Dispatch Focus Group

14 August 2018

AEMO Office, Level 2, 20 Bond St, Sydney

*This slide pack was developed for the Dispatch Focus Group meeting. This version of the slides has been annotated with the group's recommendations on each issue.

Attendees

Attendee	Organisation
Ron Logan	ERM
Tom Geiser	Neoen
Stephanie Easton	Infigen
Damien Herd	CS Energy
Chris Pratt	Alinta
Keith Latty	Origin Energy
Andrew Jenkins	Stanwell
Hugh Macfarlane	Snowy Hydro
Marc L'Estrange	AGL
Michael Sanders	AEMO
Emily Brodie	AEMO
Pierre Fromager	AEMO
Gary Eisner	AEMO

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

Agenda

1. Introduction & Overview
2. Sparse bidding formats
3. REBIDEXPLANATION field
4. Default bidding protocols
5. Pre-Dispatch & ST PASA
6. Transitional arrangements
7. Other issues?

AEMO
AUSTRALIAN ENERGY MARKET OPERATOR

Sparse bidding formats

The context

- 5-MS changes dispatch intervals → trading intervals on 1 July 2021
- Bids & offers must then contain data for each of the 288 trading intervals in a trading day c.f. the current 48:

TI	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1										
2										
3										
⋮										
48										

TI	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1										
2										
3										
⋮										
⋮										
⋮										
⋮										
⋮										
⋮										
288										

1 July 2021

Some discussion 2

TI	P1	P2	P3	P4	P5	P6	P7	P8	P9	P10
1	15	5	0	0	0	0	0	0	0	100
2	10	5	5	0	0	0	0	0	0	100
3	10	5	5	0	0	0	0	0	0	100
⋮	10	5	5	0	0	0	0	0	0	100
⋮	10	5	5	0	0	0	0	0	0	100
⋮	20	10	20	0	0	30	0	0	0	40
⋮	20	10	10	0	0	20	0	0	0	60
⋮	20	10	10	0	0	20	0	0	0	60
⋮	20	10	10	0	0	20	0	0	0	60
⋮	20	10	10	0	0	20	0	0	0	60
⋮	20	10	10	0	0	20	0	0	0	60
⋮	20	10	10	0	0	20	0	0	0	60
⋮	10	5	5	0	0	0	0	0	0	100
⋮	10	5	5	0	0	0	0	0	0	100
288	10	5	5	0	0	0	0	0	0	100

1. Lack of a bid for the 1st TI could complicate default bidding

Sparse Bid: use subset of TIs to overwrite TIs until next entry or else end of trading day

Default Bid

2. Disallowing retrospective bidding within a trading day could also complicate default bidding

3. The last TI in a trading day would be the natural end-point for overwriting TIs

Some discussion 1

- AEMO believes it must offer a default option of 288 rows
- AEMO doesn't see any significant advantages in sparse bidding i.e. allowing participants to submit a subset of 288 rows to be expanded to a full trading day bid / offer using a pre-defined set of rules
  - Any reduction in the volumes of data being transferred seems fractional – not all participants would use this option, and AEMO is still required to inform participants of the data contained in any bid or offer as it will be used in central dispatch [NER 3.8.8(a)(2)]
  - The use of sparse bidding formats seems unlikely to noticeably increase the speed at which a rebid can be made in response to changed circumstances
  - Two different ways of submitting bids is also one more way in which things can go wrong
- AEMO is seeking industry input to test whether these views are correct
  - One possible form of sparse bidding is shown on the next slide

The questions

- Should AEMO offer participants the option of submitting "sparse" bids?

  No. Participants should submit full-sized 288-row bids. Participants prefer to manage the risk of expanding sparse data to 288-row bids within their own systems.

  The exception would be the web interface, which should be capable of accepting sparse data and expanding it to 288-row bids for sending to AEMO's bid validation systems. (Noting that the web interface already has other issues that can impede its speed and accuracy – these issues should be picked up in the 5-MS Systems Working Group.)

