



### Grid managers face fresh epidemic of public anxiety over magnetic field exposures

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Results of a UK study of 33 years of data confirm a doubled risk of childhood leukaemia for magnetic field exposures above 0.4 microtesla,  $\mu$ T. Australia has also recently recorded a seven per cent rise in adult male leukaemias.

**Others agree:** Pooled analyses agree on doubling of childhood leukaemia risk associated with magnetic field exposures above 0.4 microtesla,  $\mu$ T. (see below)

**UK makes radical change to standard:** In March 2004, the NRPB reduced the national magnetic field exposure guidelines from 1,600 microtesla to 100 microtesla. In 2001, Dr Sam Milham reported a link between the growth in electricity supply and the growth in leukaemia incidence in the USA.

**33 years of data:** The Oxford Childhood Cancer Research Group study, headed by Gerald Draper analysed and compared 33 years of data (from 1962 to 1995) on 35,000 children diagnosed with cancer, with their distance to the nearest electricity transmission line. Preliminary results of the latest Draper study, funded to run from 1997-2001, were known as long as 3 years ago and were formally shown confidentially to the U.K. Department of Health in May 2003. They remain unpublished.

**'No lines near homes':** The official Australian advice proposes a "precautionary" approach; of 'no lines near homes'.

**Sperm damage in men:** Various studies link paternal pre-conception exposure with hydrocarbons, petrochemical-related compounds and chlorinated solvents to increased risks of childhood leukaemia. Maternal occupational exposure to pesticides in pregnancy also increased risk of childhood leukaemia. (See inside, *No Australian EMF standard: "Standards a political responsibility"*.)

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Find out more at the subscriber section of [www.erisk.net](http://www.erisk.net)

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## Electricity in brief

**King John on his throne:** The Electoral Commission confirmed the Howard Govt majority will increase to 24 in the new parliament. The govt confirmed the Senate majority with official results delivering the 5th & 6th Qld seats to the Coalition. These were National seats. The ALP scuttled Green Senate hopes by picking up final seats in both NSW and SA.

**King John plans fifth term:** The PM made no changes to Cabinet but pondered the possibility of using his Senate majority to axe compulsory voting & enshrine a permanent electoral advantage.

**Australia a State of the USA:** Australia & the US were unlikely to finalise the FTA on 31 October, but the Trade Minister was confident an agreement would kick in from 1 January.

**PC: Give ACCC more teeth:** The Productivity Commission was concerned about the vertical re-integration of the electricity sector: Stronger oversight laws were recommended for the ACCC

**PC says NCC good:** The Productivity Commission gave a

big thumbs-up to the NCC and incentive payments, but said COAG must decide new institutional arrangements for competition reform.

**Put energy and water first:** Energy and water remain priorities for more reform within a nationally coordinated framework, found the Productivity Commission

**Productivity Commission meets:** Four public meetings by the Productivity Commission were ahead to consider the discussion draft of the National Competition Policy review, between 30 November and 16 December.

**Parts of NEM are excellent:** Electricity market reforms and water were cited by the Productivity Commission as areas where NCP reforms were not "an unqualified success".

**18 units offline:** Prices spiked on grid outages as 18 units offline were off for much of the week.

**Spring nears its end:** On Tuesday 2 November, 26 spikes of \$125.79/MWh in Qld and \$123.08/MWh in NSW.

**That was a weird day:** SA price was up 50pc while across the border in Victoria a negative \$1000

price caused a 26pc Vic price slump: Avs were \$13.46-\$43.49/MWh.

**Monday, 1 November:** Prices were down 12-25pc to \$23.67-\$27.63/MWh range on weaker demand: Murraylink was offline.

**Sunday 31 October:** On Sunday, 31 October SA spiked to \$779.48/MWh as Adelaide's temperature hit 30 degrees.

**Saturday, 30 October:** For the week to Saturday, 30 October - the last week of spring - prices fell 4-22pc to \$35.22-\$41.86/MWh range were 19 units idle, and a \$997.41/MWh price appeared in Vic. The three notable spikes of the week were caused by data and transmission outages.

**Friday, 29 October:** Average prices dropped 9-20pc to \$26.76-\$35.53/MWh range as SA underforecast 250MW on a SCADA error.

**Thursday, 28 October:** Prices dropped 11-29pc to \$33.50-\$39.44/MWh range on weaker demand.

**Wednesday, 27 October:** 16 generation units offline but average prices were up 2-6pc to

\$43.59-\$53.58/MWh. 100km/h winds were reported as damaging powerlines across coastal NSW and more than 30,000 were blacked out throughout Sydney.

**Tuesday, 26 October:** 18 generation units offline and spikes in NSW, Qld as average prices rose 3-7pc to \$42.85-\$51.64/MWh.

**Steam contract prices \$US50/t:** Japanese and Korean utilities were likely to deliver contract prices of \$US50/t plus to Australian steam coal suppliers.

**New NSW coal mine at Wyee:** Centennial Coal was to commence mining at Mannering Colliery, east of the township of Wyee, NSW for Vales Point Power Station.

**Newcastle coal exports down:** The fall was 12 per cent in September: Several rail & reclaimer incidents, but lull in ship arrivals the key factor.

**Yanzhou buys Southland mine:** Chinese producer Yanzhou bought a Southland coking coal mine, and planned to install an entirely new longwall to fix 2003 fire damage.

**New Mandalong reserves:**

Centennial Coal's new Mandalong reserves from BHPB were said to make its longwall production more marketable & free up better quality reserves for export from Newcastle coalfields.

**Anvil Hill capacity to 9Mtpy:**

Centennial Coal was hoping to double Anvil Hill capacity to 9Mtpy after first few years, but Newcastle port expansion were essential for export increase.

**Macquarie takes 30Mt 12 years:**

Anvil Hill coal mine was set to go ahead after Centennial secured a contract with NSW generator Macquarie for 30Mt over 12 years.

**Sth Africa competes with Aus:**

A growing price gap meant European customers could now buy South African & Australian steaming coal for the same delivery price

**Curragh up 9pc, Bengalla 11p:**

Wesfarmers coal was up.

**Coal drives toxic reputation:**

Australia's "ecological footprint" was the fourth worst globally: Coal-fired power drove the "toxic reputation" as it had a 10pc increase in energy coal production.

**Foreigners own Aussie mines:**

Australia's major mines and mining companies were now owned outside Australia and managed from London, Johannesburg and Toronto.

**China dragon roars in the east:**

The Trade Minister predicted an FTA with China would go ahead and was also confident of deals with ASEAN and Malaysia in the next 3 years.

**China gen up 20pc in 2005:**

China was to boost generation capacity by 20 per cent in 2005 to 480 million kilowatts.

**4 miners die for a million tonnes:**

Last year in China at least 4 miners died for every million tonnes of coal.

**GDP growth down to 9.1pc:**

China's austerity measures took effect with GDP growth down to 9.1pc in the third quarter.

**More ore into dragon's mouth:**

China's growing demand for iron ore was expected to produce another giant iron ore contract, with Austeel.

**17 die at BHP Billiton:**

Shareholders questioned the BHP Billiton safety record: 17 workers were killed in onsite accidents in 2003-04.

**Vic Coroner wants more data:**

Victorian Coroner Graeme Johnstone said a \$2 million research unit would help discern patterns and trends in industrial deaths.

**Come home Aussie:** An Australian university "brain drain" diaspora of intellectuals now thrived in the United States.

**Subcontractor or foreman?** A Magistrate questioned whether a subcontractor or foreman was responsible for a death after a roof was energised at a Fyshwick worksite.

**Power station death-trap:** A multimillion-dollar legal stoush brewed over disused power station death-trap: Melbourne Council may have to foot the bill.

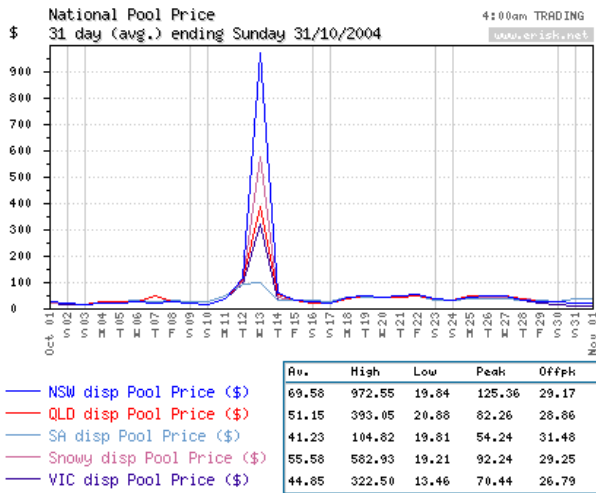
**BHP long wall opposed:** The Nepean River Action Group pleaded with BHP to abandon plans for long-wall coal mining along a 2-3km stretch of the Nepean River.

**Bidder war for WMC:** Xstrata made a \$6.35 offer for WMC. The battle for WMC begins: Xstrata bid could force minerals giants Rio and BHP to run WMC as a publicly listed joint venture. BHPB

may already have rejected the WMC option, but Rio Tinto may be keen to consolidate its position as major uranium supplier. Canberra was to decide the future of Australian uranium mining said WMC which hopes for new mines and nuclear powered desalination plants.

**Foreign bidders rush in:** The world's largest uranium deposit - Olympic Dam - was to pass into foreign hands.

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October 2004 prices were up 64 to 298pc on October 2003. Average prices rose between \$10.54-\$41.40/MWh (34-147 per cent) on September to a range of \$41.23-\$69.58/MWh. NSW was price leader with South Australia the trailer. Queensland was the only region to register a rise in average demand, going up 134MW (2.5 per cent) to 5414MW. Demand fell in the other regions by between 4.1-4.4 per cent. ( see details in column page 6)

## No Australian EMF standard: “Standards a political responsibility”, says council

**4** Australia provides no standard for electromagnetic exposure. The National Health and Medical Research Council refers to the UK. ‘Interim guidelines on limits of exposure to 50/60Hz electric and magnetic fields’ of 1989. These interim guidelines were magnetic field exposure at 50 Hz of 100

## Top price for NEM week 24-30 October: Mt Stuart at \$77.97/MWh

SA			
Generator	Income (\$)	Output (MWh)	Av Price (/MWh)
North'n Power	\$3,325,191	86,560	\$38.42
Ladbroke	\$547,337	14,422	\$37.95
Osborne	-	-	-
Pelican Pt	\$1,303,339	32,034	\$40.69
Torrens Is. B	\$2,110,880	51,449	\$41.03
Vic->SA	\$551,161	18,010	\$30.60
MLink->SA	\$17,367	622	\$27.91
Torrens Is. A	\$1,550,129	35,929	\$43.14
Mintaro	-	-	-
Dry Creek	-	-	-
Playford	\$549,611	13,929	\$39.46
Snuggery	\$2,987	87	\$34.15
Pt Lincoln	-	-	-
Quarantine	\$73,162	1,407	\$52.00
Hallett Power	-	-	-
Lonsdale	-	-	-

VIC			
Generator	Income (\$)	Output (MWh)	Av Price (/MWh)
Loy Yang A	\$11,597,568	323,657	\$35.84
Loy Yang B	\$3,017,190	85,432	\$35.32
Hazelwood	\$8,449,436	240,441	\$35.14
Yallourn	\$8,659,837	244,660	\$35.40
Anglesea	\$889,091	25,199	\$35.28
Energy Brix	\$846,171	23,704	\$35.70
Newport	\$8,128	309	\$26.33
MLink->Vic	\$186,186	4,964	\$37.51
SA->Vic	\$469,097	8,601	\$54.54
Snowy->Vic	\$161,761	4,448	\$36.37
Jeeralang	\$762,742	13,679	\$55.76
West Kiewa	\$127,974	2,552	\$50.14
Bairnsdale	\$282,482	5,745	\$49.17
Dartmouth	\$545,932	12,863	\$42.44
Eildon	\$87,447	1,709	\$51.17
Hume Vic	-	-	-
McKay Power	\$13,806	187	\$73.99
Clover	-	-	-
Valley Power	\$15,818	238	\$66.37
Rubicon	-	-	-
Somerton Power	\$21,781	312	\$69.75
Sunshine Energy	-	-	-
Longford	-	-	-
Tramway Road	-	-	-
Toora Wind Farm	-	-	-

NSW			
Generator	Income (\$)	Output (MWh)	Av Price (/MWh)
Bayswater	\$12,933,502	308,307	\$41.95
Liddell	\$7,902,195	190,947	\$41.38
Mt Piper	\$8,979,404	217,510	\$41.28
Wallerawang	\$3,114,648	74,623	\$41.74
Vales Point	\$6,242,706	149,266	\$41.82
Munmorah	-	-	-
Eraring	\$10,643,843	247,610	\$42.99
Redbank	\$741,169	18,641	\$39.76
Smithfield	\$869,759	19,650	\$44.26
Snowy->NSW	\$5,774,455	108,189	\$53.37
Shoalhaven	\$425,260	13,875	\$30.65
Hunter Valley	-	-	-
Hume Hydro	\$257,737	6,317	\$40.80
Blowering	-	-	-
Northern Gas	-	-	-
Burrinjuck	-	-	-
Brown Mountain	-	-	-
Keepit	-	-	-
Broken Hill	-	-	-
Ergon Energy	-	-	-
Pindari Hydro	-	-	-
DL Q->N	-	-	-
QLD->NSW	\$856,400	26,846	\$31.90
West Nowra	-	-	-

QLD			
Generator	Income (\$)	Output (MWh)	Av Price (/MWh)
Tarong	\$10,549,926	251,412	\$41.96
Millmerran	\$2,644,430	60,262	\$43.88
Swanbank	\$2,608,348	56,559	\$46.12
Stanwell	\$7,374,277	173,876	\$42.41
Callide B	\$3,448,025	82,560	\$41.76
Callide Power	\$6,204,948	145,057	\$42.78
Gladstone	\$7,199,063	163,923	\$43.92
Collinsville	\$407,764	8,327	\$48.97
Swanbank C, D, E	\$963,191	16,139	\$59.68
Barcardine	\$405	15	\$26.70
Callide A	-	-	-
Kareeya	\$79,901	2,391	\$33.42
Barron Gorge	\$123,223	2,329	\$52.91
Mt Stuart	\$57,090	732	\$77.97
Wivenhoe	\$648,333	19,155	\$33.85
Townsville	\$1,622	57	\$28.42
Mackay	-	-	-
Roma	\$55,034	1,244	\$44.23
Oakey	\$402,638	6,174	\$65.22
DL N->Q	\$108,622	1,692	\$64.19
NSW->QLD	\$259,807	4,184	\$62.09
Rocky Point	-	-	-
Tableland	-	-	-

microtesla. Australia's Radiation Health and Advisory Council says in the absence of a standard, "Judging what is an acceptable level of risk for society to trigger is a political responsibility". The Committee refers to the UK data and standards, for 100 microtesla

**Who's who:** The committee in charge of these matters in Australia consists of Dr John Loy (NSW), Peter Raue (NSW) 2 Radiation Control Officers: Andrew Johnston (SA), Simon Critchley (QLD) Em. Professor Ian Lowe AO (QLD), Prof Richard Smart (NSW), Dr Graeme Dickie (QLD), Prof Nick de Klerk (WA), Dr Peter Jezukaitis (SA), Dr Arthur Johnston (NT), Dr Graham Rouch (VIC).

