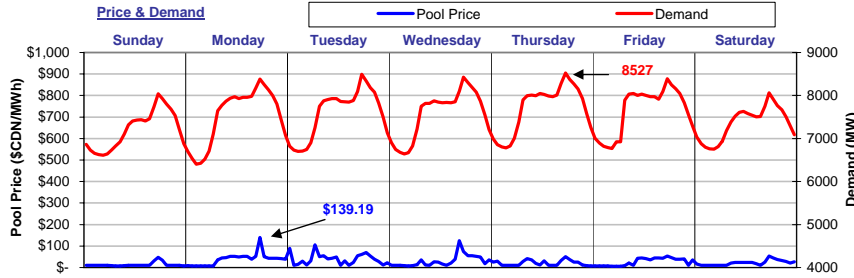


# The Market Monitor

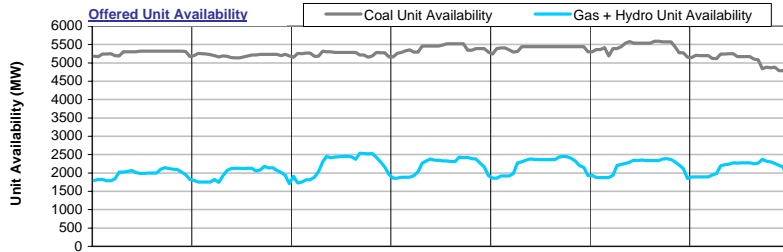
WATCHING THE MARKET : your fact source

Week Ending November 20, 2004

## Weekly Highlights

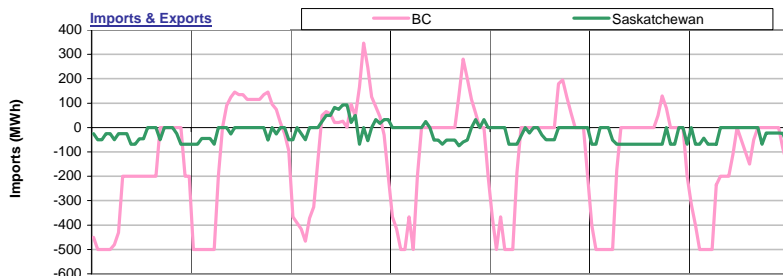


For the week ending November 20, 2004, **Pool Price** averaged \$27.48/MWh and ranged from a minimum of \$5.32/MWh in HE7 on Friday to a maximum of \$139.19/MWh in HE18 on Monday. **Demand** reached a high of 8527 MW in HE18 on Thursday and a low of 6401 MW in HE3 on Monday. Average demand for the week was 7518MW. **Pool Price** and **Demand** were positively correlated last week with an R-squared value of 0.34.

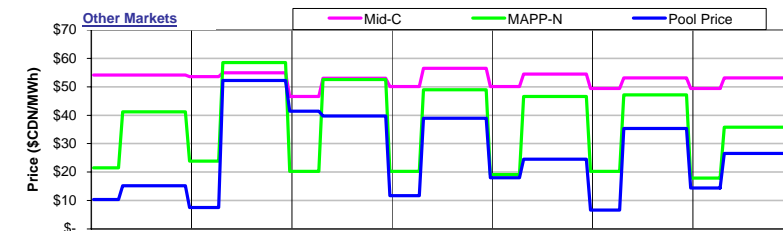


**Coal Unit Availability** averaged 5294 MW last week. This is an equivalent availability of 96% (based on MCR). **Gas and Hydro Unit Availability** averaged 2132MW last week, which is an equivalent of 38% (based on MCR).

Availability numbers are based on MW offered into the energy merit order.

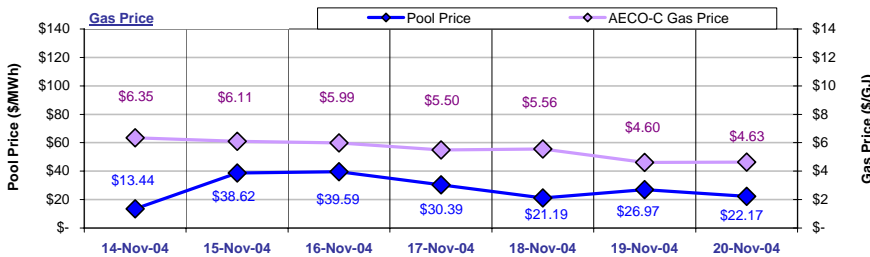


Alberta was a net exporter to **BC** last week with total exports equal to 20,705MWh. Alberta was a net exporter to **Saskatchewan** last week with total exports equal to 3,636MWh. Overall, Alberta exported 24,341MWh of electricity last week.



