

IN THE MATTER

of the Resource Management
Act 1991

AND

IN THE MATTER

of a Board of Inquiry
appointed under s146 of the
Resource Management Act
1991 to consider an
application by Mighty River
Power Limited for resource
consents to construct,
operate, and maintain a wind
farm at Turitea

STATEMENT OF EVIDENCE OF RODNEY EDWARD CLOUGH

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STATEMENT OF EVIDENCE OF RODNEY EDWARD CLOUGH

INTRODUCTION

- 1 My name is Rodney Edward Clough. I am the Director of Clough & Associates Limited, Heritage Consultants. I hold a Doctorate in Archaeology from the University of London and a Master of Arts in Anthropology from the University of Auckland. I am a former Vice President and council member of the New Zealand Archaeological Association (*NZAA*), a member of the New Zealand Historic Places Trust (*NZHPT*) and of the International Committee on Monuments and Sites (*ICOMOS*). I am a member of a heritage landscape group which is a subgroup of the New Zealand Institute of Landscape Architects. I have 35 years experience in the field of archaeology including research, survey, investigation, analysis and report preparation, covering a variety of time periods and geographic locations. Over the last 20 years this work has largely focussed on New Zealand archaeology.
- 2 My practice carries out a range of work relating to cultural heritage management - in particular archaeological assessments relating to Resource Management Act 1991 (*RMA*) and Historic Places Act 1993 (*HPA*) requirements, conservation and management plans, survey, inventory and mitigation investigations. These have included numerous surveys and heritage assessments in the North Island, including projects in Taranaki, Hawkes Bay, Wairarapa and Kapiti Coast, a number of which have involved wind farm proposals. Examples of these are an assessment for a proposed windfarm at Motorimu just to the south of the project area;¹ another in the Tararua District;² a survey and assessment for a fibre optic cable in Taranaki from Wanganui to New Plymouth;³ and an assessment for a geothermal project at Taupo.⁴
- 3 I have read the 'Code of Conduct for Expert Witnesses' contained in the Environment Court Consolidated Practice Note 2006. My evidence has been prepared in compliance with that Code in the same way as if I were giving evidence in the Environment Court. In particular, this evidence is within my sphere of expertise and I have not omitted to consider material facts known to me that might alter or detract from the opinions I express.

¹ R. Clough and G. Farley. 2007. Motorimu Wind Farm, Scotts Road, Motorimu, Palmerston North: Archaeological Assessment. Clough & Associates report prepared for Motorimu Wind Farm Ltd.

²² B. Baquié and R. Clough. August 2008. Waitahora Windfarm Project, Tararua District: Archaeological Assessment. Clough & Associates report prepared for Contact Energy Ltd.

³ R. Clough and K. Tatton. November 2000. Fibre Optic Cable Taranaki Land Route – Archaeological Assessment. Clough & Associates report prepared for Saturn Telstra Ltd.

⁴ R. Clough. May 2008. Tauhara Geothermal Project, Taupo: Archaeological Assessment. Clough & Associates report prepared for Contact Energy Ltd.

ROLE IN THE PROJECT

- 4 My involvement in the Turitea Wind Farm project (*the Project*) began in April 2008, when Clough & Associates was commissioned by Mighty River Power to carry out an assessment of the effects of the Project on archaeological values.
- 5 A preliminary archaeological report had previously been prepared by Archaeology North.⁵ My brief was to review this preliminary report, undertake additional research and field survey, and prepare a report assessing the archaeological values of the Project site. This report, prepared in association with Archaeology North,⁶ was subsequently submitted as part of the Assessment of Environmental Effects in respect of Mighty River Power's resource consent applications for the proposed Turitea Wind Farm (*the Report*).
- 6 The Report was an assessment of effects that focussed only on archaeological values and did not include an assessment of effects on Maori cultural values or the relationship of Maori with the site. The assessment of Maori cultural values should be made by the tangata whenua, as Maori cultural concerns may encompass a wider range of values than those associated with archaeological and other heritage sites. However, the Report and this evidence does address archaeological sites that may be evidence of former Maori occupation of the area.
- 7 Subsequent to the completion of the Report I visually inspected all of the proposed pylon sites along the transmission corridor on 29 January 2009.
- 8 This evidence is given in support of Mighty River Power's resource consent applications to construct, operate and maintain the proposed Turitea Wind Farm.

