



Putaruru Request For Information

24 October 2018



Hinuera Area Supply Reinforcement Project

Section 1: Introduction

Powerco Limited (Powerco) has identified that investment is required to improve the reliability of electrical supply to Powerco’s 11,600 customers in the South Waikato area. The purpose of this document is a Request for Information (RFI) and Registration of Interest for transmission alternatives as an option for reinforcement of the electricity supply in the South Waikato area.

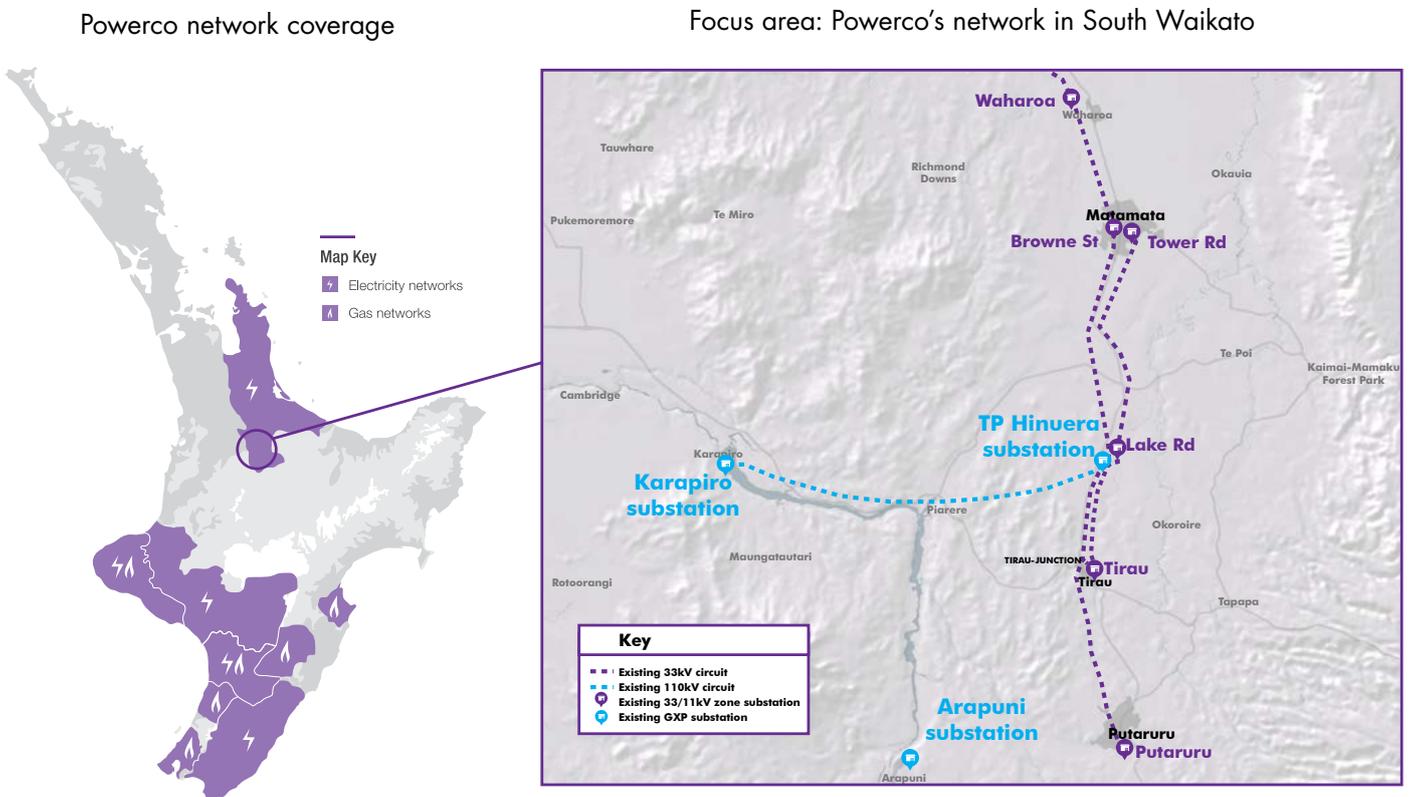
1. Overview of Powerco and the location of the required service

Powerco is the second largest electricity and gas distribution business in New Zealand. Its network extends across the Taranaki, Manawatu-Whanganui, greater Wellington, Hawke’s Bay, Waikato and Bay of Plenty regions of the North Island.