**Australia's Radiation Health and Advisory Council Switchboard: +61 3 9433 2211.**

## Children living within 100m high-voltage powerlines have dramatically increased risk of developing leukaemia: Report

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**A** British Government report warned high-voltage powerlines could double the risk of childhood cancer, according to *The Advertiser* (30/10/2004, p. 3).

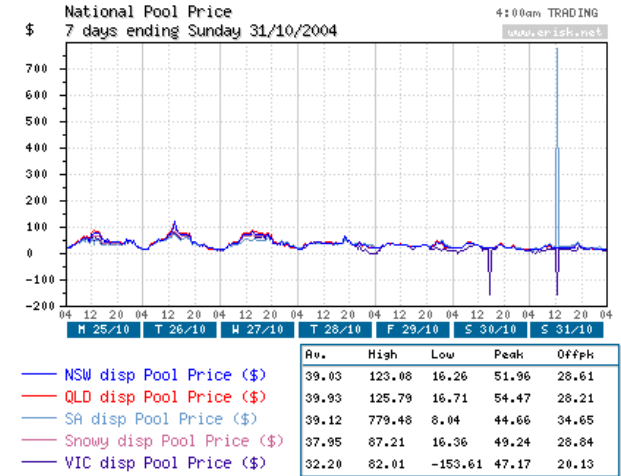
**Greater leukaemia risk:** A study commissioned by the UK's Department of Health showed children living within 100m of overhead cables were more likely to suffer from the blood cancer, leukaemia.

### the week in detail

• **NSW:** Average price \$40.90/MWh, down 11 per cent on the \$46.09/MWh of the previous week, up 143 per cent on the \$16.86/MWh of the comparable week last year; maximum price \$123.08/MWh for the 30-minute trading interval to 1430EST Tuesday, 26 October. Average demand 8017MW, down 1.5 per cent on the previous week, up 2.7 per cent on a year ago; maximum demand 9734MW for the 1230EST interval Wednesday, 27 October, down 5.0 per cent on the 10,258MW of the previous week. Snowy-NSW exports averaged 644MW, up 20.4 per cent on average exports of 535MW the previous week;

• **Victoria:** Average price \$35.22/MWh, down 22 per cent on the \$44.88/MWh of the previous week, up 84 per cent on the average \$19.11/MWh of the comparable week last year; maximum price \$82.01/MWh for the trading interval ended 1430EST Tuesday, 26 October. Average demand 5545MW, up 1.8 per cent on the previous week, down 1.3 per cent on a year ago; maximum demand 6605MW for the 1930EST interval Thursday, 28 October, up 2.0 per cent on the 6475MW of the previous week. Net Victorian exports to Snowy averaged 261MW, up 576.5 per cent on average of 38.58MW the previous week;

• **South Australia:** Average price \$37.99/MWh, down 14 per cent on the average of \$44.26/MWh the previous week, up 60 per cent on the average \$23.79/MWh of the comparable week last year; maximum price \$73.35/MWh for the trading interval ended 1430EST Tuesday, 26 October. Average demand 1429MW, up 7MW on the previous week, up 1.6 per cent on a year ago; maximum demand 1792MW for the 1800EST interval Monday, 25



October, up 2.2 per cent on the 1753MW the previous week. Vic-SA flow averaged 59.88MW west compared with 23.23MW east the previous week; Murraylink net flow averaged 25.02MW east up from 18.54MW east the previous week; and

• **Queensland:** Average price \$41.86/MWh, down 4 per cent on the \$43.62/MWh of the previous week, up 174 per cent on the \$15.25/MWh of the comparable week last year; maximum price \$125.79/MWh for the trading interval ended 1430EST Tuesday, 26 October. Average demand 5603MW, up 3.2 per cent on the previous week, up 1.3 per cent on a year ago; maximum demand 6826MW for the 1500EST interval Wednesday, 27 October, up 5.6 per cent on the 6461MW the previous week. QNI flow averaged 129MW south, down 69.9 per cent on the 429MW south the previous week; Directlink averaged 10.07MW north compared with 1.61MW south the previous week.

**Public not told:** Officials were alerted to the findings three years ago - but the public has been kept in the dark about the outcome, according to Sky News.

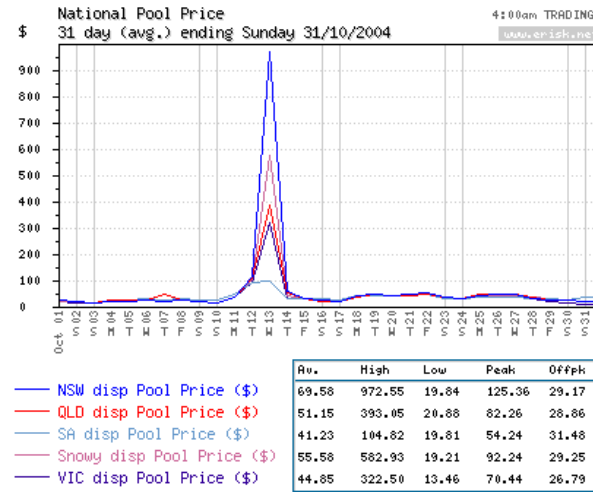
**100m danger zone:** Seven years ago the Department of Health ordered the biggest study of its kind. Oxford scientists checked records of 35,000 children diagnosed with cancer and studied how close they lived to a cable. The research showed there was a 100m danger zone around high-voltage lines.

## Sydney: 40,000 blacked out as Mosman & Castle Cove substations fail; CBD buildings hit by separate outage

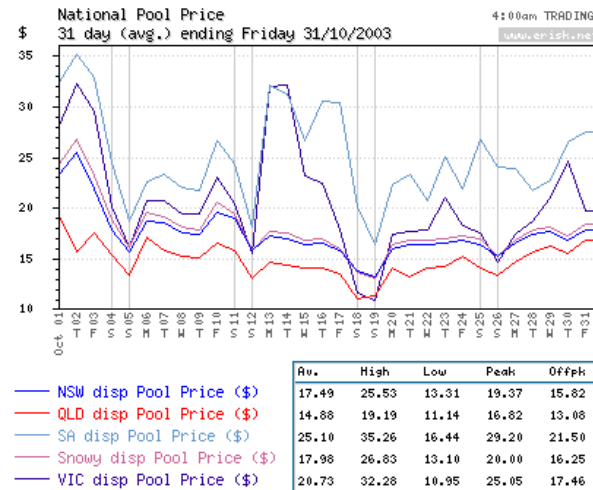
About 40,000 homes and businesses on the North Shore experienced blackouts on 26 October when power failed at the Mosman and Castle Cove substations, according to *The Australian* (27/10/2004, p. 3).

**Caused by cable repair work:** The North Shore power cuts lasted about an hour and affected suburbs including Northbridge, Willoughby, Chatswood, Neutral Bay and Cremorne. The blackout happened when EnergyAustralia undertook essential cable repair work, a spokesperson said. It could not pinpoint the exact nature of the problem, but said it related to the process of switching the power flow from one cable to another.

### October 2004



### October 2003



### October in detail

- NSW:** Average price \$69.58/MWh, up \$41.40/MWh (147 per cent) on the average \$28.18/MWh in September, up \$52.09/MWh (298 per cent) on the \$17.49/MWh of October 2003. Average demand 8006MW, down 346MW (4.1 per cent) on the 8352MW of September, up 81MW (1.0 per cent) on the 7925MW of October 2003.
- Victoria:** Average price \$44.85/MWh, up \$17.66/MWh (65 per cent) on the average \$27.19/MWh in September, up \$24.12/MWh (116 per cent) on the \$20.73/MWh of October 2003. Average demand 5476MW, down 251MW (4.4 per cent) on the 5727MW of September, down 73MW (1.3 per cent) on the 5549MW of October 2003.
- South Australia:** Average price \$41.23/MWh, up \$10.54/MWh (34 per cent) on the average \$30.69/MWh in September, up \$16.13/MWh (64 per cent) on the \$25.10/MWh of October 2003. Average demand 1396MW, down 59MW (4.1 per cent) on the 1455MW of September, up 7MW on the 1389MW of October 2003.
- Queensland:** Average price \$55.58/MWh, up \$27.92/MWh (101 per cent) on the average \$27.66/MWh in September, up \$40.70/MWh (274 per cent) on the \$14.88/MWh of October 2003. Average demand 5414MW, up 134MW (2.5 per cent) on the 5280MW of September, up 76MW (1.4 per cent) on the 5338MW of October 2003.

**100 CBD buildings blacked out:** In a separate incident, almost 100 buildings in Sydney's central business district were blacked out when the power supply to an area covering Margaret, York and Clarence streets failed about 1.30pm. The CBD blackout was caused by an underground cable fault.

## 27 October: 100km/h wind damage powerlines across coastal NSW; more than 30,000 blacked out

**W**inds of up to 100km/h cut a 300km path of destruction from the NSW South Coast to the Central Coast, reported *The Daily Telegraph* (28/10/2004, p. 4).

**Collapsed roofs and powerlines:** The State Emergency Service said much of Sydney was affected by collapsed roofs and downed trees. The worst affected suburbs were Campbelltown, Penrith, Canterbury, Hornsby and the Northern Beaches, where trees were felled and power lines downed.

**22,500 Integral customers hit:** Integral Energy was trying to restore power to 22,500 properties from Kenthurst, in Sydney's north, to Nowra and to the Blue Mountains.

**10,000 Energy Australia households:** A further 9000 to 10,000 Energy Australia customers on the North Shore, Central Coast, Sutherland and St George shires were blacked out.

## Contract prices of \$US50/t + to Aus steam coal suppliers

**N**ow that we are entering the negotiating period for Japanese Financial Year 2005 contract prices, Australian steam coal exporters would likely abstain from spot sales rather than see Newcastle spot prices fall below \$US50/t, according to Energy Economics' *Coal Trade* (October, 2004). With regard to term contracts, Centennial Coal was understood to have recently completed a transaction with a Japanese utility at a little above \$US50/t FOB.

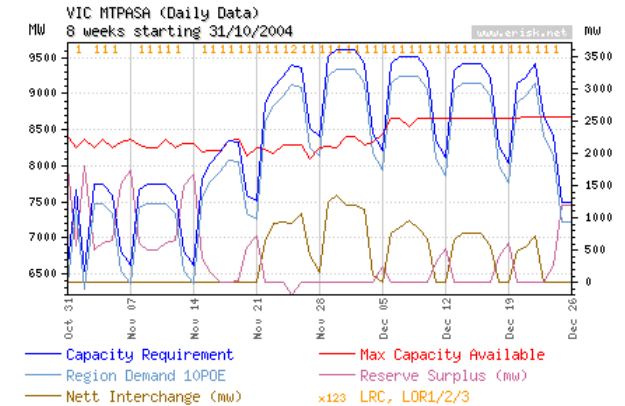
**Korean negotiations:** Australian suppliers have also commenced price negotiations with the Korean utilities for 2005 deliveries, with the Koreans digging in their heels for a sub-\$US50/t price level and the Australians looking for above \$US50/t. Energy Economics' long-standing forecast for JFY 2005 contract prices remained unchanged at \$US50/t.

- Newcastle spot steam coal prices fell to US\$50.50/t free on board in mid October, down US\$4.50/t from a month earlier;
- Conversely, Richards Bay (South African) prices increased over the same timeframe to US\$59.50, a rise of US\$1.50.

## Low reserves ahead for summer

### 2004

- South Australia: November and December; and



- Victoria: November and December.

### 2005

- South Australia: January, February, March, and December.

Generator outages created low reserves for Victoria for November 2004.

**One change in latest MT PASA:** The latest MT PASA issued at 1333EST on Tuesday, 26 October, contained one change to low reserve conditions (LRC) on the MT PASA report issued on Tuesday, 19 October. The change was the inclusion of Victoria for November 2004. The low reserve periods ahead

### 2004

- South Australia: November and December; and
- Victoria: November and December.

