

# SETTLEMENT AGREEMENT

## Regulation 24(1) of the Electricity Industry (Enforcement) Regulations 2010

### DATED:

### BETWEEN:

- (1) Transpower New Zealand Limited as the grid owner, of 96 The Terrace, Wellington (grid owner);
- (2) Vector Limited of 101 Carlton Gore Road, Newmarket, Auckland (Vector);
- (3) Transpower New Zealand Limited as the system operator, of 96 The Terrace, Wellington (system operator); and
- (4) Genesis Energy Limited of 660 Great South Road, Greenlane, Auckland (Genesis Energy);

(collectively the **parties**).

### BACKGROUND:

- (A) On 15 May 2014, the grid owner reported to the Electricity Authority (Authority) that it had breached clause 4(1) of Technical Code A of Schedule 8.3 of the Electricity Industry Participation Code 2010 (Code).
- (B) The Authority alleged the grid owner had breached the equivalent provision in the Electricity Governance Rules 2003 (Rules) from 2009 until 31 October 2010 (before the Code came into force).
- (C) On 20 May 2014, Vector reported to the Authority that it had breached clause 4(4)(a)(ii) of Technical Code A of Schedule 8.3 of the Code. Vector considers the breach most likely occurred when it reconfigured its network in 2009.
- (D) The Authority considered Vector may also have breached clause 4(1) of Technical Code A of Schedule 8.3 of the Code.
- (E) The Authority also alleged that between a date in 2009 and 31 October 2010 (the Code came into force on 1 November 2010), Vector also breached the equivalent provisions in the Rules. The equivalent provisions are rules 4.1 and 4.4.1.2 of Technical Code A of Schedule C3 of Part C of the Rules.
- (F) Clause 4(1) of Technical Code A of Schedule 8.3 of the Code requires grid owners and asset owners to co-operate with the system operator to co-ordinate their respective protection systems at a grid interface.

- (G) On 21 August 2014 the Authority appointed an investigator under regulation 12 of the Electricity Industry (Enforcement) Regulations 2010 (Regulations) to investigate the Alleged Breaches by the grid owner and Vector.
- (H) The investigator notified separate investigations of the grid owner and of Vector.
- (I) The grid owner joined the investigation of Vector, Vector joined the investigation of the grid owner, and the system operator and Genesis Energy joined both investigations as interested participants.
- (J) The parties have agreed to settle the Alleged Breaches of both investigations 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 Code and 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 Authority has approved this Agreement under regulation 24(4)(a) of the Regulations;
  - (d) **Circumstances** means the circumstances set out in clause 3;
  - (e) **Regulations** means the Electricity Industry (Enforcement) Regulations 2010;
  - (f) **Code** means the Electricity Industry Participation Code 2010;
  - (g) **Rules** means the Electricity Governance Rules 2003.

### **2. Alleged Breaches**

- 2.1 It was alleged that the grid owner breached clause 4(1) of Technical Code A of Schedule 8.3 of the Code and rule 4.1 of Technical Code A of Schedule C3 of Part C of the Rules.
- 2.2 It was alleged that Vector breached clauses 4(1) and 4(4)(a)(ii) of Technical Code A of Schedule 8.3 of the Code, and rules 4.1 and 4.4.1.2 of Technical Code A of Schedule C3 of Part C of the Rules.

### **3. Circumstances of the Breaches**

- 3.1 On 19 April 2014 at 02:06, a high-resistance earth fault on one of Vector's Coatesville sub-transmission feeders did not trip Vector's circuit breakers in the required sequence. As a consequence, the grid owner's transformers T3,

T6, and T8 at Albany were tripped by their earth fault protection, causing a loss of supply at the Albany 33kV bus.

- 3.2 The outage affected 40,180 installation control points (ICPs). Vector restored 18,473 ICPs within 36 minutes by providing supply from within its 33kV network. Vector restored a further 21,706 ICPs by 04:25 once the grid owner had restored its transformers. Vector took approximately six hours to restore one ICP for a distributed generation site due to additional restoration requirements.
- 3.3 Vector's investigation revealed that an error in its feeder protection settings prevented the required trip sequence from occurring before the grid owner's protection operated.
- 3.4 Vector believes that the error occurred during the settings study to reconfigure the Albany-Coatesville network in 2009. At that time, Vector's specialist consultants calculated the protection settings, and Vector's engineers then reviewed and approved them. Vector used protection settings published by the grid owner to make these calculations. However, the protection settings calculations did not take into account the scenario of a high-resistance earth fault that would result in reliance on back-up relays to detect and clear the fault.

