# INVESTIGATION OF THE UNEXPECTED SCHEDULING OUTCOMES FOR GAS DAYS 7/2/2011 AND 3/10/2011

PREPARED BY: Market Performance

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# 1 Background

In accordance with rule 218 (1) of the National Gas Rules (NGR), AEMO initiated an investigation of scheduling results in response to a Helpdesk call raised by a Market Participant (MP) in relation to its abnormal imbalance payments for gas day 3 October 2011. The results of the investigation reveal that:

- AEMO scheduling did not use the most recent valid demand forecasts submitted by MPs on two occasions since February 2007; these happened while creating the 6am schedules on gas days 7 February 2011 and 3 October 2011. For these schedules, AEMO's scheduling process started before the demand forecasting process was completed. Consequently, these schedules were generated using MPs' day ahead (D+1) demand forecasts submitted before 10pm instead of any updated demand forecasts submitted between 10pm and 5am prior to the commencement of the relevant gas day;
- the estimated impact on scheduling and settlement outcomes for gas days 7 February 2011 and 3 October 2011 did not meet the materiality test for an unintended scheduling result set out in rule 217(4); and
- these circumstances also affected the 6am schedule for 25 October 2008, but as there were no changes to demand forecast between 10pm and 5am there was no impact.

AEMO has prepared this report in accordance with rule 218 (3) to present its decision and the reasons for its decision on whether the above events are unintended scheduling results.

# 2 Event assessment

## 2.1 Estimated financial impact

The estimated financial impact for 7 February 2011 and 3 October 2011 is set out in Table 1. Table 1 shows that for each of the above events:

- no MP was better off (under-charged) by more than $5,786;
- no MP was worse off (under-paid) by more than $4,987; and
- the total financial impact for all MPs was less than $11,187.

Detailed analyses are included in Appendix A for 7 February 2011 and in Appendix B for 3 October 2011.

*Table 1: Summary of financial effect on Market Participants*

| | 7 February 2011 | 3 October 2011 |
|---|---|---|
| Number of MP under-charged | 11 | 12 |
| Maximum under-charged amount | $5,786 | $1,350 |
| Number of MP under-paid | 9 | 8 |
| Maximum under-paid amount | $4,987 | $1,357 |
| Total financial impact* | $11,187 | $3,870 |

*this is the amount of money expected to be paid by all MPs who would be under-charged to those who would be under-paid.

## 2.2 Assessment against NGR 217 criteria for unintended scheduling results

The NGR requirements for assessing unintended scheduling results are provided in rule 217. The events on 7 February 2011 and 3 October 2011:

- met the criteria for unintended scheduling results when assessed against rule 217(1);
- were not relevant to the criteria in rules 217(2) and (3); and
- did not meet criteria for unintended scheduling results when assessed against rule 217(4).

Table 2 summarises AEMO's assessment of these unexpected scheduling outcomes against NGR 217.

*Table 2: Assessment against NGR 217*

| Assessment criteria - NGR 217 | Assessment |
|---|---|
| *217 (1) If scheduling instructions issued as part of an operating schedule produce one or more of the following results:*<br>...<br>*(f) a scheduling instruction is not issued in accordance with the gas scheduling procedures,*<br>*then that result will be an **intended scheduling result** unless otherwise specified in subrules (2), (3) or (4).* | For the 6am schedules on gas days 7 February 2011 and 3 October 2011, AEMO scheduling did not use MPs' most recent validated demand forecasts. As such, AEMO scheduling instruction was **not** issued in accordance with clause 3.6.2 of the Wholesale market gas scheduling procedures (Victoria) which states:<br>*"When producing schedules, AEMO will apply validated revisions to demand forecasts for the first hour of the relevant scheduling horizon until the end of the gas day".* |
| 217 (2) (exception subrule) | Not applicable |
| 217 (3) (exception subrule) | Not applicable |
| 217 (4) (exception subrule)<br>*A result specified in subrule (1) will not be an unintended scheduling result unless its estimated financial effect on Market Participants exceeds either:*<br>*(a) for an individual Market Participant, $20,000, adjusted to reflect the change in the Consumer Price Index in accordance with subrule (5); or*<br>*(b) for all individual Market Participants, an aggregate of $50,000, adjusted to reflect the change in the Consumer Price Index in accordance with subrule (5).* | As shown in Table 1 above, the financial impact for:<br>• an individual MP is less than $5,786 and $1,357 for gas days 7 February 2011 and 3 October 2011 respectively; and<br>• for all individual MPs is less than $11,187 and $3,870 for gas days 7 February 2011 and 3 October 2011 respectively.<br>Because the financial impact is below the specified threshold for both gas days, neither result meets all criteria for an unintended scheduling result. |

