

12 month delay for Basslink p. 2

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NEMMCO warns: 78 of 104 NEM gen or load units failed NEM technical tests

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The new NEM order - once rules and laws are in place - will give strong powers to the Australian Energy Regulator to get search warrants and seize documents; grid police will also get the power to disconnect units.

New era dawns: As the new era dawns, plant managers will take notice of a NEMMCO rules audit of 104 generation and user connections

to the grid which had revealed “matters of concern for power system security”. Out of 104, 88 were in breach of the rules in an average of four areas.

16 don't bother to reply: However, 16 plants managers did not reply at all. This included generation facilities totalling more than 500MW. Under the new law, “Companies (would be) very conservative about disclosing anything to the new regulator”, said the chief executive of the supply lobby group, the Energy Supply Association of Australia, Brad Page. Last week he argued proposed national electricity legislation for information-sharing powers between the Australian Competition and Consumer Commission and the new Australian Energy Regulator could create a confrontational framework, which in turn could affect private investment.

NEMMCO finds 78 plants in breach of rules:

- of the 88 which had registered unit ‘performance standards’;
- only ten were fully accepted by NEMMCO (after negotiation);
- that left 78 with at least one technical issue “where NEMMCO has not accepted the Code Participant’s proposal under the rules in clause 4.14” and were in “default”.

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The newly powerful Reliability Panel: NEMMCO would send a detailed report for the Reliability Panel.

Av four rule-breaches for 88 units: NEMMCO said: "On average, each registered performance standard has four proposed standards not accepted. Some of these have power system security implications. Many have quality of supply implications".

Warning notices: NEMMCO plans a "compliance program" under clause 4.15.

12 month delay for 600MW Basslink: six of eight 200 tonne Basslink transformers back to Germany, by sea

A 12 month delay in the start of the 600MW Basslink was confirmed last week. Basslink was to connect 29 May 2005, and will now connect a year later; "no earlier than the end of April 2006".

Water damaged transformers: It appears Siemens opened up the boxes and found six transformers, water-damaged after the MV Palmyra slopped water onto the transformers after losing its rudder in the Great Australian Bight on the final part of the voyage from Nuremberg, Germany. Its story was it had only just found the damage, two months after arrival. Basslink and Siemens stayed vague on a new start date - about 14 months from

Top price for NEM week 20-26 February 2005: Quarantine at \$56.79/MWh

SA			
Generator	Income (\$)	Output (MWh)	Av Price (/MWh)
North'n Power	\$2,562,199	86,600	\$29.59
Ladbroke	\$191,429	6,604	\$28.99
Osborne	\$732,099	24,253	\$30.19
Pelican Pt	\$780,074	22,350	\$34.90
Torrens Is. B	\$1,566,747	44,069	\$35.55
Vic->SA	\$1,701,932	57,316	\$29.69
MLink->SA	\$208,662	6,021	\$34.66
Torrens Is. A	\$184,705	4,449	\$41.52
Mintaro	-	-	-
Dry Creek	-	-	-
Playford	\$314,853	8,494	\$37.07
Snuggery	-	-	-
Pt Lincoln	\$5,293	120.25	\$44.02
Quarantine	\$90,158	1,587	\$56.79
Angaston Power	\$174	3	\$53.62
Hallett Power	\$44,262	518	

VIC			
Generator	Income (\$)	Output (MWh)	Av Price (/MWh)
Loy Yang A	\$6,553,646	268,429	\$24.41
Loy Yang B	\$4,167,293	171,349	\$24.32
Hazelwood	\$6,065,736	244,799	\$24.78
Yallourn	\$5,880,336	241,833	\$24.32
Anglesea	\$653,654	26,880	\$24.32
Energy Brix	\$595,995	24,358	\$24.47
Newport	\$408,526	10,066	\$40.59
MLink->Vic	\$3,690	81	\$45.35
SA->Vic	\$6,251	140	\$44.72
Snowy->Vic	\$2,175,675	64,063	\$33.96
Jeeralang	-	-	-
West Kiewa	\$95,114	2,629	\$36.18
Bairnsdale	\$24,974	595	\$41.94
Dartmouth	\$34,256	829	\$41.33
Eildon	\$109,513	3,171	\$34.53
Hume Vic	\$96,416	4,014	\$24.02
McKay Power	\$174,266	4,261	\$40.90
Clover	-	-	-
Valley Power	\$3,803	105	\$36.36
Rubicon	-	-	-
Somerton Power	-	-	-
Sunshine Energy	-	-	-
Longford	-	-	-
Tramway Road	-	-	-
Toora Wind Farm	-	-	-

NSW			
Generator	Income (\$)	Output (MWh)	Av Price (/MWh)
Bayswater	\$9,163,459	383,251	\$23.91
Liddell	\$4,745,547	197,963	\$23.97
Mt Piper	\$4,691,332	195,040	\$24.05
Wallerawang	\$3,051,879	126,962	\$24.04
Vales Point	\$2,875,794	115,632	\$24.87
Munmorah	-	-	-
Eraring	\$6,822,496	269,700	\$25.30
Redbank	\$536,681	23,051	\$23.28
Smithfield	\$465,603	18,871	\$24.67
Snowy->NSW	\$1,957,237	76,726	\$25.51
Shoalhaven	\$34,420	2,000	\$17.21
Hunter Valley	-	-	-
Hume Hydro	-	-	-
Blowering	\$67,352	2,948	\$22.85
Northern Gas	-	-	-
Burrinjuck	-	-	-
Brown Mountain	-	-	-
Keepit	-	-	-
Broken Hill	-	-	-
Ergon Energy	-	-	-
Pindari Hydro	-	-	-
DL Q->N	\$28,994	1,383	\$20.96
QLD->NSW	\$1,738,606	77,963	\$22.30
West Nowra	-	-	-

QLD			
Generator	Income (\$)	Output (MWh)	Av Price (/MWh)
Tarong	\$6,653,370	299,819	\$22.19
Millmerran	\$2,585,410	116,663	\$22.16
Swanbank	\$1,142,526	47,767	\$23.92
Stanwell	\$4,871,450	214,267	\$22.74
Callide B	\$2,380,833	104,336	\$22.82
Callide Power	\$2,815,451	124,819	\$22.56
Gladstone	\$3,544,860	151,227	\$23.44
Collinsville	\$372,217	16,381	\$22.72
Swanbank C_D_E	\$817,207	32,038	\$25.51
Barcardine	\$12,404	361	\$34.33
Callide A	-	-	-
Kareeya	\$213,917	8,641	\$24.76
Barron Gorge	\$58,402	1,783	\$32.76
Mt Stuart	\$21,147	660	\$32.04
Wivenhoe	\$353,729	19,495	\$18.14
Townsville	\$474,325	20,186	\$23.50
Mackay	-	-	-
Roma	\$29,679	831	\$35.72
Oakey	-	-	-
DL N->Q	\$27,205	838	\$32.47
NSW->QLD	\$38,903	1,018	\$38.21
Rocky Point	-	-	-
Tableland	-	-	-

now; “no earlier than the end of April 2006.” As a result of the absence of the planned Tasmanian hydro capacity, Victoria faces a very high risk of a summer blackout crisis due to lack of supply (see forecast graph inside). The Vic summer 2004- 2005 was 240MW. An emergency tender was held, under the reliability safety net provisions of the Code.

Back to the drawing board: It will also be back to the drawing board or off to mothballs for some preparatory code changes. For example, regional recovery of cost of regulation market ancillary services, designed to mitigate the risk of wealth transfers through the recovery of cost of regulation market ancillary services on a Tasmanian and mainland basis. On the data side, Tasmania is now modelled in the NEM pre-production systems. Tasmania however, is in an islanded environment in pre-production.

NEM ready for Basslink: But Basslink was not ready for NEM: trials started 29 November 2004 and are expected to be completed in early February 2005. Closed Loop trials are scheduled to commence in March 2005 and were due for completion during early April 2005.

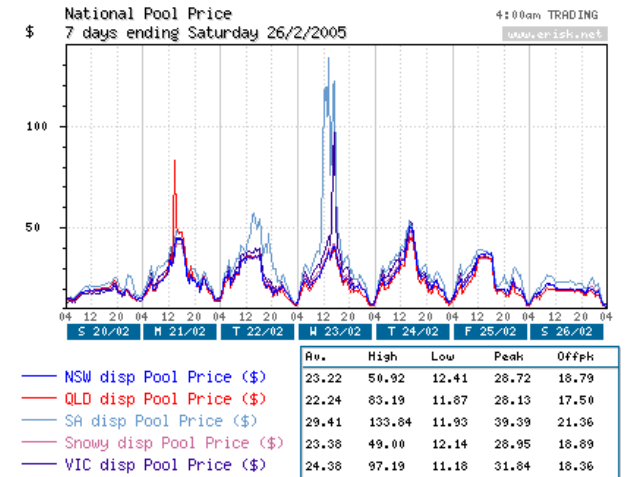
Transformers vital to Vic needs: The CEO of Basslink Pty Ltd, Chris Spencer, and Siemens project director, Dr Guenther Wanninger, said the damage is so severe that six of the eight 200 tonne transformers will have to be rebuilt. The interconnector is now planned for commissioning no earlier than the end of April

the week in detail

- NSW:** Average price \$23.22/MWh, up 22 per cent on the \$18.96/MWh of the previous week, up 19 per cent on the \$19.47/MWh of the comparable week last year; maximum price \$50.92/MWh for the 30-minute trading interval ended 1500EST on Thursday. Average demand 8833MW, up 3.2 per cent on the previous week, up 9.3 per cent on a year ago; maximum demand 12,001MW in the 1530EST interval on Friday, up 3.1 per cent on the 11,638MW of the previous week. Snowy-NSW exports averaged 437MW, down 22.8 per cent on average exports of 566MW the previous week;

- Victoria:** Average price \$24.38/MWh, up 31 per cent on the \$18.57/MWh of the previous week, up 29 per cent on the \$18.84/MWh of the comparable week last year; maximum price \$97.197/MWh for the 30-minute trading interval ended 1600EST on Wednesday. Average demand 5788MW, up 3.3 per cent on the previous week, up 4.3 per cent on a year ago; maximum demand 7802MW for the 1600EST interval on Wednesday, up 8.4 per cent on the 7200MW of the previous week. Victorian imports from Snowy averaged 227MW, compared to average exports of 93.44MW the previous week;

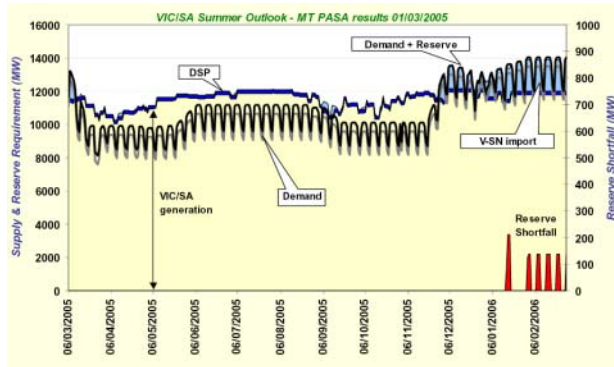
- South Australia:** Average price \$29.41/MWh, up 29 per cent on the \$22.73/MWh the previous week, up 33 per cent on the average of \$22.14/MWh of the comparable week last year; maximum price \$133.84/MWh for the 30-minute trading interval ended 1400EST on Wednesday. Average demand 1545MW, up 6.6 per cent on the previous week, up 8.6 per cent on a year ago; maximum demand 2415MW for the 1400EST interval on Wednesday, up 11.2 per cent on the 2171MW of the previous



week. Vic-SA flow averaged 337MW, down 6.4 per cent on the 360MW the previous week; Murraylink net flow averaged 34.50MW, down on the 38.21MW west the previous week; and

- Queensland:** Average price \$22.24/MWh, up 26 per cent on the \$17.67/MWh the previous week, up 20 per cent on the \$18.50/MWh of the comparable week last year; maximum price \$83.19/MWh for the trading interval ended 1430EST on Monday. Average demand 6260MW, up 3.7 per cent on the previous week, up 2.7 per cent on a year ago; maximum demand 7579MW for the 1630EST interval on Tuesday, up 1.8 per cent on the 7443MW the previous week. QNI flow averaged 458MW south, down 10.4 per cent on the 511MW south the previous week. Directlink averaged 3.25MW south, down from 14.29MW south the previous week.

