

**APPENDIX F: WHAKAMARU AND WHAKAMARU NORTH
SUBSTATION CONDITIONS****Documents**

1. The initial works to give effect to the designation of the Whakamaru and Whakamaru North Substations shall be generally in accordance with Maps 4 and 5 of Appendix V.

Height

2. Tower 429 shall have a maximum height of 58 metres.
3. The security fence shall have a maximum height of 3.5 metres.

Cultural / spiritual

4. If any urupā, traditional sites, taonga (significant artefacts), or kōiwi (human remains) are exposed during site works, then the following procedures shall apply:
 - (a) works in the immediate vicinity of the site that has been exposed shall cease;
 - (b) the site supervisor shall immediately secure the area in a way that ensures that any remains or artefacts are untouched;
 - (c) the site supervisor shall notify representatives of relevant tāngata whenua, the New Zealand Historic Places Trust, the Taupo District Council and, in the case of human remains, the New Zealand Police; and
 - (d) the notification in (c) above shall allow such persons being given a reasonable time to record and recover archaeological features discovered before work may recommence on the exposed site.

Landscaping

5. A visual mitigation planting plan shall be prepared for the Whakamaru and Whakamaru North sites and submitted at least two months prior to the first commencement of construction to Taupo District Council for approval. The Council's Consents Manager shall respond within 20 working days indicating whether approval is given or refused. Approval shall not be unreasonably

withheld. The intention of the planting is to screen the sites from the west and south-west, including State Highway 30, as far as is practicable given the constraints of transmission lines in the vicinity of the sites.

6. Once approved, the visual mitigation plan required under condition 5 may be altered or updated at any time with the approval of the Council's Consents Manager. The Manager shall not unreasonably withhold his or her approval, in particular for any changes to the plan required as a result of expansion of facilities within the substation sites, irrespective of whether the extent of landscaping is reduced as a result of that expansion.
7. Transpower shall implement the visual mitigation plan within the first planting season following completion of the first bulk earthworks on the site; and shall thereafter maintain the planting to the satisfaction of the Council's Consents Manager.

Electric and Magnetic Fields (EMF)

8. The works shall be designed and constructed to limit the EMF exposure at or beyond the secure boundary of the substation site to the *International Commission on Non-Ionising Radiation Protection Guidelines for limiting exposure to time-varying electric, magnetic, and electromagnetic fields (up to 300 GHz)* (*Health Physics, 1998, 74(4): 494–522*) (ICNIRP Guidelines) to public reference levels of 5 kV/m for electric fields and 100 μ T for magnetic flux density at one metre above ground level under maximum normal operating conditions (ie, when there are no faults in the transmission system).

Radio frequency interference

9. All works shall be designed to comply with NZS 6869:2004 *Limits and Measurement Methods of Electromagnetic Noise from High-Voltage a.c. Power Systems, 0.15 to 1000 MHz*.

Earth potential rise

10. In designing and constructing the work, Transpower shall give consideration to third-party conductive services to ensure compliance with regulations 58, 60, 69 and 87 of the Electricity Regulations 1997 as in force at the date of confirmation of the designation.
11. Substation earth grids shall be designed, built, and tested to ensure electrical safety at or beyond the designation boundary in accordance with Transpower Standard TP.DS.52.01, Issue 2, January 2005.

Operational noise

12. Any new equipment (such as transformers, fans and circuit breakers) required as part of the Upper North Island Grid Upgrade Project shall be designed and operated to ensure that the following noise limits shall not be exceeded at or within any land outside the designation:

All times L_{Aeq} 40 dBA

All nights 10 pm to 7 am 75d BA L_{max}

13. Sound levels shall be measured and assessed in accordance with NZS6801:1991 *Measurement of Sound* and NZS6802:1991 *Assessment of Environmental Sound*.

Vibration

14. Vibration from all construction activities shall not exceed the limits of, and shall be measured and assessed in accordance with, German Standard DIN 4150-3 (1999-02) *Structural Vibration – Effects of Vibration on Structures*.