# 3 AEMO decision

Because the financial impact for each individual MP and all MPs in aggregate is below the amount specified in NGR 217, **AEMO has determined that the scheduling outcomes on gas days 7 February 2011 and 3 October 2011 did not meet the criteria for unintended scheduling results.**

# 4 Causes

The process of running a schedule requires that market systems complete some tasks in sequence. One such task is the demand forecast process whereby all individual MP demand forecasts are aggregated as an input to the scheduling process. Normally, there is sufficient time after the scheduled start of the demand forecast process to allow it to complete before the scheduling process starts.

On the three days in question (out of over 1,700 days since commencement of new rules in February 2007), the demand forecast process ran longer than usual. Market systems do not confirm that that the demand forecast process has completed, and so an earlier valid demand forecast was used.

# 5 Preventative actions

AEMO has reviewed market systems that allowed scheduling processes to start before the demand forecasting process was completed, and:

- has implemented process changes to ensure that the scheduling process does not start until the demand forecasting process has completed; and
- will implement system changes to prevent scheduling process do not start until the demand forecasting process has completed.

AEMO expects that these steps will prevent a future occurrence of these outcomes.

# Appendix A - Detailed analysis of 7 February 2011

Two MPs submitted updated demand forecasts between 10pm and 5am prior to the commencement of the gas day. The updated demand forecasts were higher by 10,601 GJ than the day ahead (D+1) demand forecasts submitted before 10pm. However, the updated demand forecasts were not used in the 6am schedule. For the purpose of the analysis presented below, AEMO generated the expected scheduling results (after the event) using the correct demand forecasts. The expected changes to scheduling and settlement outcomes are discussed below.

## Expected changes to gas price

Table 3 shows the published and expected gas price for each schedule. The gas price for the 6am schedule would have increased by $0.28 to $3.11 due to the increased scheduled injections to meet the increased forecast demand.

*Table 3: Market prices*

| Schedule | 6am | 10am | 2pm | 6pm | 10pm |
|---|---|---|---|---|---|
| Published | **$2.8300** | $3.4907 | $3.4907 | $3.4907 | $3.4907 |
| Expected | **$3.1100** | $3.4907 | $3.4907 | $3.4907 | $3.4907 |
| Change | **$0.2800** | $0.0000 | $0.0000 | $0.0000 | $0.0000 |

## Expected changes to demand forecasts, scheduled controllable injections and controllable withdrawals

The following changes to scheduling outcomes would occur:

- 6am scheduling horizon: an increase in net withdrawals of 8,143 GJ (due to 10,601 GJ increase in demand forecasts from 2 affected MPs and 2,458 GJ decrease in scheduled controllable withdrawals from 2 affected MPs) matched by an equal increase in controllable injections (affecting 3 MPs);
- 10am scheduling horizon: a decrease in scheduled controllable withdrawals of 42 GJ (due to changes to withdrawal bids before 9am and affecting 1 MP) balanced by an equal decrease in scheduled injections (affecting 1 MP); and
- there would be no changes in demand forecasts, scheduled controllable withdrawals and injections for the remaining 3 scheduling horizons.

Table 4 summarises the expected changes in scheduled quantities and demand forecasts for each scheduling horizon.

*Table 4: Expected changes to demand forecasts, scheduled controllable injection and withdrawal quantities*

| Scheduling horizon | 6am-6am | 10am-6am | 2pm-6am | 6pm-6am | 10pm-6am |
|---|---|---|---|---|---|
| | **Published quantities** | | | | |
| Demand forecast (GJ) | 450,076 | 366,204 | 245,876 | 171,236 | 101,596 |
| Controllable withdrawals (GJ) | 66,611 | 52,959 | 53,802 | 41,682 | 21,703 |
| Controllable injections (GJ) | 539,018 | 470,804 | 342,571 | 251,343 | 165,580 |
| | **Expected quantities** | | | | |
| Demand forecast (GJ) | 460,677 | 366,204 | 245,876 | 171,236 | 101,596 |
| Controllable withdrawals (GJ) | 64,153 | 52,917 | 53,802 | 41,682 | 21,703 |
| Controllable injections (GJ) | 547,160 | 470,762 | 342,571 | 251,343 | 165,580 |
| | **Expected changes to quantities** | | | | |
| Demand Forecast (GJ) | 10,601 | 0 | 0 | 0 | 0 |
| Controllable withdrawals (GJ) | -2,458 | -42 | 0 | 0 | 0 |
| Controllable injections (GJ) | 8,143 | -42 | 0 | 0 | 0 |

