# Market Operations

# Monthly Service Provider Report

## October 2008

This report details monthly information in relation to the wholesale information & trading system, clearing manager, pricing manager and reconciliation manager functions performed by M-co under contract to the Electricity Commission.

# Table of Contents

**Table of Contents** ..... **2**

**1. Introduction** ..... **4**

1.1 Purpose ..... 4

1.2 Contact Details ..... 4

**2. Core Reporting** ..... **5**

2.1 Compliance with Regulations and Rules ..... 5

2.2 Operation of the Regulations and Rules ..... 5

2.3 Compliance with Service Provider Agreements ..... 5

2.4 Compliance with Agreed Performance Standards ..... 6

2.4.1 Wholesale Information & Trading System Manager (WITS/COMIT) ..... 6

2.4.2 Clearing Manager ..... 6

2.4.3 Pricing Manager ..... 7

2.4.4 Reconciliation Manager ..... 7

**3. Additional Information** ..... **11**

3.1 IT Systems ..... 11

3.1.1 Outage Summary ..... 11

3.1.2 Rule Change Implementations ..... 11

3.1.3 Minor System Changes ..... 11

3.1.4 Other Work ..... 11

3.2 Clearing Manager ..... 12

3.2.1 Invoicing and Settlement ..... 12

3.2.2 Security Monitoring ..... 12

3.2.3 Ancillary Services ..... 13

3.2.4 Constrained on ..... 13

3.2.5 Constrained off ..... 13

3.2.6 Must Run Dispatch Auction ..... 13

3.3 Pricing Manager ..... 14

3.3.1 Daily Pricing ..... 14

3.3.2 Price Commentary ..... 14

3.3.3 Note on High Spring Washer Price Situations ..... 14

3.3.4 Monthly Average Reference Price Summary ..... 16

3.3.5 Daily Average Reference Price Graph ..... 16

3.3.6 Daily Average Reference Price Deviation from Haywards ..... 17

3.3.7 Daily Average Haywards Price Comparison ..... 17

3.3.8 Haywards 13 Month Daily Average Price Comparison ..... 18

3.4 Reconciliation Manager ..... 19

3.4.1 Summary ..... 19

# 1. Introduction

## 1.1 Purpose

This report details monthly information in relation to the wholesale information & trading system, clearing manager, pricing manager and reconciliation manager functions performed by M-co under contract to the Electricity Commission.

This report has been prepared in accordance with sections 44 and 45 of the Electricity Governance Regulations 2003 and contains the core reporting requirements plus additional market information that will be of interest to the Board.

## 1.2 Contact Details

The following is a list of contact details for further information or questions pertaining to this report:

**General Queries**
Shane Dinnan, General Manager Market Operations +64 4 498 0052

**WITS Market Information System**
David Godfrey, Information Technology Manager +64 4 498 0048

**Clearing & Settlement**
Steve Deluxe, Settlement Analyst +64 4 498 0056

**Pricing**
Ashley Milkop, Energy Services Manager +64 4 498 0028

**Reconciliation**
Zane Doran, Senior Reconciliation Analyst +64 4 498 0044

# 2. Core Reporting

## 2.1 Compliance with Regulations and Rules

To the best of our knowledge all M-co service providers complied with their obligations under the regulations and rules during the reporting month.

## 2.2 Operation of the Regulations and Rules

The M-co service providers have not during the reporting month identified any areas where, in their view, a change to the regulations or rules may need to be considered.

## 2.3 Compliance with Service Provider Agreements

To the best of our knowledge the M-co service providers have complied with their obligations under their respective service provider agreements during the reporting month.

## 2.4 Compliance with Agreed Performance Standards

### 2.4.1 Wholesale Information & Trading System Manager (WITS/COMIT)

| Measure | Achieved This Month | Standard |
|---|---|---|
| WITS/COMIT availability | 99.93% | 99.72% |
| WITS/COMIT 6-month availability | 99.94% | 99.72% |
| WITS/COMIT file upload availability | **100%** | 99.72% |
| Average time to publish PDS | 7min 9secs | 7mins |
| Average time to publish dispatch prices | 45secs | 1min |
| Average time to publish provisional/final prices | 31secs | 1min 30secs |

The target level of 99.72% relates to the equivalent of no more than two hours of outages per calendar month. Core functionality denotes all the systems and facilities necessary to fulfil the wholesale information system requirements of the EGRs as part of the Wholesale Information & Trading System service provider agreement.

The average time to publish a PDS was 9sec above the standard. Reasons for this are currently being investigated.

### 2.4.2 Clearing Manager

| Measure | Achieved This Month | Standard |
|---|---|---|
| Wash-up notifications distributed to parties by 5th business day of each month | Yes | 92% |
| Invoices released by 6pm on 9th business day | Yes | 92% |
| Constrained on/off amounts released to System Operator by 9am on 8th business day | Yes | 92% |
| Amounts payable to payees sent through to the bank by 5:30pm on settlement day | Yes | 92% |
| Number of invoice calculation errors | 0 | 0 |
| Number of security level calculation errors | 0 | 0 |

The target level of 92% relates to the equivalent of no more than one instance of missing the deadline within a twelve-month period. The zero standards indicate that the Board expects there to be no calculation errors, in either invoices or the establishment of security levels.

### 2.4.3 Pricing Manager

| Measure | Achieved This Month | Standard |
|---|---|---|
| Final prices published by 9:22am if no provisional price situation exists | 100% | 97% |
| Provisional prices published by 10:22am if provisional price situation exists | 100% | 97% |
| Final prices published within 2 hours 30 minutes of a System Operator/Grid Owner fix to a provisional price situation | 100% | 97% |
| IT processing time to publish final prices within 3 minutes 15 seconds of sending | 100% | 97% |
| Number of price processing errors | 0% | 0% |

The target level of 97% relates to the equivalent of no more than one instance of missing a listed deadline within a calendar month. The zero percent standard indicates that the Board expects there to be no errors caused by the pricing manager in the calculation of prices.

### 2.4.4 Reconciliation Manager

#### 2.4.4.1 System Performance

| Parameter to be measure | Performance requirement | Performance achieved | Requirement met | Rule ref |
|---|---|---|---|---|
| System availability to participants | 99.5% min | 100% | Yes | |
| Preferred availability | 99.8% min | 100% | Yes | |
| Number of corrective maintenance jobs carried out | Number | 0 | Yes | |
| All confirmations of files being received and validated reported back to participants within 10 minutes of file receipt | 100% | 100% | Yes | |
| All confirmations of files with errors reported back to participants within 10 minutes of file receipt | 100% | 100% | Yes | |
| Disaster recovery and backup obligations | 100% | 100% | Yes | |

The system must be available to receive and provide information 24x7, with the exception of planned outages. The target level of 99.5% relates to the equivalent of the system being unavailable for 3.5 hours within a calendar month. The

target level of 99.8% per calendar month is preferred, which is the equivalent of the system being unavailable for 1.5 hours.

#### 2.4.4.2 Operational and Rules Performance

| Parameter to be measure | Performance requirement | Performance achieved | Requirement met | Rule ref |
|---|---|---|---|---|
| Reconciliation manager notified registry of changes to balancing areas | Within 1 business day | Within 1 business day | Yes | Part E schedule E1 rule 7.2 |
| Number of new NSP's allocated and advised to registry | Report | Reported | Yes | Part E schedule E1 rule 7.2 |
| New and decommissioned NSP's allocated, and changes to existing NSP's notified to registry | Within 1 business day | Within 1 business day | Yes | Part E schedule E1 rule 8.2 |
| Reconciliation manager reports to reconciliation participants, participants and the Board for revision submissions | 12:00 hours on the last business day of the month | By 09:11 hours on 31 October 2008 | Yes | Part J4 rule 14 |
| Provision of reconciliation information for revision submissions | 12:00 hours on the last business day of the month | By 09:11 hours on 31 October 2008 | Yes | Part J4 rule 15 |
| Publish half hour profile shape day for profiles for revision submissions | 12:00 hours on the last business day of the month | By 09:11 hours on 31 October 2008 | Yes | Part J4 rule 15.5 |
| Number and details of service provider rule or agreement breaches and details for the previous months day 13 revision submissions | 13:00 hrs on the 2nd business day of the month | N/A | N/A | Part J rule 13.1 |
| Number and details of participant rule breaches and details for the previous months day 13 revision submissions | 13:00 hrs on the 2nd business day of the month | N/A | N/A | Part J rule 13.1 |

| | | | | |
|---|---|---|---|---|
| Clearing manager and reconciliation participant reports for the day 13 revision submissions | 13:00 hrs on the last business day of each reconciliation period | By 09:11 hours on 31 October 2008 | Yes | Part J4 rule 15 |

| Parameter to be measure | Performance requirement | Performance achieved | Requirement met | Rule ref |
|---|---|---|---|---|
| Publication of forward and historic estimates proportion for each balancing area for each participant. | 13:00 hrs on the 7th business day of the month | N/A | N/A | Part J3 rule 4 |
| Number and details of service provider rule or agreement breaches and details for the day 4 interim data submission | 13:00 hrs on the 9th business day of the month | 13:00 hrs on the 10th October 2008 | Yes | Part J rule 13.1 |
| Number and details of participant rule breaches and details for the day 4 data submission | 13:00 hrs on the 9th business day of the month | 13:00 hrs on the 10th October 2008 | Yes | Part J rule 13.1 |
| Reconciliation manager reports to reconciliation participants, participants and the Board for interim submissions | 16:00 hrs on the 7th business day of the month | 11:08 hrs on the 9th October 2008 | Yes | Part J4 rule 14 |
| Provision of reconciliation information for interim submissions | 16:00 hrs on the 7th business day of the month | 11:08 hrs on the 9th October 2008 | Yes | Part J4 rule 15 |
| Publish half hour profile shape day for profiles for interim submissions | 16:00 hrs on the 7th business day of the month | 11:08 hrs on the 9th October 2008 | Yes | Part J4 rule 15.5 |
| Clearing manager and reconciliation participant reports | 16:00 hrs on the 7th business day of the month | 11:08 hrs on the 9th October 2008 | Yes | Part J4 rule 15 |

The target levels for operational and rule performance is based on the reconciliation manager fulfilling its obligation under Part E and Part J of the rules.

# 3. Additional Information

## 3.1 IT Systems

### 3.1.1 Outage Summary

There was one planned 30 minute Transpower outage on 23 October 2008 to relocate servers within their Wellington and Hamilton data centres.

### 3.1.2 Rule Change Implementations

The development of the Hedge Disclosure system was completed, and a test site was created ready for the November market trial. Market Trial users were set up.

### 3.1.3 Minor System Changes

The following minor system changes occurred during the month:

WITS

- Amended Price index graph display to ensure correct data sequences are displayed.

RECON

- Disk usage was further optimised in order to improve system performance Infrastructure.

### 3.1.4 Other Work

The following other work streams were progressed during the month:

- Liaising with Transpower in the implementation of the new MSP systems and continued testing of MSP/WITS interfaces.
- Finalising a package of system enhancements and investment based on feedback from participants and system users. This includes options for improvements to WITS Free To Air.

## 3.2 Clearing Manager

### 3.2.1 Invoicing and Settlement

Monthly settlement (September 2008 billing period settled on October 20):

**Amounts Received**

| | |
|---|---|
| Received from Payers | $227,039,373 |

**Amounts Paid**

| | |
|---|---|
| Paid to Payees | $222,154,583 |
| Loss and Constraint Excess | $4,884,789 |

Total settlement (1 April 04 to 31 October 08):

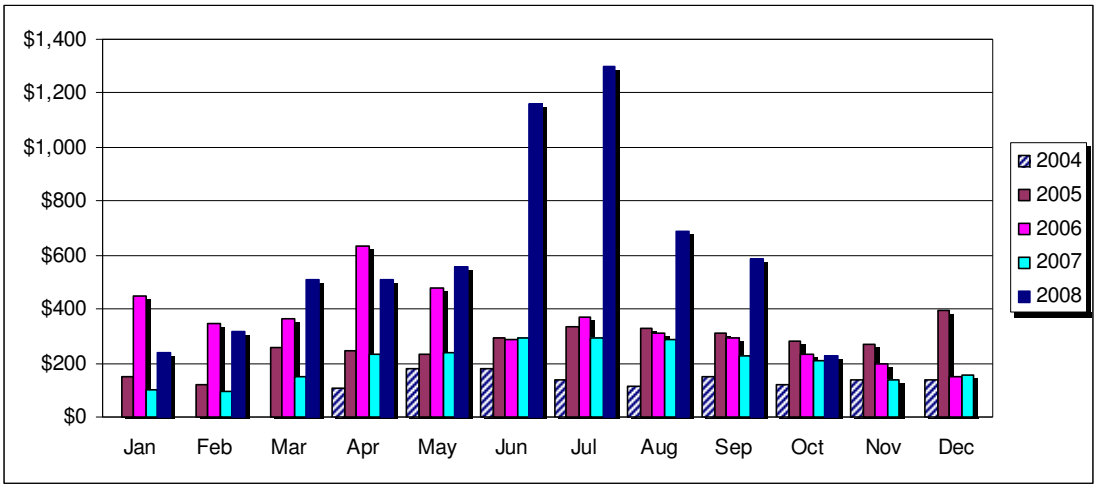
**Amounts Received**

| | |
|---|---|
| Received from Payers | $17,135,469,759 |

**Amounts Paid**

| | |
|---|---|
| Paid to Payees | $16,670,372,408 |
| Loss and Constraint Excess | $465,089,695 |

Graphically, total settlement since April 2004 is as follows:




### 3.2.2 Security Monitoring

At the end of October 2008 the clearing manager held security of $227,072,038 with the total payers' projected exposure to 27th November 2008 estimated at $53,654,726.

