Senate Economics Committee Inquiry Submission

Summary of the Economic Regulation Authority's Wholesale Electricity Market Surveillance during the Varanus Island Gas Incident

19 November 2008

Economic Regulation Authority
WESTERN AUSTRALIA

For further information, contact:

Economic Regulation Authority
Perth, Western Australia
Phone: (08) 9213 1900

Contents

Economic Regulation Authority's Surveillance Activities

Following the Varanus Island incident, the Economic Regulation Authority (**Authority**) immediately commenced intensive monitoring of the Wholesale Electricity Market (**WEM**) on a daily basis. The Authority assessed and considered the following matters:

- supply of generation capacity and fuel inputs; and
- pricing and volume outcomes.

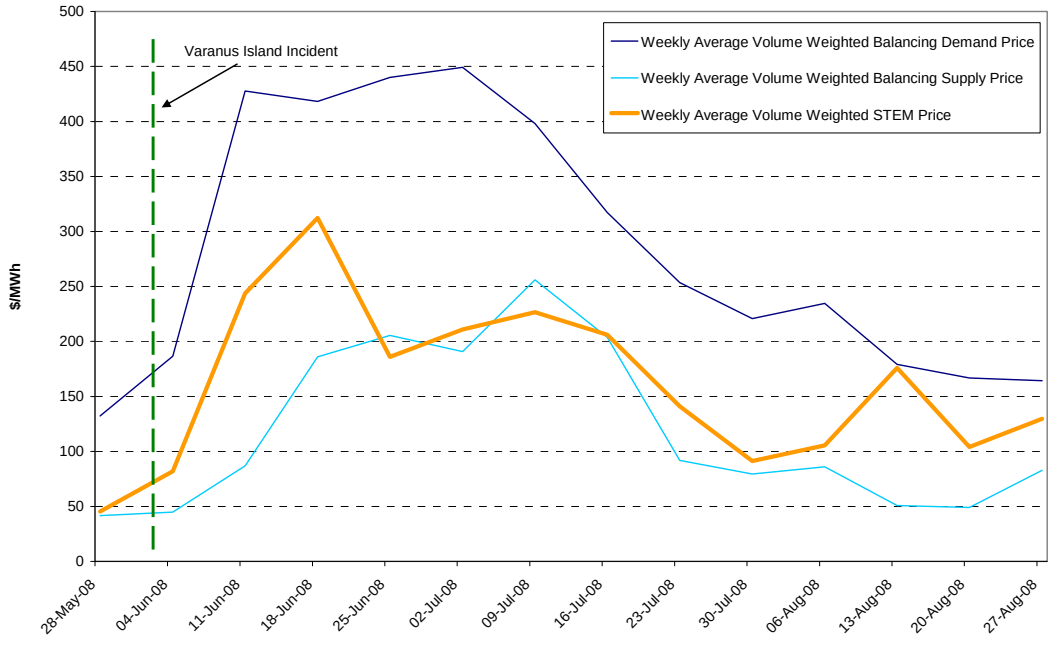
The above were considered in relation to the WEM within the wider context of all electricity industry factors due to bilateral contracting, rather than the short term energy market (**STEM**), being the fundamental market instrument in Western Australia.

It should be noted that the Varanus Island incident coincided with a number of coal fired plant outages which accentuated price impacts on the WEM.

The key issues examined by the Authority in its market surveillance activities were:

1) The STEM Price in relation to the Balancing Price. The STEM Price largely remained within the Balancing Prices at which Verve Energy as the balancing agent sells and purchases electricity into and from the market (Figure 1).

Figure 1: STEM and Balancing Prices



2) Balancing Prices. The market consistently reported Balancing Prices that were 'high' but did not achieve or exceed the alternative maximum (liquid fuel) price. The high prices correlated directly with liquid fuel costs caused by the scarcity of the cheaper generation alternatives of gas fuel and coal fired generation capacity. In the prevailing circumstances the Balancing Price outcomes were not unexpected.

3) Impact of the scarcity of gas fuel on generation markets:

   - Alinta. The Authority was informed that, in relation to gas supply, the Varanus Island incident mainly impacted on Alinta.
   - Verve Energy. The Authority was also informed that gas supply to Verve Energy was not affected by the Varanus Island incident.

