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Submission on an Application for Resource Consent under Section 144 of the Resource Management Act 1991

To: Minister for the Environment

Name: Ministry of Economic Development

Address: P O Box 1473, Wellington

1. The Ministry of Economic Development (MED) supports the application by Transpower for resource consent to carry out the North Island grid upgrade, insofar as it contributes to national energy and economic objectives, and as long as environmental impacts are appropriately avoided, remedied or mitigated.

2. The particular parts of the application MED supports are:

The whole of the application.

3. The reasons for making this submission are:

The government considers that the transmission upgrade is of national significance, and accordingly Hon Pete Hodgson, acting for the Minister for the Environment, has called in the matter. The proposal is of national significance as its benefits will be national in their effect; primarily by enhancing security of supply and facilitating the increased use of renewable energy.

MED considers that the proposal is well aligned with the government's energy objectives. The upgrade supports the government's Economic Transformation and sustainability policies, particularly the themes of world-class infrastructure, environmental sustainability and Auckland as an internationally competitive city.

This submission seeks to ensure that the contribution the transmission upgrade would make to the government's energy and wider objectives is taken into account. The proposal also aligns with the government's commitment to action on climate change.

Why the proposal is of national significance

MED believes that the proposal is of national significance because it will enhance security of supply. The proposal will facilitate the increased use of renewable energy. If the proposal does not proceed, it will be more difficult to reduce greenhouse gas emissions from electricity generation.

The proposal is also significant because it is time-critical in nature. The project is large and complex; delays in progressing the project start to create a risk that security of supply could be compromised.

There is a clear national interest in the proposal, and given this national significance, the government considered it appropriate that the resource consent applications be called in.

Economic Transformation

In March 2006 Cabinet agreed that economic transformation would be one of the government's three priorities for the next decade.¹ The Economic Transformation Agenda seeks to progress New Zealand to a high income, knowledge-based market economy, which is both innovative and creative, and provides a unique quality of life to all New Zealanders.

Economic Transformation comprises five themes: growing globally competitive firms, world class infrastructure, innovative and productive workplaces, Auckland as an internationally competitive city, and environmental sustainability.

The proposal is relevant to three key themes. The new transmission line would provide **world class infrastructure** and give the public and business increased confidence that energy supplies will be ongoing and secure. A reliable electricity supply is fundamental to a modern economy.

The upgrade will primarily serve Auckland, contributing to **Auckland becoming an internationally competitive city** that is one of the best places in the world to live, do business, and visit. Auckland and the surrounding region comprise a very significant proportion of total economic activity in New Zealand.

Economic transformation also encompasses **environment sustainability**, which includes tackling the challenge of climate change. Demand for electricity in Auckland is significant and growing, but sources of renewable energy are located far away; a reliable transmission system is essential to ensure that we can effectively utilise renewable energy sources, wherever they are located, as part of New Zealand's response to climate change.

The grid upgrade proposal is nationally important because any loss of electricity supply to Auckland would have an impact on the whole New Zealand economy.

The Proposal's Contribution to Government Energy Policies and Objectives

The government is committed to a sustainable energy system. Accordingly, the government has:

- Drafted a New Zealand Energy Strategy;
- Amended the Government Policy Statement on Electricity Governance to reflect its renewable energy and transmission objectives;
- Passed the Resource Management (Energy and Climate Change) Amendment Act 2004; and,
- Engaged in consultation regarding national guidance on transmission under the Resource Management Act.

These measures are examined in more detail below.

¹ <http://www.beehive.govt.nz/ViewDocument.aspx?DocumentID=26015>

The New Zealand Energy Strategy

The government expects to launch the New Zealand Energy Strategy (NZES) in October 2007. The NZES establishes the government's vision for New Zealand's energy system, and the range of actions or options that the government could take to achieve that vision. The government wants to work towards a "reliable and resilient system delivering New Zealand sustainable, low emissions energy".

Through the draft NZES the government has indicated that it will focus on policies, strategies and initiatives that support the following six high-level objectives:

- Providing clear direction on the future of New Zealand's energy system;
- Maintaining high levels of security of energy supply, and reliability at competitive prices;
- Maximising how efficiently we use our energy to safeguard affordability, economic productivity and our environment;
- Maximising the proportion of energy that comes from our abundant renewable energy resources;
- Reducing our greenhouse gas emissions;
- Promoting environmentally sustainable technologies.

The proposal is a significant development that will help to meet these objectives. These objectives are examined in further detail below.

Security of Supply

A primary objective of the grid upgrade is to ensure that **high levels of security of supply** are maintained to the northern part of the North Island. Ensuring security of electricity supply is a critical issue for all New Zealanders and for the government. New Zealand's economic activity and future economic growth rely on a secure supply of electricity. Grid constraints could result in interruption to supply, higher electricity prices, and new electricity generation from renewable resources facing restricted access to the electricity market.

An aspect of security of supply is ensuring that New Zealand has sufficient transmission capacity to ensure that the forecasted growth in energy demand can be delivered.