SCOPE OF EVIDENCE

- 9 My evidence covers the following topics:
 - (a) Summary of evidence;
 - (b) Methodology used for assessment of archaeological values;

⁵ A. Sutton. 9 May 2007. Resume of Archaeological Issues within the Proposed Turitea Wind Farm Development Area. Report prepared by Archaeology North for Mighty River Power.

⁶ R. Clough in association with Archaeology North. August 2008. Turitea Wind Farm, Turitea, Palmerston North: Archaeological Assessment. Prepared for Mighty River Power.

- (c) General historical background of the Project area;
- (d) Description of archaeological values in the Project area;
- (e) Assessment of effects of the Project on archaeological values;
- (f) Management of effects and mitigation;
- (g) Response to submitters; and
- (h) Conclusions.

SUMMARY OF EVIDENCE

- 10 Background research and field survey have established that the Project area has limited archaeological potential. Only three sites of archaeological interest were identified, a stone wall constructed in 1923 and two quarry sites (one associated with a historic barrow/cart track) related to the construction of South Range Road c.1900. The sites are of local significance only, and will not be affected by the proposed wind farm. These are shown on the figure included as Exhibit REC1 (attached).
- 11 The Tararua Ranges have previously been recognised (see the Report) as being of cultural, spiritual and historical significance to the tangata whenua. It is understood from earlier cultural reports relating to that region, that there are four sites of cultural significance in the vicinity of the proposed wind farm. These largely relate to natural peaks and have no known archaeological components that would be affected by the proposed wind farm (see also Tanenuiarangi Manawatu Incorporated's (*TMI*) submission). These are shown on the figure included as exhibit REC1 (attached).
- 12 Although the potential for discovering unidentified archaeological remains within the Project area is low, it is recommended that Mighty River Power develop accidental discovery protocols that are consistent with the NZHPT guidelines in case any archaeological remains are exposed during construction. It is also recommended that the quarry sites and barrow/cart track are marked out during construction to protect them from accidental damage.
- 13 Provided that the proposed mitigation measures are adopted, I consider that the effects of the Project on heritage values will be less than minor.

METHODOLOGY USED FOR ASSESSMENT OF HERITAGE VALUES

- 14 The NZAA's site record file was searched for information on recorded archaeological sites within or near the Project area. The preliminary report by Archaeology North was reviewed, and its findings discussed with the

author, who also provided additional background information. Other relevant archaeological reports and background information were reviewed and some research was carried out in the Palmerston North District Library. Early maps and plans held by Land Information New Zealand (*LINZ*) were searched for information relating to the past use of the area.

- 15 The Project area was visually inspected in May 2008, and the ground surface examined for evidence of former occupation (in the form of shell middens, depressions, terracing or other unusual formations within the landscape, or indications of 19th century European settlement remains). Archaeological sites previously recorded and referred to in the preliminary archaeological report were revisited.
- 16 The substation and proposed pylon sites were inspected in January 2009 to establish whether any evidence of archaeological sites was present in these locations.

GENERAL HISTORICAL BACKGROUND OF THE PROJECT AREA

- 17 The Project area is located in the exposed hills of the Tararua Ranges, and was not a favourable location for pre-European settlement. The recorded archaeological sites in the general area are clustered around the Manawatu River in more sheltered areas with easy access to canoe transport routes.
- 18 However, the Ranges would have been utilised by Maori living in the general vicinity for forest resources such as birds, fibres and berries. Maori would also have travelled through the Ranges en route to other areas.
- 19 Initial European occupation of the Ranges in the second half of the 19th century was based on logging the forests. Palmerston North became a Borough Council in 1877, at which time the population was 800 and the main industries were milling the extensive native forests and processing flax. By 1902 the population was around 7,000 and the main industry was shifting into agriculture on the plains surrounding the Manawatu River, which offered easy access and a hospitable environment. The shift to agriculture in the Ranges occurred about two decades later.
- 20 The bulk of the Project area was gazetted as a water supply catchment reserve in 1881 and has never been developed.
- 21 Much of the land in the Fitzherbert Block/Browns Flat area was owned by the Wellington & Manawatu Railway Co. Ltd, and sold into private ownership in 1889. Early landowners included the Shere, Forsaith, Welch, Lynch and Costello families, who acquired their landholdings in 1890 or 1891. Much of the land would have been bush covered throughout the 19th century, and considerable work was required to convert the properties to farmland.