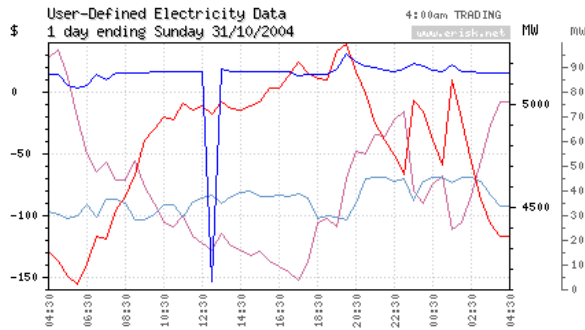
**2005**

- South Australia: January, February, March, and December.

**2006**

- South Australia: January, February and March; and
- Victoria: January, February and March.

NEMMCO said it was seeking a market response to these reserve shortfalls. It said generator outages across the NEM were contributing to the reserve shortfalls in November and December 2004.



**8**

**31 Oct: Negative \$1000 Vic price after data error**

**A** negative price of \$1000 was published for Victoria in the dispatch interval 1255EST on Sunday, 31 October.

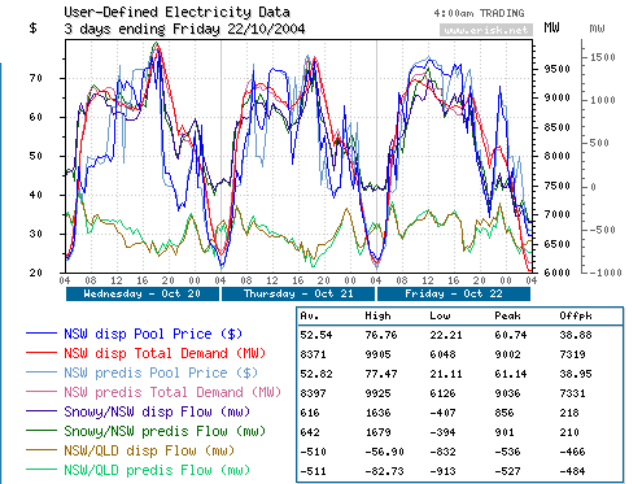
**Incorrect material:** The National Electricity Market Management Company (NEMMCO) said later that a Victorian participant advised of incorrect supervisory control and data acquisitions (SCADA) material for the 1255EST dispatch interval.

**Data correct for later times:** NEMMCO said the error resulted in an incorrect system inertia calculation for system stability constraints in Victoria, with a negative price of \$1000 for this dispatch interval. Victorian data was correct for the 1300EST and subsequent dispatch intervals.

**Second day in row:** This was the second day in a row that incorrect SCADA material caused a negative price in Victoria. A negative price of \$997.41/MWh was recorded in dispatch intervals around 1600EST on Saturday after incorrect SCADA material was received.

**Negative \$1000 Vic price stays:** NEMMCO advised in a market notice at 1111EST on Monday, 1 November that it had reviewed the over-constrained dispatch in Victoria on Sunday, 31 October and determined that the negative \$1000 price would not be changed. The erisk.net market report for Sunday, 31 October showed a weird day in SA where price was up 50pc while a negative \$1000 caused a 26pc Victorian slump.

**Reference:** National Electricity Market Management Company (NEMMCO) market notices 12150 on Saturday, 30 October and 12151 and 12152 on Sunday, 31 October published in NEM Market Notices of Reports section of Erisk Net. <http://www.erisk.net>

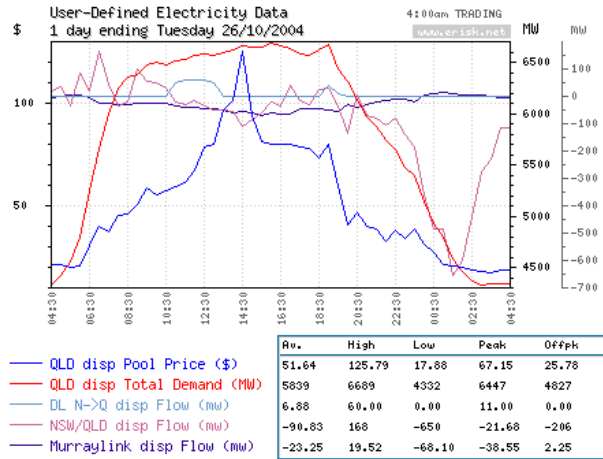


**Forecasts of \$100-plus spikes for third day in row**

**T**he National Electricity Market Management Company (NEMMCO) predispatch at 6.21 a.m Friday, 22 October was forecasting a \$101.96/MWh spike in NSW and a \$100.18/MWh spike in Queensland today.

**Two previous forecasts wrong:** This is the third day in a row the predispatch has predicted spikes for NSW. On Wednesday, it forecast a \$114.49/MWh in NSW and \$100.51/MWh in Queensland. Actual maximum prices were \$74.96/MWh in NSW and \$68.34/MWh in Queensland. On Thursday, it predicted a \$108.91/MWh in NSW, and the actual maximum was \$74.56/MWh.

**Reference:** Pool price for Friday, 22 October in predispatch of "User Defined" section of Erisk Net - Realtime NEM Data. <http://www.erisk.net>



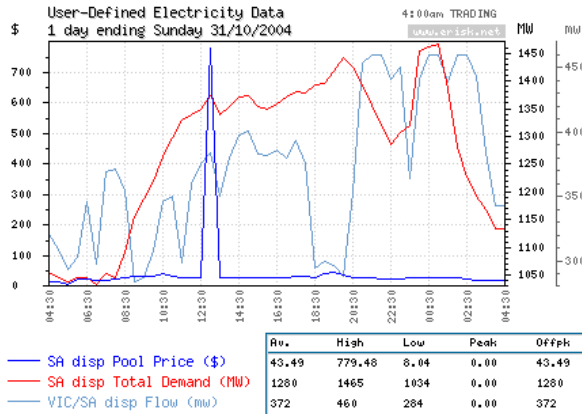
## Tuesday, 26 October: Spikes of \$125.79/MWh in Qld and \$123.08/MWh in NSW

Queensland and NSW recorded mid-afternoon spikes of \$125.79/MWh and \$123.08/MWh in the 30-minute trading interval ended 1430EST on Tuesday.

**How prices moved:** Prices in both regions exceeded \$90/MWh in the 1330EST. Queensland went to \$101.40/MWh in the 1400EST interval while NSW hit \$98.12/MWh.

**Slow retreat:** After their spikes in the 1430EST interval, both regions registered prices in the low \$90/MWh range in the 1500EST interval before retreating to around \$80/MWh in the 1530EST interval.

**Reference: National price for 26 October as shown in Price-Demand section of Erisk Net-Realtime NEM Data. <http://www.erisk.net>**

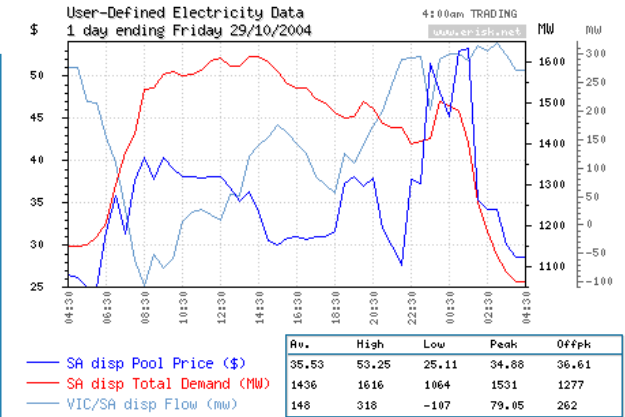


## Sunday, 31 October: SA spikes to \$779.48/MWh as Adelaide's temperature hits 30

A spike to \$779.48/MWh occurred in the 30-minute trading interval ended 1300EST in South Australia on a day when Adelaide recorded a top temperature of 30 degrees.

**Up and down quickly:** The spike came and went quickly. In the 1230EST interval the price was \$30.00/MWh. In the 1330EST interval the price dropped to \$27.27/MWh.

**Reference: National Price for 31 October in Price/Demand section of Erisk Net - Realtime NEM Data. <http://www.erisk.net>**



## Friday, 29 October: SA underforecast 250MW on SCADA error

Average prices fell 9-20 per cent to a \$26.76-\$35.53/MWh range as system-wide maximum demand staged a Friday slump with mild weather in all NEM capitals to be down 1019MW (4.2 per cent) to 23,280MW.

**Two Vic interconnector transfer cuts:** NEMMCO advised in a market notice at 1511EST on Friday, 29 October that the Hazelwood - South Morang No2 500kV line outage would continue until 1900EST on Saturday, 30 October and not return to service at 1900EST on Friday as planned. The outage has caused a reduction in the transfer limits of the Victoria-South Australia Heywood and the Victoria-Snowy interconnectors. NEMMCO said the limit calculations were dynamic.

**SCADA inputs in SA interrupted:** South Australian demand was calculated as being 150MW lower than actual in dispatch interval 0745EST on Friday, 29 October, because the supervisory control and data acquisition (SCADA) was interrupted from a single South Australian generator, NEMMCO said in a market notice at 0827EST.

**Wednesday, 27 October:** The trip of a Para substation static var compensator (SVC) at 0623EST on Wednesday, 27 October resulted in a reduction to the Victoria-South Australia transfer capability on the Heywood interconnection.

## Vic Minister should not have told Expert Planning Panel to ignore greenhouse pollution

The Victorian Civil and Administration Tribunal found an Expert Planning Panel should not have been directed by the Planning Minister to ignore the greenhouse gas pollution issues involved with expanding a power station. The decision meant the Planning Panel would now have to reconvene and consider the effects of greenhouse pollution from expanding Hazelwood.

### Hazelwood ruling sets a precedent:

According to *The Australian Financial Review* (30/10/2004, p. 4), Justice Stuart Morris, of the Victorian Civil and Administration Tribunal, ordered a planning panel to consider

greenhouse gas emissions when deciding on a proposal to extend a coal-mining operation at the Hazelwood power station near Morwell in the state's southeast.

### Don't consider emissions, says Delahunty:

The owners of the privatised power station, International Power Hazelwood, wanted to develop another coal field so it could continue generating electricity until 2031. Victorian Planning Minister Mary Delahunty directed the panel to ignore greenhouse gas emissions because that would be dealt with by another planning process.

**But minister was wrong:** Justice Morris found Delahunty was wrong in issuing the instructions and the panel should consider greenhouse gas emissions from the power station, although it was only an indirect effect of developing the coalfield. He found that a planning minister could not set terms of reference for a planning panel because it took its guidelines from legislation.

### Company "bitterly disappointed":

International Power Hazelwood chief executive Dave Quinn said the company was "bitterly disappointed" with the decision, which could have implications for all projects in Victoria that were subject to planning scheme amendments.

## SA: NRG Flinders and Leigh Creek power workers on strike 48 hours from 28 October

Workers at South Australia's major electricity generator - the NRG Flinders Port Augusta power station and Leigh Creek coal mine - were set to strike for 48 hours from 28 October after the failure of enterprise bargaining talks, although power supplies were not expected to be disrupted, reported *The Advertiser* (28/10/2004, p.6).

**Strike action:** Workers will go on strike today and tomorrow after enterprise bargaining talks broke down yesterday.

**No supply disruption:** The action will shut down the mine and bring loading and unloading of coal to a standstill. The power station, which produces 40 per cent of the state's electricity, will still be functional and it was not expected that supplies would be disrupted.

## WA: Western Power names bidders Griffin Energy, Babcock & Brown and Wesfarmers-Japan

Western Power, Western Australia's electricity utility, has given the three bidders to build its new base-load

power station by the end of 2008 - Griffin Energy, Wambo Power Ventures and a Wesfarmers-Electric Power Development Company of Japan consortium - until June 2006 to finalise their bids, reported *The Australian Financial Review* (27/10/2004, p. 8).

**Bidding shortlist:** Western Power has drawn up a shortlist of three bidders to build a new base-load power station by the end of 2008. The three - privately owned Griffin Energy; a consortium of Wesfarmers and Electric Power Development Company of Japan; and Wambo Power Ventures, a joint venture of Babcock & Brown and ERM Power- have until June next year to negotiate final form contracts, obtain environmental approvals, and submit firm bids.

## Time extension for West Kimberley Power Project

**E**nergy Developments Limited and Western Power last week agreed to extensions of time under the West Kimberley Power Purchase Agreement dated 2 July 2004 to satisfy conditions precedent and to commission the power stations at Broome, Derby, Looma, Fitzroy Crossing and Halls Creek, according to a statement from EDL (28/10/2004).

**Tight market for essential materials:** The global market for critical construction materials such as stainless steel for LNG storage facilities has also contributed to delays to achievable project commissioning dates.

**Finance talks progressing well:** As previously announced a key condition precedent to the WKPPA was financing of the project. Negotiations with the selected banking consortium were progressing satisfactorily.

**Expected timetable:** The company now expected to satisfy all conditions precedent under the power purchase agreement by mid March 2005, and to commission the first power station at Broome in calendar quarter three of 2006.

**For further information contact EDL: Chris Laurie, Managing Director 07 3275 5650, or Greg Pritchard, Finance Director 07 3275 6660.**

## Plan to recycle 50ML Blue Mountains sewage for Mt Piper, Wallerawang cooling

**A** \$100 million privately funded plan is proposed to recycle Blue Mountains sewage and pump it to Lithgow power station cooling towers at Mt Piper and Wallerawang power stations. The plants now use up to 32 billion litres of high quality drinking water a year from local rivers. The Blue Mountains Supply Augmentation Consortium had spent two years developing the plan, which would cost between \$80 million and \$100 million and would put about 50 million litres of water a day back into rivers feeding Sydney dams. It competed with Sydney Water and Fish River Authority plans. The plan will now go before a State Cabinet

sub-committee next week because Premier Bob Carr has asked to be there when it is discussed. He is currently out of the country heading a trade and business delegation to India.

**How the system will work:** A 30km series of pipelines would feed sewage to a recycling plant where it would be treated to an industrial standard.