Powerco provides distribution services to more than 338,000 electricity customer connections and more than 107,000 gas connections. The extent of Powerco’s footprint in terms of gas and electricity networks, and details of the South Waikato Network are shown in Figure 1.

The South Waikato area includes the towns of Tirau, Putaruru and surrounding areas, and extends through to Matamata. There are approximately 11,600 connection points in the area that are a mix of industrial, commercial, urban residential and rural. The major industrial loads are dairy factories and timber processing plants.

Figure 1: Powerco’s network and the South Waikato area



2. Purpose of this Request for Information (RFI)

The purpose of this RFI is to start formal engagement with the market for the supply of transmission alternatives for the Hinuera supply reinforcement project and a Registration of Interest (ROI) from parties that are interested in participating in a future Request for Proposal (RFP) process. This RFI:

- Provides an explanation of the network issues that underpin the reliability investment
- Provides the future capacity requirements
- Describes the proposed transmission option
- Highlights the key characteristics a transmission alternative would need to meet
- Proposes the contract term and start date
- Requests feedback on the RFI
- Requests feedback on the information that would be required in an RFP
- Requests parties to register their interest for providing a transmission alternative that meets these requirements, together with some preliminary information about potential transmission alternatives that could be offered

3. Description of the supply reliability issues

Matamata, Putaruru and Tirau are supplied with electricity from the National Grid via Transpower's Hinuera substation. There is a single 110,000-volt line from Transpower's Karapiro substation, supplying Hinuera substation. The Hinuera substation has two supply transformers, but when the larger of the two is out of service, only 37MVA of demand can be supplied.

Outages of the Transpower 110kV circuit or equipment supplying the Hinuera grid exit point (GXP) result in a total outage for 8,700 customers in Putaruru, Tirau and parts of Matamata. Powerco is only able to backfeed, after switching approximately 2,900 customer connections in Matamata and Waharoa from Piako substation in the north.

The single transmission line from Karapiro substation to Hinuera substation is regularly taken out of service for planned maintenance for up to 10 hours during daytime hours. Although Transpower and Powerco schedule the outages for lower load periods of the year and on Sundays to help reduce the impact of the outages, the outages still cause significant disruption to customers, with the food and service businesses heavily impacted.

Similarly, planned maintenance outages for the supply transformers are scheduled at lower load periods to reduce disruption, and currently some load is transferred north to help manage the demand.

Planned and unplanned outages of the single 33kV circuit supplying Putaruru results in a loss of supply to most of the customers supplied from the Putaruru zone substation.

4. Public consultation on the transmission option

In September and October 2014, Powerco undertook multifaceted community consultation to enable the affected communities genuine opportunities to obtain information, engage with Powerco and provide feedback on Powerco's proposal to increase the security of the supply. Written and telephone correspondence, as well as face-to-face meetings took place with community and consumer representatives and members of the public.

A strong level of support was received. At a high level, the two councils involved were concerned about the current situation constraining economic development. Individual feedback highlighted the importance to businesses and farmers of a secure supply of electricity. Of the written feedback responses received, only two (3.22%) were opposed to Powerco's proposal. More details of the consultation and feedback can be found in the consultation summary report.¹

5. Overview of Powerco's transmission proposal

A number of transmission options and transmission alternatives for reinforcement of the supply in the Hinuera GXP area have been investigated. Assessment of the options determined that the preferred transmission option is:

- A new 110kV supply from Arapuni substation to Putaruru substation, at an estimated cost of \$22.9m (\$2016), to be commissioned in 2022; plus
- A new 33kv circuit from Putaruru substation to Tirau substation, at an estimated cost of \$6.7m (\$2016), to be commissioned in 2021

This option provides N-1 supply into the area for a significant period into the future. The existing supply from the grid is a single circuit to Hinuera. The new supply from Arapuni to Putaruru would provide a second connection to the grid, giving N-1 supply to the area. The second 33kv circuit from Putaruru to Tirau would provide N-1 supply for Putaruru, Tirau, Lake Road and Tower Road substations.

