed data.
Oil Plant	A Power Station which uses oil as the primary source of fuel.
Open Cycle Gas Turbine Plant (OCGT)	Plant consisting of one or more Gas Turbine Units which are not part of a Combine Cycle Gas Turbine Module.
Pumped Storage Plant	Has the meaning as defined in the Grid Code.
Registered Capacity	Has the meaning as defined in the Grid Code.
Short Term Operating Reserve (STOR)	A balancing service procured by the Transmission Company and which has the meaning as defined in National Grid's Procurement Guidelines (Reference 3).
SSMG	Settlement Standing Modification Group.

Acronym/Term	Definition
SYS	National Grid's Seven Year Statement.
Total Metered Capacity	The average MW value of the Registered Capacity of all Power Park Modules metered by the Transmission Company.
Transmission System Demand	Has the meaning given to the term GB Transmission System Demand in the Grid Code.
Transmission System Energy	The integral with respect to time of Transmission System Demand.

8 DOCUMENT CONTROL

8.1 Authorities

Version	Date	Author	Reviewer	Reason for Review
0.1	16/11/07	Kathryn Coffin	John Lucas	For technical review
0.2	19/11/07	Kathryn Coffin	P220 Modification Group	For walk through at Modification Group meeting
0.3	21/11/07	Kathryn Coffin	John Lucas, Justin Andrews	For technical review
0.4	23/11/07	Kathryn Coffin	P220 Modification Group	For Modification Group review
1.0	28/11/07	P220 Modification Group		For impact assessment

8.2 References

Ref.	Document Title	Owner	Issue Date	Version
1	Initial Written Assessment for Modification Proposal P220 'Provision of new data items of improving market information' http://www.elexon.co.uk/changeimplementation/ModificationProcess/modificationdocumentation/modProposalView.aspx?propID=240	BSCCo	02/11/07	1.0
2	Grid Code: Glossary and Definitions http://www.nationalgrid.com/NR/rdonlyres/5DFDEFE B-DDBC-4381-8DE5-4B2087AC6AC8/18438/GD_i3r21_entire.pdf	National Grid	20/12/06	Issue 3
3	Procurement Guidelines http://www.nationalgrid.com/NR/rdonlyres/2643DEB 7-377B-41F3-93C7-3AB85E729507/16053/PGsv80effectivefrom01apr07final.pdf	National Grid	01/04/07	8.0