

9 February 2011

Mr John Pierce  
Chairman  
Australian Energy Market Commission  
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Sydney South NSW 1235

FROM THE OFFICE OF THE  
CHIEF EXECUTIVE OFFICER

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*John,*  
Dear Mr Pierce

### **Rule change request—STTM price setting process**

Since the Short Term Trading Market (STTM) commenced on 1 September 2010, there have been two pricing events at the STTM Sydney hub (8 October 2010 and 1 November 2010) which were a result of erroneous pipeline facility data. The two events had material impacts on trading participants at the STTM Sydney hub.

Following these two events, in consultation with STTM participants, the Australian Energy Market Operator (AEMO) has considered a range of options to mitigate the frequency and consequences of future data errors. In this regard, AEMO proposes to change the STTM data submission, validation and price setting processes to provide an ability to rectify possible data errors, following validation, before their use in the market scheduling and pricing processes.

This proposal requires changes to the National Gas Rules (NGR), specifically rules 414, 415, 419, 426 and 429 contained in Part 20 of the NGR. The proposal will also require changes to AEMO's STTM Procedures and IT systems.

AEMO requests that the AEMC consider this rule change proposal under section 304 of the National Gas Law (NGL). Section 304 applies if the AEMC considers that a request for a rule is a request for an urgent rule. AEMO considers that the proposed Rule be considered as an urgent Rule because failure to do so threatens the effective operation and administration of the STTM.

Failure to expedite the proposed Rule under section 304 of the NGL could create the risk of another event such as 8 October 2010 and 1 November 2010 occurring without having appropriate protections in place. For this reason, it is considered important to expedite implementation of these proposed changes ahead of the first winter period in which the STTM will operate.

A description and drafting of the proposed Rule, a statement of the issues concerning the existing NGR, and how the proposed Rule contributes to the achievement of the National Gas Objective (NGO) has been enclosed for your information.



For further details, please do not hesitate to contact Terry Grimwade, Executive General Manager—Market Performance, on (03) 9609 8520.

Yours sincerely

A handwritten signature in blue ink, which appears to read 'M. Zema', is positioned below the 'Yours sincerely' text.

**Matt Zema**  
**Managing Director and Chief Executive Officer**

Attachment A: Rule Change Proposal

## Attachment A: Rule Change Proposal

### 1 Background

The gas Short Term Trading Market (STTM) involves an ex ante market price and schedule being determined on the day before the relevant gas day. The ex ante market schedule is determined using supply offers and demand bids (submitted by trading participants), and the capacity of STTM facilities (as provided by the STTM facility operators).

An ex post imbalance price is calculated after the gas day, for each gas day for each STTM hub. The ex post imbalance price is determined based on actual gas flows that occurred on the gas day, with the quantities by which net consumption at the hub increased or decreased from the ex ante schedule being reflected in the price.

In determining these prices, the STTM relies on the provision of information from facility operators—specifically the operational capacity of an STTM facility (for the ex ante market price and schedule) and STTM facility allocation data (for the ex post imbalance price).

Since the market commenced on 1 September 2010, there have been two pricing events at the STTM Sydney hub (8 October 2010 and 1 November 2010) which were a result of erroneous STTM facility data:

- Gas day 8 October 2010—the ex post imbalance price was set at \$390 /GJ due to erroneous STTM facility allocations submitted by APA for the Moomba to Sydney Pipeline (MSP).
- Gas day 1 November 2010—the ex ante market price and capacity price were set at \$150/ GJ respectively and the ex post imbalance price was set at \$400 /GJ. This was largely due to erroneous STTM facility operational capacity submitted by APA for the MSP.

In light of these events, AEMO commenced a process to consider, in consultation with interested parties via the STTM Consultative Forum (STTM-CF)<sup>1</sup>, possible changes required to minimise the occurrence of such incidents and the effect and impact on the STTM and trading participants should erroneous data be submitted to AEMO.

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<sup>1</sup> The STTM-CF meetings in which this issue was discussed included: 12 November 2010, 23 November 2010, 14 December 2010, 18 January 2011 and 31 January 2011. The papers/issues presented at the STTM-CF and the minutes of those forum discussions can be found on the AEMO website at: [http://www.aemogas.com.au/index.php?action=filemanager&folder\\_id=2441&pageID=9954&sectionID=9948](http://www.aemogas.com.au/index.php?action=filemanager&folder_id=2441&pageID=9954&sectionID=9948)

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The aim of this process was to work through the issues to ensure appropriate consultation and assessment was undertaken to develop a workable approach<sup>2</sup> and, hence, minimise delays in the implementation process.

AEMO's process identified a number of areas requiring changes to the STTM design including changes to Part 20 of the National Gas Rules (NGR), STTM Procedures and AEMO STTM systems.

The first of these changes, the subject of this rule change, concerns changes to the data submission and price setting processes in the event potential errors in input data are identified. This covers the process for setting the:

- provisional and ex ante market prices and schedules for a gas day; and
- ex post imbalance price for a gas day.

The STTM-CF has unanimously supported the proposed rule changes and associated STTM Procedure changes. Specific issues raised by stakeholders during AEMO's consultation process are outlined in section 3 of this rule change proposal.

On 21 December 2010, the Ministerial Council on Energy (MCE) wrote to AEMO concerning the STTM high price events of 8 October 2010 and 1 November 2010, seeking the urgent implementation of appropriate solutions to prevent recurrence of these types of events.

## 2 Statement of Issues

### 2.1 Ex ante market processes

#### 2.1.1 Current NGR requirements

Currently NGR 414(1) requires an STTM facility operator to submit to AEMO the operational capacity of its STTM facility by 11:00am the day before the relevant gas day. In accordance with NGR 414(3), the capacity of the STTM facility, submitted by 11:00am, is made available to trading participants shortly after this time. The capacity of the STTM facility is an input into a trading participant's bids/offers, which are due to be submitted by 12:00noon.

NGR 415 sets out the information AEMO must use in determining the ex ante market schedule for a hub and a gas day. This includes the bids and offers in the market system at 12:00noon the day before the relevant gas day and the available capacity of each STTM facility submitted by STTM facility operators as at 11:00 am the day before the relevant gas day.

NGR 417 requires AEMO to issue the ex ante market schedule for each hub for the next gas day by 1:00pm. Rule 417(2) allows AEMO to issue a number of schedules for a gas day before 1:00pm, and each schedule validly supersedes the previous ex ante market schedule. In reissuing the ex ante market schedule for each hub for a gas day, AEMO cannot amend the input data for bids, offers and STTM facility capacity.

