

NEM Winter demand sets seven records El Nino back for summer

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"We have no choice": Oil, coal carbon shocks drive India, China, Japan to nuclear energy

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At the *World Energy Congress* in Sydney on 9 September, China revealed it faces a Californian-style risk and Japan and India each revealed giant new nuclear plans. (see inside)

China crisis: China faces the risk State firms may not be able to pay fuel bills. The price of coal, which provided 67 per cent of China's power needs, rose more than 50 per cent in the first six months of this year alone and had trebled before that.

What could go wrong in China

- China's coal prices are determined by market demand; while
- electricity tariffs are set by the government.

This situation bears resemblance to California (where the market operator and a set of retailers fell into receivership):

- wholesale fuel prices were open-market;
- retail tariffs were fixed, (as in China today).

In California, fuel suppliers – (Enron and others) primarily gas – gamed the market to increase earnings, while retailers were obliged to sell at capped tariffs, but pay market-based fuel prices.

China acts to prevent crisis:

- A new rule would peg electricity rates to coal prices.
- A new order has set target for a demand cut of 7.2pc of annual load.

Ministers face energy shocks

At the *World Energy Congress* in Sydney on 9 September, Asian energy ministers – anxious over the known \$40-plus oil shock and the (unknown) price of a future carbon shock – turned away from coal.

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Electricity in brief

Canberra emissions laws:

Canberra has passed laws requiring major electricity suppliers and large consumers to meet greenhouse gas emission benchmarks.

Directlink confusion: The five stakeholders who made submissions on the application to convert the Queensland-NSW interconnector Directlink to a prescribed service seemed confused on whether Directlink was a transmission or distribution network.

Revised Directlink submissions:

The Australian Competition and Consumer Commission (ACCC) wanted the Directlink Joint Venturers to submit a complete revised submission for conversion of the Queensland-NSW interconnector Directlink to a prescribed service.

Regulation inhibiting industry:

Regulatory differences throughout the world were standing in the way of industry development, found an industry report.

BHP Qld coal boost: BHP Billiton, in partnership with Mitsubishi and Mitsui, intended to ramp up production from the suite of existing mines in central Queensland from 52 million tonnes per annum to 59 million tonnes per annum by 2006.

Tahmoor problems hurt Austral:

Problems at the Tahmoor North mine pushed Austral Coal losses to \$9.5m.

Chinese coal imports 50pc:

Chinese coal imports have increased by half, according to *Coal Trade*.

BHP responds to China: BHP Billiton planned an aggressive \$US1.5-2 billion (\$2.1-2.8 billion) near-doubling of its coking coal production over the next five years to meet the China-inspired surge in demand for carbon steelmaking materials.

BHP \$8.5bn new projects: BHP Billiton plans to spend more than \$US8.5bn on new projects over the next three and a half years, with a focus on iron ore and coking coal.

Another 50 years coking coal: It would be 50 years before new non-coking coal technologies would be a force in the steel market; however, the attractions of new technology remained - lower greenhouse gas emissions and smaller, cheaper plants.

Hunter Valley coal producers: Four Hunter Valley coal producers have formed a group to improve port infrastructure and increase export capacity by about 30 million tonnes over the next five to 10 years.

Massive Vic coal tender: A coal tender put out by the Victoria State Government, if mined and burnt,

could wipe out all current emissions reductions, equivalent to half the global fossil fuels burnt in a year.

US coal exports again: The world coal trade has been in "back to the future" mode ever since the US dollar's unsustainable levels has seen it begin to export coal again.

US states' anti-coal action:

Lawyers said last month's unprecedented US Federal Court action by eight State Governments against coal-fired power stations could not be dismissed as a litigious stunt with no relevance to Australia.

September Hazelwood action: On 3 September in Melbourne there would be a preliminary tribunal hearing into a greenhouse challenge to the Hazelwood power station in Victoria's La Trobe valley.

Union political action banned:

Unions will effectively be prevented from taking industrial action in pursuit of political, social and environmental causes, under a far-reaching High Court ruling handed down last week.

Vic 2005 transmission variation:

The Essential Services Commission (ECS) was expected to receive applications for variation of the Vic 2005 transmission tariff, rebalancing constraint in response to the introduction of a land tax on transmission casements

\$254m BHP Qld upgrade: BHP Billiton and its Japanese partners planned to spend a further \$254 million upgrading mines and port facilities in Queensland.

Qld energy firms denied funds: It had become clear that Qld energy companies pleaded for funds to upgrade the state network but were denied, reported *The Courier-Mail*.

Qld Premier criticises Courier-Mail: Queensland Premier Peter Beattie has criticised the manner in which *The Courier-Mail* has reported problems with Queensland's electricity industry

InterGen for sale: The world's third-largest oil company, Royal Dutch/Shell, was expected to put its worldwide power venture InterGen up for sale with a multibillion-dollar price tag.

227MW SA windpower: The parent company of proposed SA's Clements Gap wind farm had installed generation capacity of 227MW in hydro and wind, ESCOSA heard.

Standby generation promise:

Standby generation held significant promise for network capacity augmentation deferral and might also contribute to reducing wholesale electricity prices, found ESCOSA.

UK considers wind power: Wind energy was the form of renewable energy with by far the best immediate prospects for expansion in the United Kingdom, Stephen Timms, UK Energy Minister, told a top-level conference organised by the Pew Center on Global Climate Change.

Aus nuke debate strangely absent: France & Germany were divided over the future of nuclear energy but the Australian debate was strangely absent.

Nuclear political will required: Govt must show the political will to implement nuclear solutions & solve the nuclear waste disposal issue, said Australia's principle nuclear lobbyist, Hore-Lacy.

Nuclear extreme makeover: In one generation, nuclear power has undergone a makeover of Jekyll and Hyde proportions, and was now presented as planet Earth's energy saviour.

Nuclear power on the agenda: Nuclear power was on the agenda when global energy leaders met this week in Sydney.

NZ may go nuclear: Nuclear power stations may be operating in New Zealand as soon as 2015 if coal continues to be shunned as a fuel source, according to the Centre for Advanced Engineering in Canterbury.

S.Korean nuclear admission: South Korea's admission that some of its government scientists secretly carried out a project to enrich uranium close to weapons grade has handed the beleaguered North Korean regime some much needed ammunition to defend its own nuclear efforts.

US-China nuke reactor deal: China and the United States were close to resolving a perennial dispute over transfers of nuclear technology, paving the way for American companies to sell nuclear reactors to China.

Japan nuclear deadline: Kansai Electric Power Co, Japan's second-biggest utility, said it may fail to meet its deadline for completing inspections on eight nuclear reactors by the end of September, forcing it to buy power.

Fusion competitive with green: Fusion electricity was competitive in production costs with renewables and could also provide base load power without additional energy storage costs.

Iran nuclear bomb capacity: Iran told United Nations inspectors that it was about to process tonnes of uranium into a gas that centrifuges could turn into material for a nuclear bomb.

Sequestration 2020: Siemens expected combined cycle plants with carbon dioxide separation would not become viable before 2020.

Melbourne sequestration meeting: The 2nd Ministerial meeting of a sequestration group in Melbourne on 13-15 September would bring together energy and resources Ministers from 16 countries and the European Union to focus on international collaboration for the development of carbon capture and storage technologies.

NZ sequestration research: Solid Energy New Zealand, was investigating the use of geosequestration for future coal-based power generation.

Energy first sequestration trade: Energy of Canada now held the distinction of conducting the first geologic carbon sequestration trade by a utility.

New Origin CEO: Origin Energy chair, Kevin McCann announced that the Company has executed a new service agreement with managing director and chief executive officer, Grant King.

US funds Iraqi steam-generator: Baiji, a steam-powered power station supplying one third of the electricity for Baghdad has received extensive US funding.

World Bank hydroelectric forums: The World Bank was to host a series of consultations in Bangkok, Tokyo, Paris and the US capital in the next two months on the feasibility of the \$US1.3 billion (\$1.83 billion) Nam Theun 2 hydroelectric project in central Laos.

China coalmine explosion kills 10: An explosion at a coalmine in southwestern China's Gumhou province killed 10 miners and seriously injured two.

China needs \$172bn investment: The China Electricity Council, a non-profit power industry lobby group, said recently China needed to invest 1 trillion yuan (\$172 billion) over the next five years to raise its coalfired electricity generation capacity to 500 million kilowatts.

China attracts energy investors: Chinese State Development and Reform Vice-Minister Zhang Guobao told the 19th World Energy Congress in Sydney this week that Chinese power shortages were attracting investor attention. Electricity demand in his country had risen a phenomenal 16 per cent in the past 20 months.

Find out more at the subscriber section of www.erisk.net

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Planners turn to nuclear: Steaming coal prices levelled at \$65/tonne at Australian ports. Prices will rise further. Electricity demand in China had risen 16 per cent in the past 20 months.

Carbon shocks: Last month an unprecedented action in a US Federal Court, saw action by eight US State Governments against coal-fired power stations. In Europe three nations have banned nuclear energy. Coal exports and prices surged as China demand rose 50 per cent. China's National Development and Reform Commission last week set a limit of 8 per cent on any increases in coal prices.

NSW coal exports at maximum: The Hunter Valley's port facilities, managed by Port Waratah Coal Services, recently capped the tonnage that producers may export.

