

SETTLEMENT AGREEMENT

(Regulation 83(1) Electricity Governance Regulations 2003)

DATED:

BETWEEN:

- (1) Genesis Power Limited of 602 Great South Road, Greenlane, Auckland (Genesis);
 - (2) Transpower New Zealand Limited as System Operator of 96 The Terrace, Wellington (System Operator); and
 - (3) Meridian Energy Limited of 33 Customhouse Quay, Wellington (Meridian);
- (Collectively the **parties**).

BACKGROUND:

- (A) On 22 January 2009, Genesis reported a breach of rule 3 of appendix A of technical code A of schedule C3 of part C of the Rules in that it failed to have duplicate main protection systems in place for Huntly (units 1, 2, 3, 4, and 6), Tokaanu (G1, G2, G3, and G4) and Rangipo (G5 and G6). Where relevant, these generation units are referred to in this Agreement as the 'Generation Assets'. On 30 January 2009 the System Operator also notified the breach.
- (B) The Electricity Commission (Commission) alleged a potential breach of regulation 63 (2) of the Regulations in that Genesis failed to self-report a breach of a rule of part C of the Rules as soon as practicable after Genesis became aware of the potential breach.
- (C) In accordance with regulation 69 of the Regulations, on 30 April 2009 the Board appointed an investigator to investigate the Alleged Breaches.
- (D) Meridian joined the investigation as an interested participant.
- (E) The parties have agreed to settle the Alleged Breaches on the terms contained in this Agreement.

IT IS AGREED:

1. Interpretation

- 1.1 In this Agreement, unless the context requires otherwise:
 - (a) **Agreement** means this settlement agreement;

- (b) **Alleged Breaches** means the alleged breaches of the Rules arising from the Circumstances and described in clause 2;
- (c) **Approval Date** means the date the parties to this Agreement are notified that the Electricity Commission Board has approved this Agreement under regulation 84(2)(a) of the Regulations;
- (d) **Board** means the Board of the Electricity Commission;
- (e) **Circumstances** means the circumstances set out in clause 3;
- (f) **Regulations** means the Electricity Governance Regulations 2003;
- (g) **Rules** means the Electricity Governance Rules 2003;
- (h) Unless the context requires otherwise, all terms not defined in this Agreement have the meanings ascribed in the Regulations or Rules (as the case may be); and
- (i) all references to clauses are to clauses of this Agreement.

2. **Alleged Breaches**

- 2.1 The System Operator has alleged that Genesis has operated the Generation Assets in breach of Rule 3 of appendix A of technical code A of schedule C3 of part C. The text of this rule is set out below:

3. **Specific requirements for duplicated main protection systems**

Duplicated **main protection systems** (the two components of which are referred to in this appendix as main 1 protection and main 2 protection) at voltages of 220 kV a.c. or above must meet the requirements set out below:

3.1 **Coverage and probability of detection**

Duplicated **main protection systems** must be designed with sufficient coverage and probability of detection that if any or all parts of one **main protection system** fail, the other **main protection system** will disconnect a faulted **asset** before a **back up protection system** initiates the disconnection of other non-faulted **assets**;

3.2 **Independent station batteries**

The d.c. supply to duplicated **main protection systems** must consist of two independent station batteries, each with its own charger, supervision, and with a capacity and carry over duty to cover charger failure until repair and restoration. Station batteries may only feed a common primary d.c. busbar provided that the busbar is insulated and isolated from earth;

3.3 **d.c. supply fused independently**

The d.c. supply to each duplicated **main protection system** must be independently fused at the primary d.c. busbar;

3.4 Different main 1 protection and main 2 protection

The manufacturer of main 1 protection must not be the same as the manufacturer of main 2 protection, unless one protection uses different measurement principles from the other;

3.5 Different current transformer cores

The current transformer core (or an equivalent instrument) and the cabling associated with that current transformer core or equivalent instrument (as the case may be) used for main 1 protection must be independent from that used for main 2 protection;

3.6 Voltage transformer supplies

Where a voltage transformer supply is required for main 1 or main 2 protection:

3.6.1 Fused at the voltage transformer

The supply must be fused at the voltage transformer; and

3.6.2 Different fuse and cable for main 1 and main 2 protection

The supply for main 1 protection must use an independent fuse and cable from those used for main 2 protection;

3.7 Circuit breaker trip coils

Main 1 protection must use, in each of the **circuit breakers** tripped by that main 1 protection, an independent trip coil from that used for main 2 protection;

3.8 Protection signalling

Where protection signalling is used, main 1 protection must use a signal channel over an independent bearer on a different route from that used for main 2 protection; and

3.9 Segregation of cabling

Main 1 protection cabling must be segregated from main 2 protection cabling in a manner that minimises the risk of common mode failure of main 1 and 2 protection and minimises the number of connections in any protection circuit.

