Frequency Response auction trial – mock auction results webinar

29th March 2019

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The webinar will commence at 11:05 to allow attendees to sign in

All attendees will be joined in listen-only mode

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Today's webinar – purpose and agenda

Purpose
To share the results of the mock auction, highlighting specific scenarios of interest, to provide more insight ahead of go-live.

Agenda
1. The process followed for the mock auction
2. Review of results
3. Learning points

Due to the number of attendees dialled into the webinar, we won't be opening the floor to live Q&A. Instead we will leave the Webex open for questions and feedback to be submitted and we will capture these for our Q&A document.

The process followed for the mock auction

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The auction process and algorithm

Thursday by 10:00	• National Grid ESO publish the hash of the document containing the buy order
Thursday 12:00	• Providers submit their sell offers to National Grid ESO
Friday by 12:00	• National Grid ESO published auction results and buy order
Friday 23:00	• Service delivery commences

Whilst running the auction algorithm itself will be a short process, for Phase 1 of the auction trial there are more manual processes involved, run by operational teams. Therefore it is necessary to allow time to ensure unforeseen operational issues can be addressed whilst meeting committed timeframes for the auction.

For each Electricity Forward Agreement (EFA) block in the week (42x):

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Mock auction – purpose and process

Purpose

- To demonstrate how the algorithm will work and support testing of the algorithm using provider information.

Process

- ‘Providers’ submitted their mock sell orders by close of play Tuesday

	A	B	C	D	E	F	G
1	Please submit your mock sell order to National Grid ESO via email to futureofbalancingservices@nationalgrid.com by close of play on Tuesday 26th March.						
2	The subject of the email should be ‘Mock sell order submission’.						
3							
4	**Unit**	**Date**	**EFA block**	**Minimum available MW**	**Maximum available MW**	**Minimum sell price (GBP/MW/h)**	
5	*(Select your own for the mock auction)*	29/03/2019	1 (23:00-03:00)				
6		29/03/2019	2 (03:00-07:00)				
7		29/03/2019	3 (07:00-11:00)				
8		29/03/2019	4 (11:00-15:00)				
9		29/03/2019	5 (15:00-19:00)				
10		29/03/2019	6 (19:00-23:00)				
11		30/03/2019	1				
12		30/03/2019	2				
13		30/03/2019	3				

Minimum available MW is the minimum we can curtail the offer to should this be the marginal offer. The lowest value possible is 1 MW. If the offer is not curtailable, the minimum available MW should be the same value as the maximum available MW.

- We ran these through our algorithm, with a buy order of **100 MW** and price cap of **£10/MW/h***

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*not reflective of go-live buy order

