

FINAL DECISION

STTM PROCEDURES V.5

STTM VALIDATION AND PRICE SETTING PROCESS

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Glossary

Terms or Abbreviations	Explanation
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AEST	Australian Eastern Standard Time
GJ	gigajoules (GJ is 1000 megajoules)
I&IR	Impact and implementation report (part of the procedure change process)
MSP	Moomba to Sydney Pipeline
NGR	National Gas Rules
PPC	Proposed procedure change (part of the procedure change process)
SIP	STTM Interface Protocol
STTM	Short Term Trading Market
STTM-CF	STTM Consultative Forum
TJ	terajoule (TJ is 1000 gigajoules)

1 Summary

In accordance with rule 135EF of the National Gas Rules (NGR), the Australian Energy Market Operator (AEMO) has made the procedure changes relating to the STTM validation and price setting process amendments.

The procedure changes have been made taking into account the Australian Energy Market Commission's (AEMC) final decision on the associated NGR changes, the assessment outlined in the proposed procedure change (PPC) and the impact and implementation report (I&IR), consultation with the STTM Consultative Forum (STTM-CF) and written submissions received by stakeholders during AEMO's public consultation process.

AEMO is giving notice that:

- it has decided to make the procedure changes, as outlined in Appendixes B and C of this document;
- the procedures in Appendix B will be made effective as of 16 June 2011; and
- the procedures in Appendix C will be made effective immediately after the changes to the STTM Procedures made for the purpose of establishing the Brisbane hub, described in the notice published on 14 April 2011.

This notice should be read in conjunction with the AEMC's final decision on the NGR changes relating to the STTM validation and price setting process.

2 Background

Since the commencement of the Short Term Trading Market (STTM) at the Sydney and Adelaide hub on 1 September 2011, the STTM Sydney hub experienced two high price events on 8 October 2011 and 1 November 2011 which were a result of erroneous STTM facility data.

For gas day 8 October 2011, the ex post imbalance price was set at \$390/GJ due to erroneous STTM facility allocations submitted by the APA Group for the Moomba to Sydney Pipeline (MSP).

For gas day 1 November 2011, the ex ante market price and pipeline capacity price were both set at \$150/GJ and the ex post imbalance price was set at \$400/GJ. This was largely due to erroneous STTM facility operational capacity data submitted by the APA Group for the MSP.

The events at the STTM Sydney hub had material impacts on trading participants at that hub.

Following these events, AEMO commenced a consultation process with industry to consider options to minimise the potential for erroneous data provided by STTM facility operators to be used in the STTM.

Taking into account the views presented during AEMO's consultation process, AEMO proposed to change the STTM processes for data submission, validation and price setting. The intent of the change is to provide STTM facility operators with an ability to rectify possible data errors, following validation, before it is used in the STTM scheduling and price setting processes.

The proposal required changes to both the NGR and STTM Procedures.

On 9 February 2011 AEMO submitted the NGR changes to the AEMC. On 5 May 2011, the AEMC gave notice of the making of the NGR changes with an effective date of 16 June 2011 (refer AEMC website www.aemc.gov.au).

Alongside the AEMC's consideration of AEMO's proposed NGR change request, AEMO has been consulting on the associated changes to the STTM Procedures.

3 Consultation process

As noted above, after the high price events, AEMO commenced a process with industry to consider options to minimise the potential for erroneous data to be used in the STTM. This initial phase of the consultation process was conducted via the STTM-CF.

The STTM-CF is a standing forum for providing consultation with stakeholders on the development of the STTM. The STTM-CF is an open forum and all interested parties may attend the STTM-CF and participate in the meetings.

The proposal, including the proposed changes to the NGR and STTM Procedures, were presented for discussion at the STTM-CF meetings of 16 October 2010, 13 November 2010, 23 November 2010, 14 December 2010, 18 January 2011, and 31 January 2011. The STTM-CF supported the proposed amendments.

Following consultation with the STTM-CF, AEMO submitted the NGR change request to the AEMC, seeking that the AEMC consider the NGR amendments under the urgent rule change path. AEMO also began the STTM Procedure change process as outlined in Part 15B of the NGR.

Table 1 outlines the key dates for the NGR and STTM Procedure change process.

Table 1: Key dates that apply during the consultation process

Process	Date
<i>National Gas Rule amendments</i>	
AEMO submit rule change amendments	9 February 2011
AEMC public notice (expedite rule change)	24 March 2011
Closing date for objections to expedite	7 April 2011
Closing date for submissions	21 April 2011
AEMC notice of making final decision	5 May 2011
Effective date of NGR amendments	16 June 2011
<i>STTM Procedure amendments</i>	
Publication of the proposed procedure change (PPC)	3 March 2011
Closing date for submissions on PPC	18 March 2011
Publication of the impact and implementation report (I&IR)	30 March 2011
Closing date for submissions on the I&IR	21 April 2011
Notice of making procedure changes	25 May 2011
Effective date of STTM Procedure amendments—version 5	16 June 2011

In response to the call for submissions on the PPC, AEMO received two submissions from Origin Energy Limited (Origin) and the Australian Pipeline Industry Association Ltd (APIA). Both submissions generally supported the proposal with specific comments on elements of the proposal. A summary of Origin and APIA's comments together with AEMO's response was outlined in the I&IR released by AEMO on 30 March 2011 for public consultation.

On 30 March 2011, AEMO released the I&IR for public consultation, seeking comments by 21 April 2011. AEMO received one submission from APIA.

The PPC, I&IR and submissions received from Origin and APIA can be found on AEMO's website (<http://www.aemo.com.au/consultations/1130-0474.html>).

4 Stakeholder comments on the I&IR

Appendix A provides a summary of comments raised by APIA on the I&IR together with AEMO's response.

5 Final decision

5.1 Description of the proposed changes to the STTM Procedures

This section presents a summary of the proposed changes to the STTM Procedures, taking into account AEMO's consideration of submissions received in response to the I&IR and the AEMC final decision on the NGR changes for the STTM validation and price setting process.

The proposed procedure changes are intended to apply to all STTM hubs (Sydney, Adelaide and Brisbane). Two versions of the STTM Procedures have been released with this document. The first is the live operational version of the STTM Procedures as of 16 June 2011, incorporating the amendments in Appendix B. The second is the live version of the STTM Procedures including the changes to incorporate the Brisbane hub amendments made on 14 April 2011 and the amendments in Appendix C, both are expected to commence in late 2011.

A reference to a time in this section is a reference to Australian Eastern Standard Time (AEST) with a gas day commencing at 6:30am. For Brisbane, times should be offset by 1.5 hours, unless otherwise specified.

5.1.1 Changes to ex ante market process

Rule 414 of the NGR will require an STTM facility operator to submit the operational capacity of an STTM facility by 9:30am (three hours after the start of the gas day) and require AEMO to validate and substitute data in accordance with the STTM Procedures. The NGR and STTM Procedures do not place restrictions on the number of times the STTM facility operator updates its operational capacity for a gas day up to the 9:30am cut-off time.

Clauses 7.1.3A to 7.1.3C of the STTM Procedures will set out how AEMO will validate and substitute data. In summary:

- AEMO will validate the operational capacity submitted by the STTM facility operator in accordance with the validation tests outlined in the STTM Interface Protocol (SIP). These validations will apply to all operational capacity data submitted by an STTM facility operator (i.e. before 9:30am and between 9:30am-11:00am).
- Among other validations specified in the SIP, two validations will be applied: (1) the operational capacity of an STTM facility will be rejected if it is greater than the maximum capacity of that STTM facility or below zero; and (2) the operational capacity of the STTM facility will be flagged if it breaches the upper or lower bound thresholds specified in the SIP (i.e. the warning tests).
- If the data submitted breaches the validation tests, AEMO will be required to notify the STTM facility operator. This will occur each time data submitted breaches the validation tests.
- As at 9:30am, if the operational capacity data submitted by an STTM facility operator does not breach validations, that submission will be used in the STTM pricing and scheduling process and any new files submitted after 9:30am will be rejected.
- As at 9:30am, if the operational capacity data submitted by an STTM facility operator breaches validation or no data is submitted, that STTM facility operator will have until 11:00am (4.5 hours after the start of the gas day) to update or confirm the flagged data or submit the data (if no data is submitted at 9:30am).