There were 2 calls for security and 2 reductions in security in October.

### 3.2.3 Ancillary Services

Payments to Ancillary Services Agents in October 2008 for the September 2008 billing period totalled $9,613,630. That amount was made up of the following:

| Type | Amount (GST incl.) |
|---|---|
| Black Start | $37,305 |
| Over-frequency Reserve | $58,842 |
| Frequency Keeping | $4,679,323 |
| Instantaneous Reserve | $3,898,890 |
| Voltage Support | $939,270 |

Further details and historical and graphical information regarding ancillary service can be found in the system operator monthly service provider report at: http://www.electricitycommission.govt.nz/opdev/servprovinfo/somonthly

### 3.2.4 Constrained on

Total constrained on for the September 2008 billing period were $502,420. These amounts were paid to generators by the clearing manager and the system operator on the September 2008 invoices issued in October 2008.

### 3.2.5 Constrained off

Total constrained off amounts for the September 2008 billing period were $1,091,387. Only constrained on/off amounts that are attributable to the system operator are paid to generators.

### 3.2.6 Must Run Dispatch Auction

There were bids into the must run dispatch auction every day during the month.

## 3.3 Pricing Manager

### 3.3.1 Daily Pricing

For October pricing there was 44 pricing solves. 2 solves were published as Provisional, 31 published as Final, and 11 not published.

The following table summarises the Pricing Situations that occurred in the month:

| Infeasibility Situations | Metering Situations | High Spring Washer Price Situations |
|---|---|---|
| 14 | 2 | 1 |

### 3.3.2 Price Commentary

Average prices in October were lower compared to September. The average price at HAY2201 during October 2008 was $41.80/MWh compared to $49.40/MWh in September.

Lake storage levels increased in October, going from 2176GWh at the beginning of the month to 2357GWh on 31 October, which is 97% of average for that time of year.

### 3.3.3 Note on High Spring Washer Price Situations

| | | First solve | | | With HSWP constraint relaxed | | |
|---|---|---|---|---|---|---|---|
| Date | Trade pd. | Highest price location | Highest price | Average price | Highest price location | Highest price | Average price |
| 21/10/2008 | 1800 | CPK0111 | $2,059 | $156 | CPK0111 | $316 | $85 |
| 13/09/2008 | 0630 | MGM0331 | $506 | $49 | MGM0331 | $486 | $50 |
| 12/09/2008 | 0600 | MGM0331 | $439 | $45 | GYM0661 | $82 | $40 |
| 12/09/2008 | 0630 | MGM0331 | $332 | $58 | MGM0331 | $266 | $60 |
| 25/06/2008 | 1730 | WES0331 | $3,077 | $465 | WES0331 | $3,047 | $467 |
| 25/06/2008 | 1800 | WES0331 | $3,084 | $436 | WES0331 | $3,036 | $450 |
| 25/06/2008 | 1830 | WES0331 | $2,948 | $436 | WES0331 | $1,934 | $402 |
| 6/11/2007 | 1600 | KTA0331 | $670 | $195 | KTA0331 | $141 | $59 |
| 29/04/2007 | 1800 | MGM0331 | $38,021 | $717 | MGM0331 | $190 | $120 |

Major effect on prices
Significant effect on prices
Small effect on prices

The high spring washer price (HSWP) rule change came into effect on 3 September 2007. The rule has been applied on five occasions since, for eight trading periods. It has also been applied prior to the rule change, on 29 April 2007.

On four of those occasions it has had a major effect on prices. The most significant effect was on 29 April 2007 when the price at MGM0331 fell from over $38,000 to less than $200 after relaxation of the relevant constraint.

On two occasions it has had a significant effect on prices and on three occasions the effect on prices as small. It is worth noting, however, that on 25 June 2008 that the actual effect on the market was insignificant as there was no load at WES0331.

In a sense the HSWP rule change has achieved its objective of inhibiting high prices from becoming final when only a small change in demand or line capacity was enough to cause significant price variation. It is obvious from the results that such small changes can cause very large variations in price. However, it is also apparent that pricing signals can be weakened considerably when the HSWP rule is activated.