Review of mock auction results

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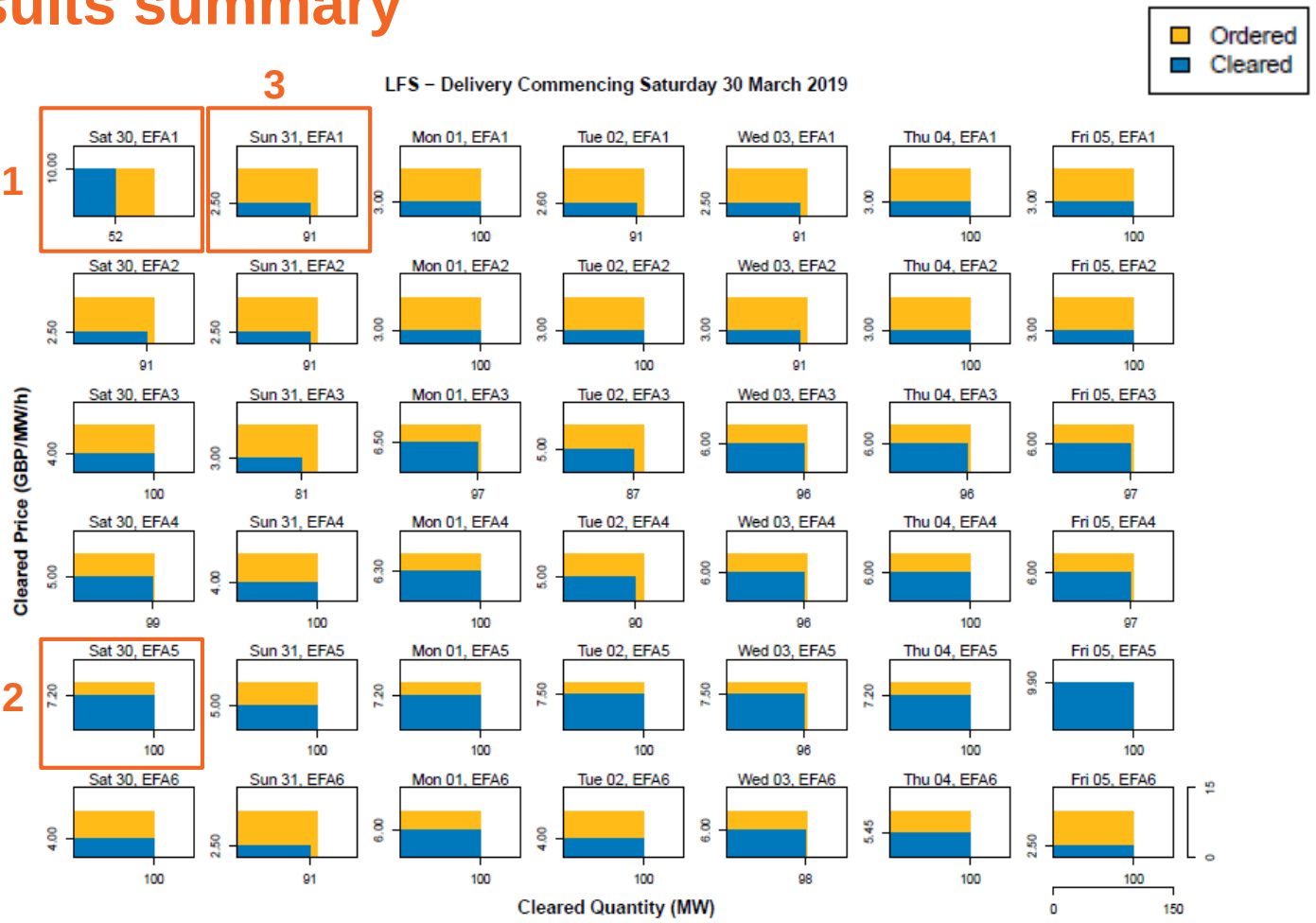
Results summary



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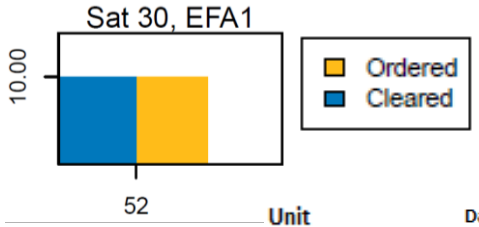
Results summary – scenario 1



These two columns are the amount of MW that the provider can supply

These are the MW we bought

This is the clearing price of the auction

Unit	Date	EFA	Min Available MW	Max Available MW	Last Resort Rank	Cleared MW	Cleared GBP/MW/h
ZYX-123	30/03/2019	1	0	0	2	0	10
NWSTG-1	30/03/2019	1	0	0	4	0	10
NGRS-4	30/03/2019	1	0	0	6	0	10
NGRS-1	30/03/2019	1	0	0	7	0	10
WillenhallBattery	30/03/2019	1	0	0	9	0	10
PGFFR-1	30/03/2019	1	0	0	11	0	10
NGRS-5	30/03/2019	1	0	0	13	0	10
WindPark22	30/03/2019	1	0	0	14	0	10
NGRS-6	30/03/2019	1	0	0	16	0	10
STAN-1	30/03/2019	1	0	0	17	0	10
NGRS-7	30/03/2019	1	0	0	19	0	10
Freq unit 000001	30/03/2019	1	0	0	20	0	10
ABC123	30/03/2019	1	0	0	21	0	10
UNIT-12	30/03/2019	1	5	10	18	10	10
ProtonPower	30/03/2019	1	10	10	12	10	10
FFR-XYZ-001	30/03/2019	1	0	10	1	10	10
AUCT-27	30/03/2019	1	5	5	8	5	10
Unit1	30/03/2019	1	5	16	10	16	10
BatteryMcBatteryFace	30/03/2019	1	1	1	3	1	10
DeathStar	30/03/2019	1	1	10	22	0	10
Mordor	30/03/2019	1	20	20	5	0	10
LJ3	30/03/2019	1	10	20	15	0	10

