

BEFORE THE MINISTER FOR THE ENVIRONMENT SPECIAL TRIBUNAL

IN THE MATTER of the Resource Management Act
1991

AND

IN THE MATTER of an Application to amend the
Water Conservation (Kawarau)
Order 1997 under Section 216 of the
Act

BY **NEW ZEALAND FISH & GAME
COUNCIL AND OTAGO FISH &
GAME COUNCIL**

Applicants

**ADDENDUM TO EVIDENCE OF DAVID WILLIAM PARKER ON BEHALF OF
NEW ZEALAND AND OTAGO FISH & GAME COUNCILS
Dated this 28th day of May 2009**

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Reason for this addendum

1. This addendum to my statement of evidence deals with the suggestion by Philip Thomas Donnelly in his evidence to the Special Tribunal that generation security margins are inadequate, as evidenced by last winter's events. Mr Donnelly suggests that, as a consequence, new generation plants are urgently needed, and describes the contribution that Nevis River hydro generation could make. (See, for example, paragraphs 10, 15 to 20, and 49 to 53 of his statement of evidence).

Generation capacity required and being provided

2. To meet increased demand, plant replacement, and the 90% by 2025 renewable electricity target, will require between 130 and 175 MW of new capacity to be built each year. The exact figure depends upon the type of generation, e.g. geothermal generally runs at higher capacity factors than wind or hydro.
3. In recent years, increases in generation capacity have exceeded demand growth and have improved security margins. In 2007, about 600 MW of capacity came on stream, including gas at e3p (385 MW) and Southdown (45 MW), wind at Tararua (93 MW) and White Hill (58 MW), and geothermal at Mokai (17 MW).
4. In 2008 about 150 MW came on stream, including geothermal at Kawerau (100 MW) and Ngawha (15 MW), hydro at Manapouri (16 MW) and Deep Stream (6 MW), and wind at Te Rere Hau (10 MW).
5. As indicated in paragraphs 23 to 25 of my primary statement of evidence, as at November 2008 there was about 5600 MW of additional electricity capacity either under construction, consented or in the consent process – a figure which, while not all will be built, gives a significant level of comfort about future generation options.

6. During 2009 about 190 MW of this capacity is coming on stream, including wind at West Wind (143 MW) and Te Rere Hau (23 MW), geothermal at KA24 (10 MW), gas at Mangawhera (9 MW), and hydro at Benmore (5.5 MW).
7. Further capacity of about 375 MW is due to come on stream in 2010, including gas at Stratford (200 MW), geothermal at Nga Awa Purua a.k.a Rotokawa 2 (130 MW) and Centennial Drive (20 MW), wind at Te Rere Hau (13 MW), and hydro at Waipa (7 MW) and Benmore (a further 5.5 MW).
8. The Electricity Commission is tasked by the government under the Government Policy Statement on Electricity Governance to monitor security margins. The Commission also has the mandate to build or contract additional capacity if this is required to maintain security of supply.
9. It is axiomatic that if there was more generation capacity, there would be less pressure on security margins. But this does not mean that security margins are or were too tight. Extra capacity comes at a cost. If only needed, say, 2% of the time, it would lie idle 98% of the time. The economic cost of any excess capacity is paid for by electricity consumers through higher prices. The environmental cost is unnecessary environmental damage

Winter 2008

10. Last winter the lights did not go out despite an extreme combination of events, including the:
 - a. lowest national hydro inflows on record since 1931 for the period from early November 2007 to mid June 2008;

- b. early retirement (to limited peak standby for northward-only flows) of Pole 1 of the HVDC Cook Strait link, which inhibited supply between the North and South Islands;
 - c. unexpected closure of the New Plymouth gas fired thermal plant because of asbestos issues (with a temporary return to service in June 2008);
 - d. a number of short term events such as unplanned outages in major thermal plants (Taranaki Combined Cycle and Otahuhu B) and constraints on Huntly due to high water temperatures in the Waikato River inhibiting its use for cooling.
11. Despite these constraints, supply was maintained. Higher spot prices encouraged some discretionary users to reduce consumption. (These users also have the benefit of low prices when spot prices are low.) The Bluff aluminium smelter reduced its electricity consumption and a conservation campaign also assisted.
12. In terms of the likelihood of a repeat of last year's combination of events:
- a. the risk of low hydro inflows will always remain in a predominantly hydro system, but inflow sequences as low as the last year are very rare;
 - b. Pole 1 of the HDVC link is being replaced;
 - c. the New Plymouth plant is being replaced with 2 x 100MW fast-start gas fired generators at Stratford;
 - d. short term events will always occur from time to time (and the system is designed to expect and accommodate such events).

13. The fact that last year the system withstood such a combination of serious challenges is a testament to its resilience, rather than evidence of inadequacy.
14. The Electricity Commission, which has independent responsibility for security of supply, commissioned a review of the performance of the electricity system during winter 2008. (See www.electricitycommission.govt.nz/consultation/winter08). The review panel noted (at page 7) that:

“...many positives were apparent in 2008 ... It is also important to state that ultimately, there were no forced power cuts, despite extremely dry conditions in major hydro storage catchments. In short, a relatively young market withstood considerable stress and maintained uninterrupted supply of electricity to consumers.”

and that

“... winter of 2008 was the first time that the present security settings have been tested in earnest. ... Experience during 2008 has highlighted a number of areas that deserved further consideration.”

15. For example, the review panel recommended improving incentives for market participants to optimise non-hydro generation when hydro storage is at risk.
16. The Electricity Commission has not recommended an increase in generation capacity beyond that already being built and planned by generators to meet market demand, and nor has the Commission seen it necessary to build or contract additional capacity itself.
17. It is clear from the construction programme detailed above, and from Electricity Commission monitoring, that the electricity system is

responding satisfactorily to demand increases, and that there is no need for the “urgent” action suggested by Mr Donnelly in his evidence (at paragraph 53).