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<sup>2</sup> Noting any solution would require changes to AEMO systems and processes as well as changes to STTM facility operator processes and systems and impact trading participants.

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In the event AEMO is unable to issue an ex ante market schedule for a gas day for a hub, then the relevant administered states will apply (see NGR 417(5) & (6)).

The ex ante market schedule for each hub per gas day includes: the ex ante market price; the capacity prices for each STTM pipeline; the pipeline flow direction constraint price for each STTM pipeline; and the market scheduled quantity for each STTM facility. The operational capacity of a STTM facility is an input into determining the ex ante schedules and prices.

The provisional bids and offers and schedules are also determined on D-2 and D-3. Provisional bids and offers are due by 2:00pm and provisional schedules are issued by 3:00pm. The provisional schedules may become the ex ante market schedules in the event AEMO is unable to issue the D-1 schedule.

### **2.1.2 Issue with current NGR requirements**

AEMO considers that the current NGR, specifically NGR 414 and 415, do not provide an opportunity for the data submitted by the STTM facility operators, to be validated and, if necessary, reviewed and amended by the STTM facility operator(s) in time for the ex ante market scheduling process.

Without a mechanism and process which provides opportunity for the validation and substitution of data to take place in time for the ex ante market scheduling process, there will be continued potential for erroneous data to be used in the ex ante market pricing and scheduling processes.

As further discussed at section 2.3 of this rule change proposal, the use of erroneous operational capacity data can lead to inefficient pricing signals and market outcomes, including significant wealth transfers between STTM participants.

## **2.2 Ex post imbalance price process**

### **2.2.1 Current NGR requirements**

NGR 419 requires an STTM facility operator, by 11:00am on each gas day, to submit facility allocations for the preceding gas day. The facility allocations include market operator services (MOS) allocations. In the event that an STTM facility operator does not submit facility allocations by 11:00am or the file is rejected, default allocations will apply for that STTM facility allocation file (i.e. AEMO will use the ex ante market schedule for that STTM facility).

Under NGR 426, by 12:00 noon on each gas day, AEMO is to make available to trading participants the ex post imbalance price for each hub for the preceding gas day. In determining the ex post imbalance price, AEMO is required to use:

- The inputs used to determine the ex ante market schedule for that hub and gas day.
- The market schedule quantities specified in the ex ante market schedule for that hub and gas day.
- STTM facility allocations for that hub and gas day that are received at 11:00am, or if the data is not received by 11:00am, the default facility allocations.

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If AEMO is unable to make available the ex post imbalance price by 12:00 noon, then an administered ex post pricing state applies. This means that the ex post imbalance price is the lesser of the ex ante market price for that hub and gas day and the administered price cap.

### **2.2.2 Issue with current NGR requirements**

As highlighted above, the current NGR requires AEMO to determine the ex post imbalance price by 12:00 noon using the STTM facility allocations received at 11:00am, or if the data is not received by 11:00am, the default STTM facility allocations for that STTM facility.

AEMO considers that the issue with the current NGR requirements is that if AEMO receives erroneous or suspect STTM facility allocation data at 11:00am, the NGR requires AEMO to use this data in setting the ex post imbalance price. The NGR does not allow AEMO to validate the data submitted by the allocation agent for the STTM facility and defer the setting of the ex post imbalance price to enable the allocation agent to review and, if necessary, amend the STTM facility allocation data to ensure the ex post imbalance price better reflects market outcomes and conditions.

As with the ex ante market process, without a mechanism and process which provides opportunity for the validation and substitution of data to take place in time for the setting of the ex post imbalance price, there is greater potential for erroneous data to be used in the setting of the ex post imbalance price—financially impacting trading participants in the STTM and leading to inefficient wealth transfers between trading participants.

### **2.3 Impact of erroneous pipeline data in the STTM**

A general description of the impact of erroneous STTM facility data (operational capacity data and STTM facility allocations) on the STTM is presented at Appendix A.

Since the market commenced, there have been two incidents in which erroneous data was used in the STTM with a material impact on price outcomes. For gas day 8 October 2010, this was a result of erroneous STTM facility allocation data. For gas day 1 November 2010, this was a result of erroneous STTM facility operational capacity data.

The two incidents had material financial impacts on trading participants:

- The high price event of 8 October, 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.

Assuming a 140TJ operational capacity for the MSP<sup>3</sup> 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 not have been set 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). 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, largely due to the ex ante market prices.

- As part of the prudential monitoring process, some participants exceeded their trading limit and margin calls were issued to these participants. In these instances, the trading participants were able to respond to these margin calls. Had a trading participant not responded to a margin call, the NGR would have required AEMO to suspend that trading participant from the STTM.

It is clear that such events can have a material impact on the STTM and trading participants.

## 3 Proposed Solution and Rule

### 3.1 Description of the Proposed Rule

AEMO proposes to address the identified issues in section 3 as follows:

#### Ex ante market process

AEMO seeks to amend the delivery time for submission of the operational capacity of an STTM facility under NGR 414(1) from 11:00am to 9.30am. The purpose of this change is to enable AEMO to validate the operational capacity submitted by the STTM facility operators, flag any data that breaches validation thresholds, and provide STTM facility operators an opportunity to confirm or resubmit the flagged data in time for the ex ante scheduling process. AEMO will notify trading participants that data submitted at the 9:30am deadline has not met the validation criteria. If the data is not confirmed or resubmitted in time for the ex ante scheduling process, then AEMO will use the latest file submitted by the STTM facility operator for the ex ante market scheduling process, but will flag to trading participants that this data has not been confirmed.

The proposed Rule is not intended to change the time by which trading participants are required to submit bids and offers, or the release of the ex ante market schedule and prices.

<sup>3</sup> The 140TJ has been determined based on the operational capacity submitted by the MSP for gas day 31 October 2010 and 2 November 2010, and is close to the accepted pipeline nominations for the MSP for gas day 1 November 2010.

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A summary of AEMO's proposed solution is summarised at Appendix B (see Figure 1).

To fulfil the intent of this proposal, AEMO proposes changes to both the NGR and STTM Procedures.