4) Impact of the shortage of coal fired generation capacity:

   - Verve Energy. During the Varanus Island incident Verve Energy experienced a forced outage of its base load Collie A power station – having a capacity of approximately 320MW and being the largest power generation unit on the system. In addition, there were several other planned or forced outages of coal fired plant during the period of the crisis. The unavailability of this large amount of coal fired base load generating plant required Verve Energy to use large quantities of expensive liquid fuel in gas turbine peaking plant to maintain sufficient generation to meet its customers' loads.
   - Conclusion: The loss of Collie power station for a prolonged forced outage and several other planned or forced outages of coal fired generating plant requiring the use of expensive substitute liquid fuel was the major contributing factor to high STEM and Balancing Prices.

5) STEM trading:

   - Electricity volumes traded in the STEM during the critical early periods of the Varanus Island incident were minimal, and on some days close to zero. The Authority considers small volumes traded in the STEM may be related to Market Participants working their energy requirements through flexibility in their bilateral contracts.

The Authority did not receive any complaints or representations concerning the operation of the WEM with respect to the Varanus Island incident.

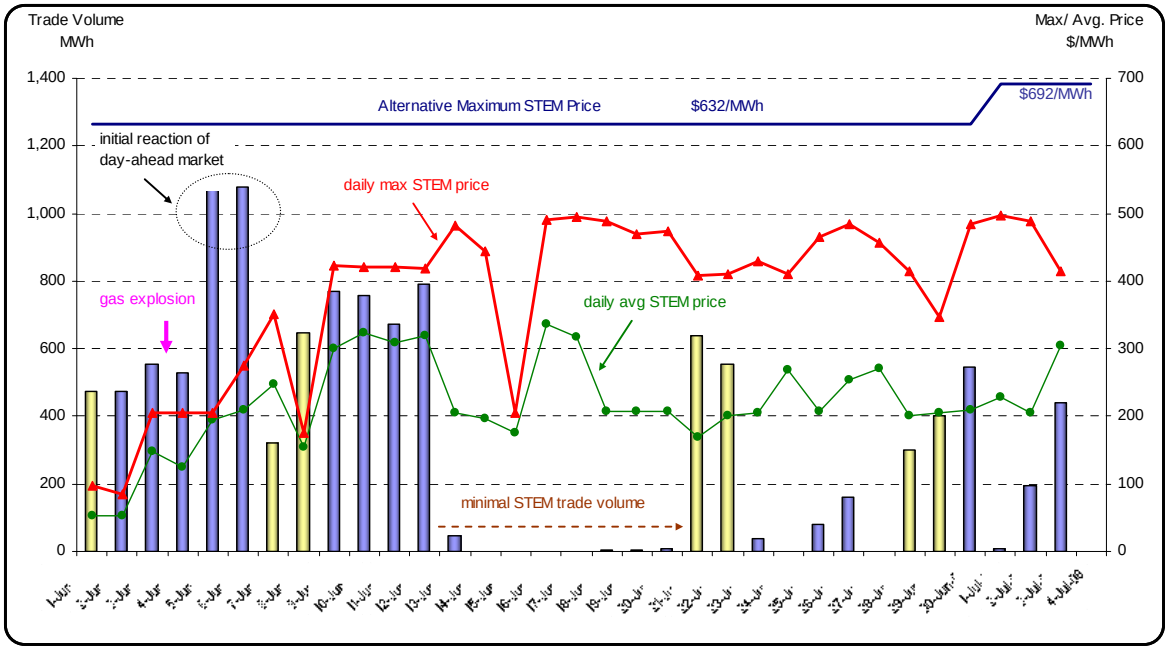
Note that Synergy's electricity franchise customers were unaffected by the Varanus Island incident. Synergy was, under the provisions of the Vesting Contract with Verve Energy, able to purchase very close to its entire wholesale energy requirements without any exposure to liquid fuel prices.

Behaviour in the Market

The Western Australian WEM comprises a wholesale electricity trading market and a capacity market. The trading market comprises a bilateral market, a short term energy market and a Balancing Market. Verve Energy is the balancing agent and either purchases excess electricity in the market or makes up any shortfalls in generation in the market. As the Varanus Island incident impact was on the energy market the following provides an overview of market behaviour over the relevant period.

Figure 2 illustrates behaviour in the STEM over the critical Varanus Island incident period. The figure shows the alternative (liquid fuel) maximum, daily maximum and daily average STEM Prices. In addition, the columns in Figure 2 show total STEM volume traded on each day in MWh. Columns shaded yellow denote weekends.

