



NEW ZEALAND COUNCIL FOR INFRASTRUCTURE DEVELOPMENT

Submissions

On the

Initial Statement of Opportunities

June 2005

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NEW ZEALAND COUNCIL FOR INFRASTRUCTURE DEVELOPMENT

1. Introduction

- 1.1. The New Zealand Council for Infrastructure Development is a non profit organisation.
- 1.2. Members comprise a diverse range of private and public organisations that seek world class infrastructure developed and provided in New Zealand to help all New Zealanders achieve the standard of living to which we aspire.¹
- 1.3. NZCID's vision is to promote the provision of world class infrastructure by both the public and private sectors for the benefit of New Zealanders.
- 1.4. NZCID is concerned at the lack of progress on New Zealand's infrastructure development and the risks and opportunity costs of failure to invest in New Zealand's energy infrastructure in a timely manner.
- 1.5. It shares community and industry concern that there is an urgent need to address the security of New Zealand's future energy supply and to provide improved price stability.
- 1.6. It considers that optimum solutions are best provided in an open and competitive market environment where opportunities for investment in energy supply are maximised and that conversely barriers to competitive market entry are minimised.
- 1.7. The Council seeks to work with the Electricity Commission to ensure the security of New Zealand's future energy supply and it is in this collective vision that NZCID presents this submission of on the Initial Statement of Opportunities.

¹ A list of members of NZCID is attached to this submission.

2. Acknowledgement of Electricity Commission Objectives

NZCID:

- 2.1. Notes that the Electricity Commission's principle objectives are to ensure that electricity is produced and delivered in an efficient, fair, reliable, and environmentally sustainable manner and to promote and facilitate the efficient use of electricity.
- 2.1.1. The Commission's role is regulate the electricity supply industry in accordance with the rules and regulations under the Electricity Act to achieve the following specific out comes:
- energy and other resources are used efficiently;
 - risks (including price risks) relating to security of supply are properly and efficiently managed;
 - barriers to competition in the electricity industry are minimized for the long-term benefit of end-users;
 - incentives for investment in generation, transmission, lines, energy efficiency, and demand-side management are maintained or enhanced and do not discriminate between public and private investment;
 - the full costs of producing and transporting each additional unit of electricity are signalled;
 - delivered electricity costs and prices are subject to sustained downward pressure; and
 - the electricity sector contributes to achieving the Government's climate change objectives by minimizing unnecessary hydro spill, efficiently managing transmission and distribution losses and constraints, promoting demand-side management and energy efficiency, and removing barriers to investment in new generation technologies, renewables and distributed generation.
- 2.1.2. The Commission's responsibilities are to provide authoritative information on the historical, current, and possible future states of electricity supply and demand to facilitate informed decision making about new investment in transmission and transmission alternatives, to promote efficient development of infrastructure, and encourage good outcomes for consumers.
- 2.2. NZCID acknowledges that the Initial Statement of Opportunities (the Statement) has been prepared within a compressed time frame and is therefore more limited in its detail and coverage than future statements are intended to be.

3. Recommendations for Development of the Draft Initial Statement of Opportunities

- 3.1. **Need for Comparative Analysis of Conflicting Future Energy Demand Forecasts**
- 3.1.1. The Statement projects a requirement for additional generation capacity and proposes a range of generation scenarios that it considers will meet forecast electricity demand.
- 3.1.2. However, NZCID is aware there is considerable debate about the level of future demand and the level of reserve capacity that is required under the range of generation scenarios.
- 3.1.3. Forecasts future energy demand range from the Ministry of Economic Development (MED) projections at the low end of the scale to those of others (including the projections contained in the Statement itself) which are more than twice that projected by MED.²
- 3.1.4. This significant variance in informed opinion is one of the factors that cause a serious lack of confidence in the security of New Zealand's future energy supply.³
- 3.1.5. NZCID notes that there is considerable debate about the level and extent of reserve capacity needed under different generation scenarios, the size and scale of off grid generation, and the potential impact of a significant increase in heavy industrial demand, among other issues.
- 3.1.6. NZCID is not, at this stage, in a position to judge the veracity of the various alternative future demand scenarios but considers that the Statement should take account of the range of views and forecasts, provide comparative analysis of the alternative views and more fully explain its rationale for discounting these in favour of its own energy projections.
- 3.1.7. Without such analysis it is difficult for users of the Statement to have confidence that the projections used as the basis against which the generation scenarios are compared, and whether or not these represent an "authoritative" analysis of future energy demand, as required by the legislation.

² The Centre for Advanced Engineering / SKM work (among others) have projected future demand at roughly double MED projections.