The expected lives of 110kV and 33kV circuits should be at least 50 years. The 110/33kV transformer at Putaruru will be recycled from another site and is expected to have sufficient capacity for at least 25 years.

Further details on options, cost estimates and assessment can be found in project overview document POD3² and POD13³ that were published as part of Powerco's customised price-quality path (CPP) submission.

The earlier investigations did consider the potential for transmission alternatives to be adopted to address the security of supply concerns in the Hinuera GXP area – in particular, local embedded generation, demand side response/fuel switching and energy storage. At that time, the relative cost and feasibility of these options were considered to rule them out for more detailed consideration.

Powerco included the two projects in its CPP application to the Commerce Commission. Public submissions on the CPP application commented on the use of transmission alternatives. Powerco has taken the comments on board and decided it is worth formally testing the market in relation to potential transmission alternatives.

The project overview documents (PODs) were produced in 2016 and since that time there have been changes in the network configuration that have resulted in the Walton load and half the Waharoa load being permanently moved from the Hinuera GXP to the Piako GXP.

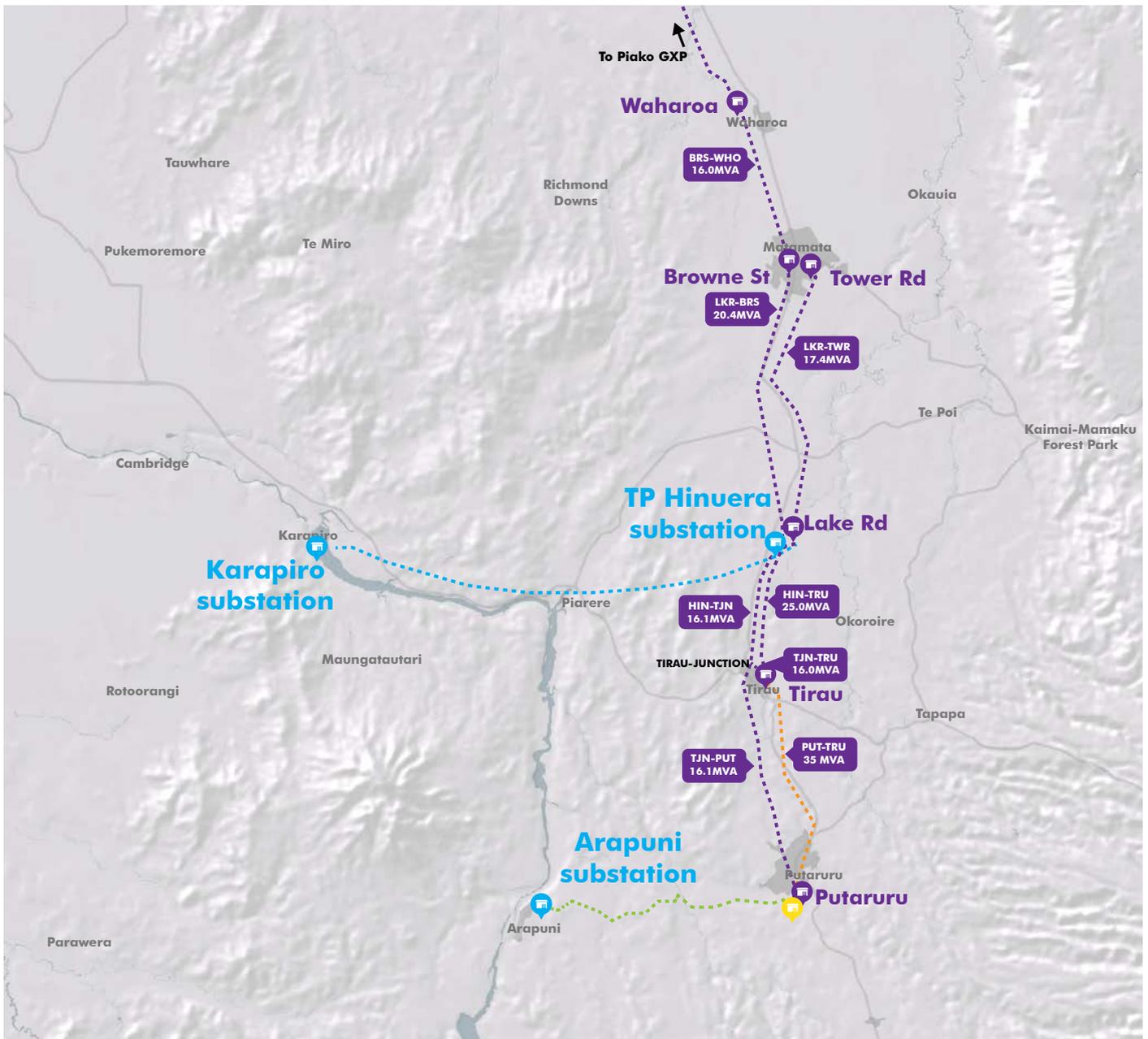
The demand forecasts in the PODs were based on information available at the time of publishing in 2016. Demand forecasts do vary over time as conditions and forecast growth in areas change, and the forecasts in this RFI reflect the latest information available. There are small differences between the 2016 and the current forecasts but these make little difference to the investment decision.