  - ~~What format would the sparse bids take?~~

  - ~~What would be the benefits?~~

  - ~~What would be the impact on default bidding protocols (Item 4)?~~

REBIDEXPLANATION field

The context

- NER 3.8.22(c)(2) requires that all rebids are accompanied by:
  - A brief, verifiable and specific reason for the rebid
  - The time of the event used to justify the rebid

- The AER's *Rebidding & Technical Parameters Guideline* recommends that all rebids are accompanied by:
  - The time of the event used to justify the rebid (in HHMM format)
  - The time the participant became aware of this event
  - The category of rebid (P, A, F or E)
  - A brief, verifiable and specific reason for the rebid

- AEMO checks only that the REBIDEXPLANATION field is non-null before accepting a rebid

- The REBIDEXPLANATION field is also used for fixed load [NER 3.8.19(b)(1)] and low ramp rates [NER 3.8.3A(e)]

Some discussion 1

- The REBIDEXPLANATION field could be expanded into two-four fields
- The information required by the Rules – time of event and rebid reason – should be compulsory fields
- The additional information requested by the AER – time of awareness and rebid category – may be optional fields
- The time of event field (and the time of awareness field, if introduced) could require an entry in a time format
  - This would resolve text interpretation issues for the AER
- The REBIDEXPLANATION text field could still be used for fixed load and low ramp rate reasons
  - In this case only the REBIDEXPLANATION field would be compulsory for daily bids with fixed load / low ramp rates

The questions

- Should AEMO expand the existing REBIDEXPLANATION field?

  No. It was the firm view of the group that any problems the AER is experiencing in parsing the existing text field into time and text formats would be best resolved by the AER talking to participants who are not complying with the *Rebidding and Technical Parameters Guideline*.

  - ~~How many new fields should be added?~~
  - ~~Which fields should be compulsory and which voluntary?~~
  - ~~Are any additional fields needed for fixed load / low ramp rates?~~

Default bidding protocols

The context

- Default bids can be submitted any time for any future trading day
- Bids can be varied <u>or withdrawn</u> any time before 1230 hrs AEST Day-1 [NER 3.8.9(b)]
- AEMO must develop a procedure for using prior bids as default bids
  - The current procedure is specified in the spot market operations timetable
  - AEMO will use the default bid for a trading day if one has been submitted
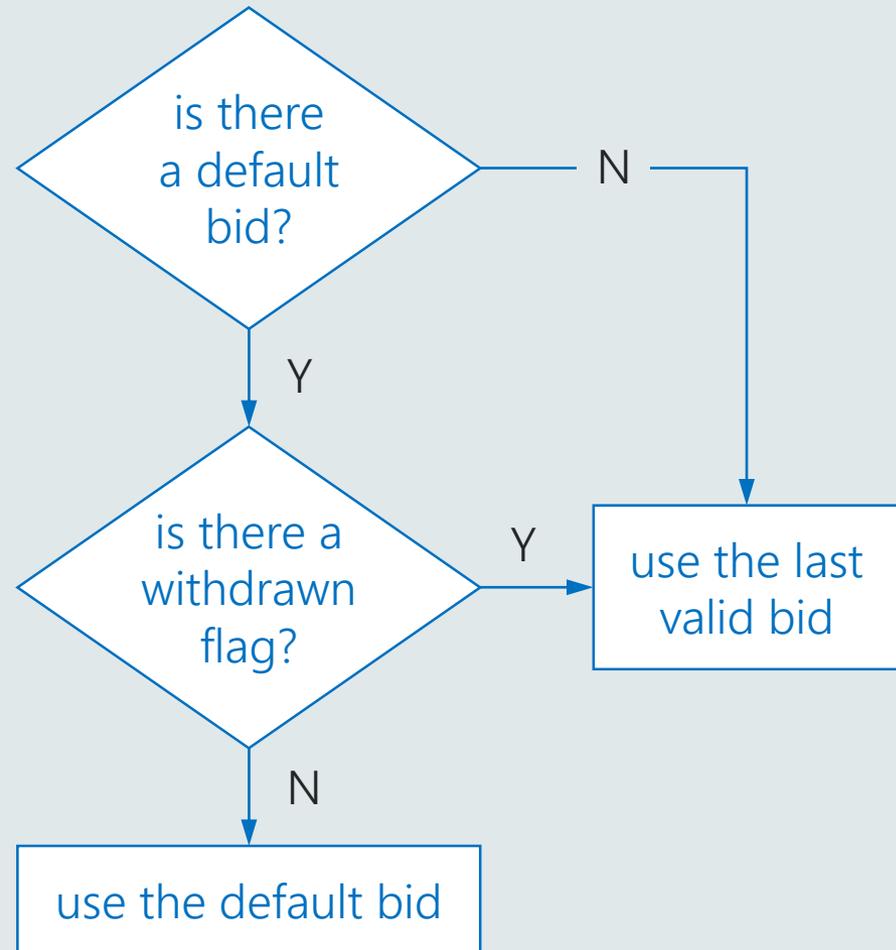 - If no default bid has been submitted AEMO will use the most recent valid bid

