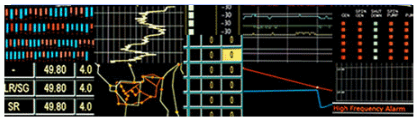
BM System Replacement

Industry Consultation

7 October 2008

Responses requested by 6 November 2008

nationalgrid



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1 Executive Summary

Purpose of this document

The Balancing Mechanism (BM) system is the key information system used by National Grid to balance the system and manage real-time electricity supply and demand. It interfaces with market participant systems and settlement systems, and delivers data to the BMRS (Balancing Mechanism Reporting Service) and the Settlement Administration Agent (SAA).

The BM system is approaching the end of its design life and National Grid is planning to replace it with a global best-practice IT system using up to date technologies. Given the pace of industry change, a key challenge for the replacement IT system will be to have the ability to accommodate future functionality requirements whose precise nature is not known with any degree of certainty.

National Grid wishes to gain an understanding of the potential impact the replacement of this key IT system may have on the industry and seeks market participant views on the proposed changes. This will enable National Grid to develop a robust IT system that meets both the industry and National Grid requirements and priorities.

Consultation Process

National Grid initiated the industry engagement process in June 2008 at the Electricity Operational Forum and outlined our intention to bring forward a formal consultation.

The overall consultation process consists of two distinct phases:

- Phase 1 – consultation on IT system changes that will replace the existing BM system with a global best practice system (**implementation anticipated by 2012**). This phase will replace the existing control room and associated IT systems within National Grid, and will retain the external interfaces in their current form.

- Phase 2 – consultation on potential enhancements to the new IT system (following phase 1 system replacement) that could have a more significant impact on market participants' business processes and IT systems (**consultation anticipated in two years**). This phase will also include potential changes to the external interfaces.

This consultation document is concerned with phase 1. National Grid will bring forward phase 2 consultation during 2010.

If you wish to discuss any aspect of this document, please contact Shafqat Ali by emailing shafqat.r.ali@uk.ngrid.com or telephoning 01926 655980.

Consultation Timescales

Phase 1 consultation published	7 October 2008
Deadline for responses	6 November 2008
Phase 1 consultation report published	November / December 2008
Phase 1 changes implemented	Q2 2012 (current best estimate)
Phase 2 consultation initiated	during 2010

The consultation questions are summarised in Appendix 1. Please send your responses to balancingservices@uk.ngrid.com by 6 November 2008.

2 Purpose of the Consultation

This section gives a background to the consultation and outlines the key change drivers. It then provides a brief overview of the key elements of the current BM system, as well as describing National Grid's intended approach to replacing this system. Further detail is then provided regarding the elements of the current IT system that are within the scope of this consultation.

2.1 Background

The current Balancing Mechanism (BM) system has evolved from operational IT systems developed in-house in the 1980s. It has been in place in its current form since NETA go-live in 2001, and is the critical IT system used by National Grid to maintain the real-time electricity supply/demand balance and facilitate optimal operational and commercial performance. It receives participant submissions, issues Bid-Offer Acceptances and Ancillary Service instructions, and consequently controls system frequency and ensures that power transfers do not exceed the capabilities of the transmission system.

The BM system interfaces with market participant systems, settlement systems and over thirty National Grid internal systems, and delivers National Grid's data to the BMRS[1] and SONAR[2]. A large amount of data delivered to the BMRS is near real-time and is a key enabler of efficient operation of the GB electricity market.

Given the importance of the BM system to both National Grid and the market participants, it is clear that such a system needs to be robust and reliable.