- If the 9:30am window opens for an STTM facility operator for the reasons outlined above, and once a submission has passed validation or is confirmed by the STTM facility operator after the 9:30am cut-off time but before 11:00am, that file will be used in the STTM pricing and scheduling process and any new files submitted after that time will be rejected.
- As at 11:00am, if the STTM facility operator has not updated or confirmed flagged data, the flagged data will be used in the STTM pricing and scheduling process.
- If an STTM facility operator has not submitted an operational capacity at either 9:30am or 11:00am, AEMO will use: if available, the operational capacity submitted 2 days ahead of the relevant gas day (D-2); otherwise if available, the operational capacity submitted 3 days ahead of the relevant gas day (D-3); otherwise the default capacity for that STTM facility.
- The process outlined above applies to the provisional operational capacity data (provided 2 days and 3 days ahead of a gas day) and the operational capacity provided a day ahead of the relevant gas day. It should however be noted that the confirmation functionality only applies to the day ahead provision of capacity data on the basis that the proposed changes were intended to address data quality issues for the ex-ante price in which case confirmation of any provisional capacity was not considered necessary. This also allowed for a simpler IT design. The file update functionality applies to all.

Clause 7.1.4 will require AEMO to make available the operational capacity (and its status) shortly after 9:30am and 11:00am (this is both for operational capacity data provided 3 days, 2 days and a day ahead of the relevant gas day).

The proposal does not change the time by which trading participants are required to submit bids and offers, or the time in which AEMO is required to issue/publish the ex ante market schedule.

5.1.2 Changes to the ex post imbalance price process

Rule 419 requires the allocation agent for an STTM facility to submit an allocation notice by 11:00am (4.5 hours after the start of the gas day) for the preceding gas day and requires AEMO to validate and substitute data in accordance with the STTM Procedures.

The NGR and STTM Procedures do not place a restriction on the number of times the allocation agent submits updates to its allocation notice for an STTM facility.

Clauses 7.2.1A to 7.2.1C of the STTM Procedures sets out how AEMO will validate and substitute data, as follows:

- AEMO will validate an allocation notice submitted by the allocation agent for an STTM facility in accordance with the validation tests outlined in the SIP. These validations will apply to all allocation notices submitted by the allocation agent for the previous gas day.
- Among other validations specified in the SIP, two validations will be applied. The STTM facility allocations will be rejected if it is greater than the maximum capacity of that STTM facility or below zero; and the STTM facility allocations will be flagged if it breaches the upper or lower bound thresholds specified in the SIP (i.e. the warning tests).
- If the data submitted breaches the validation tests, AEMO will be required to notify the allocation agent for the STTM facility. This will occur each time data submitted breaches the validation tests.
- As at 11:00am, if an allocation notice submitted by an allocation agent for an STTM facility for a hub does not breach validations, that allocation notice will be used to set the ex post imbalance price. If all allocation notices for a hub do not breach validation, then AEMO will be required to make available the ex post imbalance price to trading participants by 12:00noon (5.5 hours after the start of the gas day). If AEMO fails to do so, an administered ex post pricing state will apply.
- As at 11:00am, if an allocation notice submitted by an allocation agent for an STTM facility for a hub breaches validations or no data is submitted, that allocation agent will have until

3:00pm (8.5 hours after the start of the gas day) to update or confirm the flagged data or submit the data (if no data is submitted at 11:00am).

It should be noted that if an allocation notice submitted for an STTM facility does not breach validations as at 11:00am (“Allocation Agent A”), but an allocation notice submitted for another STTM facility (“Allocation Agent B”) at the same hub breaches validation at 11:00am, then Allocation Agent B will have until 3:00pm to update or confirm the flagged data. Allocation Agent A’s allocation notice as at 11:00am will be used to set the ex post imbalance price. The setting of the ex post imbalance price for that hub will be deferred from 12:00noon to 4:00pm (9.5 hours after the start of the gas day), unless a market administered scheduling or settlement state applies to that hub.

In the event the setting of the ex post imbalance price for that hub will be deferred from 12:00noon to 4:00pm¹, AEMO will be required to determine a provisional ex post imbalance price by 12:00noon, using the information provided by the other STTM facility and default STTM facility allocations for the relevant STTM facility. The provisional ex post imbalance price will be used for the purposes of determining the cumulative price calculation conducted for tomorrow’s gas day (D=d+1). The ex post imbalance price determined by 4:00pm will be used for the purposes of determining the cumulative price for gas day D=d+2.

For prudential monitoring purposes, the latest price at the time prudential monitoring is run, whether that is the provisional ex post imbalance price or the ex post imbalance price, will be used. The most recent allocation file, at the time prudential monitoring is run, will be used.

- If the 11:00am window opens for the reasons outlined above, once the STTM facility allocation pass validation or is confirmed by 3:00pm, that allocation file will be used to set the ex post imbalance price, and not any file submitted after that time.

In the event the allocation agent does not resubmit or confirm its flagged data by 3:00pm, AEMO will use the latest STTM allocation file submitted by the allocation agent. If an allocation agent for an STTM facility has not submitted an allocation notice for a gas day at either 11:00am or 3:00pm, then AEMO will use the default facility allocations to determine the ex post imbalance price by 4:00pm.

- Where the ex post imbalance price is delayed from 12:00noon to 4:00pm at a hub and if AEMO is unable to make available the ex post imbalance price by 4:00pm, then an administered ex post pricing state will apply.

5.1.3 Reporting and information

Transparency is an important element of this process to ensure that market participants are aware of the processes that would lead to the triggers being hit or resetting of prices in the event of incorrect facility allocation data, and reporting which triggers where hit which lead to the substitution of data.

In this regard, the procedure changes will require AEMO to publish the maximum capacity for each STTM facility; the default capacity for each STTM facility; and the upper and lower warning bound validation thresholds applied for the ex ante market processes and ex post imbalance price processes (see clause 3.4).

In addition, the procedure change will require AEMO to report on instances where it has validated and substituted data in the day ahead ex ante market process (i.e. for D-1 not for the provisional schedules) and the ex post imbalance price process.(see clause 7.6).

¹ Where an allocation notice breaches validation as at 11:00am and a market administered scheduling or settlement state applies for the relevant hub, then AEMO, in accordance with rule 426(1A) will not delay the determination of the ex post imbalance price. This is because under these administered states, the ex post imbalance price is set to the ex ante market price.

5.2 Changes to the STTM Procedures since I&IR

Appendix B presents the marked up changes to the STTM Procedures resulting from the STTM validation and price setting proposal. The following changes have been made to the procedure amendments that were presented in the I&IR:

- *Clause 3.4:* this clause has been amended to reflect when the data is expected to be made available to trading participants. The aim is to ensure that this data is made available ahead of the reports advising participants whether data has breached validations is released. Therefore, the default capacity, maximum capacity and upper and lower bound warning validations for each STTM facility will be made available by the first cut-off time for submission of an STTM facility's operational capacity data (9:30am). The warning validations for the STTM facility allocations will be made available the day before the ex post imbalance price is determined for a gas day.
- *Clause 6.4.1 and 6.4.2:* these clauses have been amended to reflect the new definition "capacity information" incorporated into the NGR in light of the AEMC's decision on the STTM validation and price setting process.
- *Clauses 7.1.3A to 7.1.4:* Following feedback from stakeholders, the provisions have been broken into sections to reflect key validation and substitution activities for ease of readability.
- Minor redrafting of some clauses, without changing the intent of the proposal, have also been made to reflect amendments to the NGR drafting in the AEMC's final decision (i.e. definition of capacity information and amendments to drafting of 414). Furthermore, clause 7.1.3C has been amended to clarify what capacity information is used for the purposes of the ex ante market scheduling process.
- *Clauses 7.2.1A to 7.2.1C:* similar to clauses 7.1.3A to 7.1.4, the provisions have been broken into sections to reflect key validation and substitution activities for ease of readability.