2006. The Transformers 'transform' the voltage between Tasmania's 220kV transmission network, the 400kV Basslink cable, and the 500kV Victorian network. Victorian Energy Minister, Theo Theophanous, said Basslink was vital to Victoria's future energy supplies, reported *The Age* (24/2/2005, p. 3). He would be seeking advice from the National Electricity Market Management Company on the implications of the delay for Victoria's electricity supply.

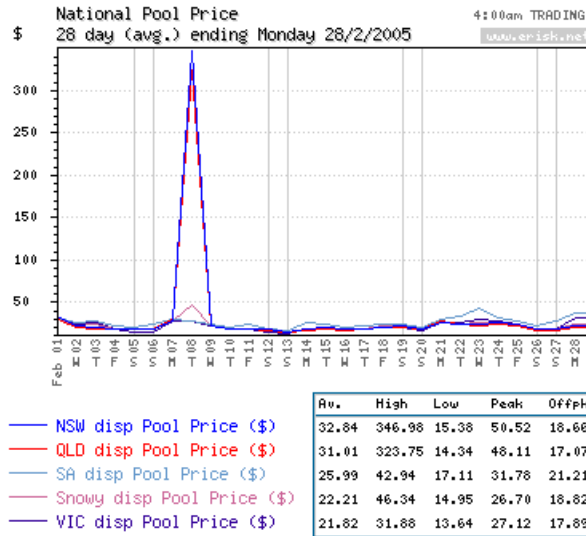


Absence of Basslink creates low reserves NSW and Victoria in March 2007 forecasts

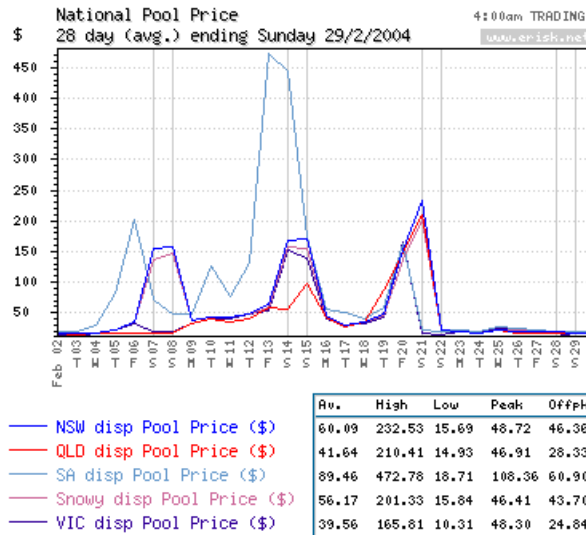
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Five changes followed after the medium term projected assessment of system adequacy (MT PASA) report updated by NEMMCO at 1143EST on Tuesday, 1 March to that issued at 1506EST on Wednesday 23 February 2005. NEMMCO said it had updated

February 2005



February 2004



February in detail

- NSW:** Average price \$32.84/MWh, down \$7.07/MWh (18 per cent) on the average \$39.91/MWh in January, down \$25.69 /MWh (44 per cent) on the \$58.53/MWh of February 2004. Average demand 8592MW, up 322MW (3.9 per cent) on the 8274MW of January, down 87MW (1.0 per cent) on the 8679MW of February 2004.
- Victoria:** Average price \$21.82/MWh, down \$1.04/MWh (5 per cent) on the average \$22.86/MWh in January, down \$16.80/MWh (44 per cent) on the \$38.62/MWh of February 2004. Average demand 5625MW, up 122MW (2.2 per cent) on the 5503MW of January, down 10MW (0.2 per cent) on the 5635MW of February 2004.
- South Australia:** Average price \$25.99/MWh, down \$4.76/MWh (15 per cent) on the average \$30.75/MWh in January, down \$60.88 /MWh (70 per cent) on the \$86.87/MWh of February 2004. Average demand 1459MW, down 15MW (1.0 per cent) on the 1474MW of January, down 174MW (10.7 per cent) on the 1633MW of February 2004.
- Queensland:** Average price \$ 31.01/MWh, up \$8.12/MWh (35 per cent) on the average \$22.89/MWh in January, down \$9.70/MWh (24 per cent) on the \$40.71/MWh of February 2004. Average demand 6233MW, up 267MW (4.5 per cent) on the 5966MW of January, up 192MW (3.2 per cent) on the 6041MW of February 2004.

the MT PASA results to reflect the delay in commissioning of the Basslink interconnector between Tasmania and Victoria to April 2006. The five changes for low reserve condition (LRC) were the elimination of February, March and December for SA in 2005. The other two changes are the inclusion of NSW and Vic in March 2007.

Flagged LRC conditions: In the 1 March MT PASA, NEMMCO flagged the following LRC conditions for a number of week days in the following months:

2005

- Queensland: November.

2006

- SA: January, February and March; and
- Victoria: January.

2007

- SA: January, February and March;
- Victoria: March; and
- NSW: March.

Modelling of DSP: NEMMCO said demand side participation (DSP) was modelled as an injection of supply in each region as follows:

- NSW: 14MW.
- Queensland: 157MW.
- South Australia: 74MW (previously 54MW).
- Victoria: 129MW (previously 109MW).

Market response sought: NEMMCO said it was seeking a market response to the reserve

shortfalls. It said the results for Victoria included 84MW of reserve services for the period 31/01/2005-04/03/2005.

Summary graphs available: NEMMCO said that for summary graphs of the MT PASA results refer to <http://www.nemmco.com.au/data/mtoutlook.htm>

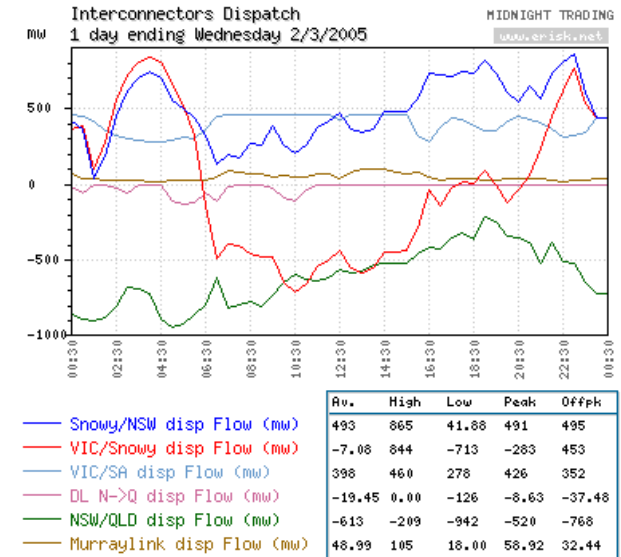
NEM grid mayhem as ETSA Utilities staff reject offer: vote to escalate work bans

NEMMCO operators were in the driver's seat as NEMMCO tried to keep a wild SE grid on the tracks during a SA electricity union wage negotiation go-slow.

Unions hands off go-slow: Over 400 Electrical Trades Union members at South Australian electricity distributor ETSA Utilities voted on 28 February to reject the company's terms for an enterprise bargaining agreement, and to escalate work bans, reported *The Advertiser* (1/3/2005, p. 10). The union rejected company terms for an enterprise bargaining agreement and made moves to escalate work bans.

Workers voted to expand bans to include:

- No intrastate work, except in the event of emergency breakdowns;
- no participation in training programs or use of ElectraNet SA's Emergency Restoration Structures; and
- no use of mobile phones, except in after-hours emergencies.



Wednesday, 2 March: system security direction in SA and 3 interconnector problems

NEMMCO issued a direction to a South Australian participant lasting 73 minutes from 0755-0908EST on Wednesday, 2 March, to enable it to maintain the power system in a secure operating state. In a market notice at 0918EST, NEMMCO said it declared the next dispatch interval (DI) following the direction to be an intervention price dispatch interval. The direction failed the regional reference node (RRN) test. NEMMCO said it did not trigger intervention pricing during the direction and did not select market participants to become affected participants.

Three interconnectors in trouble: The Victoria-South Australia Heywood interconnector, the Snowy-NSW interconnector and the Directlink interconnector between NSW-Queensland all had problems during the day. The Heywood interconnector had two problems, one a continuation of the outages of the Tailem Bend capacitor and another a requirement to take out a 275kV circuit, which eventually had to be postponed until Thursday.

Third Tailem Bend outage hits Heywood: Another short notice outage of the Tailem Bend capacitor in South Australia might result in a reduction to the Victoria-South Australia Heywood interconnector transfer capability, NEMMCO said in a market notice issued at 0646EST on Wednesday, 2 March. NEMMCO said constraint set ID S-TB_CP, which contained dynamic constraint equations, was invoked from 0640EST. This followed two separate problems with the Heywood interconnector on Tuesday over short notice outages of the Tailem Bend capacitor. In an update at 1513EST on Wednesday, NEMMCO cancelled the transfer limit reduction of the interconnector. It said constraint set ID S-TB_CP was invoked from 0640-0725EST.