But World Bank won't fund nuclear: At the Congress, Chinese planners said the nation would build about 30 or more new nuclear plants in the next fifteen years. The Congress agreed the big problem was finance as banks and investors waited for carbon pricing from EU markets and UNFCC CDM trades.

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\$600 billion a year sought to fund energy projects

The Congress called for \$600 billion a year in energy investments. The CEO of Electricite de France told delegates in

Top price for NEM week 29 August - 4 Sep: Top earner: Hallett at \$65.81

SA			
Generator	Income (\$)	Output (MWh)	Av Price (/MWh)
North'n Power	\$2,711,760	87,618	\$30.95
Osborne	\$762,536	24,479	\$31.15
Ladbroke	\$428,824	13,854	\$30.95
Pelican Pt	\$638,965	17,573	\$36.36
Torrens Is. B	\$1,785,951	51,492	\$34.68
Vic->SA	\$922,140	33,664	\$27.39
MLink->SA	\$254,858	7,950	\$32.06
Torrens Is. A	\$472,749	13,325	\$35.48
Mintaro	-	-	-
Dry Creek	-	-	-
Playford	\$195,241	6,668	\$29.28
Snuggery	-	-	-
Pt Lincoln	\$422	7.45	\$56.69
Quarantine	\$22,908	515	\$44.49
Hallett Power	\$11,949	182	\$65.81
Lonsdale	-	-	-

VIC			
Generator	Income (\$)	Output (MWh)	Av Price (/MWh)
Loy Yang A	\$7,341,286	293,433	\$25.02
Loy Yang B	\$4,357,574	171,338	\$25.43
Hazelwood	\$5,706,729	225,085	\$25.35
Yallourn	\$6,185,924	240,971	\$25.67
Anglesea	\$683,555	26,880	\$25.43
Energy Brix	\$488,149	19,247	\$25.36
Newport	\$444,582	13,045	\$34.08
MLink->Vic	\$19,965	429	\$46.59
SA->Vic	\$3,497	72	\$48.80
Snowy->Vic	\$1,421,439	49,899	\$28.49
Jeeralang	\$55,818	1,369	\$40.77
West Kiewa	\$122,286	4,461	\$27.41
Bairnsdale	\$11,544	402	\$28.71
Dartmouth	\$328,385	10,821	\$30.35
Eildon	\$6,065	117	\$51.69
Hume Vic	-	-	-
McKay Power	\$58,282	1,715	\$33.99
Clover	-	-	-
Valley Power	\$834	30	\$27.78
Rubicon	-	-	-
Somerton Power	\$11,969	415	\$28.85
Sunshine Energy	-	-	-
Longford	-	-	-
Tramway Road	-	-	-
Toora Wind Farm	-	-	-

NSW			
Generator	Income (\$)	Output (MWh)	Av Price (/MWh)
Bayswater	\$8,811,291	349,690	\$25.20
Eraring	\$6,714,351	256,564	\$26.17
Mt Piper	\$5,347,055	205,179	\$26.06
Liddell	\$4,882,809	193,681	\$25.21
Vales Point	\$1,563,725	63,674	\$24.56
Wallerawang	\$3,810,169	145,034	\$26.27
Redbank	\$628,101	24,790	\$25.34
Smithfield	\$514,412	19,602	\$26.24
Snowy->NSW	\$2,642,801	89,510	\$29.53
Shoalhaven	\$19,418	574	\$33.84
Hunter Valley	-	-	-
Hume Hydro	-	-	-
Blowering	\$205	8	\$24.64
Munmorah	\$960,437	34,961	\$27.47
Northern Gas	-	-	-
Burrinjuck	-	-	-
Brown Mountain	-	-	-
Keepit	-	-	-
Broken Hill	-	-	-
Ergon Energy	-	-	-
Pindari Hydro	-	-	-
DL Q->N	\$31,982	911	\$35.10
QLD->NSW	\$1,675,994	54,147	\$30.95
West Nowra	-	-	-

QLD			
Generator	Income (\$)	Output (MWh)	Av Price (/MWh)
Tarong	\$5,944,011	246,646	\$24.10
Callide B	-	-	-
Stanwell	\$4,849,490	195,303	\$24.83
Gladstone	\$3,550,813	138,169	\$25.70
Callide Power	\$3,402,061	137,404	\$24.76
Swanbank	\$1,260,686	49,260	\$25.59
Collinsville	\$77,042	3,035	\$25.38
Millmerran	\$3,433,255	142,275	\$24.13
Swanbank C_D_E	\$517,985	18,746	\$27.63
Callide A	-	-	-
Kareeya	\$250,359	10,394	\$24.09
Barcardine	\$95,516	3,547	\$26.93
Barron Gorge	\$133,071	4,798	\$27.73
Mt Stuart	-	-	-
Wivenhoe	\$543,819	22,824	\$23.83
Townsville	-	-	-
Mackay	-	-	-
Roma	\$30,646	751	\$40.82
Oakey	\$89,367	2,388	\$37.42
DL N->Q	\$549	22	\$25.22
NSW->QLD	\$45,202	2,464	\$18.34
Rocky Point	-	-	-
Tableland	-	-	-

the Congress Keynote address, there was “no justification for a World Bank refusal to fund nuclear projects”.

EU backs off nuclear: Germany Belgium and Sweden would phase-out nuclear. Orders for 41 EU reactors were reported cancelled.

Kyoto a “short-term gimmick”: Macfarlane to World meeting

In an undiplomatic statement at the end of the conference, Australian Federal Energy Minister Ian Macfarlane – chair of a final Ministers’ session – crowed over Australia’s greenhouse success (via constraints to Queensland land clearing), and told the world delegates other nations may not meet targets. He said, for example, Australia was 22pc over the limit and the whole EU, 6 per cent over. In a reference to Labor’s cap and trade emissions trading commitment detailed Wednesday night at the Congress, Macfarlane said “... we are not interested in a short-term gimmick which will cost jobs and chase investors from Australia”.

Labor's own new carbon shock

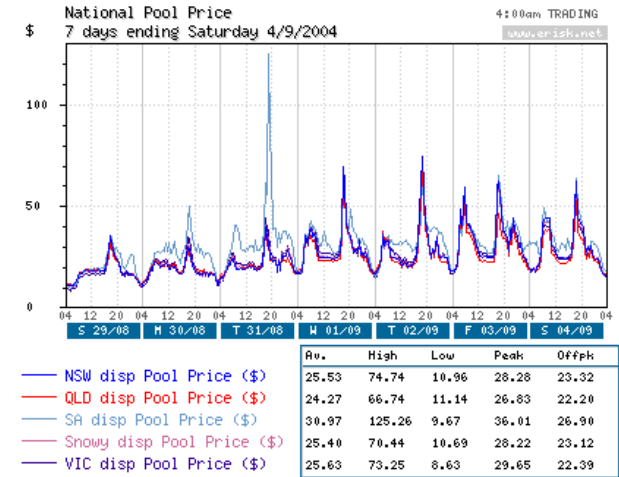
5 Federal Opposition Environment Shadow Minister Kelvin Thompson told a side meeting on Wednesday night 8 September that Labor, if elected, would move – fast – to bring in a national emissions trading scheme using a cap and trade system – not a baseline model. (More in *Green Markets*)

the week in detail

- NSW:** Average price of \$25.53/MWh, up 40 per cent on the previous week’s average of \$18.28/MWh, down 14 per cent on the average of \$29.59/MWh of the comparable week last year; maximum price \$74.74/MWh for the trading interval ended 1900EST Thursday, 2 September. Average demand 8546MW, up 2.2 per cent on the previous week, up 0.5 per cent on a year ago; maximum demand 10,824MW for the interval ended 1830EST Wednesday, 1 September, up 3.5 per cent on 10,458MW of the previous week. NSW imports from Snowy averaged 526MW, up 82.0 per cent on average imports of 289MW the previous week;

- Victoria:** Average price of \$25.63/MWh, up 44 per cent on the previous week’s average of \$17.85/MWh, up 16 per cent on the average of \$22.15/MWh of the comparable week last year; maximum price \$73.25/MWh for the trading interval ended 1900EST Thursday, 2 September. Average demand 5875MW, up 2.5 per cent on the previous week, up 0.5 per cent on a year ago; maximum demand 7039MW for the interval ended 1900EST Tuesday, 31 August, up 3.2 per cent on the 6820MW of the previous week. Imports from Snowy averaged 129MWMW, compared with average exports of 199MW the previous week;

- South Australia:** Average price of \$30.97/MWh, up 38 per cent on the previous week’s average of \$22.42/MWh, up 28 per cent on the average of \$24.29/MWh of the comparable week last year; maximum price \$125.26/MWh for the trading interval ended 1930EST Tuesday, 31 August. Average demand 1519MW, up 9.0 per cent on the previous week, up 4.2 per cent on a year ago; maximum



demand 2005MW for the 1900EST interval on Tuesday, 31 August, up 13.9 per cent on the 1761MW of the previous week. Vic-SA disp flow averaged 201MW, down 46.4 per cent on the 375MW the previous week; Murraylink net flow averaged 44.77MW west, down slightly from 46.95MW west the previous week; and

- Queensland:** Average price of \$24.27/MWh, up 33 per cent on the previous week’s average of \$18.27/MWh, up 49 per cent on the average of \$16.34/MWh of the comparable week last year; maximum price \$66.74/MWh for the trading interval ended 1900EST Thursday, 2 September. Average demand 5303MW, down 0.3 per cent on the week, up 3.0 per cent on a year ago; maximum demand 6566MW for the 1830EST interval Tuesday, 31 August, up 1.4 per cent on the 6473MW the previous week. QNI net flow averaged 312MW south, up 48.4 per cent on the 161MW south the previous week. Directlink averaged 5.29MW south compared with 1.00MW north the previous week.

