Application for an Exemption pursuant to section 81 of the Electricity Industry Reform Act 1998

Date: 6 November 2006

Applicant:

Top Energy Limited
Station Road
Kaikohe

Applicant's contact:

Bell Gully
HP Tower
171 Featherston Street
(P O Box 1291)
Wellington

Attention: Peter Castle

Tel: (04) 915 6988
Fax: (04) 473 3845
Email: peter.castle@bellgully.com

Application:

Pursuant to section 81 of the Electricity Industry Reform Act 1998 (the **EIR Act**), application is hereby made to the Commerce Commission for exemption from the application of the EIR Act as described in this application.

Introduction

Top Energy Limited (**Top**) is an electricity lines business within the definition set out in section 4 of the EIR Act.

Top, through its wholly owned subsidiary Ngawha Generation Limited (**NGL**), owns and operates the Ngawha 12MW (name plate) geothermal power plant at Ngawha Springs, 6 kilometres from Kaikohe (**Ngawha**).

Section 19(3)(ga) of the EIR Act provides that no account is to be taken of persons interest in a business if:

> "(ga) that person is involved because the person has an interest in a business that generates electricity from a geothermal energy source if:
>
> (i) the geothermal plant was commissioned between 1 January 1998 and the date on which this paragraph comes into force, and is currently owned by the person that commissioned it; and
>
> (ii) the output from the geothermal plant is less than 12MW (determined according to nameplate or nameplates);"

Top's ownership and therefore involvement in Ngawha is therefore disregarded for the purposes of the EIR Act. Top is therefore permitted to own and operate Ngawha without the need to comply with the corporate separation or the arms length rules.

The legal structure of Top's ownership of Ngawha is set out in the Appendix to this application.

Top proposes to expand the nameplate capacity of Ngawha by up to 30MW to result in a new name plate capacity of up to 42MW. Top's wholly owned subsidiary Ngawha Geothermal Resource Co Limited (**NGR**) has obtained the requisite consents under the Resource Management Act 1991 to do so. It must be noted that the consents are in terms of tonnes of geothermal fluid to be extracted and reinjected per month. The ultimate nameplated capacity of the expanded plant will be finalised by reference to the most efficient use of the geothermal fluid NGC is able to achieve within the monthly volume permitted under the terms of its resource consents.

The existing plant has a name plate capacity of 12MW. The actual output from the existing plant is 87GWH per year..

An exemption under section 81 of the EIR Act is now sought by Top to enable it to be involved in expanded capacity at Ngawha up to 42MW by owning such increased capacity without being required to comply with the arms length rules. In the alternative, Top seeks exemption from the requirement to comply with clauses 7, 8, 9, and 10 of the arms length rules.

Background Information

Top is wholly-owned by the Top Energy Consumer Trust (the **Trust**), the beneficiaries of which are Top's consumers. The definition of "consumer" under the Trust's trust deed is:

> ""**Consumer**" means the persons who, at any appropriate date designated from time to time by the Trustees, are named in the record held by or available to the Company (or are otherwise ascertainable to the satisfaction of the Company) as persons whose premises are connected to the Company's distribution network and who are liable, whether alone or jointly with any other person (and where jointly liable shall be one Consumer for the purposes of the Trust), to the Company or any energy company for the payment of any amount in respect of the use of and connection to the Company's distribution network where there is consumption at those premises of all or nearly all of the electricity that is delivered to those premises through the Company's distribution network."

The trustees of the Trust are:

- Brian Victor Thorburn
- Robin Lyndsey Shepherd
- Ann Lynette Court
- Lorraine Anne Hill
- Maurice Penney

The Trust was established in 1992 when Top was corporatised in accordance with the Energy Companies Act 1992. Since establishment, it has distributed approximately $30 million to consumer beneficiaries.

