

Decision and reasons on Transpower's July 2022 application for normalisation of transmission outages

Date of decision: 30 November 2022



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Chapter 1 Introduction

Purpose of this paper

- 1 This paper sets out our decision to approve Transpower New Zealand Limited's (**Transpower**) application (**Application**)¹ to treat outages of ██████████ in November 2021 and December 2021 as a 'normalisation event' under clause 20.4 of the *Transpower Individual Price-Quality Path Determination 2020* [2019] NZCC 19 (**IPP**).²
- 2 We also set out in this paper the reasons for our decision as well as the calculations showing the effect on Transpower's quality measures because of our decision.

A court suppression order applies to this paper

- 3 The Commission is aware that the circumstances giving rise to the outages are subject to a suppression order made by the Rotorua High Court. To comply with this order, we have decided not to publish Transpower's Application. However, we will publish a redacted version of this reasons paper and notice of this decision on our website.

What is a normalisation event?

- 4 The IPP sets quality standards for Transpower which comprise grid performance measures and asset performance measures. These measures quantify interruptions to supply and outages (removal from service) of core transmission assets, respectively.
- 5 Clause 20 of the IPP allows Transpower to apply to us to 'normalise' interruptions or outages that meet certain criteria under the IPP. Our policy intent is that the relevant quality standards should not apply to long interruptions or outages that are caused by events beyond Transpower's reasonable control, in circumstances where Transpower exercised good electricity industry practice (**GEIP**).³

We have decided to approve Transpower's normalisation application

- 6 Having evaluated the available information against the requirements for normalisation set out in clauses 20.2.1 to 20.2.4 of the IPP, we have decided to approve Transpower's Application to treat the outages, caused by the same malicious damage, as a normalisation event.

¹ Transpower "Normalisation Application under clause 20.3 of the Transpower Individual Price-Quality Path Determination 2020 (2020 IPP)" (**Application**), 29 July 2022.

² Commerce Commission, "Consolidated Transpower individual price-quality path determination" (**IPP**), 7 October 2021. Available at <https://comcom.govt.nz/regulated-industries/electricity-lines/electricity-transmission/transpowers-price-quality-path/setting-transpowers-price-quality-path-from-2020>.

³ Commerce Commission, "Transpower's individual price-quality path from 1 April 2020 decisions and reasons paper", (**IPP reasons paper**), 29 May 2019, at Attachment F.5. Available at https://comcom.govt.nz/data/assets/pdf_file/0028/170398/Transpower-IPP-for-RCP3-Decisions-and-reasons-paper-29-August-2019.PDF.

- 7 Our decision allows Transpower to exclude the outages occurring because of the event from the relevant quality standards under the IPP.⁴ The combined duration of these outages is 13,968 minutes or approximately 232.8 hours.
- 8 Our decision also affects the outcome of Transpower’s performance incentives, improving the assessed value of [REDACTED] performance measure by 0.037%.

Transpower has applied to treat certain outages as a ‘normalisation event’

- 9 On 29 July 2022, Transpower applied to us to treat outages to [REDACTED] in November and December 2021 as a normalisation event. Transpower applied on the basis that the outages were a direct result of malicious damage to [REDACTED] by a third party.⁵

Factual background

- 10 In its application, Transpower advised that:⁶
 - 10.1 on 27 November 2021, [REDACTED] tripped and failed to auto-reclose. Fire and Emergency New Zealand (FENZ) informed Transpower that [REDACTED] causing a fire [REDACTED];⁷
 - 10.2 FENZ asked Transpower to remove from service the adjacent [REDACTED] to safely extinguish the fire. After FENZ extinguished the fire, Transpower assessed that [REDACTED] due to malicious damage;
 - 10.3 Transpower carried out patrols to check [REDACTED], and the police became involved;
 - 10.4 [REDACTED]
 - 10.5 on 7 December 2021, the police made an arrest in relation to the damaged [REDACTED]. Using information provided by the police, Transpower [REDACTED] on 9 December 2021.

⁴ IPP reasons paper, above n 3, at [F344].

⁵ Application, above n 1, at p. 1.

⁶ Application, above n 1, at p. 3.

⁷ [REDACTED]

⁸ [REDACTED]

The outages

11 An overview of the outages and the associated remedial work is as follows:⁹

11.1 [REDACTED]
[REDACTED] Transpower restored this [REDACTED] to service on 3 December 2021. This repair caused an outage of approximately 9,190 minutes (approximately 153 hours);

11.2 Transpower removed [REDACTED] from service to allow FENZ to extinguish the fire. This [REDACTED] had an outage of approximately 7 hours;

11.3 Transpower subsequently identified and repaired damage [REDACTED]
[REDACTED] Transpower has not applied for normalisation of any outages associated with the damage to [REDACTED] and

11.4 Transpower repaired the [REDACTED]
[REDACTED] during an outage of approximately 4,348 minutes (about 72.5 hours) over the period 9 to 12 December.

12 Transpower applied for normalisation of a total of 13,968 minutes (232.8 hours) of outages caused by the malicious damage. The outages lower the [REDACTED]
[REDACTED] performance measure by 0.037%.¹⁰

13 Transpower has advised that there will be a further related outage when the [REDACTED] is replaced. Transpower expects to apply for normalisation of this outage in the 2022/23 disclosure year.

⁹ Application, above n 1, at p. 1.

¹⁰ Refer to paragraph 1.60 on how the [REDACTED] performance measure is calculated.

Chapter 2 The IPP framework and criteria for normalisation

- 14 Transpower is a regulated supplier under Part 4 of the Commerce Act 1986 (**Act**). We set Transpower's individual price-quality path in a determination we make under Part 4 of the Act. This includes the quality standards of grid performance and asset performance measures as set out in paragraph 4, above.
- 15 For a given disclosure year, clause 20.1 of the IPP provides that an interruption or outage will be excluded from the calculations of measures of grid performance,¹¹ or asset performance measures,¹² where the Commission decides that the relevant interruption or outage is a normalisation event.¹³
- 16 The relevant quality standard affected by these outages is [REDACTED]. This quality standard measures the percentage of time selected [REDACTED] [REDACTED] are available for service. [REDACTED]
[REDACTED]
- 17 The IPP requires that Transpower apply to the Commission, which assesses whether the interruption or outage event meets the criteria for a normalisation event. The application requirements and normalisation event criteria are set out below.

Transpower must apply for normalisation

- 18 Clause 20.3 of the IPP requires Transpower to make a written application to us for each interruption or outage in the disclosure year that Transpower considers is a normalisation event. The application must:
- 18.1 be made no later than 42 working days after the end of the disclosure year (clause 20.3.1);
- 18.2 include the reasons Transpower considers the normalisation event has occurred and why:¹⁵
- (a) the outage was beyond Transpower's control;
 - (b) the effect of the outage on the grid, including managing to a shorter duration than that which occurred, was beyond Transpower's reasonable control; and
 - (c) it exercised GEIP in relation to the cause and effects of the interruption or outage;
- 18.3 include supporting evidence for the reasons provided in accordance with clause 20.3.2, including, without limitation, information on the relevant

¹¹ IPP, above n 2, cls. 14.6-14.11, 16.6-16.11 and 19.3.1-19.3.2.

¹² IPP, above n 2, cls. 17.2-17.3, 18.2, 19.3.3-19.3.4 and 19.4.

¹³ IPP, above n 2, cl. 20.4.

¹⁴ [REDACTED]

¹⁵ IPP, above n 2, at cl. 20.3.2

design standards of any Transpower equipment involved in the interruption or outage (clause 20.3.3);

- 18.4 include proposed reassessed values of any calculations of measures of grid performance¹⁶ or calculations of measures of asset performance measures¹⁷ that are relevant to Transpower's written application, reassessed as if the interruption or outage was excluded from those measures in accordance with clause 20.1 (Clause 20.3.4); and
- 18.5 include any other information that Transpower considers is relevant to its application (clause 20.3.5).