¹ Putaruru Transmission Project - Public Consultation <https://www.powerco.co.nz/media/1168/putaruru-public-consultation-report.pdf>

² Putaruru Project Overview Document https://comcom.govt.nz/__data/assets/pdf_file/0022/61564/Putaruru-project-overview-document.PDF

³ Putaruru - Tirau Project Overview Document https://comcom.govt.nz/__data/assets/pdf_file/0023/61565/Putaruru-Tirau-project-overview-document.PDF

Figure 2: Hinuera area supply reinforcement transmission option



Key	
	Existing 33kV circuit
	Existing 110kV circuit
	Existing 33/11kV zone substation
	Existing GXP substation
	Circuit name and rating
	New 33kV circuit
	New 110kV circuit
	New GXP substation

6. Powerco's requirements

The transmission alternatives must be able to provide security for the current and future forecast demand, by meeting projected demand shortfalls at the relevant zone substations following an N-1 event (either planned or unplanned), and within the restoration times required under Powerco's security of supply classifications.

Powerco is seeking the following requirements for a transmission alternative:

1. Capacity: Capacity of 36MVA in 2021, increasing to 40MVA in 2036
2. Reliability: Restoration of supply in agreed timeframes whenever it is required

The remainder of this document provides more information about the requirements for transmission alternatives.

7. Capacity requirements

Under normal system conditions, there are five substations supplied from Hinuera GXP:

- Putaruru
- Tirau
- Lake Road
- Tower Road
- Browne Street
- Half of Waharoa

During a loss of supply from Transpower at the Hinuera GXP, the Browne Street substation and half of the Waharoa substation load are switched from the Hinuera GXP to the Piako GXP. For the transmission alternative, this situation will continue and, therefore, the transmission alternative only needs to be able to meet the load supplied from the Putaruru, Tirau, Lake Road and Tower Road substations. The current maximum demand (MVA) forecasts for these loads are shown below.

Table 1: Pre and post contingency forecast maximum demand

Substation	Forecast demand (MVA)			
	2021	2026	2031	2036
Load that cannot be supplied until the 110KV supply is restored				
Lake Road	6.4	6.6	6.7	6.8
Putaruru	11.7	12.0	12.3	12.7
Tirau	9.3	9.5	9.6	9.8
Tower Road	8.5	9.1	9.8	10.4
MVA	35.9	37.2	38.5	39.7
Load that can be resupplied from Piako after a break				
Browne Street	9.4	9.9	10.4	11.0
Waharoa substation (half)	4.5	4.5	4.5	4.5
Hinuera pre-contingency MVA	49.8	51.6	53.4	55.2

Annual and daily demand profiles

There are a number of industrial loads being supplied from the Hinuera GXP and these tend to flatten the demand across the year. The dairy load reduces in the middle of the year and this tends to offset the effect of increased heating loads during this period. This is reflected in monthly maximum demand (Figure 3). Daily demand is also relatively flat during the day (Figure 4).