Figure 2: STEM Behaviour

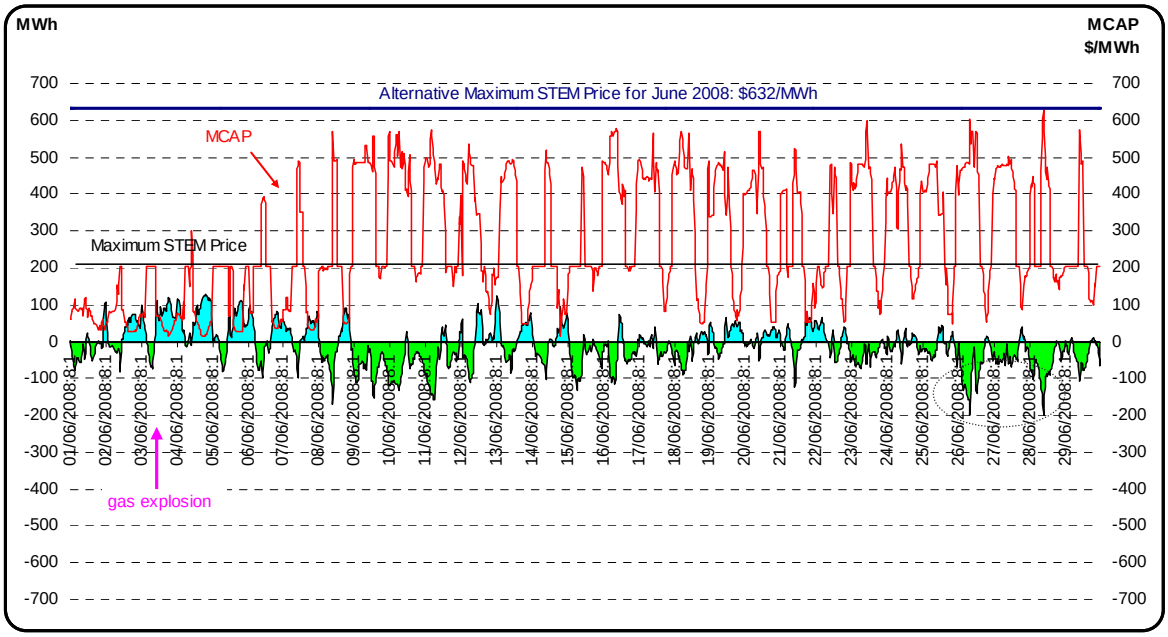


Of particular note is that by 3 July 2008 the volume traded in the STEM returned to a volume-weighted average price of around $200/MWh after a period of virtually no trade at all from 14 to 29 June 2008.

Figure 2 shows that the daily maximum price reached a high of $498/MWh in the 7:30am trading interval on 2 July 2008 (1 July 2008 trading day) but no trade occurred in the interval. Total trade volume for the trading day was minimal (7 MWh). Nonetheless, the maximum price remained below the alternative (liquid fuel) maximum STEM Price of $692/MWh.

A total of 440 MWh was cleared for 3 July 2008 with an average volume-weighted price of $305/MWh. Half of the trade volume was cleared at $206/MWh and another half was cleared at prices up to $415/MWh in some trading intervals.

Figure 3: Balancing Market Behaviour



Whilst little Balancing Supply (blue shaded areas when Market Participants were over contracted and sold excess energy back to the Balancing Market) was observed for the week starting 23 June 2008, there were high trade volumes of Balancing Demand (green shaded areas when Market Participants were under contracted and procured additional energy from the Balancing Market).

Of particular note is that the Balancing Demand volume surged to nearly 200 MWh or 20% of scheduled system load in the 4pm interval on 26 June 2008 and in the 5:30pm interval on 28 June 2008 when the Marginal Cost Administered Price (MCAP)[1] was at $604/MWh and $628/MWh respectively. It is also worthy of note that the $628/MWh price on 28 June 2008 surpassed the previous highest Balancing Price and compares to the alternative maximum STEM Price (liquid fuel) at the time of $632/MWh.

Documentation and Decision Making

The Authority regularly documented its analysis and findings on the WEM performance during the early and most critical period of the Varanus Island incident. Much of this material was sourced from Market Participants on a confidential basis.

The Authority convened regular briefing sessions of its market surveillance analysts and senior staff to consider the findings. Given the prevailing situation of a significant shortage of coal fired base load plant, compounded by the Varanus Island gas curtailment, there was no evidence that the market was operating in an unexpected or exploitative manner.

[1] MCAP is the price at which the balancing market clears.

Other Surveillance Activities

The Authority was in regular liaison with the Independent Market Operator regarding market outcomes.

The Authority made regular and ad hoc inquiries with Market Participants including System Management, Verve Energy, Synergy and Alinta.