In its current form, the BM system adequately supports existing processes but may not be equipped for the future needs of the industry. A number of drivers necessitate a review of the current BM system:

[1] BM Reporting Service, Elexon's information service

[2] System Operator Notification and Reporting System, National Grid's web-based bulletin board

a) BM system reliability has diminished over time, resulting in a number of recent BM system outages. These outages have not caused losses of supply but have disrupted efficient operation of the GB electricity market, and National Grid is keen to maintain a high level of BM system reliability.
b) The current BM system, including the underlying infrastructure and architecture, is coming to the end of its design life, and vendor system support is likely to diminish significantly beyond 2013.
c) Skill scarcity in the market place to support the BM system is increasing the system maintenance costs, a cost trend that will grow with the age of the system.
d) Both Ofgem and the industry have expressed concerns that the current BM system is not flexible as industry changes lead to high IS costs and long implementation lead times (in recent decision letters[3], Ofgem stated that "we would welcome NGET opening a dialogue with market participants on their requirements for greater inherent flexibility in NGET's systems"; this consultation document forms part of that process).
e) The current BM system may not be able to accommodate efficiently the ongoing industry developments such as the potential increase in renewable generation, transmission access, and smart metering.
f) Wider obligations from European legislation may require system functionality that can not be easily incorporated in the current BM system.

Consultation Question 1[4]
Are there any change drivers that have not been captured in this consultation?

2.2 Brief Overview of the Current BM System

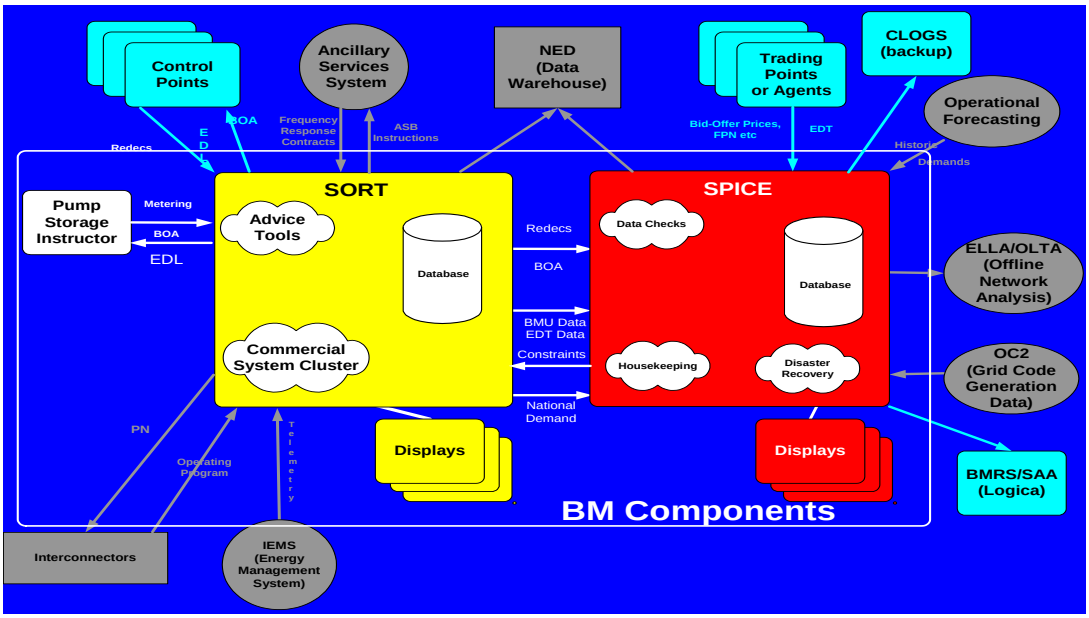
This section gives a high level view of the key elements that make up the BM system. Given the inherent system complexity, it is only intended to give the reader a 'flavour' of the BM system and is by no means exhaustive.

Figure 1 gives an overview of the key components of the BM system and the main interfaces (both external and internal) with other systems.

[3] BSC Modification P219: Consistency between Forecast and Out-turn Demand;
BSC Modification P220: Provision of new data items for improving market information
[4] All consultation questions are summarised in Appendix 1.

The core BM system software consists of 'SPICE' and 'SORT', partially backed up by a contingency IT system 'CLOGS', and the main external interfaces with the market participant systems are via EDT/EDL. The remainder of this section (sections 2.2.1-2.2.3) provides further details of the system software, system hardware and the key external interfaces.