The Commission must assess the application and publish its decision

19 Clause 20.4 of the IPP requires us to decide whether each interruption or outage that is the subject of that written application is a normalisation event, using the criteria in clauses 20.2.1-20.2.4 of the IPP and:

- 19.1 publish the decision, which must set out:
 - (a) the interruptions or outages that we have decided is a normalisation event;
 - (b) our reasons for reaching that decision, based on the criteria in clause 20.2.1-20.2.4; and
 - (c) what calculations of measures of grid performance or calculations of asset performance measures we have decided are affected as a result of (a) (clause 20.4.1); and
- 19.2 give our decision to Transpower (clause 20.4.2).

Criteria for normalisation

20 Clause 20.2 of the IPP defines a 'normalisation event' as an interruption or outage that the Commission has decided:

- 20.1 was beyond the reasonable control of Transpower (clause 20.2.1);
- 20.2 was not caused, or materially contributed to, by any failure by Transpower to exercise good electricity industry practice (**GEIP**) (clause 20.2.2);
- 20.3 had a duration of 24 hours or more, in circumstances where that duration was:
 - (a) beyond the reasonable control of Transpower; and
 - (b) not caused, or materially contributed to, by any failure of Transpower to exercise GEIP (clause 20.2.3); and

¹⁶ IPP, above n 2, at cls. 14.6-14.11, 16.6-16.11 and 19.3.1-19.3.2 set out the approach to calculating grid performance measures.

¹⁷ Above n 2, at cls. 17.2-17.3, 18.2, 19.3.3-19.3.4 and 19.4 set out the approach to calculating asset performance measures.

20.4 was the result of:¹⁸

- (a) natural disaster;
- (b) fire not caused by Transpower equipment failure;
- (c) explosion not caused by Transpower equipment failure;
- (d) civil commotion;
- (e) a terrorist act;
- (f) malicious damage;
- (g) war (declared or undeclared);
- (h) revolution;
- (i) contamination;
- (j) action or inaction by a court or government agency (including denial, refusal, or failure to grant any authorisation, despite timely best endeavour to obtain an authorisation);
- (k) a work stoppage.
- (l) a dispute between an employer and employees;
- (m) work bans; or
- (n) acts or omissions (other than failure to pay money) of a third party that affect the ability of Transpower to prevent or minimise the interruption or outage.

¹⁸ IPP, above n 2, at cl. 20.2.4.

Chapter 3 Our evaluation of the outages against the IPP's criteria for normalisation

- 21 Applying the IPP criteria, we evaluated the Application by considering:
- 21.1 whether Transpower's Application was made within the required timeframe and provided the necessary reasoning, evidence and calculations as set out in clause 20.3 of the IPP;
 - 21.2 whether the outages were the result of an event specified under clause 20.2.4 of the IPP;
 - 21.3 whether the outages were:
 - (a) beyond the reasonable control of Transpower (clause 20.2.1); and
 - (b) not caused, or materially contributed to, by any failure of Transpower to exercise GEIP (clause 20.2.2);
 - 21.4 whether the outages were at least 24 hours in duration, in circumstances that were:
 - (a) beyond the reasonable control of Transpower (20.2.3(a)); and
 - (b) not caused, or materially contributed to, by any failure of Transpower to exercise GEIP (20.2.3(b));
- 22 Our evaluation is set out below, it starts by assessing the cause of the outages, because the conclusion of this assessment underpins and overlaps with our analysis of the other criteria set out in the IPP. The sequence of our evaluation otherwise follows the order of the IPP clauses.

The Application meets the timeframe and information requirements

Transpower applied within the specified timeframe

- 23 Transpower submitted its Application on 29 July 2022, which was within the timeframe required by clause 20.3.1 of the IPP. Applications are to be made no later than 42 working days after the end of the disclosure year, the 2022 disclosure year ended on 30 June 2022.

