

Review of Electricity Market Information

A BSC Standing Issue for Discussion

1 Purpose of the Paper

NGC is currently developing proposals to improve information flows between Users and NGC within an industry Working Group set up by the Grid Code Review Panel. The Working Group is focussing on the exchange of operational information between Users and NGC in order to ensure the safe, secure and efficient operation of the Systems. Although the Terms of Reference of the Working excluded publication of this information to the wider market in order to provide market signals, the Working Group did recognise that the Grid Code proposals could have a consequential impact on the market information supplied via the BSC and published on the BMRS.

The purpose of this paper is to outline the potential impact of Grid Code proposals on the market information. This assessment could then be used for identifying specific changes to the BSC and the BMRS data. It is possible that the requirements for market signals could influence additional exchange of information under the Grid Code.

It is likely that the industry discussions on these proposals will take place simultaneously under the Grid Code and BSC governance processes.

After consultation with Elexon, NGC considers that the BSC-related industry discussions on this issue could be initiated by initially raising a BSC Standing Issue. Although this paper focuses on the consequential impact of Grid Code proposals on the market information, the BSC discussions could extend to other aspects of market information which are either intended to inform the state of the Transmission System or are covered in Sections Q and V of the BSC.

2 Background

In January 2004, NGC carried out a review of the operational information that it receives and disseminates to the market via a variety of routes. The ultimate aim of the review was to improve market signals by providing additional and clearer information to the market. The review identified a number of improvements to the existing processes which ranged from NGC's internal calculation methodologies, through data flows between NGC and Users, to the publication of information. The proposed improvements were approved by Ofgem via the Grid Code governance process and became effective on 11 October 2004.

NGC's proposals did not affect the BSC but the changes to the definitions of Output Usable (OU) and Forecast Demand did impact the data published on the BMRS (demand forecasts and surpluses) and Elexon's (OU and Generating Plant Demand Margin data) websites. A document summarising the 'improvement package' and its impact on the published data can be accessed on NGC's Industry Information website via the link http://www.nationalgridinfo.co.uk/balancing/pdfs/remi_changes_for_winter_04-05_v1.0.pdf

More recently, NGC has presented further proposals to the industry via an industry Working Group. These are considered in section 3.

3 Impact of Grid Code Proposals on Market Information

The Grid Code proposals that are likely to have an impact on the market information can be summarised as follows:

1. Rationalisation of Grid Code System Zones and BMRS Zones
2. Publication of disaggregated Output Usable data
3. Rationalisation of reporting timescales
4. Provision of additional demand information

Sections 3.1 top 3.4 give further details of the above proposals, including the benefits of the individual proposals to NGC and the market and the potential impact on Users, as perceived by NGC.

3.1 Rationalisation of System Zones and BMRS Zones

At present, the Grid Code System Zones are used for zonal data corresponding to longer timescales (> 2 days ahead) and BMRS Zones for zonal data corresponding to shorter timescales (< 2 days ahead). It is proposed that the BMRS Zones should be used across all timescales. Consequently, the System Zonal boundaries would become redundant and would be removed from both the Grid Code and the BSC. A key driver for proposing this change is to ensure that the whole market will have access to the same data at the same time; this will avoid the current position where some Generators have privileged access (time wise) to market data ahead of other participants

In accordance with paragraph 6.5.2 of the BSC Section Q, NGC currently provides the following data to BSCCo:

Table 1
Current timescales for submission of OU and margin data

Parameter	Timescale	Resolution	Target submission time
Zonal Output Usable	2-14 day ahead	Daily peak half hour value	16:00 on each Business Day
	2-49 day ahead	Daily peak half hour value	17:00 on the last Business Day of the week
	2-52 week ahead	Weekly peak half hour value	17:00 on the last Business Day of the week
	1-2 year ahead	Weekly peak half hour value	Twice each year at about six month intervals
	3-5 year ahead	Weekly peak half hour value	Twice each year at about six month intervals
Generating Plant Demand Margin	2-14 day ahead	Daily peak half hour value	16:00 on each Business Day
	2-52 week ahead	Weekly peak half hour value	17:00 on the last Business Day of the week

If this proposal is implemented, the above zonal data will be provided for each BMRS Zone rather than each System Zone.

The zonal data in Table 1 (and the associated national data, as described in Q6.5.2) is currently published on the Elexon website. However, all the other data (both zonal and national) on generation, demand and margins/surpluses is published on the BMRS. Subject to a cost/benefit assessment, it might be desirable to publish all the data on the BMRS.

