

EBS IT – Meeting 18

19 July 2016



Conference Call Details

Conference call:

UK Numbers Tel: 0808 238 9819 or Tel: 0207 950 1251

Participant code: 4834 7876

.....
[Join online meeting](#)

<https://meet.nationalgrid.com/antonio.delcastillozas/HQ507D31>

[First online meeting?](#)

Welcome



Agenda

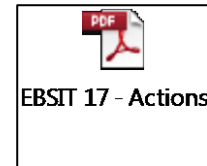
- 1. Introduction**
- 2. Previous meeting (minutes and review of actions)**
- 3. Replacement of Balancing Mechanism**
- 4. Programme Update**
- 5. Role Play test outcomes**
- 6. Testing and Transition update and plan**
- 7. Access Validation**
- 8. Planning for Transition**
- 9. Communication plan**
- 10. Closure (Any Other Business, date of next meeting)**

2. Previous meeting

- Comments to minutes



- Review of actions



3. Replacement of the Balancing Mechanism

Philip Johnson

Electricity Transition Manager, Business Change

What's being changed and why?

The BM system is for managing frequency and power flow in real time. Originally developed by the CEGB, it has now reached 'end-of-life' and is being replaced by the EBS system



It is essentially a manual process that originated in the 1980s allowing for the control of a handful of coal units

It now has to handle 100s of balancing units so manual balancing can be “difficult” during high wind

The EBS incorporates automated dispatch which will provide significant improvement to frequency control

A key implementation objective for the EBS is not to change existing interfaces to industry participants

Transition in stages

Real-time continuous operation of the Balancing Mechanism is essential to the secure operation of the power network during the transition stage



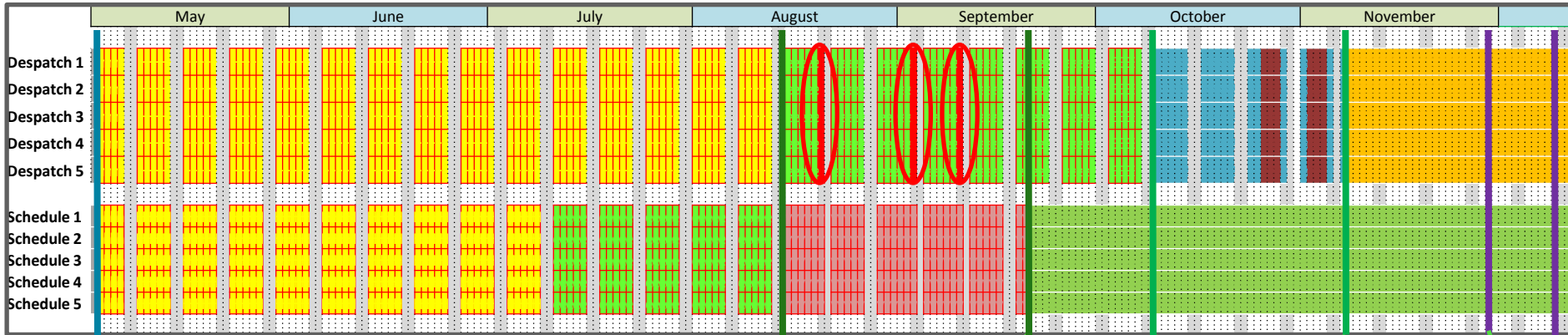
A staged approach will be used to transfer control from the BM system to the new EBS system

Day ahead scheduling, Intraday scheduling and Real time despatch will be transferred over in stages

This staged approach will to allow for reversion back to the BM system up until the final transition stage

The decision to switch off the BM system will be taken once the new EBS system has been established

EBS Stages to Go-Live Transition Journey



- Classroom training
- Simulator training
- Scheduling parallel run
- Scheduling enduring
- Despatch pre-trials
- Despatch daytime trials
- Despatch night time trials
- Despatch enduring