**Pool Prices** were generally lower than prices in **Mid-C** and lower than prices in **MAPP-N** last week. **Mid-C** prices averaged \$54.17/MWh on-peak and \$50.45/MWh off-peak. **MAPP-N** prices averaged \$48.26/MWh on-peak and \$20.47/MWh off-peak.

Prices in \$CDN at an exchange rate of 1.1941.

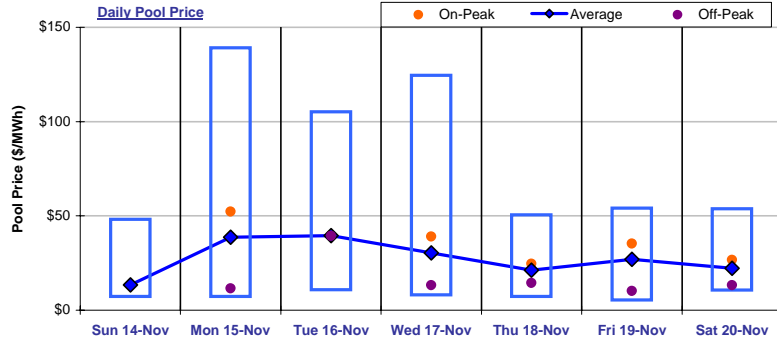


The average **AECO-C Gas Price** last week was \$5.53/GJ and ranged from a minimum of \$4.60/GJ to \$6.35/GJ. Prevailing gas prices resulted in market heat rates ranging from a low of 2.12GJ/MWh to a high of 6.61GJ/MWh. The average market heat rate for the week was 5.01GJ/MWh.

