STTM EVENT REPORT – GAS DAY 23 NOVEMBER 2012 – SYDNEY, ADELAIDE AND BRISBANE HUBS

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FINAL

Contents

Glossary

Terms or Abbreviations	Explanation
AEMO	Australian Energy Market Operator
AEST	Australian Eastern Standard Time
IMT	Information Management and Technology
MIS	Market Information System
NGR	National Gas Rules
RBP	Roma to Brisbane Pipeline
RTO	Real Time Operations
STTM	Short Term Trading Market
SWEX	STTM Web Exchanger
SWEXIE	SWEX interface engine

1 Summary

On 24 November 2012, AEMO's market systems experienced intermittent interruptions to
normal processing by various STTM systems components – MIS reporting, scheduling, SWEX
and SWEXIE. This resulted in AEMO determining that an administered ex post pricing state
was to apply at Adelaide and Sydney hubs for gas day 23 November 2012; and AEMO
substituting default allocations and producing a provisional ex post imbalance price for the
Brisbane hub.

The reason for the intermittent interruptions has been attributed to an STTM database reaching
its static storage limit. This database is used by the database platform as transient working
space, therefore impacts all the STTM system processes, and is used and reused on a
continuous basis. Storage space is normally released as system processes complete. The
static storage limit has been increased to minimise the likelihood of a reoccurrence and other
actions are ongoing.

For Adelaide and Sydney, the market impact of the event from the use of administered ex post
prices was minor because there were non-material impacts from changes to deviation
payments/charges and in calculating the cumulative price for the next gas day. There were no
impacts in prudential monitoring.

For the Brisbane hub, there were no impacts on trading participants resulting from using the
provisional ex post imbalance price to calculate the cumulative price for the next gas day, or for
prudential monitoring; and also because final settlement is based on the delayed ex post price
(which was correctly calculated).

This report has been prepared under Rule 497 of the NGR (for a reviewable[1] event) and
Section 7.6 of the STTM Procedures to assess the actions taken by STTM facility operators
and AEMO in relation to the event and the effect of the event on the operation of the STTM.

All references to time in the report refer to Australian Eastern Standard Time.

2 Description of Event

On 24 November 2012, AEMO's market systems experienced intermittent interruptions to
normal processing by various STTM systems components – MIS reporting, scheduling, SWEX
and SWEXIE. System components were impacted as follows:

System component	Outage times (approximately)
SWEXIE	11:04 to 12:44 – during which participants were unable to submit files.
SWEX	11:04 to 11:47 – during which participants were unable to submit bids/offers.
Scheduling	11:04 to 11:47 – during which schedules were unable to be run.
MIS reports	INT659 Bid & offer report was delayed until 11:26 (normally published at 9:00). INT703 Trading Participant Provisional Allocation – was first issued at 11:51 (normally at 11:10). No other reports were impacted

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[1] For the purposes of this report, the reviewable event is the administered ex post pricing state that
applied at Adelaide and Sydney.

3 Cause of the Event

The intermittent interruptions have been attributed to an STTM database reaching its static storage limit. This database is used by the database platform as transient working space, therefore impacts all the STTM system processes, and is used and reused internally by the server on a continuous basis. Storage space used by a specific process is normally released upon its completion. The storage space allocated to this database is static and does not need to be increased on an ongoing basis. However in this instance, this database had reached its storage allocation due to unexpected behaviour by the database server – the space used in one particular process which runs five times per day was not being released and over five months the storage space available reduced until processes failed to complete. This resulted in some key market systems processes being prevented from accessing the database as required on 24 November. Hence several reporting, file processing and scheduling tasks failed through the day.

Monitoring alarms received in the week leading up to the system failure were interpreted as false positives (transient breaches of thresholds on an individual segment rather than the whole database) and did not trigger wider analysis and remediation.

4 Market Impacts

4.1 Administered ex post pricing state for the Sydney and Adelaide hubs

As a consequence of the intermittent interruptions, AEMO's market systems were unable to determine the ex post price for the Sydney and Adelaide hubs by 12:00pm. AEMO therefore declared that an administered ex post pricing state had been determined for gas day 23 November 2012 at Adelaide and Sydney hubs. The market was notified of the administered state via MIS report INT666 Market Notice (and also via email/SMS).

The administered ex post prices for 23 November are \$4.7800/GJ and \$4.300/GJ for Adelaide and Sydney respectively (being administered at the ex-ante prices). If the administered ex post pricing state had not applied, the ex post prices would have been \$4.0169/GJ and \$4.9299/GJ for Adelaide and Sydney respectively.

For Adelaide, the small difference in price (\$0.7631/GJ) had a non-material impact on prudential monitoring since there were no margin calls for any STTM participants which occurred from using the (higher) administered price. The cumulative price for the next gas day was correctly calculated using the administered price, was below the cumulative price threshold (ie. \$34.3195/GJ compared to \$440/GJ) and therefore did not trigger an administered price cap state.