Some discussion 1

Current default
bidding protocol:

is there
a default
bid?

N

Y

use the default bid

use the last
valid bid
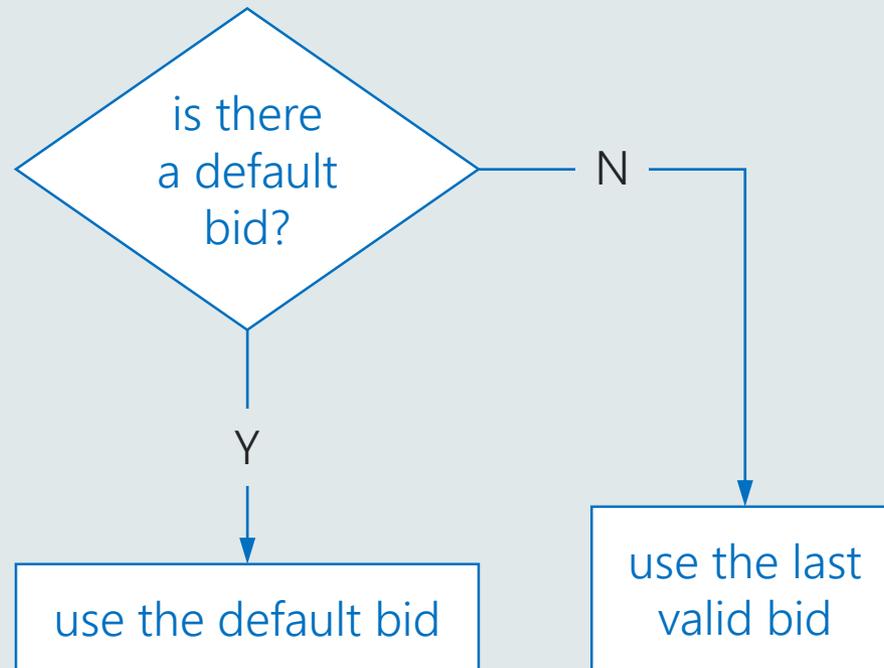
Some discussion 2

Alternative default bidding protocol:

is there a default bid?

N

Y

is there a withdrawn flag?

Y

use the last valid bid

N

use the default bid

The questions

- Should AEMO introduce a "withdrawn" flag for default bids?
  No. The group was of the view that participants are perfectly capable of monitoring their upcoming bids.
  - How should the withdrawn flag be used?
- Were any decisions made on "sparse" bids (Item 2)?
  Unchanged.
 - How would default bidding protocols need to change as a result?

Pre-Dispatch & ST PASA

The context

- PD and ST PASA will continue in their present form under the 5-MS rule changes

- ST PASA availability is submitted as part of the dispatch bidding process
  - Avoids the need for two separate data entry systems
  - Encourages consistency between PD and ST PASA bids

- Need a rule for using 5-minute bidding data in 30-minute processes

- Current expectation is that PD and ST PASA will use the data from the last five-minute interval in each 30-minute period
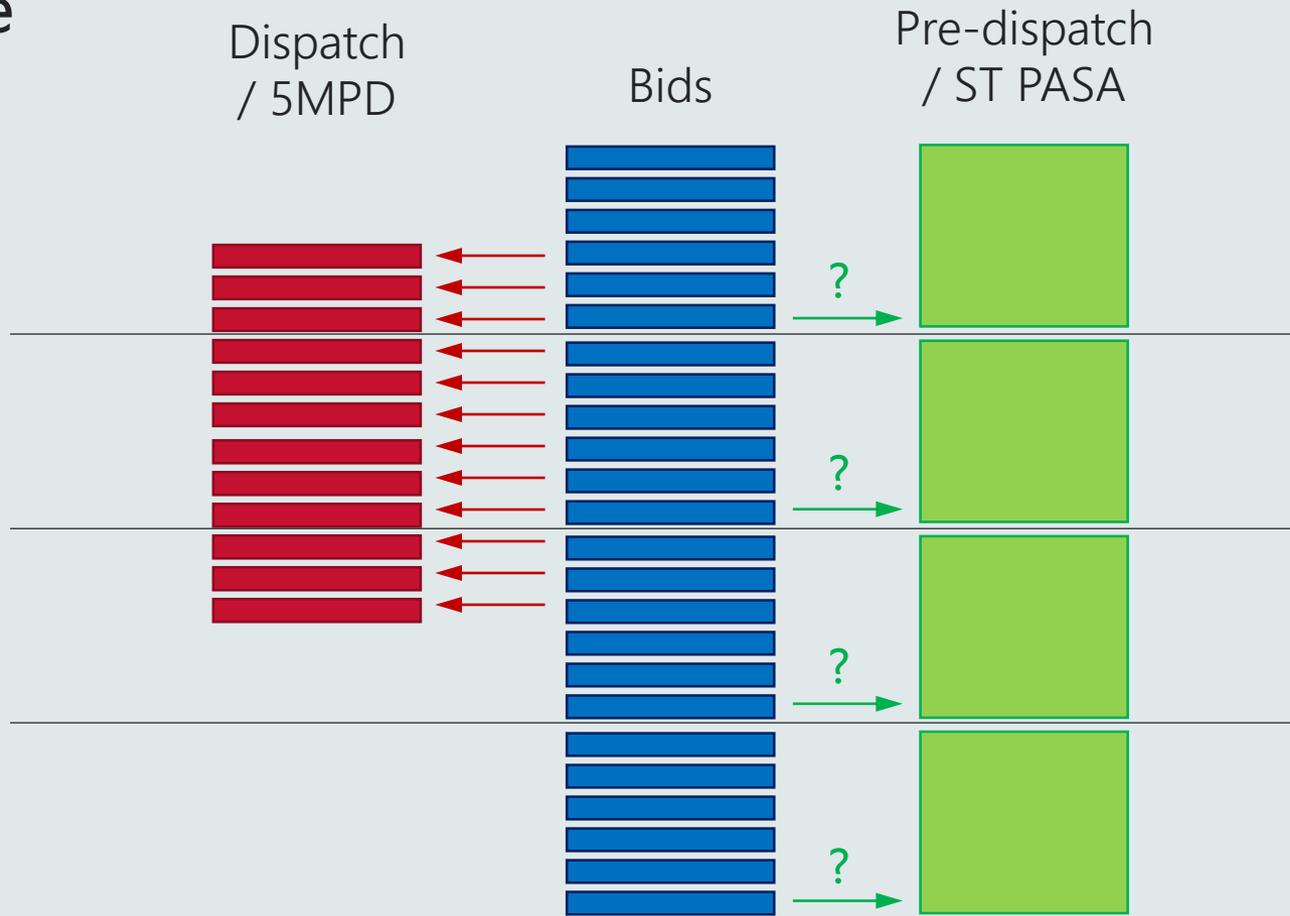
Some discussion 1

