

# NZ Transport Agency Transmission Gully Project: Transmission Line Relocation

## Addendum to Technical Report 20: Assessment of Archaeological Effects



Mary O’Keeffe  
Heritage Solutions

July 2011

## 1. Introduction

The NZ Transport Agency (NZTA) has identified the need for a new inland state highway from Linden in Wellington City to MacKays Crossing in the Kapiti Coast District. This is known as the Transmission Gully Project and is part of the Wellington Northern Corridor Roads of National Significance (RoNS). The NZTA are progressing notices of requirement for designations and applications for resource consents for the Transmission Gully Project as a project of national significance under the Resource Management Act 1991 (RMA). NZTA's documentation that supports the notices of requirement for designations and applications for resource consents is contained in Volumes 1 to 5. These volumes contain a substantive description of the Transmission Gully Project.

In order to allow for the construction and operation of the Transmission Gully Project, parts of the existing electricity transmission line between the Pauatahanui substation at State Highway 58 and MacKays Crossing will need to be relocated. The Paekakariki-Takapu Road A (PKK-TKR A) 110kV transmission line is part of the National Grid and is owned and operated by Transpower New Zealand Limited (Transpower). This Line Relocation Project involves the relocation of sections of the PKK-TKR A between the Paekakariki and Pauatahanui Substations from Tower 1 to 49A. The line route generally follows the existing transmission line with the route design generally governed by the need to minimise crossings of the Transmission Gully Project cognisant of environmental, cultural, engineering and other factors.

Transpower is seeking the majority of the resource consents to enable the line relocation to occur under the regulations included in the Resource Management (National Environmental Standards for Electricity Transmission Activities) Regulations 2009 (NESETA). These resource consents are set out in detail in the AEE and in summary are:

- Restricted discretionary land use consent for the relocation of 6 towers in Kapiti Coast District in accordance with the NESETA; and
- Restricted discretionary land use consent for the relocation of 18 towers in Porirua City in accordance with the NESETA.

No transmission lines will be relocated in Upper Hutt City or in Wellington City.

Regional consents for related works including earthworks and construction of culverts are not being applied for at this time. Where consents are required for these activities they will be applied for during detailed design.

This addendum to Assessment of Archaeological Effects (Technical Report 20) addresses the archaeological effects associated with the Transmission Gully Line Relocation (hereafter referred to as 'the Line Relocation Project').

## 2 Project Description

The Assessment of Environmental Effects report (AEE) accompanying the application for resource consent describes the Line Relocation Project in detail. This section is a summary of the Project.

## **Line Route**

The PKK-TKR A line between the Paekakariki and Pauatahanui Substations is approximately 15 km long. The existing line is a 110 kV double circuit line consisting of lattice steel towers. There are 50 existing towers along this section of the line.

For assessment purposes, the line route is split into six route sections. The following summarises the relocation works for each section.

### **Route Section 1– McKays Crossing**

This route section covers the line route between Tower 1 and Tower 4. In order to accommodate the Transmission Gully Project, two existing towers will be relocated, one to the west and the other slightly to the east of the existing line. No alterations are required to towers or lines located north of the existing state highway.

### **Section 2 and 3 - Wainui Saddle**

This section covers the line route between Tower 5 and 15. Through this route section, the line route runs to west of the proposed road and then roughly two thirds of the way up the Te Puka valley at Tower 8, the line is proposed to be relocated to the west of the Saddle. This is required in order to navigate around the Wainui Saddle, which will be occupied by the Transmission Gully Project. Towers will be erected halfway up the main spur to the west of the Saddle and will skirt round the high point of the saddle and then crossing the Transmission Gully Project between Towers 11 and 12, before dropping back into the Horokiri Valley of the Saddle at roughly Tower 13. Minor relocations will be required to the remaining towers (including tower 13) in this section (as compared with current positions) in order to accommodate the proposed Transmission Gully Project with the line aligned roughly parallel and to the east of the existing line.

### **Route Section 3 - Horokiri Stream**

This section covers the line route between Tower 15 and 25. Minor relocations of towers (as compared with current positions) are required to accommodate the proposed Transmission Gully Project with the proposed line aligned roughly parallel and to the east of the existing line. Tower 23 is to be removed.

### **Section 4 - Battle Hill**

This route section covers the line route between Tower 26 and 33. Relocations of towers is required to accommodate the proposed Transmission Gully Project with the proposed line aligned roughly parallel and to the east of the existing line. The proposed line crosses the Transmission Gully Project between Towers 32 and 33.

### **Section 5 – Golf Course**

This route section covers the line route between Tower 34 and 42. Relocation of towers is required in order to accommodate the proposed Transmission Gully Project with the proposed line aligned roughly parallel and to the west of the existing line.

### **Section 6 - State Highway 58**

This route section covers the line route between Tower 43 and 49A. Tower 43 is relocated to the west of the existing tower. No other tower relocations are needed in this section.



