

29th March 2023

Matthew Clark
Transpower and Gas Manager
Commerce Commission
PO Box 2351
WELLINGTON

Dear Matthew

Notice of intention to plan the Western Bay of Plenty regional major capex project.

This letter is notice under clause 3.3.1(1) of the Transpower Capital Expenditure Input Methodology Determination 2012 (**Capex IM**) of Transpower's intention to plan a major capex project (staged) which may become a proposed investment.

Investment need and potential project

We have identified a series of related issues associated with Transpower's network in the Western Bay of Plenty region.

The Western Bay of Plenty is experiencing strong demand growth, and this is expected to accelerate over the next decade. Powerco have identified several major new developments that will significantly increase demand in the region in the coming years, indicatively:

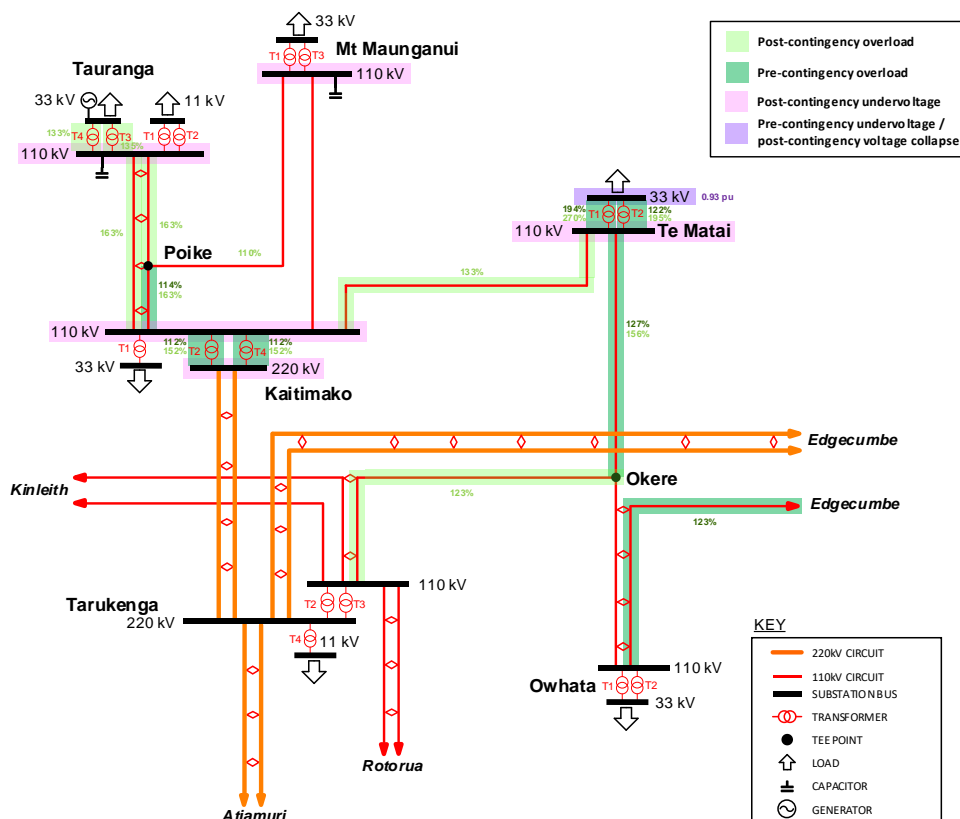
- Development of the Winstone Wallboards' plant in Tauriko (South of Tauranga) that could increase demand by 10-40MW from 2026.
- Development at the Port of Tauranga that could increase demand by 20-30 MW between 2022 and 2030. This will mainly increase demand at our Tauranga GXP, but the Mount Maunganui GXP might also be affected.
- Commercial and residential development in Pyes Pa and Tauriko ("Tauranga Western Corridor"). Up to 32,000 new dwellings are proposed in the next 20+ years. A 16 MW load increase associated with the Tauriko West commercial and residential development is expected between 2023 and 2030.
- Development of the Rangiuru Business Park near Te Puke, for a demand increase up to 20 MW between 2025 and 2030 on the Te Matai GXP. This development is supported by the Provincial Growth Fund.
- Development of several industrial cool stores and packhouses near Te Puke to support the local kiwifruit and avocado orchards. A demand increase of about 15 MW is expected between 2023 and 2028 at the Te Matai GXP
- Residential and commercial developments in Wairakei, East of Papamoa, for a demand increase up to 15 MW between 2023 and 2033 on the Te Matai GXP.