Figure 3: 2017 annual load profile in MVA

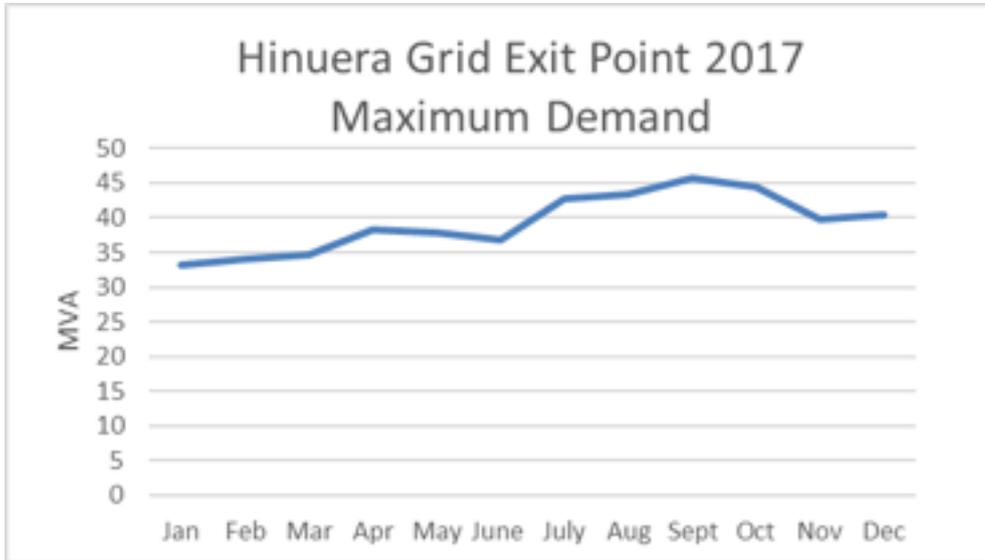
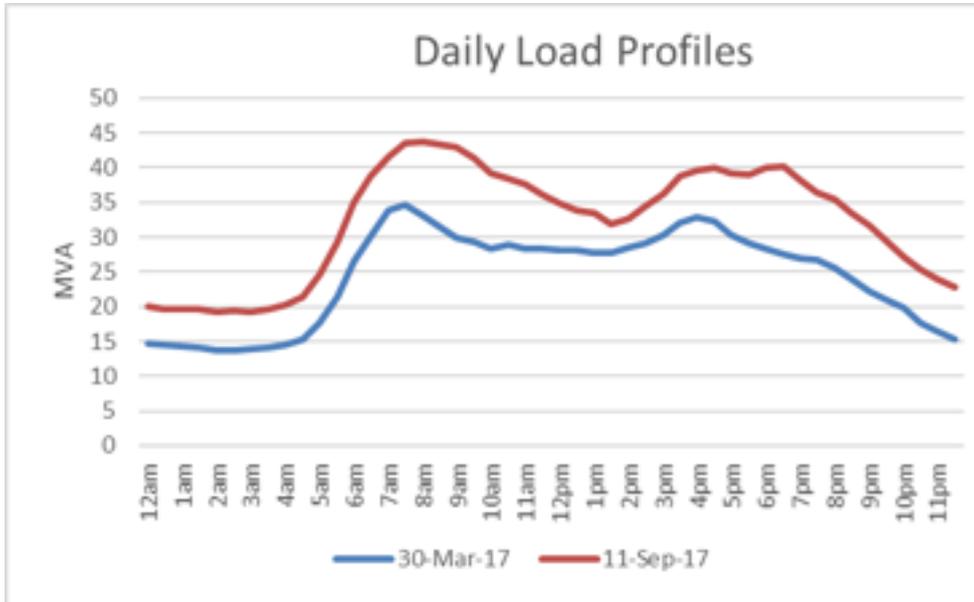


Figure 4: 2017 daily load profile in MVA



Capacity and aggregation

Powerco does not have an aggregation capability to co-ordinate supply from multiple sources to deliver the required capacity. Proponents will need to provide their own aggregation systems and services.