- 2.2 The Electricity Commission has alleged that Genesis has failed to report a potential breach of a rule related to quality and security in part C of the Rules.. Regulation 63(2) provides that:

63 Participants must report quality and security breaches

- (1) This regulation applies if a participant believes, on reasonable grounds, that it or another participant has breached any rule relating to quality and security in Part C, F, or G of the rules.
- (2) The participant must notify the Commission as soon as practicable after the date that it became aware of the alleged breach.

3. Circumstances of the Alleged Breaches

- 3.1 On 22 January 2009, Genesis reported a breach of Rule 3 of appendix A of technical code A of schedule C3 of part C of the Rules in that it failed to have duplicate main protection systems in place for the Generation Assets. On 30 January 2009, the System Operator also notified the breach.
- 3.2 The fact of Genesis's non-compliance was highlighted during the investigation of an event on 10 October 2008 related to the protection of one of the Huntly units.
 - (a) Prior to the breach, Genesis had sign off of both design and protection settings by the grid owner for the duplicate protection upgrade projects on Genesis' hydro schemes.
 - (b) Auditing of all 220kV protection systems at Huntly by Tesla for gap analysis between the present system and the new rules had been undertaken to help with design criteria prior to the 10 October 2008 incident.
- 3.3 At the time of the breach notification, Genesis advised that it had applied to the System Operator for dispensations in relation to duplicate protection of all non-complaint assets.
- 3.4 Following the initial breach notification, the System Operator and Genesis worked towards coordination of a compliance plan and a schedule of a protection upgrade of all non compliant assets (which, together, will lead to full compliance).
- 3.5 On 23 February 2009 Genesis advised the System Operator of its intention to withdraw the applications for dispensation related to the Tokaanu and Rangipo units, due to the scheduled control and instrumentation upgrades at Tokaanu and Rangipo which would address non compliance at these sites.
- 3.6 The System Operator expressed concerns regarding Genesis's behaviour. The System Operator believes Genesis was aware of the rule changes that

came into force on 31 May 2007 as Genesis was involved in the consultation process and in fact made a submission on 4 October 2006. Based on this, the Electricity Commission alleged a potential breach of regulation 63 (2) of the Regulations in that Genesis failed to self-report a breach of a rule of part C of the Rules as soon as practicable after Genesis became aware of the potential breach.

4. Impact of the Breaches

- 4.1 The parties agreed that the market impact should be recorded as negligible.
- 4.2 At the same time, the System Operator assessed that the delay in upgrading the existing “non-compliant” protection at Tokaanu and Rangipo posed a wider risk to the power system in that a failure of the ‘main’ protections could result in additional equipment being affected by the fault.

5. Steps taken to prevent recurrence

- 5.1 Genesis confirmed that it has a number of processes and systems in place identifying the requirements for duplicate protection upgrades.
- 5.2 A necessary budget has been secured for protection upgrades. Genesis has received a sign-off from Transpower (as Grid Owner) on both design and protection settings for the duplicate protection upgrade on Genesis’ hydro schemes.
- 5.3 Genesis commissioned external consultants auditing of all 220 kV protection systems at Huntly for a gap analysis between the present system and the requirements of the Rules.
- 5.4 The duplicate protection upgrade of the Genesis’ assets is now incorporated into Genesis’s Event Management System for monitoring at Production management level with a monthly review.
- 5.5 Genesis applied for and has been granted dispensations for Huntly Units 1 to 4 and Huntly transformers T5 and T6 from the requirements of rule 4.4.2 of technical code A of schedule C3 of part C, - Duplicate main protection systems for assets other than busbars.
- 5.6 Genesis has completed the upgrade of Rangipo and Tokaanu protection systems and these generating stations are now compliant with the Rules.
- 5.7 Genesis Energy has completed the installation of duplicate battery banks for Huntly Units 1 to 4 and Huntly transformers T5 and T6.

