COMMERCE COMMISSION NEW ZEALAND
Te Komihana Tauhokohoko

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Transpower's Redclyffe major capex project proposal

Final decision - reasons paper

28 April 2026

Associated documents

Publication date	Reference	Title
31 January 2012	[2012] NZCC 2	Transpower Capital Expenditure Input Methodology Determination ('principal determination')
13 December 2023	[2023] NZCC 39	Transpower Capital Expenditure Input Methodology (IM Review 2023) Amendment Determination 2023
29 August 2024	ISBN 978-1-991287-75-5	Transpower's individual price-quality path for the regulatory control period commencing 1 April 2025
11 December 2024	[2024] NZCC 40	Transpower Capital Expenditure Input Methodology (treatment of insurance entitlements) Amendment Determination 2024
28 April 2026	[2026] NZCC 09	Transpower Capital Expenditure Input Methodology (Major Capex Incentive Formula) Amendment Determination 2026

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Executive summary

Purpose

X1 This paper sets out our review of, and decision on, Transpower New Zealand Limited's (Transpower) Redclyffe (RDF) major capex project (MCP) proposal.

Background

X2 Transpower is seeking our approval to invest $47.0 million ($ nominal) to enhance the resilience of RDF substation to a design standard equivalent to 1-in-450-year annual recurrence interval (ARI) flood event. Most of Hawke's Bay's electricity supply is via the interconnection at RDF substation.[1]

X3 Transpower proposes to enhance the resilience by raising the height of its critical high voltage equipment and to build a digital substation control building.

X4 The proposed expenditure stems from the damage to RDF substation during 14 February 2023 Cyclone Gabrielle flooding, causing power interruption to the Hawke's Bay region. Major damage was done to the RDF 220kV switchyard and the control room equipment.[2]

X5 Transpower engaged with a range of local stakeholders including the region's two electricity distribution businesses (Unison Networks and Firstlight) on a number of possible solutions that would best enhance the power supply resilience for Hawke's Bay region.

X6 Transpower's preferred major capex investment is one of the three short-list options. These options were formulated following engagement with local stakeholders.

Our decision is to approve Transpower's RDF MCP

X7 Following our review, our decision is to approve the RDF MCP proposal. We are satisfied that Transpower has demonstrated the proposed investment provides the highest electricity net market benefit when compared to other investment options and is consistent with the requirements of the Transpower Capex Input Methodology Determination [2012] NZCC 2 (Capex IM).

X8 We are satisfied that Transpower delivering the RDF MCP will promote the s 52A purpose of Part 4 of the Commerce Act 1986 (the Act). Our decision to approve the RDF MCP proposal will:

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1 All dollar values in this paper are expressed in 2025 values and are the 50th percentile estimates, unless expressed otherwise. Nominal values, which is indicated with ($ nominal), take into account forecast inflation and interest during construction added to the 2025 value cost estimates.

2 *Transpower NZ Ltd*, RDF MCP Proposal Attachment 2 – Need for Investment and Options, Section 1, p. 2, available here.

X8.1 provide Transpower with incentives to invest in enhancing the resilience of RDF Grid Exit Point (GXP); and

X8.2 allow Transpower to raise flood resilience of the RDF substation and mitigate the risk of transmission asset outages due to a 1-in-450-year ARI flood event.

Our major capex allowance, exempt major capex and incentive rate decision

X9 In reaching our decision to approve Transpower's RDF MCP proposal, the Capex IM requires us to determine:[3]

X9.1 the major capex allowance (MCA);4

X9.2 the exempt major capex (EMC);[5] and

X9.3 the major capex incentive rate.[6]

X10 Our decision for the RDF MCP proposal is to:

X10.1 set a MCA of $47.0 million ($ nominal);

X10.2 set EMC at zero while implementing the cost estimate deadband in the range between the P30 and P70 cost estimates (that includes the risk component).[7,8] This is consistent with the changes we made in the 2023 IM Review and Capex IM amendment we will publish at the same time as this decision;[9] and

X10.3 set a major capex incentive rate of 15% that will apply to any overspend or underspend that falls outside the deadband range between the P30 and P70 cost estimates.

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3 *Transpower Capital Expenditure Input Methodology Determination ('principal determination')* (Capex IM), as amended, as at 1 April 2025, clause 3.3.5(7) and Schedule C.

4 Under Capex IM, clause 1.1.5(2), 'major capex allowance' means the amount of major capex we approve in relation to an approved MCP.

5 Under Capex IM, clause 1.1.5(2), 'exempt major capex' means the amount of the MCA to which the major capex incentive rate does not apply which may be expressed by reference to a category of expenditure within the MCP, as we determine under clause 3.3.5(7) of Capex IM.

