

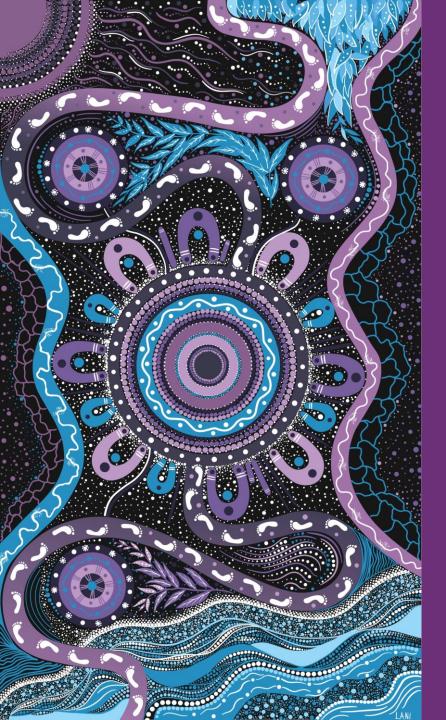
ST PASA Procedure & Related Documents Consultation Information Session

30 January 2025





1. Welcome





We acknowledge the Traditional Custodians of the land, seas and waters across Australia. We honour the wisdom of Aboriginal and Torres Strait Islander Elders past and present and embrace future generations.

We acknowledge that, wherever we work, we do so on Aboriginal and Torres Strait Islander lands. We pay respect to the world's oldest continuing culture and First Nations peoples' deep and continuing connection to Country; and hope that our work can benefit both people and Country.

'Journey of unity: AEMO's Reconciliation Path' by Lani Balzan

AEMO Group is proud to have delivered its first Reconciliation Action Plan in May 2024. 'Journey of unity: AEMO's Reconciliation Path' was created by Wiradjuri artist Lani Balzan to visually narrate our ongoing journey towards reconciliation - a collaborative endeavour that honours First Nations cultures, fosters mutual understanding, and paves the way for a brighter, more inclusive future.





Agenda

Appendix A:

| # | Time | Topic | Presenter(s) |
|---|---------------|---|-----------------------------------|
| 1 | 10:00 – 10:10 | Welcome and opening | Nicole Nsair |
| 2 | 10:10 – 10:30 | Timelines and feedback from stakeholders on Draft ST PASA Procedure | Nicole Nsair |
| 3 | 10:30 – 11:00 | Development of Final ST PASA procedure | Sujeewa Rajapakse Ross Gillett |
| 5 | 11:00 – 11:30 | Questions and Answers | Jen Hardman |



2. Timelines and Feedback from stakeholders

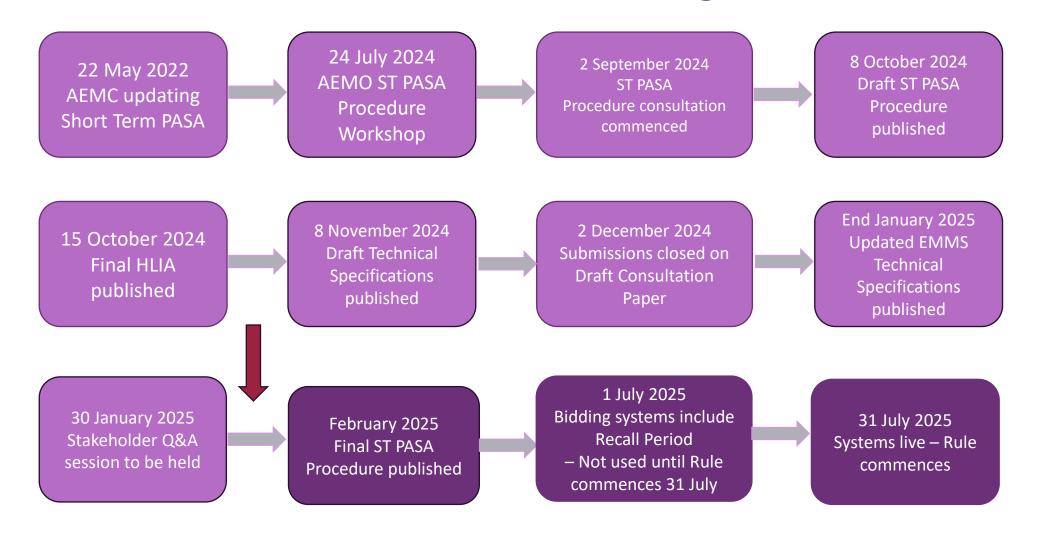
'Updating Short Term PASA' rule change (2022) Refresher



