DWGM EVENT REPORT – GAS DAY 17 AUGUST 2012

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FINAL

1 Summary

At 1336 hrs on Friday 17 August 2012, AEMO was requested to apply a supply and demand point constraint (SDPC) to reflect reduced pipeline capacity at Culcairn to apply from 1400 hrs until 1800 hours due to a compressor outage.

AEMO had published the 1400 hrs schedule at 1315 hrs on the day, but is able to issue a revised schedule if new information becomes available and there is sufficient time to produce and publish the revision. In this case, although there was sufficient time AEMO did not produce the revised schedule. AEMO concludes this is a breach of the Gas Scheduling Procedures for Victoria.

AEMO does not consider the breach to be an unintended scheduling result because the estimated financial effect on Market Participants is below financial thresholds[1] in the National Gas Rules (NGR). AEMO has additionally decided the breach is not material for that reason.

This report has been prepared under section 91BN of the National Gas Law (NGL) in relation to breaches of the Wholesale Market Procedures. The report describes the breach and the reasons for AEMO's decision that the breach is not material.

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

2 Description of Event

2.1 Background

On any given gas day[2], AEMO prepares and publishes five standard schedules for the current gas day commencing at 0600, 1000, 1400, 1800 and 2200 hrs[3]. The 1400 hrs schedule covers the 16 hour period from 1400 hrs to 0600 hrs on the next day (that is, to the end of the current gas day). Each schedule comprises a pricing schedule and an operating schedule.

AEMO also produces three gas schedules for the next gas day at 0800, 1600 and 0000 hrs, and one two-day-ahead schedule at 1200 hrs each day.

AEMO may also produce ad hoc operating schedules between standard schedules, but only if there is a threat to system security[4].

Market Participants must submit any scheduling information and nominations to AEMO according to the following timetable[5]:

- Demand forecasts, bids for controllable quantities of gas and nominations by 1100 hrs two days before the start of a gas day.
- Changes to this information must be resubmitted before 0700 hrs on the day before or before 0500 hrs on the day.
- Updated demand forecasts and bids may be provided one hour before AEMO is required to produce the related schedule.

The Gas Scheduling Procedures require that AEMO, to the extent practicable, attempt to minimise the cost of satisfying demand for gas, taking into account (among other things) plant or facility outages[6]. In practice, AEMO will attempt to revise a schedule if information becomes available after the cut off time provided there is sufficient time.

[1] Refer rule 217(4) of the NGR.
[2] In the Victorian DWGM, a gas day covers the 24 hour period starting at 0600 hrs EST.
[3] Refer rule 215 of the NGR.
[4] Refer section 5.1 of the Gas Scheduling Procedures.
[5] Refer rule 211 of the NGR.
[6] Refer section 2.3 of the Gas Scheduling Procedures.

Culcairn is a bi-directional system point on the interconnection between the Victorian and New South Wales gas transmission pipelines with a maximum hourly withdrawal quantity (MHQ) of 1,800 GJ/hr from Victoria to New South Wales. AEMO applies a supply and demand point constraint (SDPC) at this level unless otherwise advised.

2.2 Event Chronology

On 17 August 2012:

- At 1315 hrs, AEMO published the 1400 hrs pricing and operating schedules. Withdrawals at Culcairn had been scheduled at 7,200 GJ from 1400 hrs to 1800 hrs (that is, at the MHQ of 1,800 GJ/hr).
- At 1327 hrs, APA Group advised AEMO that one compressor (out of two) had tripped at Culcairn and that operational staff would not be able to attend the site for at least three hours. AEMO requested APA to advise if an adjusted SDPC was required to reflect a reduced withdrawal capacity.
- At 1336 hrs, APA confirmed an adjusted SDPC was required (via fax) for 6,000 GJ for the horizon between 1400 hrs and 1800 hrs (ie. MHQ of 1,500 GJ/hour for that period).
- At 1342 hrs, APA further advised (via telephone) that if pressure could be maintained at or above 5,000 kPa, the current withdrawal rate of 1,523 GJ/hr could be achieved and requested the SDPC be at that level. APA were requested to confirm this advice in writing.
- At 1430 hrs, AEMO staff noted that while an updated fax had not been received, no action had been taken to apply an amended SDPC and to revise the schedules prior to 1400 hrs based on the earlier advice (fax) received at 1336 hrs.
- At 1434 hrs, AEMO advised APA Group that the constraint had not been applied for the 1400 hrs schedule.
- At 1526 hrs, APA requested further information on AEMO's processes for applying SDPCs.
- At 1654 hrs, APA advised operational staff had arrived on site and that the scheduled quantity of 7,200 GJ for the 1400 hrs to 1800 hrs period may now be able to be achieved.

The final actual withdrawal at Culcairn from 1400 hrs to 1800 hrs was 7,179 GJ, a deviation of 21 GJ from the scheduled withdrawal of 7,200 GJ.