6 Under Capex IM, clause 1.1.5(2), 'major capex incentive rate' means 15% or an alternative rate we specify in respect of an approved MCP.

7 P30 refers to the 30th percentile of Transpower's cost estimate simulation. It means that for a P30 cost estimate, there is a 70% chance the cost estimate will be exceeded once the project is completed.

8 Note that the P30 and P70 estimates comprise the base estimate plus the risk component, inflation and interest during construction.

9 *Commerce Commission*, Part 4 IM Review 2023 – Final decision – Transpower investment topic paper – 13 December 2023, pages 41 to 50, available here.

We also made changes to the Capex IM

X11 This is the first MCP we have considered that applies changes we made to the Capex IM in the 2023 IM Review. During our review of this proposal, we identified an issue with the application of the MCP incentive scheme.

X12 The Capex IMs did not properly give effect to the incentive deadband we introduced in the 2023 IM Review. As a result, Transpower could be over-rewarded or over-penalised where its actual capex on delivery of the Redclyffe MCP falls outside the incentive deadband.

X13 In parallel with this decision we consulted on changes to the Capex IM that better give effect to the incentive deadband we introduced in the 2023 IM Review, and have amended the relevant Capex IMs to give effect to those changes.

Chapter 1 Introduction

Purpose of this paper

1.1 The purpose of this paper is to:

1.1.1 explain our decision to approve Transpower's Redclyffe major capital project (RDF MCP) proposal; and

1.1.2 summarise submissions and cross submissions from interested parties on our draft decision, which informed our decision to approve the application.

Structure of this paper and attachments

1.2 The body of this paper sets out:

1.2.1 the background to the proposal;

1.2.2 a summary of submissions and cross submissions on our draft decision and our response to those submissions; and

1.2.3 our decision to approve the proposal.

1.3 Attachments A-D set out the decision-making framework, analysis, reasons, and Capex IM criteria underpinning our decision. Specifically:

1.3.1 Attachment A sets out our decision-making framework under the Capex IM, and the evaluation criteria under the Capex IM, comprising general criteria,[10] specific criteria,[11] and the investment test;[12]

1.3.2 Attachment B provides our evaluation of the RDF MCP proposal against the Capex IM general criteria;

1.3.3 Attachment C provides our evaluation of the RDF MCP proposal against the Capex IM specific criteria; and

1.3.4 Attachment D provides our evaluation of Transpower's application of the Capex IM investment test.

Commerce Commission's role in reviewing MCP Proposals

1.4 Transpower's revenues are regulated by the Commerce Commission under the Act. We set a general revenue allowance for each regulatory period via Transpower's individual price-quality path.

[10] Capex IM, Part 6.
[11] Capex IM, Schedule C.
[12] Capex IM, Schedule D.

1.5 Transpower must apply separately to us for approval of its MCP proposals aimed at enhancing or developing the transmission grid. We then review Transpower's MCP application to ensure that the expenditure is justified and in the long-term interest of consumers.

Regulatory approval process to date

1.6 A summary of our regulatory approval process for the RDF MCP proposal prior to this decision is as follows.

1.6.1 On 9 May 2024 Transpower notified the industry that it was planning to consult on options to rebuild the Redclyffe substation on the existing site.[13]

1.6.2 From 11 February 2025 to 11 March 2025, Transpower consulted with stakeholders on its short-list investment options to meet the investment need (short-list consultation).[14,15]

1.6.3 On 22 April 2025 Transpower notified us of its plan to develop an MCP proposal.[16]

1.6.4 On 12 June 2025, Transpower submitted its proposal to us for our approval.[17]

1.6.5 On 9 December 2025, we published our draft decision on Transpower's Redclyffe MCP proposal,[18] and a Notice of Potential amendments to Transpower Capital Expenditure Input Methodology – Transpower major capex incentive provisions.[19]

1.6.6 On 5 February 2026, we published submissions received on the draft decision for Transpower's Redclyffe MCP, the proposed amendments to the Transpower Capex Input Methodology Determination and the accompanying draft decision reasons paper.[20]

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[13] *Transpower New Zealand Ltd*, Transpower to consult on rebuilding Redclyffe substation on existing site.– 9 May 2024 April, available here.

[14] Under Capex IM, clause 1.1.5(2), 'investment option' means a technically feasible solution, including an NTS, designed to facilitate or meet a specific investment need, other than an option fully funded under a new investment contract.

[15] *Transpower New Zealand Ltd*, Redclyffe substation rebuild, as required by Schedule I of Capex IM, available here.