- The rule change requires AEMO to:
 - develop and publish ST PASA (Short term projected assessment of system adequacy) procedures
 - publish forecasts of Available Capacity & PASA availability for individual scheduled generating units, scheduled loads, scheduled network service providers and wholesale demand response units
 - to include changes to the definitions of PASA availability and energy constraint
 - to include changes to the ST PASA timeframe to reflect current practices
 - to reflect PASA Objective (see Appendix B: reference information)

ST PASA Procedure Indicative High-level Timeline





QUICK REFERENCES

- AEMO ST PASA Procedure and Recall Period webpage
- AEMC Updating Short Term PASA

Feedback from participants on Draft Procedure



We received 5 submissions in total.

- Themes from stakeholder feedback included:
 - How recall period is used by AEMO
 - Clarity on what is required from participants
 - Administrative burden concerns
 - How issues raised in this consultation will be addressed in the upcoming ST PASA Replacement Project
- Additional information AEMO's added to the Final Procedure:
 - Examples on how recall period is used by AEMO
 - Examples on the limits for the recall period value (minimum and maximum)
 - Explanation on what happens if a 'null' recall period is submitted in a bid





- How recall period is used by AEMO
 - AEMO has developed scenarios to demonstrate how recall period values are interpreted by AEMO systems (Refer slide 11)
 - Whether a 'blank' recall period should default to immediate recall or to no recall
- Clarity on what is required from participants
 - Scenarios give participants more certainty on what values need to be provided and when to provide values to communicate information to the market
 - AEMO has clarified how a 'null' value versus a 'blank' recall period in a bid submission will be interpreted
- Administrative burden concerns
 - Through the developed scenarios, AEMO has attempted to address this concern.
- How issues raised in this consultation will be addressed in the upcoming ST PASA Replacement Project
 - AEMO has been logging the issues raised in this consultation within the consultation papers and will be using the feedback that is out of scope as reference for the ST PASA Replacement Project
 - AEMO has had to minimise the scope of this consultation to enable it to be compliant with the NER from 31 July 2025.



3. Development of Final ST PASA procedure



Changes to Short Term PASA Procedure and Recall Period values

| ST PASA | Short Term PASA as defined in NER 3.7.3. It consists of both PD PASA and 6-day PASA. |
|------------|---|
| PD PASA | Short Term PASA as defined in NER 3.7.3, covers the most recently published pre-dispatch period. |
| 6-day PASA | Short Term PASA as defined in NER 3.7.3, covers the period of six trading days starting from the end of the trading day covered by the most recently published pre-dispatch schedule. |



Changes to Short Term PASA Procedure and Recall Period values

- AEMO has changed the Pre-defined Recall_Period Max Limit
 - The Draft Procedure maximum value was 168 hours (7 days)
 - The Final Procedure maximum value is 24000 hours (1000 days)
- AEMO has accepted submissions that a 'blank' recall period should mean not available for recall
 - AEMO will substitute 24000 hours recall when the recall period is 'blank'
- This aligns ST PASA maximum recall period with MT PASA
- Operationally, recall period > 168 hrs is the same as not available for recall in the ST PASA timeframe



AEMO actions for recall period - scenarios

| Recall Period entered by participant (hours) | AEMO's system interpretation | Published Recall Period (hours) |
|--|--|--|
| 0 | Bid accepted. Recallable capacity is immediately available. | 0 |
| 30000 | Bid rejected. An error message will be issued, as recall period exceeds the maximum limit of 24000 hours. | Participant needs to resubmit the bid. |
| 0.5 | Bid accepted. Recallable capacity is available in 0.5 hours. Up to 2 decimal places will be accepted, bid will be rejected for 3 or more decimal places. | 0.5 |
| 168 | Bid accepted. Recallable capacity is available within the ST PASA period, which is 7 days (168 hours) | 168 |
| 48 | Bid accepted. Recallable capacity is available with 2 days (48 hours) notice. | 48 |



