



# MAJOR ELECTRICITY USERS' GROUP

28 February 2011

Peter Wakefield  
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Electricity Authority

By email to [peter.wakefield@ea.govt.nz](mailto:peter.wakefield@ea.govt.nz) and [compliance@ea.govt.nz](mailto:compliance@ea.govt.nz)

Dear Peter

## **Alleged breach of Code in relation to generation constrained on in January 2011**

1. Attached is a notification of an alleged breach claimed by Major Electricity Users' Group (MEUG) by the System Operator made under regulation 9 of the Electricity Industry (Enforcement) Regulations 2010. MEUG is concerned about a number of constrained on instructions to generators issued by the System Operator in January 2011. The balance of this letter provides more supporting material to that contained in the formal notice attached.
2. MEUG notes that the Electricity Authority is examining this event<sup>1</sup> and "has sought clarification on aspects of this matter from participants". We welcome the Authority's investigation and trust that it will extend to the behaviour of generators.
3. The alleged breach claim lodged today may not be the only claim against the System Operator as other alleged breaches may come to our notice following the receipt of all correspondence referred to above. Nor does this notice constrain MEUG from taking any other action should we discover behaviour we consider contrary to the Code or any other Act.
4. This letter and attached notice are not confidential

### **Background**

5. During the week of 23<sup>rd</sup> January 2011 the System Operator used discretion to constrain on generators north of Kinleith for a number of trading periods. The costs of these actions for the period of 23<sup>rd</sup> January to 27<sup>th</sup> January (5 days) were as follows<sup>2</sup>:

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<sup>1</sup> Refer <http://www.ea.govt.nz/about-us/news-events/market-briefs-media-releases/28Feb11/>

<sup>2</sup> Data source: <https://www.electricitywits.co.nz/>

### Constrained On Payments

Date	Southdown	Huntly	
23/01/2011	\$ 44,601	\$ 35,534	
24/01/2011	\$ 64,672	\$ 40,718	
25/01/2011	\$ 116,580	\$ 605,998	
26/01/2011	\$ 140,136	\$ 2,654,144	
27/01/2011	\$ 100,372	\$ 2,671,036	
Total	\$ 466,361	\$ 6,007,430	\$ 6,473,791

6. The total constrained on costs for the month were more than \$7.5 million. This is approximately six times more than normal and the costs have been invoiced to purchasers, pro rata, according to consumption in the month of January 2011.
7. This complaint is focussed on the five days 23<sup>rd</sup> to 27<sup>th</sup> January. The System Operator has published a report<sup>3</sup> that "provides an overview of the issues presented to the System Operator over this period and the actions taken".
8. It is our view that the actions taken by the System Operator constitute a breach of the code.
9. Part 8, clause 8.8 (3) allows the System Operator to depart from its standard procedures and use discretion

*The **policy statement** allows the **system operator** to use its discretion in operational matters in accordance with clause 8.14.*

10. But only if it is acting as a reasonable and prudent system operator

#### **8.14 Departure from policy statement**

*(1) The **system operator** may depart from the policies set out in a **policy statement** when a **system security situation** arises and such departure is required in terms of the **system operator** acting as a **reasonable and prudent system operator**.*

11. Part 1 of the code provides a definition of a reasonable and prudent system operator, as follows:

***reasonable and prudent system operator** means exercising that degree of skill, diligence, prudence, foresight and economic management, as determined by good international practice and that would reasonably and ordinarily be expected from a skilled and experienced **system operator** engaged in the co-ordination of an integrated transmission network under the same or similar circumstances as applied in New Zealand at the time.*

12. It is our view that with respect to the constrained on instructions provided to Southdown and Huntly during the 23<sup>rd</sup> to 27<sup>th</sup> January 2011 the System Operator did not act as a reasonable and prudent system operator. The reasons we hold this view are set out in the following sections.

<sup>3</sup> <http://www.systemoperator.co.nz/f1688.45099321/System-operator-discretion-23-27-Jan-2011.pdf>

### **Foresight**

13. We understand that the System Operator became aware of problems with transmission into the Auckland region on the 25<sup>th</sup> January 2010 when there was a fire under several circuits in the Waikato resulting in load shedding in Auckland<sup>4</sup>.
14. The system conditions prevalent in late January (wet weather and increased Waikato generation) were not unique. Similar conditions occurred in September and October 2010.
15. We would expect that good international practice would involve assessments of all known situations that might lead to transmission congestion, and solutions developed ahead of time.
16. The standard solution applied by the System Operator (explained in the Policy Statement) in NZ is to apply mathematical equations to the SPD model that restrict power flows so that circuits do not overload in the event of a single contingency – thus providing what is known as “n-1” security.
17. Good International practice would have been to develop a security constraint(s) so that n-1 security could be maintained should the system conditions observed on January 23<sup>rd</sup> 2011 transpire. We would have expected this to have occurred shortly after the System Operator became aware of this situation, which we understand to be 25<sup>th</sup> January 2010.
18. It appears that 11 months after becoming aware of the potential situation, the System Operator did not have a security constraint(s) developed.
19. In our view this is unacceptable, and clearly not an example of good international practice.