[16] *Transpower New Zealand Ltd*, Notice of Intention to plan the Redclyffe 220 kV Switchyard Resilience major capex project.– 22 April 2025, as per clause 3.3.1(1) of Capex IM, available here.

[17] *Transpower New Zealand Ltd*, Application to the Commerce Commission for the Redclyffe MCP, available here.

[18] *Commerce Commission*, Transpower's Redclyffe (RDF) major capex project proposal Draft decision - reasons paper, 9 December 2025, available here.

[19] *Commerce Commission*, Notice of intention for potential amendments to the Transpower Capex Input Methodologies Determination, 9 December 2025, available here.

[20] *Commerce Commission,* Submissions received on the Draft decision for Transpower's Redclyffe MCP and proposed amendments to the Transpower Capex Input Methodology Determination and the accompanying Draft decision reasons paper, available here.

1.6.7 On 24 February 2026, we published cross submissions received on the draft decision for Transpower's Redclyffe MCP.[21]

1.6.8 Before making our final decision, we considered submitters' views on our draft decision, which we then incorporated into our decision-making process.

[21] *Commerce Commission,* Cross-submissions received on the Draft decision for Transpower's Redclyffe MCP, available here.

Chapter 2 Overview and background

Purpose of chapter

2.1 In this chapter we provide a background on Transpower's RDF major capex project (MCP) proposal (the Proposal), and outline:

2.1.1 what MCPs are under the Capex IM; and

2.1.2 the content of and background to the Proposal.

MCPs under the Capex IM - MCPs

2.2 A 'MCP' is defined in the Capex IM to mean a project of major capex undertaken to address or enable a specific investment need to be met, which may be either, or both, a transmission investment or non-transmission solution (NTS).[22]

2.3 Major capex covers capital expenditure for large individual transmission grid enhancement projects that, given their nature and magnitude, warrant our individual scrutiny and public consultation.[23] Specifically, 'major capex' means expenditure that is:[24]

2.3.1 incurred to meet the grid reliability standards (GRS) or provide a 'net electricity market benefit';[25]

2.3.2 forecast to have an aggregate capital cost exceeding the base capex threshold of $30 million;[26]

2.3.3 not incurred in relation to asset replacement, asset refurbishment, business support or information system, and technology assets; and

2.3.4 not funded under a new investment contract.

2.4 Transpower is required to submit a major capex proposal to us when it seeks approval for a MCP.[27]

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22 Capex IM, clause 1.1.5(2).

23 *Commerce Commission*, Transpower Capex Input Methodology Review – Decisions and reasons (29 March 2018) para 54, available here.

24 Capex IM, clause 1.1.5(2).

25 Capex IM, clause 1.1.5(2), the GRS are as defined under Schedule 12.2 under the Electricity Industry Participation Code 2010 (Code).

26 Capex IM, clause 1.1.5(2).

27 Capex IM, clause 3.3.3(2), and the definitions of 'major capex' and 'base capex threshold' under clause 1.1.5(2).

2.5 The Capex IM sets out the information that Transpower needs to provide in the MCP proposal, and the associated certification of the information it provides.[28] The Chief Executive Officer (CEO) of Transpower must certify that the information provided accurately represents Transpower's operations. The CEO certification must also state the proposed investment was approved according to Transpower's director and management approval policies.[29]

2.6 Transpower may submit a MCP proposal to us at any time during a regulatory period.[30]

What happens when we approve a MCP

2.7 When we approve a project, Transpower may, after commissioning the relevant assets, include the actual costs of the assets in its regulatory asset base.[31] Transpower may then recover those costs under its individual price-quality path (IPP), as transmission charges allocated to its customers, according to the transmission pricing methodology (TPM).[32,33]

2.8 Transpower to provide a table of estimated increases in transmission charges for each customer, from the expenditure relating to the Proposal.[34,35]

2.9 If we approve the proposed investment, Transpower must consult on the proposed starting charges allocations for each customer. After considering the submissions following consultation, Transpower will finalise and publish the starting charge allocations.[36]

Background to the RDF MCP proposal

2.10 Transpower notes in its proposal that Cyclone Gabrielle, on 14 February 2023, resulted in flooding at the RDF and Whirinaki substations causing power interruptions to the Hawke's Bay region. Part of the power supply was restored later on 14 February, and the full restoration of supply did not occur until 20 February 2023.[37]

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28 Capex IM, clause 7.4.1 and Schedule G.
29 Capex IM, clause 9.2.1.
30 Capex IM, clause 3.3.3(3).
31 *Commerce Commission*, Transpower Input Methodologies Determination 2010 [2012] NZCC 17, clause 2.2.3(2)(f).
32 *Commerce Commission*, 2020-2025 Transpower individual price-quality path (RCP3), IPP Determination (IPP) clause 8 available here.
33 The TPM is the methodology by which Transpower prices its transmission services developed in accordance with subpart 4 of Part 12 of the Code and specified in Schedule 12.4 of the Code.
34 Capex IM, clause 7.5.1(1)(c).
35 *Transpower NZ Ltd*, RDF MCP Proposal Attachment 7 – Indicative Pricing Impacts, available here.
36 The Electricity Code, Part 12, Schedule 12.4, available here.
37 *Transpower NZ Ltd*, RDF MCP Proposal Attachment 2 – Need for investment and options, Section 1, p. 2, available here.

