

# **EBS Project Participant EDT Transition**

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**Contents:**

1	Introduction .....	4
1.1	Overview .....	4
1.2	References and Links .....	4
2	Background .....	4
2.1	BM EDT Submissions .....	4
2.2	EBS .....	5
3	Options Discussions .....	5
3.1	Use of DNS Names .....	5
	The following was noted with respect to DNS names; .....	5
3.2	EDT FTP Usernames .....	6
3.3	EDT FTP Passwords .....	6
3.4	Cut-over .....	7
4	Next Steps .....	7
Appendix A:	Document Information .....	9

# 1 Introduction

## 1.1 Overview

National Grid is replacing its Balancing Mechanism (BM) System with a new Electricity Balancing System (EBS). Transition from the BM System to EBS is expected to take place in 2013 (Reference 1).

Participants in the Balancing Mechanism submit data to the BM system using EDT and EDL. EDT is the subject of this document and its key use is to all traders to submit Physical Notifications and Bid-Offer Data Prices to National Grid. Other data, such as Export Limits and Dynamic Parameters, tend to be submitted by power stations using EDL. EDL is outside of the scope of this document.

The EDT interface will not be functionally changed for EBS transition to avoid forcing market participants to make changes to their IT systems for EBS go-live.

EBS Technical and IT issues that may impact market participants and IT suppliers are discussed at the Information Technology sub-group (EBSIT) of the Electricity Balancing System Group (EBSG). Terms of reference and other details for EBSIT may be found via the link at reference 2. At the third EBSIT meeting in June 2012, a discussion was held following a brief presentation of EDT transition options by National Grid. This document has been written in response to an action raised on National Grid to briefly describe the options discussed, some of the points made in discussion and the collective decisions made.

## 1.2 References and Links

- 1) National Grid Electricity Balancing System Webpage  
<http://www.nationalgrid.com/uk/Electricity/Balancing/EBS/>
- 2) EBS IT Subgroup Webpage  
<http://www.nationalgrid.com/uk/Electricity/Codes/gridcode/workinggroups/EBS+IT+Subgroup/>
- 3) [http://www.nationalgrid.com/NR/rdonlyres/A3D9DCFC-EF74-4020-9028-5C28927AC7DD/2820/NETA\\_Interface\\_Standards\\_Issue\\_1.pdf](http://www.nationalgrid.com/NR/rdonlyres/A3D9DCFC-EF74-4020-9028-5C28927AC7DD/2820/NETA_Interface_Standards_Issue_1.pdf)

# 2 Background

## 2.1 BM EDT Submissions

Participants submit BM data to the BM System from a nominated trading point using EDT. Data is submitted as CSV text files using FTP. A private Ethernet network extends from NG to the participant sites. A number of potential servers can host the BM ftp service but only the online BM System server acts as the ftp server for EDT. The ftp service is disabled on all potential BM servers other than the server currently hosting the online service, thus it is not possible for data to be submitted to the wrong machine.

Participants should identify the correct BM FTP server using the DNS name *edt-online.bm.ion.nationalgrid.com*. The DNS name resolves to the online BM System server ensuring that participants connect to the online EDT system. The DNS name is resolved by participants using a series of externally visible DNS servers hosted at National Grid. National Grid recommends that market participants use DNS as it facilitates a faster recovery of service to them. However, it is understood that some participants do not use DNS to locate the online BM System server. Instead they rely upon the IP address. When the online BM System is changed, they change the IP address manually.

Participants have a username and password which they use to login for FTP. Once logged in, they can write submission files in the submission directories and read acknowledgement, acceptance and rejection files from the notification directory.

There is no facility for market participants to remotely change their BM FTP passwords – if they want to change their passwords, they need to log a call with National Grid who will then change it for them. Consequently, passwords are rarely changed.

Note that for the purposes of external participant testing, a separate EDT DNS name and/or IP address is used to resolve to test EDT servers. This is isolated from the production arrangements.