AEMO proposes changes to the NGR as follows:

- Amend rule 414(1) to require STTM facility operators to submit the operational capacity of STTM facilities by 9.30am.
- Delete rule 414(2). This currently deals with what operational capacity is to be used by AEMO if an STTM facility operator does not submit the data in accordance with the timing set out in rule 414(1). This rule is no longer workable with the proposed changes to rule 414(1). In this regard, AEMO proposes to replace 414(2) with a requirement on AEMO to validate and substitute data in accordance with the STTM Procedures. The STTM Procedures will set out how AEMO will validate and substitute data, requiring the STTM facility operator to confirm or substitute the flagged data. AEMO will use the value confirmed or resubmitted by the STTM facility operator to set STTM prices and schedules.
- To support the ability for AEMO to validate and substitute data, AEMO proposes to insert a new rule to require an STTM facility operator to submit data, in accordance with the STTM Procedures. AEMO proposes to outline the details concerning what and by when an STTM facility operator would need to resubmit or confirm the original notice in the STTM Procedures.
- The rule change also proposes some consequential reference amendments, specifically in NGR 415.

### **Ex post imbalance price**

AEMO seeks to amend the NGR to enable AEMO to validate the STTM facility allocations, submitted by an allocation agent for an STTM facility, and defer the setting of the ex post imbalance price from 12:00noon till 4:00pm if the STTM facility allocations breach AEMO validations at the 11:00am cut-off time. In addition, AEMO also proposes to defer the setting of the ex post imbalance price in the event that STTM facility allocations are not submitted by 11:00am.

The intent of deferring the ex post imbalance price and allowing for the substitution of flagged data submitted at 11:00am is to provide the allocation agent for an STTM facility with an opportunity to review and confirm or resubmit the flagged data in time to allow AEMO to set the ex post imbalance price by 4:00pm.

AEMO also proposes that in the event that AEMO delays the setting of the ex post imbalance price, that this not be a trigger for the administered ex post pricing state. It is proposed that an administered ex post pricing state would apply in the event AEMO delays the setting of the ex post imbalance price and if AEMO is unable to make the ex post imbalance price available to trading participants by 4:00pm.

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If the data submitted by 11:00am is validated, it is proposed that the current arrangements would apply. This means that AEMO would be required to determine the ex post imbalance price by 12:00 noon and if AEMO is unable to do so then an administered ex post pricing state would apply.

The proposed solution is summarised at Appendix B (Figure 2).

To fulfil the intent of this proposal, AEMO proposes changes to both the NGR and STTM Procedures.

AEMO proposes changes to the NGR as follows:

- Consistent with the suggested change to the ex ante process outlined above, AEMO proposes that a new provision be inserted under rule 419 which requires AEMO to validate and substitute data submitted by an allocation agent for an STTM facility under rule 419(1), in accordance with the STTM Procedures. AEMO proposes to outline the details on how it will validate and substitute data that fails to meet validation criteria in the STTM Procedures.
- AEMO proposes to insert a new provision under rule 419 which requires an allocation agent for an STTM facility to confirm or resubmit data that is flagged as not meeting validation criteria, in accordance with the STTM Procedures. AEMO proposes that the details as to how and by when an allocation agent would need to resubmit or confirm the original allocation data will be set out in the STTM Procedures in order for AEMO to set an ex post imbalance price by 4:00pm.
- Delete 419(6). This rule deals with what data AEMO must use in the event an allocation file is not submitted by 11:00am or the file is rejected under rule 419(3). Retention of this rule would be contrary to AEMO's proposed new rule requiring AEMO to validate and substitute data in accordance with the details outlined in the STTM Procedures. Further, it would not enable AEMO to delay the setting of the ex post imbalance price until 4:00pm where an allocation file is not submitted or has been rejected as at 11:00am.
- Amend rule 426 to allow AEMO to delay the setting of the ex post imbalance price until 4:00pm in the event that STTM facility allocation data submitted at 11:00am breaches validation criteria.
- Amend rule 426(2) so that details concerning what is used in the ex post imbalance price is not prescribed in the rule but in the STTM Procedures. This change is proposed:
  - because this detail is already specified in the scheduling and pricing algorithm, which is outlined in the STTM Procedures; and
  - to support the ability for AEMO to use updated data if provided by the STTM facility operator in accordance with the associated STTM procedures to be developed by AEMO.
- Make changes to rule 426 and 429 to ensure that where AEMO delays the determination and publication of the ex post imbalance price, this does not result in an administered ex post pricing state being triggered. This state will only be triggered if AEMO has delayed the

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determination of the ex post imbalance price and is unable to make the ex post imbalance price available to trading participants by 4:00pm.

A copy of the proposed Rule is provided at Appendix C. For completeness, a copy of the draft STTM Procedure changes will be provided to the AEMC noting that the STTM Procedure changes are in the process of being finalised and will need to go through the formal procedure change process—as required by the NGR.

### **3.2 How the Proposed Rule addresses the identified issues**

AEMO considers that the proposed Rule addresses the issues outlined in section 2 of this rule change request.

The proposed Rule changes provide a mechanism for responses and protections to be put in place that balance the need for price certainty to inform commercial decisions, with minimising the financial impacts from price distortion due to erroneous data.

The proposed Rule does this by providing for a mechanism to be put in place that aims to detect and correct unusual STTM facility data before it is used by trading participants to inform their bids and offers, and used by AEMO for setting price.

#### ***How would the proposed Rule have addressed the pricing events?***

For gas day 1 November 2010, in which erroneous operational capacity data for the MSP was submitted and used for setting ex ante market schedules and prices, had the mechanism been in place which is the subject of this proposed Rule, it is likely that the submitted operational capacity would have been detected and flagged for review by the proposed validations, and addressed in time for the setting of the ex ante market schedule and prices.<sup>4</sup>

For gas day 8 October 2010, in which erroneous STTM facility allocation data for the MSP was submitted and used to set the ex post imbalance price, had the mechanism been in place as proposed by this Rule change, it is highly likely that the originally submitted data would have been detected in the validation process and updated with the correct allocation file to set the ex post imbalance price.<sup>5</sup>

#### ***Resetting volumes vs. resetting prices***

The proposed Rule proposes the concept of providing opportunity to detect potentially erroneous data and reset pipeline data input volumes, rather than resetting prices if erroneous data is identified after prices have been published.

The ex ante market price is an input into the commercial decisions of trading participants. The operational capacity released after 11:00am on D-1 is an input to a trading participant's bids and offers process, which are due at 12 noon on D-1.

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<sup>4</sup> For gas day 1 November 2010, the MSP submitted the operational capacity at approximately 8.30am on 31 October 2010 (ahead of the proposed 9:30am cut-off time as proposed by this Rule). Had this value breached the validations, then a notice would be sent to the pipeline operator giving them 2.5 hours to review and confirm or resubmit before it would have been used in the ex ante scheduling process.