For Sydney, the small difference in price (-\$0.6299/GJ) had a non-material impact on prudential monitoring since there would have been no margin calls for any STTM participants if the (higher) non-administered ex post price had applied. The cumulative price for the next gas day was correctly calculated using the administered price, was below the cumulative price threshold (ie. \$29.9666/GJ compared to \$440/GJ) and therefore did not trigger an administered price cap state.

The prices differences translate to changes in deviation payments/charges as follows:

- Adelaide deviation overpayments are \$1,979.00 (ie. parties were overpaid by this amount because of the administered price)

- Sydney deviation undercharges are \$ 3,816.00 (ie. parties were undercharged by this amount because of the administered price)

The deviation overpayments in Adelaide and deviation undercharges in Sydney affected the net market balance (i.e. net market surplus or net market shortfall) for each hub. Both Adelaide and

Sydney hubs have higher net market shortfalls for the November billing period, and this has a consequential impact to the distribution of shortfall charges.

With the administered ex post price, the shortfall charge distribution from the larger net market shortfall at both hubs made parties worse off. Parties who benefited from changes in deviation payments/charges had their 'gains' reduced. The net effect is that no participant is either better off or worse off by more than $1,000 at both hubs.

Some participants were also unable to submit bids and offers via SWEX and SWEXIE during the period those applications were unavailable.

The main market impact is from uncertainty among STTM participants about the reliability of AEMO's market systems.

AEMO is not aware of any participant otherwise impacted by this event.

4.2 Delayed ex post pricing for the Brisbane hub

As a consequence of the intermittent interruptions, APA Group was unable to successfully submit its allocation notice for gas day 23 November by 12:30pm. This resulted in AEMO substituting default allocations and producing a provisional ex post imbalance price for the Brisbane hub.

The provisional and 'final' ex post prices were correctly[2] calculated and were the same at $4.8300/GJ. All related MIS reports published correctly.

Since the provisional ex post imbalance price was equal to the ex post imbalance price at Brisbane, there were no impacts on trading participants resulting from using the provisional ex post imbalance price to calculate the cumulative price for the next gas day, or for prudential monitoring.

Participants may have been unable to submit bids and offers via SWEX and SWEXIE during the period those applications were unavailable.

The main market impact is from uncertainty among STTM participants about the reliability of AEMO's market systems.

AEMO is not aware of any participant otherwise impacted by this event.

There are no financial impacts since settlement is based on the 'final' ex post price.

5 Further Assessment of the Event

5.1 Actions taken by participants, facility operators, and AEMO

AEMO's assessment is that STTM facility operators did not contribute to the event and all data required was correctly supplied to AEMO or was unable to be supplied due to the intermittent interruptions experience by AEMO's market systems.

AEMO support staff responded appropriately to monitoring alarms on the day but were not able to resolve the market systems issue before normal market operation was affected. Market Notices (ie. for the administered ex post pricing state) were issued appropriately.

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2 Rule 426(2) requires AEMO to determine the ex post imbalance price in accordance with the STTM Procedures. Clause 7.2.1D of the STTM Procedures sets out the inputs to the ex post price calculation and Clause 7.2.1E sets out the inputs to the provisional ex post price calculation.

5.2 The effect of the reviewable event on the operation of the STTM

For the purposes of this report, the reviewable[3] event is the administered ex post pricing state that applied at Adelaide and Sydney. Market impacts (including financial estimates) are described in Section 4.

For Adelaide and Sydney, the market impact of the event from the use of administered ex post prices was minor because there were non-material impacts from changes to deviation payments/charges and in calculating the cumulative price for the next gas day. There were no impacts in prudential monitoring.

For the Brisbane hub, there were no impacts on trading participants resulting from using the provisional ex post imbalance price to calculate the cumulative price for the next gas day, or for prudential monitoring; and also because final settlement is based on the delayed ex post price (which was correctly calculated).

5.3 Whether the provisions of Part 20 of the NGR were adequate to address the reviewable event

In accordance with rule 429 of the NGR, AEMO determined that an administered ex post pricing state applied as it was unable to produce an ex post price by 12:00pm for the Adelaide and Sydney hubs. Part 20 contemplates the possibility of AEMO not meeting all its obligations (eg. not being able to determine an ex post imbalance price) by providing for different administered market states in Subdivision 6 of Part 20.

In this instance, there is nothing to suggest that the provisions of Part 20 of the NGR were not adequate.

6 Resulting Actions

AEMO immediately increased the storage capacity of the database (providing extra buffer space) to minimise the likelihood of a reoccurrence.

AEMO implemented additional database monitoring which has identified a specific process that results in unreleased storage space after it has completed. Consequently, a fix has been coded and is to be tested for deployment in Q1 2013.

AEMO is also reviewing potential additional system tools for tracking and improving debugging (subject to assessment of suitable tools, planned for Q1 2013).

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3   Rule 497(2)(a) of the NGR includes an administered ex post pricing state as a reviewable event.