2.11 Transpower had identified RDF in 2020 as one of the 12 substations vulnerable to flooding and that it was a critical resilience risk. Due to the damage caused by Cyclone Gabrielle, Transpower has prioritised RDF substation for enhanced design resilience standard of 1-in-450-year ARI flood event.[38]

2.12 In developing the RDF MCP, Transpower worked with Unison Networks, the local electricity distribution company, on a range of options before settling on the three short-list options. Transpower used forecast load projections and flood modelling to inform its short-list options.[39]

2.13 The two of the three short-list options that Transpower identified to enhance the resilience of RDF substation to 1-in 450-year ARI flood event were to rebuild at the existing site (Option 2) or relocate to a new site (Option 3).[40]

2.14 Option 1 of the short-list options was to restore the substation's pre-cyclone resilience of 1-in-100-year ARI flood event.

2.15 The criteria used by Transpower to inform the preferred investment (Option 2) included practical constraints such as property rights and consents, time scales and cost of difference and benefits. Transpower's analysis of the criteria concluded that:

2.15.1 Option 2 investment does not need property rights or consent since the site already has these approvals;

2.15.2 Option 2 will take two years to commission from our date of approval compared to approximately 10 years for Option 3;

2.15.3 Option 2 cost is $43.9 million compared to $280 million for Option 3;[41] and

2.15.4 Option 3 does not provide any additional benefits and improved resilience benefits are only available at least eight years after Option 2.

2.16 Under Transpower's preferred Option 2, it is seeking an MCA of $47.0 million ($ nominal) to provide an installation and maintenance platform for its 220kV switchgear and associated equipment, and to build the digital substation control building.

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[38] *Transpower NZ Ltd*, RDF MCP Proposal Attachment 2 – Need for Investment and Options, Section 1, p. 3, available here.

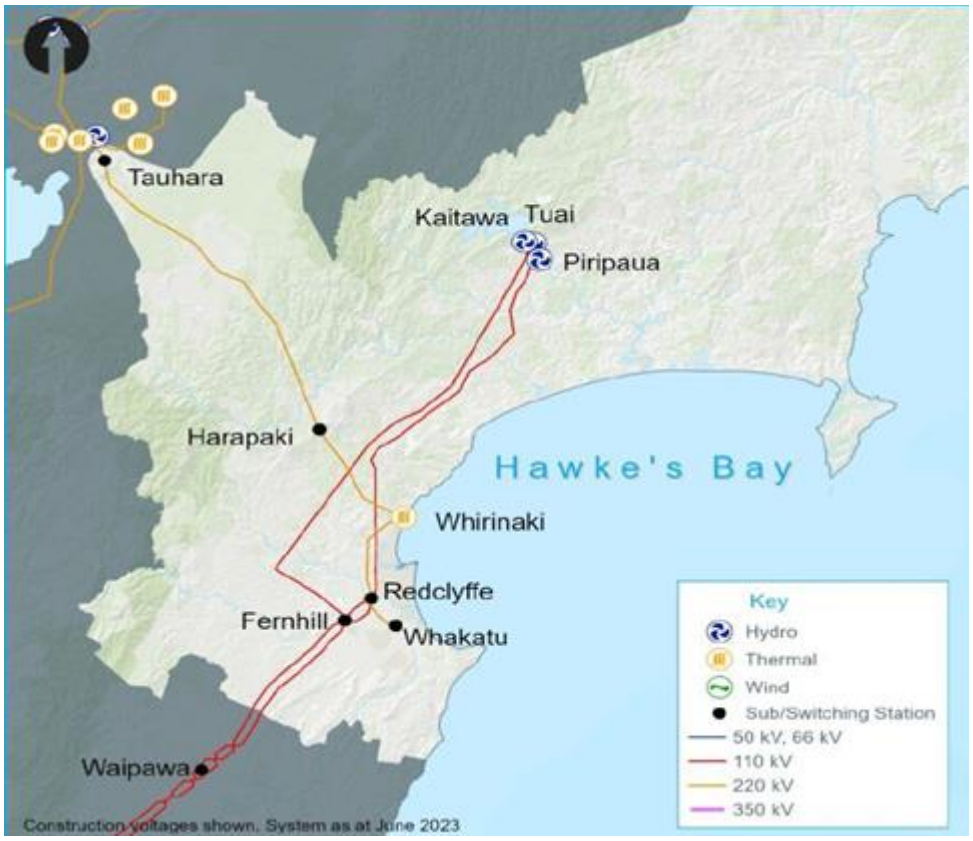
[39] *Transpower NZ Ltd*, RDF MCP Proposal Attachment 2 – Need for Investment and Options, Section 3, p. 3, available here.