**Million-dollar water income:** Sydney Water was working on sewage upgrades in the Blue Mountains independently of the Fish River Authority, which wanted to keep its million-dollar water income from Delta Electricity, which in turn did not want to pay extra for water.

## Will NSW Govt insist on no use of drinking water by new private power stations?

**I**n a letter to *The Sydney Morning Herald* (27/10/2004, p. 12) Lee Condell of Mona Vale raised an interesting point about two major infrastructure issues currently affecting Sydney: "Is there any possibility the State Government will insist that those private power plants proposed to meet NSW future power needs will not use the politically motivated government legislation that existing plants use? Certainly something for the Carr Government to ponder as it feels the squeeze on both fronts".

## Four public meetings by Productivity Commission on discussion draft of National Competition Policy review

The Productivity Commission will hold public hearings in Sydney, Melbourne, Canberra and Toowoomba between 30 November and 16 December to consider its discussion draft on the review of National Competition Policy (NCP) reforms.

**Written comments by 17 December:** The Productivity Commission is also inviting written comments on the discussion draft by 17 December. The draft follows a reference to the Productivity Commission by the Treasurer, Peter Costello, in April to review the NCP.

**Conduct of inquiry:** The inquiry and the discussion draft have been conducted by Gary Banks, chair, Commissioner Robert Fitzgerald and Commissioner Philip Weickhardt.

**Where and when:** The dates, locations and venues for the public hearings are:

- Sydney, Tuesday, 30 November starting at 9.00 a.m. at Holiday Inn Potts Point, 203 Victoria Street, Potts Point.
- Melbourne, Tuesday 7 December, starting at 9.00 a.m. at Stamford Plaza Melbourne, 111 Little Collins Street, Melbourne.
- Canberra, Monday 13 December starting at 9.00 a.m. at Quality Inn Belconnen, 110 Benjamin Way, Belconnen.

- Toowoomba, Thursday 16 December starting at 9.00 a.m. at Mercure Hotel (Burke and Wills), 554 Ruthven St, Toowoomba.

**Two days notice:** The Productivity Commission said anyone interested in attending a public hearing should contact Roberta Bausch on (02) 6240 3221 or Bill Henderson on (02) 6240 3216. The Commission would appreciate receiving submissions at least two business days before the relevant hearing date.

**Reference: Discussion draft by Productivity Commission on "Review of National Competition Policy Reforms". October 2004. Address: Level 3, Nature Conservation House, Corner Emu Bank and Benjamin Way, Belconnen. ACT. 2617. PO Box 80, Belconnen. ACT. 2616. Phone: (02) 6240 3200. Fax: (02) 6240 3399. <http://www.pc.gov.au>**

## Residents locked-out 16 Nov: Hazardous work on EnergyAustralia substation at Sydney's Regis Towers

Work on an EnergyAustralia substation would leave about 2000 residents barred from their homes and offices from 8am until at least 6pm on 16 November. The executive committee of the owners corporation of Sydney's Regis Towers in the CBD wrote in an open letter to residents that essential services had to be carried out on the site "because of refurbishment and

modification to the electricity supply system". The apartments came to fame after suffering a number of building defects, which developer Meriton said were now fixed. EnergyAustralia said that insulation material between the switchboard and the distribution substation that services the building needed replacement, reported *The Australian Financial Review* (22/10/2004, p. 75).

## Multimillion-dollar legal stoush brewing over disused power station death-trap

A multimillion-dollar legal stoush could be brewing over the liability for, and clean-up costs of, a major Melbourne CBD development site, according to *The Australian Financial Review* (28/10/2004, p. 59).

**Contaminated & dangerous:** The abandoned former power station on Spencer Street was heavily contaminated with asbestos and was the location of a recent fatal accident involving a 13-year-old girl.

**Who owns the site?** The Melbourne City Council sold the site to private company Group Technologies, owned by a small group of property investors, for 54 million in February 2002. The deal included a time payment scheme, which involved the new owners making progressive payments as the site was cleaned up and decontaminated. Group Technologies was later taken over by

developer Malcolm Sharpe and his company, Key Securities Investment Group, which is now in the hands of a liquidator. Under existing legislation, responsibility could be with the former owner, the Melbourne City Council.

## Whoopsy: Hot rocks company Geodynamics loses 245m of pipe, 4 km underground

**H**ot rocks company Geodynamics may risk harsh consequences if drilling mistakes continue, according to *The Australian Financial Review* (30/10/2004, p. 47).

**No laughing matter:** It's no laughing matter to lose 245 metres of drill pipe, more than four kilometres beneath the South Australian outback. It takes 36 hours just to reach the bottom of a well that deep and bring the drill bit back up.

**Just a minor mishap:** Managing director Bertus de Graaf, whose previous venture was listed gold company Ross Mining, put the case when he announced that the drillers had clamped onto the lost drill pipe. "This is only a minor issue in the scheme of things, as Geodynamics now has clearly established that there is a direct hydraulic connection between Habanero 2 and Habanero 1," he said.

**Possible to pump in one way, out the other:** In other words, the company was confident it could pipe water down the first well it drilled

into the granite, and pump it back up the second well, about 500 metres away, hot enough to turn a generator turbine.

**Further problems:** A couple of days after that announcement, the company hit further problems and decided to leave the pipe in the well. It would drill a side track.

## Geodynamics seeks new investments as drills go awry

**I**n its annual report out last week, Brisbane-based Geodynamics said a business unit was well placed to secure several Kalina Cycle power generation projects in the near future.

**Looking to expand:** Geodynamics acquired rights in January to Kalina Cycle Technology, which reportedly increased efficiency benefits for power plants. An offshoot, Geodynamics Power Systems, was created to commercialise opportunities. GPS now earned "initial modest revenue" from engineering sales and was looking at projects in Australia and New Zealand.

**Company posts loss:** The company posted a \$2 million loss last financial year but has large financial reserves. "Economic extraction of heat will now be reached in the first half of 2005, six months later than predicted in the last annual report" said *The Courier-Mail* (23/10/2004, p. 78).

## Network of Temples to the Sun

**E**nviromission plans a network of 1km high towers visible for 100km in inland Australia to rival fossil fuel electricity sources. Its first Australian tower was set for a grazing property 25km northeast of the Victorian city of Mildura, reported *The Canberra Times* (23/10/2004, p. b4).

**10,000ha property bought:** In July, EnviroMission bought 10,000ha of land on the Tapio Station, a property that EnviroMission executive chair Roger Davey said was "unrelentingly flat" grazing and cropping country with patches of mallee scrub and salt bush. The reinforced concrete tower would cover an area the size of the MCG's surface at its base and would be surrounded by a 7km-diameter "greenhouse" of glass, polycarbonate and polymer.

**Expensive project, simple principle:** The principle behind it was simple: Hot air rises. Air at 30 degrees Celsius at the edge of the glasshouse was heated up to 70 degrees at the centre, where the tower drew it through 32 turbines at up to 50km per hour to the cooler air above.

**Tower could eliminate brown-outs:** The power station would produce up to 200 megawatts of electricity - enough to power a city the size of Hobart - and can generate 24 hours a day, Davey said. The hotter the day, the more efficiently the tower would work, matching peak summer demands.

EnviroMission floated on the Australian Stock Exchange in 2001. Its major investor was the owner of the solar tower technology, United States company SolarMission Technologies. EnviroMission has the exclusive Australian rights to the technology, first developed on a much smaller scale in Spain in the early 1980s, using a German design.

**Chinese consortium adds more capital:** A group of Chinese investors had formed a joint venture to tip a further \$US2 million (\$A2.73 million) into the project's development, with plans to invest a further \$US8 million (\$A10.91 million) for development of a solar tower in China.

**Fed Govt smooths the way:** The pre-feasibility study was completed successfully in February this year. The Federal Government had awarded the project "Major Project Facilitation" status.

## A sad tale: Pacific Hydro's long-term growth ruined by "greedy super funds"

**14** Although it was a relatively small company, Pacific Hydro was the third-biggest renewable energy operator in the world, wrote Robert Gottlieb in *The Australian* (30/10/2004, p. 40). "The local institutions didn't take much notice of it because the Development Australia Fund (operating for the industry superannuation

funds) owned a third of the capital and the American power utility AEP around 16 per cent.

**But funds get greedy:** "But the funds got greedy and wanted to take a bigger role in the renewable projects. The Development Australia Fund replaced Michael Fitzpatrick as its representative on the board and then, when the US power utility wanted to sell, saw a chance to go much closer to control and a series of schemes were suggested.

**Management gets scared about control:** "The directors of Pacific Hydro feared that the industry funds were aiming to gain control of the company without paying a big control premium and at a price that bore no relationship to the true value of the company.

**Company for sale:** "And so they pre-empted DAF and virtually put Pacific Hydro up for sale.

**Moral to the story:** "Pacific Hydro is a lesson for all industry funds wanting to deliver long-term benefits to Australian employees: Don't play control games."

## Hedge funds betting on a takeover of Pacific Hydro

Investors were making more sober assessments about Pacific Hydro's future with shares easing slightly in the wake of a 21 per cent jump caused by hedge funds betting on a takeover, reported *The Australian Financial Review* (29/10/2004, p. 34).

**Extra \$200m needed to develop projects:** One view was that Pacific Hydro has actually been in play for several years without snaring a bidder and needed a lot of capital (about \$200 million in equity, let alone the debt) to develop the wind and hydro-electric projects the company hopes to develop around the world.

**Position of Development Australia Fund unclear:** The key issue was that while American Electric Power was a willing seller (it did not participate in the Pacific Hydro capital raising earlier this year), the position of the 34 per cent shareholder, Development Australia Fund, was not so clear.

## For sale: Carnegie, Wylie and Freehills set Pacific Hydro Australian assets for sale before Christmas 2004

Australia's biggest renewable energy company Pacific Hydro was in play, with a takeover offer expected before the end of the year, reported *The Australian* (28/10/2004, p. 27).

**15pc stake up for grabs:** The key to Pacific Hydro's future was a 15 per cent stake held for many years by the American Electric Company. It's understood that AEC, like many of its corporate compatriots, wanted to divest itself of the stake to bolster its bottom line in the US.

## Region Summary Report for the week 17 - 23 Oct 2004

NSW		
Energy Sent out	1133410.88 (MWh)	\$51,743,288.41
Energy Purchased	-1267585.18 (MWh)	(\$61,134,286.48)
Energy Imported from QLD1	73642.14 (MWh)	\$3,407,658.82
Energy Imported from SNOWY1	95531.87 (MWh)	\$5,552,483.38
Energy Exported to QLD1	-224.09 (MWh)	(\$15,201.05)
Energy Exported to SNOWY1	-7396.00 (MWh)	(\$193,683.35)
Surplus on import from QLD1		\$193,509.13
Surplus on import from SNOWY1		\$222,679.05
Surplus on export to QLD1		\$147.81
Surplus on export to SNOWY1		\$3,377.94
Regional Excess Generation		\$0.00
Regional Reserve Trading		\$0.00
Market Intervention Compensation		\$0.00
Regional Admin Price Compensation		\$0.00
Settlement Surplus Account		(\$639,740.27)
Total Ancillary Service Payment		\$442,939.37

VIC		
Energy Sent out	828198.26 (MWh)	\$36,836,035.18
Energy Purchased	-813180.20 (MWh)	(\$38,319,240.26)
Energy Imported from SA1	17111.12 (MWh)	\$968,766.61
Energy Imported from SNOWY1	17860.55 (MWh)	\$911,680.94
Energy Exported to SA1	-10765.89 (MWh)	(\$303,189.86)
Energy Exported to SNOWY1	-19789.29 (MWh)	(\$789,143.18)
Surplus on import from SA1		\$42,076.57
Surplus on import from SNOWY1		\$14,420.53
Surplus on export to SA1		\$31,752.95
Surplus on export to SNOWY1		\$10,337.85
Regional Excess Generation		\$0.00
Regional Reserve Trading		\$0.00
Market Intervention Compensation		\$0.00
Regional Admin Price Compensation		\$0.00
Settlement Surplus Account		(\$695,090.57)
Total Ancillary Service Payment		\$188,045.35

SA		
Energy Sent out	235384.70 (MWh)	\$10,902,121.76
Energy Purchased	-223655.41 (MWh)	(\$10,286,662.36)
Energy Imported from VIC1	10206.33 (MWh)	\$34,942.81
Energy Exported to VIC1	-17747.77 (MWh)	(\$926,690.04)
Surplus on import from VIC1		\$31,752.95
Surplus on export to VIC1		\$42,076.57
Regional Excess Generation		\$0.00
Regional Reserve Trading		\$0.00
Market Intervention Compensation		\$0.00
Regional Admin Price Compensation		\$0.00
Settlement Surplus Account		\$23,712.17
Total Ancillary Service Payment		\$120,814.37

Snowy		
Energy Sent out	95937.58 (MWh)	\$5,484,787.22
Energy Purchased	-8714.22 (MWh)	(\$240,851.65)
Energy Imported from NSW1	7036.36 (MWh)	\$197,061.29
Energy Imported from VIC1	19199.57 (MWh)	\$799,481.04
Energy Exported to NSW1	-94962.05 (MWh)	(\$5,329,804.33)
Energy Exported to VIC1	-17941.46 (MWh)	(\$897,260.41)
Surplus on import from NSW1		\$3,377.94
Surplus on import from VIC1		\$10,337.85
Surplus on export to NSW1		\$222,679.05
Surplus on export to VIC1		\$14,420.53
Regional Excess Generation		\$0.00
Regional Reserve Trading		\$0.00
Market Intervention Compensation		\$0.00
Regional Admin Price Compensation		\$0.00
Settlement Surplus Account		\$13,413.16
Total Ancillary Service Payment		\$541,271.36

QLD		
Energy Sent out	950566.26 (MWh)	\$40,470,596.01
Energy Purchased	-846710.61 (MWh)	(\$38,686,395.39)
Energy Imported from NSW1	213.49 (MWh)	\$15,348.19
Energy Exported to NSW1	-75017.93 (MWh)	(\$3,214,149.02)
Surplus on import from NSW1		\$147.81
Surplus on export to NSW1		\$193,509.13
Regional Excess Generation		\$0.00
Regional Reserve Trading		\$0.00
Market Intervention Compensation		\$0.00
Regional Admin Price Compensation		\$0.00
Settlement Surplus Account		(\$1,414,600.20)
Total Ancillary Service Payment		\$1,031,707.58

**AGL and TXU are interested:** There have been reports that companies such as AGL and TXU Australia have approached Pacific Hydro, expressing interest in the AEC stake. Pacific Hydro said its independent directors had begun a review of strategic options “with a view to maximising value”.