<sup>5</sup> The MSP submitted the updated correct allocation file at 12noon on 9 October 2010—well ahead of the proposed deadline to enable AEMO to set the ex post imbalance price by 4:00pm.

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As part of AEMO consultations, industry generally expressed concerns with the concept of resetting a price once it has been published, in the context of price certainty to inform commercial decisions and its potential impact on the pipeline nomination process. Instead, industry was supportive of the concept of changing the price setting process, so that opportunity is provided to STTM facility operators to identify and address data errors before prices are published.

Providing a mechanism to validate input data and providing opportunity to correct that data before it is used in the ex ante market process provides a mechanism to reset erroneous data inputs to ensure the prices are set correctly. In addition, the proposed Rule focuses on processes and responsibilities for ensuring the input data is correct, rather than on intervention through resetting or capping prices, should the data be considered suspect or incorrect. It appropriately places the onus on the STTM facility operators to confirm or correct data that fails to meet validation criteria.

### ***National Electricity Market arrangements and the STTM***

In developing this proposed Rule, AEMO has considered the current National Electricity Rules which allow for the revision of dispatch prices in cases where manifestly incorrect input has been identified in the National Electricity Market (NEM).

While the NEM provisions may provide a guide to inform consideration in the context of the STTM, there are a number of differences between the NEM and STTM that need to be taken into account in considering the applicability of similar provisions in the STTM. These include but are not limited to: the different roles of AEMO and the information it has access to in the NEM and STTM; the scheduling processes and timeframes that operate in each market; the number of pricing intervals for a day; the timing for release of prices; and the contractual basis of the STTM compared to the NEM, including pipeline nomination processes.

In the NEM there is a limited time window for AEMO to confirm the validity of data or otherwise before resetting the dispatch prices, and AEMO is able to do this because it has direct access to much of the data inputs and knowledge of operational circumstances on the electricity transmission system. In the STTM, prices are set on a daily basis (ex ante prices before the relevant gas day and the ex post imbalance prices after the relevant gas day), and AEMO does not operate the STTM facilities and does not have access to operational data, relying on the STTM facility operators who have access to this data.

### ***Operational capacity data—bringing forward vs. delaying delivery of data***

In developing this proposed Rule and to allow AEMO to validate the operational capacity data submitted by an STTM facility operator, an issue considered was whether the current 11:00am delivery time should be brought forward (i.e. as proposed by this Rule) or delayed.

As part of its considerations, AEMO discussed with pipeline operators the:

- earliest time that pipeline operator data can be submitted to the STTM; and
- time required to verify, rectify and resubmit pipeline capacity information in the event that a warning flag is triggered.

The STTM facility operators indicated that the earliest time that a pipeline operator can submit daily hub capacity data is 7:30am and the latest time that a pipeline operator can submit pipeline

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capacity data is 9:30am. On the question of time required to verify and rectify and resubmit flagged data, the STTM facility operators noted it would depend on the circumstance and could require up to 2-3 hours.

Taking into account the above, AEMO considered that bringing forward the delivery time was appropriate for the following reasons:

- The proposal does not require changes to the closing time for bids and offers and timing for the AEMO ex ante scheduling process and therefore pipeline nomination timing—reducing disruption and price uncertainty.
- Delaying the delivery time of operational capacity data beyond 11:00am would either reduce the time trading participants have to input the operational capacity data into their commercial decisions concerning submission of bids and offers (participants have until 12:00 noon to submit bids and offers) or require changes to the cut-off time for bids and offers and therefore the AEMO scheduling process and pipeline nomination processes.
- STTM facility operators would be able to meet the amended timing requirements.

#### ***Delay the ex post imbalance price to 4:00pm***

As previously mentioned, the ex post imbalance price is calculated after the gas day to determine a price that reflects the impact of deviations on the gas day. The ex post imbalance price is used as one of three prices to settle participant deviations and is an input into the cumulative price threshold calculation.<sup>6</sup>

In considering the appropriate timing period to delay the ex post imbalance price in the event an allocation file has breached the validations, AEMO has tried to balance the need to minimise distortion to market outcomes, the effect on other STTM processes in which the ex post imbalance price is used, and the required response time for an allocation agent for an STTM facility to review and resubmit allocation files.

Taking into account the above, AEMO considers that delaying the ex post imbalance price to 4:00pm is appropriate for the following reasons:

- In most cases, the STTM facility operators would be able to meet the amended timing requirements. The STTM facility operators have indicated that the time required to verify or resubmit allocation data that is flagged as breaching validation criteria would be 2-4 hours, depending on the circumstances. The STTM pipeline operators also indicated that in some instances they could deliver data before 11:00am—better enabling response time to fix a problem in the event of a delayed ex post imbalance price.
- Delaying determination and publication of the ex post imbalance price beyond 4:00pm would increase the impacts on the calculation of the Cumulative Price Threshold and prudential monitoring processes, potentially creating inefficient market outcomes and impact on trading participants, either through inappropriate decisions on the application of administered prices or margin calls on trading participants.

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<sup>6</sup> The CPT calculation uses the greater of the ex ante and the ex post imbalance price.

### 3.3 Request for Urgent Rule change

AEMO requests that the AEMC reviews this Rule change proposal under section 304 of the NGL. Section 304 applies if the AEMC considers that a request for a Rule is a request for an urgent Rule. The NGL defines, at section 290, urgent Rule to mean:

“... a Rule relating to any matter or thing that, if not made as a matter of urgency, will result in that matter or thing imminently prejudicing or threatening—

(a) the effective operation or administration of a regulated gas market operated and administered by AEMO; or

(b) the supply of gas.”

AEMO considers that section 304 applies to this proposal because, as presented in this Rule change proposal, the use of erroneous STTM facility data has material financial impacts on trading participants in the STTM.

Failure to put in place appropriate protections, which aim to detect and correct erroneous data, prejudices market outcomes, potentially creates inefficient wealth transfers and affects trading participants' financial positions, perhaps even leading to suspension from market participation—undermining investor confidence in the STTM.

Such events undermine the reliability of the STTM, discourage potential market entrants or cause participants to exit the market affecting the competitiveness, transparency and efficiency of investment decisions that the STTM aims to encourage.

Failure to expedite the proposed Rule under section 304 of the NGL could create the risk of another event such as that described in section 2 of this rule change occurring without having appropriate protections in place, especially ahead of the first winter period in which the STTM will operate.

For the reasons outlined above, AEMO considers that the proposed Rule be considered as an urgent rule because failure to do so threatens the effective operation and administration of the STTM. In addition, AEMO and STTM participants consider it important to have the necessary protections in place ahead of the winter period. For this to be achieved, the proposed Rule would need to be progressed by the AEMC under the expedited process.

