

IntraFlex

Phase 2 – Sub Tests Webinar

17th February 2021

Attendee Version



westernpower.co.uk/innovation



Outline

AGENDA ITEM	Duration
• Introduction	5 Mins
• Phase 2 Overview	5 Mins
• Onboarding and Customer Journey	5 Mins
• Sub Tests	
• Key Principles	5 Mins
• Tests 1 – 6 Detail	35 Mins
• Feedback	10 Mins
• Information Service	5 Mins
• NODES Platform Developments	5 Mins
• Questions	15 Mins



Introduction

1. Welcome from Stuart
2. Today's presenters
3. Feedback and Learning



We want your feedback

Today

- Please ask questions throughout the presentation
- Discuss your thoughts
- Open questions at the end of the session

After the event

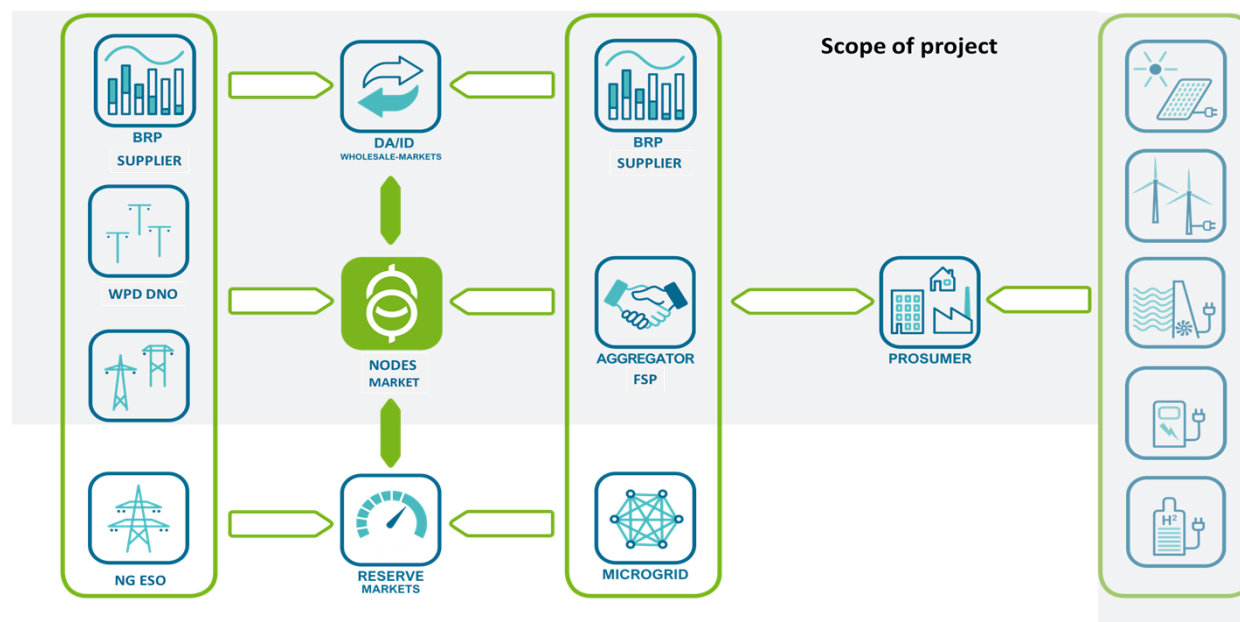
- Send feedback to : sfowler@westernpower.co.uk



IntraFlex

Project Overview

- The project builds on WPD's existing procurement of flexibility services through Flexible Power.
- IntraFlex aims to understand how to deliver a link between DNO procurement activity and Balance Responsible Party (BRP) imbalance positions.
- It will test a **short-term market** for DNO flexibility which actively **accounts for the imbalance it creates** in the electricity market.
- It is a £1.2m project (£0.89m NIA funded) and runs from October 19 to November 21. The project partners are NODES and SGC.



Slide 5

SE2 Could skip this slide, as Phase 1 participants should (hopefully) know this?
Sofia Eng, 04/02/2021

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Phase 2 Overview

The focus is on ramping up and delivering a larger trial in Spring 2021.

This Phase will focus on:

- Driving closer to a BaU behaviours with focus on peak demand delivery windows.
- Longer duration trial with more value on the platform
- Increased liquidity and hence competition.
- Active bids from providers to create competition on price rather than just speed.
- Platform and process improvements to make things simpler and easier to scale.
- BRP Information Service.



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Phase 2 Participant Journey - Onboarding

**Participants do need
to complete tasks 4, 5,
6**

Flexibility service providers who took part in Phase 1 do not need to re-register or re-sign the Membership Agreement. The updated Rulebook will be circulated.

Providers will be asked to confirm continued participation and participating assets via email to NODES.

4. Test Zero (End to End System testing)
5. Confirm Pre-Qualification
6. Asset Approval



Phase 2 Participant Journey – Timeline

Mid Jan '21 – Mid Feb '21

Registration Form

End Jan '21 - End Feb '21

Sign Agreement

Mid Jan '21 – Mid March '21

Build Technical Systems

Mid Jan '21 – End March '21

Test system access

Production system access

29th March '21 – 9th April '21

Test Zero

29th March '21 – 9th April '21

Pre-Qualification

12th April '21 – 23rd April '21

Asset Approval



26th April '21 – 31st August '21



Your feedback please!



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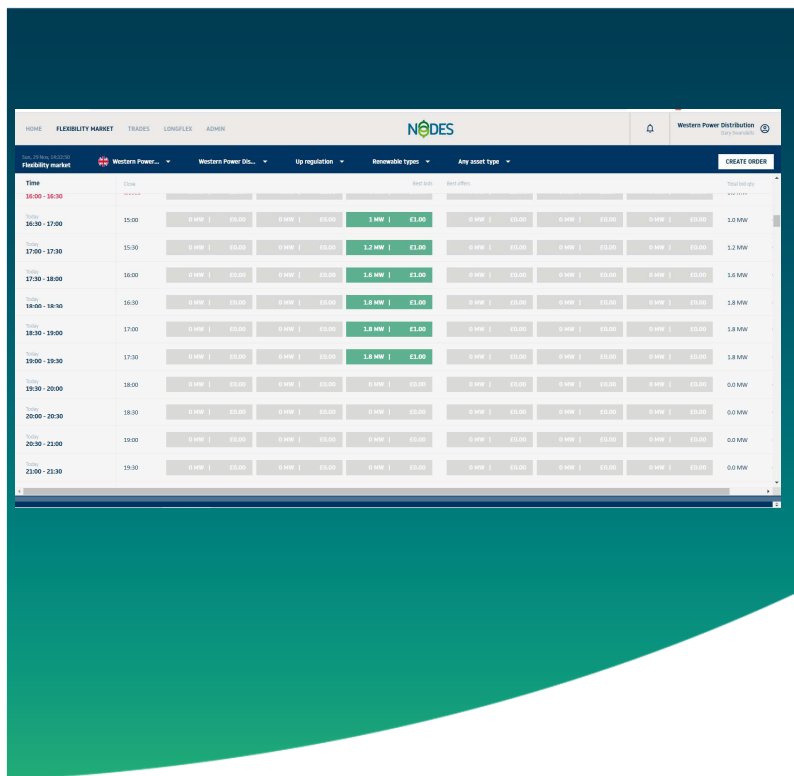
Phase 2 Sub Tests - Principles

Key Principals

- A BID is placed by WPD and shows the volume of flexibility that is required for which ½ hour period.
- An OFFER is placed by the participants to show the time and volume of flexibility that they have available and the £value they would like to offer this at per MWh.
- T-x refers to the number of days before delivery (T-7 means 7 days before delivery, T-6 means 6 days before delivery and so on).
- All bids will be posted at T-7 with a nominal £value but will show the volume required in the ½ hour period. This shows participants where WPD will require flexibility as prompt for pre offers to be posted.