Figure 1 – Overview of BM system



2.2.1 Software

The BM system uses the HP Open VMS operating system. There are a wide range of software components, including standard Oracle products, deployed on this platform.

The main software components are as follows:

i) SPICE database and displays

The SPICE database contains a range of data which is used for assessing short-term system margins. The type of data held in the database includes profiles of transmission system demand and reserve requirements.

The SPICE graphical user interface is built using a commercial development tool called Power Builder.

ii) System Operation Real-Time (SORT) database and SORT displays

The SORT database contains close to real time data for optimising balancing actions. The data includes real-time generation and transmission system demand, and details of despatch instructions such as Bid-Offer Acceptances (BOAs).

iii) Contingency LOGging System (CLOGS)

The CLOGS is a partial back up IT system for SPICE and SORT. It contains data downloaded from SPICE and SORT, and provides sufficient functionality to maintain the core process of balancing generation and demand, should the main IT systems become unavailable.

Comment

The customised databases on the Open VMS operating system have served National Grid well. However, the technology has moved on and the vendors are now focussing on other technologies. Consequently, these IT systems are becoming less supportable.

National Grid commissioned an external consultancy to carry out a global review of the IT systems used by other system operators. This review concluded that the system operators predominantly use standard ''off-the-shelf' packages (with some customisation) rather than bespoke IT systems such as the current National Grid BM system.

In line with the global best practice, National Grid is considering a standard ''off-the-shelf' package which could be customised to meet short term and longer term requirements of both the industry and National Grid.

2.2.2 Hardware

The BM software resides on interconnected servers which use HP ALPHA chip technology.

The ALPHA chip servers are coming to the end of their design life. In order to maintain/improve BM system reliability in the short term, National Grid is currently carrying out an internal review of the BM hardware. The two options under consideration for extending the life of the hardware are to either make a

like-for-like replacement with up-to-date and supported ALPHA chip servers or upgrade to a compatible and more cost-effective technology (e.g. ITANIUM chip servers). This work is ongoing.

Comment
The hardware upgrade described above is part of National Grid's policy to ensure robustness of its critical network infrastructure. This upgrade is internal to National Grid and has no impact on industry IT systems.

2.2.3 External Interfaces

The BM system has two main external interfaces:

a) EDL/EDT[5] Interfaces

These interfaces provide two-way communications between the BM system and the market participant systems. Electronic data such as National Grid instructions (EDL) and Bid-Offer Prices (EDT) are communicated through these interfaces in pre-agreed formats.

b) BMRS Interface

This interface provides a range of information to the market through the BMRS. Examples of market information include demand forecasts for a number of timescales ahead of real time, System Operator Bid Offer acceptance activity and raw data for calculation of the indicative imbalance prices immediately after the end of a Settlement Period.

2.3 Phased System Replacement Approach

Replacement of the entire BM system described in section 2.2, including the external interfaces, could be complex and could carry risk for both the industry and National Grid. In order to mitigate these risks, National Grid intends to replace the current BM system in two phases.

a) Phase 1 will focus on system replacement internal to National Grid and will replace National Grid's current suite of IT systems with a global best-

[5] Electronic Data Logging / Electronic Data Transfer

practice 'off-the-shelf' package. The new IT system will maintain the current functionality and will continue to use existing external interfaces in their current form.

National Grid believes that a best-in-class package will go a long way to addressing some of the current issues (e.g. system robustness and change flexibility for some categories of change) highlighted in section 2.1.

Comment
A key feature of the best-in-class packages deployed by other System Operators around the world is the built-in functionality for automatic issuing of despatch instructions. This feature is accompanied by optimisation algorithm which can re-optimise supply/demand position at pre-defined intervals. However, in phase 1, National Grid does not intend to change significantly the pattern of despatch instructions.