Transpower's Application provided reasons, evidence and calculations in support

- 24 Transpower's Application provided reasons, evidence, reassessed values of the applicable performance measure and calculations in support of application to normalise the effects of the outages. We are satisfied that it contains the information required by clause 20.3 of the IPP in sufficient detail for the Commission to assess the Application.

25 As set out in the introduction to this paper, the circumstances giving rise to this Application are subject to a High Court suppression order. Accordingly, we have decided not to publish Transpower’s Application, which will remain confidential to Transpower and the Commission, respectively. We will publish a redacted version of this reasons paper on our website.

The outages were caused by malicious damage

26 Transpower states, and we agree, that the outages were the result of malicious damage to [REDACTED].¹⁹ As mentioned in paragraph 10, above, on 7 December 2021, the police made an arrest in relation to the [REDACTED] and an individual has received a conviction for sabotage.²⁰ A person can be charged with sabotage if the person "damages or destroys any property which is necessary to keep intact for the safety or health of the public."²¹

27 For the purposes of this Application only, we are satisfied on the balance of probabilities that the cause of the outages was the result of intentional damage to [REDACTED] which falls under the category of malicious damage set out in clause 20.2.4(f) of the IPP.

The outages were beyond reasonable control of Transpower

28 [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

29 [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

30 [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED]

¹⁹ Application, above n 1, at p. 4.

²⁰ Crimes Act 1961, s 91.

²¹ <https://www.rnz.co.nz/news/national/471846/taupo-man-graham-philip-charged-with-sabotage-believed-to-be-first-in-new-zealand-history>. Note that a High Court judge has ordered the details of the alleged offending must be kept secret.

31 [REDACTED]

32 Overall, we are satisfied that Transpower adopted security measures in accordance with the standard required under GEIP. Despite those measures, the outages were caused by the intentional actions of a third party. This was beyond the reasonable control of Transpower, in accordance with clauses 20.2.1 and 20.3.2(a) of the IPP.

The effect of the outages on the grid, including managing to a shorter duration than that which occurred, was beyond Transpower’s reasonable control

33 Transpower advised that the outages had the following effect on the grid:²²

33.1 there was no interruption to supply;

33.2 system security was reduced only during the firefighting period;

33.3 maximum [REDACTED] had to be reduced when both the [REDACTED] [REDACTED] were out of service; and

33.4 several planned maintenance outages had to be deferred or cancelled.

34 Since there was no interruption to supply, users of the grid were largely unaffected by the outages. The effect of the outages on the grid was the duration for which [REDACTED] were not available for service. Through quality standards, we incentivise Transpower to optimise the time [REDACTED] assets are available for service. Availability of [REDACTED] assets ensures that generation is not unduly constrained and the risk of interruptions to supply is low.

35 In paragraph 47, we conclude the duration of the outages was beyond Transpower’s reasonable control. There were no grid outages as a result of the [REDACTED] outages. Therefore, the effect of any grid outages was beyond Transpower’s reasonable control. In other words, there is no relevant failure by Transpower to manage the effect of these outages on the grid for the purposes of clause 20.3.2(b) of the IPP.

²² Application, above n 1, at p. 5. IPP clause 20.3.2(b).

Transpower did not cause, or materially contribute to, the outages by any failure to exercise GEIP

- 36 Transpower states that the outages occurred because of malicious damage to [REDACTED]. It is aware of the risk of malicious damage to its assets and has controls to mitigate such risks, which include physical security, corridor management, stakeholder engagement, standards and specifications, and asset information management as set out at paragraph 29, above.²³
- 37 Transpower is conducting a review to assess the methods used by overseas utilities to make it more difficult to inflict similar damage. [REDACTED]
[REDACTED] we consider there is a net benefit to increasing security measures which make it more difficult for a third party to damage transmission assets, thereby reducing the risk of outages.
- 38 In line with our assessment at paragraph 32, above, we have considered whether any failure by Transpower to meet GEIP caused or contributed to the outages. Although we recommend that Transpower considers improvements to its security measures, we are satisfied that Transpower did not cause, or materially contribute to, the outages by any failure to exercise GEIP, for the purposes of clause 20.2.2 of the IPP.