Phase 2 Sub Tests - Principles



Time	Class	Best bid	Best offer	Total capacity
15:00 - 16:30	15:00	0 MW £0.00	0 MW £0.00	0.0 MW
16:30 - 17:00	15:30	0 MW £0.00	0 MW £0.00	0.0 MW
17:00 - 17:30	15:30	0 MW £0.00	0 MW £0.00	0.0 MW
17:30 - 18:00	16:00	0 MW £0.00	0 MW £0.00	0.0 MW
18:00 - 18:30	16:30	0 MW £0.00	0 MW £0.00	0.0 MW
18:30 - 19:00	17:00	0 MW £0.00	0 MW £0.00	0.0 MW
19:00 - 19:30	17:30	0 MW £0.00	0 MW £0.00	0.0 MW
19:30 - 20:00	18:00	0 MW £0.00	0 MW £0.00	0.0 MW
20:00 - 20:30	18:30	0 MW £0.00	0 MW £0.00	0.0 MW
20:30 - 21:00	19:00	0 MW £0.00	0 MW £0.00	0.0 MW
21:00 - 21:30	19:30	0 MW £0.00	0 MW £0.00	0.0 MW

- Initial Market information bids placed 7 days ahead.
- Volume requirements communicated to participants
- Positive confirmation of network assessment
- Participants pre offer their volumes with prices or respond to bids posted.
- WPD submits value of bids closer to real time (to be discussed later)
- Bids clear
- Remaining volume stays



Phase 2 Sub Tests - Principles

The Table below describes the evolution of the bidding mechanisms as the trial develops

Test	Market Opens	Gate Close	Bid Alerts	Bid Time	Bid Increment	Scarcity Pricing	Max Value	Weekend Offers	Weekend Bids
1	7 days	90 mins	✓	10am	single	✗	T-3 days	✓	✗
2	7 days	90 mins	✓	10am	linear	✗	T-3 days	✓	✗
3	7 days	90 mins	✓	variable	variable	✗	T-3 days	✓	✗
4	7 days	90 mins	✓	10am	linear	✓	T-3 days	✓	✗
5	7 days	90 mins	✓	10am	linear	✗	Intraday	✓	✗
6a	7 days	90 mins	✓	10am	linear	✓	intraday	✓	✗
6b	7 days	90 mins	✓	variable	variable	✓	intraday	✓	✗



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Phase 2 Sub Trials

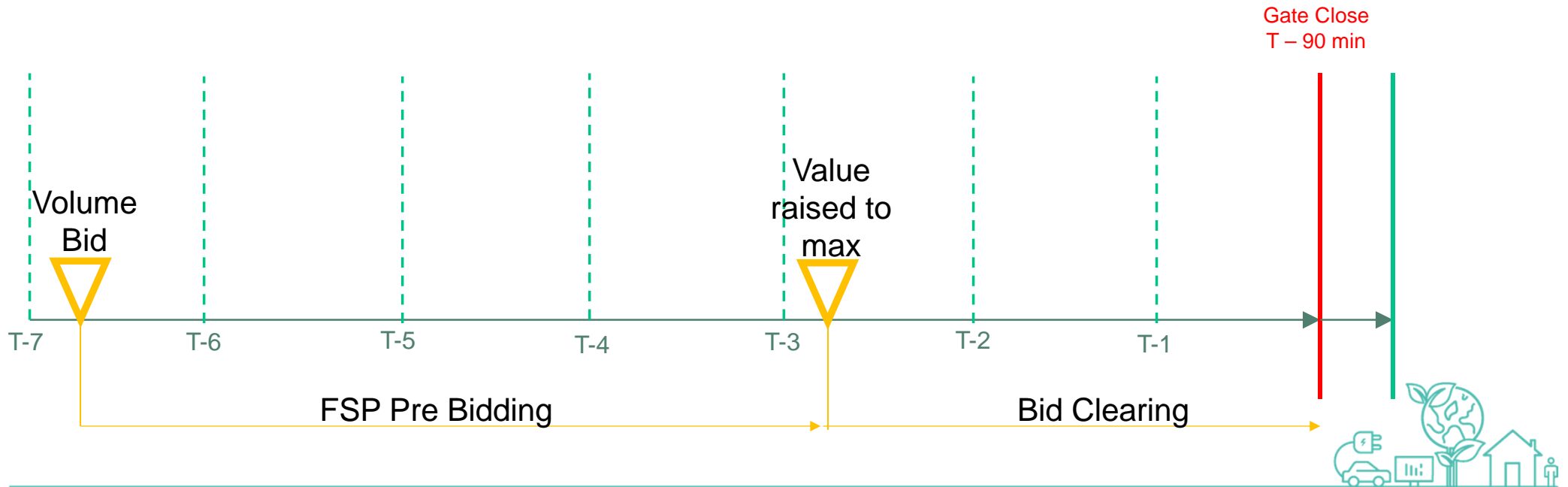


Test 1 (P2-T1) Simple Bidding 3 weeks

- ✓ Retain a predictable timing for all actions
- ✓ Rather than email notice of requirements bids only reflect volume
- ✓ System notifications of any activity
- ✓ Initial bid at T – 7 days with just volume at 10:00
- ✓ FSP submit offers when they are ready with baseline and asset availability
- ✓ Max bid value published at T - 3 days ahead at 10:00
- ✓ Uncleared bids remain to T – 90mins
- ✓ No Weekend Bids



P2-T1 Timeline



P2-T1 Platform Interaction



No Weekend Bids

PHASE 2 TEST 1	P2 T1 Week 1							P2 T1 Week 2						
	Sun-25-Apr	Mon-26-Apr	Tue-27-Apr	Wed-28-Apr	Thu-29-Apr	Fri-30-Apr	Sat-01-May	Sun-02-May	Mon-03-May	Tue-04-May	Wed-05-May	Thu-06-May	Fri-07-May	Sat-08-May
Bids Zero Value (T-7)		Mon wk. 2	Tue wk. 2	Wed wk. 2	Thur wk. 2	Fri wk. 2			Mon wk. 3	Tue wk. 3	Wed wk. 3	Thur wk. 3	Fri wk. 3	
Bids Max @£300 (T-3)						Mon wk. 2			Thur wk. 2	Fri wk. 2			Mon wk. 3	
Bid Delivery Day		Mon wk. 1	Tue wk. 1	Wed wk. 1	Thur wk. 1	Fri wk. 1			Mon wk. 2	Tue wk. 2	Wed wk. 2	Thur wk. 2	Fri wk. 2	



PHASE 2 TEST 1	P2 T1 Week 3							P2 T1 Week 4						
	Sun-09-May	Mon-10-May	Tue-11-May	Wed-12-May	Thu-13-May	Fri-14-May	Sat-15-May	Sun-16-May	Mon-17-May	Tue-18-May	Wed-19-May	Thu-20-May	Fri-21-May	Sat-22-May
Bids Zero Value (T-7)		Mon wk. 4	Tue wk. 4	Wed wk. 4	Thur wk. 4	Fri wk. 4			Mon P2T2 wk. 1	Tue P2T2 wk. 1	Wed P2T2 wk. 1	Thu P2T2 wk. 1	Fri P2T2 wk. 1	
Bids Max @£300 (T-3)		Thur wk. 3	Fri wk. 3			Mon wk. 4			P2 T1 Thur wk. 4	P2 T1 Fri wk. 4				
Bid Delivery Day		Mon wk. 3	Tue wk. 3	Wed wk. 3	Thur wk. 3	Fri wk. 3			Mon wk. 4	Tue wk. 4	Wed wk. 4	Thur wk. 4	Fri wk. 4	

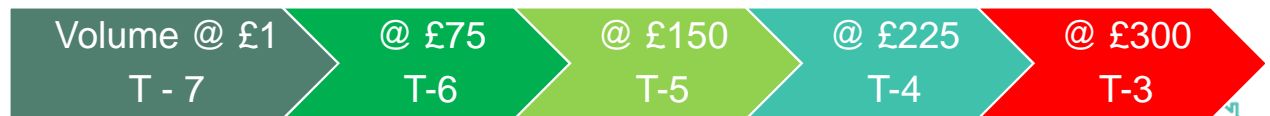


Phase 2 Sub Trials

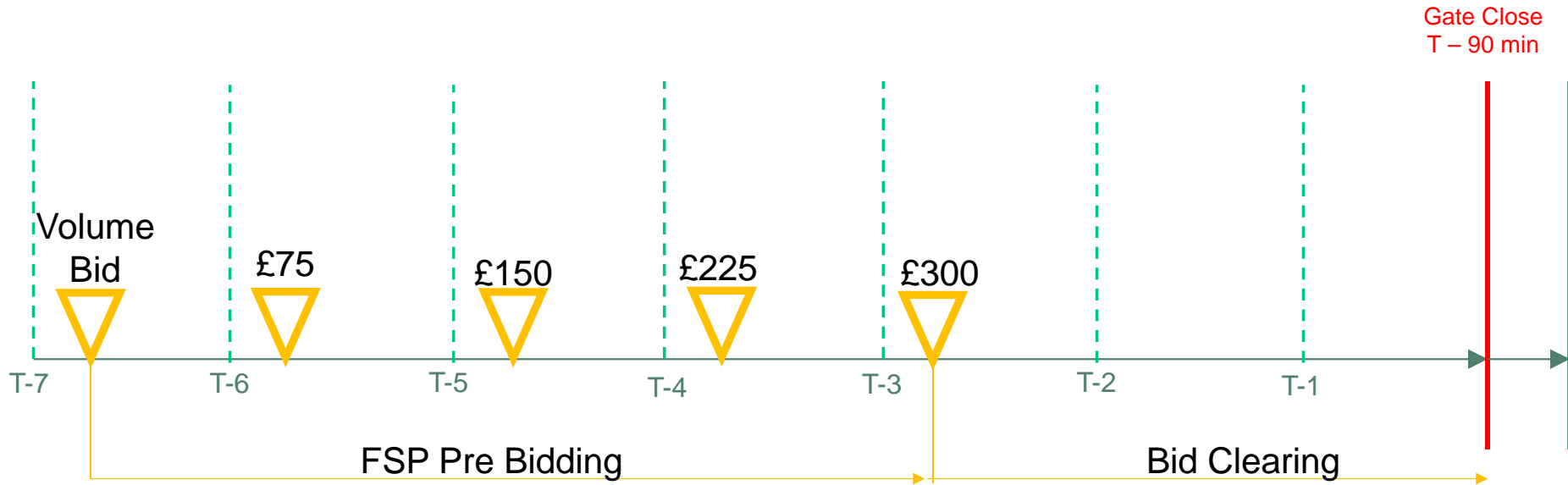


Test 2 (P2-T2) Introducing Increments 3 weeks

- ✓ Retain a predictable timing for all actions
- ✓ Initial bid at T – 7 days
- ✓ System notifications of any activity
- ✓ Fixed schedule for bid increments each day at set time
- ✓ Fixed increase in bid price increments.
- ✓ Max bid value reached by 3 days ahead
- ✓ No Weekend Bids



P2-T2 Timeline



P2-T2 Platform Interaction



No Weekend Bids

PHASE 2 TEST 2	P2 T1 Week 4							P2 T2 Week 1						
	Sun-16-May	Mon-17-May	Tue-18-May	Wed-19-May	Thu-20-May	Fri-21-May	Sat-22-May	Sun-23-May	Mon-24-May	Tue-25-May	Wed-26-May	Thu-27-May	Fri-28-May	Sat-29-May
Bids Zero Value (T-7)		Mon P2T2 wk 1	Tue P2T2 wk 1	Wed P2T2 wk 1	Thu P2T2 wk 1	Fri P2T2 wk 1			Mon P2T2 wk 2	Tue P2T2 wk 2	Wed P2T2 wk 2	Thu P2T2 wk 2	Fri P2T2 wk 2	
Bids Incremental @£75 (T-6)			Mon P2T2 wk 1	Tue P2T2 wk 1	Wed P2T2 wk 1	Thu P2T2 wk 1	Fri P2T2 wk 1			Mon P2T2 wk 2	Tue P2T2 wk 2	Wed P2T2 wk 2	Thu P2T2 wk 2	Fri P2T2 wk 2
Bids Incremental @£150 (T-5)				Mon P2T2 wk 1	Tue P2T2 wk 1	Wed P2T2 wk 1	Thu P2T2 wk 1	Fri P2T2 wk 1			Mon P2T2 wk 2	Tue P2T2 wk 2	Wed P2T2 wk 2	Thu P2T2 wk 2
Bids Incremental @£225 (T-4)					Mon P2T2 wk 1	Tue P2T2 wk 1	Wed P2T2 wk 1	Thu P2T2 wk 1	Fri P2T2 wk 1			Mon P2T2 wk 2	Tue P2T2 wk 2	Wed P2T2 wk 2
Bids Max @£300 (T-3)		P2 T1 Thur wk 4	P2 T1 Fri wk 4			Mon P2T2 wk 1			Thu P2T2 wk 1	Fri P2T2 wk 1			Mon P2T2 wk 2	
						Tue P2T2 wk 1	Tue P2T2 wk 1	Wed P2T2 wk 1					Tue P2T2 wk 2	Tue P2T2 wk 2
						Wed P2T2 wk 1							Wed P2T2 wk 2	Wed P2T2 wk 2
Bid Delivery Day		Mon P2T1 wk 4	Tue P2 T1 wk 4	Wed P2T1 wk 4	Thur P2T1 wk 4	Fri P2T1 wk 4			Mon P2T2 wk 1	Tue P2T2 wk 1	Wed P2T2 wk 1	Thu P2T2 wk 1	Fri P2T2 wk 1	

PHASE 2 TEST 2	P2 T2 Week 2							P2 T2 Week 3						
	Sun-30-May	Mon-31-May	Tue-01-Jun	Wed-02-Jun	Thu-03-Jun	Fri-04-Jun	Sat-05-Jun	Sun-06-Jun	Mon-07-Jun	Tue-08-Jun	Wed-09-Jun	Thu-10-Jun	Fri-11-Jun	Sat-12-Jun
Bids Zero Value (T-7)		Mon P2T2 wk 3	Tue P2T2 wk 3	Wed P2T2 wk 3	Thu P2T2 wk 3	Fri P2T2 wk 3								
Bids Incremental @£75 (T-6)			Mon P2T2 wk 3	Tue P2T2 wk 3	Wed P2T2 wk 3	Thu P2T2 wk 3	Fri P2T2 wk 3							
Bids Incremental @£150 (T-5)				Mon P2T2 wk 3	Tue P2T2 wk 3	Wed P2T2 wk 3	Thu P2T2 wk 3	Fri P2T2 wk 3						
Bids Incremental @£225 (T-4)			Fri P2T2 wk 2		Mon P2T2 wk 3	Tue P2T2 wk 3	Wed P2T2 wk 3	Thu P2T2 wk 3	Fri P2T2 wk 3					
Bids Max @£300 (T-3)						Mon P2T2 wk 3			Thu P2T2 wk 3	Fri P2T2 wk 3				
			Thu P2T2 wk 2	Fri P2T2 wk 2										
						Tue P2T2 wk 3	Tue P2T2 wk 3	Wed P2T2 wk 3						
Bid Delivery Day		Mon P2T2 wk 2	Tue P2T2 wk 2	Wed P2T2 wk 2	Thu P2T2 wk 2	Fri P2T2 wk 2			Mon P2T2 wk 3	Tue P2T2 wk 3	Wed P2T2 wk 3	Thu P2T2 wk 3	Fri P2T2 wk 3	



Phase 2 Sub Trials



Test 3 (P2-T3)

Variable increments at variable timing

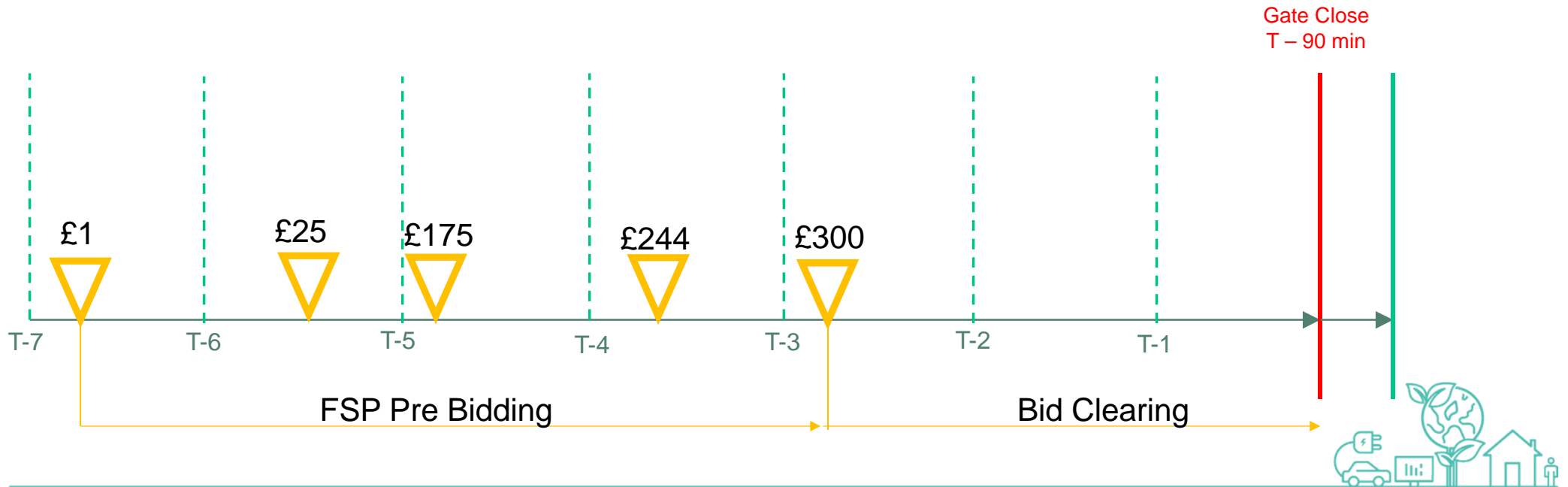
3 weeks

Further reduction in the structure of the bidding process encouraging FSPs to be more responsive to activity alerts from NODES system;

- ✓ Initial bid at T – 7 days
- ✓ System notifications of any activity
- ~~✗ Fixed schedule for bid increments each day at set time~~
- ~~✗ Fixed increase in bid value.~~
- ✓ Max bid value reached by 3 days ahead
- ✓ No Weekend Bids



P2-T3 Timeline



P2-T3 Platform Interaction



No Weekend Bids

PHASE 2 TEST 3	P2 T2 Week 3							P2 T3 Week 1						
	Sun-06-Jun	Mon-07-Jun	Tue-08-Jun	Wed-09-Jun	Thu-10-Jun	Fri-11-Jun	Sat-12-Jun	Sun-13-Jun	Mon-14-Jun	Tue-15-Jun	Wed-16-Jun	Thu-17-Jun	Fri-18-Jun	Sat-19-Jun
Bids Zero Value (T-7)		Mon P2T3 wk 1	Tue P2T3 wk 1	Wed P2T3 wk 1	Thu P2T3 wk 1	Fri P2T3 wk 1			Mon P2T3 wk 2	Tue P2T3 wk 2	Wed P2T3 wk 2	Thu P2T3 wk 2	Fri P2T3 wk 2	
Bids Incremental random			Mon P2T3 wk 1	Tue P2T3 wk 1	Wed P2T3 wk 1	Thu P2T3 wk 1	Fri P2T3 wk 1	Sat P2T3 wk 1		Mon P2T3 wk 2	Tue P2T3 wk 2	Wed P2T3 wk 2	Thu P2T3 wk 2	Fri P2T3 wk 2
Bids Incremental random				Mon P2T3 wk 1	Tue P2T3 wk 1	Wed P2T3 wk 1	Thu P2T3 wk 1	Fri P2T3 wk 1	Sat P2T3 wk 1		Mon P2T3 wk 2	Tue P2T3 wk 2	Wed P2T3 wk 2	Thu P2T3 wk 2
Bids Incremental random					Mon P2T3 wk 1	Tue P2T3 wk 1	Wed P2T3 wk 1	Thu P2T3 wk 1	Fri P2T3 wk 1			Mon P2T3 wk 2	Tue P2T3 wk 2	Wed P2T3 wk 2
Bids Max @£300 (T-3)						Mon P2T3 wk 1							Mon P2T3 wk 2	
						Tue P2T2 wk 1	Wed P2T3 wk 1	Wed P2T2 wk 1	Thu P2T3 wk 1	Fri P2T3 wk 1			Tue P2T3 wk 2	Thu P2T3 wk 2
						Wed P2T2 wk 1							Wed P2T3 wk 2	
Bid Delivery Day		Mon P2T2 wk 3	Tue P2T2 wk 3	Wed P2T2 wk 3	Thu P2T2 wk 3	Fri P2T2 wk 3			Mon P2T3 wk 1	Tue P2T3 wk 1	Wed P2T3 wk 1	Thu P2T3 wk 1	Fri P2T3 wk 1	

PHASE 2 TEST 3	P2 T3 Week 2							P2 T3 Week 3						
	Sun-20-Jun	Mon-21-Jun	Tue-22-Jun	Wed-23-Jun	Thu-24-Jun	Fri-25-Jun	Sat-26-Jun	Sun-27-Jun	Mon-28-Jun	Tue-29-Jun	Wed-30-Jun	Thu-01-Jul	Fri-02-Jul	Sat-03-Jul
Bids Zero Value (T-7)		Mon P2T3 wk 3	Tue P2T3 wk 3	Wed P2T3 wk 3	Thu P2T3 wk 3	Fri P2T3 wk 3								
Bids Incremental random			Mon P2T3 wk 3	Tue P2T3 wk 3	Wed P2T3 wk 3	Thu P2T3 wk 3	Fri P2T3 wk 3	Sat P2T3 wk 3						
Bids Incremental random	Thu P2T3 wk 1			Mon P2T3 wk 3	Tue P2T3 wk 3	Wed P2T3 wk 3	Thu P2T3 wk 3	Fri P2T3 wk 3	Sat P2T3 wk 3	Mon P2T3 wk 3				
Bids Incremental random	Thu P2T3 wk 2	Fri P2T3 wk 2			Mon P2T3 wk 3	Tue P2T3 wk 3	Wed P2T3 wk 3	Thu P2T3 wk 3	Fri P2T3 wk 3					
Bids Max @£300 (T-3)	Wed P2T3 wk 2	Thu P2T3 wk 2	Fri P2T3 wk 2			Mon P2T3 wk 3								
						Tue P2T3 wk 3	Wed P2T3 wk 3	Wed P2T3 wk 3	Thu P2T3 wk 3	Fri P2T3 wk 3				
						Wed P2T3 wk 3								
Bid Delivery Day		Mon P2T3 wk 2	Tue P2T3 wk 2	Wed P2T3 wk 2	Thu P2T3 wk 2	Fri P2T3 wk 2			Mon P2T3 wk 3	Tue P2T3 wk 3	Wed P2T3 wk 3	Thu P2T3 wk 3	Fri P2T3 wk 3	



Phase 2 Sub Trials



Test 4 (P2-T4) Scarcity Pricing model 3 weeks

Further reduction in the structure of the bidding process encouraging FSPs to be more responsive to activity alerts from NODES system;

- ✓ Initial bid at T – 7 days
- ✓ System notification of bid activity
- ✓ Price increments relative to volume requirement
- ✓ Max bid value reached by 3 days ahead
- ✓ No Weekend Bids

Power Requirement	T - 7	T - 6	T - 5	T - 4	T - 3
0.2 MW	Volume @ £1	@ £67.5	@ £135	@ £202.5	@ £270
0.8 MW	Volume @ £1	@ £75	@ £150	@ £225	@ £300
1.0 MW	Volume @ £1	@ £78.75	@ £157.5	@ £236.25	@ £315

P2-T4 Platform Interaction



No Weekend Bids

PHASE 2 TEST 4	P2 T3 Week 3							P2 T4 Week 1						
	Sun-27-Jun	Mon-28-Jun	Tue-29-Jun	Wed-30-Jun	Thu-01-Jul	Fri-02-Jul	Sat-03-Jul	Sun-04-Jul	Mon-05-Jul	Tue-06-Jul	Wed-07-Jul	Thu-08-Jul	Fri-09-Jul	Sat-10-Jul
Bids Zero Value (T-7)		Mon P2T4 wk 1	Tue P2T4 wk 1	Wed P2T4 wk 1	Thu P2T4 wk 1	Fri P2T4 wk 1			Mon P2T4 wk 2	Tue P2T4 wk 2	Wed P2T4 wk 2	Thu P2T4 wk 2	Fri P2T4 wk 2	
Bids Incremental 1 (T-6)			Mon P2T4 wk 1	Tue P2T4 wk 1	Wed P2T4 wk 1	Thu P2T4 wk 1	Fri P2T4 wk 1			Mon P2T4 wk 2	Tue P2T4 wk 2	Wed P2T4 wk 2	Thu P2T4 wk 2	Fri P2T4 wk 2
Bids Incremental 2 (T-5)				Mon P2T4 wk 1	Tue P2T4 wk 1	Wed P2T4 wk 1	Thu P2T4 wk 1	Fri P2T4 wk 1			Mon P2T4 wk 2	Tue P2T4 wk 2	Wed P2T4 wk 2	Thu P2T4 wk 2
Bids Incremental 3 (T-4)					Mon P2T4 wk 1	Tue P2T4 wk 1	Wed P2T4 wk 1	Thu P2T4 wk 1	Fri P2T4 wk 1			Mon P2T4 wk 2	Tue P2T4 wk 2	Wed P2T4 wk 2
Bids Max according to scarcity model (T-3)						Mon P2T4 wk 1							Mon P2T4 wk 2	
						Tue P2T4 wk 1	Tue P2T4 wk 1	Wed P2T4 wk 1	Thu P2T4 wk 1	Fri P2T4 wk 1			Tue P2T4 wk 2	Tue P2T4 wk 2
						Wed P2T4 wk 1							Wed P2T4 wk 2	Wed P2T4 wk 2
Bid Delivery Day		Mon P2T3 wk 3	Tue P2T3 wk 3	Wed P2T3 wk 3	Thu P2T3 wk 3	Fri P2T3 wk 3			Mon P2T4 wk 1	Tue P2T4 wk 1	Wed P2T4 wk 1	Thu P2T4 wk 1	Fri P2T4 wk 1	

PHASE 2 TEST 4	P2 T4 Week 2							P2 T4 Week 3						
	Sun-11-Jul	Mon-12-Jul	Tue-13-Jul	Wed-14-Jul	Thu-15-Jul	Fri-16-Jul	Sat-17-Jul	Sun-18-Jul	Mon-19-Jul	Tue-20-Jul	Wed-21-Jul	Thu-22-Jul	Fri-23-Jul	Sat-24-Jul
Bids Zero Value (T-7)		Mon P2T4 wk 3	Tue P2T4 wk 3	Wed P2T4 wk 3	Thu P2T4 wk 3	Fri P2T4 wk 3								
Bids Incremental 1 (T-6)			Mon P2T4 wk 3	Tue P2T4 wk 3	Wed P2T4 wk 3	Thu P2T4 wk 3	Fri P2T4 wk 3							
Bids Incremental 2 (T-5)	Fri P2T4 wk 2			Mon P2T4 wk 3	Tue P2T4 wk 3	Wed P2T4 wk 3	Thu P2T4 wk 3	Fri P2T4 wk 3						
Bids Incremental 3 (T-4)	Thu P2T4 wk 2	Fri P2T4 wk 2			Mon P2T4 wk 3	Tue P2T4 wk 3	Wed P2T4 wk 3	Thu P2T4 wk 3	Fri P2T4 wk 3					
Bids Max according to scarcity model (T-3)	Wed P2T2 wk 2	Thu P2T4 wk 2	Fri P2T4 wk 2			Mon P2T4 wk 3								
						Tue P2T4 wk 3	Tue P2T2 wk 3	Wed P2T2 wk 3	Thu P2T4 wk 3	Fri P2T4 wk 3				
						Wed P2T4 wk 3								
Bid Delivery Day		Mon P2T4 wk 2	Tue P2T4 wk 2	Wed P2T4 wk 2	Thu P2T4 wk 2	Fri P2T4 wk 2			Mon P2T4 wk 3	Tue P2T4 wk 3	Wed P2T4 wk 3	Thu P2T4 wk 3	Fri P2T4 wk 3	



Phase 2 Sub Trials



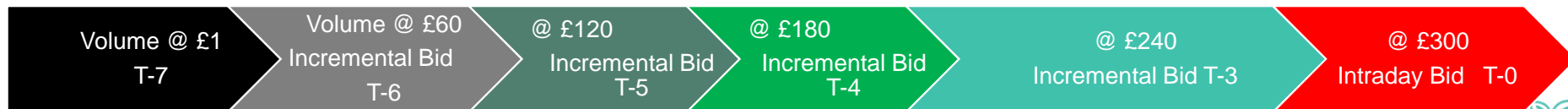
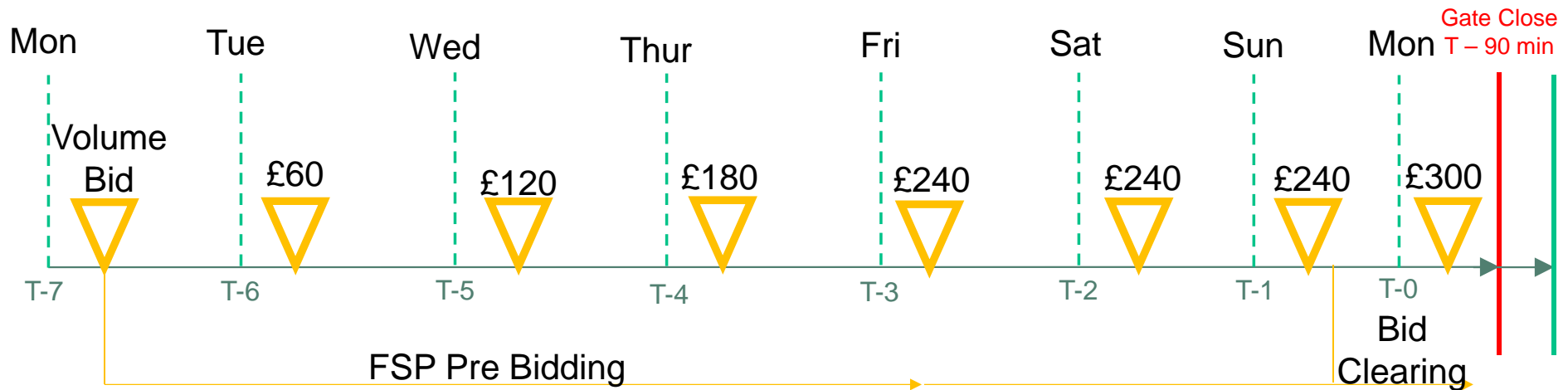
Test 5 (P2-T5) Intraday with Predictable Increments 3 weeks

Further reduction in the structure of the bidding process encouraging FSPs to be more responsive to activity alerts from NODES system;

- ✓ Initial bid at T – 7 days
- ✓ System notification of bid activity
- ✓ Fixed schedule for bid increments each day at set time
- ✓ Fixed increase in bid value.
- ✓ Max bid value only reached Intraday
- ✓ Bids will be focussed on early afternoon and evening
- ✓ No Weekend Bids