Proposals will need to mitigate the complete risk currently faced by Powerco. Partial solutions are not an option that will be considered.

Contract term

The proposed operational start date for the transmission alternative is 1 April 2021, and will run for a period of 15 years to 31 March 2036.

This a reliability investment to provide long-term security of supply to South Waikato customers and, like with any solution, we are looking for long-term certainty. The Transmission alternative is not for a short-term deferment of a transmission investment, but is for the substitution of more than 70% of the peak demand.

Location of Powerco zone substations

The location of the Powerco substations has been provided for locational reference purposes only. The assumption is that transmission alternatives will not be able to be located on existing Powerco substation sites.

Table 2: Powerco substation locations

Substation	Location
Putaruru	5 Arapuni Road, Putaruru
Tirau	12 Okoroire Road, Tirau
Lake Road / Transpower Hinuera GXP	Corner of SH 27 and Lake Road, Hinuera
Tower Road	30 Tower Road, Matamata

8. Reliability requirements

The reason for this investment is to improve the reliability of supply for the Powerco customers that are supplied from the Hinuera GXP when an unplanned outage interrupts supply.

One of the key requirements is how quickly electricity supply can be restored after an outage of the supply from the Hinuera GXP. In this case, a loss of supply from Transpower at the Hinuera GXP results in a loss of supply to approximately 70% of the load supplied from the Hinuera GXP.

The performance requirements for the supply have been determined using Powerco's security of supply classification for zone substations and are shown in the following table.

Table 3: Substation zone classes and restoration times

Substation	Forecast demand (MVA)				Target restoration time for a single event
	2021	2026	2031	2036	
Putaruru	11.7	12.0	12.3	12.7	15 seconds
Tirau	9.3	9.5	9.6	9.8	15 seconds
Lake Road	6.4	6.6	6.7	6.8	45 minutes
Tower Road	8.5	9.1	9.8	10.4	15 seconds

For transmission alternatives with restoration times greater than those stated, the additional restoration time will be a factor in the assessment of the options.

Drivers and duration of planned and unplanned outages

Historically, major planned maintenance outages tended to occur every four years or so. However in the 2011-2015 period, there were major maintenance outages very year.

The outages tended to be less than 10 hours and undertaken during the daytime for safety reasons.

The number and duration of unplanned outages per annum has varied from zero-tothree events per year. The duration of the unplanned outages have tended to increase over time, with recent outages being up to 400 minutes (6.7hrs)

Reliability requirements

Because the service is required to provide security of supply to the South Waikato area customers, the transmission alternative must be able to provide the required service whenever it is required, without exception.

9. Summary and process

This RFI initiates formal engagement with the market for the supply of transmission alternatives for the Hinuera supply reinforcement project. It provides an opportunity for potential proponents to engage with Powerco about the requirements and also register their interest in participating in a future RFP processes.

The proposed timetable for this RFI process is as follows:

Table 4: RFI timetable

Item	Due date
Release of RFI	24 October 2018
Closing date (5pm NZ time)	21 November 2018

Respondents should note this timetable is indicative only. Powerco may amend this timetable from time to time. Any changes to the timetable will be published on Powerco's website. Interested parties are encouraged to email Powerco at HinueraSupplyReinforcement@powerco.co.nz and they will be advised by email of any updates or changes by the Powerco contact person.

The respondent must acknowledge that they have received this RFI by the receipt date by sending an email to HinueraSupplyReinforcement@powerco.co.nz

As part of that acknowledgement, the respondent should state whether they intend to submit a response or not.

Powerco contact person

For the purposes of this RFI, the Powerco contact email is HinueraSupplyReinforcement@powerco.co.nz. If this changes, Powerco will notify respondents.

Only emails issued from the Powerco contact email are to be treated as valid responses to respondents in relation to this RFI/ROI.

Form of response

The response must be supplied in an electronic format and must, as a minimum, include the complete responses in a Word or PDF format to the requirements outlined in Section 3 of this RFI.

The respondent may attach any other material they wish to lodge in support of their response. Powerco may in its evaluation choose to consider or disregard any supporting material not specifically requested by this RFI.