CS Energy, Stanwell, Tarong team with Ishikawajima - Harima Heavy Industries (IHI) for bolt-on CO2 IGCC capture

Clean coal and CO2 sequestration lobbyists from COAL21, CS Energy, the CORCRC, and the CCSD prowled the corridors at the *World Energy Congress*, and participated energetically in social hours, aided by the Federal Department of Industry and Resources.

Australia's technology diplomats: In a country team with the nations coal asset owners, the Coal Association signed an MOU with Japan to build, in Queensland, a demonstration plant for an oxy-fueled coal plant bolt-on device to capture CO2, for ultimate underground storage on an unknown destination at an unknown price.

CO2 dumps a huge money-spinner: In an unrelated conference paper, a US firm reported;

- \$17 per tonne as a fee for supply of CO2 into underground storage;
- In a Sydney press conference the Algerian Energy Minister said Algerian State energy firms intended to earn carbon credits from CO2 dumps. (much more details on these developments in this week's *Green Markets*)

How it would work: It would retrofit an existing coal-fired boiler - the CS Energy, Caliide A 30 MW Unit - owned by the State of Queensland. Stage one would capture 150,000 tonnes of CO2 to send to an unspecified waste-dump. Stanwell, and Tarong were listed as project participants.

And air-blown IGCC unit: In another project at the conference, Hiroyasi Onishi and Teruo Nagai of the Clean Coal R&D Co Ltd, Japan, proposed demonstration tests on a 250 MW air-blown IGCC unit .

Stanwell joins the party: In a later statement the Qld government said Stanwell's planned Integrated Gasification Combined Cycle (IGCC) unit might bolt on the same CO2 capture box and is the same "geosequestration structure" as the oxy-fule project". (more detail in *Green Markets*).

Make money from CO2 holes

The Algerian Energy Minister said his State-owned firms planned to sell CO2 sequestration in carbon trades under the Kyoto Protocol. Tim Warren chair of Shell in Australia told delegates Australia only had enough CO2 holes to store one year's Australian emissions. The CO2CRC disputed this and claimed 600 years of CO2 storage.

Dissenting views emerge at World Energy Congress

Few consumers big or small, attended the World Energy Congress. The cost of entry was \$3,000. The Italian Ambassador and planners of the Rome 2007 *World Congress* told press they intended to do better than managers of the Australian-hosted congress, and would provide more access to a wider community in 2007, and high tech conference communications coverage with internal television reportage.

Consumer voice: A Sri Lankan delegate - one of ten sponsored by USAid and staying at the Intercontinental - explained to *Electricity Week* most Sri Lanka citizens were not on the grid, could not afford it, and the main source of light in most homes was a string in an open bottle of kerosene. The need was not nuclear plant, he said, but a safe, cheap kerosene lighting method to reduce many deaths from home fires.

Supply side vision: The *World Energy Congress* - plump with sponsors - concluded vaguely - as fuel prices surged upwards - "all energy options must be kept open and no technology idolised or demonised". The impression left at the conclusion was this meant promotion of nuclear energy. Delegates heard the United States had prepared to change its rule on nuclear technology exports to China. Demand side technology and distributed generation received minor and dismissive attention. The concluding emphasis was for access for finance to build big plant and big grids. (*Detailed reports next week*)

30 nuclear plants for China

Australian coal exports and coal technology now will compete with nuclear as Asia turns to nuclear technology. China would build as many as 30 nuclear-power plants by 2020

China: A paper from Kang Rixin, president of the China National Nuclear Corporation indicated China would build up to 44 nuclear plants in fifteen years

India: S.A. Bohraw, senior executive director (technical) of the Nuclear Power Corporation of India, said it planned 20,000MW of new nuclear in the coming 15 years.

Japan: A speaker from Kansai Electric, for the Japan Utilities Association, apologised for the deaths of 4 in a recent steam pipe explosion at a nuclear plant. Kansai Electric Power said it would start closing all 11 of its nuclear reactors for inspections, four days after a ruptured steam pipe at its Mihama No. 3 reactor killed four workers.

“No choice”: Despite the disaster, he said Japan had “no choice” but to go nuclear, as it had;

- signed the Kyoto Protocol; and
- lost oil imports from China as China internal oil demand spiked.

"We have no choice", but to build more nuclear, said the Kansai speaker. Last week Nine Japanese regional utility companies began construction of a pilot 250MW IGCC demonstration plant with 50pc efficiency.

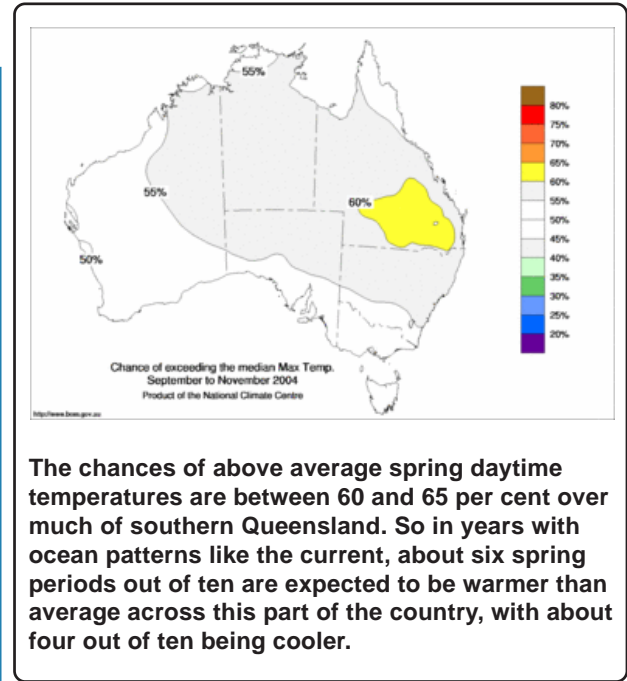
Kansa’s nuclear problems: *The Australian Financial Review* (4/9/2004, p. 9 reported Kansai may fail to meet deadline for inspections on eight Japanese reactors owned by Kansai Electric Power Co, Japan's second-biggest utility, which said it may fail to meet its deadline for completing inspections on eight nuclear reactors by the end of September, forcing it to buy power and take earlier fuel delivery. Its Mihama nuclear power station was involved in a fatal accident last month, with 11 deaths.

Big new transmission projects: At the World Energy Congress, new ideas for vast transmission projects in four world regions were promoted in cross-border interconnects between sets of nations in SE Asia, Russian steppes, and new zones of the EU. (*much more detail next week on the World Energy Conference*)

El Nino back for summer

NSW could be face a hot, dry spring and the return of the dreaded El Nino effect. While today is the first day of spring, the weather has been warming up for two weeks, according to *The Daily Telegraph* (1/9/4).

El Nino more likely than not: The Bureau of Meteorology is predicting a less than 40 per cent chance of above-average rainfall for southwestern parts of the state, and a 50 per cent probability of average rain for other areas. And the news does not get better for farmers, with signs pointing to a return of the El Nino pattern.



The chances of above average spring daytime temperatures are between 60 and 65 per cent over much of southern Queensland. So in years with ocean patterns like the current, about six spring periods out of ten are expected to be warmer than average across this part of the country, with about four out of ten being cooler.

Each way bet: A spokesman at the National Climate Centre said water temperatures in the central Pacific were gradually getting warmer, an indicator of El Nino. "However not all indicators are aligning, for example the Southern Oscillation Index is back to normal, so it's still not certain," the spokesman said. "El Ninos usually develop in later autumn or early winter, it's rare to get to this stage of the year and still be wondering - it's only happened once in the past century. The weather pattern usually causes dry conditions in the eastern parts of Australia and was last experienced in 2002-03.

NEM 2004 price-crash: 13 retailers and 18 gen owners vie for position, post-mergers

According to Brad Page Chief Executive, of the supply-side lobby group the Electricity Supply Association of Australia (ESAA,) energy retailing and production in Australia is fraught with substantial financial risk. Writing in the ESAA house journal, *Electricity Supply*, he said "Dealing with a spot market price that can plumb the depths of single dollars per MW to highs in the thousands of dollars per MWh demands superior risk management strategies to not only stay in business but also make a reasonable return on investors funds."

Now 13 retailers, 18 gen owners: Page said "The NEM has a significant diversity of ownership in the competitive sectors. At last count there were 13 separate retailers in the NEM and 18 owners with generations assets. Cross-ownership between retailers and generators (excluding State governments - they are beyond the reach of the ACCC) totalled just three.

"No market power in NEM": It's hard to see that this constitutes a re-aggregation, a concentration of the industry or a lessening of competition, said Page. "Based on the ACCC position so far, it's hard to see a case for the energy sector to be treated any differently to the rest of the business community when it comes to merger and acquisition activity, he argued.