AEMO actions for recall period – scenarios – via API Submission

| Recall Period entered by participant (hours) via API Submission | AEMO's system interpretation | Published Recall Period (hours) |
|--|---|---|
| Recall Period attribute is defined, but its value is left blank, e.g. "recallPeriod": Recall Period attribute is defined, but its value is non-numeric, or a string enclosed in quotes, e.g. "recallPeriod": <tab key="">, "recallPeriod": "<space key="">", Recall Period attribute is defined, but its value is a null character (ascii CHR(0))</space></tab> | Bid rejected. An error message will be issued, Recall Period must be an integer or a decimal number with no more than two decimal places, between 0 and the pre-defined Max Limit of 24000. | Participant needs to re-submit the bid. |
| no value defined / removed for an interval | Bid accepted. Recall Period value will default to 24000 hours (maximum value). There is no recallable capacity. | 24000 |



AEMO actions for recall period – scenarios – via Web Bidding Portal

| Recall Period entered by participant (hours) via Web Bidding | AEMO's system interpretation | Published Recall Period (hours) |
|--|---|---|
| <space>, 'non-numerical value'</space> | Bid rejected. An error message will be issued, Recall Period must be an integer or a decimal number with no more than two decimal places, between 0 and the pre-defined Max Limit of 24000. | Participant needs to re-submit the bid. |
| <blank></blank> | Bid accepted. Recall Period value will default to 24000 hours (maximum value). There is no recallable capacity. | 24000 |





- Minimum
 - The recall period must be greater than or equal to zero and have a maximum of 2 decimal places.
- Maximum
 - The recall period must be less than or equal to 24000 hours (1000 days)
 - Anything greater than 24000 hours, the bid will be **rejected**. Participants receive error message and will need to resubmit the bid with a valid value.
- If participants enter a 'blank' value, AEMO's systems will interpret it as the MAXIMUM value of 24000 hours (which is called the 'default' value)
- 1000 days or 24000 hours is outside of the ST PASA timeframe of 7 days



Additional information on ST PASA modelling assumptions

- STPASA and PDPASA only include scheduled, semi-scheduled generating units and bidirectional units (generation-side only)
- ST PASA and PDPASA exclude scheduled loads and bidirectional units (load-side)
- ST PASA is only capable of modelling a single discharging cycle as a Daily Energy Constraint and does not support charging/discharging cycles of BDUs within a day.

Note: PD PASA does not apply a separate intertemporal maximum energy limit for BDUs. Hence if there is no BDU energy storage drawdown in Pre-dispatch, the Daily Energy Constrained Availability = bid Available Capacity, and PDPASA will continually use this value for subsequent 30-minute periods, potentially exceeding the BDU's maximum energy limit.

This results in overstating BDU contribution to reserves. AEMO is implementing a daily maximum energy limit for BDUs to minimise the inaccuracy introduced due to this. This procedure will be updated to reflect this change after implementing the change.

What happens after the bidding system changes on 1 July 2025?



- AEMO implements Bidding System changes:
 - Add a new bid Recall Period, defined for each trading interval and associated with PASA Availability
 - Change energy bid validation → bid rejected if Daily Energy Constraint ≥ Max Capacity x 24 hours
- After the Bidding System change, all newly registered units have a default bid Recall Period of 24000 hours
- Until the ST PASA Rule takes effect on 31 July 2025:
 - No change to existing calculation of Region PASA Availability (AGGREGATEPASAAVAILABILITY) in PDPASA & STPASA REGIONSOLUTION reports
 - Bid PASA Availability is assumed to be within 24-hour recall, regardless of actual bid Recall Period
 - For trading days bids prior to 31 July 2025:
 - If there is recallable capacity within the ST PASA timeframe, participant bids PASA Availability that is recallable within 24 hours, with Recall Period = 24 hours
 - If there is no recallable capacity within the ST PASA timeframe, participant bids PASA Availability = Max Avail with either a 'blank' Recall Period (which defaults to 24000) or a value between 168 (7 days) and 24000