The benefits of this proposal to NGC and the market, and the potential impact on Users are summarised in Table 2.

Table 2
Benefits of rationalisation of System Zones and BMRS Zones

NGC Benefits	Market Benefits	Potential User impact
<ul style="list-style-type: none"> ▪ Removes obligations from the Grid Code; ▪ Removes requirements to provide privileged data; ▪ Removes export/import calculations; ▪ Makes Zonal data easier to understand; ▪ Allows publication of all data via the BSC. 	<ul style="list-style-type: none"> ▪ The whole market has access to the same data at the same time; ▪ More control over future changes to the zonal boundaries; ▪ Makes national and zonal surpluses easier to understand and easier to use. 	<ul style="list-style-type: none"> ▪ No System Zone-based zonal data for generators (all zonal data based on BMRS Zones and available from the BMRS).

The implementation of this proposal would require the following:

- Changes to BSC for replacing references to System Zones with references to BMRS Zones;
- Changes to NGC's systems for data corresponding to longer timescales (> 2 day ahead);
- Changes to BMRS for data corresponding to longer timescales (> 2 day ahead).

3.2 Publication of disaggregated OU data

This proposal affects the way the OU data will be displayed on the BMRS, rather than the content of OU. A key driver for proposing this change is to separate out different types of OU (e.g. thermal and intermittent output). The national and zonal OU data could be published for various timescales (from 2 day ahead to 5 year ahead) as a stack of 3 constituent elements, rather than a single block:

- OU for 'standard' BMUs;
- OU for intermittents;
- OU for Interconnectors.

The above categories may require further development. NGC invites industry views on the usefulness of the above categories and how the OU could be best disaggregated for maximum benefit to the market.

The benefits of this proposal to NGC and the market, and the potential impact on Users are summarised in Table 3.

Table 3
Benefits of publication of disaggregated OU data

NGC Benefits	Market Benefits	Potential User impact
<ul style="list-style-type: none"> ▪ Allows publication of plant availability uncertainty which could reduce NGC's balancing actions if additional information leads to better self-balancing by Users. 	<ul style="list-style-type: none"> ▪ Separating out the thermal (controlled) plant from wind and interconnector (NGC assumed) allows market participants to form own views on levels of wind generation and interconnector flows, and plan accordingly. 	<ul style="list-style-type: none"> ▪ None

This change would be dependent upon a modification to the BSC and subsequent changes to the BMRS and NGC's systems, although it does not require any Grid Code changes.

3.3 Rationalisation of reporting timescales

This proposal affects the timescales for two streams of data that NGC submits to BSCCo. The first data stream consists of Output Usable and Generation Plant Demand margin, and NGC's current obligations for submission of this data are outlined in paragraph 6.5.2 of the BSC Section Q. Table 4 summarises the current reporting timescales for this data stream. This data is currently published on the Elexon website.

The second data stream consists of Demand Forecasts and Surpluses, and NGC's current obligations for submission of this data are outlined in Table 1–BMRS (Annex V-1: Table of Reports) of the BSC Section V. Table 5 summarises the current reporting timescales for this data stream. This data is currently published on the BMRS.

Table 4
Current reporting timescales, as per Section Q (paragraph 6.5.2)

Timescale	Data Set	Resolution	Target submission time
2-14 day ahead	Zonal Output Usable	Daily peak half hour value	16:00 on each Business Day
	Total Output Usable		
	Generating Plant Demand Margin		
2-49 day ahead	Zonal Output Usable	Daily peak half hour value	17:00 on the last Business Day of the week
	Total Output Usable		
2-52 week ahead	Zonal Output Usable	Weekly peak half hour value	17:00 on the last Business Day of the week
	Total Output Usable		
	Generating Plant Demand Margin		
1-2 year ahead	Zonal Output Usable	Weekly peak half hour value	Twice each year at about six month intervals
	Total Output Usable		
3-5 year ahead	Zonal Output Usable	Weekly peak half hour value	Twice each year at about six month intervals
	Total Output Usable		

Table 5
Current Reporting Timescales, as per Section V (Annex V-1: Table of Report, Table 1 - BMRS)

Timescale	Data Set	Resolution	Target submission time
2-14 day ahead	National Demand Forecast - Daily (NDFD)	Daily peak half hour value	15:00 on each day
	Surplus - Daily (SPLD)		16:00 on each Business Day
2-52 week ahead	National Demand Forecast - Weekly (NDFW)	Weekly peak half hour value	15:00 on Thursdays
	Surplus - Weekly (SPLW)		17:00 on the last Business Day of the week

It is clear from Table 4 that not all the reporting timescales are mutually exclusive (e.g. 2-14 day timescale are duplicated in the 2-49 day timescales). A key driver for proposing changes to the current timescales is to remove any overlaps.