## 4 How the Proposed Rule Contributes to the National Gas Objective

Before the AEMC can make a Rule change it must apply the rule making test set out in the National Gas Law (NGL), which requires it to assess whether the proposed Rule will or is likely to contribute to the national gas objective (NGO). Section 23 of the NGL states the NGO is:

... to promote efficient investment in, and efficient operation and use of, natural gas services for the long term interests of consumers of natural gas with respect to price, quality, safety, reliability and security of supply of natural gas.

AEMO considers that the proposed Rule is likely to contribute to the NGO for the following reasons:

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- *Market prices more reflective of market conditions*—the proposed Rule seeks to better ensure that market prices are reflective of market conditions. The use of manifestly incorrect data does not reflect the true supply-demand balance, can affect prices, and price volatility resulting in distortion of market signals. Putting in place a mechanism which aims to pick up such errors and provides opportunity to address the error before its use in the price setting processes better enables STTM market prices to be more reflective of market conditions—ensuring efficient STTM outcomes.

AEMO considers that market price signals that more accurately reflect the underlying market and system conditions will improve investor confidence and the efficiency of decisions made by trading participants. Putting in place measures to reduce distortions to market schedules and prices, as proposed by this Rule change, contributes to more efficient gas market outcomes.

Consequently, the proposed Rule supports the NGO in that it promotes efficient investment and efficient operation of gas services. The long term interests of consumers will be served as a result.

- *Minimise occurrences of manifestly incorrect input data affecting market prices*—the proposed Rule puts in place a mechanism to minimise occurrence of manifestly incorrect data being used in the STTM, minimising the risk and financial impact of such events on trading participants.

As presented in section 3, material errors in input data can have material financial impacts on a trading participant, including potential for suspension from the market. Such events could discourage potential market entrants or cause participants to exit the market affecting the competitiveness, transparency and efficiency of investment decisions that the STTM aims to encourage.

Consequently, the proposed Rule supports the NGO in that it promotes efficient operation and use of natural gas services. The long term interests of consumers will be served as a result.

- *Price certainty*—the proposed Rule retains price certainty while allowing erroneous data to be detected and corrected prior to price publications. The Rules does this by allowing for STTM facility data to be updated rather than resetting prices.

Decisions that are made on the basis of uncertain prices will inherently carry greater risk and uncertainty for market participants. The proposed Rule minimises this.

- The proposed Rule also enables details concerning how AEMO will validate data and STTM facility operators will confirm or resubmit data, to be set out in the STTM Procedures, ensuring predictability and regulatory certainty.

In addition, the quality of the overall information environment will be improved if the rule is made. This leads to better functioning market and information that participants have leading to more efficient market outcomes.

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This will enable efficient use of gas services and participants in the STTM would be able to receive and act upon information in the STTM that better reflects the operation in the market. This represents improvements in the quality and reliability of information available to STTM stakeholders in making their business decisions and that will improve the efficiency of the STTM in the long term interest of consumers.

## 5 Expected Benefits and Costs of the Proposed Rule

AEMO considers that the persons likely to be affected by the proposed Rule include trading participants, gas networks and pipeline owners and operators, intending trading participants, participants at prospective hubs, large and small users and other interested period in the gas industry.

AEMO considers that the proposed Rule would benefit these participants 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:

- The proposed Rule impacts STTM facility owners and operators because it would require changes to their processes to submit and verify data that is flagged by AEMO's validation process. On the other hand, the additional mechanisms may reduce risks of regulatory recourse.
- The proposed Rule reduces the market risks—including financial risk and uncertainty as outlined in previous sections of this submission—for trading participants and intending participants. Particularly smaller players in the STTM.

Previous sections of this Rule change have highlighted the benefits likely to eventuate from this rule, including that it allows a mechanism to better enable the STTM prices to be more reflective of market conditions and therefore allow participants and investors to act upon those efficient signals, minimise occurrences of manifestly incorrect input data and appropriately manages price certainty by resetting market inputs rather than market prices.

The costs of not proceeding with the Rule is that 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 2010, from occurring and being addressed in future.

The proposed Rule would require changes to AEMO systems. This is expected to cost appropriately \$192,000 (low) to \$240,000 (high). These costs would be recovered from market participants and ultimately end users through AEMO's STTM fees. However, these costs are outweighed by the benefits outlined above and in previous sections of the Rule change proposal, including noting the material pricing impacts that erroneous data can have on the STTM and market participants.

## 6 Civil penalty and conduct provisions

As part of the AEMC considerations, it will need to consider whether the proposed Rule should be classified, or remain classified, as civil penalty provisions or conduct provisions under the National Gas (South Australia) Regulations (“SA Regulations”) and make this recommendation to the MCE.

Table 1 outlines the NGR provisions affected by the proposed Rule, whether these are currently specified as civil penalty or conduct provisions under the SA Regulations, and AEMO’s views on this as a result of the proposed Rule.

Recognising that rule 369 (standard of information provisions) is currently classified as a civil and conduct provision, the only change AEMO proposes to make is to item 3, in which AEMO proposes that the classification for proposed new rule 414(2A) be consistent with rule 414(1).

*Table 1: Proposed Rule and civil/conduct classification*

Item	Proposed Rule provision	Current classification	AEMO proposed classification
1	414(1)—amended rule	Currently classified as a civil penalty provision under the SA Regulations.	No change to classification.
2	414(2)—amended rule	Not currently classified as a civil penalty or conduct provision.	No change to classification.
3	414(2A)—new rule	n/a [Note: this is a proposed new rule.]	Propose classification as per rule 414(1). Classify as a civil and conduct provision.
4	419(1)	Not currently classified as civil penalty or conduct provision.	No change to classification.
5	419(2A)—new rule	Not currently classified as a civil penalty or conduct provision.	No change to classification.
6	419(2B)—new rule	n/a [Note: this is a proposed new rule.]	Propose to classify consistent with rule 419(1).
7	419(6)—amend rule	Not currently classified as civil penalty or conduct provision.	No change to classification.
8	426(1)—amend rule	Not currently classified as civil penalty or conduct provision.	No change to classification.
9	426(1A)—new rule	Not currently classified as civil penalty or conduct provision.	No change to classification.



## Appendix A: Impact of erroneous input data

A general description of the impact of erroneous STTM facility data on the STTM is summarised below:

### Operational capacity data

Errors in operational capacity data have the following effects:

- A low operational pipeline capacity constrains how much can be scheduled from the STTM facility, potentially leading to higher priced offers on other STTM facilities being scheduled, a high ex ante market price and a non-zero pipeline capacity price (on one or more pipelines).