Tasmania NEM plan out

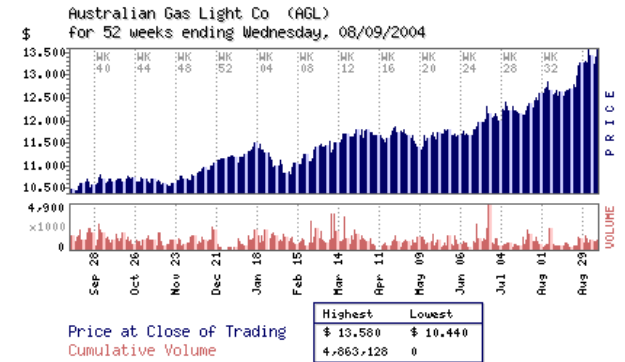
The calculations for the Tasmanian intra-regional loss factors were not yet complete, according to NEMMCO (1/9/2004) but in accordance with the Tasmanian Derogations, the Tasmanian regional reference node and the regional boundary have been included in *Appendix F* of the document "List of Regional boundaries and marginal loss factors for the 2004-05 financial year 2004-05" and available on the NEMMCO website.

For further information contact Chaman Pundir at Chaman_pundir@nemco.com.au or on (02) 8838 5322 or visit <http://www.nemco.com.au/operating/transmission/172-0036.htm>

7 September: blackouts in Energex in Brisbane as hail and rain hits

A line of storms swept through Brisbane late Tuesday, 7 September blanketing some areas in hail and causing chaos for travellers. A lightning strike at Rocklea blacked out 1000 homes in the southside suburb. About 200 homes lost power at Deception Bay and the hail-affected Samford Valley, an Energex spokesperson said. Some of the heaviest rainfalls were at Woodford with 21mm, Bundamba (12mm), north and south of Toowoomba (11mm) and Brisbane Airport (11mm). Temperatures yesterday were below average for September, about 21C. Weather

bureau forecaster Greg Bond said more rainfall was expected this week as a new system comes in from the west, reported *The Canberra Times* (07/09/04).



AGL plans to SA double peaking power plant at Hallett

AGL has lodged a development application with Goyder Council to more than double Hallett's generation capacity to 430MW. A decision on whether to proceed would be made this financial year. would be attractive to locate plant.

Vic super funds finance 128 turbine-plan for Vic ghost town

A forgotten town that had money and fame in its sights looked set to be home to Australia's largest wind farm, according to *The Age* (3/9/2004, p. 3).

Town eager for 128 wind turbines: Boasting one shop, one pub and a football team that failed to make the finals, the town of Waubra, 29 kilometres northwest of Ballarat, was eagerly backing a wind-farm proposal of 128 wind turbines, many of them 121 metres tall.

Public comment sought: Developer Wind Power backed by several Victorian superannuation funds advertised its plans for public comment last weekend.

Skips environmental impact statement: Planning Minister Mary Delahunty would have the final say on its approval. Delahunty has decided the \$326 million project does not need to undergo an environmental effects statement. Football club treasurer Luke Molloy, who would have about six turbines on his farm, was hoping Wind Power would sponsor the team.

Pacific Hydro 227MW in hydro and wind, \$40.7 million profit

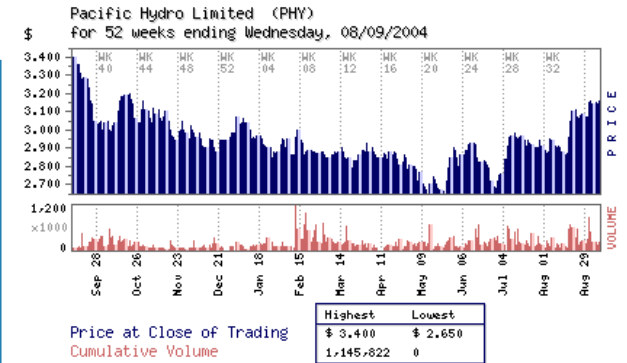
The installed generation of Pacific Hydro Limited (PHL), ultimate owner of Pacific Hydro Clements Gap Pty Ltd (PHCG), increased from 95 megawatts (MW) to 227MW as a result of greenfield projects and acquisitions completed during the 2003/04 financial year, PHCG said in its application to the Essential services Commission of South Australia (ESCOSA) for a an electricity generation licence for a proposed wind farm.

\$40.7 million profit: The application said that for the full financial year, PHL announced a record net profit after tax of \$40.7 million, an increase of 39 per cent over the previous year's \$29.3 million. The proposed wind farm, with 35 generators each rated at 1.5MW capacity for total capacity of 57.8MW, would be some 15km north-west of Redhill and 15km south-west of Crystal Brook in the Port Pirie region.

How it will be funded: The CGWF would be funded by a combination of equity provided by PHL and non-recourse project finance debt sourced from one or more leading financial institutions.

70 staff: PHL employed around 70 people located across eight major sites including the corporate office in Melbourne, offices in Western Australia, South Australia, regional Victoria, the Philippines and Chile. PHL's experience in the area of renewable energy generation would be made available to PHCG on an as needs basis.

Reference: Application from Pacific Hydro Clements Gap Pty Ltd (PHCG) to Essential Services Commission of South Australia (ESCOSA) for a generation licence for the Clements Gap wind farm in the Port Pirie region. 2 September 2004. Address: Level 10, 474 Flinders Street, Melbourne. Vic. 3000. Phone: (03) 9620 4400. Fax: (03) 9620 4433. ESCOSA address: 8th floor, 50 Pirie Street, Adelaide. SA. 5000. GPO Box 2605, Adelaide. SA. 5001. Phone: (08) 8463 4444. Fax (08) 8463 4449. http://www.escosa.sa.gov.au



Who's who at Pacific Hydro

Pacific Hydro Clements Gap Pty Ltd (PHCG) was incorporated in July 2004 as a special purpose vehicle to develop the Clements Gap wind farm in the Port Pirie region of South Australia, the company said in its application to the Essential Services Commission of South Australia (ESCOSA).

Victorian projects: PHCG was a wholly owned subsidiary of Energy Pacific (Vic) Pty Ltd (EPV), which owned the 17.2 megawatt (MW) Codrington Wind Farm, and was the majority shareholder of the companies which owned the 52.5MW Chalicum Hills Wind Farm and the proposed 195MW Portland Wind Project (each of which was in Victoria).

Parent listed on Stock Exchange: EPV was a wholly owned subsidiary of Pacific Hydro Limited (PHL) which was listed on the Australian Stock Exchange (ASX) on 1 April 1993. In its application for an electricity generation licence in South Australia, PHCG

said PHL had built up a strong record in the development, acquisition and operation of renewable energy generating assets in Australia and internationally.

Who will be in charge: PHCG would have the significant expertise and knowledge of EPV and PHL on which to rely. The application listed the following officers of PHCG:

- Jeffrey Harding, a director, who was also managing director of PHL.
- Robert James Grant, a director, who was also general manager, business development and operations, of PHL.
- Kevin John Holmes, secretary, who was also chief financial officer and company secretary of PH.
- David Hastings, who was general manager, wind energy, of PHL.

Reference: Application from Pacific Hydro Clements Gap Pty Ltd (PHCG) to Essential Services Commission of South Australia (ESCOSA) for a generation licence for the Clements Gap wind farm in the Port Pirie region. 2 September 2004. Address: Level 10, 474 Flinders Street, Melbourne. Vic. 3000. Phone: (03) 9620 4400. Fax: (03) 9620 4433. ESCOSA address: GPO Box 2605, Adelaide. SA. 5001. Phone: (08) 8463 4444. Fax (08) 8463 4449. <http://www.escosa.sa.gov.au>

Directlink: It's a transmission network, not distribution

The five stakeholders who made submissions on the application to convert the Queensland-NSW

interconnector Directlink to a prescribed service with a maximum allowable revenue indicated some confusion on whether Directlink was a transmission network or a distribution network, the Directlink Joint Venturers (DJV) told the Australian Competition and Consumer Commission (ACCC).

20 issues raised: Responding to submissions by the Energy Users Association of Australia, Powerlink Queensland, the National Electricity Market Management Company (NEMMCO), TransGrid (the major NSW transmission network) and TXU, the DJV said these submissions raised 20 issues of which the first was Directlink's network service.

Assumption by NEMMCO, participants: The DJV said Directlink was a transmission network as defined in the Code. It said that since Directlink began operating it appeared that NEMMCO and other Code participants assumed that the 132kV circuits between Mullumbimby and Lismore, and the 110kV circuits between Terranora and Mudgeeraba up to the Queensland border were part of the distribution network.

Reason why assumption made: This assumption was made because the assets were owned wholly or partly by Country Energy and the 132kV and 110kV assets were regulated by the Independent Pricing and Regulatory Tribunal (IPART) under parts D and E of the National Electricity Code.

What the Code says: However, the Code definition of a transmission network was: "A network within any participating jurisdiction operating at nominal voltages of 220kV and above plus:

- "(a) any part of a network operating at nominal voltages between 66kV and 220kV that operates in parallel to and provides support to the higher voltage transmission network;
- "(b) any part of a network operating at nominal voltages between 66kV and 220kV that does not operate in parallel to and provide support to the higher voltage transmission network but is deemed by the Regulator to be part of the transmission network."

Code does not distinguish AC and DC: The DJV said Directlink operated at 8kV direct current (DC), which was between 66kV and 220kV. A footnote said the Code made no distinction between DC and AC voltages.