2.3 Cause of Event

The primary cause of the event was human error. AEMO staff did not apply, or attempt to apply within the available time, an amended SDPC and rerun the schedule as requested by APA Group. Additional factors may have contributed to the error which will be investigated. These include:

- The need for written advice from the participant[7]. This introduced delays in AEMO's process and is not consistent with AEMO's approach in the NEM, where phone calls and written logs are considered sufficient. Consequently, it is not clear at what time AEMO staff consider the advice was formally received and could be acted on. For the purposes of this report, that time is taken to be the time of the original fax advice at 1336 hrs.
- Discretion granted to AEMO in relation to the application of SDPCs may have resulted in some lack of clarity in the Gas Scheduling Procedures over thresholds for application of SDPCs, the latest time for receipt of updated advice, or the latest time at which AEMO should attempt to produce a revised schedule for a given period. In this case, the last advice from APA was received 18 minutes before the start of the horizon and may have contributed to AEMO's reluctance to apply the SPDC.

[7] This is a general agreement with participants.

2.4 Market Impacts

The market was impacted in three ways – scheduled imbalances, deviations and prices:

- More gas withdrawals were scheduled at 1400hrs than were thought to be achievable by APA since an incorrect operational schedule for withdrawals and injections into the Victorian gas network was issued. If the correct SDPC had been applied for Culcairn withdrawals, the scheduled withdrawals would have been reduced by 1.2 TJ for the day. This was less than 1% of total Victorian gas withdrawals and less than 3% of the total Culcairn withdrawals for the day.
- Market participants at Culcairn were potentially exposed to deviations. Deviation amounts would be expected to be higher if the actual withdrawal had been less than the (unrevised) operating schedule. However, because the facility was returned to full capacity earlier than expected the overall withdrawal between 1400 hrs and 1800 hrs was very close to the original operating schedule (a difference of 21 GJ).
- An incorrect price for the 1400 hrs pricing schedule. The published market price for the 1400 hrs pricing schedule was $4.5407/GJ. AEMO estimates the price would have dropped to $4.5400/GJ had the lower Culcairn withdrawals been scheduled.

2.5 Estimated Financial Impact

The error resulted in the combined charges imbalance, deviation and linepack payments for 14 participants being less than they would have been had the error not occurred. The maximum individual net impacts were an under payment of $3,979 and an under charge of $1,147. The total net under payments was $4,372.

Appendix A provides AEMO's detailed analysis of the financial impact.

3 Assessment of the Event

In its assessment of the event AEMO has considered whether there has been a breach of the Gas Scheduling Procedures and, if so, whether the outcome is an unintended scheduling result,

As indicated in Table 2 AEMO has determined that the scheduling outcome did not comply with the Gas Scheduling Procedures but does not meet the financial thresholds criteria for unintended scheduling results.

AEMO is required to report the breach of the Wholesale Market Procedures, which includes the Gas Scheduling Procedures, under s 91BN of the NGL.

Table 1 Assessment of the event

ASSESSMENT CRITERIA	ASSESSMENT
Gas Scheduling Procedures Clause 2.3 Objective: AEMO will, to the extent practicable, attempt to … (c) minimise the cost of satisfying demand for gas, taking into account: v. plant or facility outages; vii. system injection point constraints, system withdrawal point constraints, and DFPC	By not applying an amended SDPC to Culcairn withdrawals, AEMO has not taken into account the reduced withdrawal capacity at Culcairn. In this case, AEMO did not rerun and republish the 1400 hrs schedules, even though it was practicable to attempt the rerun. This may not always be the case, such as where conflicting priorities mean a rerun is not practicable.
Gas Scheduling Procedures clause 3.8 Supply and Demand Point Constraints AEMO may apply at SDPC to reflect contractual, physical and operating constraints at system withdrawal points that are taken into account during preparation of an operating schedule.	This clause gives AEMO discretion over the application of SDPCs. However, AEMO interprets this discretion to apply to constraints required to manage system security, in addition to those specified by facility operators or Market Participants.
NGL s91BN(2) If AEMO suspects a breach of the Wholesale Market Procedures, it must make a decision as to whether the breach is a material breach.	AEMO has determined that, because the market impact and the estimated financial impact of the breach are minor, the breach of the Wholesale Gas Market Procedures is not material.
NGR r217 Unintended scheduling results (1) If scheduling instructions issued as part of an operating schedule … is not issued in accordance with the gas scheduling procedures, then that result will be an unintended scheduling result unless (4) … its estimated financial impact[8] for an individual Market Participant is less than $22,268 or for all Market Participants is less than $55,670.	While the scheduling outcome meets the criteria for unintended scheduling results when assessed against rule 217(1), it does not meet the criteria for unintended scheduling results when assessed against rule 217(4). Consequently AEMO does not consider this breach to be an unintended scheduling result.

4 Resulting Actions

Following this incident, AEMO:

- has provided additional operator training to clarify AEMO's policies and procedures, to improve consistency of AEMO's response in future
- will review the SPDC procedure to ensure AEMO attempts to publish an updated schedule to reflect current conditions
- will liaise with APA to clarify information to be provided when advising SDPCs
- will discuss the possibility of streamlining communication between AEMO and participants (such as by allowing requests by telephone).