Although the market rules and physical interfaces between National Grid and participant systems will remain the same in phase 1, any new IT system will introduce a level of improvement in the **internal** System Operator business process. The despatch processes in modern standard packages are typically more automated than in the BM system, and National Grid plans to adopt this functionality to make the **internal** processes more economic and efficient.

b) Phase 2 would consider enhancements to the new system functionality and improvements to external interfaces. This phase could have a more significant impact on industry systems and processes.

Phase 2 enhancements could, for example, include functionality for enhanced management of a diverse generation mix. Given the projected levels and changes in generation mix estimated over the next decade (and beyond) and UK government's aspiration to significantly reduce CO_2 emissions, this enhancement could have significant benefits for UK as a whole.

Another enhancement could be the incorporation of Automatic Generation Control (AGC) for improved frequency control and this could have a favourable impact on the efficiency of system operation.

In most other markets where these packages are employed, the market operates with open despatch instructions[6]; these are complemented with indicative instruction mapping so that market participants can set up the most efficient control parameters using this information. The re-optimisation interval of modern despatch algorithms also provides the opportunity for issuing despatch instructions that are more frequent and more precise[7], giving improved optimality compared to the GB market. Algorithm checks are included to ensure that these instructions remain practicable and do not cause unnecessary increases and reductions in generation output. We would welcome industry opinion as to whether it would be attractive to explore these ideas in any future evolution of the despatch process, as part of a phase 2 delivery. Phase 2 development would be subject to a separate consultation process at a later date.

Consultation Question 2
Do you have any initial views on which standard industry interfaces (e.g. for EDL/EDT) should be supported by the new IT system?

Consultation Question 3
Do you have any initial views on the benefits arising from more frequent and precise despatch instructions:
a) For you?
b) For GB market?

Consultation Question 4
Do you have any initial views on the benefits arising from open despatch instructions (combined with indicative despatch information):
a) For you?
b) For GB market?

Consultation Question 5
Do you have initial views on any other phase 2 developments which may be beneficial, such as Automatic Generation Control or management of diverse generation mix?

[6] The GB market operates a closed despatch instruction via Bid-Offer Acceptances with specified start and end time.

[7] So that, for example, a dispatch instruction may be issued for a small change in generator output that would not be considered worthwhile in a manual dispatch process.

2.4 Scope of Consultation

This consultation focuses on phase 1 of system development, as outlined in section 2.3. Whilst National Grid does not envisage phase 1 to have a major impact on market participant systems and processes, any industry views would help National Grid gain a better understanding of the potential implications of the new IT system for the industry.

In phase 1 consultation, National Grid seeks industry views on the proposed replacement of the existing BM system with a best in class new IT system (retaining external interfaces such as EDT/EDL in their current form); this will help inform the selection of an appropriate package in phase 1, with the required capability for any system enhancements in phase 2.

For avoidance of doubt, phase 2 (which would cover any changes to external interfaces and enhanced functionality requirements) is outside the scope of this consultation. However, at this stage, National Grid is seeking initial industry views on some phase 2 issues (section 2.3) as this may assist National Grid in identifying the most suitable vendor system. For phase 2, National Grid will bring forward a second consultation at an appropriate time. This is anticipated to be in two years time.

3 Key Objectives of the New IT System

This section summarises the priorities for the new IT system. The objectives outlined here are based on industry views at previous industry meetings and National Grid's own experience of the BM system.

Section 2.1 outlined a number of drivers that have necessitated a fundamental review of the current BM system. These drivers indicate a number of issues (e.g. major industry challenges such as incorporation of renewable generation, IT system supportability, reliability and perceived inflexibility to accommodate industry developments) that need to be considered in developing the new IT system.