Wednesday, 2 March: The Victorian transmission network service provider was not able to meet its schedule. A short-notice requirement to take out a single 275kV circuit of the Victoria-South Australia interconnection, to return a circuit breaker at Moorabool terminal station (MLTS), would result in a reduction of the Heywood interconnector's

Region Summary Report for the week 13 - 19 February 2005

NSW		
Energy Sent out	1176962.92 (MWh)	\$22,110,495.63
Energy Purchased	-1325938.10 (MWh)	(\$25,855,204.13)
Energy Imported from QLD1	85036.25 (MWh)	\$1,629,514.89
Energy Imported from SNOWY1	98103.45 (MWh)	\$1,896,614.21
Energy Exported to QLD1	-37.29 (MWh)	(\$645.80)
Energy Exported to SNOWY1	-178.78 (MWh)	(\$3,920.45)
Surplus on import from QLD1		\$110,007.49
Surplus on import from SNOWY1		\$63,447.61
Surplus on export to QLD1		\$4.51
Surplus on export to SNOWY1		\$54.93
Regional Excess Generation		\$0.00
Regional Reserve Trading		\$0.00
Market Intervention Compensation		\$0.00
Regional Admin Price Compensation		\$0.00
Settlement Surplus Account		(\$223,145.66)
Total Ancillary Service Payment		\$355,785.79

QLD		
Energy Sent out	1052162.28 (MWh)	\$18,016,982.22
Energy Purchased	-932989.39 (MWh)	(\$17,064,615.81)
Energy Imported from NSW1	35.23 (MWh)	\$650.31
Energy Exported to NSW1	-87204.85 (MWh)	(\$1,519,507.39)
Surplus on import from NSW1		\$4.51
Surplus on export to NSW1		\$110,007.49
Regional Excess Generation		\$0.00
Regional Reserve Trading		\$0.00
Market Intervention Compensation		\$0.00
Regional Admin Price Compensation		\$0.00
Settlement Surplus Account		(\$566,490.68)
Total Ancillary Service Payment		\$769,925.04

Data on Demand: Two methods

CSV files are available, for whole year data sets at www.erisk.net/DOD (data on demand service) for all data plus revenue by unit, and transmission flows and general NEM data. Pay by download using a credit card. Easy to access 1- 90 day charts and graphs also appear at <http://www.erisk.net>.

SA		
Energy Sent out	172781.02 (MWh)	\$4,036,373.68
Energy Purchased	-233100.40 (MWh)	(\$5,523,779.30)
Energy Imported from VIC1	62892.41 (MWh)	\$1,471,085.77
Energy Exported to VIC1	0.00 (MWh)	\$0.00
Surplus on import from VIC1		\$202,331.24
Surplus on export to VIC1		\$0.00
Regional Excess Generation		\$0.00
Regional Reserve Trading		\$0.00
Market Intervention Compensation		\$0.00
Regional Admin Price Compensation		\$0.00
Settlement Surplus Account		(\$16,319.85)
Total Ancillary Service Payment		\$73,662.82

Snowy		
Energy Sent out	84017.03 (MWh)	\$1,764,137.46
Energy Purchased	-2044.18 (MWh)	(\$32,418.83)
Energy Imported from NSW1	169.33 (MWh)	\$3,975.38
Energy Imported from VIC1	44014.18 (MWh)	\$717,911.24
Energy Exported to NSW1	-96892.54 (MWh)	(\$1,833,166.60)
Energy Exported to VIC1	-28939.37 (MWh)	(\$612,306.81)
Surplus on import from NSW1		\$54.93
Surplus on import from VIC1		\$32,150.46
Surplus on export to NSW1		\$63,447.61
Surplus on export to VIC1		\$18,649.34
Regional Excess Generation		\$0.00
Regional Reserve Trading		\$0.00
Market Intervention Compensation		\$0.00
Regional Admin Price Compensation		\$0.00
Settlement Surplus Account		\$8,131.84
Total Ancillary Service Payment		\$428,129.45

VIC		
Energy Sent out	927027.19 (MWh)	\$16,658,263.00
Energy Purchased	-816254.68 (MWh)	(\$15,643,796.59)
Energy Imported from SA1	0.00 (MWh)	\$0.00
Energy Imported from SNOWY1	28381.99 (MWh)	\$630,956.15
Energy Exported to SA1	-68194.19 (MWh)	(\$1,268,754.53)
Energy Exported to SNOWY1	-45933.35 (MWh)	(\$685,760.79)
Surplus on import from SA1		\$0.00
Surplus on import from SNOWY1		\$18,649.34
Surplus on export to SA1		\$202,331.24
Surplus on export to SNOWY1		\$32,150.46
Regional Excess Generation		\$0.00
Regional Reserve Trading		\$0.00
Market Intervention Compensation		\$0.00
Regional Admin Price Compensation		\$0.00
Settlement Surplus Account		(\$309,092.76)
Total Ancillary Service Payment		\$110,017.28

transfer capability, NEMMCO said in a market notice at 1530EST on Wednesday, 2 March. NEMMCO said the Victorian transmission network service provider (TNSP) was not able to meet the schedule between 1630-1645EST.

Wednesday, 2 March: Tumut transmission line outage Snowy-NSW interconnector

The unplanned outage of the Upper Tumut to Canberra 330kV transmission line in NSW might result in a reduction to the Snowy-NSW interconnector MW transfer capability, NEMMCO said in a market notice at 0313EST on Wednesday, 2 March. NEMMCO said it invoked constraint I-CNUT_01, which contained dynamic constraints, from 0225EST on Wednesday until further notice. In an update at 1530EST, NEMMCO said the transfer limit reduction was cancelled. It said constraint I-CNUT_01 was invoked from 0225-1405EST on Wednesday.

132kV line outage hits Directlink transfers:

A short notice outage of the 9U8 Lismore-Lismore 132kV line would reduce the transfer limit between NSW and Queensland on Directlink, NEMMCO advised in a market notice at 1545EST on Wednesday, 2 March. It said constraint set N-LSLS_9U8 was invoked between 1540-1630EST on Wednesday.

Tuesday, 1 March: Tailem Bend outage creates grid chaos: direction to SA

A direction was issued to an SA Code participant for 85 minutes from 0735-0900EST on Tuesday, 1 March to enable it to maintain the power system in a secure operating state, and came about six hours after another overnight direction to a South Australian Code participant for the same reason.

Outage hits Vic-SA interconnector: The unplanned outage of a capacitor at Tailem Bend in South Australia might result in a reduction to the Victoria-South Australia Heywood interconnector transfer capability, NEMMCO advised in a market notice at 0516EST on Tuesday, 1 March. NEMMCO said constraint set ID S-TB_CP, which contained dynamic constraints, was invoked at 0455EST until further notice. In an update at 1530EST, NEMMCO said the notification of the possible reduction of transfer capability was cancelled. It said constraint set ID S-TB_CP was invoked from 0455-1455EST, a total of 10 hours.

Second capacitor outage affects Vic-SA:

The second short notice outage of the Tailem Bend capacitor in South Australia on Tuesday, 1 March resulted in NEMMCO issuing a market notice at 1800EST.

December 2004 retailer shock: Christmas Eve and New Years Eve invoice for \$815 million for 30th of November and 1 Dec

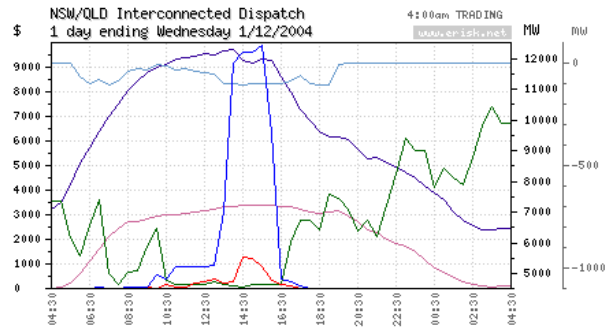
On the 5th of January, a very large settlement of \$815 million covered the 30th of November and 1st December. The settlement will be approximately \$790 million due to security deposits that are paid back to participants on the final statement.

\$1.7 billion uncrease in retailer liabilities:

As a result of this settlement week, credit support increased to \$1.7 billion. Additional bank guarantees were lodged by some participants. Participants are encouraged that they ensure their bank credit limits and authorities are able to handle the larger amounts of payments that retailers will be required to settle.

1 Dec 2004: NSW ran short by 200MW in 41C, Sydney: price to \$10,000/MWh and retailers extend credit cover

Chris Deague, head of System Operations Planning and Performance for the NEM, reported on the system incidents, 1 Dec 2004 and 14 Jan 2005.



	Avg.	High	Low	Peak	Offph
NSW disp Pool Price (\$)	1159.15	9909.03	17.97	1837.44	28.67
QLD disp Pool Price (\$)	145.39	1280.53	17.44	216.96	26.10
DL N->Q disp Flow (mw)	-38.51	0.00	-107	-53.46	-13.61
NSW/QLD disp Flow (mw)	-791	-213	-1087	-938	-547
NSW disp Total Demand (MW)	9655	12322	6417	10880	7615
QLD disp Total Demand (MW)	6218	7254	4513	6902	5079

1 December 2004: In this historic NSW blackout, the week ending 4th December 2004 was an all time (six year) record for settlement in the NEM. The value for that settlement week will be approximately \$815 million, equivalent to over eight times the average settlement value for a billing week. NSW demand was over 12,500MW and, at 13:35hrs, a low reserve 2 was declared for NSW. At 13:54hrs, Vales Pt unit tripped 610MW and QNI and Snowy interconnectors were over the secure limit. Some constraints were violated. Voltages in Sth NSW were low, and NSW ran out. Load was shed in NSW.

Extreme temperatures: On 1 December 2004 a day of extreme temperatures was experienced in Sydney. Temperatures rose to 41 degrees Celsius in Sydney and 40.3 degrees Celsius in Bankstown.

Second hot day: It was the second consecutive hot day, and due to the loss of a

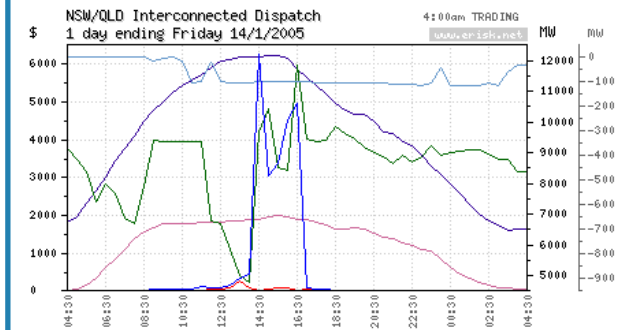
generator the previous night, the NSW generation capacity fell to 9040MW. LOR1 conditions were declared from 10am to 7.30pm with LOR2 conditions anticipated to occur soon after. A generator that had tripped the previous day was expected to return to service but was delayed. Consequently LOR2 was declared at 1:47pm. The tripping of another generator in NSW at 1:54pm resulted in the subsequent requirement for load shedding in the state of NSW.

The story of a blackout: Following the loss of the generator, the QLD to NSW interconnector (QNI) and Snowy1 interconnector were transferring power above their secure limits. At 2.00pm, 1 December 2004, QNI power transfer was 1129MW (secure limit = 1078MW). Power transfer along snowy1 was 3301MW (secure limit approximately is 2900-2950MW). The fast start generator in NSW was getting generation targets. Taking the fast start plant capacity into consideration, the load reduction required was estimated to be approximately 200MW. At 2.00pm instructions were given to TransGrid to shed 200MW of load following the existing procedures (involuntary load shedding).

NSW runs out of electricity: A LOR3 condition was declared for NSW. At 2.02pm, an interruptible load (approximately 250MW) was reduced by a customer (was not instructed by NEMMCO). This enabled the progressive restoration of the load that was shed by Transgrid earlier. During the incident many constraints associated with QNI and Snowy1 were violated. Over-constrained Dispatch (OCD) Reruns took place.