[40] We also asked Transpower to test whether an asset replacement deferral option (a deferred Option 2), where assets are replaced and made resilient when the asset reaches end-of-life, was feasible. Transpower analysis suggested that only two circuit breaker bays could feasibly be deferred resulting in an NPV deferral benefit of $50,000. This alternative option would leave the site exposed to the 1-in-100 ARI flood event for an additional 20 years and was not favoured by Transpower. We discuss this option more fully in Attachment D.

[41] Option 2 cost is $43.12m plus $0.73m for investigation costs.

2.17 Figure 2.1 shows the map of the transmission infrastructure in the Hawke's Bay region.[42]

Figure 2.1 Hawke's Bay region transmission network



2.18 Table 2.1 sets out the investment options Transpower considered when it applied the Capex IM investment test.

2.19 The expenditure totals in Table 2.1 relate to the resilience level of the three short-list investment options for Transpower's RDF substation. Option 1 maintains the pre-Cyclone Gabrielle resilience level for the RDF substation and for investments Options 2 and 3, the resilience level is improved to 1-in-450-year ARI flood event.

2.20 The proposed investment in the RDF MCP is Option 2, highlighted in Table 2.1.

[42] *Transpower NZ Ltd*, RDF MCP Proposal Overview, p. 7, available here.

Table 2.1 Present value of net benefits at 5% discount rate, total project capital costs and description of the investment options considered[43]

	Project cost ($ million in 2025 prices)[44]	Net benefit ($ million in 2025 prices)[45]	Investment option description[46]
Option 1 - Repair existing site	15.4	0.0	• RDF repaired to pre-cyclone levels of resilience. • No significant future investment in resilience for the region.
Option 2 - Rebuild RDF 220kV switchyard	39.9	12.2	• Rebuild the parts of the 220kV system impacted by flooding. • Use modern designs and meet current engineering and resilience standards. • Provide "wet feet" protection for all critical equipment. • Raise critical high voltage plant using equipment stands and access platforms. • Installation of new 220kV electrical equipment. • Build a digital substation control building.
Option 3 - Relocate RDF 220kV switchyard	216.2	-173.8	• Build a new substation north of Redclyffe connected to the 220kV Redclyffe-Whirinaki (RDF-WHI) circuit. • Relocate and rebuild the 220kV system, 110kV system, 2 x control rooms. • Build either an overhead line or underground cable connecting to Onekawa substation (approximately 8 kilometres away). • Re-route, rebuild and upgrade existing Transpower and Unison lines.

[43] All capex values and benefits in Table 2.1 are present values at a 5% discount rate.

[44] *Transpower NZ Ltd*, RDF MCP Proposal Attachment 5 – Application of the Investment Test, Table 4, p. 8, available here.

[45] *Transpower NZ Ltd*, RDF MCP Proposal Attachment 5 – Application of the Investment Test, Table 4, p. 8, available here. The quantified net electricity market benefits for the options are relative to Option 1 (base case).

[46] *Transpower NZ Ltd*, RDF MCP Proposal Attachment 5 – Application of the Investment Test, Table 4, p. 8, available here.

Chapter 3 Our decision is to approve Transpower's proposal

Purpose of this chapter

3.1 This chapter sets out our decision to approve Transpower's RDF MCP proposal.

3.2 In approving Transpower's proposal, the Capex IM requires us to evaluate and determine:[47]

- 3.2.1 the major capex allowance (MCA);
- 3.2.2 the exempt major capex (EMC); and
- 3.2.3 the major capex incentive rate.

3.3 We also evaluated the following components specified by Transpower:[48]

- 3.3.1 the MCP outputs;
- 3.3.2 the approval expiry date; and
- 3.3.3 the commissioning date assumption.

3.4 This section summarises our evaluation and determination of these components. The Capex IM criteria applicable to, and the reasons behind our decision are set out in more detail in Attachments B to D.

3.5 We also set out our review of the draft decision submission and cross-submission material applicable to the decision settings.

