

Deciding where to put the proposed transmission line

How has Transpower identified where the proposed transmission line should go?

The proposed new transmission line between South Auckland and Whakamaru, north of Taupo, is part of a significant programme of investment in the National Grid.

Transpower completed a four-stage process to define where the proposed transmission line could best be located over a period of 14 months. This process is like a funnel starting with a wide range of options and progressively narrowing down to a final choice. It involved considerable research, analysis and consultation. It led in January 2006 to the confirmation of the final position of the centre-line for the transmission line and tower locations.

The key investigations, consultations and decisions that Transpower worked through to confirm the final route and centreline, are described below. Each step in the process is described in more detail in a technical report.

Area

'Area' stage studies consider information at a broad level and can include many possible transmission routes.

In 2004, once the need for a new transmission line had been identified, Transpower and its independent consultants carried out investigations to define the broadest possible area within which the required transmission line route could realistically be located - to connect Otahuhu in the north (the original termination point of the line in South Auckland) and Whakamaru in the south. The area selected for investigation stretched from the Hauraki Plains and the Kaimai Range in the east, almost all the way to the coast in the west.

A range of geographic information was collected and mapped to help identify localities that should be avoided when considering possible locations for the new transmission line. This information included:

Landscape features and areas where visual impact would be high

- Topography
- Sites of ecological significance
- Cultural or historic values
- Property ownership and settlement areas
- Land types (rural, industrial and urban) and land use
- Information contained in regional and district plans
- Population characteristics
- Compatibility with existing and future infrastructure.

Corridors

From the Area study, three broad corridors were identified for more detailed study. More information was collected and mapped for each corridor, and potential difficulties within each section of each corridor carefully analysed.

As a result of this, the central corridor was chosen as the preferred corridor.

The corridor was then assessed more closely from engineering, environmental planning, visual, landscape impact and cost perspectives. The results of this work confirmed the suitability of the corridor and meant that potentially suitable routes within the corridor could then be identified.

Routes

Two possible routes within the preferred corridor were then identified following the assessment of a range of factors, including cultural, heritage and ecological sites, visual impact, patterns of settlement, cost, difficulty of construction, and compatibility with existing and future Transpower assets. Defining the routes this way made it possible to limit the area and the number of communities affected by the disruption and uncertainty associated with the possibility of a major infrastructure project.

The routes were generally between 500 metres and one kilometre wide and were publicly announced in October 2004.

Assessing the route options

Between October 2004 and June 2005, Transpower consulted with landowners and occupiers along and near the possible routes, and with tangata whenua, stakeholders and local communities. The feedback was added to the information already gained from district plans, site visits, aerial mapping surveys and organisations like the Department of Conservation and Airways Corporation. Together with further technical studies and investigations, all this feedback was used to help to determine the preferred route.

Evaluation of the routes took place through a series of workshops involving Transpower staff and consultants with expert specialist knowledge in the areas of property, engineering, planning, landscape architecture, agriculture, tourism and recreation, environment, society and culture. The information was divided into four categories - environmental, social, cultural and economic - with a range of aspects identified within each category. Each route was divided into 15 sections and a scoring and weighting system applied to each of the aspects for each route section.

The analysis also considered different weightings relating to different aspects of the Resource Management Act 1991, and community values and industry interests.

This systematic analysis formed the basis for the interim decision on the preferred route that was announced on 14 May 2005. Transpower then invited submissions from interested parties to gather any new information on the route options that might influence the final decision. All the written and oral submissions received were reviewed, along with other new information that had been gathered since the interim route decision.

Easement

The overhead transmission line route that was announced as the interim decision was confirmed as the final route on 19 July 2005. Minor alterations made to the northern end of the route (that were announced in the interim route decision) were also confirmed.

On 19 July 2005 Transpower also identified an indicative centre-line to be used as a starting point for consultation with landowners, and for more detailed environmental and engineering investigations. Consultation with landowners on the easement and towers, led to the announcement of the final centreline and easement in January 2006.

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Amended Proposal

Following the Electricity Commission's Draft Decision of April 2006 to not approve the original proposal (submitted in September 2005), Transpower requested that it be suspended while it worked on an amended proposal that better reflected how the Electricity Commission were applying the Grid Investment Test.

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Transpower submitted an Amended Proposal to the Electricity Commission in October 2006. This proposal has reconfirmed the existing route and centreline for the overhead line as that confirmed in January 2006, subject to minor adjustments at the northern end to accommodate a new location for the transition station. The transition station itself will now evolve over time into a full 400 kV/220 kV substation.

For the underground cable segment, Transpower is now proposing to terminate the line at Pakuranga substation initially. The previously confirmed route to Otahuhu will be used at a later stage of the project.

Documentation

Once all the aspects of the project are confirmed including the new cable route to Pakuranga, the site for the transition/substation and the centre-line, Transpower will prepare statutory documentation for lodgement with local councils to secure the necessary approvals under the Resource Management Act. This documentation will comprise Notices of Requirement (to designate the land required for the transmission line) and other applications, including resource consents and special approvals (where required).

For more information on the Notices of Requirement and the associated statutory processes, see the Resource Management Act (RMA) processes information sheet.

For further information on finalising the route and centreline please check out our website (www.gridupgrade.co.nz) or call the call centre (0800 33 88 66).