Gold Coast voltage supported: The circuit path created by the 132kV circuits between Mullumbimby and Lismore, Directlink, and the 110kV circuits between Terranora and Mudgeeraba operated in parallel with QNI (the Queensland-NSW interconnector) and could provide support to the transmission network. When Directlink was flowing north, it supported voltage in the Gold Coast and alleviated load on the 275kV Swanbank to Mudgeeraba lines.

NSW far north coast voltage supported:

When Directlink was flowing south, it supported voltage in the far north coast area of NSW and alleviated load on the 330kV Armidale to Lismore line and the 132kV system. Flows across Directlink could influence spot prices in the Queensland and NSW market. Directlink clearly satisfied the Code definition of transmission network.

Recognition by Country Energy: The DJV said they understood Country Energy also recognised that the 132kV circuits between Mullumbimby and Lismore and its proportion of the 110kV circuits between Terranora and Mudgeeraba were transmission. Country Energy was seeking to have NEMMCO recognise this by formally establishing transmission connection and metering points at Terranora, Dunoon, Mullumbimby and Lismore.

Reference: Response by Directlink Joint Venturers (DJV) to Australian Competition and Consumer Commission (ACCC) on submissions received on its application for the conversion of the Queensland-NSW interconnector Directlink to a prescribed service and a maximum allowable revenue. 24 August 2004. Address: PO Box 5118, Port Macquarie, NSW. 2444. Phone: 6589-8777. Fax: 6589 8658. ACCC address: 470 Northbourne Avenue, Dickson, ACT. 2602. PO Box 1199, Dickson, ACT. 2602. Phone: (02) 6243 1111. Fax: (02) 6243 1123. <http://www.accc.gov.au>

ACCC asks Directlink owners to submit complete revised submission for conversion of Qld-NSW interconnector

The Australian Competition and Consumer Commission (ACCC) wants the Directlink Joint Venturers (DJV) to submit a complete revised submission for conversion of the Queensland-NSW interconnector Directlink to a prescribed service and a maximum allowable revenue.

Effect of proposed augmentations: In a letter to Dennis Stanley, DJV manager, on 30 August, the ACCC referred to proposed augmentations in south-eastern Queensland by Powerlink, the state's transmission network service provider (TNSP). The ACCC said the DJV consultant, Sandra Gamble, informed it in July that DJV would provide a supplementary submission in the light of these augmentations.

Lot of extra information: Gamble had later advised that DJV would provide this submission by mid-September. The ACCC understood the submission was likely to contain significant additional information.

Application made in May: The ACCC said that it and its consultants had been assessing the DJV application of 6 May 2004. Because there had been a substantial amount of time since the original application and the proposed supplementary submission, there would be a

significant amount of extra information – the ACCC would prefer a complete revised package.

Greater transparency: This course would facilitate the assessment by the ACCC and interested parties. Such an approach was also more likely to be more transparent and add rigour to the application without causing any undue delay in the process.

Agreement in discussions: The ACCC said that, as agreed in discussions on 24 August, it was writing to request the DJV submit a complete revised package, rather than a supplementary submission.

Reference: Letter from Australian Competition and Consumer Commission (ACCC) to Directlink Joint Venturers (DJV) for conversion of the Directlink interconnector between Queensland and NSW to a prescribed service and a maximum allowable revenue. 30 August 2004. Address: 470 Northbourne Avenue, Dickson, ACT. 2602. PO Box 1199, Dickson, ACT. 2602. Phone: (02) 6243 1111. Fax: (02) 6243 1123. <http://www.accc.gov.au>

NZ moots 2x2000 MW nuclear for North Island

Nuclear power stations may be operating in New Zealand as soon as 2015 if coal continues to be shunned as a fuel source, according to the Centre for Advanced Engineering in Canterbury (6/9/2004). The country's largest power station is Genesis Energy's 1000MW thermal plant at Huntly. Meridian Energy's 585MW Manapouri station is the largest hydro station.

Old sites reviewed: He said the preferred option would be for a couple of 2000 megawatt (MW) stations sited somewhere a little north of Auckland that would enable generation to meet the population growth and increasing electricity demand in the region. The national party had previously settled on two sites north of Auckland prior to the discovery of natural gas.

An element of fashion: Leyland said he was serious that nuclear power might be the only feasible long-term option if coal stayed out of favour because of concerns about carbon dioxide emissions and the Kyoto Protocol.

Solid Energy New Zealand moots geosequestration

Solid Energy New Zealand was investigating the use of geosequestration for future coal based power generation.

\$1.75m invested: Solid Energy, government electricity generator Genesis Energy and the New Zealand State-owned Institute of Geological and Nuclear Sciences were investing \$1.75 million in the technology. Solid Energy chief executive Don Elder told *The New Zealand Herald* "we need to demonstrate that geological sequestration is a safe, economic and environmentally benign option for New Zealand."

Long-term energy security: "If our 10 billion tonnes of coal - equivalent to 50 of the original Maui gas fields - could be used to economically produce hydrogen gas it could give long-term energy security," according to Solid Energy.

New coal power plant supported: New Zealand's Economic Development Minister Jim Anderton has spoken out in favour of a new coal-fired power station as a way of meeting electricity demand in the top of the South Island. "Power supply is a problem but it's not insurmountable. We have to make some hard decisions."

Govt has no wish to fast-track plant: The New Zealand Government has made it clear it has no wish to fast-track a coal-fired power plant, but Anderton said with the new technology available, coal-fired stations could be relatively clean-burning.

Reference: Coal21. September 2004. **Contact: Phone:** 02 6273 6044. **Fax:** 02 6273 6060. **Email:** info@coal21.com.au. <http://www.coal21.com.au>

Constraint Library Changes Report for the week 30 August - 5 September 2004

<p>30/08/2004: Modified Constraint Equation(s) Constraint Equation: V:H_ROSM Reason: Constraints required for MT PASA</p>
<p>30/08/2004: New Constraint Set(s) and Constraint Equation(s) Constraint Set: I-HV_0250 Constraint Equation: HV_0250 Reason: Discretionary Constraint for limiting Snowy to Vic transfer</p>
<p>30/08/2004: Modified Constraint Set(s) and Constraint Equation(s) Constraint Set: Q-BKSB803-8819_IS_DL , Q-BKSB803-8819_IS_SB Constraint Equation: Q>BKSB803-8819_IS_DL , Q>BKSB803-8819_IS_SB Reason: Enhancements to existing constraint RHS dispatch logic including use of dynamic line ratings and adding of a Predispatch to both constraints.</p>
<p>31/08/2004: Modified Constraint Equation(s) Constraint Equation: S-PA_VC_1, Q-H4MU_TX_GC530 Reason: Constraints required for MT PASA</p>
<p>31/08/2004: New Constraint Equation(s) Constraint Equation: MT_I>VH-1100 Reason: Constraints required for MT PASA</p>
<p>1/09/2004: New Constraint Set(s) and Constraint Equation(s) Constraint Set: V-MBMK, V-MBWK Constraint Equation: V_MBMK, V_MBWK Reason: Required for planned outage</p>
<p>2/09/2004: New Constraint Set(s) and Constraint Equation(s) Constraint Set: S-TI_CB_BW4+BC4 Constraint Equation: S_TI_CB_BW4+BC4 Reason: Required for planned outage</p>
<p>3/09/2004: Modified Constraint Equation(s) Constraint Equation: N^Q_NIL_A, N^Q_NIL_B Reason: Add detection of Muswellbrook cap bank status to Predispatch</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/operating/systemops/3709.htm) for more information on Generic Constraints. Refer also to the Constraint Naming Guidelines: http://www.nemmco.com.au/operating/transmission/200-0062.htm and the Network and FCAS constraint formulation policy: http://www.nemmco.com.au/operating/transmission/170-0030.htm Should you have any queries regarding the above please contact Ben Blake on 02 8838 5359.</p>