### **Degree of Skill**

20. Notwithstanding the lack of foresight we have described above, in our view the System Operator did not exercise the degree of skill that would be reflective of good international practice.
21. We would have expected that the System Operator would have at its disposal experts who, having the appropriate degree of skill, could quickly and efficiently develop, test and apply constraints to the SPD model.
22. It took the System Operator six days to apply a security constraint(s) to the SPD model. This appears to be an extraordinarily long time to develop, test and apply what are very simple linear equations to persons(s) with the requisite skills.
23. Even so, we are aware that the System Operator has a new computer tool available (known as simultaneous feasibility test – or SFT) that is able to almost instantly scan the grid and develop security constraints required to maintain n-1 security. We are not aware if the System Operator made use of SFT in this situation. If SFT was used we are simply mystified as to why it took six days to do so.
24. We contend that the failure of the System Operator to implement constraints that provided n-1 security to Auckland and avoided the need for discretion for a period of six days demonstrates a lack of skill and cannot be described as representative of good international practice.

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<sup>4</sup> System Operator, Review of Reduced Security Levels at Kinleith GXP, December 2010

### Economic Management

25. The System Operator's actions in the period 23 to 27 January resulted in costs of \$6.5 million being passed onto consumers. Consumers in unaffected regions have been invoiced at the same rate as consumers in Auckland – even though their consumption had absolutely no bearing on the situation (and in some cases, e.g. the Bay of Plenty, actually helped relieve the constraint).
26. Suppliers are entitled to offer their generation to the NZ electricity market at whatever price they see fit. Since the NZEM operates on least cost dispatch high priced generation is not normally required, and normally has no ability to influence the market price.
27. Security constraints are designed to protect assets. It is quite possible and acceptable for security constraints to restrict transmission flows and result in high priced generation being dispatched and setting high prices in constrained areas. At these times market participants are provided with pricing signals that enable them to take actions and manage their commercial positions.
28. However when the System Operator uses discretion and constrains generation on consumers are provided with no price signals. Costs are passed on to consumers in accordance with their proportion of monthly consumption. So even if a consumer is not drawing any power at all in the periods in which high constrained on payments are made they will still be charged (unless they consumed no power for the entire month). Consumers have no ability whatsoever to manage the risks associated with constrained on charges. There is no limit to the prices generation is offered to the market. Thus unless the System Operator pays attention to the offer prices of generation plant consumers are exposed to an uncapped liability – the consequences of which could be catastrophic.
29. We are sure that the System Operator is well aware of the risks that consumers face due to the System Operator's use of discretion. Given that the situation that developed in late January was foreseeable we believe that the System Operator should have exercised economic management in accordance with good international practice and negotiated grid support contracts with generators in the Auckland region in advance. This does not appear to have happened.
30. Notwithstanding our views on the economic management shortcomings of the System Operator we are of the opinion that the Electricity Authority needs to change the code to remove the uncapped liability that consumers currently face.

### Further Code Breaches

31. Clause 13.205(b) states that
 

*if the **system operator** has advised the **clearing manager** that a non-security **constrained on situation** occurred the **system operator** must be allocated a **constrained on amount** calculated in accordance with the following formula:*
32. It is our view that there was an alternative action available to the System Operator of applying security constraint(s) to the SPD model and thus there was no need for the System Operator to use discretion to constrain on Huntly and Southdown between the 23<sup>rd</sup> and 27<sup>th</sup> January 2011.
33. Therefore the instructions provided to Southdown and Huntly by the System Operator between 23<sup>rd</sup> and 27<sup>th</sup> January 2011 cannot be justified on the basis of system security.

34. Thus the constrained on situation(s) in question constitute non-security constrained on situation and in accordance with 13.205(b) the costs should be allocated to the System Operator.
35. It is our view that if the System Operator advised the clearing manager of non-security constrained on situations in late January then the clearing manager is in breach of 13.205(b). Otherwise the System Operator is in breach of 13.205(b).
36. Regardless of which of these two parties are in breach we expect the Electricity Authority to reverse the constrained on charges that have been invoiced to consumers, and ensure that they are allocated to the System Operator.

Yours sincerely



Ralph Matthes  
Executive Director