#### **4. Impact of the Breaches**

- 4.1 The parties agreed that the market impact as assessed by the investigator should be recorded as minimal.
- 4.2 Vector notes that given the loss of supply occurred early in the morning, the impact was likely to have been minimal.

#### **5. Steps taken to prevent recurrence**

- 5.1 The grid owner will review protection coordination settings with other asset owners where feeders may have been paralleled.
- 5.2 Vector will review its current protection setting processes and documentation, then update them to ensure they reflect the requirements under clause 4(4)(a) of Technical Code A of Schedule 8.3 of the Code.
- 5.3 Vector will in particular:
  - (a) check the sequential clearance discrimination for similarly configured circuits at the grid interface and review protection settings on other feeders that have been paralleled;
  - (b) review its protection philosophy documentation to ensure a standardised and comprehensive approach to settings preparation and review, both internally and externally; and
  - (c) communicate the details of this event to all parties involved in the settings process to ensure awareness and compliance.

- 5.4 Vector reconfigured its network to isolate the issue until it had completed a full review of the protection settings at Coatesville and the grid owner had completed a full review of its protection settings at Albany. The grid owner and Vector have since reviewed their protection settings coordination between their respective assets at Albany. As a result of this review Vector's circuit breaker on its Coatesville 1 circuit will remain open, effectively removing the parallel connection. Vector has reduced the trip setting on its circuit breaker on its other Coatesville circuit to ensure a similar high impedance earth fault is cleared prior to the grid owner's transformer protection.
- 5.5 Vector will work with the grid owner to review Vector's protection system and ensure that its system supports the system operator in planning to comply and complying with the principal performance obligations.

## **6. Guiding Principle**

- 6.1 The parties agree the following guiding principle in relation to this Agreement:
- (a) it is essential participants have a clear understanding of protection coordination compliance requirements to ensure reliable supply of electricity to consumers.

## **7. Settlement**

- 7.1 The parties agree that:
- (a) the grid owner will take the lead role in working with the system operator and Vector, to agree clear requirements for protection coordination compliance by 31 August 2015;
- (b) the grid owner will consider if those requirements differ for other participant types connected to the grid;
- (c) the grid owner will share those requirements with Genesis Energy and all other participants connected to the grid by 30 September 2015;
- (d) the grid owner will complete its review of protection coordination settings with other asset owners where feeders may have been paralleled by 31 March 2016;
- (e) in December 2014, Vector completed checking the sequential discrimination of similarly configured circuits at the grid interface. Vector identified the need for potential changes for the Takinini-Maraetai and Henderson-Ranui circuits. It will implement those changes when they have been coordinated with the grid owner, and the system operator has agreed with the coordination; and
- (f) by 30 April 2015, Vector will confirm to the parties that it has revised its protection philosophy documentation to ensure it reflects the requirements under clause 4(4)(a) of Technical Code A of Schedule 8.3 of the Code.

## 8. Confidentiality

- 8.1 If the Authority decides under regulation 25(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.
- 8.2 A party must not disclose confidential information under clause 8.1(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 8 before disclosing the confidential information. Any confidential information to be disclosed in the circumstances set out in clause 8.1(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).

## 9. Agreement Subject to Approval

- 9.1 Subject to clause 9.2, this Agreement will come into effect on the Approval Date.
- 9.2 Clause 8 is binding on the parties as from the date of this Agreement. Pending the Authority's approval of this Agreement under regulation 24(4) of the Regulations, clause 8 will apply as if the Authority has decided under regulation 25(2) of the Regulations not to publicise any part of this Agreement or the existence of this Agreement.

## 10. Settled Breaches

- 10.1 This Agreement is in full and final settlement of all claims, actions and demands against any party (under the Regulations, the Code, the Rules or otherwise) in relation to:
- (a) the Alleged Breaches; and
  - (b) any other breaches of the Regulations, Code, 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**).

10.2 Subject to regulation 26 of the Regulations, this Agreement is also binding on the Authority and all participants who are not a party to this Agreement to the effect that:

- (a) the Authority 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, in accordance with regulation 26 of the Regulations, make a further notification under regulation 7 or 8 of the Regulations in relation to a Settled Breach, and the Authority may then take all or any of the steps provided for in the Regulations despite this Agreement.

## 11. General

11.1 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 Authority's approval of this Agreement under regulation 24(4)(a) of the Regulations.

11.2 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 any other party that is not repeated in this Agreement.

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

SIGNED:

For Transpower New Zealand Limited as the  
grid owner

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Name:

Position:

SIGNED:

For Vector Limited

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Name:

Position:

SIGNED:

For Transpower New Zealand Limited as the system operator

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Name:

Position:

SIGNED:

For Genesis Energy Limited

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Name:

Position: