



5MS Dispatch Focus Group

Friday 15th February 2019

AEMO Office, LEVEL 2, 20 BOND STREET, SYDNEY

Agenda

NO	TIME	AGENDA ITEM	RESPONSIBLE
Preliminary Matters			
1	10:00am – 10:10am	Welcome, introduction and apologies	Michael Sanders (AEMO)
Matters for Discussion			
2	10:10am – 10:30am	Notes and actions from previous meeting	Michael Sanders, Hamish McNeish, Emily Brodie (AEMO)
3	10:30am – 10:50am	Bid file submission document	Hamish McNeish (AEMO)
4	10:50am – 11:05am	Spot market operations timetable	Michael Sanders (AEMO)
5	11:05am - 11:50am	Dispatch and Bidding Data Model	Hamish McNeish (AEMO)
6	11:50am – 12:30pm	LUNCH	
7	12:30pm – 1:30pm	Web user interface development	Pierre Fromager (AEMO)
Other Business			
8	1:30pm – 1:45pm	General questions and next steps	Michael Sanders & Hamish McNeish (AEMO)

Notes and actions from previous meeting

AEMO

Actions from previous meeting (1)

27 November 2018, Melbourne

Action	Responsible	Due date	Response
AEMO to investigate and communicate how long it takes to publish data	AEMO	14 December 2018	Presented at SWG (31 January)
AEMO to consult on software release approach.	AEMO	December 2018	This will be discussed in a subsequent SWG.
AEMO to provide a sandbox timeline and scope	AEMO	January 2019	Timeline provided. To be presented in Feb SWG.
Participants to provide cost impacts of dispatch instruction timing under 5MS.	Participants	31 December 2018	Closed.
Review and update web user interface design for next round of consultation	AEMO	February 2019	To be discussed at this meeting

AEMO feedback on items from prior meetings (1)

- 5MS implementation rule change request:
 - AEMO will submit a rule change request to the AEMC in February asking:
 - MLF calculation basis to remain at 30 min with flexibility to reduce granularity if there is a future case to do so
 - Fast start inflexibility profiles to be included in 5-minute pre-dispatch
 - Relax consultation requirements for the spot market operations timetable
- ST PASA update:
 - Intent is to use the lowest availability interval in a 30-m period
 - Investigating impact on design

AEMO feedback on items from prior meetings (2)

- Five-minute pre-dispatch update
 - P5 is now mandated by the rules (“pre-dispatch for each trading interval”)
 - P5 will run every 5 minutes covering at least 1 hour (12 x 5-minute intervals)
 - The effective bids and offers for each 5-minute trading period covered are used in the P5 process.
 - The P5 pre-dispatch XML solution file may change
 - Based on industry feedback and internal discussion AEMO aims to:
 - Extend the schedule to 6 hours
 - Calculate price sensitivities
 - Include daily energy constraints
 - Include fast start inflexibility profiles (FSIP)
- Next Steps – raising a change request and assessing project impacts

Bid file submission

Hamish McNeish

Bid file submission - Recap

- Changes
 - Bids will be submitted in a new JSON format
 - Acknowledgements will be in a new JSON format
 - Bids are offered for 288 5-minute periods
 - Rebid explanation requires time of event/occurrence to be provided as a separate field, support for additional fields has been added for “rebid category” and “time of decision”
 - 0 fixed load treatment changes – to mean 0 not no fixed load
 - Rebid reason should be completed as per the AER rebidding guidelines
 - The current TXT format will be retired from the rules commencement
- Supported Submission Methods
 - FTP
 - Web UI
 - Web Upload (potential CSV support)
 - API

Bid file submission – Next Steps

- An initial draft of the format and submission process has been issued in the Tech Spec
- We are currently reviewing the format against:
 - Simplifying price and availability arrays
 - Providing a JSON schema that can be used by participants
 - Reviewing MNSP and batteries bid structure
 - Testing of the JSON format and schema processing for performance
 - Confirmation from the AER on rebid field names
- The format will be provided in the draft Bidding Format Document this month, we will then seek feedback on this document
- The Bidding Format Document will replace the existing:
Energy -MNSP-FCAS Bid File Submission document.

<http://www.aemo.com.au/-/media/Files/PDF/Participant-Input-Interface-EnergyMNSPFCAS-Bid-File-Submission.pdf>

Spot market operations timetable

Michael Sanders

Spot Market Operations Timetable Consultation

- The Spot Market Operations Timetable specifies the schedule for:
 - Operating the spot market
 - Publishing market information
- National Electricity Amendment (Five-Minute Settlement) Rule 2017 No.15 mandates five-minute pre-dispatch
- AEMO believes this requires a change to the timetable
- NER 3.4.3 requires a Rules consultation before the timetable can be changed
- AEMO does not expect the consultation to be complicated because the contents of the timetable are based on the contents of the Rules
- An issues paper and draft timetable will be published in Q1 2019

Dispatch and Bidding Data Model

Hamish McNeish

Dispatch and Bidding Data Model

- Recap

- The current FTP and CSV delivery mechanism (batcher/loader) remains unchanged
- We are progressively updating the EMMS 5MS Technical Specification
- The bidding data model changes have been released in the draft Technical Specification
- We will discuss the planned review process at the SWG on 18th Feb
- We will look to have a set review period for issued Draft and Final documents.
- The timeline for the P5 required data model changes is not yet confirmed

PACKAGE: BIDS – for discussion (1)

Package	Table name	Change	Details
BIDS	BIDOFFERFILETRK	New fields	Add: TRANSACTIONID REFERENCEID COMMENT VERSION
	BIDDAYOFFER	New fields	Add new rebid fields: REBIDEVENTTIME REBIDAWARETIME REBIDCATEGORY
	BIDPEROFFER	Deprecated	Stores 30-minute bid interval data
	BIDPEROFFER5	New table	Stores 5-minute bid interval data Child table to BIDDAYOFFER

PACKAGE: BIDS – for discussion (2)

Package	Table name	Change	Details
BIDS	MNSP_DAYOFFER	Added fields	Add new rebid fields: REBIDEVENTTIME REBIDAWARETIME REBIDCATEGORY
	MNSP_PEROFFER	Deprecated	Stores 30-minute bid interval data
	MNSP_PEROFFER5	New table	Stores 5-minute bid interval data Child table to MNSP_DAYOFFER
	BIDDAYOFFER_D	Deprecated	Can be replaced by a query joining DISPATCHBIDTRK and BIDDAYOFFER
	BIDPEROFFER_D	Deprecated	Can be replaced by a query joining DISPATCHBIDTRK, BIDDAYOFFER and BIDPEROFFER

PACKAGE: BIDS – proposed (1)

BIDOFFERFILETRK – New Fields

Field Name	Data type	Comment
TRANSACTIONID	VARCHAR2(32)	A GUID used to identify the submission transaction in AEMOs systems
REFERENCEID	VARCHAR2(32)	A participant provided reference, which is expected to be unique per submission
COMMENT	VARCHAR2(100)	A participant provided comment
VERSION	NUMBER(3)	The version number provided in the submission

Discussion:

Issued On – The Participant supplied submission date is not currently included

Referenceld – Thoughts on uniqueness, should it be be enforced?

PACKAGE: BIDS – proposed (2)

BIDDAYOFFER – New Fields

Field Name	Data type	Comment
REBIDEVENTTIME	DATE	Date/Time of event that triggered the rebid
REBIDAWARETIME	DATE	Date/Time of awareness of the event
REBIDCATEGORY	VARCHAR2(1)	The rebid category expected to be one of: P, A, F, E

Discussion:

Currently no proposed field to indicate 5-min vs 30-min bids

Joining BIDPEROFFER to BIDDAYOFFER will provide 30-minute bids

Joining BIDPEROFFER5 to BIDDAYOFFER will provide 5-minute bids

PACKAGE: BIDS – proposed (3)

BIDPEROFFER5 – New Table

The columns will mirror BIDPEROFFER

Discussion:

Current column sizes have been raised as an issue – due to the space requirements

Other packages

Package	Table name	Change	Details
DISPATCH	NEGATIVE_RESIDUE	Pending approach	
P5MIN		Pending approach	
FORCE_MAJEURE	REGIONAPCINTERVALS	Data	Possible change of intervals to 5-minute resolution from 30-minute
MREVENT	MR_PEROFFER_STACK	Data	Change of intervals to 5-minute resolution from 30-minute

Discussion:

These are indicative only, detailed analysis is not yet complete.

Web user interface development

Pierre Fromager

Web User Interface

- Caveat: Draft only – likely to change
 - Reviewing bid structure for MNSP and batteries – Allow multiple DUs per bid , thus allowing a pairing between links or charge/discharge for batteries (if not using single DU).
 - Dealing with different bid types (esp. 'Energy' or 'FCAS') differently.
 - Extended search facility may not be required (participants use the Data Interchange to look up details in their own systems).
 - Ability to download and upload CSV may make extended Web functionality unnecessary.
 - Look and feel will be radically different and will follow AEMO standards and review by Web design team.
- Guiding principles:
 - Full functionality for creating submissions with multiple bids should be provided.
 - Users are likely to be occasional users so 'expert' functions should be avoided (e.g. shortcuts, entering codes rather drop-downs).

Functional overview

- Look up submissions or bids based on selection criteria.
- Create submissions and/or one or more bids
- Copy existing submissions or bids to 'draft' submission
- Download or upload to CSV or JSON
- Submit via UI or submit files
- View, download or retrieve results
- Sparse view of periods – expandable
- Bulk update
- Submission of JSON or CSV files
- Retrieval of 'as submitted' or 'as accepted' version of submissions.
- New rebid fields

Functional Questions

- *Retain Excel cut and paste (to and from), drag-down?*
- *One draft submission per user?*
- *Not including MNSP?*
- *Only allow single participant ID at a time?*
- *Identify submission method? Web UI, API, FTP*
- *Identify 30 or 5mn bid submission?*

Selection Criteria: View Submission / Bid selection page

Selection

User: Zeddicus Typhus Local Time: 24/11/2018 00:35
Participant: BigGen NEM Time: 23/11/2018 23:35

Submissions Bids Max. records Disp. Lines

Bid

Trading Day To or Days Reason contains


DUID Bid Type

Submission

Date To or Days Reference or Comment contains

Transaction Id

*Pierre Fromager
AEMO Ltd
11/12/2018
(Revised 12/2/19)*



List of submissions

View Submissions

User: Zeddicus Typhus Local Time: 24/11/2018 00:35
Participant: BigGen NEM Time: 23/11/2018 23:35

[Back](#) [New](#) [Download List](#)

Max. records: Disp. Lines:

Search Criteria ⓘ

Trading Day: 21/11/18

Pierre Fromager
AEMO Ltd
12/12/2018

Submission Date	Version	Comment	Status	
12/11/18 11:12:13	23	John	Accepted	Open Download
13/11/18 11:12:13	24	Fred	Accepted	Open Download
13/11/18 11:12:13	24	Fred	Draft	Open Download

Page ⓘ [←](#) [→](#)

View all details for a submission

View Submission

User: Zeddicus Typhus

Local Time: 24/11/2018 00:35

Participant: BigGen

NEM Time: 23/11/2018 23:35

[Back](#) [New Bid](#) [Submit](#) [Discard](#) [Download](#)

Disp. Lines

Participant [i](#) Comment [i](#) Submission Date Reference Approver Status
BigGen 20/10/18 12:55:33 33 Nebuchadnezzar Accepted

Tx No e434e330-f4c9-40e4-91c7-67512d7bdbee

File Name PARTICIPANT_OFFER_20000918_001.txt

Page

DUID	Bid Type	Trading Day	Rebid	Last submitted			
GenEast1	Energy	21/11/18	No	20/10/18 12:55:33	Open	Duplicate	Copy
GenWest1	Raise5mn	21/11/18	No	New	Open	Duplicate	Copy
GenSouth2	Energy	22/11/18	Yes	22/11/18 12:41:00	Open	Duplicate	Copy

Pierre Fromager
AEMO Ltd
11/12/2018
(Revised 6/2/19)

Edit (or new) Submission

Edit Submission

User: **Zeddicus Typhus**

Participant: **BigGen**

Local Time: **24/11/2018 00:35**

NEM Time: **23/11/2018 23:35**

Back
New Sub
Submit
Discard Draft
Download List
Upload

Disp. Lines i

50 v

Comment i

John Smith ▲▼

Submission Date

20/10/18 12:55:33

Reference

33

Approver

Nebuchadnezzar

Status

Accepted

Tx No **e434e330-f4c9-40e4-91c7-67512d7bdbee**

File Name **PARTICIPANT_OFFER_20000918_001.txt**

Results

Time of Event

10:10 v

Code

F v

Time Aware

12:30 v

Explanation i

Initial bid ▲▼

Add bid

Paste bid

Page ◀▶

DUID	Service Type	Trading Day	Rebid	Last submitted	
GenEast1	Energy	21/11/18	No	20/10/18 12:55:33	Open Discard Copy
GenWest1	Raise5mn	21/11/18	No	New	Open Discard Copy
GenSouth2	Energy	22/11/18	Yes	22/11/18 12:41:00	Open Discard Copy

'Copy' copies bid to clipboard to be pasted in a different submission

Pierre Fromager
AEMO Ltd
11/12/2018
(Revised 6/2/19)

i

View list of bids matching selection criteria

View Bids

User: **Zeddicus Typhus** Local Time: **24/11/2018 00:35**
Participant: **BigGen** NEM Time: **23/11/2018 23:35**

[Back](#) [Export](#) Max. records Disp. Lines

Search Criteria

DUID	Service Type	Trading Day	Rebid	
GenEast1	Energy	21/11/18	No	Open
GenWest1	Raise5mn	21/11/18	No	Open
GenSouth2	Energy	22/11/18	Yes	Open
GenSouth2	Energy	22/11/18		Open

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11/12/2018
(Revised 12/2/19)

View all details for a bid

View Bid

User: **Zeddicus Typhus**
Local Time: **24/11/2018 00:35**

Participant: **BigGen**
NEM Time: **23/11/2018 23:35** Rebid period

Back New Save Paste Discard Submission Download

Participant	Comment	Submission Date	Reference	Approved By	Status
BigGen	<input type="text" value="John Smith"/>	20/10/18 12:55:33	33	Nebuchadnezzar	Pending

Tx ID **e434e330-f4c9-40e4-91c7-67512d7bdbee**
File Name **PARTICIPANT_OFFER_20000918_001.txt**

DUID	Trading Day	Service Type	Daily Energy Constraint	Rebid
NorWest1	28/11/18	Energy	21,000	<input checked="" type="checkbox"/>

Time of Event	Cat.	Time	Explanation
10:10	F	12:30	<input type="text" value="Scott sneezed"/>

Page

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	1	2	3	4	5	6	7	8	9	10
Prices (CP)	-230.20	-1.23	14.28	18.29	25.22	79.69	82.13	122.46	662.19	4,218.22

TI	Period	Max. Avail.	PASA Avail.	Fixed Load	ROC up	ROC down	Avail 1	2	3	4	5	6	7	8	9	10	MR Cap
1	04:05	500	500		3	5	300	190	0	0	100	0	0	30	0	50	▼
103	12:35	500	500		3	5	300	20	0	170	100	0	0	30	0	50	▼
241	00:05	600	600		3	5	300	20	0	170	100	0	0	30	0	50	▼

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 11/12/2018
 (Revised 11/2/19)

New (or edit) bid

Edit Bid

User: **Zeddicus Typhus** Local Time: **24/11/2018 00:35**

Participant: **BigGen** NEM Time: **23/11/2018 23:35** **Rebid period**

Back
New Bid
Save
Paste
Discard
Export
Upload
Download

Comment	Submission Date	Reference	Approved By	Status
John Smith	20/10/18 12:55:33	33	Nebuchadnezzar	Pending
			Tx No	e434e330-f4c9-40e4-91c7-67512d7bdbee
			File Name	PARTICIPANT_OFFER_20000918_001.txt

DUID	Trading Day	BidType	File Name	<input type="checkbox"/> Rebid
NorWest1	28/11/2018	Energy		
Daily Energy Constraint	Time of Event	Explanation	Cat.	Time Aware
21,000	10:10	PRICE < FORECAST: VIC	F	12:30

	1	2	3	4	5	6	7	8	9	10
Prices (CP)	-230.20	-1.23	14.28	18.29	25.22	79.69	82.13	122.46	662.19	4,218.22

Rebid period – Prices cannot be changed

Page

TI	Period	Max. Avail.	ROC up	ROC down	Avail 1	2	3	4	5	6	7	8	9	10	PASA Avail.	Fixed Load
1	04:05	500	3	5	300	190	0	0	100	0	0	30	0	50	500	
103	12:35	500	3	5	300	20	0	170	100	0	0	30	0	50	500	
241	00:05	600	3	5	300	20	0	170	100	0	0	30	0	50	600	
242	00:10	600	3	3	300	20	0	170	300	0	0	30	0	50	600	0
243	00:10	600	3	3	300	20	0	170	300	0	0	30	0	50	600	0

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 11/12/2018

Bulk edit periods

Edit bid

Time Period ID

Period # from To Max. Avail.

12:30 04:00

Edit bid

Time Period ID

Time from To MR Cap.

1 283

Edit bid - Bands

Time Period ID

Set To

Apply to:

Time from 1 Bands To 283 To

Prices
Availabilities

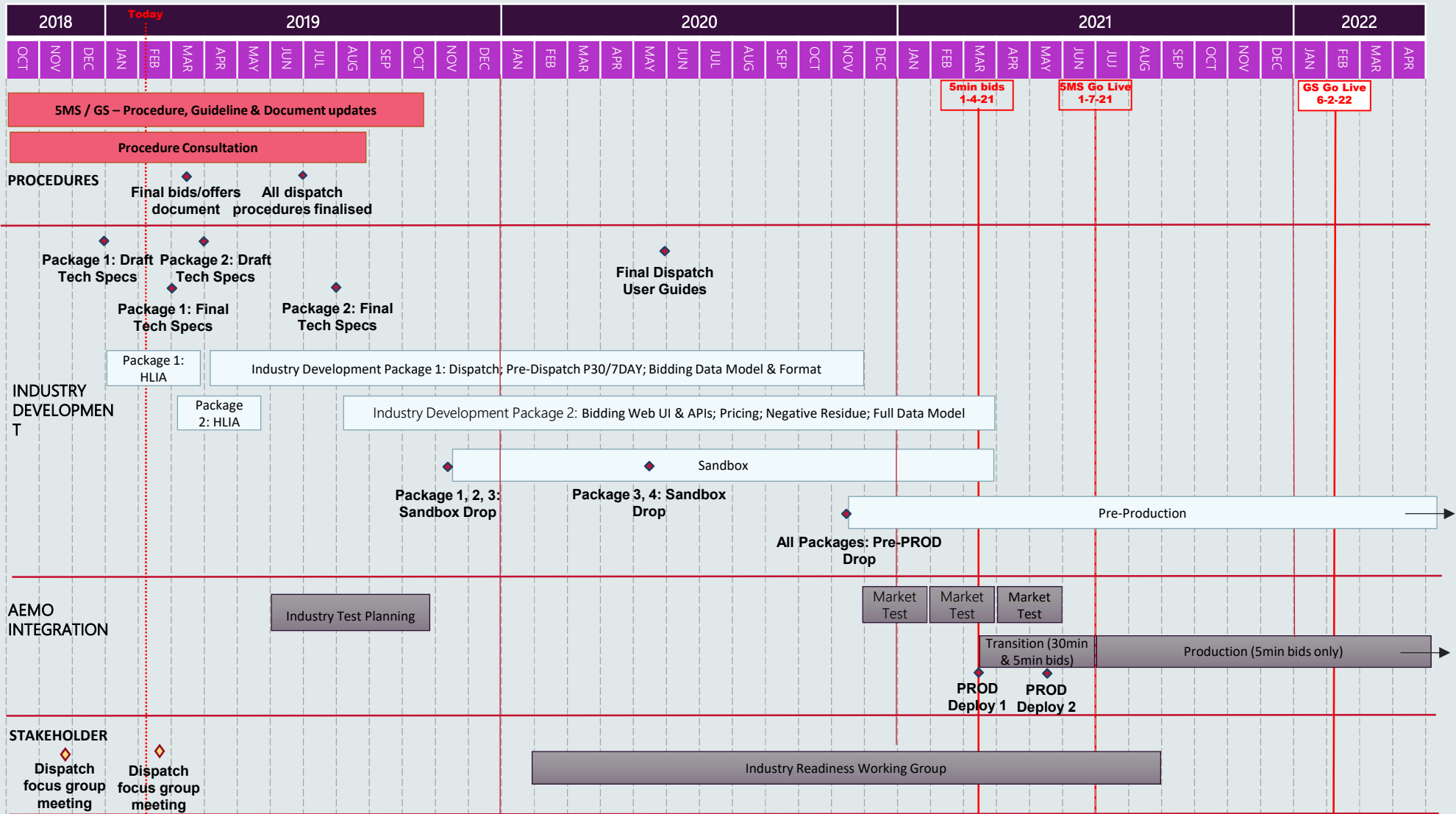
General questions and next steps

Michael Sanders & Hamish McNeish

5 Minute & Global Settlements Program – INDICATIVE TRANSITION OVERVIEW – DISPATCH AND BIDDING SYSTEMS



Indicative Industry Overview V0.1 – 29 January 2019



Package 1: Dispatch; Predispatch P30/7DAY; PASA; Bidding Data Model; Bidding Format.

Package 2: Bidding Web UI and APIs

Package 3*: Predispatch P5

Package 4*: RERT, Trading Price / Price Revision; Administrated Pricing and CPT; Suspension Pricing; Negative Residue Management; Full Data Model[^]

* Dates TBC for External HLIA, Tech Spec and Sandbox

[^] Includes Settlements Data Models

Next Steps

- Issuing of meeting notes
- Web UI
 - Review of focus group feedback
 - Engagement with small generators through Clean Energy Council
 - Review of small generator feedback
- P5
 - Further design work
 - Estimation of program impact and required change request
- Bidding Format
 - Draft bidding format document due this month
 - Feedback from participants/vendors
- Bidding Data Model
 - Review of technical specification draft feedback
 - Confirm design for final technical specification