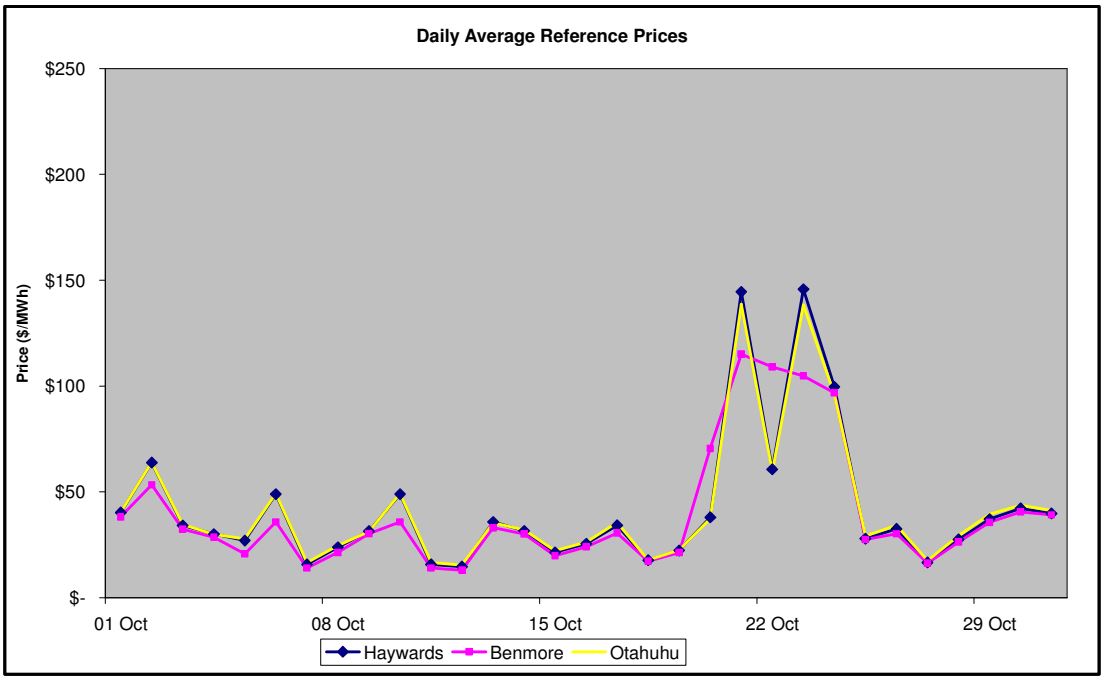
The other issue with the HSWP rule is that it can lead to contradictory results. This can occur in such situations when there is a high spring washer price but where the ratio of high spring washer price to unconstrained offer does not exceed five. In such situations the resulting price might be higher than if the ratio exceeded five and the rule becomes activated.