# Wholesale Market

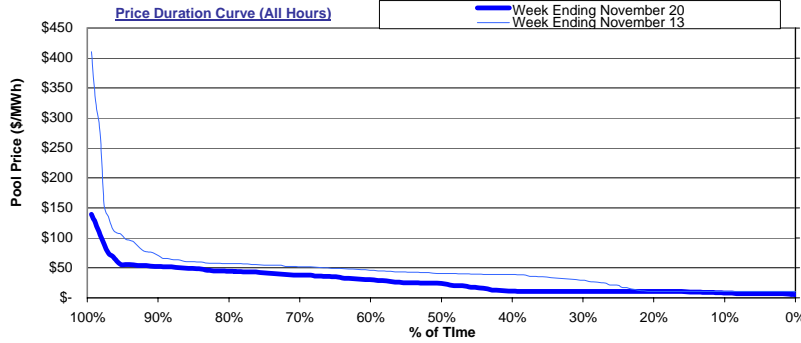
## Weekly Market Statistics

|  | Sunday<br>14-Nov | Monday<br>15-Nov | Tuesday<br>16-Nov | Wednesday<br>17-Nov | Thursday<br>18-Nov | Friday<br>19-Nov | Saturday<br>20-Nov | Average  | Last<br>Week | % Change | YTD      |
|--|------------------|------------------|-------------------|---------------------|--------------------|------------------|--------------------|----------|--------------|----------|----------|
| <b>Pool Price</b>                      |                  |                  |                   |                     |                    |                  |                    |          |              |          |          |
| Average                                | \$ 13.44         | \$ 38.62         | \$ 39.59          | \$ 30.39            | \$ 21.19           | \$ 26.97         | \$ 22.17           | \$ 27.48 | \$ 46.16     | -40.5%   | \$ 54.18 |
| On-Peak                                | NA               | \$ 52.18         | \$ 39.71          | \$ 38.95            | \$ 24.59           | \$ 35.35         | \$ 26.61           | \$ 36.23 | \$ 45.76     | -20.8%   | \$ 63.58 |
| Off-Peak                               | \$ 13.44         | \$ 11.50         | \$ 39.36          | \$ 13.28            | \$ 14.40           | \$ 10.22         | \$ 13.30           | \$ 15.82 | \$ 46.70     | -66.1%   | \$ 38.49 |
| COV                                    | 0.74             | 0.73             | 0.64              | 0.91                | 0.59               | 0.66             | 0.52               | 0.68     | 0.63         | 7.6%     |          |
| <b>Demand</b>                          |                  |                  |                   |                     |                    |                  |                    |          |              |          |          |
| Average                                | 7,209            | 7,528            | 7,597             | 7,578               | 7,708              | 7,651            | 7,354              | 7,518    | 7,425        | 1.2%     | 7,389    |
| Minimum                                | 6,614            | 6,401            | 6,700             | 6,644               | 6,781              | 6,768            | 6,751              | 6,666    | 6,607        | 0.9%     | 6,017    |
| Maximum                                | 8,041            | 8,383            | 8,493             | 8,430               | 8,527              | 8,387            | 8,061              | 8,332    | 8,170        | 2.0%     | 8,967    |
| <b>Coal Unit Availability</b>          |                  |                  |                   |                     |                    |                  |                    |          |              |          |          |
| Average                                | 5,279            | 5,202            | 5,249             | 5,397               | 5,406              | 5,446            | 5,081              | 5,294    | 5,037        | 4.7%     | 4,864    |
| Utilization                            | 96%              | 94%              | 95%               | 98%                 | 98%                | 99%              | 92%                | 96%      | 91%          | 4.7%     | 88%      |
| <b>Gas and Hydro Unit Availability</b> |                  |                  |                   |                     |                    |                  |                    |          |              |          |          |
| Average                                | 1,973            | 1,976            | 2,237             | 2,196               | 2,220              | 2,183            | 2,143              | 2,132    | 2,181        | -0.9%    | 2,329    |
| Utilization                            | 41%              | 42%              | 47%               | 46%                 | 47%                | 46%              | 45%                | 38%      | 39%          | -0.9%    | 41%      |



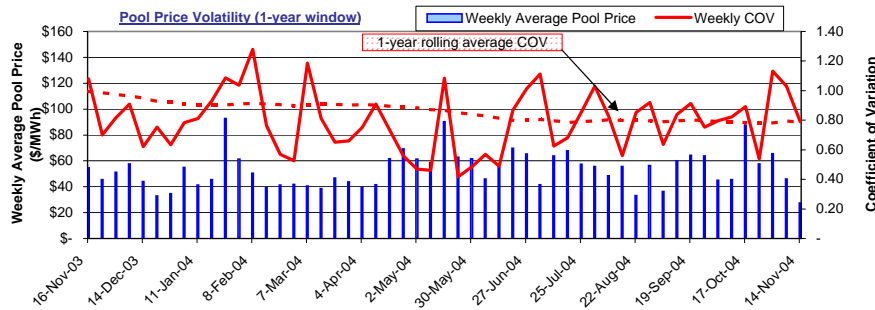
The Daily Pool Price graph plots the daily range in hourly Pool price (defined by the blue box) along with the daily average and daily on and off-peak prices. The on-peak Pool price for the week was \$36.23/MWh while the off-peak Pool price for the week was \$15.82/MWh.

Note: Sundays and most statutory holidays are defined as off-peak.



The price duration curves show the % of time that prices were at or below a certain value during the week. For the week ending November 20, prices were at or below:

- \$20/MWh 46% of the time
- \$50/MWh 86% of the time
- \$100/MWh 98% of the time
- \$250/MWh 100% of the time
- \$500/MWh 100% of the time



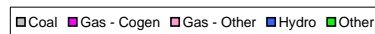
The chart plots average weekly Pool Price and the Coefficient of Variation (COV) of hourly Pool prices for the week. The COV is a standard statistical measure of volatility.

Pool price volatility decreased for the week ending November 20 from the previous week.

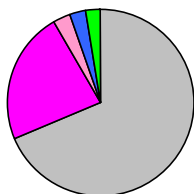
Pool price volatility also moved above the 1-year rolling average COV value.

### Market Share Statistics

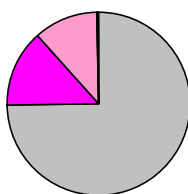
By Fuel Type:



Weekly Generation by Fuel Type

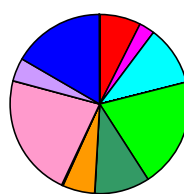


Weekly Price Setting by Fuel Type



By Submitting Customer:

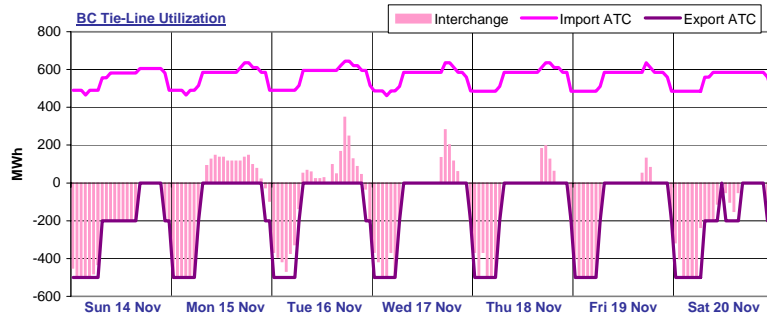
Weekly Price Setting by Submitting Customer



Last week, coal units were responsible for 68.7% of the generation in the province and set price 74.6% of the time. Gas-cogen units accounted for 23.0% of the generation and set price 13.8% of the time last week while other gas units made up 3.0% of generation and set price 11.4% of the time.

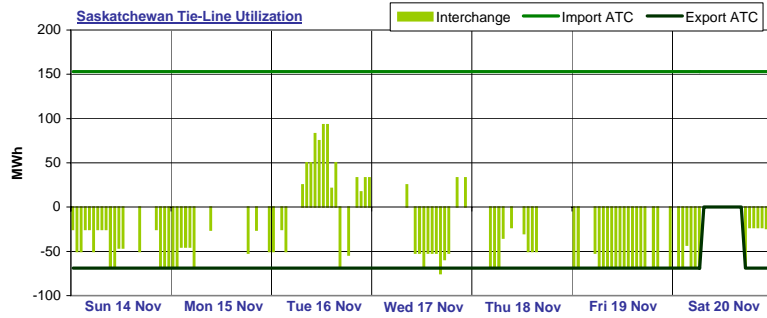
A total of 10 market participants set price last week. 1 market participants set price more than 20% of the time last week. The top price setter set price 22.5% of the time and the top five price setters set price a total of 79.9% of the time.

# Interties



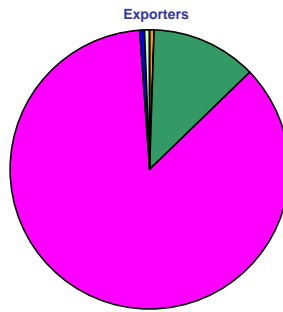
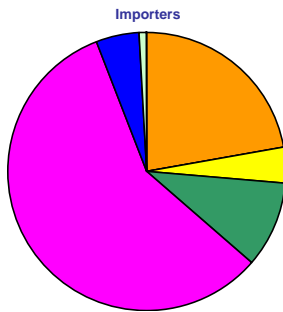
BC import capacity was 4% utilized last week while BC export capacity was 86% utilized. Energy was being imported into Alberta over the BC tie-line 24% of the time and exported out of Alberta over the BC tie-line 46% of the time last week. There was no activity on the BC tie-line 30% of the time last week.

Note: External reserve contract volumes have been subtracted from the BC import ATC as this capacity is not available to import energy into Alberta.



Saskatchewan import capacity was 3% utilized last week while Saskatchewan export capacity was 40% utilized. Energy was being imported into Alberta over the Saskatchewan tie-line 10% of the time and exported out of Alberta over the Saskatchewan tie-line 49% of the time last week. There was no activity on the Saskatchewan tie-line 42% of the time last week.

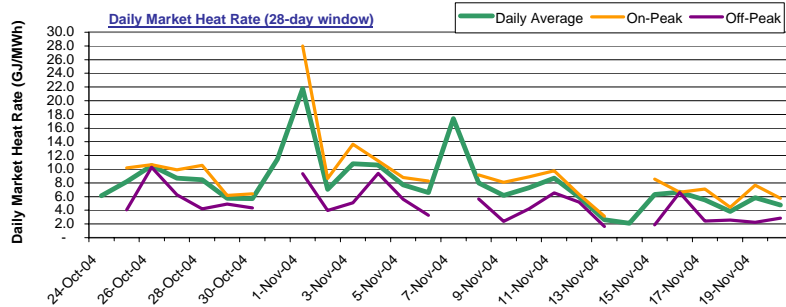
### Tie-Line Market Shares



Last week, there were a total of 6 importers. The most active importer had a market share of 57.9% while the second most active importer had a market share of 22.1%. There were a total of 7 exporters last week. The most active exporter had a market share of 86.1% while the next largest exporter had a market share of 12.5%.