National Grid's overall aspiration is to develop a best-in-class IT system that meets business/industry needs and is fit for future business/industry

requirements. In National Grid's opinion, such a system should meet the following broad objectives:

i) Be reliable
e.g. robust infrastructure and high availability

ii) Be flexible
e.g. incorporation of major projects such as renewables, and ongoing industry driven changes within acceptable costs and lead times

iii) Facilitate process improvements
e.g. automated despatch instructions

iv) Deliver the IT system with minimal risk
e.g. minimal impact on market participants and security of transmission system operation

Consultation Question 6
Do the system replacement objectives capture what the new system should aim to achieve?

4 System Development Considerations

This section describes the key features that, if incorporated in the new IT system, will help deliver the objectives set out in section 3.

4.1 System Reliability

Whilst planned outages for the current BM system are necessary to maintain robustness and resilience of the BM system, any new IT system should have the ability to be maintained and upgraded without such outages. Furthermore, any unplanned outages for the new IT system need to be kept to a minimum acceptable level in order to ensure high system reliability. Specific key measures of system reliability may include:

- Minimum acceptable mean time between unplanned system outages
- Quick return to service in the event of an unplanned system outage
- No loss of critical data following a system fault

4.2 System Flexibility

A flexible IT system is one that can accommodate future changes within acceptable timescales and at acceptable cost. These changes could be incremental or major step changes such as incorporation of renewable generation. The market may also have specific requirements such as the provision of additional market information.

By their very nature, future market rule changes are difficult to predict and hence it is difficult to envisage the level of flexibility that could be built at the initial design stage for the entire lifespan of the IT system. Whilst it may not be possible to significantly influence the design of an industry standard IT system, it is hoped that the inherent design of a best-practice IT system would include functionality that broadly meets the prevailing market requirements, and that vendors will adapt their IT systems in the future to align with market trends. Nevertheless, consideration needs to be given to designing an IT system that has the capacity to evolve with changing market needs.

4.2.1 Ease and Speed of Future Changes

The electricity industry is continuously changing, requiring frequent changes to market rules and market systems. This trend is likely to continue and the new IT system needs to be sufficiently flexible to accommodate such changes with relative ease. However, in National Grid's opinion, the IT system flexibility should not compromise transmission network security.

Often, the system changes are desired to be implemented quickly and the new IT system should aim to be able to accommodate these changes with shorter notice than is currently possible[8]. Again, National Grid emphasises that the speed of implementation should not compromise transmission network security.

4.2.2 Cost of Future Changes

[8] Whilst the aspiration is for speedier implementation of future changes, the implementation lead time is likely to be dictated by the product release cycle of the system supplier. Consequently, the delivery timescales may not be within National Grid's control. Vendor responsiveness will therefore be an important selection factor for the new IT system.

The current BM system is designed for high resilience. Given the importance of BM system resilience in maintaining supplies to customers, this design criterion is likely to be the overriding feature of the new IT system.

A high resilience criterion is not always compatible with low cost system changes, not least because of stringent system testing requirements to ensure high resilience. It is possible that the new IT system is able to accommodate certain types of changes more easily and more cheaply than is currently the case (e.g. one would expect the new IT system to accommodate provision of market information relatively easily and cheaply). Conversely, there may be other types of changes which could be relatively expensive to implement e.g. the new IT system may not have built-in capability to provide functionality specifically required by the GB market. However, National Grid believes that the new IT system should be more flexible and the cost of implementing future changes should not unduly inhibit the required regime changes.

Any future changes to the new IT system may also have an impact on industry systems, and the overall cost considerations should also take into account the cost of changing the industry systems.

4.2.3 Optional Transmission System Operation

The make up of the national generation portfolio is going through a period of unprecedented change. Older conventional units are beginning to be replaced, in part, by an increasing proportion of units with intermittent generation characteristics such as wind, wave and tidal power, development of new large nuclear units, carbon capture technology, as well as initiatives to allow demand to interact more dynamically with market conditions. Whilst it is not possible to design an IT system that would cater for all future short term and long term industry needs at this stage, National Grid believes that consideration should be given to those initiatives that have a high likelihood of being implemented; renewable generation, large nuclear generation, new coal technologies and dynamic demand are all high priority initiatives and the new IT system should be sufficiently flexible to accommodate management of these technologies. It should be recognised that similar challenges are being experienced by every other major utility in the world so vendors of the packaged solutions are already considering how IT systems should be designed to meet these challenges. National Grid considers that, by adopting

a packaged solution, it will be able to benefit from the experience of the vendors in this area.