Table 5 shows the breakdown of the changes to demand forecasts, controllable withdrawals and injections by scheduling interval and summed for each scheduling horizon and schedule.

*Table 5: Expected changes to demand forecasts, scheduled controllable injection and withdrawal quantities broken down by scheduling interval*

| Scheduling interval | 6am | 10am | 2pm | 6pm | 10pm |
|---|---|---|---|---|---|
| | **Changes to demand forecasts (GJ)** | | | | |
| 6am-10am | 5,235 | 0 | 0 | 0 | 0 |
| 10am-2pm | 1,831 | 0 | 0 | 0 | 0 |
| 2pm-6pm | 659 | 0 | 0 | 0 | 0 |
| 6pm-10pm | 1,703 | 0 | 0 | 0 | 0 |
| 10pm-6am | 1,173 | 0 | 0 | 0 | 0 |
| **Total for scheduling horizon** | **10,601** | **0** | **0** | **0** | **0** |
| **Total for schedule** | **10,601** | **0** | **0** | **0** | **0** |
| | **Changes to controllable withdrawals (GJ)** | | | | |
| 6am-10am | -375 | -375 | -375 | -375 | -375 |
| 10am-2pm | -416 | -42 | -42 | -42 | -42 |
| 2pm-6pm | -417 | 0 | 0 | 0 | 0 |
| 6pm-10pm | -417 | 0 | 0 | 0 | 0 |
| 10pm-6am | -834 | -0.4 | 0 | 0 | 0 |
| **Total for scheduling horizon** | **-2,458** | **-42** | **0** | **0** | **0** |
| **Total for schedule** | **-2,458** | **-417** | **-416** | **-416** | **-416** |
| | **Changes to controllable injections (GJ)** | | | | |
| 6am-10am | 1,350 | 1,350 | 1,350 | 1,350 | 1,350 |
| 10am-2pm | 1,358 | -64 | -64 | -64 | -64 |
| 2pm-6pm | 1,358 | 5 | 0 | 0 | 0 |
| 6pm-10pm | 1,358 | 5 | 0 | 0 | 0 |
| 10pm-6am | 2,717 | 11 | 0 | 0 | 0 |
| **Total for scheduling horizon** | **8,143** | **-42** | **0** | **0** | **0** |
| **Total for schedule** | **8,143** | **1,308** | **1,287** | **1,287** | **1,287** |

## Changes to imbalance quantities and payments

Table 6 shows the published and expected total market imbalance quantities and payments. The largest changes would occur in the first 2 schedules.

- 6am schedule: the market would have been under-paid by $6,252 in imbalance payments due to increased gas price even though there was no change in imbalance quantity;
- 10am schedule: The market would have been under-paid by $6,021 in imbalance payments caused by a negative change in net imbalance quantity of -1,725 GJ (due to a decrease of 417 GJ in controllable withdrawals and an increase of 1,308 GJ in scheduled injections. See details in Table 5);

- 2pm schedule: the market would have been under-charged by $44 in imbalance payments caused by a positive change in net imbalance quantity of 22 GJ (due to 1 GJ increase in controllable withdrawals (=-416 GJ +417 GJ) and 21 GJ decrease in controllable injections (=1,287 GJ – 1,308 GJ). See details in Table 5);
- no changes to imbalance quantities in other schedules of the gas day; and
- in total, the market would have been underpaid by $12,229 in daily imbalance payments.