Transmission Outage Start Date 9 - 15 September 2004

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Station Name	Equipment Name	Equipment Ty	KV	Start Time	Status	Constraint Set ID
Wagga 330kV	Wagga 3 132kV CAP	cap	132	2004/09/09 07:00:00	SUBMIT	
Gladstone 275kV	h7_glad.fdr 8112 cb	cb	275	2004/09/09 07:00:00	SUBMIT	
Hazelwood 500kV	Hazelwood Rowvill500 4 500kV LINE	line	500	2004/09/09 07:00:00	MTLTP	V-HWRO4_C
Wagga 330kV	Wagga Finley 99A/1 132kV LINE	line	132	2004/09/09 07:30:00	MTLTP	N-X5_TRIP
Middle Ridge 275kV	Middle Rdg Tangkam 732 110kV LINE	line	110	2004/09/09 07:30:00	SUBMIT	
Cherry Gardens 275kV	Cherry_Gdn Happy_Vly 275kV LINE	line	275	2004/09/09 07:30:00	RESUBMIT	
Tumut 132kV	Tumut Burrinjuck 992 132kV LINE	line	132	2004/09/09 08:00:00	SUBMIT	
Bouldercombe 275kV	h10_bcmb.cplr 5022 cb	cb	275	2004/09/09 08:00:00	SUBMIT	
Nebo 275kV	h11_nebo.cplr 5042 cb	cb	275	2004/09/09 08:00:00	SUBMIT	
Torrens A Ps 275kV	Trrns_A_PS Magill 275kV LINE	line	275	2004/09/09 08:30:00	SUBMIT	
Brinkworth 275kV	Brinkworth W 275kV BUS	bus	275	2004/09/09 08:45:00	SUBMIT	
Brinkworth 275kV	BRINKW 6529 275kV CB	cb	275	2004/09/09 08:45:00	SUBMIT	
Para 275kV	Para 275kV Brinkworth 275kV LINE	line	275	2004/09/09 08:45:00	SUBMIT	
Calvale 275kV	Calvale 8810 275kV REACT	react	275	2004/09/09 12:30:00	SUBMIT	
Chalumbin 275kV	Chalumbin 2 275kV BUS	bus	275	2004/09/10 05:00:00	SUBMIT	
Woree 275kV	Woree Chalumbin 877 275kV LINE	line	275	2004/09/10 05:00:00	SUBMIT	
Callemondah 132kV	Callemondh Gladstn132 761 132kV LINE	line	132	2004/09/10 07:00:00	SUBMIT	
Gladstone 132kV	Gladstn132 1 132kV BUS	bus	132	2004/09/10 07:00:00	SUBMIT	
Hazelwood 500kV	Hazelwood Rowvill500 4 500kV LINE	line	500	2004/09/10 07:00:00	MTLTP	V-HWRO4_C
Middle Ridge 275kV	Middle Rdg Tangkam 732 110kV LINE	line	110	2004/09/10 07:30:00	SUBMIT	
Berri 132kV	Berri 2 132/66/11kV XFMR	xfmr3	132/66/11	2004/09/10 07:30:00	MTLTP	S-MHNW_2
Happy Valley 275kV	Happy_Vly 2 275/66kV XFMR	xfmr2	275/66	2004/09/10 07:30:00	RESUBMIT	
Monash 132kV	Monash 61 132kV CAP	cap	132	2004/09/10 07:30:00	MTLTP	S-MHNW_2
North West Bend 132kV	N_W_B 6022 132kV CB	cb	132	2004/09/10 07:30:00	MTLTP	S-MHNW_2
North West Bend 132kV	N_W_B 6023 132kV CB	cb	132	2004/09/10 07:30:00	MTLTP	S-MHNW_2
North West Bend 132kV	N_W_Bend Monash 2 132kV LINE	line	132	2004/09/10 07:30:00	MTLTP	S-MHNW_2
Burrinjuck 132kV	Burrinjuck Yass 330kV 970 132kV LINE	line	132	2004/09/10 08:00:00	SUBMIT	
Jinderra 330kV	Jinderra 622B 330kV CB	cb	330	2004/09/10 09:00:00	SUBMIT	
Para 275kV	PARA 6120 132kV CB	cb	132	2004/09/10 09:00:00	SUBMIT	
H51 Swanbank E	SwanBk E SwanBk B 8826 275kV LINE	line	275	2004/09/11 06:00:00	SUBMIT	
Mudgeeraba 275kV	Mudgeeraba 1 275/110kV XFMR	xfmr2	275/110	2004/09/11 06:00:00	SUBMIT	
Berri 132kV	Berri 2 132/66/11kV XFMR	xfmr3	132/66/11	2004/09/11 07:30:00	MTLTP	S-MHNW_2
Monash 132kV	Monash 61 132kV CAP	cap	132	2004/09/11 07:30:00	MTLTP	S-MHNW_2
North West Bend 132kV	N_W_B 6022 132kV CB	cb	132	2004/09/11 07:30:00	MTLTP	S-MHNW_2
North West Bend 132kV	N_W_B 6023 132kV CB	cb	132	2004/09/11 07:30:00	MTLTP	S-MHNW_2
North West Bend 132kV	N_W_Bend Monash 2 132kV LINE	line	132	2004/09/11 07:30:00	MTLTP	S-MHNW_2
Mintaro 132kV	Mintaro Brinkworth 132kV LINE	line	132	2004/09/11 09:00:00	SUBMIT	
H51 Swanbank E	SwanBk E SwanBk B 8826 275kV LINE	line	275	2004/09/12 06:00:00	SUBMIT	
Berri 132kV	Berri 2 132/66/11kV XFMR	xfmr3	132/66/11	2004/09/12 07:30:00	MTLTP	S-MHNW_2
Monash 132kV	Monash 61 132kV CAP	cap	132	2004/09/12 07:30:00	MTLTP	S-MHNW_2
North West Bend 132kV	N_W_B 6022 132kV CB	cb	132	2004/09/12 07:30:00	MTLTP	S-MHNW_2
North West Bend 132kV	N_W_B 6023 132kV CB	cb	132	2004/09/12 07:30:00	MTLTP	S-MHNW_2
North West Bend 132kV	N_W_Bend Monash 2 132kV LINE	line	132	2004/09/12 07:30:00	MTLTP	S-MHNW_2
Mintaro 132kV	Mintaro Brinkworth 132kV LINE	line	132	2004/09/12 09:00:00	SUBMIT	

14

Station Name	Equipment Name	Equipment Ty	KV	Start Time	Status
Beenleigh 110kV	Beenleigh Cades Cnty 704 110kV LINE	line	110	2004/09/13 06:00:00	SUBMIT
Gladstone South 132kV	Gladston S 1 132kV BUS	bus	132	2004/09/13 06:00:00	SUBMIT
Loganlea 275kV	Loganlea 1 275kV BUS	bus	275	2004/09/13 07:00:00	SUBMIT
Loganlea 275kV	h22_logn. Cplr 5452 cb	cb	275	2004/09/13 07:00:00	SUBMIT
Loganlea 275kV	h22_logn. Fdr 8292 cb	cb	275	2004/09/13 07:00:00	SUBMIT
Mobilong 132kV	MOBILO 6073 132kV CB	cb	132	2004/09/13 07:30:00	SUBMIT
Mobilong 132kV	MOBILO 6074 132kV CB	cb	132	2004/09/13 07:30:00	SUBMIT
Mobilong 132kV	Mobilong Mannum 132kV LINE	line	132	2004/09/13 07:30:00	SUBMIT
Brinkworth 275kV	BRINKW 6528 275kV CB	cb	275	2004/09/13 08:30:00	SUBMIT
Brinkworth 275kV	Brinkworth TF 3 275/132/11kV XFMR	xfmr3	275/132/11	2004/09/13 08:30:00	SUBMIT
Tarong 275kV	h18_trng. Fdr 88152 cb	cb	275	2004/09/13 09:30:00	SUBMIT
Dysart 132kV	t35_dyst.fdr 71242 cb	cb	132	2004/09/13 10:00:00	SUBMIT
Dysart 132kV	Dysart Peak Dns-T 7124/2 132kV LINE	line	132	2004/09/13 10:00:00	SUBMIT
Dysart 132kV	Dysart 1 132kV SVC	svc	132	2004/09/13 10:00:00	SUBMIT
Beenleigh 110kV	Beenleigh Cades Cnty 704 110kV LINE	line	110	2004/09/14 06:00:00	SUBMIT
Gladstone 275kV	h7_glad.cplr 5052 cb	cb	275	2004/09/14 07:00:00	SUBMIT
Rowville 220kV	Rowvill220 Yallrn PS 6 220kV LINE	line	220	2004/09/14 07:00:00	SUBMIT
Sydney West 330kV	Sydney W 3 132kV CAP	cap	132	2004/09/14 07:30:00	SUBMIT
Wagga 330kV	Wagga 5012 330kV CB	cb	330	2004/09/14 08:00:00	SUBMIT
Para 275kV	Para 275kV 62 275kV CAP	cap	275	2004/09/14 09:00:00	SUBMIT
Pimba 132kV	PIMBA 6169 132kV CB	cb	132	2004/09/14 09:00:00	SUBMIT
Davenport 275kV	Davenport Robertstwn 275kV LINE	line	275	2004/09/14 09:30:00	SUBMIT
Davenport 275kV	Davenport 3 275kV REACT	react	275	2004/09/14 09:30:00	SUBMIT
Waterloo 132kV	W_LOO 6190 132kV CB	cb	132	2004/09/14 11:30:00	SUBMIT
Gladstone 275kV	h7_glad.cplr 5062 cb	cb	275	2004/09/14 12:00:00	SUBMIT
Beenleigh 110kV	Beenleigh Cades Cnty 704 110kV LINE	line	110	2004/09/15 06:00:00	SUBMIT
Rowville 220kV	Rowvill220 Yallrn PS 6 220kV LINE	line	220	2004/09/15 07:00:00	SUBMIT
Sydney South 330kV	Sydney S 3 16kV SYNC	sync	16	2004/09/15 07:30:00	SUBMIT
Sydney West 330kV	Sydney W 3 132kV CAP	cap	132	2004/09/15 07:30:00	SUBMIT
Wagga 330kV	Wagga 2 330/138kV XFMR	xfmr2	330/138	2004/09/15 08:00:00	SUBMIT
Robertstown 275kV	R_TOWN 6188 132kV CB	cb	132	2004/09/15 08:30:00	SUBMIT
Pimba 132kV	PIMBA 6169 132kV CB	cb	132	2004/09/15 09:00:00	SUBMIT
Davenport 275kV	Davenport Robertstwn 275kV LINE	line	275	2004/09/15 09:30:00	SUBMIT
Davenport 275kV	Davenport 3 275kV REACT	react	275	2004/09/15 09:30:00	SUBMIT
Hummocks 132kV	Hummocks Kadina_E 132kV LINE	line	132	2004/09/15 10:30:00	SUBMIT
Kadina_East 132kV	Kadina_E 1 132/33/11kV XFMR	xfmr3	132/33/11	2004/09/15 10:30:00	SUBMIT