Minor redrafting has been made to some clauses, without changing the intent of the proposal, to reflect amendments to the NGR drafting reflected in the AEMC's final decision (i.e. definition of STTM facility allocations, legal drafting of clause 419).

- *Clauses 7.2.1D and 7.2.1E:* minor redrafting to reflect the final NGR amendments.
- *Appendix C:* these changes have been made to accommodate the commencement of the Brisbane hub. They are technical changes to ensure that times are expressed consistently.

5.3 Assessment of likely effect of the proposal

AEMO considers that the proposal would benefit the market, trading participants and facility operators as it allows AEMO to put in place a mechanism to detect and address potentially suspect data before it is used in setting prices and schedules in the STTM.

As presented in the PPC and I&IR, AEMO considers that the costs of implementing this proposal (AEMO implementation costs and STTM facility operator changes) are outweighed by the benefits, including the material impact that erroneous data can have on the STTM and market participants.

As presented in the PPC, the high price event of 8 October 2010, in which the ex post imbalance price was set at \$390/GJ, resulted in \$2.67 million of deviation charges. If the correct allocation file had been submitted by the 11:00am cut-off time, the ex post imbalance price would have been \$2.78 /GJ. This would have resulted in only \$19,516 of deviation charges. The high deviation charges resulting from the erroneous data resulted in a market surplus of \$2.7 million, resulting in inefficient transfers of wealth between trading participants.

The high prices on 1 November 2010, (in which the ex ante market price was set at \$150 /GJ and the ex post imbalance price was set at \$400 /GJ), resulted in ex ante charges and payments of

\$34 million, deviation charges of \$335,247, deviation payments of \$4.3 million and market operator service (MOS) commodity payments of \$2 million. The very high deviation and MOS payments created a market shortfall of \$6.29 million, resulting in efficient transfers of wealth between trading participants. Had an STTM facility capacity been submitted which was more reflective of expected deliveries to the STTM Sydney hub from the MSP, this would have resulted in more efficient pricing and market outcomes.²

Consistent with the National Gas Objective, the procedure change promotes efficient investment and efficient operation of gas services in the long term interest of consumers by:

- Putting in place a mechanism which tries to ensure that market prices are more reflective of market conditions.
- Minimises occurrences of manifestly incorrect input data affecting market prices.
- Puts in place appropriate incentives and accountability on STTM facility operators to submit data that is reflective of market conditions by the times specified in the rules and procedures.
- Provides price certainty by providing for STTM facility data to be updated rather than resetting prices.
- The proposal outlines how AEMO will validate and substitute data—ensuring predictability and regulatory certainty to market participants.
- The overall information environment will also be improved leading to better functioning markets and information that participants have.

Failure to make these procedures will mean:

- There would not be the necessary provisions in the STTM Procedures to support the NGR amendments made by the AEMC to come into effect on 16 June 2011.
- There would be a significant risk for STTM trading participants without an appropriate mechanism in place that mitigates the likelihood of such events as those experienced on 8 October and 1 November 2011 from occurring and being addressed in future.

5.4 AEMO decision to make version 5 of the STTM Procedures

In accordance with rule 135EF of the NGR, AEMO has made the procedure changes relating to the STTM validation and price setting process amendments.

The procedure changes have been made taking into account the AEMC's final decision on the associated NGR changes, the assessment outlined in the proposed procedure change and the impact and implementation report, consultation with the STTM-CF and written submissions received by stakeholders during AEMO's public consultation process.

AEMO is giving notice that:

- it has decided to make the procedures, as outlined in Appendixes B and C of this decision;
- the procedures in Appendix A be made effective as of 16 June 2011; and

² Assuming a 140TJ operational capacity for the MSP and no changes to the bids and offers for gas day 1 November 2010, the ex ante market price would have been approximately \$1.11/GJ (noting that the ex ante market price for gas day 1 November was set at \$150/GJ), and the capacity price would have been set at \$0 because there would not have been a pipeline constraint reflected in the ex ante schedule (noting the capacity price for gas day 1 November 2010 was set at \$150/GJ). However, it is difficult to determine what the ex post imbalance price would have been, because trading participants' commercial decisions, including their pipeline nominations, would likely have been different, driven largely by the ex ante market price.

- the procedures in Appendix C will be made effective immediately after the changes to the STTM Procedures made for the purpose of establishing the Brisbane hub, described in the notice published on 14 April 2011.

Appendix A Summary of submissions and AEMO response

On 30 March 2011, AEMO released the I&IR for public consultation, seeking comments by 21 April 2011. AEMO received one submission from APIA.

A summary of comments raised by APIA together with AEMO's response is provided below.

Issue 1: changes to STTM Interface Protocol

Stakeholder comment: APIA raised concerns about the planned implementation date of the new IT system of 16 June being proposed without regard to the pipeline operators ability to achieve the necessary changes to their own systems.

APIA noted that the AEMO IT design solution for the confirmation of pipeline data with a warning flag was for a SWEXIE based CSV transaction which required changes to the pipeline operators own systems that may not be achievable in the time available. APIA considered there was significant effort on the part of the pipeline operators to change their systems for a transaction that is expected to occur infrequently. As an alternative, the pipeline operators had proposed a SWEX based confirmation as a solution which would not require any changes to their IT systems.

APIA also noted that a well consulted implementation and an agreed start date based on a consensus design would assist all effected pipeline operators in meeting their obligations to the market.

AEMO response: The draft changes to the SIP artefacts released to stakeholders in mid April 2011 proposed the confirmation functionality be undertaken via a CSV transaction. This was proposed because the SWEXIE based CSV transaction:

- was the only feasible option for the IT design solution given the timeframe for delivery;
- is consistent with the IT design approach that was agreed by industry to be adopted for STTM during the market establishment phase; and
- allowed for automation of the confirmation process by STTM facility operators that is not possible with the SWEX based manual confirmation preferred by the pipeline operators.

Noting the concerns raised by the pipeline operators following the release of the draft SIP artefacts, AEMO has been working with the STTM facility operators to consider alternative mechanisms to enable STTM facility operators to confirm flagged data.

APIA has proposed a SWEX based confirmation as a solution. While this option does not require changes to STTM facility operator IT systems, it would require changes to AEMO systems. AEMO considered whether a SWEX based confirmation solution could be implemented by 16 June 2011. AEMO's impact assessment indicated that including the SWEX based transaction would add five weeks to the delivery of the 16 June 2011 release, which then would cause a delay to the Queensland STTM delivery date as there are parallel system developments which require merging and testing. AEMO advised STTM facility operators on 29 April 2011 and market participants at the STTM-CF meeting of 3 May 2011 that a SWEX based solution could not be implemented by 16 June 2011.

Instead, AEMO undertook to develop a "tool" as an interim solution that STTM facility operators could use to confirm flagged data. Following consultation, AEMO proposes the following solution: AEMO systems will create a CSV confirmation transaction triggered by data submission breaking validation thresholds. The file will be sent to the STTM facility operator. The STTM facility operator will be able to submit the confirmation file to AEMO using the existing SWEX upload facility.

AEMO will consider and assess the options for a permanent solution for confirmation of flagged data and will consult with industry on the value/cost/benefits prior to any decisions on implementation.

AEMO recognises that early consultation on SIP artefacts is important to ensure AEMO and participants are ready to implement market changes by effective dates. AEMO will review this process to ensure stakeholders are consulted as early as possible on changes which have external facing impacts.

