ARLIDGE & ASSOCIATES

The Manager,
Inquiry into the Electricity Industry,
Level 11
MoC Building
P O Box 1473
Wellington,

Dear Sir,

Our consultancy business wishes to make a submission in view of the Inquiry examining the wholesale market (NZEM) structure and assessing whether there should be greater demand side participation. We are also available to appear before the Inquiry.

It is our hope that the Inquiry will make positive recommendations to restore demand side participation to the wholesale market. Our wholesale market progressively moved from a year ahead ex-ante market (when ECNZ was the sole generator), to a week ahead ex-ante market (October 1989-March 1996), and to a day ahead ex-ante market (March 1996-September 1996). The ex-ante pricing mechanism meant the demand side knew the actual price signal in advance and could make appropriate decisions. These decisions are not only the shorter term decisions of users and consumers switching or shedding load, but decisions influencing long term investment in energy management throughout the entire electricity marketing chain.

The progressive development that brought the demand side to the table and shared risk between the supply and demand sides was completely reversed when the NZEM was formed in October 1996. The NZEM was hailed by its architects as internationally innovative, being the first wholesale market to incorporate demand side bidding, thus clearing the market on price, not volume. Both the current M-Co and Ministry of Commerce web sites refer to the wholesale market being cleared by competitive bids and offers. This is incorrect, as the NZEM is nothing more than a generator's pool where the appearance of demand side participation through demand side bidding is nothing more than a sham. The wholesale market does not, and cannot clear on price unless power rationing exists. It is an ex-post market that clears on volume.

The original intention of those framing the wholesale market in 1995/96 was for the demand side to "bid" in both price and volume a day ahead, thus allowing price and volume to be locked in prior to ex-post settlement for any differences. Unfortunately, a

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decision was taken to make the day-ahead commitment market for price and volume voluntary, not compulsory, when contracts (with one exception) locked in ex-post settlement. This meant the voluntary ex-ante market could never function and it collapsed from the outset. The new wholesale market therefore began in October 1996 with the full machinery of ex-ante pricing in the form of demand side bidding. However, without any functional ex-ante market, there was no mechanism to provide the demand side the actual price they will pay or receive in advance.

With the wholesale market being ex-post and clearing on volume the role of demand-side bidding is nothing more than volume forecasting. Even in this limited role, it has proved inferior to centralised volume forecasting. Despite NZEM Rules to ensure accurate volume bids are submitted, it has never been policed despite hundreds of breaches.

The volume or price the demand side bids is logically without consequence as you pay at the ex-post price, regardless of what price or volume is bid. The only foreseeable exception, which has yet to occur, is when demand exceeds available national supply. Under these circumstances, the demand side bidding system could act as a market rationing system. We believe an actual demonstration of this sole "effectiveness" would prove politically unpalatable.

Demand side bidding can only take place in a compulsory ex-ante market where the supply curve is fixed and both generation and load are committed to price and volume. The fixed supply curve is the key as it enables the individual demand-side player to capture the benefits of his or her actions and provides an infrastructural framework for increased investment in demand side management. Not only does an ex-post market leave the demand side collectively out in the cold, but there is no mechanism for the demand side participant to capture the financial benefits of their individual actions while generators can. Further, the move from an ex-ante market to ex-post in October 1996 shifted shared risk between the supply and demand sides fully on to the shoulders of the demand side.

As stated at the outset, we hope that the Inquiry will make positive recommendations to restore demand side participation in the wholesale market by ensuring an ex-ante pricing mechanism is re-introduced. NZ is alone among fully deregulated markets in not having an ex-ante market. The Inquiry needs to consider the wide implications of load in NZ not competing with supply on the margin particularly in relation to sustainable energy development, energy use intensity and potential energy management investment.

To effect change of the wholesale market design, the governance of the wholesale market has to be addressed. This is because there is not the economic incentive under the current structure for the supply side to move to an ex-ante market as its business risk can be increased by locked-in price before actual dispatch.

The NZEM structure is currently such that there are no true price signals available for future investors either in generation or demand side management. The implications of the lost potentiality is apparent and flows through the delivery chain notably on line and transmission capacity pricing, through increased losses and higher load factors.

As final comment, we urge the Inquiry to recommend a fundamental review of wholesale market arrangements in NZ. We also believe the proposals of the UK regulator, OFGEM, in proposing the replacement of the UK pool by a balancing system that permits the demand side (including customers of retailers) to compete ex-ante on the margin need to be closely studied.

Yours sincerely,

Robert Arlidge
Director