- 22 George Brown (namesake of Browns Flat) came into the Kahuterawa Valley in 1903, and built up his landholdings until by the end of the 1930s he owned a total of 1200 acres. He built a house in 1915 that survived into the 1950s, but was located to the west of the Project area.
- 23 Timber milling was an important industry well into the 20th century. The McGregor Brothers mill, located at Motorimu, was established in 1903 and milled timber from across the Ranges, building an extensive tramway system running through a number of valleys. However, by 1914 the mill had run out of logs and was closed.
- 24 Another historic transport route (immediately to the south of the Project area) was an old Sledge Road built in 1894 to provide access up into the Kahuterawa Valley. The track was never completed due to difficult terrain and is now the route of a scenic walkway.
- 25 There was also a brief interest in platinum mining. Various prospectors, including a German miner named Menesdorffer, prospected the hills from the 1870s to the 1920s. Traces of platinum were confirmed in samples assayed for Menesdorffer in 1906, but for one reason or another mining was never established in the Ranges.
- 26 The South Range Road, that runs into the Project area from the Pahiatua-Aokautere Road, was built at the turn of the 19th/20th century.

DESCRIPTION OF ARCHAEOLOGICAL VALUES IN THE PROJECT AREA

- 27 Three sites of archaeological interest are located within the Project area and are of local rather than wider archaeological significance.
- 28 One is a stone wall and cairn built by Scottish settler and farmer Alfred Oswald Meyrick around 1923. The stone wall and cairn are located at the northern end of the Project area and are listed as a category 2 heritage item in the Palmerston North District Plan. The property is now owned by J. Poff.
- 29 The other two sites are quarry areas relating to the construction of the South Range Road and date from the very late 19th or early 20th century (pre-1904). One of the sites is associated with an old cart or barrow track. Both are located in the north-eastern part of the Project area (near turbine sites 0008 and 0103). These sites have not been registered by NZHPT.
- 30 The South Range Road itself does not have any archaeological significance as the original road has been modified by maintenance and upgrade work.
- 31 Tangata whenua have identified four places of cultural significance in the vicinity of the Project area. These are the natural peaks (Ramiha, Marima, Arawaru and Tirohanga). Of these only Arawaru is recorded on the NZAA site

recording scheme as an archaeological site, being the reported location of a signal fire (site T24/35), but this is to the southwest and outside of the Project area.

- 32 A historic Maori track, the Kairanga track, probably followed an ancient route that passed near to the Tirohanga peak and through the southern end of the Project area. However, its precise location is not known, and it would not constitute an archaeological site within the meaning of the HPA.
- 33 In my opinion it is unlikely that Maori resource gathering activities within the Ranges (for forest products such as birds, fibres and other plant material) would have left much in the way of archaeological evidence.
- 34 Other sites or features of local heritage significance, such as the old mineshafts relating to 19th and early 20th century platinum prospecting, the route of the 1894 Sledge Road, and the 1903-1914 tramline for the McGregor Brothers timber mill, are located outside the Project area and will not be affected by the proposed wind farm.

ASSESSMENT OF EFFECTS OF THE PROJECT ON ARCHAEOLOGICAL VALUES

- 35 Following the identification of the two quarry sites and the barrow/cart track in the preliminary archaeological report, the turbine and infrastructural layout was altered to avoid any impacts on these sites. The locations of these and other sites in relation to the proposed wind farm layout are shown in Exhibit REC1.
- 36 The stone wall is located at least 200m from the nearest turbine zones and will not be affected by the Project.
- 37 The peak Marima, located within the wind farm footprint (see exhibit REC1), could be affected by road widening. However, from an archaeological perspective, this area has already been extensively modified and has no known archaeological values. The peak Tirohanga may be affected by the construction of turbine 0055 and its associated access route, but the peak is not known to contain any archaeological sites.
- 38 I consider it unlikely that any other archaeological sites will be exposed during the construction of turbines and their associated infrastructure. The majority of the Project area was not a focus of settlement in either pre or early European times. The private land surrounding the water supply catchment reserve has been modified by farming activities, the planting and harvesting of forestry blocks, resulting in extensive modification of some areas, reducing the likelihood of archaeological sites being present. However, the possibility of intact archaeological remains being discovered

during Project earthworks cannot be completely excluded and should be provided for through developing appropriate accidental discovery protocols.