AEMO notes the concerns raised by APIA on the start date. AEMO notes that given the urgency of these changes, there is an expectation by interested parties that the implementation of these changes were to be pre-winter. Implementing these changes has been a priority for AEMO to ensure these arrangements are put in place as soon as possible to minimise risk to market participants, in addition to the checks which should be part of the STTM facility operators internal data validation process. AEMO will continue to monitor readiness of systems for release into production on 16 June 2011.

Issue 2: treatment of flagged operational capacity data and allocation data

Stakeholder comment: APIA considered that where data breaches validation and is unconfirmed then the STTM Procedures should require AEMO to use default data rather than the flagged unconfirmed data. APIA notes that the use of the default as a substitute reduces the risk of erroneous data causing high price events.

APIA also raised this issue as part of its submission to the AEMC on the NGR amendments for the STTM validation and price setting process. The AEMC referred the matter to be considered by AEMO as part of its STTM Procedure change process.

AEMO response: the procedure changes propose:

- **STTM facility operational capacity data:** the STTM facility operator is required to submit the operational capacity of an STTM facility by 9:30am. If data is not submitted by this time or the data fails validation, the STTM facility operator will have until 11:00am to submit or confirm the flagged data. The data will be rejected if it is greater than the maximum capacity or less than zero. The data will be flagged if it breaches an upper or lower bound warning validation. If the STTM facility operator does not update or confirm that flagged data submitted by 11:00am, then AEMO will use the flagged data (not the default capacity).
- **STTM facility allocations:** an allocation agent for an STTM facility is required to submit an allocation notice by 11:00am. If data is not submitted by this time or the allocation notice fails validation, the allocation agent will have until 3:00pm to submit or confirm the flagged allocation notice. The data will be rejected if it is greater than the maximum capacity or less than zero. The data will be flagged if it breaches an upper or lower bound warning validation. If the allocation agent does not update or confirm flagged data, then AEMO will use the flagged data (not default STTM facility allocations) to set the ex post imbalance price.

The issue of using default data versus flagged data was consulted on with industry and discussed at the STTM-CF. The key reasons for use of the flagged data rather than default data are:

- While the data submitted at the first cut-off time (i.e. 9:30am for the operational capacity or 11:00am for the STTM facility allocations) is flagged, it may be correct. AEMO has no way of knowing whether the data submitted is correct or incorrect without the STTM facility operator advising AEMO through the update or confirmation process, which is why this process is introduced as part of this procedure change.

While the flagged data may be correct, the use of the default capacity is not correct. The purpose of the default is to provide a “back-up” number in instances where data is not submitted by an STTM facility operator for a particular gas day. The default capacity, unlike the operational capacity, is updated on an ad-hoc basis and may not necessarily reflect the operational capacity of the STTM facility to deliver to the hub at that point in time.

The intent of the proposal is to minimise use of erroneous data in setting price. This includes using erroneous data that either set the operational capacity too high or too low. Both have financial impacts on trading participants. While setting the operational capacity too low leads to an artificial constraint reflected in market prices, setting the operational capacity too high will mean the prices are not appropriately reflecting potential constraints, including eliminating capacity pricing signals and restricting the ability for the STTM to appropriately compensate firm STTM shippers for use of funded capacity.

- Maintain the accountability and incentive on the STTM facility operator to submit accurate data that reflects the information it has at the time. Using the default capacity (which is usually a high number) may reduce the onus on the STTM facility operator to respond to flagged data knowing that the default capacity will be used. Whereas, using the flagged data puts the onus on the STTM facility operator to get its processes right to ensure the data submitted by the first cut-off time (i.e. 9:30am for the operational capacity or 11:00am for the STTM facility allocations) is right and respond to flagged data by 11:00am to minimise potential for regulatory recourse.

The intent of the changes to the STTM validation and price setting process is to enable AEMO to validate the data submitted by the STTM facility operator, flag any data that breaches the validation thresholds (which are made publically available on a daily basis), and provide STTM facility operators with an opportunity to update or confirm flagged data.

The intent of the proposal is not to minimise occurrences of high price events. If there is a legitimate constraint on supply to the hub, then the market price should reflect this to ensure the right signals are being sent to trading participants and investors. The intent of the proposal is to ensure that processes are put in place that minimise the use of erroneous data in the scheduling and price setting process. AEMO considers the proposal achieves this intent while maintaining appropriate accountability for the provision of accurate data.

In its submission to the AEMC, APIA queried how long AEMO’s validation process will take. As outlined in the SIP, which has been made available to interested parties, the validation conducted by AEMO will be automated. This means that shortly after the data is submitted by the STTM facility operators/allocation agent, they will be advised if their data had breached validations. In addition, as outlined in clause 3.4 of the procedure changes, the validation thresholds will be released daily ahead of the data cut-off times to inform participants of the validations that will be applied to STTM facility data for a gas day.

Appendix B STTM Procedure Changes

Marked up changes—**Blue** underline represents additions. **Red** and ~~strikeout~~ represent deletions.

CHAPTER 1: PRELIMINARY

1.2 Definitions

Amend:

default gas day capacity means the capacity of an *STTM facility* for a *gas day* that is provided to AEMO by the *STTM facility operator* under rule 376(1)(f), or determined by AEMO under rule 377(2), ~~and taken to have been given to AEMO in the circumstances described in or clause 7.1.3C(c). rule 414(2).~~

pipeline hub capacity means the quantity of gas that an *STTM facility operator* has notified AEMO that the *STTM facility* will be able to deliver to the *hub* for the *gas day* represented in the *SPA*, as specified in accordance with rule 414~~(1)~~.

Insert after “**positive deviation range**”:

provisional ex post imbalance price means the price determined in accordance with clause 7.2.1E.

CHAPTER 2 - HUBS

No changes required.

CHAPTER 3 – STTM FACILITIES AND DISTRIBUTION SYSTEM INFORMATION

Insert:

3.4 STTM facility operator data

(a) By 9:30am on each *gas day* for the following *gas day*, AEMO must make available to *Trading Participants* and *publish* as soon as possible after that time:

(i) the *default gas day capacity*; and

(ii) the *maximum gas day capacity*; and

(iii) the *validation thresholds* to be applied under clause 7.1.3A.

(b) By 5:00pm on each *gas day* for that *gas day*, AEMO must make available to *Trading Participants* and *publish* as soon as possible after that time, the *validation thresholds* to be applied under clause 7.2.1A.

CHAPTER 4: REGISTRATION OF SERVICES AND TRADING RIGHTS

No changes required.

CHAPTER 5 – MARKET OPERATOR SERVICE

No changes required.

CHAPTER 6 – SCHEDULING AND PRICING ALGORITHM

Amend and insert:

6.4.1 Provisional schedules and ex ante market schedules

The data to be processed by the SPA to produce a *provisional schedule* or an *ex ante market schedule* for a *hub* and a *gas day* are:

- (a) valid *ex ante offers*, *ex ante bids* and *price taker bids* for that *hub* as at the time specified in rule 415(1)(a) for a *provisional schedule* or *ex ante market schedule*, as applicable;
- (b) the *incremental price step quantities* determined in clause 6.3 for the valid *ex ante offers*, *ex ante bids* and *price taker bids* described in paragraph (a);
- (c) the *capacity limits* for *registered trading rights* associated with *ex ante offers*, *ex ante bids* and *price taker bids* for that *hub* as at the time specified in rule 415(1)(b) for a *provisional schedule* or *ex ante market schedule* as applicable;
- (d) the available *capacity information* for ~~of~~ each *STTM facility* for that *hub* for that *gas day* in accordance with clause 7.1.3C(d) ~~as at the time specified in rule 415(1)(e)~~;
- (e) the following data for each *registered trading right* associated with *ex ante offers* or *ex ante bids* from *STTM Shippers* for that *hub* as at the time specified in rule 415(1)(d) for a *provisional schedule* or *ex ante market schedule* as applicable:
 - (i) *the STTM facility* associated with that *registered trading right*;
 - (ii) *the priority of the registered facility service* associated with that registered trading right; *and*
 - (iii) *the flow direction of the registered facility service* associated with that registered trading right;
- (f) a *market long offer quantity* of zero;
- (g) a *market long offer price* less than *MMP*;
- (h) a *market short bid quantity* of zero;
- (i) a *market short bid price* greater than *MPC*;
- (j) a price, greater than *MPC* but less than the *market short bid price*, to be applied to *price taker bids*; *and*
- (k) any other *SPA* input parameters required to implement the functionality of the *SPA* determined by AEMO in accordance with clauses 6.5.6 and 6.5.7.