P2-T5 Timeline



P2-T5 Platform Interaction



No Weekend Bids

PHASE 2 TEST 5	P2 T4 Week 3							P2 T5 Week 1						
	Sun-18-Jul	Mon-19-Jul	Tue-20-Jul	Wed-21-Jul	Thu-22-Jul	Fri-23-Jul	Sat-24-Jul	Sun-25-Jul	Mon-26-Jul	Tue-27-Jul	Wed-28-Jul	Thu-29-Jul	Fri-30-Jul	Sat-31-Jul
Bids Zero Value (T-7)		Mon P2T5 wk 1	Tue P2T5 wk 1	Wed P2T5 wk 1	Thu P2T5 wk 1	Fri P2T5 wk 1			Mon P2T5 wk 2	Tue P2T5 wk 2	Wed P2T5 wk 2	Thu P2T5 wk 2	Fri P2T5 wk 2	
Incremental Bid 1 @£60/MWh			Mon P2T5 wk 1	Tue P2T5 wk 1	Wed P2T5 wk 1	Thu P2T5 wk 1			Fri P2T5 wk 1	Mon P2T5 wk 2	Tue P2T5 wk 2	Wed P2T5 wk 2	Thu P2T5 wk 2	
Incremental Bid 2 @£120/MWh				Mon P2T5 wk 1	Tue P2T5 wk 1	Wed P2T5 wk 1			Thu P2T5 wk 1	Fri P2T5 wk 1	Mon P2T5 wk 2	Tue P2T5 wk 2	Wed P2T5 wk 2	
Incremental Bid 3 @£180/MWh					Mon P2T5 wk 1	Tue P2T5 wk 1			Wed P2T5 wk 1	Thu P2T5 wk 1	Fri P2T5 wk 1	Mon P2T5 wk 2	Tue P2T5 wk 2	
Incremental Bid 4 @£240/MWh						Mon P2T5 wk 1			Tue P2T5 wk 1	Wed P2T5 wk 1	Thu P2T5 wk 1	Fri P2T5 wk 1	Mon P2T5 wk 2	
Final Max Bid at Intraday (Before 10:00) @£300MWh									Mon P2T5 wk 1	Tue P2T5 wk 1	Wed P2T5 wk 1	Thu P2T5 wk 1	Fri P2T5 wk 1	Mon P2T5 wk 2
Bid Delivery Day		Mon P2T4 wk 3	Tue P2T4 wk 3	Wed P2T4 wk 3	Thu P2T4 wk 3	Fri P2T4 wk 3			Mon P2T5 wk 1	Tue P2T5 wk 1	Wed P2T5 wk 1	Thu P2T5 wk 1	Fri P2T5 wk 1	

PHASE 2 TEST 5	P2 T5 Week 2							P2 T5 Week 3						
	Sun-01-Aug	Mon-02-Aug	Tue-03-Aug	Wed-04-Aug	Thu-05-Aug	Fri-06-Aug	Sat-07-Aug	Sun-08-Aug	Mon-09-Aug	Tue-10-Aug	Wed-11-Aug	Thu-12-Aug	Fri-13-Aug	Sat-14-Aug
Bids Zero Value (T-7)		Mon P2T5 wk 3	Tue P2T5 wk 3	Wed P2T5 wk 3	Thu P2T5 wk 3	Fri P2T5 wk 3								
Incremental Bid 1 @£60/MWh		Fri P2T5 wk 2	Mon P2T5 wk 3	Tue P2T5 wk 3	Wed P2T5 wk 3	Thu P2T5 wk 3			Fri P2T5 wk 3					
Incremental Bid 2 @£120/MWh		Thu P2T5 wk 2	Fri P2T5 wk 2	Mon P2T5 wk 3	Tue P2T5 wk 3	Wed P2T5 wk 3			Thu P2T5 wk 3	Fri P2T5 wk 3				
Incremental Bid 3 @£180/MWh		Wed P2T5 wk 2	Thu P2T5 wk 2	Fri P2T5 wk 2	Mon P2T5 wk 3	Tue P2T5 wk 3			Wed P2T5 wk 3	Thu P2T5 wk 3	Fri P2T5 wk 3			
Incremental Bid 4 @£240/MWh		Tue P2T5 wk 2	Wed P2T5 wk 2	Thu P2T5 wk 2	Fri P2T5 wk 2	Mon P2T5 wk 3			Tue P2T5 wk 3	Wed P2T5 wk 3	Thu P2T5 wk 3	Fri P2T5 wk 3		
Final Max Bid at Intraday (Before 10:00) @£300MWh		Mon P2T5 wk 2	Tue P2T5 wk 2	Wed P2T5 wk 2	Thu P2T5 wk 2	Fri P2T5 wk 2			Mon P2T5 wk 3	Tue P2T5 wk 3	Wed P2T5 wk 3	Thu P2T5 wk 3	Fri P2T5 wk 3	
Bid Delivery Day		Mon P2T5 wk 2	Tue P2T5 wk 2	Wed P2T5 wk 2	Thu P2T5 wk 2	Fri P2T5 wk 2			Mon P2T5 wk 3	Tue P2T5 wk 3	Wed P2T5 wk 3	Thu P2T5 wk 3	Fri P2T5 wk 3	



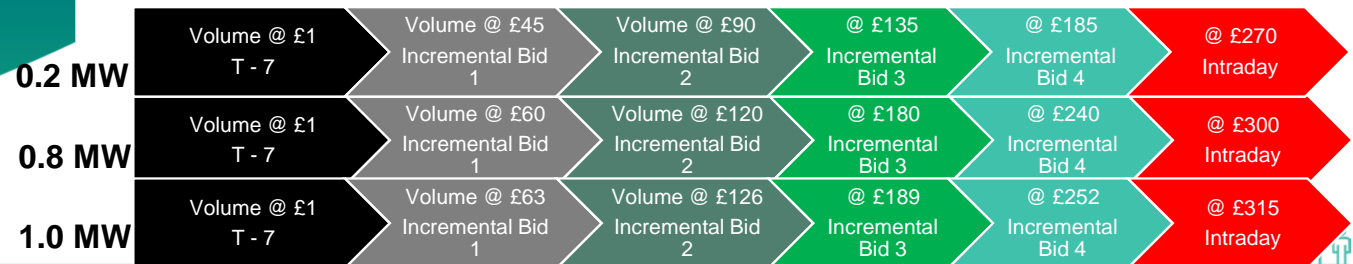
Phase 2 Sub Trials



Test 6 (P2-T6a) Intraday Scarcity Bids 3 weeks

Further reduction in the structure of the bidding process encouraging FSPs to be more responsive to activity alerts from NODES system;

- ✓ Initial bid at T – 7 days
- ✓ System notification of bid activity
- ✓ Fixed schedule for bid increments each day at set time
- ~~✗ Fixed increase in bid value~~
- ✓ Max bid value only reached Intraday
- ✓ No Weekend Bids



P2-T6a Platform Interaction



No Weekend Bids

PHASE 2 TEST 6a	P2 T5 Week 3							P2 T6a Week 1						
	Sun-08-Aug	Mon-09-Aug	Tue-10-Aug	Wed-11-Aug	Thu-12-Aug	Fri-13-Aug	Sat-14-Aug	Sun-15-Aug	Mon-16-Aug	Tue-17-Aug	Wed-18-Aug	Thu-19-Aug	Fri-20-Aug	Sat-21-Aug
Bids Zero Value (T-7)		Mon P2T6a wk 1	Tue P2T6a wk 1	Wed P2T6a wk 1	Thu P2T6a wk 1	Fri P2T6a wk 1			Mon P2T6a wk 2	Tue P2T6a wk 2	Wed P2T6a wk 2	Thu P2T6a wk 2	Fri P2T6a wk 2	
Incremental Bid 1 @ £/MWh Set by scarcity model			Mon P2T6a wk 1	Tue P2T6a wk 1	Wed P2T6a wk 1	Thu P2T6a wk 1			Fri P2T6a wk 1	Mon P2T6a wk 2	Tue P2T6a wk 2	Wed P2T6a wk 2	Thu P2T6a wk 2	
Incremental Bid 2 @ £/MWh Set by scarcity model				Mon P2T6a wk 1	Tue P2T6a wk 1	Wed P2T6a wk 1			Thu P2T6a wk 1	Fri P2T6a wk 1	Mon P2T6a wk 2	Tue P2T6a wk 2	Wed P2T6a wk 2	
Incremental Bid 3 @ £/MWh Set by scarcity model					Mon P2T6a wk 1	Tue P2T6a wk 1			Wed P2T6a wk 1	Thu P2T6a wk 1	Fri P2T6a wk 1	Mon P2T6a wk 2	Tue P2T6a wk 2	
Incremental Bid 4 @ £/MWh Set by scarcity model						Mon P2T6a wk 1			Tue P2T6a wk 1	Wed P2T6a wk 1	Thu P2T6a wk 1	Fri P2T6a wk 1	Mon P2T6a wk 2	
Final Max Bid at Intraday (Before 10:00) @ £/MWh Set by scarcity model									Mon P2T6a wk 1	Tue P2T6a wk 1	Wed P2T6a wk 1	Thu P2T6a wk 1	Fri P2T6a wk 1	
Bid Delivery Day		Mon P2T5 wk 3	Tue P2T5 wk 3	Wed P2T5 wk 3	Thu P2T5 wk 3	Fri P2T5 wk 3			Mon P2T6a wk 1	Tue P2T6a wk 1	Wed P2T6a wk 1	Thu P2T6a wk 1	Fri P2T6a wk 1	