Top's primary business is the conveyance of electricity by line in New Zealand. It owns and operates the local distribution network in the Far North Region. The area reticulated is approximately 6800 square kilometres. The geographic boundary is approximately 20 kilometres north of Whangarei at Hukerenui and equates to the Far North District Council territorial authority. A total of 27,000 consumers are supplied by 4000 kilometres of lines with

an asset value of $100million. The area is economically disadvantaged in comparative terms with relatively low household incomes relative to the national average. The customer density is 7.1 per kilometre of line compared to the national average of 12.3 customers per kilometre of line.

Ngawha is a 12MW gross (name plate) output binary geothermal power plant, constructed in 1997/8 and commissioned on 15 June 1998.

The Ngawha Springs geothermal field covers approximately 25 square kms. The power plant is constructed on land in which local Māori have an ownership interest.

Investigations have shown that Ngawha Springs geothermal field can sustain increased geothermal fluid extraction of up to an average of 25000 tonnes per day with the consent reflecting a permitted monthly total of 775000 tonnes.

Benefits of expanded capacity

There are several benefits to Top's consumers in owning Ngawha and, there will be even greater benefits to them and a wider group of electricity users if its capacity is to be expanded.

In the absence of local generation, electricity must be transmitted over a greater distance to consumers than any other transmission distance in New Zealand.

The result of this is that transmission losses payable for electricity distribution in Top's network, are greater than almost any other losses on transmission in New Zealand and average 7.8%. This is a direct result of the distance from the various points of generation.

Locally produced embedded generation is therefore a much more economically efficient means of meeting the customer demand in Top's network.

Currently, Ngawha generates approximately 30% of the electricity supplied across Top's network. Once expanded, it will meet approximately 70% of the electricity supplied across Top's network.

Transmission losses avoided currently amount to $657,000 and at current prices it is expected that this amount will increase to $1.2million with the expanded plant.

The benefits arising from this reduction in losses have two separate components.

The first benefit is the reduction in heating losses in the transmission lines between the South Auckland region and the substation at Kaikohe. The average transmission loss in Transpower's System is in the region of 5%. Because Ngawha operates at full load virtually all of the time, and the heating loss depends on the square of the load, the loss reduction in the transmission conferred by the station could easily be 5% which is equivalent to 750 kW. In other words, from the point of view of heating losses only, a 15MW power plant at Ngawha would be directly equivalent to a 15.75MW station in Auckland. This reduction in losses will be a direct benefit to Top Energy's consumers because the savings of transmission losses is passed on to the end consumer. At 10 c/kWh, this amounts to the annual saving of $657,000 referred to above.

The second benefit that flows from a reduction in losses relates to "reactive power".

In order to maintain the voltage at acceptable levels, a power system needs reactive power. If there is insufficient reactive power, the voltage will be low and, if it goes below a critical value, the voltage can collapse entirely. A voltage collapse in Auckland would blackout Auckland and the whole of the Far North District for several hours.

Reactive power is generated at power stations and can also be generated by installing "capacitor banks" - at some expense - and what is called "static Var compensators" which are more expensive. For a number of technical reasons, generating reactive power in a generator is more beneficial to the system than using capacitor banks and less expensive than installing static Var compensators. Transpower have installed many capacitor banks in Auckland and have now reached the technical limit for this relatively low cost source of reactive power. Any further increase in reactive power generation in Auckland will have to come from new generators or the more expensive static Var compensators.

Reactive power is consumed when electricity is transmitted over transmission lines and passes through transformers. It is also consumed by loads such as electric motors and fluorescent lights.

Bryan Leyland, an internationally recognised power system engineering expert, considers that, based on the information in section 3.2 of Transpower's 2004 System Security Forecast, a new 15MW power plant at Ngawha operating at 0.8 power factor (i.e. generating 10 MVar of reactive power) would (a) reduce the transmission loading from the South by 15.75MW and (b) by virtue of generating reactive power, increase the transmission capacity from the South by about 15 MW. In other words, this station would increase the security margin at Auckland and the Far North District by 30MW. As the load in Auckland and the North is increasing at about 50MW per year, the station would defer the need for the $500 million 400 kV line through the

Waikato region by six months. Deferring the expenditure of $500 million by six months represents a saving of about $20 million in interest charges.

The new power station will use “synchronous” generators. This means that in addition to generating electrical power, these generators can also regulate the system voltage by generating - or absorbing - reactive power. The generating plant will also be able to supply the Kaikohe load on its own. This means that if Kaikohe loses its connection to the grid because of a transmission line failure or voltage collapse or other problem at Auckland, the station should be able to restore supply and keep the lights on until Kaikohe is once again able to connect to the main grid. Given that Kaikohe is at the northern extremity of the NZ grid, the risk of loss of power is quite high and, now that the transmission system into Auckland from the South is close to overload, the risk will increase steadily until there is a major increase in transmission capacity into Auckland. This increase will not occur in the next 5 or 6 years. A wind farm with an equivalent output could not supply Kaikohe as an isolated load because wind farms are not capable of supplying a system isolated from the grid, even when the wind is blowing strongly and the output is sufficient to meet the load.

The generation from geothermal resources is recognised as being in line with Government policy aimed at reducing reliance on fossil fuels for generation. The geothermal plant emits approximately 30% of the emissions of a fossil fuelled plant and contributes to the lowering of emissions in compliance with Kyoto Protocol targets. In a comparison with other forms of generation one expert commentator has said that a 25MW geothermal station confers the same benefit on our power system as a 60MW wind farm with a 15MW thermal back up plant.

Parliament recognised that there were absolutely unique and exceptional reasons for Top's ownership of Ngawha to be excluded from the corporate separation and arms length requirements of the reforms implemented under the EIR Act and included section 19(3)(ga) in the EIR Act to achieve this. Significantly, Parliament recognised that it was not necessary, in the context of Ngawha, for the arm’s length rules to apply to Top in relation to it. It would have been possible for Tops continued ownership to be recognised in other provisions in the legislation which would have resulted in the arm’s length rules applying. Parliament specifically chose not to do so.

The Directors of Top are:

- Paul Anthony Byrnes - Chair
- Douglas John Troon
- Michael Wallace Simm

- Peter Clayton White-Robinson
- Mervyn Shane Warbrick

The Directors of Ngawha Generation Limited (**NGL**) a wholly owned subsidiary of Top, the legal owner of Ngawha, are the same persons.

Application of the EIR Act

Top's primary business is the conveyance of electricity by line in New Zealand and is clearly within the definition of electricity lines business in section 4 of the EIR Act. Ngawha is currently to be disregarded for cross involvement purposes under section 19(3)(ga) of the EIR Act.

Under section 46C of the EIR Act, Top will be permitted cross involvements in its lines business and an expanded Ngawha as the expanded capacity (18MW gross) will be commissioned after 20 May 2003, and will be less than capacity maximums set out in that section. However, under s46C(2), in the absence of an exemption, the ownership separation rules are not breached, only where there is corporate separation, **and** (all) the arm's length rules are complied with.

Top wishes to maintain the existing governance structure for NGL since the current directors and managers operate Ngawha and are thoroughly familiar with Ngawha, the details of its operation and the risks it is required to manage as well as the proposal to increase its capacity. If it were to do so, the directors of Top and NGL (and some employees of Top who manage Ngawha) will be involved in a line business and an electricity supply business.

Top also wishes to maintain the current management regime of Ngawha. Given the management and other Top employees are thoroughly familiar with the plant, the employment of additional employees, unfamiliar with Ngawha does not make good sense from a management, commercial or cost point of view. If newly employed personnel were to manage the plant, or a third party own and operate the increased capacity, there is a significantly heightened risk that unfamiliarity of the workings of the plant, and issues as to responsibility could impact on the commercial operation of Ngawha and therefore its viability.

Top therefore makes the following applications under section 81 of the EIR Act:

(a) the Trust be exempted from section 17 of the EIR Act;

(b) the trustees of the Trust, to the extent necessary, be exempted from section 17 of the EIR Act; and

(c) Top, NGL and its respective directors are exempted from the requirement to comply with the arms length rules as required by section 46C(2) of the EIR Act or, in the alternative, are exempted from the requirement to comply with clauses 7, 8 and 9, and 10 of the arm's length rules which, in general terms relate to the appointment of directors and managers.

Preliminary comments on this application

The circumstances in which Top is required to seek these exemptions are unique and absolutely exceptional.

Top Energy is the only lines business owning and operating significant generation. It does so currently with express statutory authority. This application is only necessary as the existing structure reflects the capacity of the Ngawha Plant.

The [ ] offtake contract [ ] (referred to below) provides for the operation of the Ngawha plant and provides no opportunity for the avoidance of the regulation and price control legislation.

The [ ] offtake contract provides no opportunity for interference with the competitive nature of any retail or wholesale electricity market , neither is the scale of the current operation, or the expanded one, such that any interference can be effected.

If the exemptions are declined, conceivably Top could operate Ngawha at 10MW and another entity operate the remaining capacity. This is not a sensible, or appropriate situation from a risk perspective. The plant providing the expanded output would have to be separately owned with contractual interfaces with NGR and Top Energy defined, with the encumbant duplicating overhead and governance costs. This will not lead to the provision of electricity at a fair price. Additionally plant failure will require allocation of responsibility before remedial work can be undertaken. This is not economically efficient, as early repairs will result in generation coming back on line sooner.

Top's geographical location is an exceptional situation of itself and the transmission of electricity to its supply area is less secure than any other area in New Zealand. Top is located at the northern extremity of the north island of New Zealand and subject to supply constraints and security risks in the Transpower grid.

The existence of the regime as it currently applies to Top is exceptional.

The capacity limitations in the EIR Act have been increased and in effect all Top is seeking is to have those limits applied to the position it now holds. There is no adverse effect on existing policy as encapsulated in the EIR Act. In fact, Top submits that policy outcomes as currently contained in the EIR Act support the exemptions being granted.

Commission's Process

The Commission has stated that it is likely to grant an exemption in respect of a business or involvement or interest only where doing so:

(a) would not result in certain involvements in electricity lines businesses and electricity supply businesses which may create incentives or opportunities:

  (i) to inhibit competition in the electricity industry; or

  (ii) to cross-subsidise generation activities from electricity lines businesses; and

(b) would not result in relationships between electricity lines businesses and electricity supply businesses which are not at arm's length.

This results in the "three questions" to be asked by the Commission in considering any application.

In determining exemptions, the Commission has stated that it will also have regard to the overall purpose of the EIR Act and has stated that, in its view, the exemption power should not be used to bypass key policy decisions that the EIR Act contains unless exceptional circumstances exist. Top submits that the legislation which permits Tops cross involvements is current policy. Therefore in granting the exemptions sought, the Commission will not be using the exemption power to by pass any policy decisions, let alone key policy decisions.

Top also submits that all the conditions referred to in paragraphs (a) and (b) above, are satisfied in relation to this application.

Top's Submissions

Question 1: Would the Commission by granting an exemption in respect of a business or involvement or interest create incentives or opportunities to inhibit competition in the electricity industry?

Top's submission is that the answer to this question must be no. If there are any incentives or opportunities to inhibit competition in the electricity industry in relation to Ngawha, which Top

strenuously rejects, they will exist now and therefore **granting** the exemption **would not result** in the creation of incentives or opportunities to inhibit completion.

In the alterative, given the Commission considers this question in respect of the markets relevant to this application, Top submits that the only possible markets which are relevant are: the Far North distribution market and the national electricity generation and wholesaling market.

In relation to the Far North distribution market, given Top's monopoly position in the Far North region (as is the case for all line companies in the areas in which they operate), granting the application will have no effect on the Far North distribution market.

In relation to the national electricity generation and wholesaling market, Top submits that, given the existence of the Offtake Agreement (as defined below) Top does not participate in either of these markets, or if it does, it has no market power in either of these markets.

[

].

[

].

Top is not currently and has no intention of becoming an electricity retailer. Under the terms of the Offtake Agreement it has no electricity it could retail. Top sells no electricity to consumers.

Top is agreeable to the imposition of a condition to the exemptions sought in this application, that it not become involved directly or indirectly in retailing electricity other than through the existence of the Offtake Agreement or any similar succeeding agreement.

Even if the Commission does not accept that Top has no market power by reason of the Offtake Agreement, Top as an alternative submission, submits that the net quantity of generation involved, (25MW based on name plated capacity of 42MW) is so insignificant that Top's total capacity will have no impact on the national electricity generation and wholesaling market.

According to the estimates of the Ministry of Economic Development for the calendar year 2005, New Zealand's estimated generation capacity is in the range of 8,840MW. Top's 42MW capacity represents a mere 0.47% of the national electricity generation and wholesale market.

Question 2: Would the Commission, by granting an exemption in respect of a business or involvement or interest, create incentives or opportunities to cross subsidise generation activities from electricity lines businesses?

As with question 1, Top submits that given the existing statutorily permitted cross involvements, if any incentives or opportunities to cross subsidise generation activities from electricity lines businesses exist, which Top strenuously denies for the reasons set out below, **granting** this application would not be **creating** incentives or opportunities. If they exist, they **exist now** and by granting this application, the Commission will not create such incentives or opportunities.

As a second and alternative submission, Top submits that this question requires consideration of whether if an exemption is granted, will the situation be any different to the situation which exists today. Top submits that it would not. In 1998, Parliament was entirely satisfied that it was appropriate to permit Top to retain its cross involvement in Ngawha without the need for compliance with the arms length rules or corporate separation. Therefore it must have determined that this test was not relevant in Top's circumstances. Subsequent changes to the EIR Act have acknowledged the need to encourage development of distributed generation and the capacity constraints for generation ownership have been increased to facilitate this development. It is, therefore, entirely consistent with this policy that an increase in capacity makes no practical difference to the position which is permitted today.

As a third submission, Top submits that when the Commission's Practice Note 3 was prepared, there was no regulatory framework to address cross subsidisation. This is no longer the case, as the introduction of Part 4A of the Commerce Act expressly establishes a framework to regulate cross subsidisation. Therefore, Top submits that to ask this question would result in the Commission taking into account irrelevant considerations. This risk addressed by this question is in fact, addressed by the other regulatory measures introduced after the EIR Act.

Top submits that the new regulatory regime in Part 4A of the Commerce Act renders the arms length rules irrelevant to Top, in light of its existing statutory exemption. In the alternative Top submits that Part 4A makes the application of the arm's length rules irrelevant to Top.

Top submits that in combination with the regulatory regime in Part 4A of the Commerce Act, the wide powers of the Electricity Commission under the Electricity Governance Rules and the current regulatory environment mean that question 2 must be answered in the negative.

As a fourth submission Top refers the Commission to its comments on the issue in its decision number 576 (the Unison Decision). In the Unison decision (at paragraph 58) the Commission said that to the extent that Unison had the ability to misallocate costs, the level of the ability to do so was immaterial. Top submits that this is also the case of this application. Top is already permitted cross involvement. Increased capacity makes no difference to the ability to misallocate costs and Top submits that if any increased ability does exist, it is immaterial.

In addition, if the Commission does not accept Top's fourth submission, if Top is exempted from the appointment provision of the arms length rules, the remaining behavioural provisions of the arms length rules will mean there would be little if any and in any event very much an immaterial increase in the ability to misallocate costs.

Top has sought advice on the financing costs of funding the expansion of Ngawha. The advice it has received is that there is no funding cost benefit from financing the expansion against the Top balance sheet as opposed to project financing the expansion. There is, therefore, no element of cross subsidisation as far as financing the expansion is concerned.

Question 3: Would the Commission permit, by granting an exemption in respect of a business or involvement or interest, a relationship between an electricity lines business and an electricity supply business which is not at arm's length?

As with questions 1 and 2, as a first submission Top submits that the answer to this question must be no. There is already a relationship which is not arms length and this was expressly authorised by Parliament when it passed the EIR Act. Therefore **by granting** an exemption, the Commission **will not be permitting** such a relationship. Such relationship is already permitted.