Amend and insert:

6.4.2 Ex post imbalance price and Provisional ex post imbalance price

The data to be processed by the SPA to produce an *ex post imbalance price* or an *provisional ex post imbalance price* for a *hub* and a *gas day* are:

- (a) valid *ex ante offers*, *ex ante bids* and *price taker bids* for that *hub* as at the time specified in rule 415(1)(a) for that *gas day* for the *provisional schedule* or *ex ante market schedule*, as applicable;
- (b) the *incremental price step quantities* determined in clause 6.3 for the valid *ex ante offers*, *ex ante bids* and *price taker bids* described in paragraph (a);
- (c) the *capacity limits* for *registered trading rights* associated with *ex ante offers*, *ex ante bids* and *price taker bids* for that *hub* as at the time specified in rule 415(1)(b) for the *provisional schedule* or *ex ante market schedule* as applicable;
- (d) the available capacity information for ~~of~~ each *STTM facility* for that *hub* for that *gas day* in accordance with clause 7.1.3C(d) ~~as at the time specified in rule 415(1)(c)~~;
- (e) the following data for each *registered trading right* associated with *ex ante offers* or *ex ante bids* from *STTM Shippers* for that *hub* as at the time specified in rule 415(1)(d) for the *provisional schedule* or *ex ante market schedule* as applicable:
 - (i) the *STTM facility* associated with that *registered trading right*;
 - (ii) the priority of the *registered facility service* associated with that *registered trading right*; and
 - (iii) the flow direction of the *registered facility service* associated with that *registered trading right*;
- (f) a *market long offer quantity* equal to the greater of zero and:
 - (i) the sum over all *registered trading rights* that allow flow to the *hub* on *STTM facilities* on that *gas day* of the *market schedule quantity* of each *registered trading right*; less
 - (ii) the sum over all *STTM facilities* serving that *hub* of the *allocated quantities* on *registered facility services* that allow flow to the *hub* on that *gas day* as provided to AEMO under rule 419(1) or substituted under clause 7.2.1C; less
 - (iii) the sum over all *STTM facilities* serving that *hub* of all *MOS gas* on *registered facility services* that allow flow from the *hub* on that *gas day* as provided to AEMO under rule 419(1) or substituted under clause 7.2.1C;
- (g) a *market long offer price* less than *MMP*;
- (h) a *market short bid quantity* equal to the greater of zero and:
 - (i) the sum over all *STTM facilities* serving that *hub* of the *allocated quantities* on *registered facility services* that allow flow to the *hub* on that *gas day* as provided to AEMO under rule 419(1) or substituted under clause 7.2.1C; and

- (ii) the sum over all *STTM facilities* serving that hub of all *MOS gas* on *registered facility services* that allow flow from the *hub* on that *gas day* as provided to AEMO under rule 419(1) or substituted under clause 7.2.1C, less
 - (iii) the sum over all *registered trading rights* that allow flow to the *hub* on *STTM facilities* on that *gas day* of the *market schedule quantity* of each *registered trading right*;
- (i) a *market short bid price* greater than *MPC*;
 - (j) a price, greater than *MPC* but less than the *market short bid price*, to be applied to *price taker bids*; and
 - (k) any other *SPA* input parameters required to implement the functionality of the *SPA* determined by AEMO in accordance with clauses 6.5.6 and 6.5.7.

CHAPTER 7 – GENERAL MARKET OPERATIONS

Amend and insert:

7.1.3A Validation of capacity information

- (a) For the purposes of rule 414(2A), AEMO must validate information included in a notice provided under rule 414(1), in accordance with the requirements of the *STTM Interface Protocol*.
- (b) AEMO must promptly notify the relevant *STTM facility operator* if information is not provided under rule 414(1), or if information provided under rule 414(1) fails validation.

7.1.3B Update of capacity information

For the purpose of rule 414(2B), if notified by AEMO, an *STTM facility operator* must:

- (a) update a notice provided under rule 414(1) by 11:00am; or
- (b) on the *gas day* before the *gas day* to which that information relates, confirm a notice provided under rule 414(1) by 11:00am.

7.1.3C Substitution of capacity information

- (a) If AEMO receives an updated notice under clause 7.1.3B, it must substitute the values provided in that notice for those provided in the original notice provided under rule 414(1).
- (b) If AEMO does not receive an updated notice under clause 7.1.3B it must retain the values provided in the original notice under rule 414(1).
- (c) If an *STTM facility operator* does not give AEMO a notice in accordance with rule 414(1) and does not subsequently provide an updated notice in accordance with clause 7.1.3B in respect of a *gas day*, then AEMO must use:
 - (i) if available, the *capacity information* provided under rule 414 on the *gas day* that is 2 *gas days* before the *gas day* to which that information relates; otherwise
 - (ii) if available, the *capacity information* provided under rule 414 on the *gas day* that is 3 *gas days* before the *gas day* to which that information relates; otherwise
 - (iii) the registered quantity of gas provided under rule 376(1)(f) or determined under rule 377(2) for that *gas day*.

- (d) For the purposes of 6.4.1 and 6.4.2, AEMO must use:
- (i) if available as at 11:00am, the last notice for that *hub* and *gas day* provided to AEMO in accordance with rule 414(1) or clause 7.1.3B or paragraph (b); otherwise
 - (ii) the *capacity information* determined by AEMO in accordance with paragraph (c).

Note: AEMO will determine *capacity information* by using data provided at 9:30am that passes validation, if this is unavailable AEMO will use updated information provided by 11:00am that passes validation or is confirmed by the *STTM facility operator*. If no data has passed validation or been confirmed AEMO will use the most recently provided data. AEMO will only use a default capacity if the *STTM facility operator* has not provided any data.

7.1.4 Publication of ~~C~~capacity information

For the purpose of rule 414(3), the most recent *capacity information* ~~provided (or taken to be provided)~~ for each ~~STTM facility~~ under rule 414 must be made available to *Trading Participants* and other persons authorised by AEMO:

- (a) promptly after 9:30am and 11:00am on the *gas day* that is 3 *gas days* before the *gas day* to which that information relates; and
- (b) promptly after 9:30am and 11:00am on the *gas day* that is 2 *gas days* before the *gas day* to which that information relates; and
- (c) promptly after 9:30am and 11:00am on the *gas day* before the *gas day* to which that information relates.

Amend and insert:

7.2.1 Content of STTM facility allocation notices

- (a) For the purposes of rule 419(2)(c), an allocation notice for an *STTM facility* must contain the following additional information:
 - (i) the *gas day* to which the allocation notice relates;
 - (ii) the *identifier* of the *STTM facility* to which the allocation notice relates; and
 - (iii) the *identifier* of each *registered facility service* that is provided by means of the relevant *STTM facility*.
- (b) For the purposes of rule 419(4), a *billing period allocation statement* must be provided to AEMO four business days prior to:
 - (i) the date on which AEMO must issue a *preliminary statement*, *final statement* or *revised statement* in accordance with Division 10 of the Rules; or
 - (ii) any date in respect of which AEMO advises the relevant *allocation agent* that it intends to issue a *revised statement*.

7.2.1A Validation of STTM facility allocations

- (a) For the purposes of rule 419(2A) AEMO must validate information included in an allocation notice provided under rule 419(1), in accordance with the *STTM Interface Protocol*.
- (b) AEMO must promptly notify the relevant *allocation agent* for an *STTM facility* if information is not provided under rule 419(1), or information provided under rule 419(1) fails validation.