For both sets of data streams in Tables 4 and 5, the proposed changes are as follows:

- Combine the current 2-14 day daily submission (daily resolution) and the current 2-49 day weekly submission (daily resolution) into a single 2-49 day daily submission (daily resolution).
- Remove the current 2-7 week requirement (weekly resolution) so that the weekly submission corresponds to 8-52 weeks (weekly resolution).
- Retain current requirements for years 1, 2 and 3;
- Remove current requirements for years 4 and 5.

The benefits of this proposal to NGC and the market, and the potential impact on Users are summarised in Table 6.

Table 6
Benefits of rationalisation of reporting timescales

NGC Benefits	Market Benefits	Potential User impact
<ul style="list-style-type: none"> ▪ Reduces workload for years 4 and 5; ▪ Eliminates duplication for 2-14 day and 2-49 day submissions; ▪ Allows a longer view of higher resolution data. 	<ul style="list-style-type: none"> ▪ Eliminates duplication and simplifies published data; ▪ Allows a longer view of the market (higher resolution data to 49 days); ▪ Allows earlier identification of potential problem days in the 15 to 49 day time frame, thus allowing greater scope to change outage periods and better self-balancing; ▪ Greater transparency. 	<ul style="list-style-type: none"> ▪ Reduces generator workload for years 4 and 5 submissions; ▪ Increases workload for 15-49 day daily, rather than weekly, submissions.

The implementation of this proposal would require the following:

- Changes to the BSC for rationalisation of the reporting timescales;
- Changes to existing BMRS display screens for revised timescales;
- Possible development of new display screens for publication of OU-based data on the BMRS (which is currently published on the Elexon website);
- Changes to NGC's systems for submission of data to BMRA;
- [Changes to the Grid Code].

3.4 Provision of additional demand information

For the 0 - 48 hours timescale, NGC currently publishes the national demand forecast which includes pump storage and interconnector exports. However, the published outturn demand ('INDO') does not include pump storage and interconnector exports, and it is currently not possible to reconcile the forecast and outturned demand figures.

In order to reconcile the forecast and outturned demand data, NGC proposes to publish the national demand forecast which does not include pump storage and interconnector exports, and the outturned demand which does include pump storage and interconnector exports.

The proposals are summarised in Table 7.

Table 7
Proposed provision of additional demand information

	Publication frequency	Resolution	Information to be published
0 - 48 hours forecast demand	half-hourly	half-hour	<ul style="list-style-type: none"> ✓ Demand <u>with</u> pump storage and interconnector exports (already published) ✓ Demand <u>without</u> pump storage and interconnector exports
Outturned demand	half-hourly	half-hour	<ul style="list-style-type: none"> ✓ INDO <u>with</u> pump storage and interconnector exports ✓ INDO <u>without</u> pump storage and

	Publication frequency	Resolution	Information to be published
			interconnector exports (already published)

The benefits of this proposal to NGC and the market, and the potential impact on Users are summarised in Table 8.

Table 8
Benefits of provision of additional demand information

NGC Benefits	Market Benefits	Potential User impact
<ul style="list-style-type: none"> ▪ May reduce NGC's balancing actions if additional information leads to better self-balancing by Users; ▪ Improved security of supply. 	<ul style="list-style-type: none"> ▪ Provides market participants with additional demand data which can be taken into account when matching generation, thereby improving self-balancing; ▪ Allows reconciliation of forecast and outturned demands. 	<ul style="list-style-type: none"> ▪ None

The implementation of this proposal would require changes to the BMRS screens which display the forecast and outturned demand for the 0 – 48 hour timescales.

In addition to the specific proposal outline above (which does not require significant changes to BMRS or any changes to the BSC), the demand forecast information could be improved by considering more fundamental changes to the published information. These include the publication of confidence bands around the 'normal' peak demand forecasts and the associated temperatures. This proposal is likely to involve significant IS costs and NGC would like industry views on its usefulness before carrying out any development work.

5 Conclusion and Recommendation

This paper has outlined a range of Grid Code proposals which could have an impact on the market information supplied via the BSC. The benefits of the proposals to both NGC and the market and the potential impact on Users, as perceived by NGC, have also been highlighted.

It is recommended that the issues highlighted by this paper are discussed under the governance of the BSC.