³ Large NZ organizations such as Fonterra and Carter Holt Harvey, among others, have been reported in the media as saying that energy supply and pricing to be their biggest concern. NZCID is also aware of anecdotal evidence that uncertainty about future power prices is restraining overseas companies from allowing their New Zealand subsidiaries making long term capital investments.

3.2. Generation scenarios do not include all reasonable options

- 3.2.1. The overwhelming imperative of the legislation is to ensure that electricity is produced and delivered in an “efficient, fair, reliable, and environmentally sustainable manner and to promote and facilitate the efficient use of electricity.”
- 3.2.2. NZCID considers the range of generation scenarios included within the Statement does not consider all reasonable opportunities.
- 3.2.3. For example nuclear power as a potential future generation scenario is not considered, nor is the potential of removal of carbon taxes or potential removal of constraints imposed by continued compliance to the Kyoto protocol beyond 2012.
- 3.2.4. Without necessarily advocating any of these options, NZCID believes that any objective assessment of generation scenarios should at least take them into consideration.
- 3.2.5. By its very nature, the Statement deals with long time frames and therefore needs to consider the possibility of reasonable alternative future generation scenarios
- 3.2.6. While it is acknowledged that the Commission is required to work within the Government Policy Statement, this should not inhibit it from highlighting the opportunity costs imposed by current policy settings.
- 3.2.7. This then enables informed public debate about potential alternative approaches so that they can either be accepted or discounted in an openly transparent manner.
- 3.2.8. Without such analysis, risk of public scepticism about the validity of the process is increased and consequently confidence in the outcomes can be undermined.
- 3.2.9. NZCID considers the range of generation scenarios needs to be extended to evaluate other reasonable options including but not limited to:
- A major power station within the Auckland region
 - Potential for nuclear power generation
 - Potential for improved distributed generation and cogeneration
 - Possible use of national park land (subject to no net loss of conservation values)
 - Possibility of bringing gas ashore from known South Island gas fields with associated generation and transmission capacity upgrade
 - Potential for energy storage systems and encouragement of arbitrage to maximize use of renewable generation, particularly wind prospects currently under consideration.

- Effects of major industry closure / relocation on ability to transfer stranded generation assets with limited transmission routes to alternative markets. (Comalco is the obvious one).

Such an analysis might also signal the Commissions potential interest in:

- HVDC alternatives to HVAC transmission upgrades
- Future proofing transmission capacity in the greater Auckland area. (It is unlikely existing overhead HV lines in suburban areas will be environmentally acceptable. Provision of below ground conduits and route diversity will need to be addressed well in advance of requirements.)
- Enabling opportunity for private enterprise to provide alternative bulk transmission capability.

3.3. Generation scenarios fail to highlight constraints imposed by current environmental consent processes, land access and water rights issues.

- 3.3.1. The Statement proposes five alternative scenarios each of which are considered feasible.
- 3.3.2. However, previous experience (most notably Meridian Energy's decision to abandon Project Aqua) has shown the risks and resultant costs associated with gaining resource consents and land access and water rights can be prohibitive.
- 3.3.3. While such issues represent significant barriers to investment in electricity generation in the New Zealand context, they have received scant attention within the Statement.
- 3.3.4. The validity of the assertion that all scenarios are considered feasible must therefore be questioned (at least within the current legislative and policy environment).
- 3.3.5. Similarly, given the wide variation in risks associated with implementation of the five alternative scenarios, the validity of the Net Present Value analysis is also questionable.
- 3.3.6. One of the key reasons underlying concern about New Zealand's future energy supply is caused by the regular deferral or cancellation of investments in generation capacity because of RMA, land access and water rights issues.
- 3.3.7. NZCID considers these issues should be clearly identified in the Statement as issues of serious concern requiring urgent attention.

3.4. Need for greater urgency in determining the transmission upgrade path to ensure an open and competitive market

- 3.4.1. The Commission's specific objectives include a requirement to ensure that barriers to competition in the electricity industry are minimised for the long-term benefit of end-users; and
- 3.4.2. incentives for investment in generation, transmission, lines, energy efficiency, and demand-side management are maintained or enhanced and do not discriminate between public and private investment;
- 3.4.3. The importance of open access to the national transmission network is therefore critical to enabling open entry by new market entrants.
- 3.4.4. This underlines the need for urgency in determining the transmission upgrade path.