## **2.2 EBS**

For EBS new FTP servers will be introduced. The design of the FTP service is outside the scope of this document, however it should be noted that a significant feature of the EBS is resilience. This means that the FTP service could potentially be hosted on a number of servers and consideration needs to be given for a means of identifying where the FTP service is being hosted at the time of EDT submission. National Grid will continue to host externally visible DNS servers for participants to use to resolve DNS names.

As stated in section 1, it has been decided not to change external interfaces for Market Participants at the point of transition to the new EBS. There will be future functional changes for both EDT and EDL but these are outside of the scope of this document. At the point of EBS go-live, EDT submissions will be via CSV files submitted by FTP. Participants will continue to require valid credentials to submit EDT data in the form of an FTP user name and password.

## **3 Options Discussions**

### **3.1 Use of DNS Names**

The following was noted with respect to DNS names;

- 1) The use of a DNS name to resolve the target address for FTP submissions will continue for EBS.
- 2) The current DNS name used for the BM System includes a reference to both the BM system and the ION network on which it resides – both will be irrelevant for EBS
- 3) Consideration needs to be given to include the resolution of DNS names in any end-to-end testing or trials from participant EDT servers to EBS
- 4) It would be desirable if participants had to make no change for EDT cut-over.
- 5) It would be desirable if there wasn't a 'big bang' and all participants had to switch EDT submissions to EBS as the same time.

The following options were discussed at EBSIT(3);

- i) Make no change to the DNS name from that used for BM. This would have the advantage of no change for participants. The name could be used to re-direct EDT to the EBS FTP servers during cut-over. The name would be inappropriate but options would exist to change the name at a later date.
- ii) Introduce a new more relevant DNS name. Introduce this name prior to EBS cut-over and use it to direct the EDT submissions to BM initially. The name could then be used to re-direct EDT to EBS FTP servers during cut-over.
- iii) Introduce a new more relevant DNS name. Only use this to direct EDT to EBS. Participants would have to change their DNS name at the point their transition from BM to EBS, this option would however allow for the potential of moving participants to EBS in a staged manner. The new name could be used for end-to-end trials against EBS.

The strong consensus of the EBSIT(3) meeting was to use option iii).

Discussions concluded that this option would provide the following advantages; 1) It is much safer. Participants would be aware of which server they were attempting to submit EDT data to by the DNS name that they were using. 2) It allows for an option of staging cut-over to the EBS FTP server rather than a 'big bang' as each participant can change their target DNS name independently (see 3.4 below). 3) It allows participants the option in the short term of reverting to submitting data to the BM Systems if there are problems submitting data to EBS. 4) It facilitates end-to-end testing from participants EDT servers to the new EBS FTP servers including DNS resolution via the new network to the EBS servers.

### 3.2 EDT FTP Usernames

The following was noted with respect to the FTP usernames used for EDT submissions;

- 1) The usernames have been in use for over ten years.
- 2) The usernames are familiar to participants and follow a naming convention used in the issuing process within National Grid
- 3) The format of the FTP usernames is suitable for use on EBS FTP servers.
- 4) New usernames could be used to distinguish between BM and EBS

The consensus of the EBSIT(3) meeting was to retain the existing names for use in EBS. It was felt that there was no benefit in changing the names so it was unnecessary. Any marginal benefit in differentiating between the BM and EBS systems can be achieved using different DNS names (see 3.1 above). The additional effort in National Grid issuing new names and the added risk of a further change to participants FTP outweighs the benefits.

### 3.3 EDT FTP Passwords

The following was noted with respect to EDT FTP Passwords;

- 1) National Grid is unaware of the participants' EDT passwords
- 2) There is currently no facility to allow the participants to remotely change their own passwords
- 3) The passwords are held in an encrypted file and cannot be migrated to the EBS system
- 4) The current passwords do not conform to newer, stronger passwords required for EBS
- 5) The current BM system does not support the newer, stronger password convention
- 6) If new passwords are issued for BM with the intention of using them on EBS, National Grid would have to keep them synchronised.
- 7) If new passwords are issued for BM, this would force an unnecessary change to BM and all participants' systems prior to EBS transition.
- 8) If new passwords are issued for BM they would have to be subsequently changed on EBS later to adopt the new stronger convention.