MCP components that we accept/adopt for the RDF MCP proposal

We are satisfied that the project meets the Capex IM evaluation criteria

3.6 Having completed our evaluation and considered submissions on our draft decision, we are satisfied that the proposal meets the:

- 3.6.1 general Capex IM evaluation criteria as described in Attachment B;
- 3.6.2 specific Capex IM criteria as described in Attachment C; and
- 3.6.3 Capex IM investment test as described in Attachment D.

[47] Capex IM, clause 3.3.5(7) and Schedule C.
[48] Capex IM, clause 3.3.5(6) and Schedule C.

3.7 We agree that Transpower needs to invest in the region to enhance the resilience of the RDF GXP to a revised design standard to withstand a 1-in-450-year ARI flood event and the best option is to build to the revised design (Option 2).

3.8 Transpower has investigated a range of potential investment options to meet the investment need. It has consulted with customers and identified the option that delivers the highest expected net electricity market benefit.

Draft decision submissions

3.9 In its draft decision submission, the Major Electricity Users Group (MEUG) supported our draft decision to approve the proposal stating that it "is a pragmatic solution to improve the security of electricity supply and resilience of the infrastructure to floods, following the damaging events of Cyclone Gabrielle".[49]

3.10 Unison/Centralines also agreed with our draft decision, stating that Transpower's proposal (Option 2) provides the highest net market benefit, improves site resilience quickly, and is more cost effective than relocating the substation.[50]

3.11 Both MEUG and Unison/Centralines agreed with the key decision settings, namely the MCA, the EMC and the incentive rate.[51]

3.12 Unison/Centralines also agreed with the:

3.12.1 deadband mechanism and settings stating that setting a deadband range between the P30 ($51.4 million) and P70 estimates is a reasonable approach to managing early-stage project uncertainty" and also ensures that Transpower "is neither rewarded nor penalised within this range will help accelerate project development while protecting consumers from minor cost fluctuations."[52]

3.12.2 proposed assumptions about the project commissioning and approval expiry dates but was concerned that the expiry date could result in project delays and the ongoing site vulnerability in the interim.[53]

3.13 In its cross-submission, Transpower responded to the Unison/Centralines view about the potential delay in implementing Option 2, stating that the approval expiry date will not affect its intention to complete the project by December 2027.[54] Transpower further explain the reason for the approval expiry date being different from the proposed commissioning date stating that:[55]

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49 *MEUG*, RDF MCP draft decision submission, p.1, available here.
50 *Unison/Centralines*, RDF MCP draft decision submission, p.1, available here.
51 *MEUG*, RDF MCP draft decision submission, p.1, available here and *Unison/Centralines*, RDF MCP draft decision submission, p.2, available here.
52 *Unison/Centralines*, RDF MCP draft decision submission, p.2, available here.
53 *Unison/Centralines*, RDF MCP draft decision submission, p.2, available here.
54 *Transpower NZ Ltd*, RDF MCP draft decision cross-submission, p.1, available here.
55 *Transpower NZ Ltd*, RDF MCP draft decision cross-submission, p.1, available here.

> The approval expiry date is there to accommodate the risk that supply side factors could detrimentally impinge on delivery of the completed project.

3.14 Further:[56]

> The buffer between project delivery (commissioning) and the approval expiry date also ensures all the costs related to the project are captured through Transpower's project close-out process. After commissioning, all the costs of a project may take some time to be accounted for in our regulatory asset base to ensure the covered cost for the benefit-based investment, under the transmission pricing methodology (TPM), is accurate.
>
> For the Redclyffe MCP, the December 2032 approval expiry provides flexibility for any supply delays and recovery of all project costs, while still targeting completion in December 2027 to deliver net regional benefits.

3.15 We consider that Transpower has adequately explained that its intention is to proceed with the RDF substation investment and complete this project by the end of 2027, and that the approval expiry date is cover any late cost recovery.

Additional information we used in our assessment of the proposal

3.16 During our review of the proposal, we sought additional information from Transpower using a Request for Information (RFI) about the feasibility and economics of a deferral option. We wanted to test whether Transpower had considered an alternative to Option 2 where existing assets would be incrementally replaced with resilience mitigations as those assets reached end-of-life.

3.17 We asked Transpower to provide us with a net present value (NPV) analysis of this deferral option that included:

- 3.17.1 the RDF site asset replacements timed to occur as they reach their expected end-of-life;
- 3.17.2 the resilience mitigations included for each asset as it was replaced; and
- 3.17.3 the resilience benefits that accrue following the replacement of the final investment that ensures the site is resilient to the level set out in Option 2 of the proposal.