Consultation Question 7
Are there any other technologies / initiatives that the new system should take into consideration?

4.2.4 Provision of Future Market Information

Timely provision and transparency of market information is a key to the efficient functioning of the GB electricity market. The current BM system provides a range of market information through the BMRS interface. This information includes the generation, demand and margin forecasts at various times ahead of real-time. Further improvements to the market information have recently been made under BSC Modifications P219 and P220 which will be implemented on 6 November 2008.

National Grid considers that a new IT system should be a sufficiently flexible platform to accommodate most future changes and developments in market information requirements.

Consultation Question 8
Do you have any specific market information requirements that the new system should take into consideration?

4.3 Business Process Improvement

National Grid's BM processes range from forecasting demand and determining reserve requirements to optimising balancing actions and issuing despatch instructions. These processes are aligned to address two broad challenges on the transmission network:

- Capacity management
  e.g. constraint management and optimal network utilisation
- Energy balancing
  e.g. reserve creation and energy optimisation

Since the new IT system is likely to be an industry standard off-the-shelf package, the standard tool kit in such a system would be expected to have in-built capacity management and optimal energy balancing functions; other tools specific to the needs of the GB market may need to be added. The level of process improvement would depend on the extent to which the in-built functionality (e.g. optimisation algorithm) is able to improve the above processes.

4.4 Development and Implementation Issues

Phase 1 system development is a 'like-for-like' replacement of the BM system with a modern best-practice IT system.

There are some implementation processes (e.g. system change freeze and re-testing of existing external interfaces) that could have an impact on market development. Because of the potential size of the project and the criticality of the process supported by the BM system, National Grid would expect to have a change freeze in place during the delivery phase. Although National Grid will try to limit the freeze period, it must be weighed up against the need to have confidence that we are able to successfully implement a robust, functioning replacement system in a timely manner.

4.4.1 Indicative Timeline

The replacement of the BM system is a major undertaking, not least because of its interfaces with over thirty other internal IT systems, as well as external industry interfaces. An indicative timeline for system development and implementation is shown in Table 1. This timeline is not definitive and is only intended to give an overview of the duration of the BM replacement project.

The table shows that the BM replacement project is likely to be delivered during 2012.

Table 1

Indicative Timeline for System Development and Implementation

Key Task	'08	2009				2010				2011				2012			
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Industry consultation																	
Tendering and SRS*																	
Vendor assessment / contract award																	

Key Task	'08	2009				2010				2011				2012			
	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4	Q1	Q2	Q3	Q4
Design																	
Implementation																	
Acceptance testing																	
Training																	
Functional integration & E-E testing																	
Transition																	
Go-live																	
BM system change freeze																	

* System Requirements Specification

4.4.2 BM System Change Freeze

Table 1 (section 4.4.1) gives a list of the key tasks for development and implementation of the new IT system, and the indicative timeline for the delivery of these tasks.

Once the tendering has been completed and detailed System Requirements Specification (SRS) has been agreed with the selected vendor (around mid 2009), the replacement system will deliver requirements in accordance with the agreed SRS. From this point in time (i.e. from around mid 2009), the SRS, and consequently the BM system baseline, will be fixed. National Grid would not wish to make any changes to the SRS during the development and implementation phase (and hence to the BM system) because industry experience shows that this introduces significant risk to the cost, timescale and reliability of the new system.

If any industry driven changes are approved close to, but before, the cut-off period (around mid 2009), National Grid will endeavour to incorporate these in the SRS. National Grid will also endeavour to take into account any industry initiatives ongoing around this time if there is a high likelihood of these initiatives being required in the new system.