Transpower exercised GEIP in relation to the cause and effects of the outage

- 39 The effect on the grid of outages of [REDACTED] is increased risk of interruptions to supply. The standard required of Transpower under GEIP is to take reasonable measures to reduce the likelihood of consequential supply interruptions.
- 40 Transpower recognised this and considered the following:²⁵
- 40.1 whether there would be any issues during peak demand prior to the [REDACTED] being restored;
 - 40.2 whether any planned outages in the area should be deferred based on risk; and
 - 40.3 if additional [REDACTED] were disrupted in a ‘worst case scenario’ whether the system continue to meet demand in a secure manner.
- 41 Transpower’s studies showed that the above risks would not arise with the [REDACTED] out service. However, there could be risks to the operation of the power system if more [REDACTED] were out of service. Transpower managed these risks by:²⁶

²³ Application, above n 1, at p. 5.

²⁴ Above n 1, at p. 5.

²⁵ Application, above n 1, at p. 7.

²⁶ Application, above n 1, at p. 7.

41.1 cancelling the planned maintenance of the [REDACTED] while the damaged [REDACTED] was out of service; and

41.2 returning to service the [REDACTED], which was out of service for maintenance, before taking the outage to repair the [REDACTED].

42 We are satisfied that the above measures reflect Transpower exercising GEIP in relation to the cause and effects of the outage, as per IPP clause 20.3.2(c), particularly in terms of managing consequential operational risks to the system.

The combined duration of the outages was more than 24 hours

43 We have assessed the three outages in Transpower's Application. There were outages on [REDACTED] occurring from the time the [REDACTED] tripped on 27 November 2021. The outage of the [REDACTED] was for 153 hours, and the outage of the [REDACTED] was for 7 hours.²⁷ A further 72.5-hour outage was required from 9 December 2021 to repair the damaged [REDACTED].

44 Clause 20.2.3 requires that the duration of an outage must be 24 hours or more to qualify for normalisation. This duration was used as a proxy for normalisation event severity.²⁸ When considered in light of its purpose and context, we consider it is appropriate to apply the 24-hour threshold in clause 20.2.3 to the aggregate outage duration of outages caused by the same event. The alternative would require an artificial separation of shorter outages although they were caused by an event of equal severity. Using this approach, multiple outages resulting from different causes, which do not individually meet the duration threshold for normalisation, could not be aggregated into one normalisation event.

45 Accordingly, we have assessed the Application according to the aggregate duration of the three outages resulting from the malicious damage event. Together the outages total ~232.8 hours, which exceeds the minimum of 24 hours.

The duration of the outages was beyond the reasonable control of Transpower

46 To assess if the duration of the outages was beyond the reasonable control of Transpower, we considered whether there was anything Transpower could reasonably have done to return the [REDACTED] to service earlier.

47 We are satisfied that the duration of the outages was beyond Transpower's reasonable control, for the purposes of clause 20.2.3(a) of the IPP. This is because:

47.1 [REDACTED]
[REDACTED] We consider that the time taken by Transpower to carry out these tasks was

²⁷ Above n 1, at p. 1.

²⁸ IPP, above n 2, from [F344].

within the period that could be expected from a supplier acting in accordance with GEIP; and

47.2 for the [REDACTED] Transpower had to secure the [REDACTED] before repairing it. We consider that this repair took no longer than could be reasonably necessary for a supplier acting in accordance with GEIP.

48 We consider that the time taken to return [REDACTED] back to service was reasonable, and in accordance with the standard expected under GEIP, due to the nature of the repair work that needed to be undertaken, as discussed in paragraphs 50 to 56 below.