Much of the existing transmission system was developed around 40 years ago. Demand has continued to increase throughout the subsequent period, particularly in the Auckland region, but relatively little investment has occurred in upgrading the capacity of the network. We are now in a period where major upgrade is necessary, to position the country for the coming decades.

The recent Energy Outlook produced by MED considers a range of scenarios, all of which predict increased electricity demand, ranging from an average of 1 percent per annum to 1.5 percent per annum over the period to 2030.² There is some evidence to suggest that, in the

² Ministry of Economic Development, *Energy Outlook to 2030*, September 2006, p.24-25 (<http://www.med.govt.nz/energy/eo/>)

Assumptions of the Energy Outlook's Reference Scenario:

- After 2011, with the size of the labour force stabilizing, GDP growth rates trend down to the long-run labour productivity growth rate, assumed to be 1.5%.
- Exchange rates to 2009 are based on New Zealand Institute of Economic Research projections. For 2010 and thereafter, the exchange rate is assumed to be 0.60 US\$/NZ\$, which corresponds roughly to its average value since the floating of the New Zealand dollar in 1985.
- Oil prices are assumed to remain at US\$60/barrel throughout the model time horizon.

shorter term, increases in demand may be higher than these figures. Analysis of data on electricity exported from the transmission grid from 1999 to 2005 indicates that electricity demand increased in the range of 2 to 2.5 percent per annum on average.

Growth in demand and the likely decline in availability of indigenous gas will likely be accommodated by a transition to renewable energy sources. These sources are generally located far away from the main centres of demand, particularly Auckland. The transmission proposal would facilitate greater use of generation from renewables required to satisfy demand while at the same time reducing New Zealand's dependence on non-renewable energy sources, by ensuring that energy can be delivered to where it is needed.

Transpower investigated the need for the grid upgrade project. Transpower considered non-transmission alternatives, including electricity substitutes, generation alternatives, energy efficiency alternatives, and demand-side management alternatives. The conclusion was that these alternatives would be either inadequate or uncertain to meet increases in demand over the short or longer term.

The geographical spread of generation contributes to security of supply. A strong grid means that sources of generation can be more diverse, and mitigates the risk of dry years in the south or a lack of wind in, for example, the Manawatu.

Low Cost Option

New transmission lines are likely to be a low cost option, which will ensure that electricity **prices remain as low as possible**. The proposal has been determined to be the most economically efficient option to ensure electricity of supply in the upper North Island. Accordingly, it will help to achieve the government's objectives for a fair, efficient and reliable electricity system.

Fair and efficient pricing of energy should reflect the relative scarcity or abundance of energy resources, and the costs of production, distribution and use. It is government policy that energy prices should, in principle, reflect the full costs of supply (including the full costs of transmission), including environmental costs. Efficient full-cost prices summarise a large volume of information necessary for sound energy choices. Open, competitive markets apply downward pressure to costs and prices.

Part of fair and efficient pricing is ensuring that cost-competitive forms of generation are brought into use in a timely fashion. If lowest cost options are not used, then more expensive sources have to be used, placing upwards pressure on prices. Renewable generation should be located where resources are abundant, so that the energy produced is low cost. Transmission is then needed to transmit that energy to demand centres.

Under an emissions trading scheme, emissions pricing may also favour remote renewable generation over nearby thermal generation.

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- New gas discoveries are assumed to average 60 PJ/year, with production from new discoveries starting in 2012. This number represents the historical average (excluding the Maui field).
 - The price of imported gas (LNG or CNG) is assumed to be a function of the oil price based on the Japanese Crude Cocktail formula.
 - Coal is assumed to be priced at NZ\$3.50/GJ in 2010 rising to NZ\$4.00/GJ by 2015 at the import terminal. An additional \$0.40/GJ is added for inland transportation to the Huntly power station.
 - Costs of additional generation capacity are based on Electricity Generation Supply Cost & Availability reports prepared by East Harbour.
 - No carbon tax.

The Electricity Commission is responsible for ensuring that significant investments in transmission are justified on an economic basis. The government set up the Electricity Commission in 2003 to regulate the operation of the electricity industry and markets (wholesale and retail) in accordance with the Electricity Act and government energy policy. The Electricity Commission is required to consult on, and approve (or not) investments proposed by Transpower. After considering the alternatives to the current proposal, and other considerations, the Commission approved Transpower's North Island grid upgrade proposal as the most economically justified option and the option that best meets the needs of the electricity sector. This supports the government's objective to pick low cost options to ensure that prices are competitive.

Government's strategic direction on climate change

The proposal is important to the government's direction on climate change, because it will help to **maximise the proportion of energy that comes from our abundant renewable energy resources, contribute to a reduction in our greenhouse gas emissions, and promote environmentally sustainable technologies.**

Over the past decade, climate change has emerged as the major global environmental concern about the impact of energy use. Burning fossil fuels for energy produces gases, particularly carbon dioxide, that accumulates in the Earth's atmosphere and enhance its natural 'greenhouse effect'. Greater use of renewable energy resources that have low emissions of greenhouse gases is one option for reducing the climate change impacts of energy use.