Price \$10,000: The spot price in NSW rose to \$10,000 for three dispatch intervals. No FCAS violations occurred and the accumulation of negative residues were managed using agreed procedures. At 3:17pm, customer interruptible load was restored and by 4:23pm load restoration was complete. The Value of lost load (VOLL) flag was not set immediately after the load interruption. This incident is currently under investigation. A final report covering this incident will be issued shortly.

14 January 2005: At 14:05 Hrs, the Qld Braemar-Tarong tripped with a fault on a line reactor, with 990MW South flow on QNI. A parallel line tripped was described as an "inadvertent protection operation". Then, the Millmerran unit 1 tripped 430MW, and the Qld frequency increased to 50.48Hz. The Southern regions frequency fell to 49.52Hz. Automatic generator control was configured for two



	Avg.	High	Low	Peak	Offph
NSW disp Pool Price (\$)	511.92	6277.49	16.79	805.03	23.40
QLD disp Pool Price (\$)	35.85	256.40	15.90	45.64	19.52
DL N->Q disp Flow (mw)	-70.78	0.36	-116	-75.59	-62.75
NSW/QLD disp Flow (mw)	-434	-33.02	-913	-439	-427
NSW disp Total Demand (MW)	9710	12181	6496	10963	7621
QLD disp Total Demand (MW)	6031	6966	4518	6610	5067

islands. Flow from Snowy to NSW peaked at 3480MW, and then at 14:28 the two states were again synchronised.

14 January 2005: In a second event on the same day, at 15:58 Hrs, a second circuit was energised, and both Braemar-Tarong circuits tripped with 420MW Sth flow on QNI. Qld was at 50.34Hz and the Southern regions at 49.81Hz. Snowy flow to NSW peaked at 3230MW. Automatic generator control (AGC) was again configured for two islands. At 16:21 Hrs, the states were reconnected.

The causes: Powerlink identified a faulty directional earth fault element. Millmerran advised that voltage disturbance caused a coal feeder microprocessor to fail, resulting in a unit trip. This has now been remedied. NEMMCO was preparing incident reports on both 1 December 2004 and 14 January 2005 incidents with the 1 Dec report available mid March and 14 Jan report available in May.

NEM reaches 100 registered Code participants at 6th year

9

The minutes to the National Electricity Market Information Forum - No.64, held On Thursday 16 December 2004, were published last week. Chair Brian Spalding reported the National Electricity Market (NEM) closed its 6th year on 13 December 2004, and it was then believed Tasmania would enter the NEM on 29 May 2005. The NEM had 100 registered Code participants.

Transition to AEMC and AER: Greg Denton, director of Tavis Consulting in a team with KPMG, has been managing the transition of NECA (National Electricity Code Administration) to the AEMC (Australian Energy Market Commission). KPMG will be continuing on. A heads of agreement for a lease for the new AEMC offices has been signed. A fit out of the new office should be completed by February 2005. NECA would transition the market monitoring and surveillance functions to the Australian Energy Regulator (AER). New office fit out was close to completion. The market monitoring IT systems are scheduled for completion early in the new year.

Code Change update: Two Code changes have recently been gazetted:

- site specific distribution loss factors (DLFs) for small generators, which was authorised on 19 November and gazetted on 2 December; and
- NEMMCO extension to the derogation on constraint formulation titled "Despatching the Market: interim arrangements". This derogation was granted interim authorisation on 1 December for an extension for one year to the end of 2005, and gazetted on 16 December 2005.

NEMMCO B2B to go live 23 October 2005

Incorporating outcomes from the 9 December workshop, the following indicative way forward is likely for early 2005:

- January - participants to provide comments on 2 papers by 28 January 2005 - clarify current data issues and challenges associated with the market now - scope out vision of where the industry wants to take this work and business modelling work;
- February - possibly hold a workshop to review data issues and business modelling scope in mid February - update papers and programme by end of February;
- March/April - business modelling work looking at data problems, efficiencies and infrastructure.

To go to ACCC: The NECA consultation on the Code B2B Governance Framework is currently proceeding. It is anticipated that this consultation will be presented to the ACCC by February 2005.

Ten years later, NEMMCO discovers html: staff work in own time, find solution for unpopular 'PIMMS' interface

Mike Muir of NEMMCO said the Market Management System (MMS) was developed with a user interface called 'PIMMS'. This interface was not user friendly and not a success. A number of spreadsheets were used for parts of the user interfaces; however, due to the nature of the spreadsheets, they were not found to be

particularly useful. Following the lack of success of the 'PIMMS' interface, participants developed their own interfaces and used the spreadsheets for emergency/back up purposes only.

Modern interface: NEMMCO staff involved in MMS development modified an existing internal application to include a Web front end. This work was undertaken out of hours. This was released as a 'beta' release and is the first attempt to add a modern interface to the legacy portion of MMS. Feedback from participants indicated that a backup interface for bidding and dispatch is still needed for disaster planning. Before proceeding any further, NEMMCO would like comments on the web interfaces produced to date.

Focus group: The Market Systems Reference Group has indicated a desire for NEMMCO to form a focus group to comment on this new MMS development. Presently, login for all web applications such as MMS, MSATS, OPDMS, NOS and helpdesk is controlled by the participant having an account in MSATS. A future objective is to have a single login view for all web applications in NEMMCO, and standardise the 'look and feel' of these applications.

NEMMCO calls for future agenda items for NEM Forums

Such requests may be directed to: Email: cath_ferguson@nemmco.com.au

Future Dates: The NEM Forum dates for 2005 are:

- NEMF 66 - 28 April 2005;
- NEMF 67 - 30 June 2005;
- NEMF 68 - 25 August 2005;
- NEMF 69 - 27 October 2005;
- NEMF 70 - 15 December 2005.

2003/04 spot: 40 per cent lower than at start of NEM

Discussing the spot market, the annual report for the National Electricity Code Administrator (NECA) for 2003/04 said spot prices averaged \$27/MWh in Victoria, \$31/MWh in Queensland, \$37/MWh in NSW and \$39/MWh in South Australia.

40 per cent lower than at start of NEM:

These prices represented a reduction of around 40 per cent in Queensland and South Australia compared to the first full year of the National Electricity Market (NEM).

First rise in SA since NEM start: However, annual prices in South Australia this year rose for the first time since the NEM start, following the events at the Moomba gas fields in January and February.

NSW prices steady: Prices in Victoria fell for the third consecutive year, while in NSW prices had remained steady since 2001/02. This was despite the extreme prices of 9 March in

Queensland and NSW when daily turnover reached a record of \$580 million, compared to a weekly average of \$120 million.

Record prices in Qld, SA and NSW: Prices in Queensland reached a record \$8943/MWh in July 2003. Record high prices of \$8166/MWh and \$9702/MWh occurred in South Australia and NSW respectively in March.

Reference: Final annual report of National Electricity Code Administrator (NECA) for 2003/04. 18 February 2005. Phone: (08) 8213 6322. Fax: (08) 8213 6300. <http://www.neca.com.au>

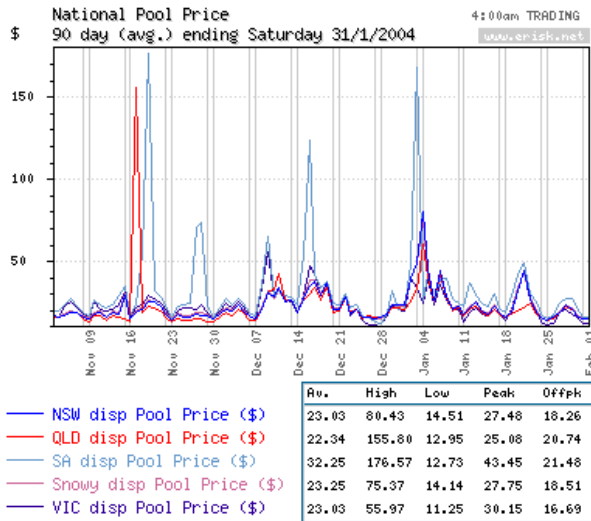
2004/05 summer up 30pc in NSW, down 16-39pc in Vic and SA and down 13 cents in Qld to \$24.06-\$46.30/MWh range

Average prices rose 30 per cent in NSW in summer 2004/05, dropped 16-39 per cent in Victoria and South Australia, and fell 13 cents in Queensland to a \$24.06-\$46.30/MWh range compared with the 2003/04 summer.

Demand movements: Average demand fell 22MW (0.3 per cent) in NSW and 45MW (3.0 per cent) in South Australia, and rose 77MW (1.4 per cent) in Victoria and 155MW (2.7 per cent) in Queensland to 5997MW in summer 2004/05.

Biggest price variations in NSW: Wide variations occurred in average prices in the

Summer 2003/2004



three summer months in NSW, with the range being \$32.84-\$64.85/MWh. The variations were much narrower in Victoria with \$21.82-\$27.29/MWh, South Australia with \$25.99-\$33.76/MWh and Queensland with \$22.89-\$31.61/MWh.

Highest monthly average of \$64.85/MWh:

The NSW average of \$64.85/MWh in December 2004 was the highest of all regions for summer 2004/05, compared with an average of \$86.87/MWh in South Australia in February 2004 during summer 2003/04.

Qld demand up in all three months: With average demand, NSW had two of the three months higher in 2004/05 than in 2003/04, Victoria had one of three months higher, South Australia had one of three months higher, and all three months were higher in Queensland.

How average prices and demand moved:

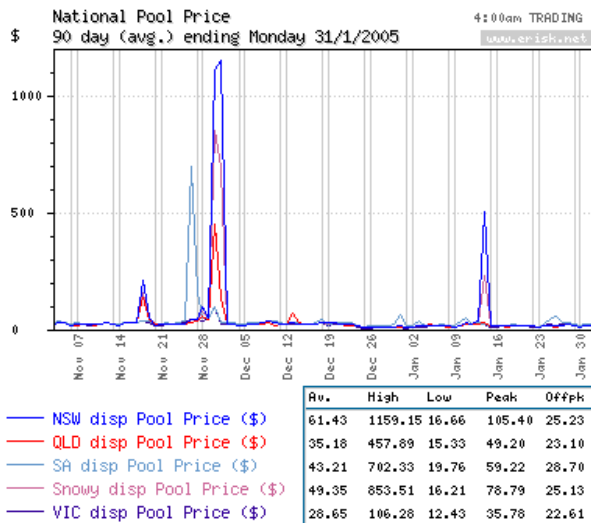
The following shows a comparison of average prices and average demand for NSW, Victoria, South Australia and Queensland in summer 2004/05 compared with summer 2003/04:

- NSW Average price \$46.30/MWh, up \$10.57/MWh (30 per cent) on the average of \$35.73/MWh for the three summer months of 2003/04. Average demand 8294MW, down 22MW (0.3 per cent) on the 8316MW for summer 2003/04.
- Victoria Average price \$24.06/MWh, down \$4.42/MWh (16 per cent) on the average of \$28.48/MWh for the three summer months of 2003/04. Average demand 5496MW, up 77MW (1.4 per cent) on the 5419MW for summer 2003/04.

- South Australia Average price \$30.31/MWh, down \$19.01/MWh (39 per cent) on the average of \$49.32/MWh for the three summer months of 2003/04. Average demand 1443MW, down 45MW (3.0 per cent) on the 1488MW for summer 2003/04.
- Queensland Average price \$28.42/MWh, down 13 cents on the average of \$28.55/MWh for the three summer months of 2003/04. Average demand 5997MW, up 155MW (2.7 per cent) on the 5842MW for summer 2003/04.

Reference: Analysis of National Demand and National Price for three summer months in 2004/05 and 2003/04 in Price/Demand section of Erisk Net - Realtime NEM Data. <http://www.erisk.net>

Summer 2004/2005



Settlement residues in 2003/04 up 16pc to \$140m, with auction proceeds of \$62m below normal average: NECA

Settlement residues in 2003/04 increased by about 16 per cent to around \$140 million, said the eighth - and final - annual report for the National Electricity Code Administrator (NECA).

Auctions at 44.3 per cent of total: The report, covering 2003/04, said auction proceeds for the year were \$62 million, or 44.3 per cent of the residues, which was below the long-term average of auction proceeds accounting for about half of settlement residues.

Total residues since 1999 now \$620 million: NECA said total residues accumulated since the introduction of the settlement residue auction process in September 1999 had reached almost \$620 million, which equated to around 2 per cent of energy market turnover for the same period.

\$335 million redistributed: A total of \$335 million of auction proceeds, or almost half of the value of residues, had been redistributed to customers.

Vic-Snowy residues at \$45 million: NECA said residues for transfers from Snowy to NSW reached around \$38 million in 2003/04 and residues for Victoria to Snowy totalled \$45 million.

Imports into NSW account for most: Combined residues for imports into NSW represented three quarters of all those accumulated. South Australian imports accounted for \$30 million, or 20 per cent, of the total. Residues accumulated on the remaining interconnectors were negligible in comparison.

Reference: Final annual report of National Electricity Code Administrator (NECA) for 2003/04. 18 February 2005. Phone: (08) 8213 6322. Fax: (08) 8213 6300. <http://www.neca.com.au>

Rebidding falls to record low of 540 a day in 2003/04, down 120 a day on previous year

Rebidding activity in 2003/04 fell to a record low, averaging around 540 rebids a day, said the eighth - and final

- annual report for the National Electricity Code Administrator (NECA).

Falls of 18 per cent and 38 per cent: The report, covering 2003/04, said the 540 rebids compared to around 660 in 2002/03 and 875 in 2001/02. The reductions were 18 per cent and 38 per cent.

Code changes have effect: Rebidding of capacity, which reflected a generator's availability, remained stable. Changes to the amount of capacity offered at different prices, however, continued to fall. This reduction was in response to the rebidding Code changes introduced in February 2003.

Obligation for bids, offers to be genuine: NECA said the February 2003 changes were designed to create an obligation for market participants' bids and offers to represent their genuine intentions at the time they were made.

Inflexibility bids rise in Vic: Rebidding to reflect technical limitations, such as inflexibility, fell by around 60 per cent in Queensland compared to the previous two years, following the completion of a number of major generator commissioning projects. In Victoria, however, the use of inflexibility rebids increased by more than 60 per cent compared to the previous two years.

Effect of ancillary services market: Rebidding the rate at which a generator could change its output also fell to its lowest levels ever. The greatest reduction was in Queensland following the introduction of the market for ancillary services in September 2001.

Accuracy of forecast prices: NECA said there were significant variations between forecast and actual prices in about 9 per cent of all trading intervals for the third consecutive year. Inaccuracies in demand forecasts continued to account for around two-thirds of all price variations.

Demand forecast quality deteriorates: Over the longer-term, the quality of demand forecasts had generally deteriorated. With spot prices across the market aligned more often, the occurrence of significant price variations across all regions had converged compared to 1999/2000.

Reference: Final annual report of National Electricity Code Administrator (NECA) for 2003/04. 18 February 2005. Level 5, 41 Currie Street, Adelaide. SA. 5000. Phone: (08) 8213 6322. Fax: (08) 8213 6300. <http://www.neca.com.au>

Total face value of contract markets represents \$1.25bn in 2003/04: NECA annual report

Liquidity in contract markets continued to grow and the total 2003/04 transactions for electricity represented a face value of \$1.25 billion, according to the eighth - and final - annual report for the National Electricity Code Administrator (NECA).

Trading rises to 27 terrawatt hours: The report for 2003/04 said results published by d-cyphaTrade showed trading in futures contracts rose to around 28 terrawatt hours (TWh), or 28 billion kilowatt hours.

15 per cent of wholesale market: This total was equivalent to 15 per cent of the energy in the wholesale market.

8500 contracts in June: The NECA report said open interest positions rose to around 8500 contracts in June with almost half (42 per cent) of that interest in NSW.

45pc spread evenly between Vic and SA: Another 45 per cent was spread evenly between Victoria and South Australia.

Reference: Final annual report of National Electricity Code Administrator (NECA) for 2003/04. 18 February 2005. Level 5, 41 Currie Street, Adelaide, SA 5000. Phone: (08) 8213 6322. Fax: (08) 8213 6300. <http://www.neca.com.au>

Spot price exceeds \$5000/MWh a record 16 times in 2003/04: 8 times in Qld, 7 in NSW and 1 in SA, says NECA

The National Electricity Market's spot price exceeded the previous cap of \$5000/MWh a record 16 times in 2003/04, according to the eighth - and final - annual report for the National Electricity Code Administrator (NECA).

Two more than previous year: The report said this was two more than the previous year. The spot price was above \$5000/MWh eight times in Queensland, seven times in NSW and once in South Australia.

Annual turnover around \$6 billion: Annual turnover in the spot market for 2003-04 was just over \$6 billion. The weekly average was around \$115 million. Weekly turnover peaked at just over \$660 million during the second week of March.

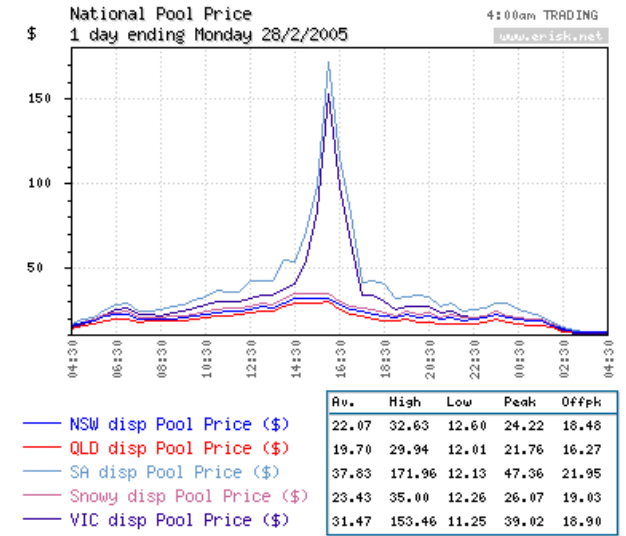
Marginal fall in annual turnover: Over the longer-term, and despite an 11 per cent increase in annual energy consumption since 1999/2000, annual turnover had fallen marginally.

National av down \$4/MWh since 1999/2000: The national average wholesale spot market price had fallen from just over \$37/MWh in 1999/2000 to around \$33/MWh this year. Spot and contract prices had converged over time.

How annual spot prices have moved: The following table sets out average annual spot prices and compares prices in 2003/04 with the previous four years:

Year	Qld	NSW	Vic	SA
2003/04	\$31/MWh	\$37/MWh	\$27/MWh	\$39/MWh
2002/03	\$41/MWh	\$37/MWh	\$30/MWh	\$33/MWh
2001/02	\$38/MWh	\$38/MWh	\$33/MWh	\$34/MWh
2000/01	\$45/MWh	\$41/MWh	\$49/MWh	\$67/MWh
1999/2000	\$49/MWh	\$30/MWh	\$28/MWh	\$69/MWh

Reference: Final annual report of National Electricity Code Administrator (NECA) for 2003/04. 18 February 2005. Level 5, 41 Currie Street, Adelaide, SA 5000. Phone: (08) 8213 6322. Fax: (08) 8213 6300. <http://www.neca.com.au>



Monday, 28 February: second day in a row above 30 degrees sent max demand Vic and SA up 21.5 per cent and 38.0pc

Spikes of \$153.46/MWh and \$171.96/MWh in Victoria and South Australia pushed average prices up 29-35 per cent in these regions, while they dropped 10-12 per cent in NSW and Queensland to a \$19.70-\$37.83/MWh range. Top temperatures of 32 degrees in Melbourne and 37 degrees in Adelaide (the second day in a row above 30 degrees) sent maximum demand soaring in Victoria and South Australia - up 21.5 per cent and 38.0 per cent respectively. These outweighed the 1557MW (13.0 per cent) fall in

NSW and the 236MW (3.2 per cent) drop in Queensland for system-wide maximum demand to be 27,898MW, up 192MW (0.7 per cent) on Friday, the previous week day.

Price leader: South Australia was average price leader, with Queensland the trailer. Top temperatures in the other two NEM capitals were 30 degrees in Brisbane and 27 degrees in Sydney.

NEMMCO plan: if market ancillary service prices wrong, revise ancillary and energy prices, too submissions invited

NEMMCO invites written submissions on the Over-constrained Dispatch: Pricing Re-Run Procedure. Currently only energy dispatch prices initially reported at or outside the VOLL/Market Floor price limits can trigger an OCD (Over-Constrained Dispatch) re-run, and only energy dispatch prices are eligible for adjustment from the OCD re-run solution. Market ancillary service prices greater than or equal VOLL (that is, with a violation price component indicating an FCAS (Frequency Control Ancillary Service) requirement violation) do not trigger an OCD re-run and are not revised under the OCD re-run process.

Input sought: NEMMCO is seeking input from Participants as to whether the OCD re-run process should be changed to allow violated market ancillary service prices to trigger an OCD re-run, and to subsequently allow

revision of market ancillary service prices as well as energy dispatch prices from the OCD re-run solution.

Submissions in response to this Notice of Code Consultation should reach NEMMCO by 5:00pm on 31 March 2005. Please send all e-mail submissions to Ross Gillett on Ross_Gillett@nemmco.com.au

Centennial Coal bid for Austral Coal to create \$1.1bn group: production split between exports and sales to NSW

Centennial Coal swooped on rival Austral Coal, a cash-strapped producer of the top-quality coking coal, reported *The Australian Financial Review* (24/2/2005, p.20).

\$1.1bn group: The deal, one of the first major consolidations in the current coal boom, created a \$1.1 billion group with production equally split between exports and long-term sales to NSW power companies.

End of turbulent year for Austral: The takeover ended a turbulent year for Austral, which raised money to install a new longwall mining machine, and then sold shares two more times to cover the cost of delays in getting the equipment working properly.

Centennial offers 10 for 37 share swap: Centennial offered 10 of its shares for every 37 Austral shares, valuing the target at \$1.10 - an 8 per cent premium to the closing price on Friday, 18 February 2005, before trading was halted.

Gloucester Coal benefits from \$US100/tonne coking coal deal with Japan: high demand from India, China, fuel boom

Shares in Gloucester Coal continued their upward trend, riding good market sentiment following new coking coal contracts, reported *The Australian* (23/2/2005, p.27).

Record \$US100/tonne coking coal deal: The miner revealed it had signed a record deal with the Japanese steel mills for its semi-soft coking coal at \$US100 (\$127.34) a tonne for the 2005-06 Japanese financial year. Gloucester chief executive Gavin May said the strong market conditions brought on by the high demand from countries such as India and China would continue for the "foreseeable future".

Constraint Library Changes Report for the week 21-27 Feb 2005

<p>21/02/2005: Modified Constraint Set(s) and Constraint Equation(s) Constraint Set: S-NIL, S-NIL_SG_GENMAX Constraint Equation: S>V_NIL, S>NIL_SG_GENMAX, V>S_NIL Reason: Added Canunda Windfarm to RHS</p>
<p>21/02/2005: Modified Constraint Set(s) and Constraint Equation(s) Constraint Set: S-TIPA Constraint Equation: S>V_PATI, V:S_PATI, V>S_PATI Reason: Updated for Lake Bonney and Canunda windfarms, updated descriptions</p>
<p>21/02/2005: Modified Constraint Equation(s) Constraint Equation: V:H_X_DDTX, V:H_XDDMB, VH:DDMS, VH:DDSMQ1, V:H_DDSM2, VH:EPTT, V:HHWRO3_P, V:HHWRO3_R, V:HHWROA_B, V:HHWROA_C, V:HHWROB_B, V:HHWROB_C, V:HHWROC_B, V:HHWROC_C, V:HHWSMA_B, V:HHWSMA_C, V:HHWSMB_B, V:HHWSMB_C, V:HHWSMC_B, V:HHWSMC_C, V:H_HWSMA_R, V:H_HWSMB_R, V:H_HWSMC_R, V:HSMF2A_P, V:HSMF2A_R, V:HSMF2B_P, V:HSMF2B_R, V:HSMF2C_P, V:HSMF2C_R, MT_V:H_NILA_R, ESTN_HYSE, ESTN_PATB, ESTN_TBSE, V:H_NILA_R, V:H_HWROA_R, V:H_HWROB_R, V:H_HWROC_R Reason: Change APS_IS analog term to APS.VAPS trader term</p>
<p>21/02/2005: Modified Constraint Equation(s) Constraint Equation: S>V_TB_CP, V>S_TB_CP Reason: Added Canunda windfarm to RHS</p>
<p>21/02/2005: Modified Constraint Set(s) and Constraint Equation(s) Constraint Set: I-CNLT_07 Constraint Equation: H>>H-07+64_A, H>N-07_A_15M, H>N-07_B_15M, N:H_CNLT Reason: Update descriptions and add ST PASA RHS</p>
<p>22/02/2005: Modified Constraint Set(s) and Constraint Equation(s) Constraint Set: Q-NIL Constraint Equation: Q>BRTX1-2, Q^NILCSFL1, Q^NILCSFL2, Q^NIL_1CS, Q^NIL_2CS, Q_CS_1900, Q:NIL_CN1, Q^NIL_FNQ3, Q^NIL_FNQ4, Q^NIL_GC, Q>NIL_757+758_A_SUMR, Q>NIL_757+758_B_SUMR, Q>NIL_805+806_SUMR, Q>NIL_SBMU, Q>PRE855_871CAL, Q>PRE855_871GL_ST Reason: Queensland system normal equations combined into a single constraint set.</p>
<p>25/02/2005: Modified Constraint Set(s) and Constraint Equation(s) Constraint Set: V-MLTG Constraint Equation: V>SMLMLTG1, V>SMLMLTG2 Reason: Removed lower capping of 0, revised descriptions</p>
<p>Please note that the Effective Date indicates the new/updated Constraint is available from that date, it may not necessarily be invoked until a later time. Refer to the System Operating Procedure SO_OP3709 (http://www.nemmco.com.au/powersystemops/3709.htm) for more information on Generic Constraints. Refer also to the Constraint Naming Guidelines: http://www.nemmco.com.au/dispatchandpricing/200-0062.htm and the Network and FCAS constraint formulation policy: http://www.nemmco.com.au/dispatchandpricing/170-0030.htm</p>

Transmission Outage Start Date 3-9 March 2005

ewn publishing

Station Name	Equipment Name	Equipment Type	KV	Start Time	Status	Constraint Set ID
Munmorah 330kV	Munmorh 5232 330kV CB	cb	330	2005/03/03 04:33:00	PTP	
Lower Tumut	07 Lower Tumut-Canberra CB 072B	cb	330	2005/03/04 07:02:00	PTP	
Happy Valley 275kV	Happy Vly 62 275kV CAP	cap	275	2005/03/04 07:06:00	PTR	
Happy Valley 275kV	H_VALL 6523 275kV CB	cb	275	2005/03/04 07:06:00	PTR	
Happy Valley 275kV	H_VALL 6524 275kV CB	cb	275	2005/03/04 07:06:00	PTR	
Morphett Vale East 275kV	Mrpht VI E Happy Vly 275kV LINE	line	275	2005/03/04 07:06:00	PTR	
Rowville 500kV	Rowvill500 A1 500/220kV XFMR	xfmr2	500/220	2005/03/05 04:30:00	PDLTP	V-ROTX_P
Alcoa/portland 500kV	Alc/prtlnd Heywood 1 500kV LINE	line	500	2005/03/05 05:30:00	PDLTP	F-I_TL_0600
Alcoa/portland 500kV	Alc/prtlnd Heywood 1 500kV LINE	line	500	2005/03/05 05:30:00	PDLTP	F-V-HYML
Alcoa/portland 500kV	Alc/prtlnd Heywood 1 500kV LINE	line	500	2005/03/05 05:30:00	PDLTP	V-HYML_P
Heywood 500kV	Heywood Moorabool 1 500kV LINE	line	500	2005/03/05 05:30:00	PDLTP	F-I_TL_0600
Heywood 500kV	Heywood Moorabool 1 500kV LINE	line	500	2005/03/05 05:30:00	PDLTP	F-V-HYML
Heywood 500kV	Heywood Moorabool 1 500kV LINE	line	500	2005/03/05 05:30:00	PDLTP	V-HYML_P
Heywood 500kV	Heywood 1 500kV BUS	bus	500	2005/03/05 06:00:00	PDLTP	F-V-HY_TX
Heywood 500kV	Heywood 1 500kV BUS	bus	500	2005/03/05 06:00:00	PDLTP	V-HYTX
Horsham 220kV	Horsham 1 66kV BUS	bus	66	2005/03/05 06:00:00	PDLTP	
Chapel Street	ChapelSt S 220kV BUS	bus	220	2005/03/05 06:30:00	PDLTP	
Gordon	Gordon ChapelSt 1 220kV LINE	line	220	2005/03/05 06:30:00	PDLTP	
Happy Valley 275kV	H_VALL 6522 275kV CB	cb	275	2005/03/05 07:00:00	PDLTP	S-MGHV
Happy Valley 275kV	H_VALL 6526 275kV CB	cb	275	2005/03/05 07:00:00	PDLTP	S-MGHV
Happy Valley 275kV	Happy Vly Magill 275kV LINE	line	275	2005/03/05 07:00:00	PDLTP	S-MGHV
Monash 132kV	Monash Berri 2 132kV LINE	line	132	2005/03/05 07:30:00	PDLTP	
Moorabool 500kV	Moorabool Terang 220kV LINE	line	220	2005/03/05 07:30:00	PDLTP	V-MLTG
Rocklea 275kV	Rocklea 2 110kV CAP	cap	110	2005/03/05 08:00:00	PDLTP	Q-TR_OFFSET -70
Thomastown 220kV	Thomastown 2 66kV BUS	bus	66	2005/03/06 05:45:00	STLTP	
Alan Sheriff 132kV	Alan Shrff Townsville 7276 132kV LINE	line	132	2005/03/06 07:30:00	STLTP	Q-GBTV_ASTV
Moorabool 500kV	Moorabool Terang 220kV LINE	line	220	2005/03/06 07:30:00	STLTP	V-MLTG
Belmont 275kV	Belmont 7 110/33kV XFMR	xfmr2	110/33	2005/03/06 08:00:00	STLTP	
Mudgeeraba 275kV	Mudgeeraba 1 275/110kV XFMR	xfmr2	275/110	2005/03/06 09:30:00	STLTP	Q-H4MU_TX_GC540
Sydney South 330kV	Sydney S 1 16kV SYNC	sync	16	2005/03/07 05:00:00	STLTP	
George Town	GeorgeTown B 220kV BUS	bus	220	2005/03/07 05:00:00	STLTP	
Sydney North 330kV	Sydney N 222A 330kV CB	cb	330	2005/03/07 06:30:00	STLTP	
Middle Ridge 275kV	Middle Rdg 1 275kV BUS	bus	275	2005/03/07 07:00:00	STLTP	
Middle Ridge 275kV	Middle Rdg 2 275kV BUS	bus	275	2005/03/07 07:00:00	STLTP	
Middle Ridge 275kV	Middle Rdg 5012 275kV CB	cb	275	2005/03/07 07:00:00	STLTP	
Middle Ridge 275kV	Middle Rdg 5022 275kV CB	cb	275	2005/03/07 07:00:00	STLTP	
Middle Ridge 275kV	Middle Rdg 5032 275kV CB	cb	275	2005/03/07 07:00:00	STLTP	
Middle Ridge 275kV	Middle Rdg 5412 275kV CB	cb	275	2005/03/07 07:00:00	STLTP	
Middle Ridge 275kV	Middle Rdg 5422 275kV CB	cb	275	2005/03/07 07:00:00	STLTP	
Middle Ridge 275kV	Middle Rdg 5432 275kV CB	cb	275	2005/03/07 07:00:00	STLTP	
Middle Ridge 275kV	Middle Rdg 5442 275kV CB	cb	275	2005/03/07 07:00:00	STLTP	
Middle Ridge 275kV	Middle Rdg 8312 275kV CB	cb	275	2005/03/07 07:00:00	STLTP	
Middle Ridge 275kV	Middle Rdg 4 330/275kV XFMR	xfmr2	330/275	2005/03/07 07:00:00	STLTP	

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Station Name	Equipment Name	Equipment Type	KV	Start Time	Status	Constraint Set ID
Morphett Vale East 275kV	Mrpht_VI_E 3 275/66kV XFMR	xfmr2	275/66	2005/03/07 07:00:00	STLTP	
George Town	GeorgeTown A 220kV BUS	bus	220	2005/03/07 07:00:00	STLTP	
Liapootah	Liapootah H152 220kV CB	cb	220	2005/03/07 07:00:00	STLTP	
Sheffield	Sheffield GeorgeTown 1 220kV LINE	line	220	2005/03/07 07:00:00	STLTP	
Sheffield	Sheffield Paloona 1 110kV LINE	line	110	2005/03/07 07:00:00	STLTP	
Morphett Vale East 275kV	Mrpht_VI_E 4 275/66kV XFMR	xfmr2	275/66	2005/03/07 07:15:00	STLTP	
South Pine 275kV	h2_spine.cplr 5062 cb	cb	275	2005/03/07 08:00:00	STLTP	
Gladstone 275kV	h7_glad.cplr 5032 cb	cb	275	2005/03/07 09:00:00	STLTP	
Gladstone 275kV	h7_glad.cplr 5042 cb	cb	275	2005/03/07 09:00:00	STLTP	
Cherry Gardens 275kV	CH_GDN 6532 275kV CB	cb	275	2005/03/07 12:30:00	STLTP	
George Town	GeorgeTown B 220kV BUS	bus	220	2005/03/07 15:00:00	STLTP	
Canberra 330kV	Canberra 072B 330kV CB	cb	330	2005/03/08 06:00:00	STLTP	
Lower Tumut	Lwr Tumut Canberra 07 330kV LINE	line	330	2005/03/08 06:00:00	STLTP	I-CNLT_07
Fishermans Bend 220kV	Fshrmns Bnd syn cond xfmr 2 bus 66kV	cb	66	2005/03/08 06:30:00	STLTP	
Richmond 220kV	Richmond B1 220/66kV XFMR	xfmr2	220/66	2005/03/08 06:30:00	STLTP	
Happy Valley 275kV	H_VALL 6521 275kV CB	cb	275	2005/03/08 07:00:00	STLTP	
Happy Valley 275kV	H_VALL 6523 275kV CB	cb	275	2005/03/08 07:00:00	STLTP	
Happy Valley 275kV	Happy_Vly 2 275/66kV XFMR	xfmr2	275/66	2005/03/08 07:00:00	STLTP	
Para 275kV	Para 275kV 1 275/66kV XFMR	xfmr2	275/66	2005/03/08 07:00:00	STLTP	
Sheffield	Sheffield Paloona 1 110kV LINE	line	110	2005/03/08 07:00:00	STLTP	
Sheffield	Sheffield	station		2005/03/08 07:00:00	STLTP	
Berri 132kV	Berri 2 11kV CAP	cap	11	2005/03/08 07:30:00	STLTP	
Berri 132kV	BERRI 5334 66kV CB	cb	66	2005/03/08 07:30:00	STLTP	
Berri 132kV	Berri 2 132/66/11kV XFMR	xfmr3	132/66/11	2005/03/08 07:30:00	STLTP	
Darlington Point 330kV	Dringtn Pt 1 132kV CAP	cap	132	2005/03/08 08:00:00	STLTP	
Bulli Creek 330kV	Bulli Ck 9901 330kV REACT	react	330	2005/03/08 08:00:00	STLTP	
South Pine 275kV	h2_spine.cplr 5072 cb	cb	275	2005/03/08 08:00:00	STLTP	
Cherry Gardens 275kV	CH_GDN 6531 275kV CB	cb	275	2005/03/08 08:00:00	STLTP	
Tungatinah	Tungatinah Waddamana 1 110kV LINE	line	110	2005/03/08 08:00:00	STLTP	
Blackwall 275kV	h36_blk. Cplr 5032 cb	cb	275	2005/03/08 08:30:00	STLTP	
Horsham 220kV	Horsham 2 66kV CAP	cap	66	2005/03/08 09:30:00	STLTP	
Bulli Creek 330kV	Bulli Ck 9902 330kV REACT	react	330	2005/03/08 12:00:00	STLTP	
Wagga 330kV	Wagga Yanco 994 132kV LINE	line	132	2005/03/09 04:30:00	STLTP	N-X5_TRIP
Lower Tumut	Lwr Tumut Canberra 07 330kV LINE	line	330	2005/03/09 06:00:00	STLTP	I-CNLT_07
Fishermans Bend 220kV	Fshrmns Bnd syn cond xfmr 3 bus 66kV	cb	66	2005/03/09 06:30:00	STLTP	
Red Cliffs 220kV	Red Cliffs 1 66kV REACT	react	66	2005/03/09 06:30:00	STLTP	
T129 Edmonton	Edmonton Inisfail 7139 132kV LINE	line	132	2005/03/09 07:00:00	MTLTP	
Happy Valley 275kV	H_VALL 6525 275kV CB	cb	275	2005/03/09 07:00:00	STLTP	
Happy Valley 275kV	H_VALL 6526 275kV CB	cb	275	2005/03/09 07:00:00	STLTP	
Happy Valley 275kV	Happy_Vly 4 275/66kV XFMR	xfmr2	275/66	2005/03/09 07:00:00	STLTP	
Hadspen	Hadspen B 110kV BUS	bus	110	2005/03/09 07:00:00	STLTP	
Hadspen	Hadspen D752 110kV CB	cb	110	2005/03/09 07:00:00	STLTP	
Bulli Creek 330kV	Bulli Ck 8M 330kV REACT	react	330	2005/03/09 08:00:00	STLTP	
North West Bend 132kV	N_W_B 6021 132kV CB	cb	132	2005/03/09 08:30:00	STLTP	
North West Bend 132kV	N_W_B 6022 132kV CB	cb	132	2005/03/09 08:30:00	STLTP	
North West Bend 132kV	N_W_Bend 1 132/66/11kV XFMR	xfmr3	132/66/11	2005/03/09 08:30:00	STLTP	
Canberra 330kV	Canberra 012B 330kV CB	cb	330	2005/03/09 09:00:00	STLTP	
North West Bend 132kV	N_W_B 6024 132kV CB	cb	132	2005/03/09 09:30:00	STLTP	
North West Bend 132kV	N_W_B 6025 132kV CB	cb	132	2005/03/09 09:30:00	STLTP	
North West Bend 132kV	N_W_Bend 2 132/66/11kV XFMR	xfmr3	132/66/11	2005/03/09 09:30:00	STLTP	
North West Bend 132kV	N_W_B 6023 132kV CB	cb	132	2005/03/09 10:30:00	STLTP	
Bulli Creek 330kV	Bulli Ck 8L 330kV REACT	react	330	2005/03/09 12:00:00	STLTP	

Transmission Outage End Date 3-9 March 2005

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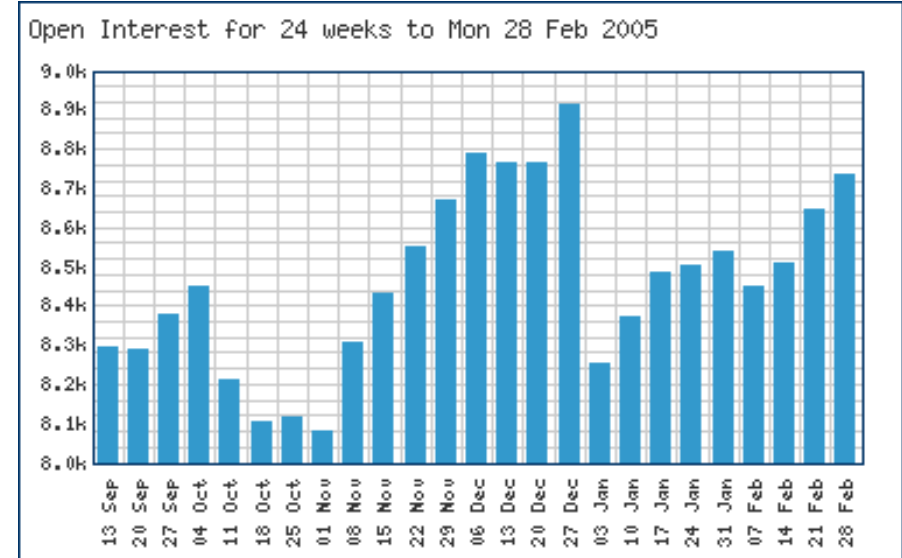
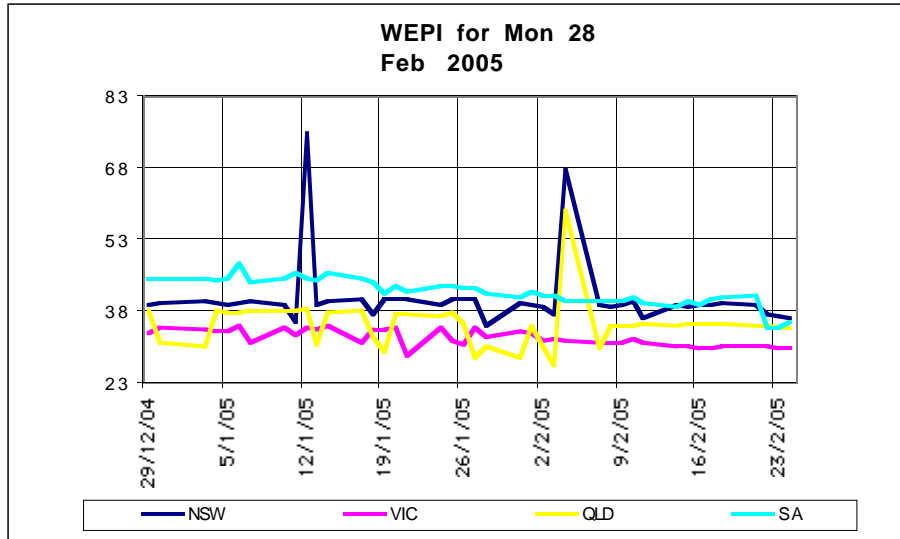
Station Name	Equipment Name	Equipment Type	KV	End Time	Status	Constraint Set ID
Happy Valley 275kV	Happy_Vly 62 275kV CAP	cap	275	2005/03/04 17:30:00	PTR	
Happy Valley 275kV	H_VALL 6523 275kV CB	cb	275	2005/03/04 17:30:00	PTR	
Happy Valley 275kV	H_VALL 6524 275kV CB	cb	275	2005/03/04 17:30:00	PTR	
Morphett Vale East 275kV	Mrpht_VI_E Happy_Vly 275kV LINE	line	275	2005/03/04 17:30:00	PTR	
Alcoa/portland 500kV	Alc/prtlnd Heywood 1 500kV LINE	line	500	2005/03/05 05:40:00	PDLTP	F-I_TL_0600
Alcoa/portland 500kV	Alc/prtlnd Heywood 1 500kV LINE	line	500	2005/03/05 05:40:00	PDLTP	F-V-HYML
Alcoa/portland 500kV	Alc/prtlnd Heywood 1 500kV LINE	line	500	2005/03/05 05:40:00	PDLTP	V-HYML_P
Heywood 500kV	Heywood Moorabool 1 500kV LINE	line	500	2005/03/05 05:40:00	PDLTP	F-I_TL_0600
Heywood 500kV	Heywood Moorabool 1 500kV LINE	line	500	2005/03/05 05:40:00	PDLTP	F-V-HYML
Heywood 500kV	Heywood Moorabool 1 500kV LINE	line	500	2005/03/05 05:40:00	PDLTP	V-HYML_P
Happy Valley 275kV	H_VALL 6522 275kV CB	cb	275	2005/03/05 15:30:00	PDLTP	S-MGHV
Happy Valley 275kV	H_VALL 6526 275kV CB	cb	275	2005/03/05 15:30:00	PDLTP	S-MGHV
Happy Valley 275kV	Happy_Vly Magill 275kV LINE	line	275	2005/03/05 15:30:00	PDLTP	S-MGHV
Heywood 500kV	Heywood 1 500kV BUS	bus	500	2005/03/05 16:00:00	PDLTP	F-V-HY_TX
Heywood 500kV	Heywood 1 500kV BUS	bus	500	2005/03/05 16:00:00	PDLTP	V-HYTX
Horsham 220kV	Horsham 1 66kV BUS	bus	66	2005/03/05 16:00:00	PDLTP	
Rocklea 275kV	Rocklea 2 110kV CAP	cap	110	2005/03/05 17:00:00	PDLTP	Q-TR_OFFSET_-70
Moorabool 500kV	Moorabool Terang 220kV LINE	line	220	2005/03/05 17:30:00	PDLTP	V-MLTG
Rowville 500kV	Rowvill500 A1 500/220kV XFMR	xfmr2	500/220	2005/03/05 20:00:00	PDLTP	V-ROTX_P
Alan Sheriff 132kV	Alan Shrrf Townsville 7276 132kV LINE	line	132	2005/03/06 13:00:00	STLTP	Q-GBTV_ASTV
Belmont 275kV	Belmont 7 110/33kV XFMR	xfmr2	110/33	2005/03/06 15:00:00	STLTP	
Mudgeeraba 275kV	Mudgeeraba 1 275/110kV XFMR	xfmr2	275/110	2005/03/06 15:00:00	STLTP	Q-H4MU_TX_GC540
Thomastown 220kV	Thomastown 2 66kV BUS	bus	66	2005/03/06 15:15:00	STLTP	
Chapel Street	ChapelSt S 220kV BUS	bus	220	2005/03/06 16:00:00	PDLTP	
Gordon	Gordon ChapelSt 1 220kV LINE	line	220	2005/03/06 16:00:00	PDLTP	
Moorabool 500kV	Moorabool Terang 220kV LINE	line	220	2005/03/06 17:30:00	STLTP	V-MLTG
George Town	GeorgeTown B 220kV BUS	bus	220	2005/03/07 07:00:00	STLTP	
Morphett Vale East 275kV	Mrpht_VI_E 3 275/66kV XFMR	xfmr2	275/66	2005/03/07 07:15:00	STLTP	
Morphett Vale East 275kV	Mrpht_VI_E 4 275/66kV XFMR	xfmr2	275/66	2005/03/07 07:30:00	STLTP	
Sydney North 330kV	Sydney N 222A 330kV CB	cb	330	2005/03/07 08:30:00	STLTP	
Gladstone 275kV	h7_glad.cplr 5032 cb	cb	275	2005/03/07 11:30:00	STLTP	
Gladstone 275kV	h7_glad.cplr 5042 cb	cb	275	2005/03/07 11:30:00	STLTP	
Cherry Gardens 275kV	CH_GDN 6532 275kV CB	cb	275	2005/03/07 15:00:00	STLTP	
George Town	GeorgeTown A 220kV BUS	bus	220	2005/03/07 15:00:00	STLTP	
Sheffield	Sheffield GeorgeTown 1 220kV LINE	line	220	2005/03/07 15:00:00	STLTP	
Sheffield	Sheffield Paloona 1 110kV LINE	line	110	2005/03/07 15:00:00	STLTP	
Monash 132kV	Monash Berri 2 132kV LINE	line	132	2005/03/07 15:30:00	PDLTP	
Tarraleah	Tarraleah NewNorfolk 1 110kV LINE	line	110	2005/03/07 16:00:00	PTP	
George Town	GeorgeTown B 220kV BUS	bus	220	2005/03/07 17:00:00	STLTP	