52 MW bought

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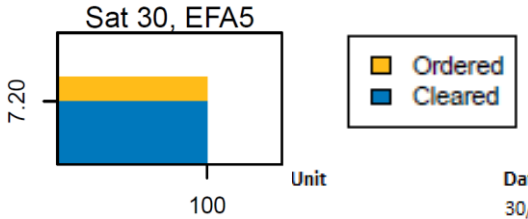
Results summary – scenario 2



These are the MW we bought

This is the clearing price of the auction

Unit	Date	EFA	Min Available MW	Max Available MW	Last Resort Rank	Cleared MW	Cleared GBP/MW/h
	30/03/2019	5	0	0	9	0	7.2
ABC123	30/03/2019	5	0	0	11	0	7.2
WindPark22	30/03/2019	5	0	0	12	0	7.2
ZYX-123	30/03/2019	5	5	7	20	7	7.2
NGRS-1	30/03/2019	5	0	0	21	0	7.2
UNIT-12	30/03/2019	5	5	10	2	10	7.2
FFR-XYZ-001	30/03/2019	5	1	10	10	10	7.2
NWSTG-1	30/03/2019	5	5	20	22	20	7.2
PGFFR-1	30/03/2019	5	20	20	19	20	7.2
Unit1	30/03/2019	5	2	4	4	4	7.2
NGRS-6	30/03/2019	5	2	6	5	6	7.2
NGRS-5	30/03/2019	5	2	4	15	4	7.2
NGRS-4	30/03/2019	5	2	4	7	4	7.2
NGRS-7	30/03/2019	5	2	4	3	4	7.2
AUCT-27	30/03/2019	5	5	5	6	5	7.2
WillenhallBattery	30/03/2019	5	1	1	16	1	7.2
STAN-1	30/03/2019	5	5	20	14	5	7.2
BatteryMcBatteryFace	30/03/2019	5	1	1	13	0	7.2
ProtonPower	30/03/2019	5	3	8	1	0	7.2
DeathStar	30/03/2019	5	1	10	17	0	7.2
Mordor	30/03/2019	5	20	20	8	0	7.2
Freq unit 000001	30/03/2019	5	5	5	18	0	7.2

Note how STAN-1 is only cleared for 5MW. This has been squeezed.

100 MW bought.

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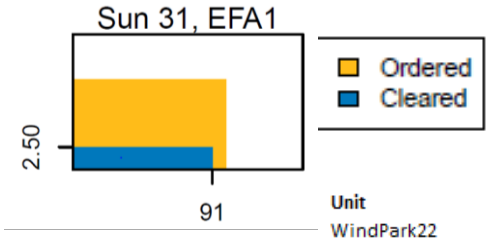
Results summary – scenario 3



These are the MW we bought

This is the clearing price of the auction

Unit	Date	EFA	Min Available MW	Max Available MW	Last Resort Rank	Cleared MW	Cleared GBP/MW/h
WindPark22	30/03/2019	2	0	0	9	0	2.50
NWSTG-1	30/03/2019	2	20	20	19	20	2.50
UNIT-12	30/03/2019	2	5	10	7	10	2.50
NGRS-6	30/03/2019	2	2	8	4	8	2.50
PGFFR-1	30/03/2019	2	20	20	11	20	2.50
ZYX-123	30/03/2019	2	5	7	13	7	2.50
NGRS-7	30/03/2019	2	2	8	15	8	2.50
FFR-XYZ-001	30/03/2019	2	1	10	21	10	2.50
NGRS-5	30/03/2019	2	2	8	5	8	2.50
Unit1	30/03/2019	2	10	20	1	0	2.50
ABC123	30/03/2019	2	10	20	3	0	2.50
NGRS-4	30/03/2019	2	2	8	18	0	2.50
ProtonPower	30/03/2019	2	10	10	10	0	2.50
WillenhallBattery	30/03/2019	2	1	1	2	0	
NGRS-1	30/03/2019	2	1	4	20	0	2.50
AUCT-27	30/03/2019	2	5	5	22	0	2.50
STAN-1	30/03/2019	2	5	20	16	0	2.50
BatteryMcBatteryFace	30/03/2019	2	1	1	12	0	2.50
DeathStar	30/03/2019	2	1	10	8	0	2.50
LI3	30/03/2019	2	10	20	6	0	2.50
Mordor	30/03/2019	2	20	20	14	0	2.50
Freq unit 000001	30/03/2019	2	5	5	17	0	2.50

The next unit to fill the buy order would be one of the pink offers, however note that their minimum available MW is greater than 9MW, which is why they haven't been accepted. They can't be squeezed to fit within the 100 MW buy order.