The electrification of transport and process heat, and the replacement of domestic gas usage with electricity is expected to drive further demand growth.

Due to the anticipated increase in demand, we expect by 2030 there will be potential issues with:

- Post contingency overload of both 110/33 kV supply transformers at our Tauranga GXP
- Pre-contingency overload of both supply transformers at our Te Matai GXP
- Pre-contingency overload of the 220/110 kV transformers at our Kaitimako substation
- Pre-contingency overload of the Okere–Te Matai 110kV circuit
- Post contingency overload of the Kaitimako–Tauranga 110kV circuits. The section between Kaitimako and Poike tee is expected to overload pre-contingency, as it contributes to supplying both Tauranga and Mt Maunganui.
- Post-contingency overload of the Kaitimako–Te Matai 110kV circuit
- Post-contingency overload of the Okere–Tarukenga 110kV circuits
- Post contingency undervoltage issues at our Tauranga GXP, Kaitimako GXP, Te Matai GXP, and Mt Maunganui GXP. Regional voltage collapse may even happen for a Kaitimako interconnecting transformer outage or several bus outages.

These issues are illustrated on the single line diagram below:



We have identified the issues we are currently aware of and further investigation may identify others. They all highlight investment is needed to maintain a reliable electricity supply in the Western Bay of Plenty region. Transpower will be working with Powerco to identify the most beneficial options overall, by considering costs and benefits associated with transmission and distribution.

We consider due to the interconnected nature of the grid, and the interplay between the various identified issues that the solutions should be investigated collectively. By considering them simultaneously we hope to find synergies; enabling a more beneficial solution overall. In our view the requirements can, and should, be treated as a single investment need under the Capex IM. The investment need is due to issues with the Western Bay of Plenty regional network, illustrated electrically above. We are calling the potential project the *Western Bay of Plenty regional major capex project*.

At this stage we are treating the potential projects as a major capex project. Some of the transmission investment options involve improving the service potential of the grid beyond that attributable to replacing existing assets with modern equivalents, and we expect the overall capex to exceed \$20m.

Potential staging projects

While the investigation is at an early stage, there may be some opportunity to stage some investment. To help enable staging to occur we request that the Western Bay of Plenty regional major capex project is treated as a major capex project (staged) from the perspective of the Capex IM.

As per the requirements of clause 3.3.1(2) of the Capex IM we consider some of the potential stages are:

- Upgrading the 110kV circuits between Tauranga and Kaitimako
- Installing a third 220/110 kV transformer at Kaitimako
- Upgrading the 110kV circuits supplying Te Matai e.g. Kaitimako–Te Matai 1 and Tarukenga–Okere–Te Matai 1
- Establishing a 220/110kV interconnection at Te Matai
- One or more non-transmission solutions avoiding or deferring the above

Some of the stages listed above are interdependent, such that opting for one option may remove the need for one or more of the other options. Until we have completed the investigation, we cannot specify definitively what the staging projects will be.

In the application of the Investment Test, we will be considering total costs including interconnection, connection and distribution costs to ensure we identify the most beneficial option overall. Although included in our analysis, connection and distribution costs will not be included in any major capex allowance approval request.

The Western Bay of Plenty regional major capex project is a new project. There are no previously approved staging projects for it.

Proposed timetable

Subject to agreement with the Commission, our high-level timetable for this investigation is as follows:

Date	Action
May 2023	Publish long list consultation
Jul 2023	Long list consultation closes
Apr 2024	Publish short list consultation
May 2024	Short list consultation closes
Aug 2024	Submit major capex proposal for first staging project(s)

Non-transmission solutions will be considered as investment options in the investigation. With our long-list consultation we plan to provide respondents with 8 weeks to identify the potential for non-transmission solutions. Depending on responses we may undertake further engagement to ensure we have adequately considered potential options. We will inform you of any need to adjust our consultation programme to ensure our consideration of non-transmission solutions is robust during our investigation.

Our intent is to consult on the demand forecasts and key assumptions we should use for this project as part of our long-list consultation. We are aware that new Electricity and Generation Demand Scenarios (EDGS) may be released post our long-list consultation but prior to our submission of a proposal. If that was to happen, then we will review if we need to update our forecasts.

We look forward to working with the Commission to agree on the timetable, including the approval timeframe, and the other matters in clause 3.3.1(3) of the Capex IM.

Yours sincerely



Stephen Jones
System Planning and Investment Manager