- 39 No archaeological sites were identified in the vicinity of the proposed pylon locations on the transmission route beyond Browns Flat during my visual inspection.
- 40 Overall, the Project will have no effects on known archaeological remains, and the effects on archaeological values will therefore be less than minor.

MANAGEMENT OF EFFECTS AND MITIGATION

- 41 Although no known archaeological sites will be affected by the Project, archaeological survey techniques cannot necessarily identify all sub-surface archaeological features. Procedures should therefore be put in place to provide for the possibility that unidentified sites may be exposed during construction. It is also important to protect the known archaeological features from accidental damage.
- 42 I would therefore recommend that a set of accidental discovery protocols is developed by Mighty River Power that are consistent with the NZHPT guidelines. This would ensure that appropriate action is taken should any archaeological remains, koiwi (human remains) or taonga be exposed during construction. I understand that Mighty River Power accepts this recommendation.
- 43 The historic quarry sites and barrow/cart track have been excluded from any areas of Project earthworks. However, they should be temporarily marked out or fenced off to prevent accidental damage during the construction of nearby facilities.

RESPONSE TO SUBMITTERS

- 44 Two submissions relating to archaeological values have been received. One from TMI (no. 322) and one from the Department of Conservation (no. 367).
- 45 The submission from TMI raises a number of concerns relating to potential effects on cultural values. These are discussed in the evidence of Mr Henry.
- 46 TMI's submission also summarises the archaeology of the broader area, and discusses the sites of traditional and historical significance to Rangitaane o Manawatu. These include the Turitea Reserve, which was important for its natural resources as well as for communication and travel, and for a number of peaks, some of which were important for sending fire or smoke signals in the event of attack. The submission provides a table of sites of significance within the Turitea Reserve which might be affected by the proposed wind farm. These include natural peaks, clearings, tracks, kainga, a pa, a signal

fire (Arawaru), a number of archaeological findspots and an oven site. No precise locational details are provided and the current status of all sites except the signal fire and archaeological sites is given by TMI as "Unprotected, Extinct".

- 47 I fully recognise the importance of the area historically and culturally to Rangitaane o Manawatu. However, in terms of the effects of the proposal on archaeological sites, none of the recorded archaeological sites in the general vicinity of the wind farm, including the Arawaru signal fire, will be affected by the construction of the wind farm, and no other sites were identified through field surveys of areas affected by the project.
- 48 The submission requests that Mighty River Power and TMI develop a management protocol on the process required should archaeological artefacts or other remains be discovered. I support this request, which is consistent with my recommendation (see paragraph 42 above) for the development of a comprehensive set of accidental discovery protocols in consultation with the tangata whenua and NZHPT.
- 49 The submission by the Department of Conservation is largely concerned with effects on natural values, but notes that the proposal has the potential to adversely affect archaeological or historic sites within the project area, notably the old cart or barrow track and the quarry remains. I have addressed these specific sites in this evidence. The Department seeks the inclusion of conditions which ensure the protection of all known archaeological or historic features and that appropriate steps are taken in the event that archaeological or historic sites are uncovered.
- 50 I believe that if the mitigation measures outlined above are adopted (the development of accidental discovery protocols and the marking out or fencing off of the three named known sites for the duration of construction activities) the Department's concerns will have been addressed.

CONCLUSIONS

- 51 Only three sites of archaeological interest are present in the Project area, and none would be affected by the construction of the proposed wind farm. The potential for there to be further unidentified archaeological sites within the Project area is low.
- 52 I consider that the effects of the Project on archaeological values will be less than minor, particularly if the mitigation measures outlined above are adhered to.

Rod Clough

1 May 2009

Exhibit REC1. Heritage Sites (cultural blue dot, archaeological red dot)