Training Started on 3 May

Scheduling Parallel Runs Start on 15 Aug

Scheduling 24/7 Start on 21 Sep

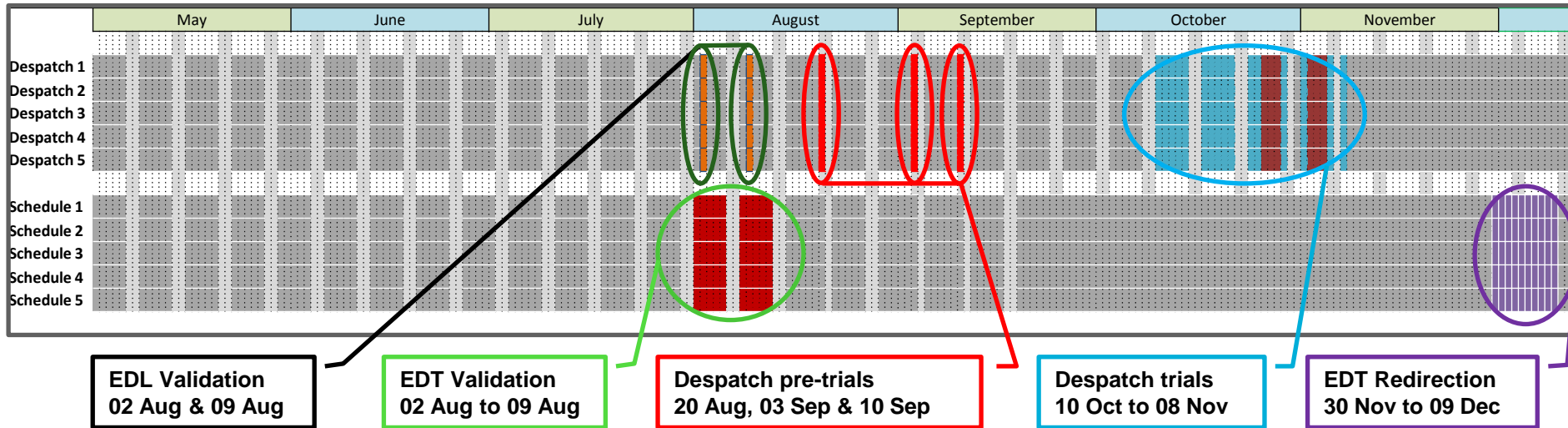
Despatch Limited Hours Trials Start on 10 Oct

Despatch 24/7 Start on 8 Nov

PNR (no BM) on 30 Nov

EDT switched over by 9 Dec

EBS Stages to Go-Live Participant Transition Journey



EDL Validation – all CPs will be swung over by NG from BM to EBS, be tested, then swung back to EBS

Despatch pre-trials - for duration of each trial all CPs will be connected to EBS, outside trial period back to BM

Despatch day trials - for duration of each trial all CPs will be connected to EBS, outside trial period back to BM

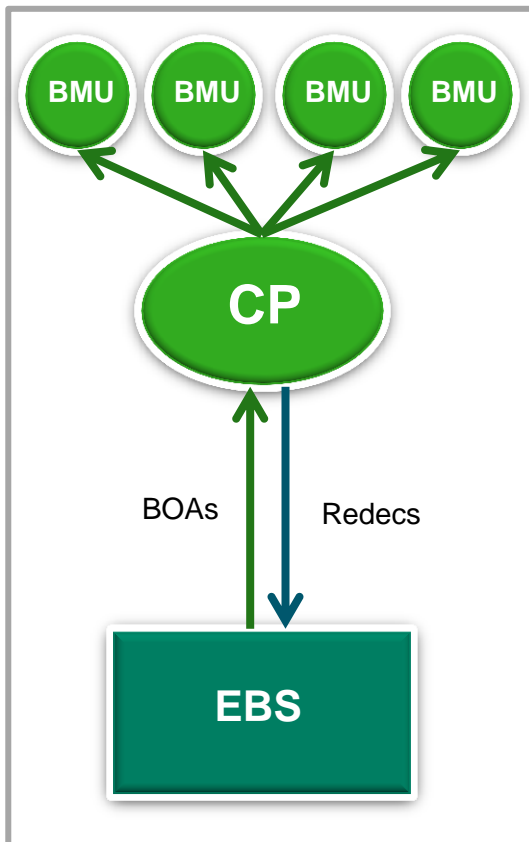
Despatch night trials - for duration of each trial all CPs will be connected to EBS, outside trial period back to BM