7.2.1B Update of STTM facility allocations

For the purpose of rule 419(2B), if notified by AEMO, an *allocation agent* for an *STTM facility* must update or confirm an allocation notice provided under rule 419(1) by 3:00pm.

7.2.1C Substitution of STTM facility allocations

- (a) If AEMO receives an updated allocation notice under clause 7.2.1B it must substitute the values provided in that allocation notice for those provided in the original allocation notice under rule 419(1).
- (b) If AEMO does not receive an updated allocation notice under clause 7.2.1B it must retain the values provided in the original allocation notice under rule 419(1).
- (c) If:
 - (i) AEMO does not receive a notice in accordance with rule 419(1) and clause 7.2.1B by 3:00pm; or
 - (ii) AEMO rejects an allocation notice under rule 419(3) and has not received a subsequent allocation notice in accordance with clause 7.2.1B,

then AEMO must:

- (iii) determine the *STTM facility allocation* for each *registered facility services* for the *gas day* in respect of that *STTM facility* as if:
 - (A) the quantities of *gas* supplied to or withdrawn from the *hub* using the *registered facility services* on that *gas day* were equal to the quantities that were scheduled to be supplied or withdrawn for that service in the *ex ante market schedule* for that *gas day*; and
 - (B) no *MOS gas* was allocated to the *registered facility service* for that *gas day*.
- (d) AEMO must notify *Trading Participants* and other persons authorised by AEMO:
 - (i) promptly after 11:00am, if an allocation notice is; not provided under rule 419(1), or is rejected under rule 419(3) or if an allocation notice provided under rule 419(1) fails validation; and
 - (ii) promptly after 3:00pm, of a confirmation or substitution made under paragraphs (a), (b) or (c).

7.2.1D Ex post imbalance price

For the purposes of rule 426(2), AEMO must determine the *ex post imbalance price* for a *hub* for a *gas day* using:

- (a) the inputs used to determine the *ex ante market schedule* for that *hub* and *gas day* in accordance with rule 415(1); and
- (b) the *market scheduled quantities* specified in the *ex ante market schedule* for that *hub* and *gas day*; and
- (c) the *STTM facility allocations* for that *hub* and *gas day*.

Note: *STTM facility allocation* refers to the final number that is determined by AEMO in accordance with rule 419 or clause 7.2.1C not to the notices provided by participants under rule 419 or clause 7.2.1B.

7.2.1E Provisional ex post imbalance price

- (a) If AEMO has delayed the publication of the *ex post imbalance price* under rule 426(1A) it must determine a *provisional ex post imbalance price* for the preceding *gas day* using:
 - (i) the inputs used to determine the *ex ante market schedule* for that *hub* and *gas day* in accordance with rule 415(1); and
 - (ii) the *market scheduled quantities* specified in the *ex ante market schedule* for that *hub* and *gas day*; and
 - (iii) any available *STTM facility allocations*; and
 - (iv) if an *STTM facility allocation* is not available for an *STTM facility*, the quantity determined under clause 7.2.1C(c).
- (b) AEMO must make available the *provisional ex post imbalance price* to *Trading Participants* by 12 noon, and must publish that *provisional ex post imbalance price* as soon as practicable after that time.

Note: in the event the *ex post imbalance price* is deferred from 12:00noon to 4:00pm, AEMO will determine a *provisional ex post imbalance price*. The *provisional ex post imbalance price* will be used to calculate the cumulative price for tomorrow's *gas day* in accordance with clause 8.1.1 of these Procedures. The *provisional ex post imbalance price* may also be used for prudential monitoring in accordance with clause 11.1 of these Procedures—that is, the latest price at the time prudential monitoring is undertaken by AEMO, whether that is the *provisional ex post imbalance price* or the *ex post imbalance price*, will be used for prudential monitoring purposes.

7.6 Reporting on validation and substitution of data

- (a) AEMO must prepare a report if information to be provided in accordance with:
 - (i) rule 414, on a *gas day* for the following *gas day*; or
 - (ii) rule 419,

is not provided or fails validation.

- (b) The report must include:
- (i) a description of the event;
 - (ii) AEMO's assessment of:
 - (A) the actions taken by STTM facility operators and AEMO in relation to the event;
 - (B) the effect of the event on the operation of the STTM; and
 - (iii) any other matter that AEMO considers relevant.
- (c) AEMO must publish the report within 30 business days of the conclusion of the event.

CHAPTER 8 – ADMINISTERED MARKET STATES

Amend and insert:

8.1.1 Cumulative Price Threshold

- (a) For the purposes of rule 428(1)(b) and 432, the *cumulative price threshold* is exceeded in respect of a *gas day* D if the cumulative price determined under paragraph (b) for *gas day* D exceeds the *cumulative price threshold*.
- (b) The cumulative price based on data available on *gas day* d to apply to a *gas day* D=d+1 is Z(d), being the prior *gas day*'s cumulative price adjusted to include the price contribution of *gas day* d and to exclude the price contribution of *gas day* d-n, calculated as:

$$Z(d) = Z(d-1) + A(d) - A(d-n)$$

where:

- (i) Z(d) is the cumulative price based on data available on *gas day* d;
 - (ii) Z(d-1) is the cumulative price based on data available on *gas day* d-1;
 - (iii) A(d) is the price contribution determined under paragraph (c) based on data available on *gas day* d, to be added to the cumulative price;
 - (iv) A(d-n) is the price contribution determined under paragraph (c) based on data available on *gas day* d-n, to be deducted from the cumulative price because it is no longer within the period to be accumulated; and
 - (v) n is the number of days in the *CPT horizon*.
- (c) The price contribution based on data available on *gas day* d, being the value of A(d) in the cumulative price calculation, representing the contribution of prices determined for *gas days* D=d-1, D=d and D=d+1 as known on *gas day* d and which have not already been included in the cumulative price, is calculated as:

$$A(d) = Cx(d) + Cy(d) + Cz(d)$$

where:

- (i) $C_x(d)$ is the contribution of prices determined for gas day $D=d+1$, calculated as $\text{Max}(0, \text{HP}(d))$;
 - (ii) $C_y(d)$ is the contribution of prices determined for gas day $D=d$, calculated as $\text{Max}(0, \text{HCGP1}(d) - C_x(d-1))$;
 - (iii) $C_z(d)$ is the contribution of prices determined for gas day $D=d-1$, calculated as:
 - (A) if $\text{DPFlag}(d) = 1$ for gas day $D=d-1$, then $C_z(d) = \text{Max}(0, \text{Max}(\text{EPP}(d), \text{HCGP2}(d), \text{MPC}(d-1)) - C_y(d-1) - C_x(d-2))$;
 - (B) otherwise, $C_z(d) = \text{Max}(0, \text{Max}(\text{EPP}(d), \text{HCGP2}(d)) - C_y(d-1) - C_x(d-2))$;
 - (iv) $\text{HP}(d)$ is, subject to paragraph (d), the *ex ante market price* determined on *gas day* d for the *gas day* $D=d+1$;
 - (v) $\text{HCGP1}(d)$ is the highest priced *contingency gas offer scheduled* for *gas day* $D=d$ as at 12:00 PM (noon) on *gas day* d , but if no *contingency gas offer* has been *scheduled* as at that time then $\text{HCGP1}(d)=0$;
 - (vi) $\text{HCGP2}(d)$ is, subject to paragraph (d), the final *high contingency gas price* determined on *gas day* d for *gas day* $D=d-1$, but if no *high contingency gas price* has been determined then $\text{HCGP2}(d)=0$;
 - (vii) $\text{EPP}(d)$ is, subject to paragraph (d) [and \(e\)](#), the *ex post imbalance price* determined on *gas day* d for *gas day* $D=d-1$; and
 - (viii) $\text{MPC}(d-1)$ is the *MPC* applicable to *gas day* $D=d-1$.
- (d) In determining $A(d)$, if the application of the *administered price cap* under rule 428 results in a price determined by AEMO being lower than it would have been before the application of that price cap, then the uncapped price must be used in the determination of $A(d)$. However, if a price required for the determination of $A(d)$ was determined under the *administered ex post pricing state* or *market administered scheduling state*, then the prices as determined under rule 429 or 430 (as applicable) must be used.