Transmission Outage End Date 9 - 15 September 2004

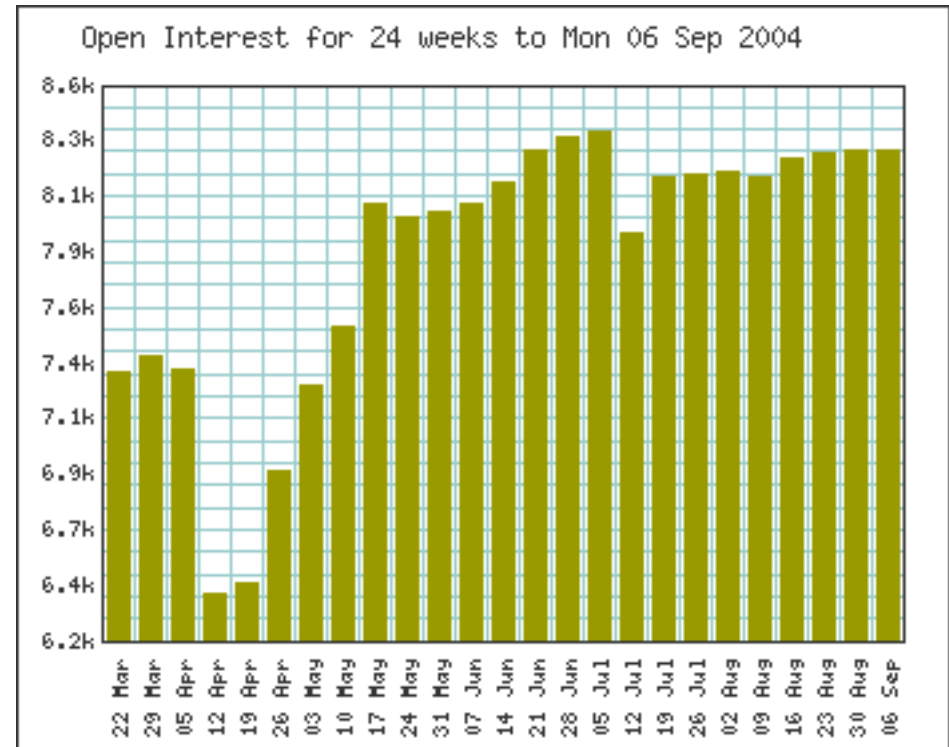
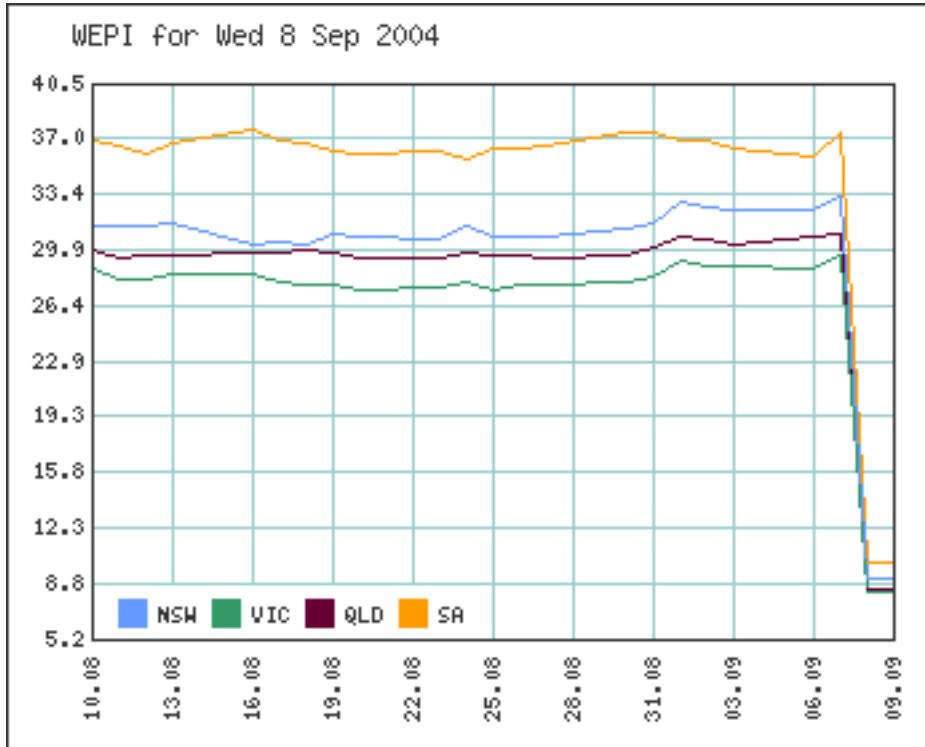
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Station Name	Equipment Name	Equipment Type	KV	End Time	Status	Constraint Set ID
Calvale 275kV	Calvale 8811 275kV REACT	react	275	2004/09/09 12:00:00	SUBMIT	
Para 275kV	PARA 6509 275kV CB	cb	275	2004/09/09 15:30:00	SUBMIT	
Torrrens A Ps 275kV	Trrns_A_PS Magill 275kV LINE	line	275	2004/09/09 15:30:00	SUBMIT	
Tumut 132kV	Tumut Burrinjuck 992 132kV LINE	line	132	2004/09/09 16:00:00	SUBMIT	
Bouldercombe 275kV	h10_bcmb.cplr 5022 cb	cb	275	2004/09/09 16:00:00	SUBMIT	
Nebo 275kV	h11_nebo.cplr 5042 cb	cb	275	2004/09/09 16:00:00	SUBMIT	
Strathmore 275kV	h35_sthm. Fdr 8402 cb	cb	275	2004/09/09 16:00:00	SUBMIT	
Wagga 330kV	Wagga Finley 99A/1 132kV LINE	line	132	2004/09/09 17:00:00	MTLTP	N-X5_TRIP
Middle Ridge 275kV	Middle Rdg Tangkam 732 110kV LINE	line	110	2004/09/09 17:00:00	SUBMIT	
Hazelwood 500kV	Hazelwood Rowvill500 4 500kV LINE	line	500	2004/09/09 17:00:00	MTLTP	V-HWRO4_C
Bendigo 220kV	Bendigo Kerang 220kV LINE	line	220	2004/09/09 17:19:00	MTLTP	V-BEKG
Wagga 330kV	Wagga 3 132kV CAP	cap	132	2004/09/09 17:30:00	SUBMIT	
Cherry Gardens 275kV	Cherry_Gdn Happy_Vly 275kV LINE	line	275	2004/09/09 17:30:00	RESUBMIT	
Kerang 220kV	Kerang 220kV SVC	svc	220	2004/09/09 18:00:00	SUBMIT	
Kerang 220kV	Kerang 1 235/165/67kV XFMR	xfmr3	235/165/67	2004/09/09 18:00:00	SUBMIT	
Jinderra 330kV	Jinderra 622B 330kV CB	cb	330	2004/09/10 11:00:00	SUBMIT	
Burrinjuck 132kV	Burrinjuck Yass 330kV 970 132kV LINE	line	132	2004/09/10 16:00:00	SUBMIT	
Calvale 275kV	Calvale 8810 275kV REACT	react	275	2004/09/10 16:00:00	SUBMIT	
Berri 132kV	Berri 2 132/66/11kV XFMR	xfmr3	132/66/11	2004/09/10 16:30:00	MTLTP	S-MHNW_2
Monash 132kV	Monash 61 132kV CAP	cap	132	2004/09/10 16:30:00	MTLTP	S-MHNW_2
North West Bend 132kV	N_W_B 6022 132kV CB	cb	132	2004/09/10 16:30:00	MTLTP	S-MHNW_2
North West Bend 132kV	N_W_B 6023 132kV CB	cb	132	2004/09/10 16:30:00	MTLTP	S-MHNW_2
North West Bend 132kV	N_W_Bend Monash 2 132kV LINE	line	132	2004/09/10 16:30:00	MTLTP	S-MHNW_2
Para 275kV	PARA 6120 132kV CB	cb	132	2004/09/10 16:30:00	SUBMIT	
Murray	M11 Murray-Murray 2 CB M112A	cb	330	2004/09/10 17:00:00	SUBMIT	
Callemondah 132kV	Callemondh Gladstn132 761 132kV LINE	line	132	2004/09/10 17:00:00	SUBMIT	
Gladstone 132kV	Gladstn132 1 132kV BUS	bus	132	2004/09/10 17:00:00	SUBMIT	
Gladstone 275kV	h7_glad.fdr 8112 cb	cb	275	2004/09/10 17:00:00	SUBMIT	
Middle Ridge 275kV	Middle Rdg Tangkam 732 110kV LINE	line	110	2004/09/10 17:00:00	SUBMIT	
South Pine 275kV	h2_spine.cplr 5062 cb	cb	275	2004/09/10 17:00:00	SUBMIT	
Happy Valley 275kV	Happy_Vly 2 275/66kV XFMR	xfmr2	275/66	2004/09/10 17:00:00	RESUBMIT	
Torrrens A Ps 275kV	TIPS_A AC3 275kV CB	cb	275	2004/09/10 17:00:00	PTP	S-TI_CB_AW3+AC3
Hazelwood 500kV	Hazelwood Rowvill500 4 500kV LINE	line	500	2004/09/10 17:00:00	MTLTP	V-HWRO4_C
Lilyvale 275kV	Lilyvale 1 288/138/19kV XFMR	xfmr3	288/138/19	2004/09/10 18:00:00	PTP	
Berri 132kV	Berri 2 132/66/11kV XFMR	xfmr3	132/66/11	2004/09/11 16:30:00	MTLTP	S-MHNW_2
Monash 132kV	Monash 61 132kV CAP	cap	132	2004/09/11 16:30:00	MTLTP	S-MHNW_2
North West Bend 132kV	N_W_B 6022 132kV CB	cb	132	2004/09/11 16:30:00	MTLTP	S-MHNW_2
North West Bend 132kV	N_W_B 6023 132kV CB	cb	132	2004/09/11 16:30:00	MTLTP	S-MHNW_2
North West Bend 132kV	N_W_Bend Monash 2 132kV LINE	line	132	2004/09/11 16:30:00	MTLTP	S-MHNW_2
H51 Swanbank E	SwanBk E SwanBk B 8826 275kV LINE	line	275	2004/09/11 17:00:00	SUBMIT	
Mintaro 132kV	Mintaro Brinkworth 132kV LINE	line	132	2004/09/11 17:00:00	SUBMIT	