3.18 Transpower responded to our RFI stating that:[57]

- 3.18.1 a staged approach would still require the majority of the switchyard to be built upfront—seven of the nine circuit breaker bays—leaving only two bays that could be deferred;

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[56] *Transpower NZ Ltd*, RDF MCP draft decision cross-submission, p.1, available here.

[57] Transpower RDF RFI001 response- Staging the Redclyffe 220kV Switchyard Resilience project – feasibility and economic assessment.

3.18.2 delaying the rebuild of these two bays, until the circuit-breakers reach their end-of-life in 20 years, allows the deferral of $1.5 million (of the major capital allowance of $47.0 million);

3.18.3 additional costs will be required for the project reactivation, redesign and remobilisation works in 20-years' time when these two circuit-breakers are expected to reach their end-of-life;

3.18.4 with these deferral and cost assumptions, a NPV benefit of this staged build of only $50,000 was calculated;

3.18.5 the deferral option would leave the site exposed to the 1-in-100 ARI flood event for an additional 20 years; and

3.18.6 the deferral benefit calculation is sensitive to assumptions around future cost escalation, project reactivation, redesign and remobilisation costs, as well as evolving resilience standards.

3.19 Transpower explain that the deferral option is not favoured "due to issues with clearances from the low-level 220 kV bus"[58] that need to be resolved now to maintain site security standards. Additionally, the substation control room, which was damaged in the flood, is presently a temporary arrangement and needs to be replaced as soon as possible, locking Transpower into an early substation replacement strategy.

3.20 We are satisfied with Transpower's explanation of the deferral option not being favoured. The damage to the site has necessitated early replacement of primary and secondary assets at the site, and there appears to be limited economic benefit, while it would leave the site exposed to a 1-in-100 ARI flood event for another 20 years.

3.21 Transpower has also not considered non-transmission solutions (NTS) in its RDF MCP proposal since the works proposed are improving the resilience of physical switchyard assets.[59] We agree with Transpower on non-consideration of NTS for RDF MCP proposal since NTS will not meet the investment need.

3.22 We are satisfied that approving the RDF MCP proposal is in consumers' long-term interests, as it will enable Transpower to address the flooding risk posed by RDF GXP's location. This will mitigate the risk of prolonged power outages and costs of repairs it incurred during and after Cyclone Gabielle.

Major capex allowance

3.23 Our decision is to set the MCA of $47.0 million ($ nominal) for the Redclyffe MCP (see Table 3.1).

[58] Transpower RDF RFI001 response- Staging the Redclyffe 220kV Switchyard Resilience project – feasibility and economic assessment.

[59] *Transpower NZ Ltd*, Notice of intention, available here.

Table 3.1 MCA for the RDF MCP proposal ($m nominal)

Estimate in $2025	Inflation factors	Financing costs	MCA in nominal prices
43.9	1.2	2.0	47.0

3.24 The MCA is the allowance for the RDF MCP proposal and is based on the base cost estimate, plus the 50th percentile of uncertainties.

3.25 Transpower used its Transpower Enterprise Estimating System (TEES) cost estimation framework, to estimate the RDF MCP and modelled project capital costs. TEES includes an up-to-date database of assembly costs which is the source of the unit costs Transpower uses in its costing methodology.

3.26 We tested Transpower's costs and cost estimation processes derived from its TEES estimation framework. We are satisfied these are consistent with an expenditure outcome of a prudent supplier, having regard to good electricity industry practice.

Major capex incentive rate

3.27 Our decision is to set the major capex incentive rate for the RDF MCP at 15%.

3.28 The major capex incentive rate we set determines the reward (or penalty) Transpower receives (or bears), depending on how the actual cost of delivering a MCP compares to the project's MCA.[60]

3.29 The default major capex incentive rate is 15%. We may specify an alternative rate after considering a request from Transpower.[61] In its proposal, Transpower proposed that the default MCP incentive rate of 15% applies to the RDF MCP.[62]

3.30 We are satisfied the default incentive rate of 15% will incentivise Transpower to seek efficiencies in delivering the RDF MCP. We would only consider an alternative incentive rate for projects where the forecast capital cost is high, the forecast capital cost is uncertain, or the potential for efficiency gains is high. We do not consider any of these circumstances apply to the RDF MCP.

[60] Capex IM, clause 3.3.5(7)(b).
[61] Capex IM, clause 1.1.5(2).
[62] *Transpower NZ Ltd*, RDF MCP Overview, Table 1, p. 4, available here.

Exempt major capex

3.31 Our decision is to set EMC at zero while implementing the cost estimate deadband between the P30 and P70 cost estimates (that includes the risk component).[63] This is consistent with the changes we made in the 2023 IM Review and our recent amendment to the Capex IM to give effect to those changes.[64]

3.32 The 2023 Capex IM Review introduced a project cost deadband mechanism where Transpower MCP delivered project costs would not be subject to reward or penalty incentives.