5.8 Genesis Energy has completed the re configuration of Huntly Unit 6 battery banks to provide duplicate DC supply to comply with the Rules.

6. Resolution

6.1 In consideration of the obligations of each party to the others under this Agreement the parties hereby agree that :

- (a) Genesis will continue to provide the System Operator with regular updates on the progress to achieve compliance in respect of its obligations under the rules related to duplicate protection;
- (b) Updates will be provided on a 6 monthly basis or as requested by the System Operator until the System Operator confirms Genesis has achieved full compliance with the rules related to duplicate protection;
- (c) Genesis will comply with all conditions attached to the dispensations referred to in clause 5.5.
- (d) Genesis will ensure that by 31 December 2014 the Generation Assets fully comply with the rules related to duplicate protection; and
- (e) Subject to regulation 84(2) of the Regulations, this Agreement provides full and final settlement to the matter as set out in clause 9 below.

7. Confidentiality

7.1 If the Board decides under regulation 85(2) of the Regulations not to publicise any part of this Agreement, each party will treat that part of the Agreement as confidential information and will not disclose it other than:

- (a) to the party's employees or contractors who need to know the confidential information to implement or monitor the implementation of this Agreement;
- (b) to the party's professional advisers, auditors and bankers;
- (c) as required by law or for the purposes of judicial proceedings;
- (d) as required by any securities exchange or regulatory or governmental body to which the party is subject or submits; or
- (e) as authorised in writing by the other parties.

7.2 A party must not disclose confidential information under clause 7.1(a) or (b) unless the party obtains a confidentiality undertaking from the person to whom the confidential information is to be disclosed on terms no less onerous than those set out in this clause 7 before disclosing the confidential information. Any confidential information to be disclosed in the circumstances set out in clause 7.1(c) or (d) may only be disclosed after written notice to the other

parties (unless the disclosing party is prevented from notifying the other parties by law).

8. Agreement Subject to Approval

8.1 Subject to clause 8.2, this Agreement will come into effect on the Approval Date.

8.2 Clause 7 is binding on the parties as from the date of this Agreement. Pending the Board's approval or rejection of this Agreement under regulation 84(2) of the Regulations, clause 7 will apply as if the Board has decided under regulation 85(2) of the Regulations not to publicise any part of this Agreement or the existence of this Agreement.

9. Settled Breaches

9.1 This Agreement is in full and final settlement of all claims, actions and demands against any party (under the Regulations, the Rules or otherwise) in relation to:

- (a) the Alleged Breaches; and
- (b) any other breaches of the Regulations or Rules involved in or arising from the Circumstances that the claiming party ought reasonably to have known about at the date of this Agreement,

(the Alleged Breaches and such other breaches together the **Settled Breaches**).

9.2 Pursuant to regulation 84, but subject to regulation 87 of the Regulations, this Agreement is also binding on the Board and all participants who are not a party to this Agreement to the effect that:

- (a) the Board may not on its own initiative instigate a further breach investigation, or take any enforcement action in respect of, the Settled Breaches; and
- (b) a participant who is not a party to this Agreement may, subject to and in accordance with regulation 87 of the Regulations, make a further notification under regulation 62 or 63 of the Regulations in relation to a Settled Breach, and the Board may then take all or any of the steps provided for in Part 4 of the Regulations despite this Agreement.

10. General

10.1 Each party will execute all documents and do, or refrain from doing, all other reasonable things necessary or desirable to give full effect to the provisions of this Agreement, including to secure the Board's approval of this Agreement under regulation 84(2)(a) of the Regulations.

10.2 This Agreement is the whole and only agreement between the parties relating to the settlement of claims, actions and demands arising from the Circumstances. Each party acknowledges that it has not been induced to enter into this Agreement by any representation made by or on behalf of the other party that is not repeated in this Agreement.

10.3 This Agreement may be signed in any number of counterparts.

SIGNED:

For Genesis Power Limited

Name:

Position:

SIGNED:

For Transpower New Zealand Limited

Name:

Position:

SIGNED:

For Meridian Energy Limited

Name:

Position: