

Update for DSWG

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Network Operations
7th December 2007

Agenda

- ◆ October “Communication” Outages
 - ◆ **ACTION: NGET to provide a note on the reasons for the communications outage.**
- ◆ Information on Embedded Generation
 - ◆ **ACTION: NGET to investigate ‘ex-post’ data picked up by Elexon and assess opportunities to provide this information to market and potential market impact.**
- ◆ Market Information update
 - ◆ Agenda Item 6

“Communication” Outages

“Communication” Outages

- ◆ The communication outages were actually electricity Balancing Mechanism (BM) Systems outages;
- ◆ BM Systems outages, both planned and unplanned result in the normal communications route being suspended;
 - ◆ EDT is the communication from traders for PN's and Prices and these can't be changed during an outage.
 - ◆ EDL is the communication to power stations about operational matters – these continue to happen through telephone discussions.
- ◆ Suspending EDT/EDL is necessary to ensure a smooth transition with our contingency systems that we use;

“Communication” Outages

- ◆ Were NISM’s and BM system issues related?
 - ◆ The NISM’s occurred on different days to the systems issues;
- ◆ Were the issues with electricity systems and gas systems related?
 - ◆ No, because we have separate Gas and Electricity systems.

Summary of What Happened

- ◆ On Wed 24th Oct, a planned outage to BM systems for a new application release resulted in some system performance issues;
- ◆ The main events are shown in this table: -

Date	Type	Reason	Start	End	Duration
24-Oct	planned	Upgrade	09:40	12:42	03:02
24-Oct	unplanned	Running slow	23:15	03:05	03:50
25-Oct	unplanned	Outage to Fix	03:05	04:14	01:09
26-Oct	unplanned	Running slow	23:15	01:30	02:15
27-Oct	unplanned	EDT logins fault	01:30	02:25	00:55

- ◆ The underlying causes of these outages have now been resolved.

Embedded Generation

Data on embedded generation

- ◆ We have investigated whether any ex-post data is available for embedded generation;
- ◆ Elexon have data for settlements at a GSP group level for embedded generation where its output is metered;
 - ◆ Some embedded generation “spills” onto the distribution systems;
- ◆ Data is not currently available in a disaggregated form by fuel type or individual generation (wind, CHP, hydro etc);
 - ◆ Settlements does not need to know generation fuel types;
- ◆ There is currently no settlement requirement to settle exports from embedded generation below the GSP group level.

Market Information

Market Information – Progress

- ◆ BSC mods (P219/P220) were raised by National Grid;
- ◆ Approved for assessment at November's BSC Panel;
- ◆ Work at National Grid looking at how P219/P220 could be delivered is running in parallel with the BSC process;
- ◆ The prototype Phase 1 summary page is on track;
 - ◆ Developed based on work with DSWG by ELEXON / Logica with National Grid input.

Phase 1 Summary Page

- ◆ Feedback received is that BMRS has lots of data, but it is not always easy to find
- ◆ Phase 1 Summary Page will summarise the most important data that is already on BMRS
- ◆ Phase 2 will add additional data items (e.g. wind generation forecasts, generation by fuel type)
- ◆ Format (based on feedback from DSWG) is single long page (like the pre-MIPI gas summary page)

An Example – System Warnings

- ◆ BEFORE - System Warnings are buried among other messages:

System Warnings

Warning Date/Time (GMT)	Warning Message
2007-12-04 18:29	NATIONAL GRID NOTIFICATION of prices for SO to SO Transactions over the National Grid/RTE Interconnector. Prices cover 23:00hrs tonight to 23:00hrs tomorrow (local time) and are in GBP/MWh. From RTE: Offer 103.42; Bid 0. From NGC: Offer 450; Bid 0.
2007-12-04 18:28	NATIONAL GRID NOTIFICATION of prices for SO to SO Transactions over the National Grid/SONI Interconnector. Prices cover the 24 hour period commencing 06:00hrs tomorrow (local time) and are in GBP/MWh. From SONI: Offer 502; Bid 0. From NGC: Offer 450; Bid 0
2007-12-03 17:31	NATIONAL GRID NOTIFICATION of prices for SO to SO Transactions over the National Grid/RTE Interconnector. Prices cover 23:00hrs tonight to 23:00hrs tomorrow (local time) and are in GBP/MWh. From RTE: Offer 112.64; Bid 0. From NGC: Offer 450; Bid 0.
2007-12-03 17:30	NATIONAL GRID NOTIFICATION of prices for SO to SO Transactions over the National Grid/SONI Interconnector. Prices cover the 24 hour period commencing 06:00hrs tomorrow (local time) and are in GBP/MWh. From SONI: Offer 502; Bid 0. From NGC: Offer 450; Bid 0
2007-12-02 16:04	NATIONAL GRID NOTIFICATION of prices for SO to SO Transactions over the National Grid/SONI Interconnector. Prices cover the 24 hour period commencing 06:00hrs tomorrow (local time) and are in GBP/MWh. From SONI: Offer 502; Bid 0. From NGC: Offer 500; Bid 0
2007-12-02 16:03	NATIONAL GRID NOTIFICATION of prices for SO to SO Transactions over the National Grid/RTE Interconnector. Prices cover 23:00hrs tonight to 23:00hrs tomorrow (local time) and are in GBP/MWh. From RTE: Offer 105.06; Bid 0. From NGC: Offer 500; Bid 0.
2007-12-01 16:19	NATIONAL GRID NOTIFICATION of prices for SO to SO Transactions over the National Grid/SONI Interconnector. Prices

An Example – System Warnings

- ◆ AFTER: Key information pulled out on the summary page:

System Warnings					
Today	Warning in force	Times applicable	Tomorrow	Warning in force	Times applicable
2007-11-21	NONE	NONE	2007-11-22	HRDR	15:00-18:00
			2007-11-22	NISM	16:00-19:30

History

Information

Peak Demands Yesterday/Today/Tomorrow					
Date	Forecast Demand Peak (MW)	Forecast Peak Demand Time (local time)	Actual Demand Peak (MW)	Actual Demand Peak Time (local time)	last updated (GMT)
2007-11-20	55535	20:00	3482	18:30	2007-11-20 19:02
2007-11-21	55535	20:00			2007-11-20 09:00

Content of the Phase 1 Summary Page

- ◆ Page starts with a number of summary tables:
 - ◆ System Warnings
 - ◆ Peak Demands Yesterday / Today / Tomorrow
 - ◆ Triad Demand information (i.e. demand peaks to date and forecast demand peaks)
 - ◆ System Prices

Contents of the Phase 1 Summary Page (cont.)

- ◆ Remainder of page has graphs:
 - ◆ Market Imbalance Volume
 - ◆ System Price
 - ◆ System Demands (Actual and Forecast)
 - ◆ Real-time system frequency and demand (from National Grid website)
 - ◆ Day and day ahead margin
 - ◆ 2-14 day ahead demand forecast and Surplus
 - ◆ 2-52 week ahead Surplus

P219 – Consistent Demand Definitions

- ◆ Modification Proposal raised by National Grid at November meeting of BSC Panel
- ◆ P219 proposes publication of two different stream of forecast and actual demand data:
 - ◆ Including Interconnectors, pumped storage, station demand
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- ◆ Rationale for this solution is:
 - ◆ Continue to provide all current data
 - ◆ Additional data to facilitate comparison of forecasts and out-turns
- ◆ We will think carefully about how to communicate the technical details, particularly where existing data is being 'renamed'

P219 Process

- ◆ Consultation phase between 27th Nov and 10th Dec 2007;
 - ◆ Consultation and assessment phases are running in parallel;
- ◆ Present the suggested way forward to the BSC Panel 17th Jan 2008;
- ◆ The Modification Group would welcome consultation responses from DSWG members
 - ◆ <http://www.elexon.co.uk/changeimplementation/ModificationProcess/ModificationDocumentation/default.aspx>

P220 – New Data Items for Phase 2 Summary Page

- ◆ Modification Proposal raised by National Grid at November meeting of BSC Panel
- ◆ Puts in place the governance for National Grid to provide additional data items for publication:
 - ◆ Outturn and reference temperatures;
 - ◆ Wind generation forecast;
 - ◆ Instantaneous and half-hourly generation by fuel type (including ‘real-time’ total demand outturn data);
 - ◆ Daily energy volumes transported across the Transmission System; and
 - ◆ Non-Balancing Mechanism (BM) Short Term Operating Reserve (STOR) Instructed Volumes

P220 Process

- ◆ More complex than P219 e.g. Modification Group has identified improvements to 'straw man' solution
- ◆ Customer representatives have attended the Modification Group and helped improve the solution (for which we're grateful)
- ◆ Consultation planned for second week of January
- ◆ Again we would welcome responses from DSWG members – without them it's hard for the Modification Group and Panel to gauge whether the benefits are real

Improvements to the Straw Man Solution

- ◆ Better way of summarising generation by fuel type:

Generation By Fuel Type						
	Current		Last Half Hour (03:00-03:30)		Last 24 Hours (03:30-03:30)	
GB Generating Plant	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 %

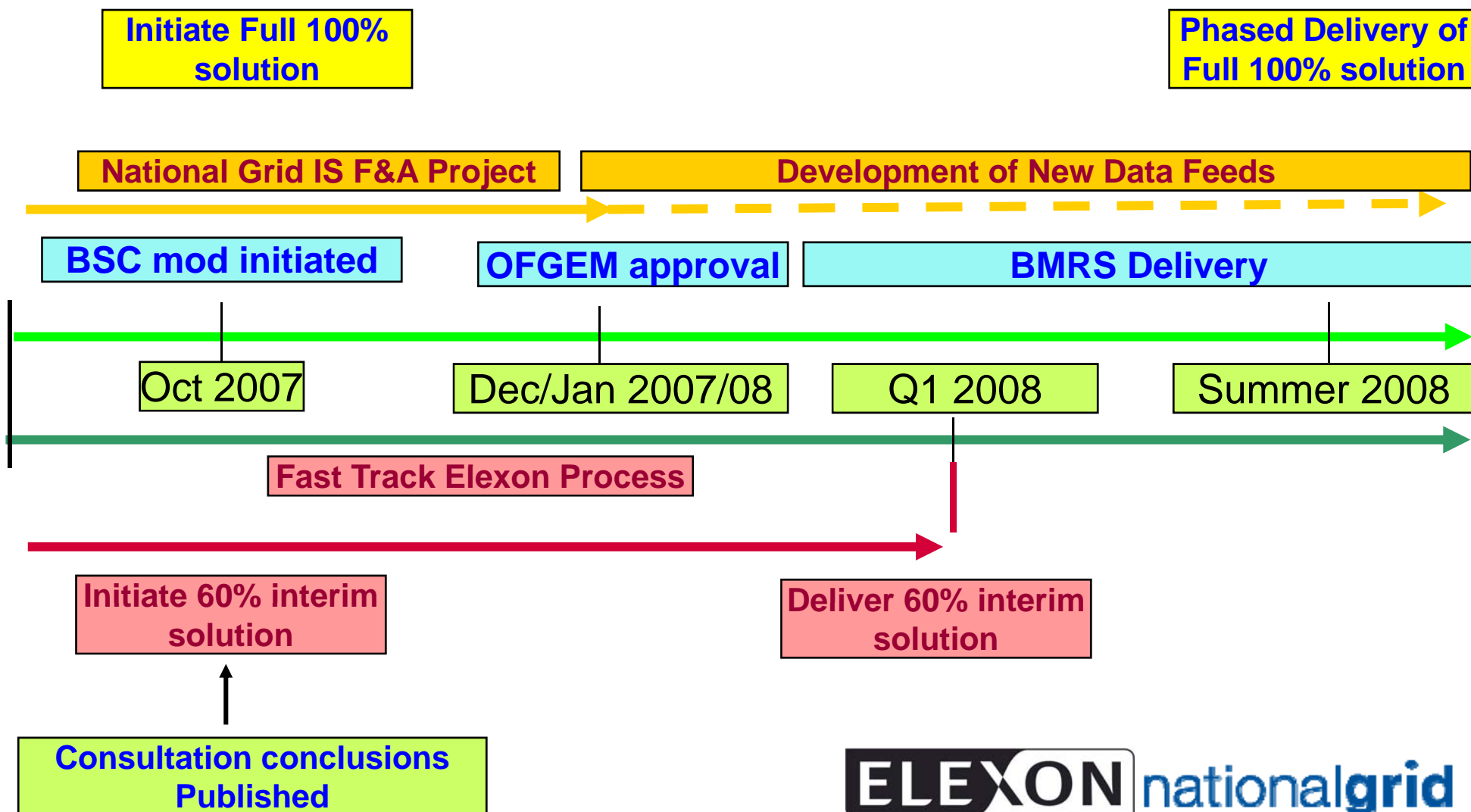
Data last updated: 19-Nov-2007 16:52:23

- ◆ Wind generation forecast for points throughout day, not just peak:

Potential Alternative Modification Proposal

- ◆ Two other improvements the Group have considered require new legal drafting, and would therefore constitute an Alternative:
 - ◆ Historical reference data on the daily volumes graph
 - ◆ A more robust mechanism for publishing system frequency data

Overview Plan



Other Information Areas Improved

- ◆ We are actively engaging with our customers in addition to the current BSC modifications process;
 - ◆ Demand history data in excel spreadsheets is now going to be published monthly (was 6 monthly histories);
 - ◆ Historic demand data is now provided for April 2001 onwards at <http://www.nationalgrid.com/uk/Electricity/Data/Demand+Data/> ;
 - ◆ We are building the foundations for other information we undertook to progress separately to current modifications;
 - ◆ GSP Offtake Data.