*Table 6: Expected changes to imbalance quantities and payments*

| Schedule | 6am | 10am | 2pm | 6pm | 10pm |
|---|---|---|---|---|---|
| | **Published imbalance quantities and payments** | | | | |
| Imbalance withdrawal (GJ) | 516,687 | 17,776 | -14,898 | 222 | -6,085 |
| Imbalance injections (GJ) | 539,018 | 20,824 | -34,398 | -5,585 | -2,907 |
| Net imbalance quantity (GJ) | -22,331 | -3,048 | 19,500 | 5,807 | -3,178 |
| Gas price ($/GJ) | $2.8300 | $3.4907 | $2.0001 | $2.0001 | $2.0213 |
| Imbalance payments ($) | -$63,196 | -$10,638 | $39,001 | $11,615 | -$6,423 |
| **Daily imbalance payments ($)** | | | | | **-$29,641** |
| | **Expected imbalance quantities and payments** | | | | |
| Imbalance withdrawal (GJ) | 524,830 | 9,217 | -14,898 | 222 | -6,085 |
| Imbalance injections (GJ) | 547,160 | 13,989 | -34,420 | -5,585 | -2,907 |
| Net imbalance quantity (GJ) | -22,331 | -4,772 | 19,522 | 5,807 | -3,178 |
| Gas price ($/GJ) | $3.1100 | $3.4907 | $2.0001 | $2.0001 | $2.0213 |
| Imbalance payments ($) | -$69,448 | -$16,659 | $39,045 | $11,615 | -$6,423 |
| **Daily imbalance payments ($)** | | | | | **-$41,870** |
| | **Expected changes to imbalance quantities and payments** | | | | |
| Gas price ($/GJ) | $0.2800 | $0.0000 | $0.0000 | $0.0000 | $0.0000 |
| Net Imbalance quantity (GJ) | 0 | -1,725 | 22 | 0 | 0 |
| Imbalance payments ($) | -$6,252 | -$6,021 | $44 | $0 | $0 |
| **Daily imbalance payments ($)** | | | | | **-$12,229** |

## Changes to deviation quantities and payments

6 February 2011

The 6am gas price increase for gas day 7 February 2011 would have impacted the deviation payments for the 10pm scheduling interval for gas day 6 February 2011. Consequently, MPs would have been under-paid by an additional $11,235 in deviation payments for 40,129 GJ of deviation quantity incurred in that scheduling interval. See details in Table 7.

*Table 7: Expected changes to deviation payments*

| | **10pm scheduling interval (6 Feb 2011)** |
|---|---|
| Deviation quantity (GJ) | 40,129 |
| Change in deviation payments | $11,235 |

7 February 2011

MPs' deviation quantities would not have been impacted because:

- settlement system used the correct demand forecasts for the 6am-10am scheduling interval in the 10am schedule to calculate deviation quantities; and
- 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 for 7 February would remain unchanged.

## 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 8 shows the linepack account on 6 February 2011 would have been reduced by an additional $11,235 and this amount would be paid to all MPs withdrawing gas on that gas day. The daily linepack account for 7 February would have increased by $12,229 which would need to be funded by MPs withdrawing gas on that day.

*Table 8: Linepack account*

| | 6-Feb-11 | 7-Feb-11 |
|---|---|---|
| Change to total deviation payments | $11,235 | $0 |
| Change to total imbalance payments | $0 | -$12,229 |
| Change to linepack account | -$11,235 | $12,229 |

## Total financial impact

The estimated total financial impact (including changes to imbalance, deviation payments and linepack account allocations for both gas days 6 and 7 February 2011) for all MPs would be $11,187 as reported in Table 1 above.

# Appendix B - Detailed analysis of 3 October 2011

Three MPs submitted updated demand forecasts between 10pm and 5am prior to the commencement of the gas day. The updated demand forecasts were higher by 9,551 GJ than the day ahead (D+1) demand forecasts submitted before 10pm. However, the updated demand forecasts were not used in the 6am schedule. For the purpose of the analysis presented below, AEMO was able to generate the expected scheduling results (after the event) using the correct demand forecasts. The expected changes to scheduling and settlement outcomes are discussed below.

## Expected changes to gas prices

Table 9 shows the published and expected gas price for each schedule. The gas price for the:

- 6am schedule would not be affected because the increased demand forecasts would be cleared within the same injection bid step;
- 10am schedule would have increased by $0.12 to $3.39 due to 1,248 GJ in increased controllable injections to meet the increased demand forecasts. See details in Table 11; and
- other schedules would not be impacted.