Section 2: General conditions of RFI

1. No contract or legal relations

This RFI is solely a request for information. It does not constitute a contract, offer to enter into a contractual relationship or gives rise to any binding legal obligations on Powerco.

Powerco reserves the right to:

- Cancel, alter or postpone the verifier appointment process at any time
- To decide not to shortlist any or all respondents and/or
- Not to proceed with any subsequent process at the completion of this RFI

As far as permitted by law, Powerco is free to deal with responses and respondents as it considers necessary or appropriate at the time.

Powerco is not required to disclose its dealings to respondents or provide an opportunity for respondents to comment, except to the extent specifically required by this RFI.

All respondents agree that:

- No legal or other obligations shall arise between a respondent and Powerco in relation to this RFI or the process, conduct or outcome of the RFI; and
- This RFI, and any response to it, does not create any form of process contract between Powerco and any respondent, potential respondent or other party, or a right for any respondent (including a shortlisted respondent) to participate in any subsequent process carried out at the completion of this RFI.

2. Acceptance of RFI General Terms and Conditions

By submitting a response, the respondent accepts and agrees to be bound by all the terms and conditions specified in this RFI.

3. Confidentiality of this RFI

This RFI, and the information, notices, comments and documents (electronic and paper) supplied at any time by Powerco (either itself or through its consultants or advisors) in connection with this RFI, is confidential.

Respondents must treat this RFI and any such information as strictly confidential and not release or disclose any of the information to any other person (other than your employees or professional advisors for the purpose of preparing your response) without the prior written consent of Powerco.

A respondent must not make any public statement in relation to this RFI or the awarding of any subsequent contract without the prior permission of Powerco.

The obligations of confidentiality in this section are ongoing and will continue indefinitely.

4. Confidentiality of responses

Powerco will treat information contained in any response as confidential except to the extent disclosure is required by law. This obligation of confidentiality does not apply to confidential information that:

- Is disclosed by Powerco to its consultants, legal and other advisors or employees solely in order to consider or progress the RFI responses
- Powerco is required to disclose by law
- Is or becomes available to Powerco through other legitimate channels without confidentiality restrictions; and/or
- Is in the public domain otherwise than due to a breach of this paragraph
- The obligation of confidentiality in this section is ongoing and will continue indefinitely.

5. Accuracy of information

Powerco believes that the information contained in, or provided in connection with, this RFI is correct at the time it is issued.

While Powerco endeavours to supply correct information, it does not provide any warranty as to the accuracy or completeness of information supplied with this RFI. Any reliance on the information provided by Powerco is solely at the respondent's risk.

Powerco reserves the right to expand, amend, alter, correct and/or clarify any information at any time.

Those submitting a response will be deemed to have:

- Examined this RFI and any notice to respondents or other information supplied by Powerco in writing (if any)
- Made its own enquiries and applied its own judgment in deciding whether or how to submit their response
- Considered all the risks, contingencies and other circumstances that may have an effect on their response; and
- Satisfied themselves as to the correctness and sufficiency of their response

6. Response completeness and accuracy

The respondent warrants that the information they provide to Powerco, including information contained in any response, is complete and accurate and not misleading in all material respects, and that material details have not been withheld.

The respondent also warrants that the information they

provide to Powerco (including in any response) and the use of such information by Powerco for the purposes of this RFI (including the evaluation the response and the negotiation and implementation of any contract) will not breach any third-party intellectual property rights.

7. Non-conforming responses

Responses which:

- Are not submitted in the format set out in, or required by, Section 3
- Do not include, in the form required, all the information required to be included
- Are submitted late; or
- Do not comply with, or conform to, this RFI in any other way

will be deemed to be 'Non-conforming Responses'.

Any Non-conforming Responses received by Powerco may be rejected or evaluated during evaluation at the sole discretion of Powerco.

Powerco encourages respondent's to seek clarification or explanation on any points to enable it to submit a conforming response.

8. Ambiguities or inconsistencies

Where any respondent identifies an ambiguity or inconsistency in this RFI, that respondent must bring that ambiguity or inconsistency to Powerco's attention by completing and returning the Request for Explanation Form attached at the end of this RFI to the Powerco contact email.