Bids and offers scheduled will be settled at a higher price—affecting net withdrawers from the STTM. And wealth transfers may result from non-firm shippers to firm shippers due to a non-zero pipeline capacity price.

If, due to the low operational capacity, the price taker bids could not be fully scheduled, this would trigger commencement of the contingency gas process to determine whether contingency gas is required.

The low operational capacity will also be used in the ex post imbalance price, and depending on whether the market is long or short, the ex post imbalance price may be higher or lower than the ex ante market price.

Deviation volumes will be settled at prices that are higher than they should be—affecting trading participant's financial position which may lead to trading participant's exceeding their trading limit. When a participant exceeds their trading limit, this will result in AEMO issuing a margin call. If trading participants are not able to respond to a margin call within the required timeframes, the trading participant will be suspended from the STTM.

In the aim of avoiding deviations, there may be high market schedule variations (MSV) which would affect the distribution of the settlement surplus/shortfall.

Depending on previous seven days' activities, the higher prices resulting from the low operational capacity data could lead to triggering the administration of prices in the STTM.

- A higher operational capacity would have little or no impact provided the shortfall on one pipeline can be made up by the other pipeline and does not trigger contingency gas. One of the key issues is that the market would not appropriately reflect pipeline operational constraints.

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## Pipeline allocation data

Errors in facility allocation data have the following effects:

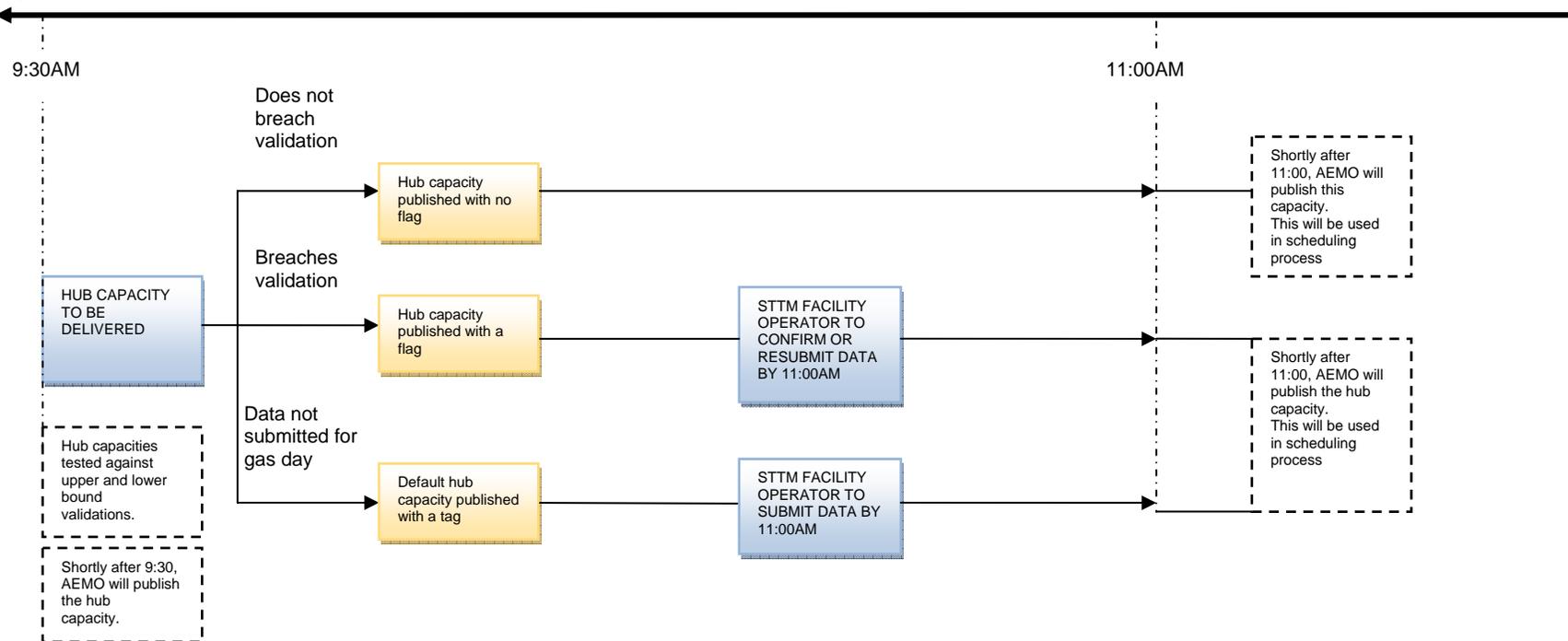
- Ex post imbalance price—manifestly incorrect facility allocations will lead to an incorrect (either high or low) ex post imbalance price. The ex post imbalance price is used to settle participants deviation volumes. An incorrect price due to manifest error will result in participants being settled at an incorrect price. A very high price could result in trading participant's exceeding their trading limit, resulting in AEMO issuing a margin call. If trading participants are not able to respond to a margin call within the required timeframes, the trading participant will be suspended.

Depending on previous seven days' activities, the higher ex post imbalance price could result in triggering the administration of prices in the STTM.

- Allocation volumes—the STTM distribution system allocations are scaled to match pipeline facility allocations. Incorrect facility allocations will affect the allocations, and therefore deviations, of STTM users. Updated facility allocation data is used to settle participant allocation and deviation volumes and feeds into the prudential process, if the updated file is received by the time AEMO runs prudentials.
- Allocation file—errors in the facility allocation file will means participants are not informed of the volume of gas allocated to its contract, importantly MOS gas. This will limit a participant's ability to manage replenishment of MOS gas in the D+2 ex ante market.