On 20 September 2007, the government announced that it had decided in principle that New Zealand will adopt an emissions trading scheme as its core price-based measure for mitigating climate change, alongside other policies and measures to reduce overall domestic emissions. The government also announced a number of targets, including that ninety per cent of our electricity generation will be from renewable sources by 2025.

However, as mentioned above, sources of renewable energy are usually not located near where demand for electricity is greatest. A robust grid is essential because the intermittent nature of many renewable energy resources puts more pressure on the grid.

The grid upgrade will encourage the greater use of renewables, which will break down a barrier that might prevent low emissions technologies from being more widely used. Through utilising generating capacity from renewable resources, there is the potential to prevent or reduce greenhouse gas emissions from new or existing fossil-fuel plants. By contributing indirectly to the reduction of greenhouse gases, the proposal would assist New Zealand in meeting its commitments under the Kyoto Protocol and contribute to the government's longer term climate change objectives.

To achieve the government's objectives of moving towards more renewable energy sources, and reducing reliance on greenhouse gas intensive electricity generation, an effective transmission network will be needed to connect renewable electricity generation to areas of growing electricity demand (mostly in the North Island).

The proposal is therefore aligned with the government's strategic direction for its climate change policies, which includes (amongst other things) the need to act to address the risks for New Zealand, the need to reduce greenhouse gas emissions, and recognition of the crucial role of new and newly economic energy technologies.

Government Policy Statement on Electricity Governance

The Government Policy Statement (GPS) on Electricity Governance sets out the objectives and outcomes the government wants the Electricity Commission to give effect to. It is made pursuant to section 172ZK of the Electricity Act 1992.

The government's overall objective for the electricity industry is to ensure that electricity is produced and delivered to all classes of consumer in an efficient, fair, reliable and environmentally sustainable manner and to promote and facilitate the efficient use of electricity.

The GPS states that the government's strategy for managing climate change and long term energy security includes encouraging the development of renewable energy resources. The government's objective is that the national transmission grid facilitates the potential contribution of renewables to the electricity system.

The government's transmission objectives in the GPS that are relevant to the proposal include:

- That services are provided in a manner consistent with the government's policy objectives for electricity and in particular that grid reliability should be maintained at a level required by residential, commercial and industrial users and the government's economic development objects;
- That competition in generation and retail is facilitated and transmission constraints are minimised; and
- That the national transmission grid should be planned and made available so as to facilitate the potential contribution of renewables to the electricity system and in a manner that is consistent with the government's climate change and renewables policies.

Resource Management (Energy and Climate Change) Amendment Act 2004

The Resource Management (Energy and Climate Change) Amendment Act 2004 provided a stronger mandate to councils to encourage energy efficiency and renewable energy generation. The amendment sought greater alignment between local authorities' plans and national energy objectives outlined in the National Energy Efficiency and Conservation Strategy and climate change policies.

Specifically the amendment to section 7 of the Resource Management Act (RMA) requires decision-makers to have particular regard to the efficient use of energy (section 7(ba)), the effects of climate change (section 7(i)), and the benefits of associated with the use and development of renewable sources of energy (section 7(j)). The proposed transmission upgrade will facilitate the use of renewables, so sections 7(ba) and (i) should be taken into account.

National guidance on transmission in development

The Minister for the Environment is currently developing national guidance on electricity transmission and has proposed a National Policy Statement (NPS) on transmission. The draft NPS is being considered by a Board of Inquiry. The purpose of an NPS is to state objectives and policies for matters of national significance that are relevant to achieving the purpose of the Act (s45(1)). The purpose of the proposed NPS on transmission is to recognise the national significance of the electricity transmission network to sustainable

secure electricity transmission and its role in facilitating new and existing renewable electricity generation.

An NPS on Electricity Transmission will, if put in place, set out objectives and policies for managing the national grid under the RMA. It will require local authorities to recognise the national benefits of electricity transmission and the need to protect the integrity of the network, while managing the local environmental effects of transmission.

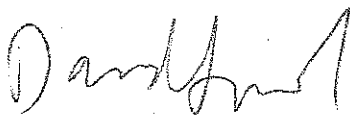
While the NPS has not been finalised, it signifies the importance to the government of transmission and sustainable energy projects.

The Ministry for the Environment is also working on two national environmental standards, prepared under s 43, which will provide for the operation, maintenance and upgrade of the transmission network as permitted activities, provided that there are no significant adverse effects. The standards will also provide a consistent framework of consent requirements for transmission activities where the effects are more than minor and set controls on activities that could put the transmission network at risk.

4. The Ministry of Economic Development requests that the consent authority make the following decisions:

Approve the application for land use consents and discharge permits.

5. The Ministry of Economic Development is available to be heard in support of its submission, if any clarification of its position is required.



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