Note: There will only be a raw price if the normal process – such as running the SPA – has been executed and completed normally, otherwise AEMO is defining a price under Rules and hence has no raw price.

(e) [In the event that rule 426\(1A\) applies:](#)

- (i) [a provisional ex post imbalance price is to be used for the purposes of defining EPP\(d\) to determine A\(d\) for gas day D=d+1; and](#)
- (ii) [the ex post imbalance price determined by AEMO in accordance with rule 426\(1A\) is to be used for the purposes of determining the cumulative price for gas day D=d+2.](#)

Note: If a notice provided by an *STTM facility operator* in accordance with rule 419(1) is reviewed in accordance with rule 419(2A), a *provisional ex post imbalance price* using default allocations for that *STTM facility* and *gas day d* is to be used for the purposes of determining the cumulative price for gas day $D=d+1$. The *ex post imbalance price* made available to *Trading Participants* by 4:00pm for *gas day d* is to be used for the purposes of determining the cumulative price for gas day $D=d+2$.

CHAPTER 9 – CONTINGENCY GAS

No changes required.

CHAPTER 10 – SETTLEMENT

No changes required.

CHAPTER 11 – PRUDENTIAL REQUIREMENTS

Amend and insert:

11.1 Monitoring

- (a) For the purpose of rule 484, AEMO must review its estimated exposure to each *Trading Participant* on each business day.
- (b) A review under paragraph (a) must take into account the following unpaid amounts:
 - (i) from previous *billing periods* where there is a *settlement statement* but payment under that *settlement statement* is not yet due – the unpaid amount from the most recent *settlement statement* for the *billing period*; and
Note: This will include revised settlement amounts from previous months.
 - (ii) from previous *billing periods* where there is no *settlement statement* – an estimate of the unpaid amount for the *billing period* determined by AEMO using the prices, quantities and allocation data available at the time of the review; and
 - (iii) from the current *billing period*, up to and including the *gas day* before the review day – an estimate of the unpaid amount for the current *billing period* determined by AEMO using the prices, quantities and allocation data available at the time of the review.

Note: The review process is essentially a mini-settlement run for the month to date, combined with settlement amounts from the previous month. The review will take place after the allocations and prices from the previous *gas day* are available. The monthly amounts, such as the settlement shortfall or surplus allocation will be calculated as month to date balances. If AEMO has delayed the publication of the *ex post imbalance price* in accordance with rule 426(1A) the *provisional ex post imbalance price* may be used in the review.

CHAPTER 12 – TRANSITIONAL

No changes required.

Appendix C Consequential STTM Procedure Changes

Marked up changes—**Blue** underline represents additions. **Red** and strikeout represent deletions.

Changes are shown against version 5 of the STTM Procedures

CHAPTER 1: PRELIMINARY

No changes required

CHAPTER 2 - HUBS

No changes required.

CHAPTER 3 – STTM FACILITIES AND DISTRIBUTION SYSTEM INFORMATION

Amend and insert:

3.4 STTM facility operator data

- (a) By ~~9:30am~~ 3 hours after the beginning of a ~~on each~~ gas day for the following gas day, AEMO must make available to *Trading Participants* and *publish* as soon as possible after that time:
 - (i) the *default gas day capacity*; and
 - (ii) the *maximum gas day capacity*; and
 - (iii) the validation thresholds to be applied under clause 7.1.3A.
- (b) By ~~5:00pm~~ 10½ hours after the beginning of a ~~on each~~ gas day for that gas day, AEMO must make available to *Trading Participants* and *publish* as soon as possible after that time, the validation thresholds to be applied under clause 7.2.1A.

CHAPTER 4: REGISTRATION OF SERVICES AND TRADING RIGHTS

No changes required.

CHAPTER 5 – MARKET OPERATOR SERVICE

No changes required.

CHAPTER 6 – SCHEDULING AND PRICING ALGORITHM

No changes required.

CHAPTER 7 – GENERAL MARKET OPERATIONS

Amend and insert:

7.1.3B Update of capacity information

For the purpose of rule 414(2B), if notified by AEMO, an *STTM facility operator* must:

- (a) update a notice provided under rule 414(1) by ~~11:00am~~ 4½ hours after the beginning of a gas day; or
- (b) on the *gas day* before the *gas day* to which that information relates, confirm a notice provided under rule 414(1) by ~~11:00am~~ 4½ hours after the beginning of a gas day.

7.1.3C Substitution of capacity information

- (a) If AEMO receives an updated notice under clause 7.1.3B, it must substitute the values provided in that notice for those provided in the original notice provided under rule 414(1).
- (b) If AEMO does not receive an updated notice under clause 7.1.3B it must retain the values provided in the original notice under rule 414(1).
- (c) If an *STTM facility operator* does not give AEMO a notice in accordance with rule 414(1) and does not subsequently provide an updated notice in accordance with clause 7.1.3B in respect of a *gas day*, then AEMO must use:
 - (i) if available, the *capacity information* provided under rule 414 on the *gas day* that is 2 *gas days* before the *gas day* to which that information relates; otherwise
 - (ii) if available, the *capacity information* provided under rule 414 on the *gas day* that is 3 *gas days* before the *gas day* to which that information relates; otherwise
 - (iii) the registered quantity of gas provided under rule 376(1)(f) or determined under rule 377(2) for that *gas day*.
- (d) For the purposes of 6.4.1 and 6.4.2, AEMO must use:
 - (i) if available as at ~~11:00am~~ 4½ hours after the beginning of a gas day, the last notice for that *hub* and *gas day* provided to AEMO in accordance with rule 414(1) or clause 7.1.3B or paragraph (b); otherwise
 - (ii) the *capacity information* determined by AEMO in accordance with paragraph (c).

Note: AEMO will determine *capacity information* by using data provided ~~at 9:30am~~ 3 hours after the beginning of the gas day that passes validation, if this is unavailable AEMO will use updated information provided by ~~11:00am~~ 4½ hours after the beginning of a gas day that passes validation or is confirmed by the *STTM facility operator*. If no data has passed validation or been confirmed AEMO will use the most recently provided data. AEMO will only use a default capacity if the *STTM facility operator* has not provided any data.

7.1.4 Publication of capacity information

For the purpose of rule 414(3), the most recent *capacity information* must be made available to *Trading Participants* and other persons authorised by AEMO:

- (a) promptly after ~~9:30am~~ 3 and ~~11:00am~~ 4½ hours after the beginning of the on-the gas day that is 3 *gas days* before the *gas day* to which that information relates; and
- (b) promptly after ~~9:30am~~ 3 and ~~11:00am~~ 4½ hours after the beginning of the on-the gas day that is 2 *gas days* before the *gas day* to which that information relates; and

- (c) promptly after ~~9:30am~~ 3 and ~~11:00am~~ 4½ hours after the beginning of the ~~on the~~ gas day ~~before the~~ that immediately precedes the ~~gas day~~ to which that information relates.

Amend and insert:

7.2.1B Update of STTM facility allocations

For the purpose of rule 419(2B), if notified by AEMO, an *allocation agent* for an *STTM facility* must update or confirm an allocation notice provided under rule 419(1) by ~~3:00pm~~ 8½ hours after the beginning of a *gas day*.

7.2.1C Substitution of STTM facility allocations

- (a) If AEMO receives an updated allocation notice under clause 7.2.1B it must substitute the values provided in that allocation notice for those provided in the original allocation notice under rule 419(1).
- (b) If AEMO does not receive an updated allocation notice under clause 7.2.1B it must retain the values provided in the original allocation notice under rule 419(1).