**Figure 1: Route sections for the Transmission Gully Project**

### Tower Design and Access Tracks

The proposal is to relocate 24 existing tower structures, to strengthen 10 towers, and entirely remove a tower. Table 1 summarises the changes to each of the towers.

**Table 1 – PKK-TKR A Line Towers**

Description	Towers	Quantity
Replaced structures	2A, 3A, 8A, 9A, 10A, 11A, 12A, 13A, 14A, 15A, 16A, 17A, 18A, 22A, 24A, 25A, 26A, 31A, 32A, 33A, 40A, 41A, 42A, 43A	24
Structures to be strengthened*	1, 4, 7, 19, 21, 27, 30, 34, 39, 44	10
Structures to be removed entirely	23	1
Unaffected Structures (not moving or being strengthened)	5, 6, 20, 28, 29, 35, 36, 37, 38, 45, 46, 47, 48, 49, 49a	15
<b>Total</b>		<b>50</b>

\* Involves foundation and/or tower strengthening.  
The "A" in the tower reference denotes relocated/replaced tower

The towers are expected to range in height from 16.2 m through to 40 m. The towers will be steel lattice design, similar to existing towers.

Appendix B of the AEE (volume 6) contains details of each of the towers including co-ordinates and indicative expected heights of each tower. The replacement towers are expected to range in height from approximately 29 m through to 40 m.

The towers will be steel lattice design, similar to existing towers.

Tower foundations will be approximately 9m x 9m for a strain tower and for construction, an additional clearance buffer of approximately 3 m around each tower. In addition, generally an area of approximately 20 m x 25 m will be required to one side of each proposed tower for construction crane assembly purposes. This construction area will be able to reinstated following use.

Transpower has an existing access track along the line for maintenance purposes. This track is shown on the drawings contained in Volume 4: Plan Set. This existing access track and other existing tracks (including farm and forestry tracks) will be used for construction access to provide four wheel drive access to each tower. The tracks will be approximately 3.5m to 4.5m wide. At the Wainui Saddle, for the towers located outside the extent of works for the NZTA's Transmission Gully Main Alignment (i.e. for towers 9A, 10A and 11A), access is likely to be taken off the existing access track that currently serves the farm and the gas pipeline owned by Vector. New tracks will be constructed off this to gain access to Towers 9A and 10A.

### **3 Scope and methodology**

The immediate vicinity has already been the subject of an archaeological assessment for NZTA's proposed Transmission Gully project (the road)<sup>1</sup>. This assessment already undertaken for NZTA covered an area which also applies to the Transpower project. It studied the archaeological context of the wider vicinity, and assessed the likelihood of recorded or unrecorded archaeological sites being located within the proposed alignment or likely areas of construction for Transmission Gully.

Whilst there were known archaeological and heritage sites near each end of the proposed alignment, none fell within the alignment or likely associated areas of construction, such as laydown areas, locations of temporary buildings, etc as defined by NZTA's designation. The majority of towers for the Transpower relocation projects fall within the designation length. The towers which lie outside the NZTA designation are not affected.

Full details on the historical and archaeological context are recorded in Technical Report 20.

### **4 Existing Environment/Context**

The existing environment for this assessment is detailed in Technical Report 20: Assessment of Archaeological Effects.

---

<sup>1</sup> Technical Report 20: Assessment of Archaeological Effects

## 5 Assessment of Effects

Based on the Transmission Gully archaeological assessment, the areas of archaeological interest are:

### 1 *Paekakariki*

Recorded sites at the Paekakariki end of the Transmission Gully project (of NZTA) alignment are a combination of pre European Maori and European sites. They include storage pits, midden, terraces and an urupa. The European sites are of military origin and are associated with the US Marines' camps at Paekakariki.

No sites will be affected by the proposed resiting of transmission towers. The nearest site, R26/415, is a circular brick fuel storage tank located on the edge of the stream immediately south of the TG alignment. No transmission towers are proposed to be located near this site.

### 2 *Paekakariki Hill Rd*

The majority of sites in this section of the Transmission Gully project alignment are associated with Battle Hill, the scene of conflict in the 1840s. Sites include the battle site itself and graves of people killed in the battle. There is also an historic woolshed, a goldmining site and an historic quarry. The transmission towers in the location (towers 26-28) are not proposed to be relocated but may be strengthened in any event, are located at the base of the adjacent ridge, and thus are nowhere near the archaeological sites.

### 3 *Pauatahanui Inlet*

Sites near the Pauatahanui inlet are a mixture of pre-European Maori – middens, pits and a pa, and European – historic cottages and churches.

The transmission towers in this location (towers 49 and 49a) are between the two clusters of archaeological sites and do not impact on them.

## 6 Monitoring and Mitigation

Because no known sites are directly affected, no mitigation is set out.

## 7 Summary and Conclusion

Realignment of Transpower's transmission towers do not have any impact on recorded archaeological sites in the vicinity.

## References

Technical Report 20: Assessment of Archaeological Effects. O'Keeffe, M and Grouden, V. n.d.  
Transmission Gully: Archaeological assessment of proposed roadway.