**Advisers appointed:** Carnegie, Wylie and Company and Freehills have been appointed advisers.

**Offers still not certain:** The stock exchange statement said the review might result in offers being made for a portion or all of Pacific Hydro. But there was no assurance that any such offers would result.

### ActewAGL invests up to \$7 million in Woodlawn WindEnergy Joint Venture

According to *The Canberra Times* (22/10/2004, p. 7) ActewAGL’s general manager, business systems and commercial developments, Carsten Larsen, said the local utility would be investing between \$6 million and \$7 million into the Woodlawn WindEnergy Joint Venture. If approved by the NSW Government, the wind farm would produce enough electricity to heat, cool and power 22,000 homes.

### Data on Demand: Two methods

CSV files are available, for whole year data sets at [www.erisk.net/DOD](http://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>.

## Collex Woodlawn plans 25 turbines: 50MW as residents await a Land and Enviro Court ruling on methane plant

**E**nvironmental services firm Collex was pushing ahead with plans to develop the largest green energy site in NSW with details of a wind farm now open for public comment, reported *The Daily Telegraph* (28/10/2004, p. 24).

**25 turbines generate 50MW:** Collex already used the site at Woodlawn, near Goulburn, to convert Sydney's waste into methane, generating green electricity. If approved, the wind farm will comprise 25 turbines, producing 50 megawatts of green energy - enough electricity to heat, cool and power more than 20,000 homes every year.

**Court battle could delay plans:** But at the same time, Auburn residents were awaiting a Land and Environment Court ruling that might stall Collex's green energy goals. Residents last week took Collex to court to fight planning approval given by parliament last year.

**Waste transport the issue:** Collex currently transported waste by rail from the Clyde railway yards near Auburn. Collex spokes Paul Zagami said the company argued that the operations were legal because when parliament gave development consent it envisaged the waste would be transported by

## Constraint Library Changes Report for the week 25 - 31 October 2004

<p><b>25/10/2004: New Constraint Set(s) and Constraint Equation(s)</b>                      Constraint Set: Q-CN_QCVL_050, Q-CN_QCVL_070, Q-CN_QCVL_080                      Constraint Equation: Q_CN_QCVL_050, Q_CN_QCVL_070, Q_CN_QCVL_080                      Reason: Required for network support arrangements</p>
<p><b>25/10/2004: New Constraint Set(s) and Constraint Equation(s)</b>                      Constraint Set: I-CNLT_07                      Constraint Equation: H&gt;&gt;H-07+64_A                      Reason: Required for current outage</p>
<p><b>26/10/2004: New Constraint Set(s) and Constraint Equation(s)</b>                      Constraint Set: N-LDNC_81                      Constraint Equation: N&gt;N-81__1T, Q&gt;N-81__1T                      Reason: Required for planned outage</p>
<p><b>27/10/2004: New Constraint Set(s) and Constraint Equation(s)</b>                      Constraint Set: S-OSNO_OCPL                      Constraint Equation: S_OSNO_OCPL1</p>
<p><b>27/10/2004: Modified Constraint Set(s) and Constraint Equation(s)</b>                      Constraint Set: N-AR_TX                      Constraint Equation: N&gt;Q_AR_TX                      Reason: Adjust constraint coefficients for improved performance of constraint</p>
<p><b>29/10/2004: New Constraint Set(s), Constraint Equation(s) and Generic Equation(s)</b>                      Constraint Set: N-NIL                      Constraint Equation: N:Q_NIL_D (added), Q:Q_NIL_D (removed)                      Generic Equation: X-N:Q_D                      Reason: Updated formulation to comply with policy</p>
<p><b>29/10/2004: Modified Constraint Set(s) and Constraint Equation(s)</b>                      Constraint Set: N-ARTW_85, N-LDMU_83, N-LDTW_84, N-MUTW_88, Q-BR_VC                      Constraint Set: N:Q_ARTW_D (added), Q:Q_ARTW_D (removed), N:Q_LDMU_D (added), Q:Q_LDMU_D (removed) N:Q_LDTW_D (added), Q:Q_LDTW_D (removed) N:Q_MUTW_D (added), Q:Q_MUTW_D (removed) N:Q_BR_VC_D (added), Q:Q_BR_VC_D (removed)                      Reason: Update formulation to comply with policy</p>
<p><b>29/10/2004: Modified Constraint Set(s) and Constraint Equation(s)</b>                      Constraint Set: N-MNMP_ONE, N-MNMP_N-2                      Constraint Equation: N:Q_MNMP_D (added), N:Q_MNMP_D, N:Q_MNMP_E, N:Q_MNMPA1, N:Q_MNMPA2, N:Q_MNMPA3, N:Q_MNMPA4, N:Q_MNMPA5, N:Q_MNMPB1, N:Q_MNMPB2, N:Q_MNMPB3, N:Q_MNMPB4, N:Q_MNMPB5, N:Q_MNMPB6, N:Q_MNMP_C1, N:Q_MNMP_C2 (all added to N-MNMP_N-2)                      Reason: Updated formulation to comply with policy</p>
<p><b>29/10/2004: Marked for Archival Constraint Set(s), Constraint Equation(s) and Generic Equation(s)</b>                      Constraint Set: Q-MN_MPS                      Constraint Equation: Q:Q_ARTW_D, Q:Q_BR_VC_D, Q:Q_LDMU_D, Q:Q_LDTW_D, Q:Q_NIL_D, Q&gt;MI_MPS                      Generic Equation: X-Q:Q_D                      Reason: Constraints superseded by new constraints</p>
<p><b>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 (<a href="http://www.nemmco.com.au/powersystemops/3709.htm">http://www.nemmco.com.au/powersystemops/3709.htm</a>) for more information on Generic Constraints. Refer also to the Constraint Naming Guidelines: <a href="http://www.nemmco.com.au/dispatchandpricing/200-0062.htm">http://www.nemmco.com.au/dispatchandpricing/200-0062.htm</a> and the Network and FCAS constraint formulation policy: <a href="http://www.nemmco.com.au/dispatchandpricing/170-0030.htm">http://www.nemmco.com.au/dispatchandpricing/170-0030.htm</a> Should you have any queries regarding the above please contact Ben Blake on 02 8838 5359</b></p>

train. "So any anomalies in any statutes were overcome by that Act of Parliament," he said.

**Ruling expected soon:** A ruling was expected in the next few weeks.

## Hastings keen to diversify into electricity assets: Nov float

**H**astings Fund Management's new \$379 million pipeline float was confident it could deliver its promised 9.5 per cent yield to investors in 2006, according to *The Australian Financial Review* (30/10/2004, p. 11).

**Prospectus lodged for float:** In one of the few significant offerings in recent months, Hastings last week lodged the prospectus for the fund's UBS and Citigroup-underwritten float after setting the issue price at \$2.56 per security. Hastings' director of infrastructure, Jim Hallam, said the fund would like to expand in wind and power generation and would also consider investments in New Zealand, where there have been a number of utilities transactions recently, and the United Kingdom. He also noted there was likely to be consolidation among the listed utilities players. The float would open on 8 November ahead of a scheduled ASX listing on 13 December.

## Transmission Outage Start Date 4 - 10 November 2004

Station Name	Equipment Name	Equipment Type	KV	Start Time	Status	Constraint Set ID
Vales Point 330kV	Vals Pt Munmorh 23 330kV LINE	line	330	2004/11/04 05:00:00	STLTP	N-MNVP_23
Armidale 330kV	Armidale 6 330/138kV XFMR	xfmr2	330/138	2004/11/04 05:30:00	STLTP	N-AR_CP2
Armidale 330kV	Armidale 6 330/138kV XFMR	xfmr2	330/138	2004/11/04 05:30:00	STLTP	N-AR_TX
Lismore 330kV	Lismore 1 132kV SVC	svc	132	2004/11/04 06:00:00	STLTP	N-LS_VC1
Muswellbrook 330kV	Muswlbk330 832A 330kV CB	cb	330	2004/11/04 06:00:00	STLTP	
Muswellbrook 330kV	Muswlbk330 882B 330kV CB	cb	330	2004/11/04 06:00:00	STLTP	
Muswellbrook 330kV	Muswlbk330 1 330/138kV XFMR	xfmr2	330/138	2004/11/04 06:00:00	STLTP	
Newcastle 330kV	Newcastle Kurri 96A 132kV LINE	line	132	2004/11/04 06:00:00	SUBMIT	
Sydney West 330kV	Sydney W 3 132kV CAP	cap	132	2004/11/04 06:00:00	STLTP	
Ballarat 220kV	Ballarat220 Bendigo 220kV LINE	line	220	2004/11/04 06:00:00	STLTP	V-BABE_R
Eildon Ps 220kV	Eildon PS Mt Beauty 1 220kV LINE	line	220	2004/11/04 06:00:00	STLTP	V-DBUSS_L
Eildon Ps 220kV	Eildon PS Mt Beauty 1 220kV LINE	line	220	2004/11/04 06:00:00	STLTP	V-X_EPMB_R
Armidale 330kV	Armidale 2 132kV CAP	cap	132	2004/11/04 06:30:00	STLTP	N-AR_CP2
Sydney North 330kV	Sydney N 3 132kV CAP	cap	132	2004/11/04 06:30:00	STLTP	
Hazelwood Ps 220kV	Hazelwd PS 8 gen xfmr 220kV	cb	220	2004/11/04 06:30:00	STLTP	
Blackwall 275kV	Blackwall SwanBk B 8819 275kV LINE	line	275	2004/11/04 07:00:00	STLTP	Q-BKSB_8819
Blackwall 275kV	Blackwall SwanBk B 8819 275kV LINE	line	275	2004/11/04 07:00:00	STLTP	Q-TR_OFFSET_-90
Broadsound 275kV	Broadsound Lilyvale 833 275kV LINE	line	275	2004/11/04 07:00:00	SUBMIT	
Lilyvale 275kV	Lilyvale 2 288/138/19kV XFMR	xfmr3	288/138/19	2004/11/04 07:00:00	SUBMIT	
Swanbank B 275kV	h1_sbk_b.cpir 5032 cb	cb	275	2004/11/04 07:00:00	STLTP	Q-BKSB_8819
Swanbank B 275kV	h1_sbk_b.cpir 5032 cb	cb	275	2004/11/04 07:00:00	STLTP	Q-TR_OFFSET_-90
Swanbank B 275kV	h1_sbk_b.fdr 88192 cb	cb	275	2004/11/04 07:00:00	STLTP	Q-BKSB_8819
Swanbank B 275kV	h1_sbk_b.fdr 88192 cb	cb	275	2004/11/04 07:00:00	STLTP	Q-TR_OFFSET_-90
Para 275kV	PARA 6116 132kV CB	cb	132	2004/11/04 07:00:00	STLTP	
Moorabool 500kV	Moorabool Terang 220kV LINE	line	220	2004/11/04 07:00:00	STLTP	V-MLTG
Tarong 275kV	h18_trng.fdr 8412 cb	cb	275	2004/11/04 07:30:00	STLTP	
Monash 132kV	Monash Berri 1 132kV LINE	line	132	2004/11/04 07:30:00	STLTP	
Torrens B Ps 275kV	TIPS_B BW4 275kV CB	cb	275	2004/11/04 08:00:00	STLTP	
Dederang 330kV	Dederang WOTS Line No.2 Bus 330kV CB	cb	330	2004/11/04 08:30:00	STLTP	
Swanbank B 275kV	h1_sbk_b.fdr 8062 cb	cb	275	2004/11/04 09:00:00	STLTP	
Para 275kV	PARA 6117 132kV CB	cb	132	2004/11/04 11:30:00	STLTP	
South Pine 275kV	S Pine A 110kV BUS	bus	110	2004/11/04 21:00:00	STLTP	
South Pine 275kV	S Pine Brendale 743 110kV LINE	line	110	2004/11/04 21:00:00	STLTP	
South Pine 275kV	S Pine 2 275/110kV XFMR	xfmr2	275/110	2004/11/04 21:00:00	STLTP	

## New ACCC guidelines and public merger register

**B**ig corporations could be required to hand over internal documents on merger plans under sweeping new guidelines issued by the Australian Competition and Consumer Commission, according to *The Australian* (22/10/2004).

**May have to surrender documents:** “Applicants for mergers must do their homework. They could be asked to surrender internal documents relevant to the transaction if there were inconsistencies,” said the ACCC’s Michael Corrigan.

**New public register:** Under the system, the ACCC would establish a public register on its website containing all information relating to merger assessments.

**Replacing informal process:** The more legalistic system replaced the ACCC’s informal merger assessment process of fireside chats between companies and the regulator, with no public scrutiny.