*Table 9: Market prices*

| Schedule | 6am | 10am | 2pm | 6pm | 10pm |
|---|---|---|---|---|---|
| Published | $2.9000 | **$3.2700** | $2.2309 | $1.9107 | $1.1100 |
| Expected | $2.9000 | **$3.3900** | $2.2309 | $1.9107 | $1.1100 |
| Change | $0.0000 | **$0.1200** | $0.0000 | $0.0000 | $0.0000 |

## Expected changes to demand forecasts, scheduled controllable injections and controllable withdrawals

The following changes to scheduling outcomes would occur:

- 6am scheduling horizon: an increase in demand forecasts of 9,551 GJ matched by an equal increase in controllable injections; and
- no changes to demand forecasts, scheduled controllable withdrawals and injections for the remaining 4 scheduling horizons.

Table 10 summarises the expected changes in scheduled quantities and demand forecasts for each scheduling horizon.

*Table 10: Expected changes to demand forecasts, scheduled controllable injection and withdrawal quantities*

| Scheduling horizon | 6am-6am | 10am-6am | 2pm-6am | 6pm-6am | 10pm-6am |
|---|---|---|---|---|---|
| | **Published quantities** | | | | |
| Demand forecast (GJ) | 665,477 | 521,624 | 415,850 | 318,056 | 163,935 |
| Controllable withdrawals (GJ) | 42,758 | 35,632 | 39,074 | 34,938 | 44,751 |
| Controllable injections (GJ) | 711,928 | 618,263 | 484,747 | 355,501 | 232,296 |
| | **Expected quantities** | | | | |
| Demand forecast (GJ) | 675,028 | 521,624 | 415,850 | 318,056 | 163,935 |
| Controllable withdrawals (GJ) | 42,758 | 35,632 | 39,074 | 34,938 | 44,751 |
| Controllable injections (GJ) | 721,479 | 618,263 | 484,747 | 355,501 | 232,296 |
| | **Expected changes to quantities** | | | | |
| Demand Forecast (GJ) | 9,551 | 0 | 0 | 0 | 0 |
| Controllable withdrawals (GJ) | 0 | 0 | 0 | 0 | 0 |
| Controllable injections (GJ) | 9,551 | 0 | 0 | 0 | 0 |

Table 11 shows the breakdown of the changes to demand forecasts, controllable withdrawals and injections for each scheduling interval and summed for each scheduling horizon and schedule.

*Table 11: Expected changes to demand forecasts, scheduled controllable injection and withdrawal quantities broken down by scheduling interval*

| Scheduling interval | 6am | 10am | 2pm | 6pm | 10pm |
|---|---|---|---|---|---|
| | **Changes to demand forecasts (GJ)** | | | | |
| 6am-10am | 6,849 | 0 | 0 | 0 | 0 |
| 10am-2pm | 1,760 | 0 | 0 | 0 | 0 |
| 2pm-6pm | -317 | 0 | 0 | 0 | 0 |
| 6pm-10pm | 740 | 0 | 0 | 0 | 0 |
| 10pm-6am | 519 | 0 | 0 | 0 | 0 |
| **Total for scheduling horizon** | **9,551** | **0** | **0** | **0** | **0** |
| **Total for schedule** | **9,551** | **0** | **0** | **0** | **0** |
| | **Changes to controllable withdrawals (GJ)** | | | | |
| 6am-10am | 0.2 | 0.2 | 0.2 | 0.2 | 0.2 |
| 10am-2pm | 0.1 | 0.3 | 0.3 | 0.3 | 0.3 |
| 2pm-6pm | 0.0 | 0.1 | 0.0 | 0.0 | 0.0 |
| 6pm-10pm | -0.1 | 0.0 | 0.0 | 0.0 | 0.0 |
| 10pm-6am | -0.3 | -0.4 | 0.0 | 0.0 | 0.0 |
| **Total for scheduling horizon** | **0.0** | **0.0** | **0.0** | **0.0** | **0.0** |
| **Total for schedule** | **0.0** | **0.2** | **0.5** | **0.5** | **0.5** |
| | **Changes to controllable injections (GJ)** | | | | |
| 6am-10am | 1,248 | 1,248 | 1,248 | 1,248 | 1,248 |
| 10am-2pm | 1,661 | 359 | 359 | 359 | 359 |
| 2pm-6pm | 1,661 | -90 | 0 | 0 | 0 |
| 6pm-10pm | 1,661 | -90 | 0 | 0 | 0 |
| 10pm-6am | 3,321 | -179 | 0 | 0 | 0 |
| **Total for scheduling horizon** | **9,551** | **0** | **0** | **0** | **0** |
| **Total for schedule** | **9,551** | **1,248** | **1,606** | **1,606** | **1,606** |