EDT validation - each TP will have an agreed timeslot to logout from BM, login to EBS, send test data, log off EBS and log back into BM

EDT redirection - each TP will have an agreed timeslot to logout from BM and login to EBS as the enduring connection

BOA instructions

At the recent EBSIT forum a major topic of discussion related to the volume of BOAs that may be issued to a BMU by the new EBS. The feedback provided has resulted in the following



The number of BOAs issued simultaneously by EBS to the same BMU will remain at ONE (as now)

In July information on BOA volume comparison tests between BM and EBS will be shared with participants

In August further information from comparison tests incorporating code improvement will again be shared

In September feedback on EBS operation will be sought from participants during pre-despatch trials

Conclusion

National Grid is on track to replace the existing BM system by this Winter. The opportunity is being taken with the new EBS system to introduce automated functionality



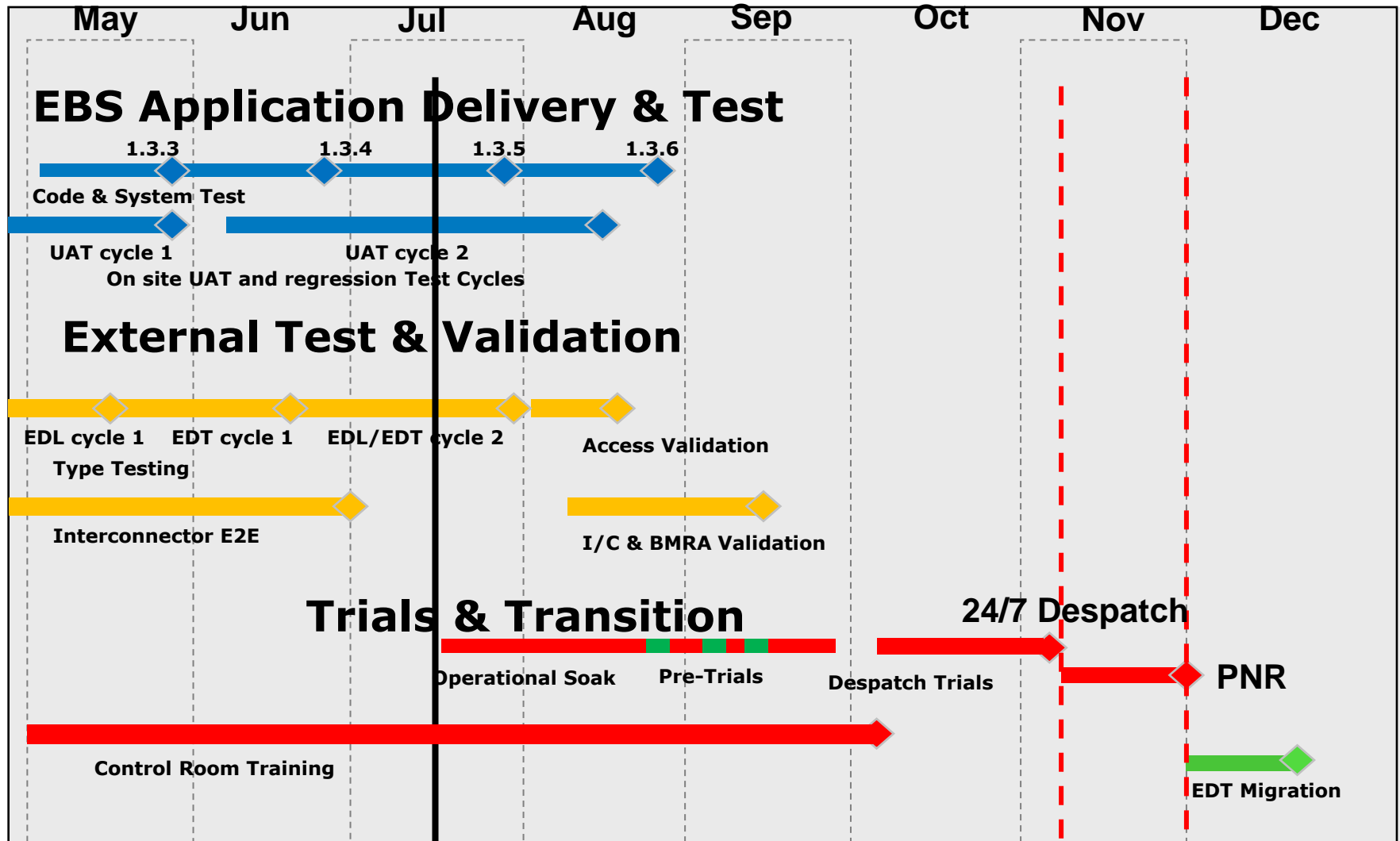
A phased transition to EBS is being adopted with the existing BM system in back up mode until the PNR

