



# NORTH ISLAND GRID UPGRADE PROJECT WHAKAMARU SUBSTATION FACT SHEET



FACT SHEET



Total estimated cost

**\$20**  
million

Completion

**2012**

Initial operation

**220**  
kilovolts

Maximum operating voltage

**400**  
kilovolts

The North Island Grid Upgrade Project is one of the largest electricity transmission projects to be undertaken in New Zealand since 1960. The project is separated into three components: the overhead transmission line, substations and underground cables. The project is critical to ensuring security of supply to the Upper North Island well into the future. This fact sheet provides information on the construction of the new 220 kV substation at Whakamaru North.

## Construction of the Whakamaru North substation

In early October 2010, construction will start on the new substation - Whakamaru North – just outside of the Whakamaru Village. The new substation will be built 800 metres north of the existing Whakamaru substation. A short new transmission line (a tie-line) will be erected between the two substations to transfer power. Initially the substation and new overhead transmission line will be operated at 220 kV, with a planned conversion to 400 kV operation in 2034.

There will also be some alterations to the existing substation and equipment. This work will include the addition of two bays of equipment at the river end of the substation. This new equipment will be similar in height to the existing equipment.

## STAGE ONE

### There are two stages to construction:

# 1

## SITE PREPARATION AND EARTHWORKS

Prior to major construction starting, the substation site will be 'set up' to ensure the construction process is well managed and efficient. This involves establishing site offices, surveying and preparing the site for construction.

Once this is completed, civil construction (earthworks) will start. Earthworks involve excavation and clearing to prepare for the substation foundation to be laid. The activities that will be undertaken during this period includes: constructing a new accessway off

SH30 into the new Whakamaru North substation including modifying the current state highway to allow a safe pull off area; foundation excavation and levelling; pouring of concrete foundations at both the new and existing substations, and the construction of a new building at Whakamaru North for control of the electrical equipment.

This first stage of construction will take place over the upcoming summer from October to June 2011.

## STAGE TWO

# 2

## ELECTRICAL INSTALLATION

Stage 2 involves the installation of new electrical equipment at both the new Whakamaru North and existing Whakamaru substations, and the construction of a new 800 metre tie-line between the two substations.




At Whakamaru North, five new 220 kV substation equipment bays will be built. At the existing Whakamaru substation, two new 220 kV substation equipment bays will be built.

This work will take place over the summer of 2011/2012.

## TIMELINE

2010	2011	2012		
OCTOBER	JUNE	SEPTEMBER	MAY	AUTUMN
Civil work starts	Civil work completed	Electrical installation work starts	Electrical installation work completed	New Whakamaru North substation in operation New Brownhill Road to Whakamaru North overhead transmission line commissioned

For further information on the North Island Grid Upgrade Project, please call **0800 33 33 68** or visit our website [www.gridnewzealand.co.nz](http://www.gridnewzealand.co.nz)

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 [communications@transpower.co.nz](mailto:communications@transpower.co.nz)

# What can you expect from construction?

## Traffic effects

There will be a small increase in vehicles on State Highway 30 (Whakamaru Road) as construction vehicles move in and out of the new and old substation sites over the two construction periods (summer 2010/2011 and summer 2011/2012). We do not expect this to cause any significant impact on the community or through traffic.

There may be temporary speed restrictions, possible shoulder closures and additional road signage at various times throughout the project.

To minimise traffic effects, an internal access track has been created between the two substation sites and will be used for construction traffic where possible.

We will try to minimise any disruption to road users as much as possible and will keep you informed of any activity that you need to be aware of.

## Visual screening

The majority of the western and southern boundaries of the new substation site will be planted with large conifers to help screen the substation from the road.

An area of the existing shelterbelt will be removed to allow safe highway visibility from the intersection of the new access road into the Whakamaru North substation and State Highway 30.

## Noise and dust

Inevitably, when undertaking construction, there will be some noise and dust at times – primarily through the civil construction period. Our work will comply with the conditions set out by the local Council around appropriate noise levels. We will undertake measures to ensure noise is kept to a minimum and will manage the project to limit dust.

## LOCATION OF WHAKAMARU NORTH SUBSTATION



## FREQUENTLY ASKED QUESTIONS

**Are any private properties required for this work?**

No. The land that the new substation will be constructed on is owned by Transpower.

**What is the expected impact on traffic?**

Although there will be a slight increase in traffic and heavy vehicles during the construction of the Whakamaru North substation, we do not expect it to have a significant impact on the local community.

To help reduce traffic on the state highway, we will use the internal access road between the existing and new substations as much as possible for construction vehicles.

There will be no ongoing impact to traffic on State Highway 30 (Whakamaru Road) once the new substation is fully operational.

**What will be the hours of work for the construction crews?**

Our construction crews will be working 7:30am to 6pm Monday to Friday, and 8:30am to 5pm on Saturdays.

**Will we be kept informed throughout the construction process?**

Yes. Transpower aims to keep communities and stakeholders informed throughout the project. Information will be available through our regular North Island Grid Upgrade Project newsletter delivered directly to your letterbox as well as on our website [www.gridnewzealand.co.nz](http://www.gridnewzealand.co.nz).

Public notices and advertisements will also be placed in your local newspaper for any major construction work that may affect the community.

We also welcome feedback. If you have any feedback or questions now, or during the project, please call 0800 33 33 68 or email [communications@transpower.co.nz](mailto:communications@transpower.co.nz).

**What about the electric and magnetic fields from the substation?**

Electric and magnetic fields are present wherever there is electricity including in the home and office.

All of our assets, including substations and transmission lines, comply with the international guidelines set by the International Commission for Non Ionizing Radiation Protection, and endorsed by New Zealand's Ministry of Health.

The safety of the public and our employees is fundamental to our business and this project has been designed to comply with these guidelines.

### WHO IS TRANSPOWER?



Transpower is the owner and operator of the National Grid – the high voltage transmission network made up of lines and substations – connecting areas of generation to towns and cities across New Zealand.