## Appendix B: Outline of proposed solution

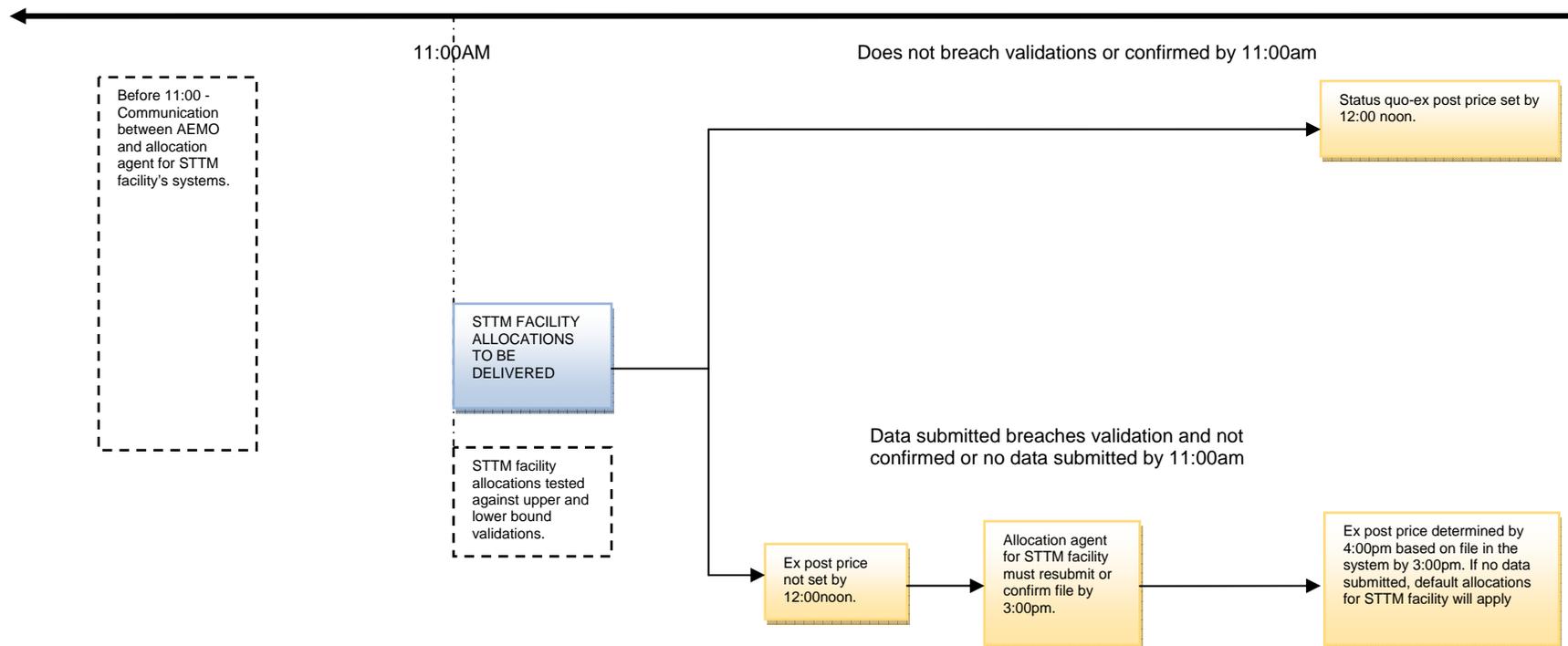
Figure 1: Proposed ex ante process (this will apply to provisional and ex ante schedules)



**Note 1:** the upper and lower bound validations will apply every time the STTM facility operator submits the operational capacity of the STTM facility to the STTM. This include before 9:30am and between 9:30am-11:00am.

**Note 2:** the STTM hub capacity data will be published just after 9:30am based on what is in the system at 9:30am. If the data submitted by 9:30am does not breach validation, the 9:30am figure will be used in the scheduling process. If the operational capacity of the STTM facility breaches the validation, it will be flagged. The STTM facility operator will have until 11:00am to rectify the operational capacity data or confirm the value submitted is correct. If there is no data in the AEMO system for that gas day, then the default hub capacity will be published. The STTM facility operator will have until 11:00am to submit the confirmed facility hub capacity figure. The operational capacity figure submitted by 11:00am will feed into the price setting process.

Figure 2: Proposed ex post imbalance price process



**Note 1:** the upper and lower bound validations will apply every time the allocation agent for the STTM facility submits its STTM facility allocation data to the STTM. This include before 11:00am and between 11:00am-3:00pm. The communication before 11:00am and between 11:00am-3:00pm will occur between AEMO and STTM facility systems.

**Note 2:** where the price is not set by 12:00 due a data breach of the validations or the allocation file has not been confirmed as correct, this will not trigger an ex post pricing state. A provisional ex post imbalance price (using default allocations for that STTM facility) will be used for the purposes of the cumulative price threshold calculation conducted for tomorrow's gas day and for prudential monitoring (if this event occurs on a business day).

**Note 3:** the allocation agent will have until 3:00pm to resubmit STTM facility allocations or confirm the original file is correct. AEMO will use the allocation file in the system at 3:00pm to determine the ex post imbalance price for yesterday. If a file is not submitted by 3:00pm, AEMO will apply pipeline default allocations to set the ex post imbalance price.

If AEMO is unable to publish a price, then the administered ex post pricing state will apply. The ex post imbalance price determined by 4:00pm will feed into the cumulative price threshold calculated tomorrow to be applied for the next day's gas day.



## Appendix C: Draft Rule

This Appendix outlined the proposed changes to the NGR covered by the Rule change proposal.

It is noted that strikethroughs in blue represent deletions to the NGR as a result of the Rule change and insertion are represented by text in red underline. This draft is based on version 7 of the NGR.

### Part 20, Division 7, subdivision 2

#### 414 Capacity information

(1) By ~~11:00am~~ 9:30am on each gas day, an STTM facility operator must notify AEMO of the quantity of natural gas which it expects, in accordance with good gas industry practice, that the STTM facility will be able to deliver to the relevant hub on:

- (a) the third gas day after that gas day; and
- (b) the second gas day after that gas day; and
- (c) the following gas day,

which must not exceed the maximum capacity specified by that STTM facility operator for that STTM facility under rule 376(1)(g).

~~(2) AEMO must validate and substitute data provided under subrule (1) in accordance with the STTM Procedures. If an STTM facility operator does not give a notice to AEMO in accordance with subrule (1) in respect of any gas day, the STTM facility operator will be taken to have given AEMO a notice specifying the registered quantity of natural gas provided under rule 376(1)(f) or determined under rule 377(2) for that gas day.~~

(2A) An STTM facility operator must provide information, in accordance with the STTM Procedures, to allow AEMO to validate and substitute data in accordance with subrule (2).

(3) AEMO must make the information contained (or taken to be contained) in the most recent notice given under this rule for each STTM facility available to Trading Participants and other persons authorised by AEMO, by the time specified in the STTM Procedures:

- (a) on the gas day that is 3 gas days before the gas day to which that information relates; and
- (b) on the gas day that is 2 gas days before the gas day to which that information relates; and
- (c) on the gas day before the gas day to which that information relates,

and AEMO must publish that information as soon as practicable after that time.