## 3.3.4 Monthly Average Reference Price Summary

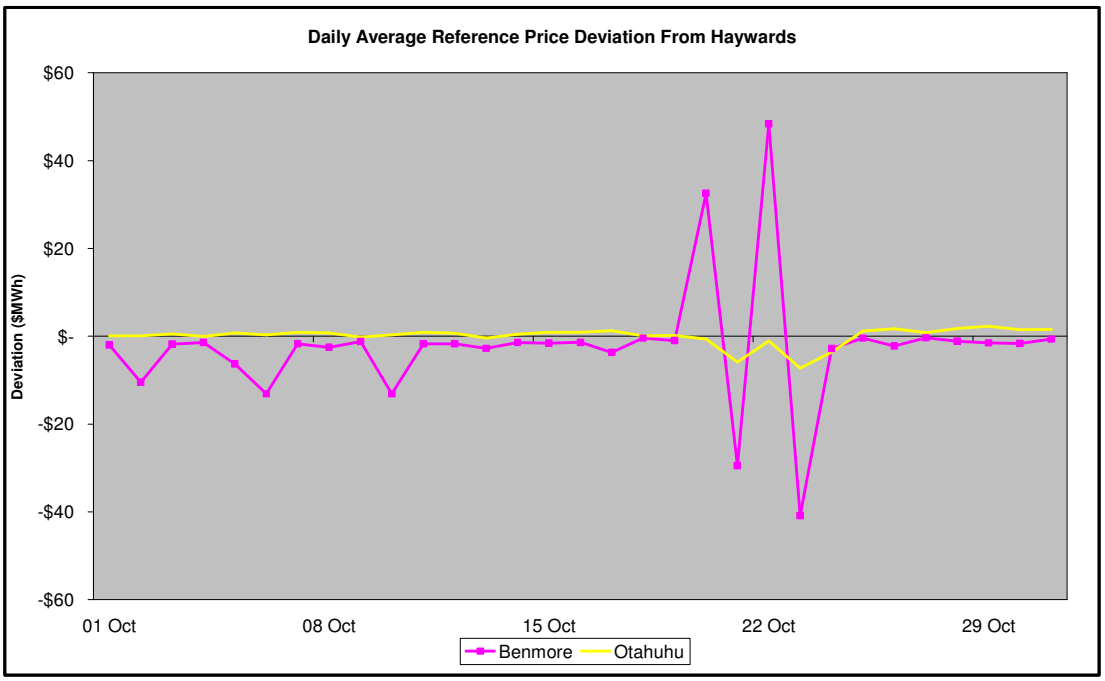
| Haywards (HAY2201) | | Forecast | | Dispatch | | Final |
|---|---|---|---|---|---|---|
| Average Price: | $ | 84.92 | $ | 108.06 | $ | 44.85 |
| Highest Price: | $ | 1,132.69 | $ | 87,740.18 | $ | 1,083.21 |
| Lowest Price: | $ | 0.38 | $ | 0.04 | $ | 0.03 |
| Half Hours > $100: | | 279 | | 94 | | 89 |
| Average Weekday (excl stats): | $ | 85.73 | $ | 140.67 | $ | 53.95 |
| Average Weekend (incl stats): | $ | 83.28 | $ | 28.48 | $ | 22.72 |
| | | | | | | |
| **Benmore (BEN2201)** | | **Forecast** | | **Dispatch** | | **Final** |
| Average Price: | $ | 49.40 | $ | 40.30 | $ | 40.88 |
| Highest Price: | $ | 249.58 | $ | 250.17 | $ | 250.17 |
| Lowest Price: | $ | 0.04 | $ | 0.03 | $ | 0.03 |
| Half Hours > $100: | | 205 | | 204 | | 209 |
| Average Weekday (excl stats): | $ | 53.53 | $ | 47.86 | $ | 49.06 |
| Average Weekend (incl stats): | $ | 39.44 | $ | 21.89 | $ | 20.96 |
| | | | | | | |
| **Otahuhu (OTA2201)** | | | | **Dispatch** | | **Final** |
| Average Price: | | | $ | 110.62 | $ | 44.94 |
| Highest Price: | | | $ | 90,954.79 | $ | 1,040.03 |
| Lowest Price: | | | $ | 0.04 | $ | 0.03 |
| Half Hours > $100: | | | | 95 | | 87 |
| Average Weekday (excl stats): | | | $ | 143.84 | $ | 53.80 |
| Average Weekend (incl stats): | | | $ | 29.55 | $ | 23.42 |

Note: Forecast prices for Otahuhu are not published

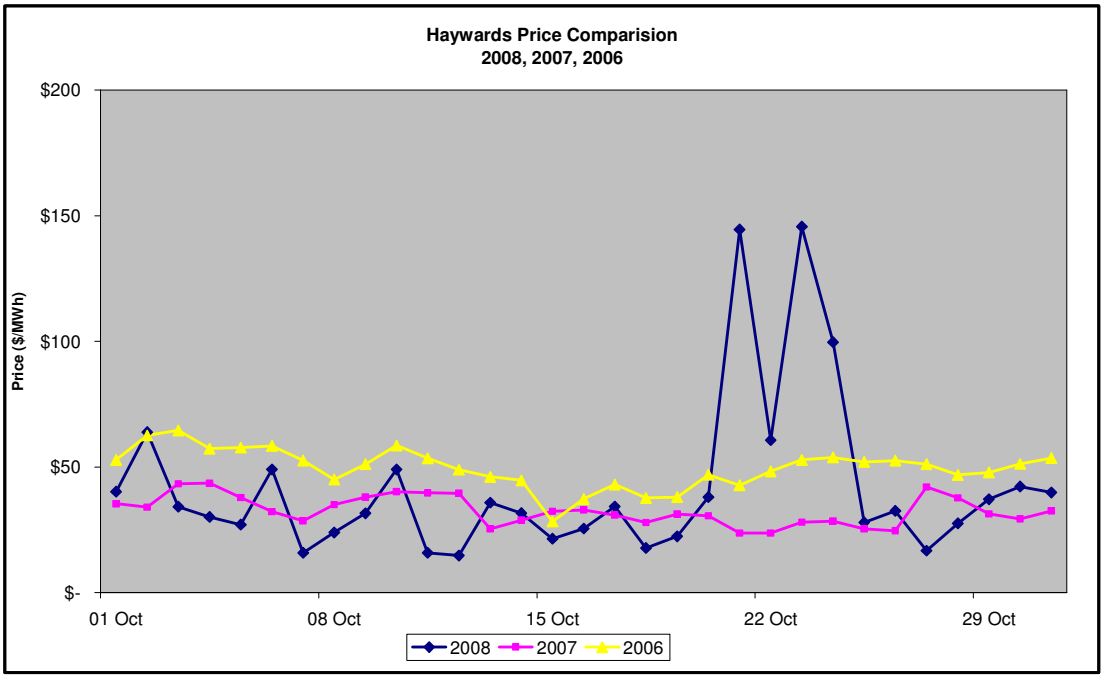
## 3.3.5 Daily Average Reference Price Graph