Hazardous substances

15. Any part of the facility containing oil shall be designed to comply with Transpower's *Oil Spill Management Policy* (TPG:GS.54.01), Issue 2, June 2002.

Construction Management Plan (CMP)

16. At least 30 days prior to commencement of any construction activity on the site, Transpower shall submit a construction management plan to the Council's Consents Officer. The Council's Consents Officer shall respond within 20 working days indicating whether approval is given or refused. Approval shall not be unreasonably withheld. The construction management plan shall detail:
- (a) the proposed earthworks methodology;
 - (b) storage and reuse of topsoil;
 - (c) on- and off-site disposal of soil;
 - (d) silt and dust control;

- (e) traffic management for delivery of substation equipment and materials (excluding transformers) and general construction activities;
- (f) temporary equipment storage;
- (g) site security and lighting;
- (h) procedures for temporary storage and handling of hazardous substances, including insulation oil;
- (i) compliance with designation conditions, including (where applicable) for:
 - (i) noise;
 - (ii) hours of operation;
 - (iii) accidental discovery protocol;
 - (iv) protection of known archaeological sites;
- (j) community information and liaison (including local marae); and
- (k) procedure for managing the accidental discovery of archaeological sites or sites of significance to Māori, including contractor training prior to commencement of work.

Construction and maintenance noise

17. Subject to condition 18, all construction and maintenance work shall be designed, managed and conducted to ensure that construction and maintenance noise from the site does not exceed the limits in NZS6803:1999 *Acoustics–Construction Noise* at locations set out in section 6.2 of that standard.
18. The noise limits shall not apply to emergency work required to re-establish continuity of supply, work urgently required to prevent loss of life or other personal injury, or commissioning works at the substation site, but all practicable steps shall be undertaken to control noise and to avoid adverse noise effects, particularly at times when the stricter noise limits apply (eg, at night-time).

19. Prior to any significant construction work taking place, including any earthworks, a noise management plan shall be prepared, with the assistance of a suitably qualified and experienced person, that sets out the management procedures in terms of section 8 and Annex E of NZS6803:1999; and the works shall be undertaken in accordance with that noise management plan.
20. The noise management plan required by condition 19 shall be submitted to Council's Consents Manager for approval, at least 20 working days prior to the works commencing. The Council's Consents Manager shall respond within 20 working days indicating whether approval is given or refused. Approval shall not be unreasonably withheld.

Waikato Hydro Scheme

21. The requiring authority shall undertake all works or activities, including the erection of structures, in a manner that does not prevent or hinder the continued operation of the Waikato Hydro Scheme in accordance with resource consents held by Mighty River Power Limited (issued by Waikato Regional Council, commencing on 10 April 2006, and numbered 105226 to 105240 inclusive).

Traffic Management Plan (TMP)

22. A traffic management plan (TMP) shall be prepared in relation to the transformer transportation from port of arrival to the substation site, after consultation with:
 - (a) the relevant road controlling authorities;
 - (b) New Zealand Transport Agency (NZTA);
 - (c) New Zealand Police; and
 - (d) key stakeholders identified by the organisations listed above in (a)–(c).
23. The TMP shall be submitted to the Taupo District Council and NZTA for approval at least one month prior to transformer transportation to the substation site. Taupo District Council and NZTA shall respond within 20 working days indicating whether approval is given or refused (such approval shall not be unreasonably withheld). The TMP shall contain a method statement specifying the route and providing full details of:

- (a) deviations to avoid low over-bridges;
- (b) temporary bridge strengthening (where required);
- (c) road closures or other temporary traffic control measures required;
and
- (d) contingency plans, should the transporter have mechanical problems.

Access from State Highway 30

24. Access to Whakamaru North Substation onto State Highway 30 (SH30) shall be as specified in Diagram D of the *Transit Planning Policy Manual 2007 SP/M/001*, unless this is impractical due to an insufficient area within the unformed part of the SH30 being available for this purpose.