## China wants more foreign investment in power plants

**F**oreign investment in Chinese power plants & other fixed assets were up 60pc in the first nine month of the year. China wanted more foreign investment in

Station Name	Equipment Name	Equipment Type	KV	Start Time	Status	Constraint Set ID
Armidale 330kV	Armidale 6 330/138kV XFMR	xfmr2	330/138	2004/11/05 05:30:00	STLTP	N-AR_CP2
Armidale 330kV	Armidale 6 330/138kV XFMR	xfmr2	330/138	2004/11/05 05:30:00	STLTP	N-AR_TX
Bayswater 330kV	Bayswtr330 Regentvill 31 330kV LINE	line	330	2004/11/05 06:00:00	STLTP	N-BWRG_31
Liverpool 330kV	Liverpool B 330kV BUS	bus	330	2004/11/05 06:00:00	STLTP	
Liverpool 330kV	Liverpool 2 330/138kV XFMR	xfmr2	330/138	2004/11/05 06:00:00	STLTP	
Vales Point 330kV	Vals Pt Munmorh 23 330kV LINE	line	330	2004/11/05 06:00:00	STLTP	N-MNVP_23
South East 275kV	S EAST 6606 275kV CB	cb	275	2004/11/05 06:00:00	STLTP	S-SE_VC_1
South East 275kV	S EAST 6610 275kV CB	cb	275	2004/11/05 06:00:00	STLTP	S-SE_VC_1
South East 275kV	South East 1 275kV SVC	svc	275	2004/11/05 06:00:00	STLTP	S-SE_VC_1
Ballarat 220kV	Ballart220 Bendigo 220kV LINE	line	220	2004/11/05 06:00:00	STLTP	V-BABE_R
Eildon Ps 220kV	Eildon PS Mt Beauty 1 220kV LINE	line	220	2004/11/05 06:00:00	STLTP	V-DBUSS_L
Eildon Ps 220kV	Eildon PS Mt Beauty 1 220kV LINE	line	220	2004/11/05 06:00:00	STLTP	V-X_EPMB_R
Sydney North 330kV	Sydney N 3 132kV CAP	cap	132	2004/11/05 06:30:00	STLTP	
Eildon Ps 220kV	Eildon PS 2 220kV BUS	bus	220	2004/11/05 06:30:00	STLTP	
Millmerran 330kV	r4 millm. Fdr 99042 cb	cb	330	2004/11/05 07:00:00	STLTP	
Moorabool 500kV	Moorabool Terang 220kV LINE	line	220	2004/11/05 07:00:00	STLTP	V-MLTG
Tarong 275kV	h18_trng.fdr 8412 cb	cb	275	2004/11/05 07:30:00	STLTP	
Mudgeeraba 275kV	Mudgeeraba 1 110kV BUS	bus	110	2004/11/05 08:00:00	STLTP	
Mudgeeraba 275kV	h4_mugba.fdr 7572 cb	cb	110	2004/11/05 08:00:00	STLTP	Q-MUTE757_758
Mudgeeraba 275kV	Mudgeeraba Terranora 757 110kV LINE	line	110	2004/11/05 08:00:00	STLTP	Q-MUTE757_758
Sydenham 500kV	Sydenham 2 500kV BUS	bus	500	2004/11/05 12:00:00	MTLTP	
Mudgeeraba 275kV	h4_mugba.fdr 7582 cb	cb	110	2004/11/05 13:00:00	STLTP	Q-MUTE757_758
Mudgeeraba 275kV	Mudgeeraba Terranora 758 110kV LINE	line	110	2004/11/05 13:00:00	STLTP	Q-MUTE757_758
Armidale 330kV	Armidale 6 330/138kV XFMR	xfmr2	330/138	2004/11/06 05:30:00	STLTP	N-AR_CP2
Armidale 330kV	Armidale 6 330/138kV XFMR	xfmr2	330/138	2004/11/06 05:30:00	STLTP	N-AR_TX
Newcastle 330kV	Newcastle Tomago 95W 330kV LINE	line	330	2004/11/06 05:30:00	STLTP	
Liverpool 330kV	Liverpool B 330kV BUS	bus	330	2004/11/06 06:00:00	STLTP	
Liverpool 330kV	Liverpool 2 330/138kV XFMR	xfmr2	330/138	2004/11/06 06:00:00	STLTP	
South East 275kV	S EAST 6607 275kV CB	cb	275	2004/11/06 06:00:00	STLTP	S-SE_VC_1
South East 275kV	S EAST 6611 275kV CB	cb	275	2004/11/06 06:00:00	STLTP	S-SE_VC_1
South East 275kV	South East 2 275kV SVC	svc	275	2004/11/06 06:00:00	STLTP	S-SE_VC_1
Eildon Ps 220kV	Eildon PS Mt Beauty 1 220kV LINE	line	220	2004/11/06 06:00:00	STLTP	V-DBUSS_L
Eildon Ps 220kV	Eildon PS Mt Beauty 1 220kV LINE	line	220	2004/11/06 06:00:00	STLTP	V-X_EPMB_R
Moorabool 500kV	Moorabool Sydenham 1 500kV LINE	line	500	2004/11/06 06:00:00	MTLTP	F-V-MLSY
Moorabool 500kV	Moorabool Sydenham 1 500kV LINE	line	500	2004/11/06 06:00:00	MTLTP	V-MLSY
Eildon Ps 220kV	Eildon PS 2 220kV BUS	bus	220	2004/11/06 06:30:00	STLTP	
Moorabool 500kV	Moorabool Terang 220kV LINE	line	220	2004/11/06 08:00:00	STLTP	V-MLTG
Liverpool 330kV	Liverpool B 330kV BUS	bus	330	2004/11/07 06:00:00	STLTP	
Liverpool 330kV	Liverpool 2 330/138kV XFMR	xfmr2	330/138	2004/11/07 06:00:00	STLTP	
South East 275kV	South East 2 275kV SVC	svc	275	2004/11/07 06:00:00	STLTP	S-SE_VC_1
Eildon Ps 220kV	Eildon PS Mt Beauty 1 220kV LINE	line	220	2004/11/07 06:00:00	STLTP	V-DBUSS_L
Eildon Ps 220kV	Eildon PS Mt Beauty 1 220kV LINE	line	220	2004/11/07 06:00:00	STLTP	V-X_EPMB_P
Moorabool 500kV	Moorabool Sydenham 1 500kV LINE	line	500	2004/11/07 06:00:00	MTLTP	F-V-MLSY
Moorabool 500kV	Moorabool Sydenham 1 500kV LINE	line	500	2004/11/07 06:00:00	MTLTP	V-MLSY
Eildon Ps 220kV	Eildon PS 2 220kV BUS	bus	220	2004/11/07 06:30:00	STLTP	
Monash 132kV	Monash Berri 2 132kV LINE	line	132	2004/11/07 07:30:00	STLTP	
Mudgeeraba 275kV	Mudgeeraba 2 110kV BUS	bus	110	2004/11/07 08:00:00	STLTP	Q-MU50MVARCP
Mudgeeraba 275kV	Mudgeeraba 2 110kV BUS	bus	110	2004/11/07 08:00:00	STLTP	Q-TR_OFFSET_-50
Mudgeeraba 275kV	Mudgeeraba 3 110kV CAP	cap	110	2004/11/07 08:00:00	STLTP	Q-MU50MVARCP
Mudgeeraba 275kV	Mudgeeraba 3 110kV CAP	cap	110	2004/11/07 08:00:00	STLTP	Q-TR_OFFSET_-50
Mudgeeraba 275kV	Mudgeeraba Broadbeach 779 110kV LINE	line	110	2004/11/07 08:00:00	STLTP	Q-MU50MVARCP
Mudgeeraba 275kV	Mudgeeraba Broadbeach 779 110kV LINE	line	110	2004/11/07 08:00:00	STLTP	Q-TR_OFFSET_-50
Moorabool 500kV	Moorabool Terang 220kV LINE	line	220	2004/11/07 08:00:00	STLTP	V-MLTG

power plants to help boost generating capacity to 2.4 million megawatts by 2020, the official *China Daily* reported on October 13, citing Zhang Guobao, Vice-Minister of the National Development and Reform Commission. The nation experienced power shortages in 24 of 27 provinces and four major cities this year as economic growth of more than 9 per cent pushed electricity demand beyond capacity.

Station Name	Equipment Name	Equipment Type	KV	Start Time	Status	Constraint Set ID
Liverpool 330kV	Liverpool B 330kV BUS	bus	330	2004/11/08 06:00:00	STLTP	
Liverpool 330kV	Liverpool 2 330/138kV XFMR	xfmr2	330/138	2004/11/08 06:00:00	STLTP	
Sydney East 330kV	Sydney E 2 132kV CAP	cap	132	2004/11/08 06:00:00	STLTP	
Moorabool 500kV	Moorabool Sydenham 1 500kV LINE	line	500	2004/11/08 06:00:00	MTLTP	F-V-MLSY
Moorabool 500kV	Moorabool Sydenham 1 500kV LINE	line	500	2004/11/08 06:00:00	MTLTP	V-MLSY
Templestowe 220kV	Templestowe 22kV SYNC	sync	22	2004/11/08 06:00:00	STLTP	
Liddell Ps 330kV	Liddell PS Newcastle 81 330kV LINE	line	330	2004/11/08 06:30:00	STLTP	N-LDNC 81
Vineyard 330kV	Vineyard 1 132kV CAP	cap	132	2004/11/08 06:30:00	STLTP	
Mobilong 132kV	Mobilong Mannum 132kV LINE	line	132	2004/11/08 06:30:00	STLTP	S-MAMO
Hazelwood Ps 220kV	Hazelwd PS 4 gen xfmr 2 bus 220kV	cb	220	2004/11/08 06:30:00	STLTP	
Swanbank B 275kV	h1_sbk_b.fdr 8032 cb	cb	275	2004/11/08 07:00:00	SUBMIT	
Moorabool 500kV	Moorabool Terang 220kV LINE	line	220	2004/11/08 07:00:00	STLTP	V-MLTG
Richmond 220kV	Richmond B4 220/66kV XFMR	xfmr2	220/66	2004/11/08 07:00:00	STLTP	
Para 275kV	PARA 6519 275kV CB	cb	275	2004/11/08 07:30:00	STLTP	
Dederang 330kV	Dederang Glenrowan 3 220kV LINE	line	220	2004/11/08 07:30:00	STLTP	V-DDGN
Swanbank B 275kV	h1_sbk_b.bt Tfmr 5422 cb	cb	275	2004/11/08 08:00:00	SUBMIT	
Liverpool 330kV	Liverpool B 330kV BUS	bus	330	2004/11/09 06:00:00	STLTP	
Liverpool 330kV	Liverpool 2 330/138kV XFMR	xfmr2	330/138	2004/11/09 06:00:00	STLTP	
Sydney East 330kV	Sydney E 2 132kV CAP	cap	132	2004/11/09 06:00:00	STLTP	
Liddell Ps 330kV	Liddell PS Newcastle 81 330kV LINE	line	330	2004/11/09 06:30:00	STLTP	N-LDNC 81
Geelong 220kV	Geelong 1 66kV CAP	cap	66	2004/11/09 06:30:00	STLTP	
Bouldercombe 275kV	Bouldercomb Callide 7106 132kV LINE	line	132	2004/11/09 07:00:00	MTLTP	
Hazelwood 500kV	Hazelwood Rowwill500 4 500kV LINE	line	500	2004/11/09 07:00:00	MTLTP	V-HWRO4_C
Moorabool 500kV	Moorabool Terang 220kV LINE	line	220	2004/11/09 07:00:00	STLTP	V-MLTG
Richmond 220kV	Richmond B4 220/66kV XFMR	xfmr2	220/66	2004/11/09 07:00:00	STLTP	
Lower Tumut	64 Lower Tumut-Upper Tumut CB 642A	cb	330	2004/11/09 07:30:00	STLTP	
Lilyvale 275kV	h15_lily.fdr 71502 cb	cb	132	2004/11/09 07:30:00	SUBMIT	
Robertstown 275kV	R_TOWN 6005 132kV CB	cb	132	2004/11/09 08:00:00	STLTP	
Bendeela Ps	Bendeel PS Kng Vly PS 19 330kV LINE	line	330	2004/11/09 09:00:00	STLTP	N-CNKV 6
Bendeela Ps	Bendeel PS Kng Vly PS 19 330kV LINE	line	330	2004/11/09 09:00:00	STLTP	N-DTKV 18
Bendeela Ps	Bendeel PS Kng Vly PS 19 330kV LINE	line	330	2004/11/09 09:00:00	STLTP	N-X 6 18
Dapto 330kV	Dapto Kng Vly PS 18 330kV LINE	line	330	2004/11/09 09:00:00	STLTP	N-CNKV 6
Dapto 330kV	Dapto Kng Vly PS 18 330kV LINE	line	330	2004/11/09 09:00:00	STLTP	N-DTKV 18
Dapto 330kV	Dapto Kng Vly PS 18 330kV LINE	line	330	2004/11/09 09:00:00	STLTP	N-X 6 18
Kangaroo Valley Ps	Kng Vly PS 5432 330kV CB	cb	330	2004/11/09 09:00:00	STLTP	N-CNKV 6
Kangaroo Valley Ps	Kng Vly PS 5432 330kV CB	cb	330	2004/11/09 09:00:00	STLTP	N-DTKV 18
Kangaroo Valley Ps	Kng Vly PS 5432 330kV CB	cb	330	2004/11/09 09:00:00	STLTP	N-X 6 18
Kangaroo Valley Ps	Kng Vly PS 5442 330kV CB	cb	330	2004/11/09 09:00:00	STLTP	N-CNKV 6
Kangaroo Valley Ps	Kng Vly PS 5442 330kV CB	cb	330	2004/11/09 09:00:00	STLTP	N-DTKV 18
Kangaroo Valley Ps	Kng Vly PS 5442 330kV CB	cb	330	2004/11/09 09:00:00	STLTP	N-X 6 18
Kangaroo Valley Ps	Kng Vly PS Canberra 6 330kV LINE	line	330	2004/11/09 09:00:00	STLTP	N-CNKV 6
Kangaroo Valley Ps	Kng Vly PS Canberra 6 330kV LINE	line	330	2004/11/09 09:00:00	STLTP	N-DTKV 18
Kangaroo Valley Ps	Kng Vly PS Canberra 6 330kV LINE	line	330	2004/11/09 09:00:00	STLTP	N-X 6 18
Ross 275kV	Ross 275kV 1 275kV SVC	svc	275	2004/11/09 21:00:00	RESUBMIT	Q-RS_VC1
Dysart 132kV	Dysart Peak Dns-T 7124/2 132kV LINE	line	132	2004/11/10 04:30:00	MTLTP	Q-DSMH7124
Dysart 132kV	Dysart 1 132kV SVC	svc	132	2004/11/10 04:30:00	MTLTP	Q-DSMH7124
Moranbah 132kV	Moranbah Peak Dns-T 7124/1 132kV LINE	line	132	2004/11/10 04:30:00	MTLTP	Q-DSMH7124
Liverpool 330kV	Liverpool B 330kV BUS	bus	330	2004/11/10 06:00:00	STLTP	
Liverpool 330kV	Liverpool 2 330/138kV XFMR	xfmr2	330/138	2004/11/10 06:00:00	STLTP	
Liddell Ps 330kV	Liddell PS Newcastle 81 330kV LINE	line	330	2004/11/10 06:30:00	STLTP	N-LDNC 81
Swanbank B 275kV	h1_sbk_b.fdr 88192 cb	cb	275	2004/11/10 07:00:00	RESUBMIT	
Kilburn 275kV	Kilburn Northfield 275kV LINE	line	275	2004/11/10 07:00:00	STLTP	
Moorabool 500kV	Moorabool Terang 220kV LINE	line	220	2004/11/10 07:00:00	STLTP	V-MLTG
Richmond 220kV	Richmond B4 220/66kV XFMR	xfmr2	220/66	2004/11/10 07:00:00	STLTP	
Rowville 500kV	Rowwill500 1 500kV BUS	bus	500	2004/11/10 07:00:00	MTLTP	V-ROTX_P
Rowville 500kV	Rowwill500 A1 500/220kV XFMR	xfmr2	500/220	2004/11/10 07:00:00	MTLTP	V-ROTX_P
Tarong 275kV	h18_trng.cplr 5082 cb	cb	275	2004/11/10 07:29:00	SUBMIT	
Lower Tumut	64 Lower Tumut-Upper Tumut CB 642A	cb	330	2004/11/10 07:30:00	STLTP	
Mudgeeraba 275kV	Mudgeeraba 3 110kV BUS	bus	110	2004/11/10 08:00:00	RESUBMIT	
Robertstown 275kV	R_TOWN 6005 132kV CB	cb	132	2004/11/10 08:00:00	STLTP	
Ross 275kV	Ross 275kV 1 275kV SVC	svc	275	2004/11/10 21:00:00	RESUBMIT	Q-RS_VC1