## Changes to imbalance quantities and payments

Table 12 shows the published and expected total market imbalance quantities and payments. The largest changes would occur in the 10am and 2pm schedules:

- 6am schedule: no change to imbalance payments would occur because the imbalance quantity and gas price would not change;
- 10am schedule: the market would have been under-paid by $5,202 in imbalance payments due to a negative change of -1,248 GJ in imbalance quantity (associated with a small increase (0.2 GJ) in controllable withdrawals and an increase of 1,248 GJ in controllable injections in the 6am-10am scheduling interval. See details in Table 11);

- 2pm schedule: The market would have been under-paid by $799 in imbalance payments caused by a negative change in imbalance quantity of -358 GJ (associated with 0.3 GJ (=0.5 GJ – 0.2 GJ) increase in controllable withdrawals and 359 GJ (=1,606 GJ – 1,248 GJ) increase in scheduled injections. See details in Table 11);
- no changes to imbalance quantities in other schedules on the gas day; and
- in total, the market would have been underpaid by $6,001 in daily imbalance payments.

*Table 12: Expected changes to imbalance quantities and payments*

| Schedule | 6am | 10am | 2pm | 6pm | 10pm |
|---|---|---|---|---|---|
| | **Published imbalance quantities and payments** | | | | |
| Imbalance withdrawal (GJ) | 708,235 | 16,954 | 11,239 | 10,033 | 22,960 |
| Imbalance injections (GJ) | 711,928 | 25,062 | -8,940 | -8,059 | -1,842 |
| Net imbalance quantity (GJ) | -3,693 | -8,108 | 20,179 | 18,093 | 24,802 |
| Gas price ($/GJ) | $2.9000 | $3.2700 | $2.2309 | $1.9107 | $1.1100 |
| Imbalance payments ($) | -$10,710 | -$26,512 | $45,018 | $34,570 | $27,530 |
| **Daily imbalance payments ($)** | | | | | **$69,896** |
| | **Expected imbalance quantities and payments** | | | | |
| Imbalance withdrawal (GJ) | 717,786 | 7,403 | 11,239 | 10,033 | 22,960 |
| Imbalance injections (GJ) | 721,479 | 16,758 | -8,582 | -8,059 | -1,842 |
| Net imbalance quantity (GJ) | -3,693 | -9,355 | 19,821 | 18,093 | 24,802 |
| Gas price ($/GJ) | $2.9000 | $3.3900 | $2.2309 | $1.9107 | $1.1100 |
| Imbalance payments ($) | -$10,710 | -$31,714 | $44,219 | $34,570 | $27,530 |
| **Daily imbalance payments ($)** | | | | | **$63,895** |
| | **Expected changes to imbalance quantities and payments** | | | | |
| Gas price ($/GJ) | $0.0000 | $0.1200 | $0.0000 | $0.0000 | $0.0000 |
| Net Imbalance quantity (GJ) | 0 | -1,248 | -358 | 0 | 0 |
| Imbalance payments ($) | $0 | -$5,202 | -$799 | $0 | $0 |
| **Daily imbalance payments ($)** | | | | | **-$6,001** |

## Changes to deviation quantities and payments

MPs' deviation quantities would not have been impacted because:

- There was no impact on deviation payments for the last scheduling interval for gas day 2 October 2011 as the 6am price for gas day 3 October 2011 did not change.
- settlement system uses the correct demand forecasts for the 6am-10am scheduling interval in the 10am schedule to calculate deviation quantities; and
- 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 remain unchanged.

## 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 13 shows the linepack account would have increased by $6,197 which would need to be funded by all MPs withdrawing gas on that day.

*Table 13: Linepack account*

| | 3-Oct-11 |
|---|---|
| Change to total deviation payments | -$196 |
| Change to total imbalance payments | -$6,001 |
| Change to linepack account | $6,197 |

## Total financial impact

The estimated total financial impact (including changes to imbalance, deviation payments and linepack account allocations) for all MPs would be $3,870 as reported in Table 1 above.