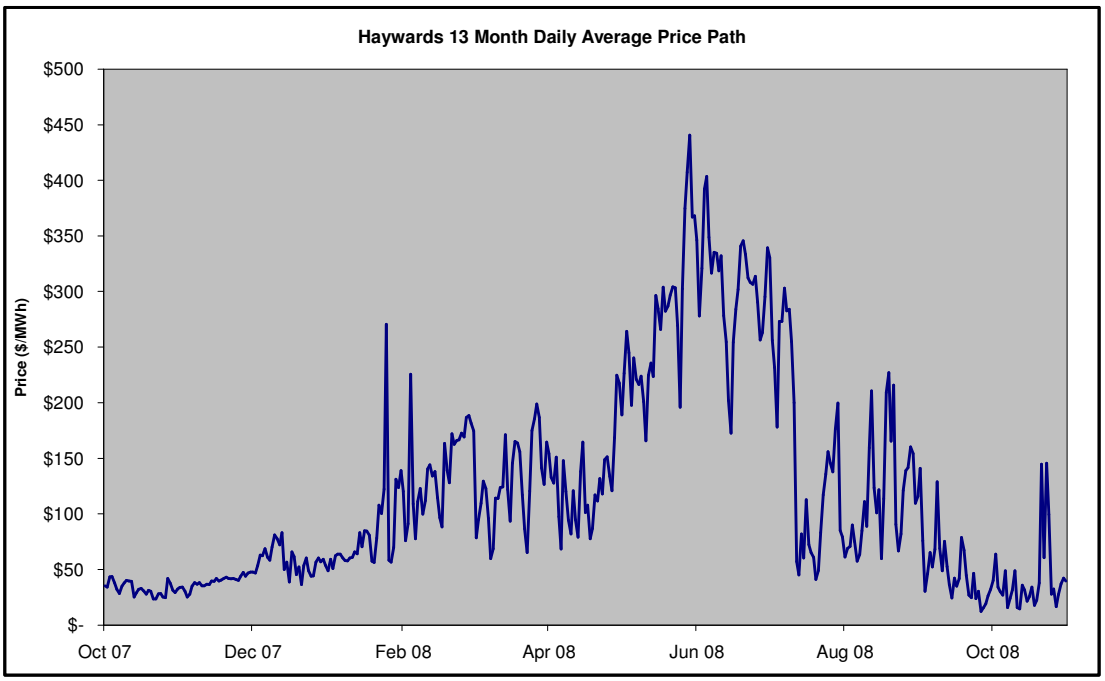
## 3.3.6 Daily Average Reference Price Deviation from Haywards