The duration of the outages was not caused, or materially contributed to, by any failure of Transpower to exercise GEIP

49 When deciding whether the duration of the outages was not caused by any failure of Transpower to exercise GEIP, under clause 20.2.3(b), we assessed if Transpower repaired [REDACTED] and returned the [REDACTED] to service in a timely manner.²⁹

[REDACTED]

50 Transpower advised that it had to [REDACTED] before the [REDACTED] could be returned to service. Transpower had to source material for the repair from other projects in both the North and South Islands and [REDACTED].

[REDACTED]

51 [REDACTED]
[REDACTED]
[REDACTED]
[REDACTED] It also requires getting appropriate material and construction machinery to site. Transpower managed to complete this work within a timeframe we consider is reasonable for this type of work.

52 We are satisfied that the duration is not a result of any failure of Transpower to exercise GEIP, as per clause 20.2.3(b) of the IPP.

[REDACTED]

²⁹ The Electricity Industry Participation Code defines good electricity industry practice in relation to transmission, as the exercise of that degree of skill, diligence, prudence, foresight and economic management, as determined by reference to good international practice, which would reasonably be expected from a skilled and experienced asset owner engaged in the management of a transmission network under conditions comparable to those applicable to the grid consistent with applicable law, safety and environmental protection. The determination is to take into account factors such as the relative size, duty, age and technological status of the relevant transmission network and the applicable law.

53 Similarly, applying GEIP, Transpower is expected to isolate [REDACTED] where FENZ requires safe access to extinguish fires or remove other hazards such as car accidents. We consider the outage of 7 hours meets the standard expected of Transpower under GEIP for the purposes of clause 20.2.3(b) of the IPP.

[REDACTED]

54 Transpower advised that the damage to [REDACTED] was significant. The damage included [REDACTED]. Transpower had to secure [REDACTED] before repairing the damage.³⁰

55 Repairing damage of this nature also required bringing together a multidisciplinary team of skilled staff, [REDACTED]. Transpower needed an outage of 72 hours to repair the damage.

56 We are satisfied that duration of outage was because of the nature of the work and not a result of any failure of Transpower to exercise GEIP, as per 20.2.3(b) of the IPP.

We conclude the outages meet the IPP's criteria for a normalisation event

57 Based on our evaluation above, we are satisfied that all three of the outages in the Application meet the criteria under clauses 20.2.1-20.2.4, 20.3.1-20.3.4 of the IPP for a normalisation event. A summary of our evaluation is as follows:

- 57.1 Transpower's Application meets the timeframe and information requirements under clause 20.3;
- 57.2 the outages were a result of malicious damage which is one of the specified causes set out in clause 20.2.4;
- 57.3 the malicious damage event was beyond the reasonable control of Transpower, and was not caused by Transpower or its failure to exercise GEIP as set out in clauses 20.2.1, 20.2.2 and 20.3.2(a);
- 57.4 the combined duration of outages occurring as a result of a common cause exceeds 24 hours, as required by clause 20.2.3;
- 57.5 the effect of the outages on the grid, including managing to a shorter duration than that which occurred, was beyond Transpower's reasonable control, as set out in clause 20.3.2(b); and
- 57.6 Transpower exercised GEIP in relation to managing the cause and effects of the outages including its duration, as per clause 20.3.2(c).

³⁰ Application, above n 1, at p. 5

The impact of the normalisation event on [REDACTED]

58 Clause 20.4.1(c) of the IPP requires us to include in our decision the calculations of Transpower's [REDACTED] performance measure that are affected by our decision.

59 Accordingly, we have assessed that the outages affect [REDACTED] by 0.037%, using the below formulae.

60 The [REDACTED] performance measure is calculated as:³¹

$$100 - 100 * \frac{\text{(total duration of all outages of selected [REDACTED] assets)}}{\text{(Number of selected [REDACTED] assets) (total hours in the disclosure year)}}$$

61 [REDACTED]

³¹ IPP, above n 2, at cl 18.