In the alternative, Top submits that the correct approach to this question is to determine:

> "the practical effect of the non-arm's length relationship to decide whether that relationship is likely to lead to a result that would be contrary to the purposes of the EIR Act.[1]"

[1] Decision No. 541.

Parliament did not determine this to be an issue in Top's case otherwise it would have required the arms length rules to apply to its current position. It specifically chose not to do so. Top submits that in these particular circumstances, there is no practical difference between the current capacity in respect of which the non arms length arrangement is permitted, and the situation which will apply when there is increased capacity all of which is subject to the Offtake Agreement.

In Top's submission, if the Commission takes a different view on the immateriality of the non arms length relationship, there are multiple, better directed mechanisms to achieve the desired outcomes without constraining the appointment of certain (usually appropriately qualified) persons as directors and managers. Top submits that it should have the opportunity to appoint the people it regards as the most appropriate people to board and management positions of the relevant entities.

Other mechanisms which could be introduced to ensure compliance with the arms length rules include:

(a) Prohibitions on companies acting in the interests of their shareholders where the shareholder also owns generation, directly or through subsidiaries.

(b) A requirement to have an entirely independent director on the generation company board, being one who is not on the Top Board.

(c) Use of network agreements could be the subject of a certification requirement where directors are required to certify that the terms are no worse or no more favourable, than the model contract or Top's standard contract terms.

(d) Use of network agreements could be subject to mandatory independent review.

(e) Directors could be subject to a certificate requirement as to compliance with the cross subsidisation prohibitions.

Top submits that, continuing its permitted non compliance with the arm's length rules will have be no practical adverse effect and for the reasons outlined above will not defeat the objects and purposes of the EIR Act..

In addition as already outlined, Part 4A of the Commerce Act is specifically aimed, among other things, at preventing cross subsidisation and this is being monitored by the Commission.

Top also submits that as referred to (in paragraph 67) the Unison Decision, strict compliance with the arms length rules is really only required where Top is or is proposing to retail the generated electricity across its own network. That is not the case here. The Offtake Agreement means that Top has no ability to do anything with the electricity generated at Ngawha.

Additional Matters

Policy of EIR Act

The EIR Act sets out a number of purposes and reflects policy. As it stands, it is current policy to permit Top to have an involvement in both a lines business and an electricity supply business without complying with the arms length rules.

Therefore, Top submits that the exemption sought does not undermine existing policy. It is entirely consistent with it and arguably the policy reflected in the legislation supports the exemption to be granted to support such policy.

Further, in 2001, Parliament reflected a change in policy as far as distributed generation was concerned. Top submits that this exemption is appropriate because it will more accurately reflect current policy.

In addition Top submits that the over-arching policy objective will in fact be better achieved by the granting of this application. The over-arching policy objective is:

> "to ensure that electricity is delivered in an efficient, fair, reliable and environmentally sustainable manner to all classes of consumer."

Efficiency is enhanced by avoided transmission losses and voltage support.

Fairness (assuming this relates to non-discriminatory pricing of, and access to, distribution networks), is addressed by Part 4A, and regulation-making powers.

The Commerce Commission's Part 4A regulatory regime focuses on reliability as a key outcome. There is no need to duplicate achievement of policy in this respect.

A modern geothermal facility is entirely consistent with environmental sustainability.

Adjudication Fee

The adjudication fee of $11,250 (inclusive of GST) is enclosed.

Declaration

The required declaration is attached.

Further Information

For further information relating to this application please contact in the first instance, the applicant's contact as set out on the front page.