(c) If:

- (i) AEMO does not receive a notice in accordance with rule 419(1) and clause 7.2.1B by ~~3:00pm~~ 8½ hours after the beginning of a *gas day*; or
- (ii) AEMO rejects an allocation notice under rule 419(3) and has not received a subsequent allocation notice in accordance with clause 7.2.1B,

then AEMO must:

- (iii) determine the *STTM facility allocation* for each *registered facility services* for the *gas day* in respect of that *STTM facility* as if:
- (A) the quantities of *gas* supplied to or withdrawn from the *hub* using the *registered facility services* on that *gas day* were equal to the quantities that were scheduled to be supplied or withdrawn for that service in the *ex ante market schedule* for that *gas day*; and
- (B) no *MOS gas* was allocated to the *registered facility service* for that *gas day*.
- (d) AEMO must notify *Trading Participants* and other persons authorised by AEMO:
- (i) promptly after ~~11:00am~~ 4½ hours after the beginning of a *gas day*, if an allocation notice is; not provided under rule 419(1), or is rejected under rule 419(3) or if an allocation notice provided under rule 419(1) fails validation; and
- (ii) promptly after ~~3:00pm~~ 8½ hours after the beginning of a *gas day*, of a confirmation or substitution made under paragraphs (a), (b) or (c).

7.2.1E Provisional ex post imbalance price

- (a) If AEMO has delayed the publication of the *ex post imbalance price* under rule 426(1A) it must determine a *provisional ex post imbalance price* for the preceding *gas day* using:
- (i) the inputs used to determine the *ex ante market schedule* for that *hub* and *gas day* in accordance with rule 415(1); and
 - (ii) the *market scheduled quantities* specified in the *ex ante market schedule* for that *hub* and *gas day*; and
 - (iii) any available *STTM facility allocations*; and
 - (iv) if an *STTM facility allocation* is not available for an *STTM facility*, the quantity determined under clause 7.2.1C(c).
- (b) AEMO must make available the *provisional ex post imbalance price* to *Trading Participants* by ~~12 noon~~ 5½ hours after the beginning of a gas day, and must publish that *provisional ex post imbalance price* as soon as practicable after that time.

Note: in the event the *ex post imbalance price* is deferred from ~~12 noon~~ 5½ to ~~4:00pm~~ 9½ hours after the beginning of a gas day, AEMO will determine a *provisional ex post imbalance price*. The *provisional ex post imbalance price* will be used to calculate the cumulative price for tomorrow's gas day in accordance with clause 8.1.1 of these Procedures. The *provisional ex post imbalance price* may also be used for prudential monitoring in accordance with clause 11.1 of these Procedures—that is, the latest price at the time prudential monitoring is undertaken by AEMO, whether that is the *provisional ex post imbalance price* or the *ex post imbalance price*, will be used for prudential monitoring purposes.

CHAPTER 8 – ADMINISTERED MARKET STATES

Amend and insert:

8.1.1 Cumulative Price Threshold

- (a) For the purposes of rule 428(1)(b) and 432, the *cumulative price threshold* is exceeded in respect of a *gas day* D if the cumulative price determined under paragraph (b) for *gas day* D exceeds the *cumulative price threshold*.
- (b) The cumulative price based on data available on *gas day* d to apply to a *gas day* D=d+1 is Z(d), being the prior *gas day*'s cumulative price adjusted to include the price contribution of *gas day* d and to exclude the price contribution of *gas day* d-n, calculated as:

$$Z(d) = Z(d-1) + A(d) - A(d-n)$$

where:

- (i) Z(d) is the cumulative price based on data available on *gas day* d;
- (ii) Z(d-1) is the cumulative price based on data available on *gas day* d-1;

- (iii) $A(d)$ is the price contribution determined under paragraph (c) based on data available on *gas day* d , to be added to the cumulative price;
 - (iv) $A(d-n)$ is the price contribution determined under paragraph (c) based on data available on *gas day* $d-n$, to be deducted from the cumulative price because it is no longer within the period to be accumulated; and
 - (v) n is the number of days in the *CPT horizon*.
- (c) The price contribution based on data available on *gas day* d , being the value of $A(d)$ in the cumulative price calculation, representing the contribution of prices determined for *gas days* $D=d-1$, $D=d$ and $D=d+1$ as known on *gas day* d and which have not already been included in the cumulative price, is calculated as:

$$A(d) = Cx(d) + Cy(d) + Cz(d)$$

where:

- (i) $Cx(d)$ is the contribution of prices determined for *gas day* $D=d+1$, calculated as $\text{Max}(0, \text{HP}(d))$;
 - (ii) $Cy(d)$ is the contribution of prices determined for *gas day* $D=d$, calculated as $\text{Max}(0, \text{HCGP1}(d) - Cx(d-1))$;
 - (iii) $Cz(d)$ is the contribution of prices determined for *gas day* $D=d-1$, calculated as:
 - (C) if $\text{DPFlag}(d) = 1$ for *gas day* $D=d-1$, then $Cz(d) = \text{Max}(0, \text{Max}(\text{EPP}(d), \text{HCGP2}(d), \text{MPC}(d-1)) - Cy(d-1) - Cx(d-2))$;
 - (D) otherwise, $Cz(d) = \text{Max}(0, \text{Max}(\text{EPP}(d), \text{HCGP2}(d)) - Cy(d-1) - Cx(d-2))$;
 - (iv) $\text{HP}(d)$ is, subject to paragraph (d), the *ex ante market price* determined on *gas day* d for the *gas day* $D=d+1$;
 - (v) $\text{HCGP1}(d)$ is the highest priced *contingency gas offer scheduled* for *gas day* $D=d$ as at ~~12:00 PM (noon)~~ on [5½ hours after the beginning of gas day](#) d , but if no *contingency gas offer* has been *scheduled* as at that time then $\text{HCGP1}(d)=0$;
 - (vi) $\text{HCGP2}(d)$ is, subject to paragraph (d), the final *high contingency gas price* determined on *gas day* d for *gas day* $D=d-1$, but if no *high contingency gas price* has been determined then $\text{HCGP2}(d)=0$;
 - (vii) $\text{EPP}(d)$ is, subject to paragraph (d) and (e), the *ex post imbalance price* determined on *gas day* d for *gas day* $D=d-1$; and
 - (viii) $\text{MPC}(d-1)$ is the *MPC* applicable to *gas day* $D=d-1$.
- (d) In determining $A(d)$, if the application of the *administered price cap* under rule 428 results in a price determined by AEMO being lower than it would have been before the application of that price cap, then the uncapped price must be used in the determination of $A(d)$. However, if a price required for the determination of $A(d)$ was determined under the *administered ex post pricing state* or *market administered scheduling state*, then the prices as determined under rule 429 or 430 (as applicable) must be used.

Note: There will only be a raw price if the normal process – such as running the SPA – has been executed and completed normally, otherwise AEMO is defining a price under Rules and hence has no raw price.

(e) In the event that rule 426(1A) applies:

- (i) a *provisional ex post imbalance price* is to be used for the purposes of defining EPP(d) to determine A(d) for *gas day* $D=d+1$; and
- (ii) the *ex post imbalance price* determined by AEMO in accordance with rule 426(1A) is to be used for the purposes of determining the cumulative price for *gas day* $D=d+2$.

Note: If a notice provided by an *STTM facility operator* in accordance with rule 419(1) is reviewed in accordance with rule 419(2A), a *provisional ex post imbalance price* using default allocations for that *STTM facility* and *gas day* d is to be used for the purposes of determining the cumulative price for *gas day* $D=d+1$. The *ex post imbalance price* made available to *Trading Participants* by ~~4:00pm~~ [9½ hours after the beginning of](#) *gas day* d is to be used for the purposes of determining the cumulative price for *gas day* $D=d+2$.

CHAPTER 9 – CONTINGENCY GAS

No changes required.

CHAPTER 10 – SETTLEMENT

No changes required.

CHAPTER 11 – PRUDENTIAL REQUIREMENTS

No changes required.

CHAPTER 12 – TRANSITIONAL

No changes required.