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## 415 Issue of schedules

- (1) In determining a provisional schedule or an ex ante market schedule for a hub and a gas day, AEMO must use:

...

- (c) the available capacity of each STTM facility for the gas day to which the schedule relates, notified or taken to be notified to AEMO in accordance with rule 414, ~~as at~~ ~~11:00am~~ on the gas day on which AEMO is required to issue that schedule; and

## Part 20, Division 7, subdivision 3

### 419 STTM facility allocations

- (1) By 11:00am on each gas day, the allocation agent for an STTM facility must give AEMO an allocation notice for the immediately preceding gas day that meets the requirements in subrule (2).
- (2) An allocation notice must contain, for the relevant gas day:
- (a) for each registered facility service provided by means of that STTM facility:
- (i) the STTM facility allocation for that registered facility service, which must not be less than zero; and

**Note:**

An STTM facility allocation must be provided for each registered facility service in respect of the relevant STTM facility, even if that allocation is zero.

- (ii) the quantity of MOS gas allocated to that registered facility service in accordance with rule 421 (such quantity being included in the STTM facility allocation); and
- (iii) the quantity of overrun MOS allocated to that registered facility service in accordance with rule 421 (such quantity being included in the quantity of MOS gas); and

**Note:**

The quantity of MOS gas or overrun MOS may be zero.

- (b) for each MOS increase stack and/or MOS decrease stack:
- (i) the details of each price step in the relevant MOS stack to which MOS gas was allocated under rule 421(1)(a), including:
- (A) the identifier of that price step, as specified in the MOS stack; and
- (B) the quantity of MOS gas allocated to that price step; or
- (ii) a statement that no MOS gas was allocated,
- (a **MOS step allocation**); and
- (c) any other matter reasonably required for the purposes of AEMO's functions under this Part, as specified in the STTM Procedures.

(2A) AEMO must validate and substitute data provided under subrule (1) in accordance with the STTM Procedures.

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- (2B) The allocation agent for an STTM facility must provide information, in accordance with the STTM Procedures, to allow AEMO to validate and substitute data in accordance with subrule (2A).
- (3) AEMO must reject an allocation notice if:
- (a) it does not comply with subrule (2); or
  - (b) the total quantity of MOS gas specified in the MOS step allocation for a registered facility service (if any) does not equal the quantity of MOS gas, excluding overrun MOS, specified for that registered facility service under subrule (2)(a).
- (4) An allocation agent must provide AEMO with an updated allocation notice for each gas day in a billing period, (collectively, a **billing period allocation statement**) at each of the times specified in the STTM Procedures.
- (5) Subrule (3) applies to each allocation notice in a billing period allocation statement and, if AEMO rejects an allocation notice for any one gas day, AEMO must reject the entire billing period allocation statement.
- (6) ~~deleted if:~~
- ~~(a) the allocation agent for an STTM facility does not give AEMO an allocation notice for a gas day under subrule (1); or~~
  - ~~(b) AEMO rejects an allocation notice under subrule (3),~~  
~~then AEMO must, as soon as practicable:~~
  - ~~(c) publish a notice of that fact; and~~
  - ~~(d) determine the STTM facility allocation for each registered facility service for the gas day in respect of that STTM facility as if:~~
    - ~~(i) the quantities of natural gas supplied to or withdrawn from the hub using the registered facility service 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~~
    - ~~(ii) no MOS gas was allocated to the registered facility service for that gas day.~~
- (7) If the allocation agent for an STTM facility does not give AEMO a valid billing period allocation statement under subrule (4) by the last time specified in the STTM Procedures before the date on which revised statements for the relevant billing period are to be issued under rule 473:
- (a) AEMO must request the STTM facility operator to provide a valid billing period allocation statement within one business day; and
  - (b) the STTM facility operator must comply with a request made under paragraph (a); and
  - (c) if the STTM facility operator does not comply with that request, AEMO must:
    - (i) publish a notice of that fact as soon as practicable; and
    - (ii) for the purposes of the revised statements, use the last valid STTM facility allocation received or determined for that STTM facility under this rule for each gas day in that billing period.

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- (8) An allocation agent may give AEMO an updated allocation notice for a gas day in accordance with subrule (2) at any time before the 2nd business day after the end of the 9th billing period after the billing period in which that gas day occurs.
  - (9) AEMO must reject an updated allocation notice if it does not comply with subrule (2).

#### Part 20, Division 7, subdivision 4

##### 426 Ex post imbalance price

- (1) Subject to subrule (1A), AEMO must, by 12 noon on each gas day, make the ex post imbalance price for each hub for the immediately preceding gas day available to Trading Participants, and must publish that ex post imbalance price as soon as practicable after that time.

**Note:**

If AEMO does not comply with subrule (1) and subrule (1A) does not apply, then rule 429 will apply.

(1A) AEMO must delay the provision of the ex post imbalance price to Trading Participants at a hub if it considers that a validation undertaken under rule 419(2A) may lead to the substitution of information.

(1B) AEMO must not delay the provision of the ex post imbalance price to Trading Participants at a hub under rule 426 (1A) beyond 4:00pm.

- (2) Subject to rules 428, 430 and 431, AEMO must determine the ex post imbalance price for a hub for a gas day in accordance with the STTM Procedures, ~~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 schedule quantities specified in the ex ante market schedule for that hub and gas day; and~~
  - ~~(c) STTM facility allocations for that hub and gas day received by the time specified in rule 419(1), or determined by AEMO in accordance with rule 419(6).~~

#### Part 20, Division 7, subdivision 6

##### 429 Administered ex post pricing state

- (1) AEMO must determine that an administered ex post pricing state applies for a hub for <sup>a</sup> gas day if AEMO does not make the ex post imbalance price for that hub and gas day available to Trading Participants under rule 426~~(1)~~.
- (2) For each hub and gas day for which an administered ex post pricing state applies, the ex post imbalance price is equal to the lesser of the ex ante market price for that hub and gas day and the administered price cap.
- (3) An administered ex post pricing state for a hub applies for the whole of a gas day for which it is determined.

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(4) AEMO must publish a determination under subrule (1) as soon as practicable.

## Glossary

Term or Abbreviation	Explanation
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
MCE	Ministerial Council on Energy
MOS	Market Operator Services
MSP	Moomba to Sydney Pipeline
NEM	National Electricity Market
NER	National Electricity Rules
NGL	National Gas Law
NGO	The National Gas Objective as stated in section 23 of the NGL
NGR	National Gas Rules
STTM	Short Term Trading Market
STTM-CF	STTM Consultative Forum