After the PNR all participants will have their EDT permanently redirect to EBS by 9th December

During the trials if there is any threat to system security then Go-Live will be delayed until the threat is removed

In the lead up to Go-live feedback will be sought from participants and comparison data shared

4. EBS Programme Update



5. Role Play Test outcomes – 7 July

Phil Johnson

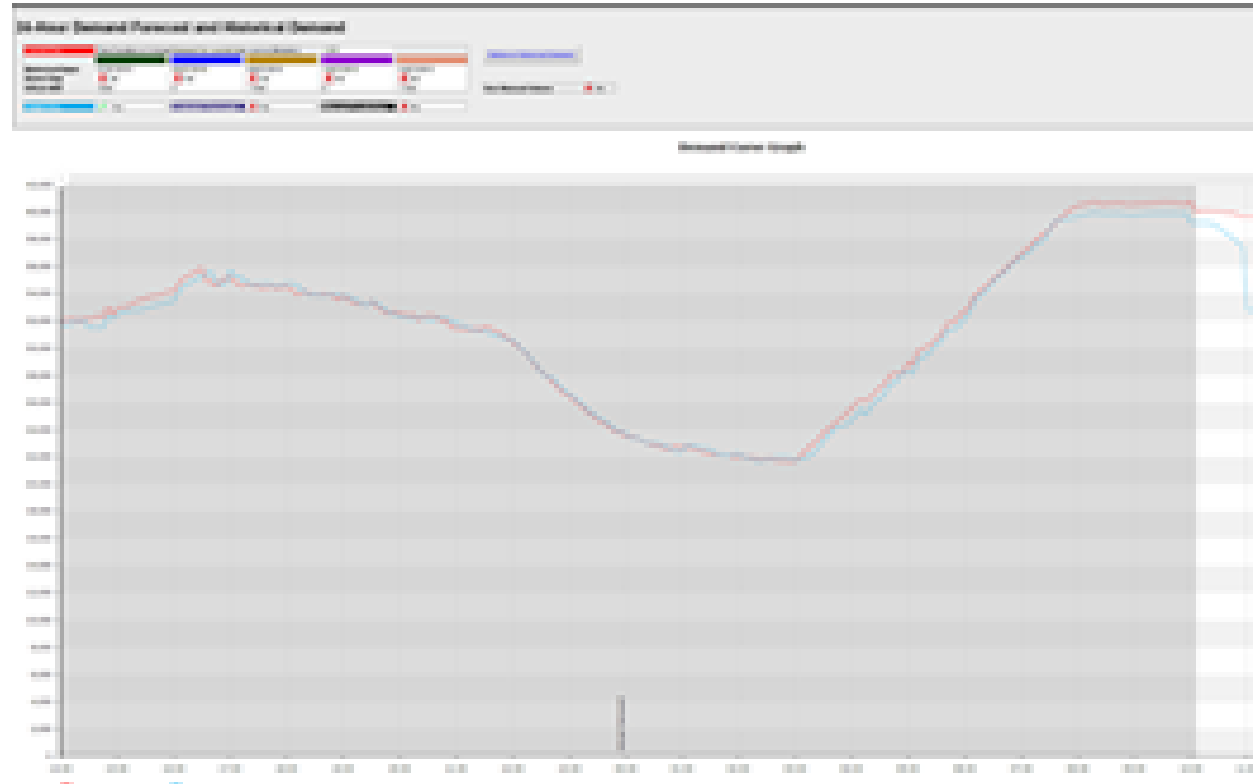
Role Play test – 7 July

- Matching real-time as closely as possible
- Actual demand, constraints and response requirements used
- Role-defined project team running the EBS over two shifts (16 hours)