30-minute bidding:

Dispatch / 5MPD

Bids

Pre-dispatch / ST PASA
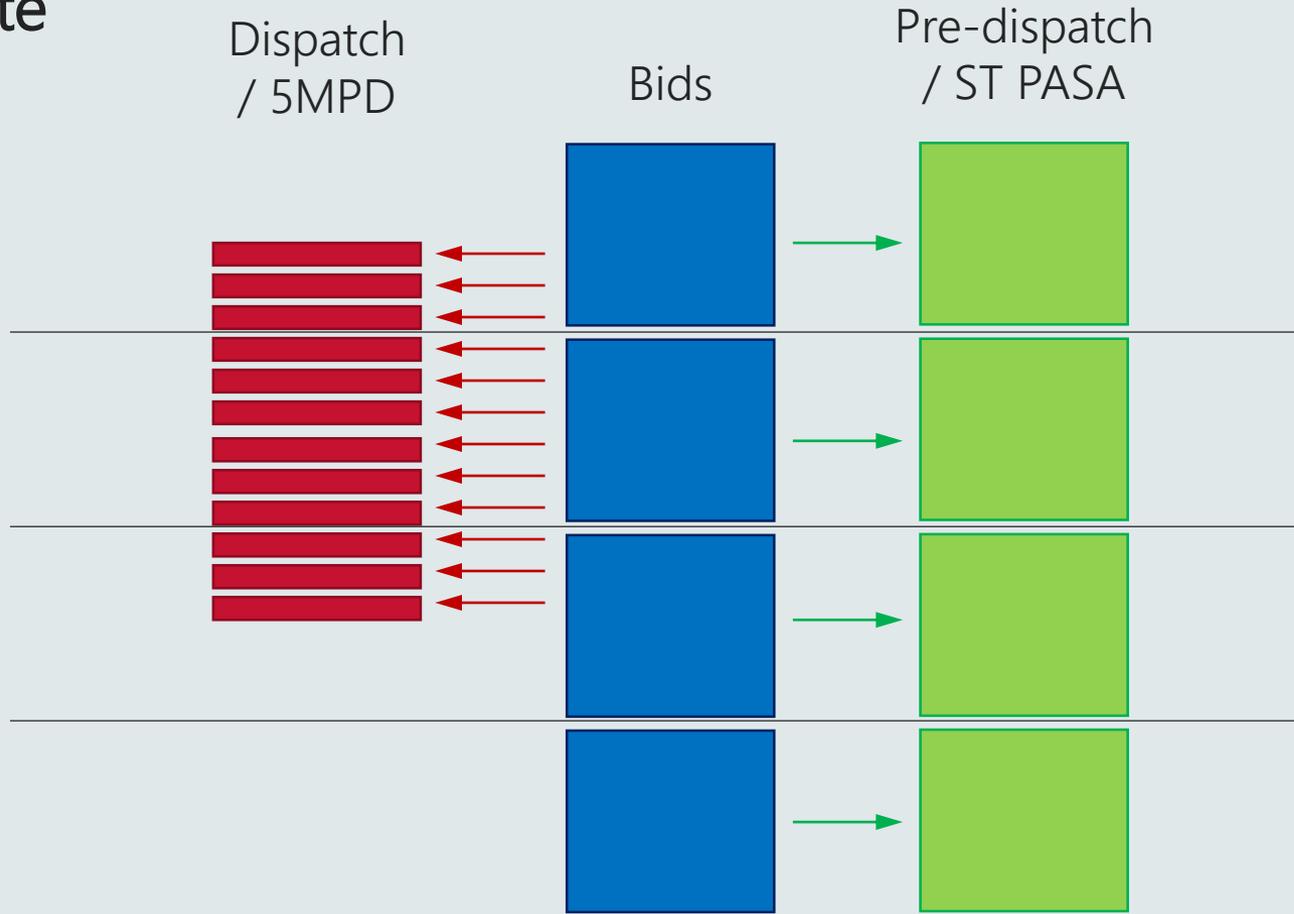
Some discussion 2

5-minute bidding:

Dispatch / 5MPD

Bids

Pre-dispatch / ST PASA

The questions

- Should ST PASA availability continue to be submitted with dispatch bids? Yes.

