

TRANSPower NEW ZEALAND LIMITED

Submission to the Electricity Authority on:

Draft decision of the Electricity Authority under  
Part 5 of the Electricity Industry Participation Code  
regarding an alleged UTS on 26 March 2011

*May 2011*



**T R A N S P O W E R**

## Contents

<b>1. INTRODUCTION</b>	<b>5</b>
1.1 Purpose of this document	5
<b>2. EXECUTIVE SUMMARY</b>	<b>5</b>
2.1 Context	5
2.2 Key points	5
<b>3. DISCUSSION</b>	<b>5</b>
3.1 Power system security	5
3.2 Security Dispatch Schedule	6
3.3 Constraint limits	7

This page has been deliberately left blank.



**T R A N S P O W E R**

## **1. Introduction**

### **1.1 Purpose of this document**

This is Transpower New Zealand Limited's (Transpower's) submission on the Electricity Authority's 6 May 2011 consultation paper *Draft decision of the Electricity Authority under Part 5 of the Electricity Industry Participation Code regarding an alleged UTS on 26 March 2011*.

## **2. Executive summary**

### **2.1 Context**

Thirty five parties have alleged that the situation which led to interim wholesale market for electricity prices on 26 March 2011 exceeding \$19,000/MWh over several hours for Hamilton and regions north constitutes an undesirable trading situation (UTS).

As summarised by the Electricity Authority (Authority) "[t]he basis of the claims [are] that the situation on 26 March 2011 constitutes a contingency or event that threatens, or may threaten, trading on the wholesale market for electricity and that would, or would be likely to, preclude the maintenance of orderly trading or proper settlement of trades".

The consultation paper seeks feedback from participants and interested parties on the Authority's draft decision and the proposed remedial actions the Authority intends to take to correct the UTS.

### **2.2 Key points**

In summary, Transpower's key points in respect of the consultation paper are that:

- at no time on the 26 March 2011 was power system security threatened as a result of generation offers; and
- the Authority's analysis places an over reliance on the security dispatch schedule (SDS).

## **3. Discussion**

### **3.1 Power system security**

The only threat to power system security on 26 March 2011 was an unplanned outage on the Balclutha – Halfway Bush circuit that reduced the security of supply to Edendale Gore from 10:15 until 12:31 hours.

Sufficient generation and instantaneous reserve offers were received to maintain residual generation margins in both islands throughout the 26 March 2011.

## 3.2 Security Dispatch Schedule

Many references are made to the SDS in the draft decision, especially in regard to forecasts of price for 26 March. The SDS is one of several schedules that include a price forecast. Others include the pre-dispatch schedule (PDS) and weekly dispatch schedule (WDS).

The SDS, or its predecessor, is published voluntarily by the System Operator, following the request to do so from the industry as a security of supply initiative in 2008. The SDS is prepared by the System Operator as part of its continuous assessment of power system security and contingency planning. By necessity the SDS is prepared with care, with an absolute focus on security. The preparation and publication of the SDS is undertaken by the SO in its role as a reasonable and prudent operator, not as an explicit requirement of the Code.

It is noted that all references to the SDS in the chronology of events, Appendix A, indicate that the schedule identified a potential constraint between Whakamaru and Otahuhu. Information about constraints is published as part of the schedule information and should have been a flag to trading participants.

The Code requires the SO to prepare and publish the PDS as part of the trading arrangements set out in Part 13. The PDS forecasts prices over a period identical to the SDS and employs participant bids rather than a System Operator demand forecast. The required accuracy for bids is specified by the Code.

None of the PDSs for trading periods 22 to 36, inclusive, on 26 March 2011 forecast indicated prices in the region of \$20,000MWh.

Demand forecasts are inherently challenging. The choice of demand forecasting methodology always involves cost trade-offs. The choice of methodology for security purposes is biased toward consideration of physical power system operation, not price forecasts. It is therefore surprising that the Authority has placed so much weight on the SDS as a price forecasting schedule. The PDS is designed as a price forecasting schedule which uses participant demand forecasts that should comply with the accuracy specified in the Code.

On an island basis the SDS demand forecasts for 26 March, prepared on 25 March, were within 2.5% of actual demand. SDS demand forecasts prepared early on 26 March for the remainder of the day were within 2% of actual demand. These are typical and expected deviations.

All schedules prepared within the NZ market use forecasts of expected demand. On occasion's additional scenario, or deviation, schedules (e.g. P10, P50, P90 demand forecasts) have been contemplated by the EC<sup>1</sup> but not pursued. Schedules of this type may have alerted the

---

<sup>1</sup> <http://www.ea.govt.nz/document/2124/download/our-work/programmes/market/pricing-process-improvement/>

participants to the ‘tightness’ of the power system and allowed better judgement of the risk of very high prices.

### 3.3 Constraint limits

The draft decision observed that the system operator “reduced”<sup>2</sup> the Whakamaru – Otahuhu constraint limit at 10:40 and 11:10 hours, “exacerbate[ing the] forecasting issue”<sup>3</sup>. A summary of the draft decision<sup>4</sup> states the “[r]eductions in grid constraint limits by the system operator ... contributed to” “putting Genesis in a position where its offers at Huntly determined spot prices”<sup>4</sup> without acknowledging the need for the change was required to maintain power system security.

The constraint limit was forecast to be 404MW in schedules published on the day before. On the 26<sup>th</sup> April the constraint was changed a total of six times sometimes increasing (maximum 404MW), and sometimes decreasing (minimum 380MW). These changes were made necessary to ensure optimum security levels were maintained, as measured by the 15 minute thermal transmission line off-load times.

During the high price trading periods two reductions in constraint limit were made due to changing system conditions. Off-load times had dropped to approximately 10 minutes, the reductions resulted in the off-load times rising back to the target 15 minutes.

---

<sup>2</sup> Draft decision of the Electricity Authority under Part 5 of the Electricity Industry Participation Code regarding an alleged UTS on 26 March 2011, paragraph 73 (k) and (m)

<sup>3</sup> Ibid, paragraph 81

<sup>4</sup> <http://www.ea.govt.nz/document/13554/download/about-us/news-events/market-briefs-media-releases/6May11/>