If Powerco considers there is an ambiguity or inconsistency in this RFI, it may issue a Notice to Respondents to all respondents at its sole discretion.

9. Variations of this RFI

Powerco reserves the right, at its sole and absolute discretion, to modify and/or amend this RFI, at any time prior to the closing date. Any such modifications and/or amendments made will be issued as a 'Notice to Respondents'.

If the modification(s) or amendment(s) to the RFI specified in the Notice to Respondents is of such a nature that it could reasonably be expected to have a material impact on a response that has already been submitted by a respondent, the respondent will be given the opportunity to submit to Powerco any modification(s) and/or amendment(s) that is necessary to its response.

10. Notice to Respondents

Any Notice to Respondents will be issued to all recipients of this RFI.

A Notice to Respondents that is issued by Powerco and

sent to all respondents will, upon issue, become part of the RFI.

Powerco is not liable to any respondent who fails to become aware of any Notice to Respondents, which has been published or distributed in the same manner as the original RFI.

11. Evaluation

Powerco reserves the right to weight any assessment and selection criteria in accordance with its own priorities at the time. Powerco is not bound to accept any response and will have absolute discretion to apply whatever evaluation criteria it considers appropriate to prepare a shortlist of potential respondents (if applicable).

12. Ownership of responses

All responses become the property of Powerco upon submission, and do not have to be kept, destroyed or returned to the Respondent. Powerco may use the information contained in a response as it sees fit, subject to the above obligations of confidentiality.

13. Powerco's reserved rights

Powerco reserves the right to:

- a) Suspend, postpone or cancel this RFI at any time prior to the closing date or to re-advertise for RFI responses
- b) Make any change to this RFI and any associated documents
- c) Accept, reject or refuse any response (in whole or in part) and/or not to invite any respondent to participate in any subsequent process following completion of this RFI process
- d) Exclude any person from this RFI or any part of this RFI process for any reason
- e) Not to proceed with any subsequent process following the completion of this RFI and not contract for all or any of services on which this RFI is seeking information
- f) Treat any response as valid notwithstanding that it does not strictly comply with this RFI and/or rectify any errors in, or missions from, any responses;
- g) waive any irregularities or informalities in the RFI process; and
- h) Seek clarification or undertake further inquiries concerning any response
- i) Apply any weighting or other judgement process to information provided in response to this RFI
- j) Provide to, or withhold from, any respondent (or other person) questions and answers to questions arising through this RFI process

- k) Restrict the supply of, or access to, any of Powerco's personnel, information or property
- l) Meet with, enter into discussions with one, or more than one, respondent (or any other person) at any time and upon any terms and conditions
- m) Not to draw up a shortlist of respondents; and/or
- n) Do any other act or thing that it sees fit in relation to this RFI,
- o) in each case with or without notice to all or any respondents, and with or without having or giving any reason.

14. No liability

Except for a breach of its confidentiality obligations above, Powerco will not be liable for any direct or indirect damage, loss or cost (including legal costs and response preparation costs) to any respondent or other person in relation to this RFI and/or preparing any response to this RFI, including, to avoid doubt, where Powerco exercises any of its reserved rights above.

15. Conflicts of interest

Respondents are to disclose and advise Powerco of any facts or circumstances which may give rise to any conflict of interest arising from the interests or duties of the respondent or its employees, officers, shareholders or directors in relation to this RFI or are relevant to their response.

16. Costs

Respondents and potential respondents must bear all of the costs of preparing and submitting a response, regardless of whether Powerco alters, postpones or cancels this RFI or does not proceed with any subsequent process after the completion of this RFI, including all costs relating to any:

- Requests for information (including additional information) or clarification by Powerco; and/or
- Discussions and/or meetings with Powerco (if applicable)

17. No collusion

Collusion between respondents is strictly prohibited and may result in the respondent being excluded or disqualified from further participation in this RFI at Powerco's discretion.

18. Governing law

This RFI is governed by the law of New Zealand, and the New Zealand courts have exclusive jurisdiction as to all matters relating to this RFI.