## 3.3.7 Daily Average Haywards Price Comparison



### 3.3.8 Haywards 13 Month Daily Average Price Comparison

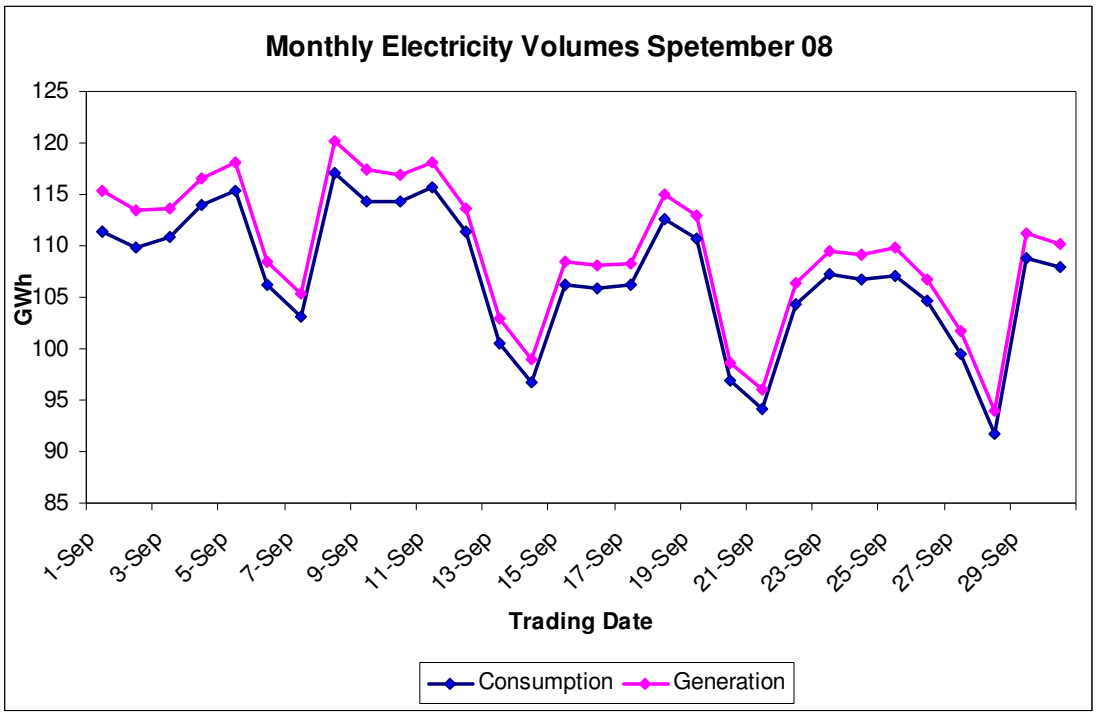


## 3.4 Reconciliation Manager

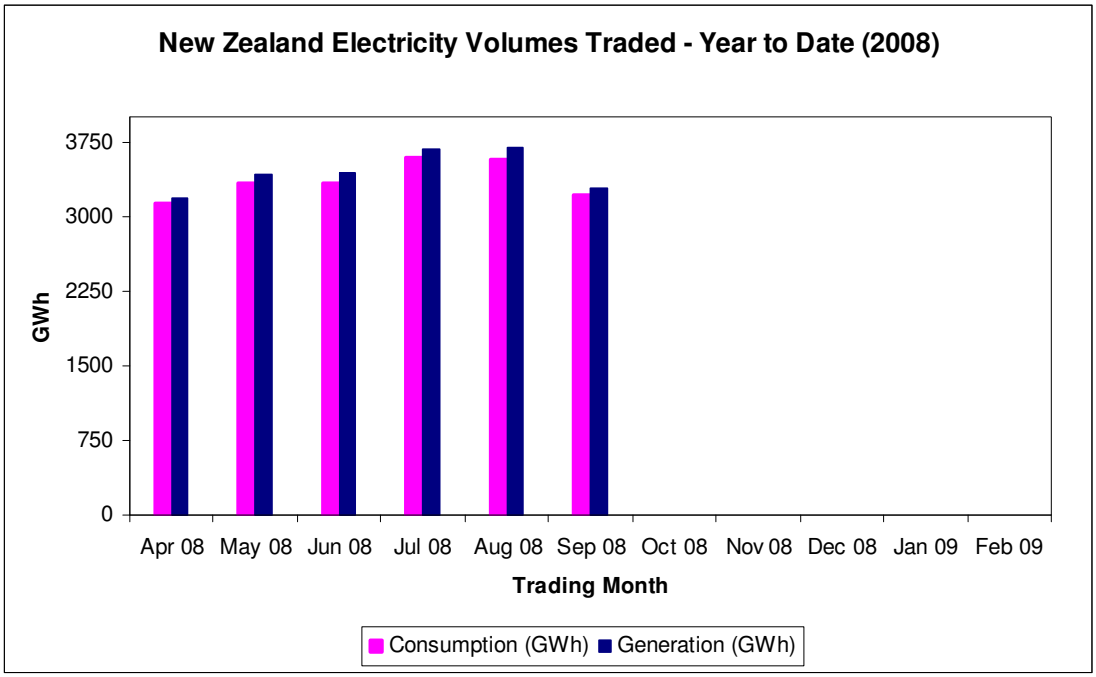
### 3.4.1 Summary

In October, the reconciliation manager successfully completed a reconciliation run for the September 08 consumption period, and provided revision information for Sep 08, Jul 08, Mar 08 and Aug 07 to participants.

The graph below highlights the total daily generation and demand for electricity in which the reconciliation manager reconciled for the consumption period of September 2008[1].




[1] Based on NSP volume data for the consumption period September 2008




The above graph illustrates the year to date total of the volume of electricity generation and consumption traded, for all NSPs across New Zealand.[2]

[2]Data is available for April, May, June, July, August and September 2008