[8] The financial thresholds specific here have been adjusted to reflect the change in the Consumer Price Index in accordance with rule 217(5).

Appendix A - Detailed analysis of 17 August 2012

For the purpose of the analysis presented below, AEMO generated the expected scheduling results using the correct SDPC at Culcairn and production data from the 17 August 2012.

For the 2pm published schedule used an SDPC with a withdrawal MHQ of 1800 GJ/hr from 2pm to 5 pm whereas the 2pm expected schedule used an SDPC with a withdrawal MHQ of 1500 GJ/hr at Culcairn for the same period, otherwise the SDPC was 1800 GJ/h for both schedules.

The expected changes to scheduling and settlement outcomes are discussed below.

Expected changes to scheduled controllable injections and controllable withdrawals

At the 2pm scheduling horizon, a decrease in scheduled controllable withdrawals of 1,200 GJ at Culcairn matched by an equal decrease in controllable injections from supply sources would be expected to occur. There are no changes to scheduled controllable withdrawals and injections for the other four scheduling horizons.

Expected changes to gas prices

Table 3 shows the published and expected gas price for each schedule. The gas price for the 2pm schedule would have reduced by $0.0007 due to the reduction in injections required to supply the controllable withdrawals which were reduced by 1,200GJ. Other schedules would not be impacted.

Table 2 Market prices

Schedule	6am	10am	2pm	6pm	10pm
Published	$4.9500	$4.5400	$4.5407	$4.7600	$3.8118
Expected	$4.9500	$4.5400	$4.5400	$4.7600	$3.8118
Change	$0.0000	$0.0000	- $0.0007	$0.0000	$0.0000

Changes to deviation quantities and payments

MPs' deviation quantities would have been impacted only for the 10am scheduling interval as a result of the change of the 2pm market price (by $0.0007).

No change to injection and (controllable) withdrawal deviation quantities would be expected as it was assumed that MPs would not deviate from their scheduled injections and withdrawals by more than the published deviation quantities in each scheduling interval.

As a result, the total deviation payments would have changed by approximately $2.00.

Changes to imbalance quantities and payments

Table 3 shows the published and expected total market imbalance quantities and payments. The largest changes would occur in the 6pm schedule. In total, the market would have been underpaid by $4,392 in daily imbalance payments.

Table 3 Expected changes to imbalance quantities and payments

Schedule	6am	10am	2pm	6pm	10pm
	Published imbalance quantities and payments				
Imbalance withdrawal (GJ)	1,031,307	2,327	2,963	15,399	-439
Imbalance injections (GJ)	1,016,675	-5,330	314	20,127	-9,515
Net imbalance quantity (GJ)	14,632	7,657	2,649	-4,728	9,076
Gas price ($/GJ)	$4.9500	$4.5400	$4.5407	$4.7600	$3.8118
Imbalance payments ($)	$72,428	$34,765	$12,026	-$22,506	$34,595
Daily imbalance payments ($)					**$131,308**
	Expected imbalance quantities and payments				
Imbalance withdrawal (GJ)	1,031,307	2,327	1,763	15,399	-440
Imbalance injections (GJ)	1,016,675	-5,330	-886	21,064	-9,533
Net imbalance quantity (GJ)	14,632	7,657	2,649	-5,665	9,094
Gas price ($/GJ)	$4.9500	$4.5400	$4.5400	$4.7600	$3.8118
Imbalance payments ($)	$72,428	$34765	$12024	-$26,964	$34664
Daily imbalance payments ($)					**$126,916**
	Expected changes to imbalance quantities and payments				
Gas price ($/GJ)	$0.0000	$0.0000	$0.0007	$0.0000	$0.0000
Net Imbalance quantity (GJ)	0	0	0	-937	18
Imbalance payments ($)	$0	$0	-$2	-$4,458	$68
Daily imbalance payments ($)					**-$4,392**

Changes to linepack account

The daily amount added to the linepack account is the negative of the sum of total daily imbalance and deviation payments and is apportioned to each MP in accordance with their share of the total adjusted net quantity of gas withdrawn for the relevant gas day.

Table 4 shows the expected linepack account would have increased by $4,394 which would need to be funded by all MPs withdrawing gas on that day.

Table 4 Linepack account

	17 August 2012
Change to total deviation payments	-$2
Change to total imbalance payments	-$4,392
Change to linepack account	$4,394

Financial impacts

The estimated negative financial impact is calculated by summing changes to imbalance payments, deviation payments and linepack account allocations for any individual MP who is worse off and then aggregating these to calculate the total net negative financial impact for all MPs.

The estimated financial impact on market participants (MP) is set out in Table 5 which shows that:

- no MP was better off (under-charged) by more than $1,147;
- no MP was worse off (under-paid) by more than $3,979; and
- the total net negative financial impact for all MPs was less than $4,372.

Table 5: Summary of financial effect on Market Participants

	17 August 2012
Number of MP under-charged	14
Maximum under-charged amount	$1,147
Number of MP under-paid	6
Maximum under-paid amount	$3,979
Total net negative financial impact*	$4,372