- Should PD & ST PASA use data from the last five-minute interval in each 30-minute period?
  - Another five-minute interval?
  - An average over the half hour?
  - A participant-nominated interval?

  ST PASA should use the five-minute interval in each half hour that has the lowest availability.

  Pre-dispatch can use the last five-minute interval in each half hour. The opportunity to provide unrepresentative offers in that 5-minute period (or any predetermined period) should be tempered by 3.8.22A. Furthermore, price forecasts are intrinsically less reliable than availability forecasts as the forecast period increases. However, the main focus should be on extending 5-minute pre-dispatch (discussed in Other Issues).

Transitional arrangements

The context

- 5-MS rule changes come into effect at 0000 hrs AEST on 1 July 2021

- Trading days start at 0400 hrs AEST

- Market systems would need to be designed, developed and tested well ahead of 1 July 2021
  - Why wouldn't you have a transitional period where 5-minute and 30-minute bidding systems were capable of running in parallel?

The questions

- Should there be a transitional period during which participants can submit either 5-minute or 30-minute bids?

  Yes. However, the details of how this would operate, including the periods and risks involved, require significant further investigation. These investigations seem more likely to take place within the Systems Working Group, potentially via a joint SWG/PWG focus group.

  - How long should the transitional period last?
  - Would the transitional period advantage or disadvantage anyone?
  - Should the transitional period be specified in a rule change?

Other issues?

The questions

- Are there any bidding issues that have been missed?

- 5-minute pre-dispatch

  It was the firm view of the group that 5MPD should be extended as far as practicable and include sensitivities. 5MPD outputs should align with the full set of outputs currently available from pre-dispatch. The group would consider half-hourly updates of 5MPD for forecast periods further into the future. AEMO is to investigate the computational limitations on extending and expanding 5MPD.

The questions

- Timing of dispatch instructions

  Participants are expected to ramp smoothly from their initial energy at the start of a dispatch interval to their dispatch target at the end of the dispatch interval, but dispatch instructions arrive partway through a dispatch interval. The lag between the start of the interval and the receipt of dispatch instructions will become more critical for fast plant after the move to 5-MS. However, running dispatch earlier so that dispatch targets can be provided at the start of an interval would create its own set of problems. This issue should be considered further as part of the 5-MS work programme.

The questions

- Alignment of gas and electricity trading days

  The electricity trading day starts at 0400 AEST, while the gas trading day will soon be harmonised at 0600 AEST. Neither align with calendar days. There may be some synergies in aligning the electricity and gas days, particularly with the increasing importance of gas-powered generation. There would be major system costs involved in any change, but the system changes needed for 5-minute settlement may provide the best recent opportunity for alignment. AEMO to consider further.

Actions

Item	Topic	Action required	Responsible	By
1	Sparse bidding formats	Refer web interface speed and accuracy issues to the SWG for consideration in that forum	AEMO	21 Aug 18
2	Transitional arrangements	Refer transitional arrangements (ability to submit 5 minute and 30 minute bids etc) to the SWG for detailed investigation in that forum, or potentially via a joint SWG/PWG focus group.	AEMO	21 Aug 18
3	Other issues	Investigate the computational limitations on extending and expanding 5MPD. Report back to the Dispatch Focus Group and PWG.	AEMO	5 Sep 18
4	Other issues	Investigate the lag between the start of the trading interval and the receipt of dispatch instructions. Report back to the Dispatch Focus Group, PWG and SWG.	AEMO	29 Sep 18
5	Other issues	Investigate risks and benefits associated with the alignment of the electricity trading day with either the gas trading day or the calendar day (i.e. midnight). Report back to the Dispatch Focus Group and PWG.	AEMO	5 Sep 18