Role Play Test - Results

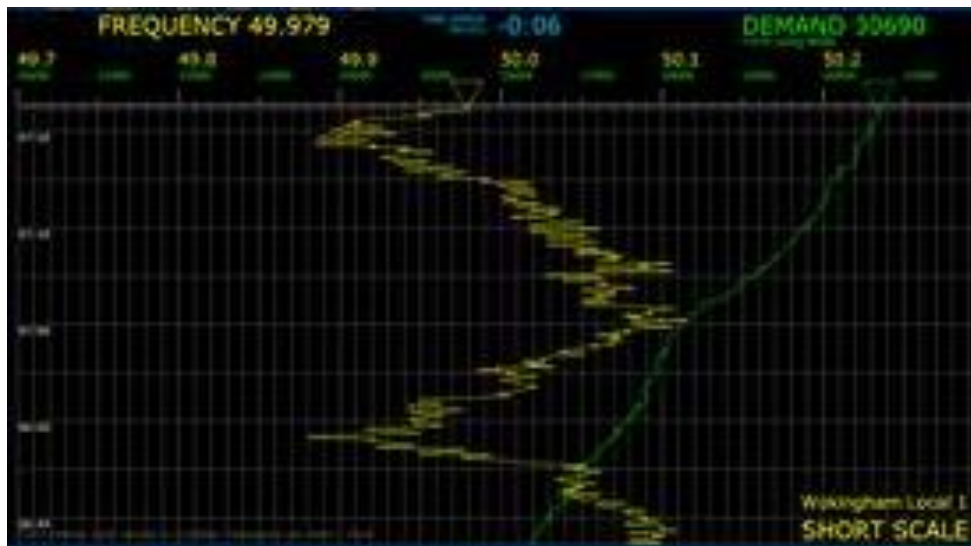
- EBS issued one BOA per unit per five minute period
- EBS was run in parallel to the Balancing Mechanism (BM) system
- EBS issued 3.5 times as many BOAs as the BM system



EBS instructed generation (blue) against the actual demand (red). The discrepancy from 14:30 to 17:00 was due to EFS and IC issues and getting EBS to line up with BM.

Role Play Test - Results

The real system frequency BM



The similar frequency EBS



- National Grid engineers were impressed with EBS automated balancing
- EBS kept frequency to 50 Hz without manual intervention

6. Testing & Transition Update & Plan

Pete Smith

External Testing & Transition

No significant change to External Plan or Transition Strategy

- All previously discussed and agreed phases for external test and transition remain
- A reminder - a summary of the activities for external parties can be found in the document 'EBS External Testing and Transition Overview'



External Testing
& Transition Overview

Testing – Programme Update

- The key Programme driver remains **Quality**
- Now in the final cycle of UAT
- Project team supplemented by engineers coming out of training
- The testing is increasingly challenging
 - More operational scenarios
 - More role-based testing
- Increasingly difficult to analyse results

External Testing Update

- All internal testing of external interfaces complete
- All external interfaces tested with external parties
 - Cycle 1 completed in all cases
 - Cycle 2 planned or underway
 - Validation phase in transition

Tests with external organisations

BMRA/SAA

- End-to-end interface tests with CGI/Elexon completed
- Soak test (cycle 2) planned for August (will be against the new BMRS)

Interconnector

- Cycle 1 completed for all 4 interconnectors
- Cycle 2 to be run in Aug once fixes are received

EDT & EDL testing

- All internal EDT/EDL Testing complete
- Automated tests run on new releases include a significant number of EDT/EDL tests
- Informal Type Tests & subsequent fix testing with suppliers completed
- Formal Type Tests underway – to be completed