PHASE 2 TEST 6a	P2 T6a Week 2							P2 T6a Week 3						
	Sun-22-Aug	Mon-23-Aug	Tue-24-Aug	Wed-25-Aug	Thu-26-Aug	Fri-27-Aug	Sat-28-Aug	Sun-29-Aug	Mon-30-Aug	Tue-31-Aug	Wed-01-Sep	Thu-02-Sep	Fri-03-Sep	Sat-04-Sep
Bids Zero Value (T-7)		Mon P2T6a wk 3	Tue P2T6a wk 3	Wed P2T6a wk 3	Thu P2T6a wk 3	Fri P2T6a wk 3								
Incremental Bid 1 @ £/MWh Set by scarcity model		Fri P2T6a wk 2	Mon P2T6a wk 3	Tue P2T6a wk 3	Wed P2T6a wk 3	Thu P2T6a wk 3			Fri P2T6a wk 3					
Incremental Bid 2 @ £/MWh Set by scarcity model		Thu P2T6a wk 2	Fri P2T6a wk 2	Mon P2T6a wk 3	Tue P2T6a wk 3	Wed P2T6a wk 3			Thu P2T6a wk 3	Fri P2T6a wk 3				
Incremental Bid 3 @ £/MWh Set by scarcity model		Wed P2T6a wk 2	Thu P2T6a wk 2	Fri P2T6a wk 2	Mon P2T6a wk 3	Tue P2T6a wk 3			Wed P2T6a wk 3	Thu P2T6a wk 3	Fri P2T6a wk 3			
Incremental Bid 4 @ £/MWh Set by scarcity model		Tue P2T6a wk 2	Wed P2T6a wk 2	Thu P2T6a wk 2	Fri P2T6a wk 2	Mon P2T6a wk 3			Tue P2T6a wk 3	Wed P2T6a wk 3	Thu P2T6a wk 3	Fri P2T6a wk 3		
Final Max Bid at Intraday (Before 10:00) @ £/MWh Set by scarcity model		Mon P2T6a wk 2	Tue P2T6a wk 2	Wed P2T6a wk 2	Thu P2T6a wk 2	Fri P2T6a wk 2			Mon P2T6a wk 3	Tue P2T6a wk 3	Wed P2T6a wk 3	Thu P2T6a wk 3	Fri P2T6a wk 3	
Bid Delivery Day		Mon P2T6a wk 2	Tue P2T6a wk 2	Wed P2T6a wk 2	Thu P2T6a wk 2	Fri P2T6a wk 2			Mon P2T6a wk 3	Tue P2T6a wk 3	Wed P2T6a wk 3	Thu P2T6a wk 3	Fri P2T6a wk 3	



Phase 2 Sub Trials



Test 6 (P2-T6b) Intraday Scarcity Bids 3 weeks

Further reduction in the structure of the bidding process encouraging FSPs to be more responsive to activity alerts from NODES system;

- ✓ Initial bid at T – 7 days
- ✓ System notification of bid activity
- ~~✗ Fixed schedule for bid increments each day at set time~~
- ~~✗ Fixed increase in bid value.~~
- ✓ Max bid value only reached Intraday
- ✓ No Weekend Bids



P2-T6b Platform Interaction



No Weekend Bids

PHASE 2 TEST 6b	P2 T6a Week 3							P2 T6b Week 1						
	Sun-08-Aug	Mon-09-Aug	Tue-10-Aug	Wed-11-Aug	Thu-12-Aug	Fri-13-Aug	Sat-14-Aug	Sun-15-Aug	Mon-16-Aug	Tue-17-Aug	Wed-18-Aug	Thu-19-Aug	Fri-20-Aug	Sat-21-Aug
Bids Zero Value (T-7)		Mon P2T6b wk 1	Tue P2T6b wk 1	Wed P2T6b wk 1	Thu P2T6b wk 1	Fri P2T6b wk 1			Mon P2T6b wk 2	Tue P2T6b wk 2	Wed P2T6b wk 2	Thu P2T6b wk 2	Fri P2T6b wk 2	
Random Incremental Bid @ £/MWh Set by scarcity model			Mon P2T6b wk 1	Tue P2T6b wk 1	Wed P2T6b wk 1	Thu P2T6b wk 1			Fri P2T6b wk 1	Mon P2T6b wk 2	Tue P2T6b wk 2	Wed P2T6b wk 2	Thu P2T6b wk 2	
Random Incremental Bid @ £/MWh Set by scarcity model				Mon P2T6b wk 1	Tue P2T6b wk 1	Wed P2T6b wk 1			Thu P2T6b wk 1	Fri P2T6b wk 1	Mon P2T6b wk 2	Tue P2T6b wk 2	Wed P2T6b wk 2	
Random Incremental Bid @ £/MWh Set by scarcity model					Mon P2T6b wk 1	Tue P2T6b wk 1			Wed P2T6b wk 1	Thu P2T6b wk 1	Fri P2T6b wk 1	Mon P2T6b wk 2	Tue P2T6b wk 2	
Random Incremental Bid @ £/MWh Set by scarcity model						Mon P2T6b wk 1			Tue P2T6b wk 1	Wed P2T6b wk 1	Thu P2T6b wk 1	Fri P2T6b wk 1	Mon P2T6b wk 2	
Final Max Bid at Intraday (Before 10:00) @ £/MWh Set by scarcity model									Mon P2T6b wk 1	Tue P2T6b wk 1	Wed P2T6b wk 1	Thu P2T6b wk 1	Fri P2T6b wk 1	
Bid Delivery Day		Mon P2T5 wk 3	Tue P2T5 wk 3	Wed P2T5 wk 3	Thu P2T5 wk 3	Fri P2T5 wk 3			Mon P2T6b wk 1	Tue P2T6b wk 1	Wed P2T6b wk 1	Thu P2T6b wk 1	Fri P2T6b wk 1	

PHASE 2 TEST 6b	P2 T6b Week 2							P2 T6b Week 3						
	Sun-22-Aug	Mon-23-Aug	Tue-24-Aug	Wed-25-Aug	Thu-26-Aug	Fri-27-Aug	Sat-28-Aug	Sun-29-Aug	Mon-30-Aug	Tue-31-Aug	Wed-01-Sep	Thu-02-Sep	Fri-03-Sep	Sat-04-Sep
Bids Zero Value (T-7)		Mon P2T6b wk 3	Tue P2T6b wk 3	Wed P2T6b wk 3	Thu P2T6b wk 3	Fri P2T6b wk 3								
Random Incremental Bid @ £/MWh Set by scarcity model		Fri P2T6b wk 2	Mon P2T6b wk 3	Tue P2T6b wk 3	Wed P2T6b wk 3	Thu P2T6b wk 3			Fri P2T6b wk 3					
Random Incremental Bid @ £/MWh Set by scarcity model		Thu P2T6b wk 2	Fri P2T6b wk 2	Mon P2T6b wk 3	Tue P2T6b wk 3	Wed P2T6b wk 3			Thu P2T6b wk 3	Fri P2T6b wk 3				
Random Incremental Bid @ £/MWh Set by scarcity model		Wed P2T6b wk 2	Thu P2T6b wk 2	Fri P2T6b wk 2	Mon P2T6b wk 3	Tue P2T6b wk 3			Wed P2T6b wk 3	Thu P2T6b wk 3	Fri P2T6b wk 3			
Random Incremental Bid @ £/MWh Set by scarcity model		Tue P2T6b wk 2	Wed P2T6b wk 2	Thu P2T6b wk 2	Fri P2T6b wk 2	Mon P2T6b wk 3			Tue P2T6b wk 3	Wed P2T6b wk 3	Thu P2T6b wk 3	Fri P2T6b wk 3		
Final Max Bid at Intraday (Before 10:00) @ £/MWh Set by scarcity model		Mon P2T6b wk 2	Tue P2T6b wk 2	Wed P2T6b wk 2	Thu P2T6b wk 2	Fri P2T6b wk 2			Mon P2T6b wk 3	Tue P2T6b wk 3	Wed P2T6b wk 3	Thu P2T6b wk 3	Fri P2T6b wk 3	
Bid Delivery Day		Mon P2T6b wk 2	Tue P2T6b wk 2	Wed P2T6b wk 2	Thu P2T6b wk 2	Fri P2T6b wk 2			Mon P2T6b wk 3	Tue P2T6b wk 3	Wed P2T6b wk 3	Thu P2T6b wk 3	Fri P2T6b wk 3	