Note: Market shares are based on the combined activity on both interties.

# Market Heat Rates



Over the past 28 days, the daily Market Heat Rate averaged 7.9 GJ/MWh and ranged from a low of 2.1 GJ/MWh to a high of 21.8 GJ/MWh.

The daily On-Peak Market Heat Rate for the last 28 days averaged 9.1 GJ/MWh while the daily Off-Peak Market Heat Rate averaged 4.8 GJ/MWh.

### Sparksreads

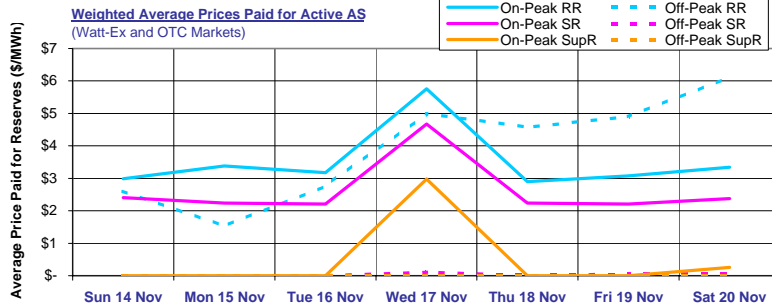
| Date       | AECO-C Gas Price (\$/GJ) | Daily Average       |                     |                     | On-Peak             |                     |                     | Off-Peak            |                     |                     |
|------------|--------------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
|            |                          | Pool Price (\$/MWh) | Sparksread (\$/MWh) | Sparksread (\$/MWh) | Pool Price (\$/MWh) | Sparksread (\$/MWh) | Sparksread (\$/MWh) | Pool Price (\$/MWh) | Sparksread (\$/MWh) | Sparksread (\$/MWh) |
| Sun 14 Nov | \$ 6.35                  | \$ 13.44            | (34.17)             | (50.04)             | NA                  | NA                  | NA                  | \$ 13.44            | (34.17)             | (50.04)             |
| Mon 15 Nov | \$ 6.11                  | \$ 38.62            | (7.18)              | (22.45)             | \$ 52.18            | 6.38                | (8.89)              | \$ 11.50            | (34.30)             | (49.57)             |
| Tue 16 Nov | \$ 5.99                  | \$ 39.59            | (5.31)              | (20.27)             | \$ 39.71            | (5.19)              | (20.15)             | \$ 39.36            | (5.54)              | (20.51)             |
| Wed 17 Nov | \$ 5.50                  | \$ 30.39            | (10.87)             | (24.62)             | \$ 38.95            | (2.31)              | (16.06)             | \$ 13.28            | (27.98)             | (41.73)             |
| Thu 18 Nov | \$ 5.56                  | \$ 21.19            | (20.51)             | (34.41)             | \$ 24.59            | (17.11)             | (31.01)             | \$ 14.40            | (27.30)             | (41.20)             |
| Fri 19 Nov | \$ 4.60                  | \$ 26.97            | (7.55)              | (19.06)             | \$ 35.35            | 0.82                | (10.69)             | \$ 10.22            | (24.30)             | (35.81)             |
| Sat 20 Nov | \$ 4.63                  | \$ 22.17            | (12.58)             | (24.16)             | \$ 26.61            | (8.14)              | (19.72)             | \$ 13.30            | (21.45)             | (33.03)             |

Daily average sparksreads last week were all negative for a heat rate of 7.5 GJ/MWh and all negative for a heat rate of 10.0 GJ/MWh.

On-peak sparksreads last week were mostly negative for a heat rate of 7.5 GJ/MWh and all negative for a heat rate of 10.0 GJ/MWh.

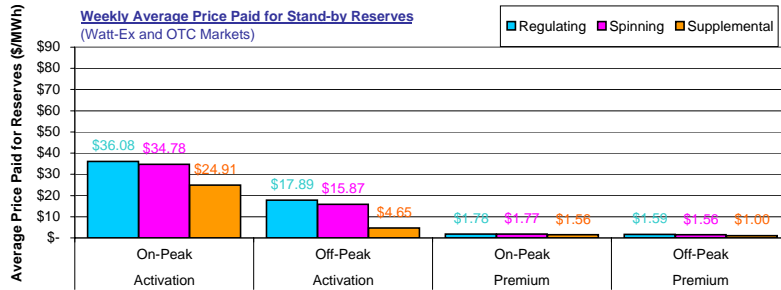
Off-peak sparksreads last week were all negative for a heat rate of 7.5 GJ/MWh and all negative for a heat rate of 10.0 GJ/MWh.