91 MW bought.

Results summary – by unit

	A	B	C	D	E	F	G	H	I
1	Unit	Service	Date	EFA	Min Available MW	Max Available MW	Last Resort Rank	Cleared MW	Cleared GBP/MW/h
2	ZYX-123	LFS	30/03/2019	1	0	0	2	0	10
3	NWSTG-1	LFS	30/03/2019	1	0	0	4	0	10
4	NGRS-4	LFS	30/03/2019	1	0	0	6	0	10
5	NGRS-1	LFS	30/03/2019	1	0	0	7	0	10
6	Willenhal	LFS	30/03/2019	1	0	0	9	0	10
7	PGFFR-1	LFS	30/03/2019	1	0	0	11	0	10
8	NGRS-5	LFS	30/03/2019	1	0	0	13	0	10
9	WindPark	LFS	30/03/2019	1	0	0	14	0	10
10	NGRS-6	LFS	30/03/2019	1	0	0	16	0	10
11	STAN-1	LFS	30/03/2019	1	0	0	17	0	10
12	NGRS-7	LFS	30/03/2019	1	0	0	19	0	10
13	Freq unit	LFS	30/03/2019	1	0	0	20	0	10
14	ABC123	LFS	30/03/2019	1	0	0	21	0	10
15	DeathStar	LFS	30/03/2019	1	1	10	22	0	10
16	Mordor	LFS	30/03/2019	1	20	20	5	0	10
17	LJ3	LFS	30/03/2019	1	10	20	15	0	10
18	WindPark	LFS	30/03/2019	2	0	0	9	0	2.5
19	Unit1	LFS	30/03/2019	2	10	20	1	0	2.5
20	ABC123	LFS	30/03/2019	2	10	20	3	0	2.5
21	NGRS-4	LFS	30/03/2019	2	2	8	18	0	2.5
22	ProtonPo	LFS	30/03/2019	2	10	10	10	0	2.5

Results by unit will be publicly available. This is how providers will be notified of successful results.

We will only share the cleared price, not prices from individual sell orders.

Units with clearer volume	Rejected units
ABC123	AwkwardTender
AUCT-27	BatteryPark14
BatteryMcBatteryFace	Deckard1
FFR-XYZ-001	ESPEM-7
LJ3	HamsterWheel
NGRS-1	LJ1
NGRS-4	LJ2
NGRS-5	MatthaiEnergy
NGRS-6	NGRS-2
NGRS-7	NGRS-3
NWSTG-1	PowerEnergy001
PGFFR-1	TEST-01
ProtonPower	U11
STAN-1	Unit2
Unit1	WarpReactor43
UNIT-12	
WillenhallBattery	
ZYX-123	

For go-live, we will share reasons for rejection.

Learning points

Learning points

Key messages

- We bought all, or close to all, our requirement across the majority of EFA blocks. Often below the upper price limit of our buy order.
- A wide number of participants secured volume in the auction.
- Note: this was a mock auction and, as such, the results are not necessarily reflective of a live auction.

Consistent formatting

- Some units were rejected when run through the algorithm due to formatting issues. We also sorted and squeezed the sell orders manually in Excel, which allowed for some intervention, but this will not be the case for go-live.
- This has emphasised the importance of clear instructions and consistent formatting to prevent avoidable rejections.

Technology types

- We believe it will be valuable to reflect technology types within the results, to support increased transparency and information provision.

Important information - MW cap for providers

- We communicated last week that there would be a 30 MW cap at a provider level. This was to prevent market power situations in the 100 MW auction. However, acting upon feedback received from providers, we have reviewed this requirement.
- Instead, we will remove this cap at a provider level and have a unit cap of 20 MW (there is no limit on how many units providers are able to enter into the auction).
- We will however reserve the right to introduce a provider cap and remove the double-blind element of the auction trial should we see evidence of market power being abused, in order to maintain the integrity of the auction for all participants. This will be part of the learning we take from the trial.

Thank you for listening

The line will remain open until 12:00 - please submit your questions via Webex

There is also a Webex poll for your feedback

You can also contact us via futureofbalancingservices@nationalgrid.com

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