Outline

AGENDA ITEM	Duration
• Introduction	5 Mins
• Phase 2 Overview	5 Mins
• Onboarding and Customer Journey	5 Mins
• Sub Tests	
• Key Principles	5 Mins
• Tests 1 – 6 Detail	35 Mins
• Feedback	10 Mins
• Information Service	5 Mins
• NODES Platform Developments	5 Mins
• Questions	15 Mins



Phase 2: Participants Trial Plan Check In

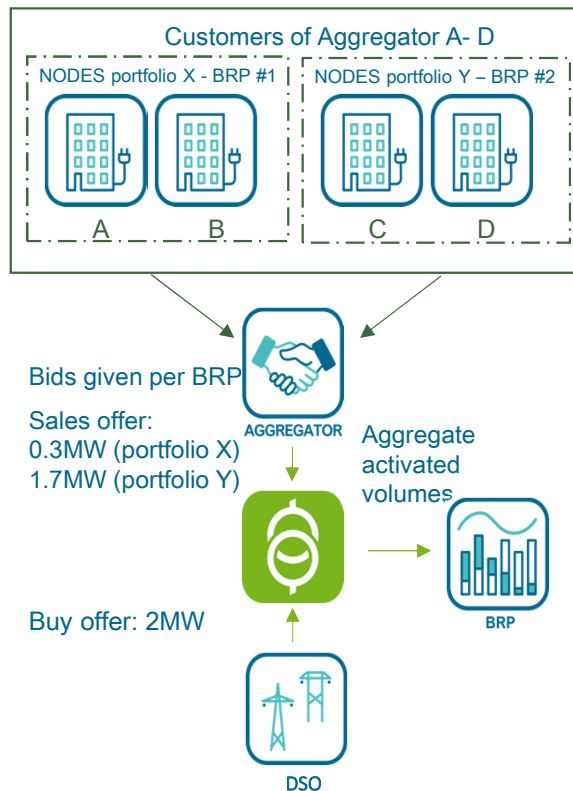
- Are there any perceived issues with this trial plan?
- Weekend Bids?
- Any other comments?

Outline

AGENDA ITEM	Duration
• Introduction	5 Mins
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• Onboarding and Customer Journey	5 Mins
• Sub Tests	
• Key Principles	5 Mins
• Tests 1 – 6 Detail	35 Mins
• Feedback	10 Mins
• Information Service	5 Mins
• NODES Platform Developments	5 Mins
• Questions	15 Mins



Phase 2 – Optional BRP Information Service



- Seeks to enable BRPs to better manage volume impact of DNO procuring flexibility from independent aggregator. I.e. BRP can avoid potential imbalance charges/better optimise its position.
- Entirely optional. Both BRP and the relevant aggregator need to be part of the trial.
- BRP gets view of traded volumes per half hour that impact it, on an anonymous basis.



Outline

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• Feedback	10 Mins
• Information Service	5 Mins
• NODES Platform Developments	5 Mins
• Questions	15 Mins



Phase 2 Initiatives: NODES Platform Developments

Initiatives – Placing, editing and viewing orders

✓ All or Nothing	✓ Ability to post orders for multiple delivery periods via UI	✓ Pricing in £/MWh
✓ Ability to Edit orders	✓ Improved notifications when WPD places bids	✓ UI tweaks to flexibility market view (sorting by date, price, volume)
✓ No asset – no order restriction	✓ No baseline – no order restriction	

Initiatives – Operational processes

✓ More regular settlement reports	✓ Improved processes around unexpected downtime	✓ Utility Contract Regulation (UCR) compliance
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Phase 2 Initiatives: NODES Platform Developments

Also being considered - if not for Phase 2 then in the long run

✓ Full settlement reports available via platform

✓ Further tweaks to UI

Initiative – Clarifications in UI and Operational Guide

✓ Clarifications around time zone, e.g. GMT or BST or UTC

✓ Clarification that dispatch notifications apply to trades entered into after setting is changed



Outline

AGENDA ITEM	Duration
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• Sub Tests	
• Key Principles	5 Mins
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• Feedback	10 Mins
• Information Service	5 Mins
• NODES Platform Developments	5 Mins
• Questions	15 Mins



IntraFlex

Questions



Questions from Attendees

- 1) Is the new pre-qualification form (and the other Utility Contract Regulation changes you are introducing) similar to Dynamic Purchase Systems (DPS) that the Energy Networks Association (ENA) refer to in their flexibility procurement work?
 - ✓ *Yes. The process is that flexibility service providers pre-qualify by signing the Membership Agreement with NODES and by undertaking a test trade, which demonstrates that the participant is ready to act on NODES platform and can submit metering values to the metering system. After the test trade the flexibility service provider then submits the pre-qualification form where they confirm that relevant pre-requisites are met.*
 - ✓ *After this the participant becomes part of a pool of qualified parties. WPD then enters into an agreement with the pre-qualified parties when WPD accepts the participant's first asset on the platform, which is reflected in the updated Rulebook. Transactions between WPD and the provider take place under that agreement.*

- 2) Will the value of bids be greater than £300 MWH
 - ✓ *Possibly during test 4 as this is using a volume scarcity pricing model which may push the bid value slightly over the £300 MWH.*



Questions from Attendees

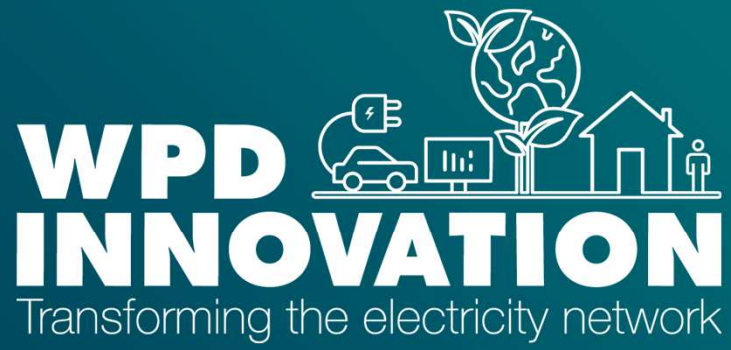
- 3) Why would there be a need to vary the change to bid posting times as seen in test 3.
 - ✓ *This has been put in as a tool that can be used if it becomes apparent that offers are being placed to game the system. By varying the posting times this introduces jeopardy for the FSP that any gaming offer placed could be cleared.*
- 4) How will the FSP be notified if an offer has been accepted.
 - ✓ *There will be a successful trade notification and there is the option when placing the order to get the platform to send multiple notifications at differing number of days/hours/minutes before the delivery window.*
- 5) Can alternative Baselines been uploaded via the Api
 - ✓ Yes they can please liaise with Sofia at NODES

Recording of Webinar

- Below is the link to the recording of the webinar if you need to review again.

<https://transcripts.gotomeeting.com/#/s/767cb1f815603964b9bf97a3d55d941532393676773cf88eb9f0b6c588d0e666>





THANK YOU FOR YOUR PARTICIPATION



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