However, any industry changes (with impact on the new IT system being delivered under Phase 1) approved after the cut-off period will need to be implemented following go-live of the new IT system (Q2 2012). Consequently, there will be a change freeze period of approximately 3 years between the end of the tendering and SRS phase (mid 2009) and system go-live (early 2012). The implementation of such changes will commence following system

go-live and may typically take 6-12 months[9]; this indicative lead time is based on experience of the current BM system and may differ for the new IT system.

From the above discussion, National Grid concludes that the system change freeze period should be at least 3 years; during this period, it would not be possible to implement changes in the BM system.

Consultation Question 9
Would a BM change freeze period of 3 years have a significant impact on the market? If yes, are there any ways to mitigate these impacts?

4.4.3 Impact on Market Participants

National Grid would welcome industry views on the potential impact of the like-for-like system replacement on individual market participants and/or on the industry as a whole.

Specifically, National Grid envisages that, following the implementation of the new IT system, it would be necessary to re-test and verify the correct functioning of the external interfaces. Nearer the time, National Grid would provide more details on testing requirements. In the meantime, the following list gives an indication of the type of tests that may be required:

a) *Type approval* of different types of IT systems connected to National Grid's new IT system for ensuring that there are no generic conflicts between the external IT systems and National Grid's IT systems.
b) *Individual end-to-end tests* between market participant systems and the new IT system for verifying connectivity and data transfers.
c) *Operation tests* between market participant systems and the new IT system for verifying operational functionality such as acknowledgement and acceptance of EDT.
d) *System trials* for operating the entire market (initially in short durations, say, 1 hour a day) and demonstrating the overall functionality.
e) *Parallel run* of the existing and new IT systems using actual market data allowing a direct comparison between the two IT systems

[9] For example, the implementation of modifications P219/P220 is likely to take approximately 7 months, following Ofgem direction on 2 April 2008 to implement these modifications on 6 November 2008)

f) *Transition* from the old IT system to the new IT system involving a period of shutdown.

Consultation Question 10
Would testing of the new system have any impact on your systems and processes?

4.4.4 Changes to Industry Codes

Phase 1 system development and implementation is aimed at minimising any impact on industry codes. National Grid does not envisage any changes to the existing external interfaces or data flows. Consequently, the industry codes are unlikely to require any amendments in Phase 1.

If any code changes become necessary during the course of system development and implementation, National Grid would seek industry support to facilitate implementation of the new IT system via the relevant code governance process.

Consultation Question 11
Do you envisage any impact on the industry Codes (e.g. the BSC) from phase 1 system replacement?

4.5 Summary of Key Considerations

Section 4 has outlined four broad considerations in the development of the new IT system.

i) ***Reliability*** of the IT software and hardware.
ii) ***Flexibility*** to accommodate future changes within acceptable cost and timescales, including implementation of major projects such as renewables and specific industry requirements such as the provision of additional market information.
iii) ***Process improvement*** through in-built tools in the new IT system.
iv) ***System development and implementation issues*** such as the impact on market participants, system change freeze and potential changes to industry codes.

National Grid would welcome industry views on any other considerations that should be incorporated in the development and implementation of the new IT system.

Consultation Question 12
Are there any other factors that should be considered in the development and implementation of the new system (please provide examples from your experience of the GB electricity market as well as non-electricity markets within or outside of GB)?

Consultation Question 13
Are there any other benefits of the new system:
a) To you?
b) To wider market?

Consultation Question 14
Are there any risks of the new system during or post-implementation:
a) To you?
b) To wider market?

5 Consultation Responses

5.1 Summary of Consultation Questions

The consultation questions are summarised in Appendix 1. The proforma in appendix 1 can be used to respond to the consultation questions, as described in section 5.2.

Appendix 2 contains a short questionnaire seeking industry feedback on this consultation document.

5.2 How to Respond

Responses should be submitted by replying to the consultation questions in Appendix 1 and e-mailing the completed proforma to balancingservices@uk.ngrid.com.