# Transmission Outage End Date 4 - 10 November 2004

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Station Name	Equipment Name	Equipment Type	KV	End Time	Status	Constraint Set ID
Para 275kV	PARA 6116 132kV CB	cb	132	2004/11/04 11:15:00	STLTP	
Armidale 330kV	Armidale 2 132kV CAP	cap	132	2004/11/04 11:30:00	STLTP	N-AR_CP2
Dederang 330kV	Dederang WOTS Line No.2 Bus 330kV CB	cb	330	2004/11/04 11:30:00	STLTP	
Swanbank B 275kV	h1_sbk_b.fdr 8062 cb	cb	275	2004/11/04 13:00:00	STLTP	
Sydney North 330kV	Sydney N 3 132kV CAP	cap	132	2004/11/04 14:00:00	STLTP	
Ingleburn 330kV	Ingleburn 782A 330kV CB	cb	330	2004/11/04 14:30:00	PTP	
Newcastle 330kV	Newcastle Kurri 96A 132kV LINE	line	132	2004/11/04 14:30:00	SUBMIT	
Para 275kV	PARA 6117 132kV CB	cb	132	2004/11/04 14:30:00	STLTP	
South East 275kV	South_East 1 275kV SVC	svc	275	2004/11/04 14:30:00	PTP	S-SE_VC_1
Armidale 330kV	Armidale 6 330/138kV XFMR	xfmr2	330/138	2004/11/04 15:00:00	STLTP	N-AR_CP2
Armidale 330kV	Armidale 6 330/138kV XFMR	xfmr2	330/138	2004/11/04 15:00:00	STLTP	N-AR_TX
Sydney West 330kV	Sydney W 3 132kV CAP	cap	132	2004/11/04 15:00:00	STLTP	
Cardwell 132kV	Cardwell 132kV	station		2004/11/04 15:00:00	PDLT	
Ingham 132kV	Ingham 132kV	station		2004/11/04 15:00:00	PDLT	
Kareeya Ps 132kV	Kareeya Ps 132kV	station		2004/11/04 15:00:00	PDLT	
Torrens B Ps 275kV	TIPS_B BW4 275kV CB	cb	275	2004/11/04 15:00:00	STLTP	
Ballarat 220kV	Ballart220 Bendigo 220kV LINE	line	220	2004/11/04 15:00:00	STLTP	V-BABE_R
Eildon Ps 220kV	Eildon PS Mt Beauty 1 220kV LINE	line	220	2004/11/04 16:00:00	STLTP	V-DBUSS_L
Eildon Ps 220kV	Eildon PS Mt Beauty 1 220kV LINE	line	220	2004/11/04 16:00:00	STLTP	V-X_EPMB_R
Tarong 275kV	h18_trng.fdr 8412 cb	cb	275	2004/11/04 16:30:00	STLTP	
Vales Point 330kV	Vals Pt Munmorh 23 330kV LINE	line	330	2004/11/04 16:45:00	STLTP	N-MNVP_23
Lismore 330kV	Lismore 1 132kV SVC	svc	132	2004/11/04 17:00:00	STLTP	N-LS_VC1
Moorabool 500kV	Moorabool Terang 220kV LINE	line	220	2004/11/04 17:30:00	STLTP	V-MLTG
Muswellbrook 330kV	Muswlbk330 832A 330kV CB	cb	330	2004/11/04 18:30:00	STLTP	
Muswellbrook 330kV	Muswlbk330 882B 330kV CB	cb	330	2004/11/04 18:30:00	STLTP	
Muswellbrook 330kV	Muswlbk330 1 330/138kV XFMR	xfmr2	330/138	2004/11/04 18:30:00	STLTP	
South Pine 275kV	S Pine A 110kV BUS	bus	110	2004/11/05 05:00:00	STLTP	
South Pine 275kV	S Pine Brendale 743 110kV LINE	line	110	2004/11/05 05:00:00	STLTP	
South Pine 275kV	S Pine 2 275/110kV XFMR	xfmr2	275/110	2004/11/05 05:00:00	STLTP	
Mudgeeraba 275kV	h4_mugba.fdr 7572 cb	cb	110	2004/11/05 12:00:00	STLTP	Q-MUTE757_758
Mudgeeraba 275kV	Mudgeeraba Terranora 757 110kV LINE	line	110	2004/11/05 12:00:00	STLTP	Q-MUTE757_758
Sydney North 330kV	Sydney N 3 132kV CAP	cap	132	2004/11/05 14:00:00	STLTP	
South East 275kV	S_EAST 6606 275kV CB	cb	275	2004/11/05 14:30:00	STLTP	S-SE_VC_1
South East 275kV	S_EAST 6610 275kV CB	cb	275	2004/11/05 14:30:00	STLTP	S-SE_VC_1
South East 275kV	South_East 1 275kV SVC	svc	275	2004/11/05 14:30:00	STLTP	S-SE_VC_1
Armidale 330kV	Armidale 6 330/138kV XFMR	xfmr2	330/138	2004/11/05 15:00:00	STLTP	N-AR_CP2
Armidale 330kV	Armidale 6 330/138kV XFMR	xfmr2	330/138	2004/11/05 15:00:00	STLTP	N-AR_TX
Bayswater 330kV	Bayswtr330 Regentvill 31 330kV LINE	line	330	2004/11/05 15:00:00	STLTP	N-BWRG_31
Vales Point 330kV	Vals Pt Munmorh 23 330kV LINE	line	330	2004/11/05 15:00:00	STLTP	N-MNVP_23
Mudgeeraba 275kV	Mudgeeraba 1 110kV BUS	bus	110	2004/11/05 15:00:00	STLTP	
Ballarat 220kV	Ballart220 Bendigo 220kV LINE	line	220	2004/11/05 15:00:00	STLTP	V-BABE_R
Liverpool 330kV	Liverpool B 330kV BUS	bus	330	2004/11/05 16:00:00	STLTP	
Liverpool 330kV	Liverpool 2 330/138kV XFMR	xfmr2	330/138	2004/11/05 16:00:00	STLTP	
Eildon Ps 220kV	Eildon PS Mt Beauty 1 220kV LINE	line	220	2004/11/05 16:00:00	STLTP	V-DBUSS_L