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Station Name	Equipment Name	Equipment Type	KV	End Time	Status	Constraint Set ID
Eildon Ps 220kV	Eildon PS 1 220kV BUS	bus	220	2004/09/12 16:15:00	STLTP	I-HV_0900
Eildon Ps 220kV	Eildon PS 1 220kV BUS	bus	220	2004/09/12 16:15:00	STLTP	V-EPMB_P
Berri 132kV	Berri 2 132/66/11kV XFMR	xfmr3	132/66/11	2004/09/12 16:30:00	MTLTP	S-MHNW_2
Brinkworth 275kV	Brinkworth W 275kV BUS	bus	275	2004/09/12 16:30:00	SUBMIT	
Brinkworth 275kV	BRINKW 6529 275kV CB	cb	275	2004/09/12 16:30:00	SUBMIT	
Monash 132kV	Monash 61 132kV CAP	cap	132	2004/09/12 16:30:00	MTLTP	S-MHNW_2
North West Bend 132kV	N_W_B 6022 132kV CB	cb	132	2004/09/12 16:30:00	MTLTP	S-MHNW_2
North West Bend 132kV	N_W_B 6023 132kV CB	cb	132	2004/09/12 16:30:00	MTLTP	S-MHNW_2
North West Bend 132kV	N_W_Bend Monash 2 132kV LINE	line	132	2004/09/12 16:30:00	MTLTP	S-MHNW_2
Para 275kV	Para 275kV Brinkworth 275kV LINE	line	275	2004/09/12 16:30:00	SUBMIT	
H51 Swanbank E	SwanBk E SwanBk B 8826 275kV LINE	line	275	2004/09/12 17:00:00	SUBMIT	
Mintaro 132kV	Mintaro Brinkworth 132kV LINE	line	132	2004/09/12 17:00:00	SUBMIT	
Mudgeeraba 275kV	Mudgeeraba 1 275/110kV XFMR	xfmr2	275/110	2004/09/12 18:00:00	SUBMIT	
Brinkworth 275kV	BRINKW 6528 275kV CB	cb	275	2004/09/13 08:30:00	SUBMIT	
Beenleigh 110kV	Beenleigh Cades Cnty 704 110kV LINE	line	110	2004/09/13 16:30:00	SUBMIT	
Brinkworth 275kV	BRINKW 6528 275kV CB	cb	275	2004/09/13 16:30:00	SUBMIT	
Brinkworth 275kV	Brinkworth TF 3 275/132/11kV XFMR	xfmr3	275/132/11	2004/09/13 16:30:00	SUBMIT	
Dysart 132kV	t35_dyst.fdr 71242 cb	cb	132	2004/09/13 17:00:00	SUBMIT	
Dysart 132kV	Dysart Peak Dns-T 7124/2 132kV LINE	line	132	2004/09/13 17:00:00	SUBMIT	
Dysart 132kV	Dysart 1 132kV SVC	svc	132	2004/09/13 17:00:00	SUBMIT	
Gladstone South 132kV	Gladston S 1 132kV BUS	bus	132	2004/09/13 18:00:00	SUBMIT	
Chalumbin 275kV	Chalumbin 2 275kV BUS	bus	275	2004/09/13 19:00:00	SUBMIT	
Woree 275kV	Woree Chalumbin 877 275kV LINE	line	275	2004/09/13 19:00:00	SUBMIT	
Wagga 330kV	Wagga 5012 330kV CB	cb	330	2004/09/14 10:00:00	SUBMIT	
Gladstone 275kV	h7_glad.cplr 5052 cb	cb	275	2004/09/14 12:00:00	SUBMIT	
Sydney West 330kV	Sydney W 3 132kV CAP	cap	132	2004/09/14 15:30:00	SUBMIT	
Waterloo 132kV	W_LOO 6190 132kV CB	cb	132	2004/09/14 15:30:00	SUBMIT	
Davenport 275kV	Davenport Robertstwn 275kV LINE	line	275	2004/09/14 16:00:00	SUBMIT	
Davenport 275kV	Davenport 3 275kV REACT	react	275	2004/09/14 16:00:00	SUBMIT	
Para 275kV	Para 275kV 62 275kV CAP	cap	275	2004/09/14 16:00:00	SUBMIT	
Beenleigh 110kV	Beenleigh Cades Cnty 704 110kV LINE	line	110	2004/09/14 16:30:00	SUBMIT	
Gladstone 275kV	h7_glad.cplr 5062 cb	cb	275	2004/09/14 17:00:00	SUBMIT	
Pimba 132kV	PIMBA 6169 132kV CB	cb	132	2004/09/14 17:00:00	SUBMIT	
Rowville 220kV	Rowvill220 Yallrn PS 6 220kV LINE	line	220	2004/09/14 17:00:00	SUBMIT	
Hummocks 132kV	Hummocks Kadina_E 132kV LINE	line	132	2004/09/15 14:30:00	SUBMIT	
Kadina_East 132kV	Kadina_E 1 132/33/11kV XFMR	xfmr3	132/33/11	2004/09/15 14:30:00	SUBMIT	
Sydney South 330kV	Sydney S 3 16kV SYNC	sync	16	2004/09/15 15:30:00	SUBMIT	
Sydney West 330kV	Sydney W 3 132kV CAP	cap	132	2004/09/15 15:30:00	SUBMIT	
Robertstown 275kV	R_TOWN 6188 132kV CB	cb	132	2004/09/15 15:30:00	SUBMIT	
Wagga 330kV	Wagga 2 330/138kV XFMR	xfmr2	330/138	2004/09/15 16:00:00	SUBMIT	
Tarong 275kV	h18_trng. Fdr 88152 cb	cb	275	2004/09/15 16:00:00	SUBMIT	
Davenport 275kV	Davenport Robertstwn 275kV LINE	line	275	2004/09/15 16:00:00	SUBMIT	
Davenport 275kV	Davenport 3 275kV REACT	react	275	2004/09/15 16:00:00	SUBMIT	
Beenleigh 110kV	Beenleigh Cades Cnty 704 110kV LINE	line	110	2004/09/15 16:30:00	SUBMIT	
Alan Sheriff 132kV	Alan Shrrf Townsville 7276 132kV LINE	line	132	2004/09/15 17:00:00	PTP	Q-FNQ_ASTYP7276_7
Alan Sheriff 132kV	Alan Shrrf Townsville 7276 132kV LINE	line	132	2004/09/15 17:00:00	PTP	Q-FNQ_ASTYP7276_7VC
Alan Sheriff 132kV	Alan Shrrf Townsville 7277 132kV LINE	line	132	2004/09/15 17:00:00	PTP	Q-FNQ_ASTYP7276_7
Alan Sheriff 132kV	Alan Shrrf Townsville 7277 132kV LINE	line	132	2004/09/15 17:00:00	PTP	Q-FNQ_ASTYP7276_7VC
Pimba 132kV	PIMBA 6169 132kV CB	cb	132	2004/09/15 17:00:00	SUBMIT	
Rowville 220kV	Rowvill220 Yallrn PS 6 220kV LINE	line	220	2004/09/15 17:00:00	SUBMIT	

D-cypha Weekly Report



Trading summary for week ending Monday 06/09/04

- Futures contracts traded this week = 12
 - Base = 0
 - Peak = 12
- 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 = 21,713
- Open Interest as at COB Monday 06/09/04 = 8,395 lots
- Average daily volume FY04-05 = 31
- August 2004 average daily volume = 28
- July 2004 average daily volume = 39
- June 2004 average daily volume = 48

Activity

- Volume on the bid and offer, counted at 4.45pm on 06/09/04= 775 lots.
- Brokers with active orders this week include: CSFB, ICAP, JP Morgan, Man Financial and Prebon.
- Bids and offers consistently quoted across all four states in Quarterly and Cal/Fin Year Strip Products and in the Custom Market.