The completed feedback questionnaire can also be e-mailed to balancingservices@uk.ngrid.com.

If you do not wish any elements of your response to be made publicly available, please mark these as confidential.

5.3 Deadline for Responses

The consultation period for this consultation is one month from the date of publication (7 October 2008) of this document. Therefore responses are required **by 6 November 2008**.

Following this, National Grid will aim to publish a consultation report in November / December 2008.

5.4 Help with Queries

If you have queries regarding any aspect of this consultation, please contact:

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6 Next Steps

Once the consultation responses have been received, National Grid will summarise these responses in a consultation report which will be published on its website http://www.nationalgrid.com/uk/Electricity/Balancing/consultations/.

National Grid will keep the industry informed of the progress of the system development work via normal communications such as the Operational Forum.

7 Appendix 1: Consultation Questions

National Grid invites responses to this consultation by 6 November 2008. The responses to specific consultation questions (summarised below) or any other aspect of this consultation can be provided by completing the following proforma.

Please return the completed proforma to balancingservices@uk.ngrid.com.

Respondent:	
Company Name:	
Does this response contain confidential information?	

No	Question	Response (Y / N)	Rationale
1	*Are there any change drivers that have not been captured in this consultation (section 2.1)?*		
2	*Do you have any initial views on which standard industry interfaces (e.g. for EDL/EDT) should be supported by the new IT system (section 2.3)?*		
3	*Do you have any initial views on the benefits arising from more frequent and precise despatch instructions:* *a) For you?* *b) For GB market?* *(section 2.3)*		
4	*Do you have any initial views on the benefits arising from open despatch instructions (combined with indicative despatch information):* *a) For you?* *b) For GB market?* *(section 2.3)*		
5	*Do you have initial views on any other phase 2 developments which*		

No	Question	Response (Y / N)	Rationale
	may be beneficial, such as Automatic Generation Control or management of diverse generation mix (section 2.3)?		
6	*Do the system replacement objectives capture what the new system should aim to achieve (section 3)?*		
7	*Are there any other technologies / initiatives that the new system should take into consideration (section 4.2.3)?*		
8	*Do you have any specific market information requirements that the new system should take into consideration (4.2.4)?*		
9	*Would a change freeze period of 3 years have a significant impact on the market? If yes, are there any ways to mitigate these impacts? (section 4.4.2)?*		
10	*Would testing of the new system have any impact on your systems and processes (section 4.4.3)?*		
11	*Do you envisage any impact on the industry Codes (e.g. the BSC) from phase 1 system replacement (section 4.4.4)?*		
12	*Are there any other factors that should be considered in the development and implementation of the new system (please provide examples from your experience of the GB electricity market as well as non-electricity markets within or outside of GB (section 4.5)?*		
13	*Are there any other benefits of the new system:* *a) To you?* *b) To wider market?* *(section 4.5)?*		

No	Question	Response (Y / N)	Rationale
14	*Are there any risks of the new system during or post-implementation:* *a) To you?* *b) To wider market?* *(section 4.5)?*		
15	*Are there any other comments that you wish you to make on this consultation?*		

8 Appendix 2: Feedback

National Grid would welcome any feedback on this consultation document or any other aspect of the consultation process.

Please complete the form by ticking the appropriate boxes and providing additional comments where appropriate. Please return the completed form to balancingservices@uk.ngrid.com.

Respondent:	
Company Name:	
Does this response contain confidential information? If yes, please mark clearly.	

(1) very poor (2) poor (3) below average (4) acceptable (5) good (6) excellent							
		1	**2**	**3**	**4**	**5**	**6**
(a)	How would you rate the consultation document overall?						
(b)	How well was the document structured?						
(c)	How clear were the contents of the document?						
(d)	How appropriate were the consultation questions?						

Which parts of the document did you find most useful?

Which parts of the document did you find least useful?

Please provide any additional comments that may assist future consultations.