Type Test Progress

- Formal Type Test started at the end of March
 - Formal EDT Type Test
 - Only 1 supplier pending
 - One non-functional re-test required
 - Formal EDL Type Test initiated and defects raised in EBS
 - Defects were found in non-functional failure scenarios
 - Fixes have been received
 - All suppliers to be rerun

Summary of MP Testing Plan (EDL/EDT)

EDL/EDT Milestone	Service	Due Date	Status
NG network changes	EDL	Q1 2014	Complete
Functional Test of EBS EDL/EDT	EDL/EDT	Q1 2014	Complete
Initial Type Test executions with IT suppliers	EDL/EDT	Q2 2014	Complete
EDL Circuit Connectivity Test with MPs	EDL	Q3 2014	Complete
NG network changes for EBS Proxies and Load Balancer	EDT	Q1 2015	Complete
Initiate EDT Circuit Connectivity test	EDT	Q2 2015	Complete
EDT Circuit Connectivity Test with MPs	EDT	Q3 2015	Complete
Re-test of defect fixes for Type Test with IT Suppliers	EDL/EDT	Q4 2015	Complete
Agree Transition plan BM to EBS change over		Q4 2015	Complete
Formal Type Test (including Non-Functional Testing) with IT suppliers	EDL/EDT	Q3 2016	Progressing
Optional testing with MPs	EDL/EDT	Q3 2016	Progressing

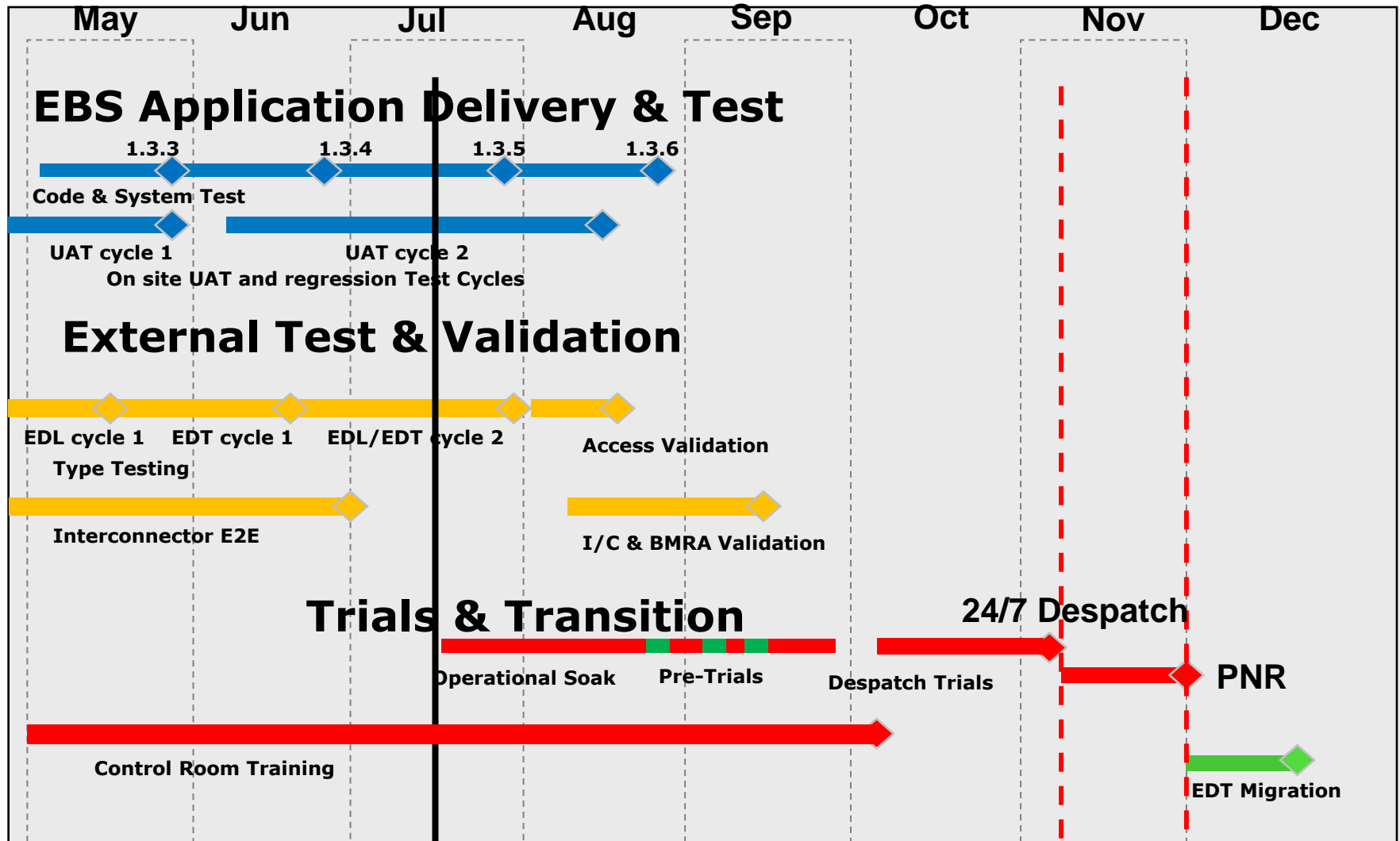
Summary of MP Testing Plan (EDL*/EDT*)