# Ancillary Services Market



Average on-peak prices paid for active ancillary services last week were \$3.91/MWh, \$3.04/MWh and \$0.88/MWh respectively for active **regulating**, **spinning** and **supplemental** reserves.

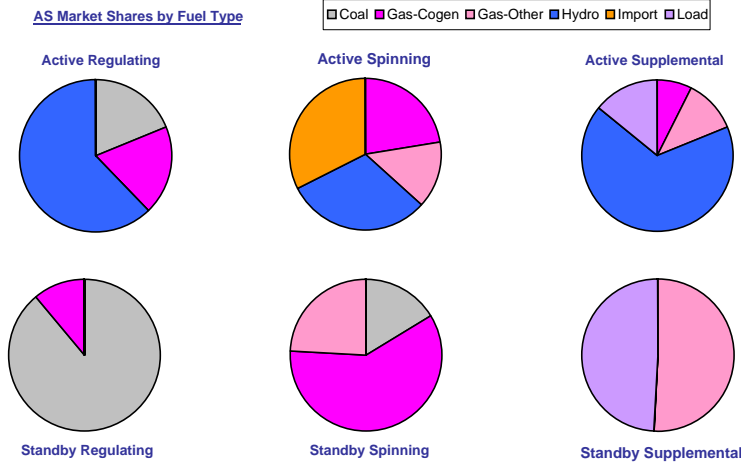
Active average off-peak prices were somewhat higher and averaged \$7.73/MWh, \$2.29/MWh and \$1.10/MWh for active **regulating**, **spinning** and **supplemental** reserves respectively.



Weekly average activation prices for stand-by reserves ranged from \$4.65/MWh for **off-peak supplemental** reserves to \$36.09/MWh for **on-peak regulating** reserves.

Weekly average premium prices ranged from \$1.00/MWh for **off-peak supplemental** reserves up to \$1.78/MWh for **on-peak regulating** reserves.

**AS Market Shares by Fuel Type**



Last week **hydro** units had the largest market share in the **active regulating** reserve market with 62.2%. In the **active spinning** reserve market, **import** units had the leading market share with 32.6% while in the **active supplemental** reserve market, **hydro** units dominated with a 67.1% market share.

Coal units dominated the **standby regulating** reserve market with a 88.9% market share. Leading market share in the **standby spinning** market was held by **gas-cogen** units with a 59.5% market share. In the **standby supplemental** reserve market, **gas** units had the leading market share with 50.8%.

## Glossary

|                         |   |
|-------------------------|---|
| <b>HE</b>               | Hour Ending   |
| <b>On-Peak Hours</b>    | In Alberta: HE08 through HE23, Monday through Saturday (prevailing Mountain time)<br>In Mid-C: HE07 through HE22, Monday through Saturday (prevailing Pacific time)<br>In MAPP-N: HE08 through HE23, Monday through Sunday (prevailing Central time)  |
| <b>Off-Peak Hours</b>   | In Alberta: HE01 through HE07 + HE24 (of the same day), Monday through Saturday + HE01 through HE24 Sundays + holidays (prevailing Mountain time)<br>In Mid-C: HE24 (of the previous day) through HE07 (of the day in question), Monday through Saturday + HE01 through HE24 Sundays + holidays (prevailing Pacific time)<br>In MAPP-N: HE24 (of the previous day) through HE07 (of the day in question), Monday through Sunday (prevailing Central time) |
| <b>COV</b>              | Coefficient of Variation<br>The standard deviation of a series of numbers divided by the mean of the same series of numbers. Used as a measure of volatility.   |
| <b>ATC</b>              | Available Transfer Capacity<br>A measure of the maximum energy flow possible in one direction across an intertie.   |
| <b>Market Heat Rate</b> | The prevailing Pool price divided by the prevailing gas price.  |
| <b>Sparks spread</b>    | Sparks spreads give an indication of the revenue available to cover costs after fuel costs have been paid. A positive spread indicates it is more economical to buy gas and generate electricity while a negative spread indicates it is more economical to buy electricity from the grid.  |