3.5. Need to review barriers to an open and competitive market in accordance with its stated goals and objectives.

- 3.5.1. NZCID notes there is disquiet within the industry as to whether privately owned companies are competing on a level playing field as compared with the State Owned Enterprises.
- 3.5.2. One example of this is the constraint on lines companies to enter the generation market.
- 3.5.3. Similarly a recent study undertaken by Auckland Uniservices Limited concluded that:
- The SOE Act may not be working as intended in the electricity industry;
 - Commercial imperatives appear potentially weaker for SOEs than their privately owned rivals
 - As a result, the public sector will need to provide a disproportionate share of the new investment capital required; and
 - An associated effect is that, in New Zealand, the competitive generation model does not provide open access to investment opportunities, which was intended to be one its most important functions.⁴
- 3.5.4. NZCID considers the Commission needs to signal its intention to review barriers to an open and competitive market in accordance with its stated goals and objectives and the Statement should identify such issues as matters for

⁴ Investment in the New Zealand Electricity Industry – An examination of comparative financial performance, pricing, and new entry conditions; and a discussion of the principles of new investment. Dr Alastair Marsden, Dr Russell Poskitt and Dr John Small, Auckland UniServices Limited, October 2004 p11

future attention.

3.6. N-1 Criterion for Transmission Reliability

- 3.6.1. NZCID understands that in 1992 the International Conference on Large High Voltage Electric Systems reported that most countries use an N-2 standard for major load centres and that the standard in Britain requires N-2 security for loads greater than 350MW.
- 3.6.2. Given that the load for the Auckland market is now about 200MW, and projected to rise to about 3500MW by 2025, NZCID considers the adoption of a higher grid reliability standard should be considered for the Auckland market.
- 3.6.3. NZCID understands that if an N-2 criteria were to be applied, the proposed upgrades would need to be accelerated. NZCID is concerned that if a single tower failure scenario were to occur to some of Transpower's double circuit lines, there would be widespread disruption to supplies.

4. Conclusions –

- 4.1. NZCID is concerned at the lack of progress on New Zealand's infrastructure development and the opportunity cost of failure to invest in New Zealand's energy infrastructure in a timely manner.
- 4.2. Shares community and industry concern that there is an urgent need to address the security of New Zealand's future energy supply and to provide improved price stability.
- 4.3. Considers the Initial Statement of Opportunity is a good first step in setting out future opportunities for development of the electricity market in New Zealand.
- 4.4. Recommends the final Statement of Opportunities be enhanced to provide:
 - 4.4.1. Comparative analysis of conflicting future energy demand forecasts
 - 4.4.2. A broader range of alternative future generation opportunities,
 - 4.4.3. The urgent need to address constraints imposed by current environmental consent processes, land access and water rights issues.

- 4.4.4. Greater urgency in determining the transmission upgrade path
- 4.4.5. A review of existing barriers to an open and competitive market in accordance with its stated goals and objectives.
- 4.4.6. A review of the validity of maintaining N-1 Criterion for Transmission Reliability for the main urban centres.

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NZCID Existing Members

Company name	Website	Sector
ABN AMRO BANK NV	www.abnamro.com	Service Provider
Alstom Transport NZ Ltd	www.alstom.co.nz	Service Provider
AMP Capital Investors (NZ) Ltd	www.ampcapital.co.nz	Service Provider
Areva T&D NZ Ltd	www.areva-td.co.nz	Construction
ASB Bank Limited	www.asbbank.co.nz	Service Provider
Auckland City Council	www.aucklandcity.govt.nz	Public Sector
Bank of New Zealand	www.bnz.co.nz	Service Provider
Beca Infrastructure Ltd	www.beca.com	Construction
Bell Gully	www.bellgully.com	Service Provider
Chapman Tripp	www.chapmantripp.com	Service Provider
Citigroup	www.citigroup.com	Construction and Finance
EMA	www.ema.co.nz	Service Provider
Fonterra	www.fonterra.com	Infrastructure owner and operator
Fulton Hogan	www.fh.co.nz	Construction
GHD Ltd	www.ghd.co.nz	Construction
Higgins Group Holdings Ltd	www.higgins.co.nz	Construction and Service Provider
Holcim (NZ) Ltd.	www.holcim.com/NZ	Construction
Kensington Swan	www.kensingtonswan.co.nz	Service Provider
MacQuarie NZ Ltd.	www.macquarie.com.au	Service Provider
Multiplex Construction (NZ) Ltd	www.multiplex.com.au	Construction
MWH NZ Ltd	www.mwhglobal.com	Service Provider
NZ Post	www.nzpost.co.nz	Owner and Operator
Pacific Road Corporate Finance NZ Ltd	www.pacroad.com	Service Provider
Siemens (NZ) Ltd	www.siemens.com	Construction
Stevenson Group	www.stevensons.co.nz	Construction
Transfield Services	www.transfieldservices.com	Construction
Transpower NZ Ltd	www.transpower.co.nz	Public Sector
Watercare	www.water.co.nz	Owner and Operator
Westpac Banking Corporation	www.westpac.co.nz	Service Provider
Works Infrastructure Limited	www.works.co.nz	Construction