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Station Name	Equipment Name	Equipment Type	KV	End Time	Status	Constraint Set ID
Nebo 275kV	Nebo 1 18kV REACT	react	18	2005/03/08 10:00:00	PTP	
Bulli Creek 330kV	Bulli Ck 9901 330kV REACT	react	330	2005/03/08 12:00:00	STLTP	
Darlington Point 330kV	Drlngtn Pt 1 132kV CAP	cap	132	2005/03/08 13:00:00	STLTP	
South Pine 275kV	h2_spine.cplr 5072 cb	cb	275	2005/03/08 15:00:00	STLTP	
Berri 132kV	Berri 2 11kV CAP	cap	11	2005/03/08 15:00:00	STLTP	
Berri 132kV	BERRI 5334 66kV CB	cb	66	2005/03/08 15:00:00	STLTP	
Berri 132kV	Berri 2 132/66/11kV XFMR	xfmr3	132/66/11	2005/03/08 15:00:00	STLTP	
Sheffield	Sheffield Palooona 1 110kV LINE	line	110	2005/03/08 15:00:00	STLTP	
Blackwall 275kV	h36_bkw. Cplr 5032 cb	cb	275	2005/03/08 15:30:00	STLTP	
Fishermans Bend 220kV	Fshrmns Bnd syn cond xfmr 2 bus 66kV	cb	66	2005/03/08 15:30:00	STLTP	
Lower Tumut	Lwr Tumut Canberra 07 330kV LINE	line	330	2005/03/08 16:00:00	STLTP	I-CNLT_07
Bulli Creek 330kV	Bulli Ck 9902 330kV REACT	react	330	2005/03/08 16:00:00	STLTP	
Middle Ridge 275kV	Middle Rdg 1 275kV BUS	bus	275	2005/03/08 17:00:00	STLTP	
Middle Ridge 275kV	Middle Rdg 2 275kV BUS	bus	275	2005/03/08 17:00:00	STLTP	
Middle Ridge 275kV	Middle Rdg 5012 275kV CB	cb	275	2005/03/08 17:00:00	STLTP	
Middle Ridge 275kV	Middle Rdg 5022 275kV CB	cb	275	2005/03/08 17:00:00	STLTP	
Middle Ridge 275kV	Middle Rdg 5032 275kV CB	cb	275	2005/03/08 17:00:00	STLTP	
Middle Ridge 275kV	Middle Rdg 5412 275kV CB	cb	275	2005/03/08 17:00:00	STLTP	
Middle Ridge 275kV	Middle Rdg 5422 275kV CB	cb	275	2005/03/08 17:00:00	STLTP	
Middle Ridge 275kV	Middle Rdg 5432 275kV CB	cb	275	2005/03/08 17:00:00	STLTP	
Middle Ridge 275kV	Middle Rdg 5442 275kV CB	cb	275	2005/03/08 17:00:00	STLTP	
Middle Ridge 275kV	Middle Rdg 8312 275kV CB	cb	275	2005/03/08 17:00:00	STLTP	
Middle Ridge 275kV	Middle Rdg 4 330/275kV XFMR	xfmr2	330/275	2005/03/08 17:00:00	STLTP	
Happy Valley 275kV	H_VALL 6521 275kV CB	cb	275	2005/03/08 17:30:00	STLTP	
Happy Valley 275kV	H_VALL 6523 275kV CB	cb	275	2005/03/08 17:30:00	STLTP	
Happy Valley 275kV	Happy_Vly 2 275/66kV XFMR	xfmr2	275/66	2005/03/08 17:30:00	STLTP	
North West Bend 132kV	N_W_B 6021 132kV CB	cb	132	2005/03/09 09:30:00	STLTP	
North West Bend 132kV	N_W_B 6022 132kV CB	cb	132	2005/03/09 09:30:00	STLTP	
North West Bend 132kV	N_W_Bend 1 132/66/11kV XFMR	xfmr3	132/66/11	2005/03/09 09:30:00	STLTP	
North West Bend 132kV	N_W_B 6024 132kV CB	cb	132	2005/03/09 10:30:00	STLTP	
North West Bend 132kV	N_W_B 6025 132kV CB	cb	132	2005/03/09 10:30:00	STLTP	
North West Bend 132kV	N_W_Bend 2 132/66/11kV XFMR	xfmr3	132/66/11	2005/03/09 10:30:00	STLTP	
Wagga 330kV	Wagga Yanco 994 132kV LINE	line	132	2005/03/09 11:00:00	STLTP	N-X5_TRIP
Canberra 330kV	Canberra 012B 330kV CB	cb	330	2005/03/09 11:30:00	STLTP	
North West Bend 132kV	N_W_B 6023 132kV CB	cb	132	2005/03/09 11:30:00	STLTP	
Bulli Creek 330kV	Bulli Ck 8M 330kV REACT	react	330	2005/03/09 12:00:00	STLTP	
Hadspen	Hadspen B 110kV BUS	bus	110	2005/03/09 15:00:00	STLTP	
Hadspen	Hadspen D752 110kV CB	cb	110	2005/03/09 15:00:00	STLTP	
Fishermans Bend 220kV	Fshrmns Bnd syn cond xfmr 3 bus 66kV	cb	66	2005/03/09 15:30:00	STLTP	
Red Cliffs 220kV	Red Cliffs 1 66kV REACT	react	66	2005/03/09 15:30:00	STLTP	
Richmond 220kV	Richmond B1 220/66kV XFMR	xfmr2	220/66	2005/03/09 15:30:00	STLTP	
Canberra 330kV	Canberra 072B 330kV CB	cb	330	2005/03/09 16:00:00	STLTP	
Lower Tumut	Lwr Tumut Canberra 07 330kV LINE	line	330	2005/03/09 16:00:00	STLTP	I-CNLT_07
South Pine 275kV	h2_spine.cplr 5062 cb	cb	275	2005/03/09 16:00:00	STLTP	
T129 Edmonton	Edmonton Inisfail 7139 132kV LINE	line	132	2005/03/09 17:00:00	MTLTP	
Torrens A Ps 275kV	TIPS_A AW3E 275kV CB	cb	275	2005/03/09 17:00:00	PTP	S-TI_CB_AW3+AC3
Happy Valley 275kV	H_VALL 6525 275kV CB	cb	275	2005/03/09 17:30:00	STLTP	
Happy Valley 275kV	H_VALL 6526 275kV CB	cb	275	2005/03/09 17:30:00	STLTP	
Happy Valley 275kV	Happy_Vly 4 275/66kV XFMR	xfmr2	275/66	2005/03/09 17:30:00	STLTP	

D-cypha Weekly Report

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Trading Summary for week ending 28/2/05

- Futures contracts traded this week = 118
 - Base = 18
 - Peak = 100
 - Caps = 0
- Options contracts traded this week = 0
- Volume of EFP trades this week = 0
- Volume of BTF trades this week = 0
- Total MWh traded this week = 133,995

- Futures & Options contracts traded to date = 26,505
- Open Interest as at COB Monday 28/2/05 = 8,833lots

Average volume

- Average daily volume FY04-05 = 37
- February 2005 average daily volume = 42
- January 2005 average daily volume = 25
- December 2004 average daily volume = 21

Activity

- Volume on the bid and offer counted at 12.30pm Monday 28/02/05 = 899.
- Brokers with active orders this week include: CSFB, Deutsche Bank, ICAP, JP Morgan and Man Financial.
- Bids and offers have been consistently quoted across all four states in Quarterly and Cal/Fin Year Strip Products.

Source: D-cypha.

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