NOTE: AEMO encourages participants to submit a Recall Period in accordance with the ST PASA Rule and procedures





- ST PASA Procedure takes effect
- AEMO publishes:
 - Next Day Bids reports (updated): include Recall Period
 - PDPASA & STPASA DUID Availability reports (new):
 Available Capacity, PASA Availability and Recall Period
 - PDPASA & STPASA REGIONSOLUTION reports (updated):
 Change to Region PASA Availability calculation (AGGREGATEPASAAVAILABILITY) → if
 Recall Period > 24 hours use Max Avail, else use PASA Availability
 - Max Avail is used in aggregate (i.e. no recall) if:
 - energy bid was submitted after 1 July 2025 bidding system changes with a 'blank' Recall Period (24000); or
 - energy bid was submitted before 1 July 2025 bidding system changes, hence Recall Period is still 'blank'



5. Questions and Answers



NEMReform@aemo.com.au



NEM Reform Electricity Wholesale Consultative Forum





Appendix A: Competition law meeting protocol and AEMO forum expectations



AEMO Competition Law - Meeting Protocol

AEMO is committed to complying with all applicable laws, including the Competition and Consumer Act 2010 (CCA). In any dealings with AEMO regarding proposed reforms or other initiatives, all participants agree to adhere to the CCA at all times and to comply with this Protocol. Participants must arrange for their representatives to be briefed on competition law risks and obligations.

Participants in AEMO discussions must:

- Ensure that discussions are limited to the matters contemplated by the agenda for the discussion
- Make independent and unilateral decisions about their commercial positions and approach in relation to the matters under discussion with AEMO
- Immediately and clearly raise an objection with AEMO or the Chair of the meeting if a matter is discussed that the participant is concerned may give rise to competition law risks or a breach of this Protocol

Participants in AEMO meetings **must not** discuss or agree on the following topics:

- Which customers they will supply or market to
- The price or other terms at which Participants will supply
- Bids or tenders, including the nature of a bid that a Participant intends to make or whether the Participant will participate in the bid
- Which suppliers Participants will acquire from (or the price or other terms on which they acquire goods or services)
- Refusing to supply a person or company access to any products, services or inputs they require

Under no circumstances must Participants share Competitively Sensitive Information. Competitively Sensitive Information means confidential information relating to a Participant which if disclosed to a competitor could affect its current or future commercial strategies, such as pricing information, customer terms and conditions, supply terms and conditions, sales, marketing or procurement strategies, product development, margins, costs, capacity or production planning.





This charter explains expectations regarding participation and behavior in the Australian Energy Market Operator (AEMO)'s stakeholder forums.

Meeting Expectations

All participants will:

- Respect the diversity of the group.
- Speak one at a time refrain from interrupting others.
- Share the oxygen ensure that all attendees who wish to have an opportunity to speak are afforded a chance to do so.
- Maintain a respectful stance towards all participants.
- Listen to others' points of view and try to understand others' interests.
- Share information openly, promptly, and respectfully.
- If requested to do so, hold questions to the end of each presentation.
- Remain flexible and open-minded, and actively listen and participate in meetings.
- Abide by COVID-Safe workplace guidelines, if attending a meeting on AEMO's premises.

Roles and Responsibilities

Forum stakeholders agree to:

- Be specific and fact-based in their feedback on a specific workstream or emerging issue;
- Review and provide feedback on papers and reports;
- Relay information to their colleagues or constituents after each meeting and gather information/feedback from their colleagues or constituents, as practicable, before each meeting;
- Maintain a focus on solutions or outcomes that benefit all energy consumers.

AEMO agrees to:

- Provide technical expertise in a manner that is considerate of the audience and their level of expertise;
- Assist participants in understanding issues enough to represent their views;
- Provide all participants the opportunity to voice their views.



Appendix B: Reference information



PASA Objective - NER 3.7.1(b)

The PASA is a comprehensive program of information collection, analysis and disclosure of medium term and short term system security and reliability of supply prospects so that Registered Participants are properly informed to enable them to make decisions about supply, demand and outages of transmission networks in respect of periods up to 2 years in advance (or up to 3 years, where specified).



For more information visit

aemo.com.au