EDL*/EDT* Milestone	Due Date	Status
Data Validation, Defaulting and Consistency Rules document supporting EDL*/EDT*	Q2 2013	Complete
Approve ELEXON P297 (Receipt and Publication of New and Revised Dynamic Data Items)	Q1 2014	Complete
Draft EDL*/EDT* toolkit circulated to IT Suppliers and Market Participants	Q2 2014	Complete
Establish IT Supplier's access (VPN over internet)	Q4 2015	Complete
Final EDL*/EDT* toolkit circulated to IT Suppliers and Market Participants <u>on Request</u>	Q2 2016	Progressing
NG network changes for EBS Proxies and Load Balancer	Q3 2016	Progressing
Functional Test EBS EDL*/EDT*	Q3 2016	Progressing
Perform E2E connectivity test for VPN with suppliers	Q3 2016	Not started
Support IT Suppliers Development and Unit Test for EDL*/EDT*	Q4 2016	Not started
Agree implementation plan for EDL*/EDT*	Q4 2016	Not started
Formal Type Test (including NFT) with IT Suppliers	Q1 2017	Not started
Implement ELEXON P297 (Receipt and Publication of New and Revised Dynamic Data Items)	Q2 2017	Not started
Start changeover of Market Participant's systems to EDL*/EDT*	Q2 2017	Not started

7. Access Validation

Pete Smith

EBS Programme Update



EDT Access Validation steps

Initiated by Trading Agent in conjunction with NG

1. Disconnect the production EDT system from the BM System.
2. Configure the system to connect to the EBS ED Server IP address (or DNS name) and set the correct ftp password (as earlier notified).
3. Connect to the EBS target production ED server.
4. Make a dummy EDT submission and process the acknowledgement and acceptance files.
5. Reconfigure the system to connect to the BM System EDT IP address (or DNS name) and reset the BM System production ftp password.
6. Correct any relevant sequence numbers where necessary.
7. Reconnect to the production BM System.

EDT Access Validation dates

To be scheduled between 01/08 and 12/08

Aim to complete 5 Trading Agents per day

EDL Access Validation steps

Initiated by NG

1. At the declared time, drop all EDL connections to Control Points on the BM System.
2. Connect EBS EDL to all Control Points.
3. There will be a pause to allow sufficient time for connections from EBS to Control Points to be made. Should any EDL connections fail to be made, there will be no investigation into the reason for the failure at this time.
4. Drop the EDL connections from EBS to Control Points.
5. Reconnect BM System EDL to all Control Points.