The following options were discussed at EBSIT(3);

- i) National Grid endeavours to find a way to migrate the encrypted passwords from BM to EBS
- ii) New passwords are issued prior to transition and implemented on BM. National Grid keeps the BM and EBS passwords synchronised so no change is necessary for EBS.
- iii) New stronger passwords are issued for the EBS system. Participants would have to make a change to their EDT FTP passwords in order to be able to submit data to EBS.

The consensus of the EBSIT(3) meeting was to use option iii).

Option i) was discounted as it would be both difficult and potentially raise legal issues. Option ii) was discounted as it involves a major risk of using identical login credentials on two systems, would not introduce strong passwords for EBS and hence would require a subsequent password change on EBS. Option iii) was seen as introducing all the benefits of stronger discrete passwords for EBS and involving little additional effort on the part of

participants – a change already being required for a new DNS name (see 3.1 above). This option also facilitates the favoured stage cut-over (see 3.4).

### 3.4 Cut-over

The following was noted with respect to cut-over from BM to EBS.

- 1) Ideally, participants would have no change to make at the point of the balancing mechanism service cutting over to operate from EBS rather than the BM System. (Note at the point of cut over only – this does not imply that the participants will not have to make a subsequent change once the EBS service is confirmed as being stable and ready to receive EDT submissions).
- 2) Consideration should be made to avoiding a 'big bang' impact where all participants have to make synchronised changes within a short time frame which could adversely impact on the time taken to resolve any problems.
- 3) In order for the data on EBS to be fully synchronised with BM, National Grid will be implementing a replication process that ensures that EDT submissions to BM are replicated across to EBS. This will be used as part of the data migration strategy and can also be utilised as part of the EDT participant migration.
- 4) By necessity, EDL will be migrated from BM to EBS in a 'big bang', because all the EDL connections are initiated from National Grid. Comprehensive testing will minimise the risk of problems and voice telephony is available for mitigation.
- 5) Consideration should be given to those IT suppliers who support a number of EDL and EDT implementations and the impact that cut-over may have on their resources.

The attendees at EBSIT(3) reached the following conclusions;

The ideal scenario would be for participants to a) not to have to make any change until the EBS service was confirmed as stable and a 'Go!' decision had been announced to the market, b) participants should only have to make a one-time change (i.e. any or all changes are done at the same time), c) migration of EDT participants from BM to EBS should be staged, d) scheduling of the migration of EDT participants should be via consultation and agreement with participants.

As a consequence of the discussions, National Grid made the following commitments;

- i) The EBS transition approach and in particular the replication process between BM and EBS will be developed with the requirement of a staged EDT migration in mind.
- ii) Once a 'Go!' decision had been made for the cut-over to EBS, the initial EDT migrations will be for participants who have successfully completed end-to-end testing as this would provide an early indication that any problems arising were at the EBS end and that a roll-back to BM may be required.
- iii) Staging of EDT cut-over will allow two hours for a participant and for the option of temporarily moving back to submitting data to BM. If they do move back to BM, then their cut-over will be rescheduled to later in the plan to allow time for any problems to be resolved.
- iv) National Grid will compile a time table for when each participant will be cut-over to EBS.
- v) National Grid's network provider will be on hand to provide support and to trouble shoot any issues
- vi) Staging of EDT migration will take into consideration individual companies' requirements and resource constraints
- vii) EDT migration will only be expected during normal working hours.
- viii) EDT migration will be permitted over a number of days. The exact length of this time will be determined by the scheduling requirements of participant companies

## 4 Next Steps

National Grid will in due course issue new DNS names for the EBS test and production services. Details of the test and pre-production trial arrangements will follow. Each registered Trading Agent will also be issued a new password for the production EBS service. Transition of EDT participants from BM to EBS will involve the participant updating the DNS name and FTP password.

National Grid will document an EBS transition approach for EDT and issue this to participants. As part of this approach, National Grid will contact participants individually and determine an appropriate schedule for transition of EDT links from BM to EBS.



## Appendix A: Document Information

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See review form for recommendations.

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