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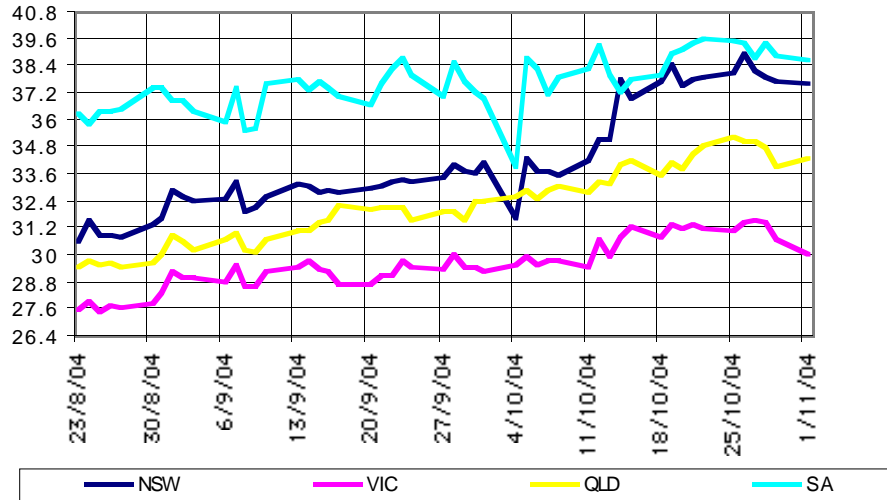
Station Name	Equipment Name	Equipment Type	KV	End Time	Status	Constraint Set ID
Eildon Ps 220kV	Eildon PS Mt Beauty 1 220kV LINE	line	220	2004/11/05 16:00:00	STLTP	V-X_EPMB_R
Eildon Ps 220kV	Eildon PS 2 220kV BUS	bus	220	2004/11/05 16:00:00	STLTP	
Fishermans Bend 220kV	Fshmns Bnd 22kV SYNC	sync	22	2004/11/05 16:00:00	PTP	V-2RP_P
Tarong 275kV	h18_trng.fdr 8412 cb	cb	275	2004/11/05 16:30:00	STLTP	
Blackwall 275kV	Blackwall SwanBk B 8819 275kV LINE	line	275	2004/11/05 17:00:00	STLTP	Q-BKSB_8819
Blackwall 275kV	Blackwall SwanBk B 8819 275kV LINE	line	275	2004/11/05 17:00:00	STLTP	Q-TR_OFFSET_-90
Mudgeeraba 275kV	h4_mugba.fdr 7582 cb	cb	110	2004/11/05 17:00:00	STLTP	Q-MUTE757_758
Mudgeeraba 275kV	Mudgeeraba Terranora 758 110kV LINE	line	110	2004/11/05 17:00:00	STLTP	Q-MUTE757_758
Swanbank B 275kV	h1_sbk_b.cplr 5032 cb	cb	275	2004/11/05 17:00:00	STLTP	Q-BKSB_8819
Swanbank B 275kV	h1_sbk_b.cplr 5032 cb	cb	275	2004/11/05 17:00:00	STLTP	Q-TR_OFFSET_-90
Swanbank B 275kV	h1_sbk_b.fdr 88192 cb	cb	275	2004/11/05 17:00:00	STLTP	Q-BKSB_8819
Swanbank B 275kV	h1_sbk_b.fdr 88192 cb	cb	275	2004/11/05 17:00:00	STLTP	Q-TR_OFFSET_-90
Shepparton 220kV	Shepparton 2A 66kV CAP	cap	66	2004/11/05 17:00:00	PTP	
Moorabool 500kV	Moorabool Terang 220kV LINE	line	220	2004/11/05 17:30:00	STLTP	V-MLTG
Armidale 330kV	Armidale 6 330/138kV XFMR	xfmr2	330/138	2004/11/06 12:00:00	STLTP	N-AR_CP2
Armidale 330kV	Armidale 6 330/138kV XFMR	xfmr2	330/138	2004/11/06 12:00:00	STLTP	N-AR_TX
South East 275kV	S_EAST 6607 275kV CB	cb	275	2004/11/06 14:30:00	STLTP	S-SE_VC_1
South East 275kV	S_EAST 6611 275kV CB	cb	275	2004/11/06 14:30:00	STLTP	S-SE_VC_1
South East 275kV	South_East 2 275kV SVC	svc	275	2004/11/06 14:30:00	STLTP	S-SE_VC_1
Monash 132kV	Monash Berri 1 132kV LINE	line	132	2004/11/06 15:30:00	STLTP	
Liverpool 330kV	Liverpool B 330kV BUS	bus	330	2004/11/06 16:00:00	STLTP	
Liverpool 330kV	Liverpool 2 330/138kV XFMR	xfmr2	330/138	2004/11/06 16:00:00	STLTP	
Eildon Ps 220kV	Eildon PS Mt Beauty 1 220kV LINE	line	220	2004/11/06 16:00:00	STLTP	V-DBUSS_L
Eildon Ps 220kV	Eildon PS Mt Beauty 1 220kV LINE	line	220	2004/11/06 16:00:00	STLTP	V-X_EPMB_R
Eildon Ps 220kV	Eildon PS 2 220kV BUS	bus	220	2004/11/06 16:00:00	STLTP	
Newcastle 330kV	Newcastle Tomago 95W 330kV LINE	line	330	2004/11/06 18:00:00	STLTP	
Moorabool 500kV	Moorabool Terang 220kV LINE	line	220	2004/11/06 18:30:00	STLTP	V-MLTG
Moorabool 500kV	Moorabool Sydenham 1 500kV LINE	line	500	2004/11/06 19:00:00	MTLTP	F-V-MLSY
Moorabool 500kV	Moorabool Sydenham 1 500kV LINE	line	500	2004/11/06 19:00:00	MTLTP	V-MLSY
Mudgeeraba 275kV	Mudgeeraba 2 110kV BUS	bus	110	2004/11/07 15:00:00	STLTP	Q-MU50MVARCP
Mudgeeraba 275kV	Mudgeeraba 2 110kV BUS	bus	110	2004/11/07 15:00:00	STLTP	Q-TR_OFFSET_-50
Mudgeeraba 275kV	Mudgeeraba 3 110kV CAP	cap	110	2004/11/07 15:00:00	STLTP	Q-MU50MVARCP
Mudgeeraba 275kV	Mudgeeraba 3 110kV CAP	cap	110	2004/11/07 15:00:00	STLTP	Q-TR_OFFSET_-50
Mudgeeraba 275kV	Mudgeeraba Broadbeach 779 110kV LINE	line	110	2004/11/07 15:00:00	STLTP	Q-MU50MVARCP
Mudgeeraba 275kV	Mudgeeraba Broadbeach 779 110kV LINE	line	110	2004/11/07 15:00:00	STLTP	Q-TR_OFFSET_-50
Liverpool 330kV	Liverpool B 330kV BUS	bus	330	2004/11/07 16:00:00	STLTP	
Liverpool 330kV	Liverpool 2 330/138kV XFMR	xfmr2	330/138	2004/11/07 16:00:00	STLTP	
Eildon Ps 220kV	Eildon PS Mt Beauty 1 220kV LINE	line	220	2004/11/07 16:00:00	STLTP	V-DBUSS_L
Eildon Ps 220kV	Eildon PS Mt Beauty 1 220kV LINE	line	220	2004/11/07 16:00:00	STLTP	V-X_EPMB_P
Eildon Ps 220kV	Eildon PS 2 220kV BUS	bus	220	2004/11/07 16:00:00	STLTP	
Kilburn 275kV	Kilburn Northfield 275kV LINE	line	275	2004/11/07 17:00:00	PTP	
Moorabool 500kV	Moorabool Terang 220kV LINE	line	220	2004/11/07 18:30:00	STLTP	V-MLTG
Moorabool 500kV	Moorabool Sydenham 1 500kV LINE	line	500	2004/11/07 19:00:00	MTLTP	F-V-MLSY
Moorabool 500kV	Moorabool Sydenham 1 500kV LINE	line	500	2004/11/07 19:00:00	MTLTP	V-MLSY
Swanbank B 275kV	h1_sbk_b.bt Tfmr 5422 cb	cb	275	2004/11/08 11:30:00	SUBMIT	
Dederang 330kV	Dederang Glenrowan 3 220kV LINE	line	220	2004/11/08 12:30:00	STLTP	V-DDGN
Liddell Ps 330kV	Liddell PS Newcastle 81 330kV LINE	line	330	2004/11/08 14:30:00	STLTP	N-LDNC_81
South East 275kV	South_East 2 275kV SVC	svc	275	2004/11/08 14:30:00	STLTP	S-SE_VC_1
Sydney East 330kV	Sydney E 2 132kV CAP	cap	132	2004/11/08 15:00:00	STLTP	
Richmond 220kV	Richmond B4 220/66kV XFMR	xfmr2	220/66	2004/11/08 15:30:00	STLTP	
Liverpool 330kV	Liverpool B 330kV BUS	bus	330	2004/11/08 16:00:00	STLTP	
Liverpool 330kV	Liverpool 2 330/138kV XFMR	xfmr2	330/138	2004/11/08 16:00:00	STLTP	
Millmerran 330kV	r4_millm. Fdr 99042 cb	cb	330	2004/11/08 17:00:00	STLTP	
Moorabool 500kV	Moorabool Terang 220kV LINE	line	220	2004/11/08 17:30:00	STLTP	V-MLTG
Sydenham 500kV	Sydenham 2 500kV BUS	bus	500	2004/11/08 18:00:00	MTLTP	
Moorabool 500kV	Moorabool Sydenham 1 500kV LINE	line	500	2004/11/08 19:00:00	MTLTP	F-V-MLSY
Moorabool 500kV	Moorabool Sydenham 1 500kV LINE	line	500	2004/11/08 19:00:00	MTLTP	V-MLSY

Station Name	Equipment Name	Equipment Type	KV	End Time	Status	Constraint Set ID
Lilyvale 275kV	h15_lily.fdr 71502 cb	cb	132	2004/11/09 10:00:00	SUBMIT	
Bendeela Ps	Bendeel PS Kng Vly PS 19 330kV LINE	line	330	2004/11/09 14:00:00	STLTP	N-CNKV_6
Bendeela Ps	Bendeel PS Kng Vly PS 19 330kV LINE	line	330	2004/11/09 14:00:00	STLTP	N-DTKV_18
Bendeela Ps	Bendeel PS Kng Vly PS 19 330kV LINE	line	330	2004/11/09 14:00:00	STLTP	N-X_6_18
Dapto 330kV	Dapto Kng Vly PS 18 330kV LINE	line	330	2004/11/09 14:00:00	STLTP	N-CNKV_6
Dapto 330kV	Dapto Kng Vly PS 18 330kV LINE	line	330	2004/11/09 14:00:00	STLTP	N-DTKV_18
Dapto 330kV	Dapto Kng Vly PS 18 330kV LINE	line	330	2004/11/09 14:00:00	STLTP	N-X_6_18
Kangaroo Valley Ps	Kng Vly PS 5432 330kV CB	cb	330	2004/11/09 14:00:00	STLTP	N-CNKV_6
Kangaroo Valley Ps	Kng Vly PS 5432 330kV CB	cb	330	2004/11/09 14:00:00	STLTP	N-DTKV_18
Kangaroo Valley Ps	Kng Vly PS 5432 330kV CB	cb	330	2004/11/09 14:00:00	STLTP	N-X_6_18
Kangaroo Valley Ps	Kng Vly PS 5442 330kV CB	cb	330	2004/11/09 14:00:00	STLTP	N-CNKV_6
Kangaroo Valley Ps	Kng Vly PS 5442 330kV CB	cb	330	2004/11/09 14:00:00	STLTP	N-DTKV_18
Kangaroo Valley Ps	Kng Vly PS 5442 330kV CB	cb	330	2004/11/09 14:00:00	STLTP	N-X_6_18
Kangaroo Valley Ps	Kng Vly PS Canberra 6 330kV LINE	line	330	2004/11/09 14:00:00	STLTP	N-CNKV_6
Kangaroo Valley Ps	Kng Vly PS Canberra 6 330kV LINE	line	330	2004/11/09 14:00:00	STLTP	N-DTKV_18
Kangaroo Valley Ps	Kng Vly PS Canberra 6 330kV LINE	line	330	2004/11/09 14:00:00	STLTP	N-X_6_18
Liddell Ps 330kV	Liddell PS Newcastle 81 330kV LINE	line	330	2004/11/09 14:30:00	STLTP	N-LDNC_81
Robertstown 275kV	R_TOWN 6005 132kV CB	cb	132	2004/11/09 14:30:00	STLTP	
Lower Tumut	64 Lower Tumut-Upper Tumut CB 642A	cb	330	2004/11/09 15:00:00	STLTP	
Sydney East 330kV	Sydney E 2 132kV CAP	cap	132	2004/11/09 15:00:00	STLTP	
Monash 132kV	Monash Berri 2 132kV LINE	line	132	2004/11/09 15:30:00	STLTP	
Geelong 220kV	Geelong 1 66kV CAP	cap	66	2004/11/09 15:30:00	STLTP	
Richmond 220kV	Richmond B4 220/66kV XFMR	xfmr2	220/66	2004/11/09 15:30:00	STLTP	
Liverpool 330kV	Liverpool B 330kV BUS	bus	330	2004/11/09 16:00:00	STLTP	
Liverpool 330kV	Liverpool 2 330/138kV XFMR	xfmr2	330/138	2004/11/09 16:00:00	STLTP	
Bouldercombe 275kV	Bouldecmb Callide 7106 132kV LINE	line	132	2004/11/09 17:00:00	MTLTP	
Swanbank B 275kV	h1_sbk_b.fdr 8032 cb	cb	275	2004/11/09 17:00:00	SUBMIT	
Moorabool 500kV	Moorabool Terang 220kV LINE	line	220	2004/11/09 17:30:00	STLTP	V-MLTG
Ross 275kV	Ross 275kV 1 275kV SVC	svc	275	2004/11/10 05:00:00	RESUBMIT	Q-RS_VC1
Dysart 132kV	Dysart Peak Dns-T 7124/2 132kV LINE	line	132	2004/11/10 07:00:00	MTLTP	Q-DSMH7124
Dysart 132kV	Dysart 1 132kV SVC	svc	132	2004/11/10 07:00:00	MTLTP	Q-DSMH7124
Moranbah 132kV	Moranbah Peak Dns-T 7124/1 132kV LINE	line	132	2004/11/10 07:00:00	MTLTP	Q-DSMH7124
Liddell Ps 330kV	Liddell PS Newcastle 81 330kV LINE	line	330	2004/11/10 14:30:00	STLTP	N-LDNC_81
Vineyard 330kV	Vineyard 1 132kV CAP	cap	132	2004/11/10 14:30:00	STLTP	
Robertstown 275kV	R_TOWN 6005 132kV CB	cb	132	2004/11/10 14:30:00	STLTP	
Lower Tumut	64 Lower Tumut-Upper Tumut CB 642A	cb	330	2004/11/10 15:00:00	STLTP	
Mudgeeraba 275kV	Mudgeeraba 3 110kV BUS	bus	110	2004/11/10 15:00:00	RESUBMIT	
Richmond 220kV	Richmond B4 220/66kV XFMR	xfmr2	220/66	2004/11/10 15:30:00	STLTP	
Liverpool 330kV	Liverpool B 330kV BUS	bus	330	2004/11/10 16:00:00	STLTP	
Liverpool 330kV	Liverpool 2 330/138kV XFMR	xfmr2	330/138	2004/11/10 16:00:00	STLTP	
Swanbank B 275kV	h1_sbk_b.fdr 88192 cb	cb	275	2004/11/10 17:00:00	RESUBMIT	
Hazelwood 500kV	Hazelwood Rowvill500 4 500kV LINE	line	500	2004/11/10 17:00:00	MTLTP	V-HWRO4_C
Moorabool 500kV	Moorabool Terang 220kV LINE	line	220	2004/11/10 17:30:00	STLTP	V-MLTG

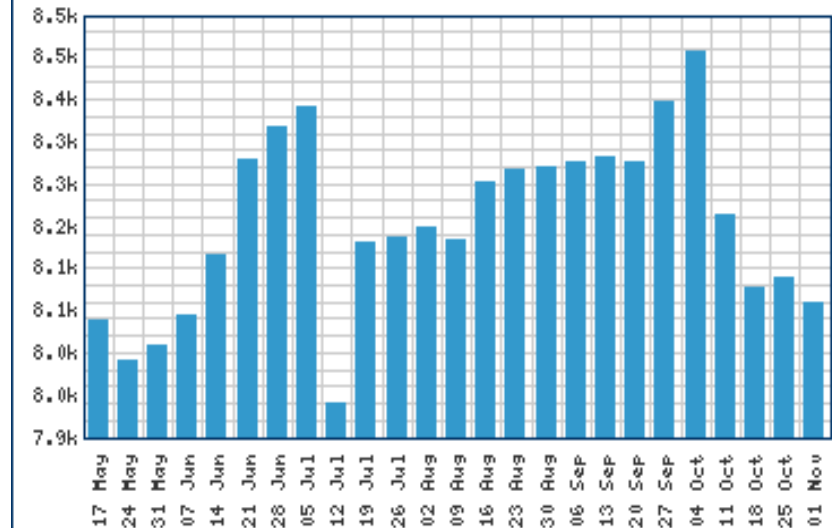
D-cypha Weekly Report

EWN Publishing

WEPI for Mon 1 Nov 2004



Open Interest for 24 weeks to Mon 01 Nov 2004



## Trading Summary for week ending Monday 1/11/04

- Futures contracts traded this week = 85
  - Base = 80
  - Peak = 5
- Options contracts traded this week = 0
- Volume of EFP trades this week = 0
- Volume of BTF trades this week = 0
- Futures & Options contracts traded to date = 23,608

- Open Interest as at COB Monday 1/11/04 = 8,186 lots
- Total MWh traded this week = 179,925

### Average volume

- Average daily volume FY04-05 = 39
- October 2004 average daily volume = 74
- September 2004 average daily volume = 20
- August 2004 average daily volume = 28

### Activity

- Volume on the bid and offer, counted at 4.45pm on 1/11/04= 1075 lots.

- Brokers with active orders this week include: ABN AMRO, CSFB, ICAP, JP Morgan and Man Financial.

- Bids and offers consistently quoted across all four states in Quarterly and Cal/Fin Year Strip Products and in the Custom Market.

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