EDL Access Validation dates

Date 1: Tue 02/08

Reserve date: Thu 04/08

Date 2: Tue 09/08

Reserve date: Thu 11/08

Following completion of the EDL Validation exercise, NG will analyse the results. Each Control Point will be notified of whether or not a successful connection was made to the relevant Control Points. For any connections that fail to be made, investigations into the reasons will be carried out

8. Planning for Transition

EDT Password

- EBS password – will be sent to Trading Agents 1 week before AV – as contact details are confirmed
- BM System password – if needed, will be sent to Trading Agent on request

Audit Contact Details

- National Grid verifying the contact details held in Registration Database for :
 - BSC Parties, Trading Agents, Control Points and Software Suppliers

9. Communication strategy

■ Transition plan dates

- Draft – Sept 2015 - Complete
- Final – Dec 2015 - Complete
- Final with dates – 4 weeks before Access Validation

■ Communication channels

- Mainly email
- Telephone for support when requested by the MP
- Telephone bridge set up for the EDT Access Validation phase

Powering Up
Electricity Balancing System Industry Bulletin

nationalgrid
Issue number 1: 08 July 2016

EBS Access Validation set to start in four weeks - 1 August 2016

Electricity Balancing system (EBS) Access Validation starts at the beginning of August, this year and National Grid is introducing the weekly update bulletin to ensure that you have the latest information available to you as we move into the transition phase of the EBS project.

Thank you to all Market Participants for all the support that has already been provided to National Grid team on the EBS project.

As we go into Access Validation, we need to ask again for further assistance. Access Validation is designed to validate basic functional connectivity between yourselves as Market Participants, EDT/EDL systems and EBS at National Grids. EBS Access Validation commences on Monday, 1 August 2016. It will proceed as follows:

- EDT Access Validation Monday, 1 August 2016 to Friday, 12 August 2016 (Week-days only)
- EDL Access Validation 1 – Tuesday, 2 August
- Backup date Thursday, 4 August
- EDL Access Validation 2 – Tuesday, 9 August
- Backup date Thursday, 11 August

EDT Access Validation – how this will progress

- Trading Agents will be contacted to verify point of contact (POC) details for Access Validation (AV).
- Trading Agents' nominated POC will be contacted by Sanvish Kumar (Sanvish.Kumar@nationalgrid.com) to arrange a deadline for AV.
- Trading Agents' POC will receive an EDT password for EBS via registered mail at their nominated address.
- At the nominated time, T.A.s POC will be asked to follow a documented series of steps to validation access.

NE: Trading Agents will need to know their current EDT Password for the BM system to return to normal service. If you have any concerns regarding this, please send an email to: BMU.registration@nationalgrid.com

EDL Access Validation – how this will progress

- EDL Access Validation is managed entirely by National Grid
- No action is needed by Control Points
- Follow up communications will be via the usual model for BM Planned EDL Outages

This is the first of a series of weekly bulletins issued to Market Participants every Friday, from 8 July, until completion of EDT migration to EBS in December, this year. This bulletin is being issued to all Trading Agents, Market Participants, EDT/EDL, Software Suppliers, EBSIT members and GCRP members.

If you are not the correct person to receive the bulletin or you feel it should be sent to others in your organisation, please forward this on and let us know any details of members of your organisation by sending a note to psg.n@nationalgrid.com, so that they can receive future editions.

EBS Next three months

July

- Transition starts
- Type Tests continue
- EBS IT meeting 18

August

- Operational soak starts
- Access validations for EDT and EDL
- Despatch pre-trials start

September

- Despatch pre-trials complete
- Access Validation for EDT 2 & EDT 3
- 28-day Continuous Uninterrupted Operation starts
- Trial Run rehearsals
- Cut over rehearsals

Want more information about EBS transition developments?

- Look out for these regular news bulletins
- Attend the next EBS IT meeting taking place on Tuesday 19 July, 2016 at the Holiday Inn, Winesap Triangle from 9.30am to 1.30pm
- Send an email to Box.EBS.IT-week.1@nationalgrid.com

Communication strategy

- Newsletters
 - Dec 15, Mar 16, Jul 16
- Weekly bulletins from 1 month before Transition
 - Plan for next week
 - Review of previous week
 - Progress of validations and trials
- Each MP activity to have a list of announcements
 - D – 7 Days
 - D day start
 - D day finish

10. Close

- Date of next meeting
- AOB