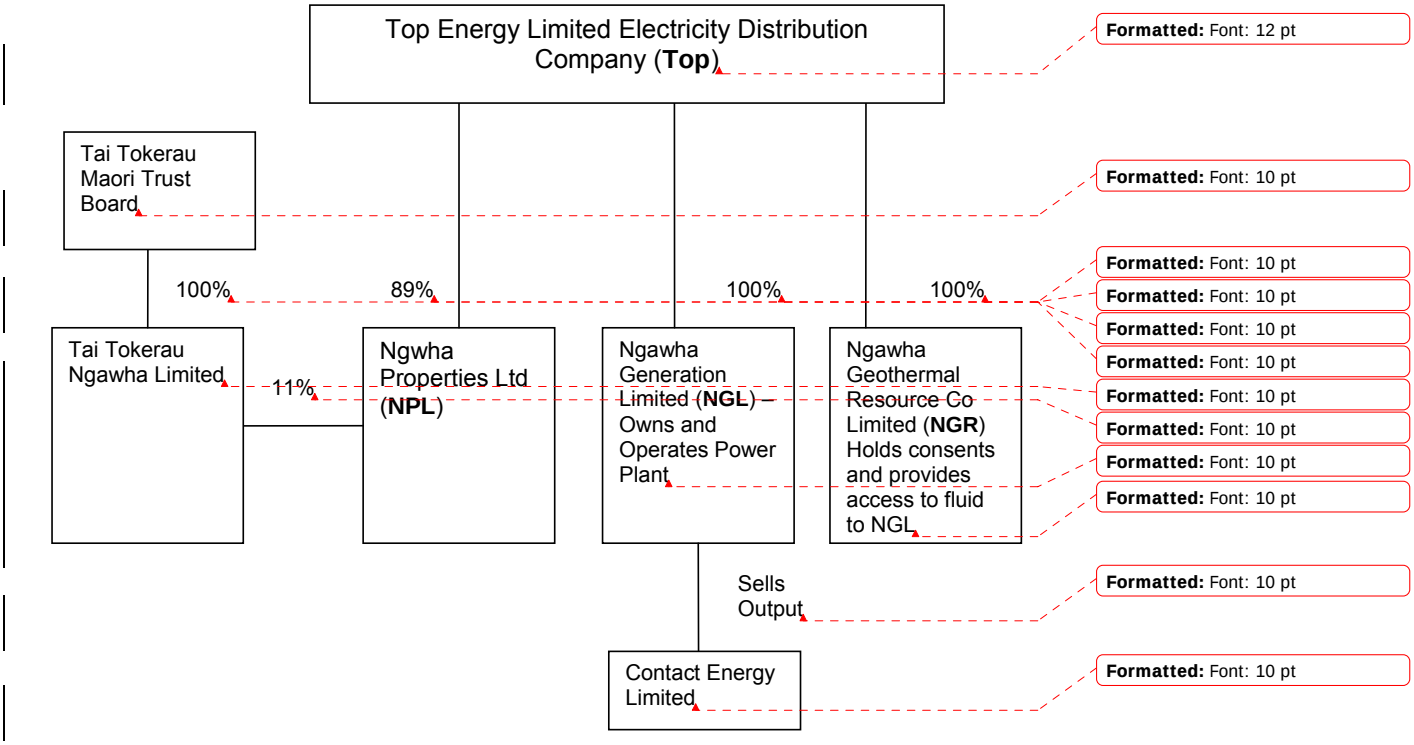
Additional Information

1. Leyland Brief of Evidence to Environment Court dated 28 April 2006
2. Extract from Sunday Star Times dated 18 June 2006
3. Transpower's Request for Information – May 2006

Appendix

Ngawha Springs Geothermal Power Plant

Legal Ownership Structure



Formatted: Font: 12 pt

Formatted: Font: 10 pt

Formatted: Font: 10 pt

Formatted: Font: 10 pt

Formatted: Font: 10 pt

Formatted: Font: 10 pt

Formatted: Font: 10 pt

Formatted: Font: 10 pt

Formatted: Font: 10 pt

Formatted: Font: 10 pt

Formatted: Font: 10 pt

DECLARATION

This application is made by

TOP ENERGY LIMITED

The company hereby confirms that:

- all information requested by the Commerce Commission has been supplied;
- all information known to the applicant which is relevant to the consideration of this application has been supplied to the Commerce Commission; and
- all information supplied by the applicant to the Commerce Commission is correct as at the date of this application.

Date:

Signed by: Top Energy Limited

Roger de Bray, Chief Executive Officer

I am the Chief Executive Officer of the company and am duly authorised to make this application.