3.33 This deadband was change was introduced as a means to accelerate MCP proposal development and deal with early project uncertainties. We considered this change would reduce the risk of early MCP project cost estimation inaccuracies and help manage cost uncertainties more efficiently.[65]

3.34 In the Capex IM amendment decision and determination. that accompanies this decision, we have introduced a mechanism that allows us to extend the incentive deadband range below the P30 estimate. We made this change to ensure that MCA contingent amounts (which in previous MCP decisions we set as the EMC) are not rewarded if they are unspent, and where the MCA minus the contingent amount is less than the P30 estimate.

3.35 In the RDF MCP we have not applied this deadband range extension because the MCA minus the contingent amount is greater than the P30 estimate and is within the P30/P70 deadband range.

3.36 In the RDF MCP supporting material Transpower specified the P30 estimate amount as $39.9m ($ 2025) and the P70 estimate amount as $48.0m ($ 2025).[66]

3.37 Our decision is to set the project cost deadband between these values, meaning Transpower will not receive a reward or incur a penalty as long as the actual cost of the project remains within this range.

Incentive rate application

3.38 In setting the major capex incentive rate, any EMC and the project cost deadband, the incentive scheme will work as follows:[67]

3.39 If the actual cost of delivering the RDF MCP is:

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63 P30 refers to the 30th percentile of Transpower's cost estimate simulation. It means that for a P30 cost estimate, there is a 70% chance the cost estimate will be exceeded once the project is completed.

64 *Commerce Commission*, Part 4 IM Review 2023 – Final decision – Transpower investment topic paper – 13 December 2023, pages 41 to 50, available here.

65 *Commerce Commission*, Transpower investment topic paper, Part 4 Input Methodologies Review 2023 - Final decision, 13 December 2023, Section 3, p.41.

66 Transpower's response to RFI001, spreadsheet 'MCA CalculationV2.0'.

67 Capex IM, Schedule B.

3.39.1 less than the P30 estimate of $39.9m ($ 2025), then applying the major capex incentive rate, Transpower will be entitled to a reward;

3.39.2 between the P30 and P70 estimates, then there is no incentive reward or penalty; and

3.39.3 more than the P70 estimates of $48.0m ($ 2025), then applying the major capex incentive rate, Transpower will be penalised.

MCP outputs

3.40 The MCP outputs are the resilience enhancement of the RDF GXP, namely to:[68]

3.40.1 raise the height of critical HV plant;

3.40.2 install new 220kV electrical equipment including circuit-breakers, disconnectors, busbars rigid and strung, current transformers, capacity voltage transformers and outdoor junction boxes; and

3.40.3 build a digital substation control building.

3.41 We have reviewed the MCP outputs and are satisfied that the outputs will deliver the investment need.

Commissioning date assumptions

3.42 The commissioning date assumption is the date by which Transpower assumes the last asset of the RDF MCP (if approved) will be commissioned.[69]

3.43 Transpower has proposed a commissioning date for all assets by 31 December 2027.[70] We have evaluated Transpower's commissioning date assumption and accept the proposed commissioning date assumption.

Approval expiry date

3.44 The approval expiry date is the date beyond which Transpower cannot recover the costs of any major capex project assets, and any MCP outputs it has not yet commissioned by that date.[71,72]

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68 *Transpower NZ Ltd*, RDF MCP Proposal Overview, Table 1, p. 4, available here.
69 Capex IM, clause 3.3.5(6)(e) and C1(3)(h). Definition of 'commissioning date assumption' under clause 1.1.5(2) of the Capex IM.
70 *Transpower NZ Ltd*, RDF MCP Proposal Overview, p. 4, available here.
71 Capex IM, clause 3.3.5(6), C1(3) and C4. Under clause 3.3.6(1)(d) of the Capex IM, Transpower may apply to us to amend the approved approval expiry date.
72 *Transpower NZ Ltd*, RDF MCP Proposal Overview, p. 4, available here.

3.45 As noted previously in our submission summary, Unison/Centralines submitted that it is was concerned that the proposed expiry date could result in project delays and the ongoing site vulnerability in the interim.[73] In its cross-submission Transpower explained that the difference between the proposed commissioning and expiry dates was primarily to ensure it captures any late costs in its regulatory accounting process, and that it intended to complete the project by December 2027.[74]

3.46 We have evaluated the approval expiry date proposed by Transpower. Following our review of the proposed investments, we consider Transpower can deliver the projects in the proposal by the commissioning date and that the approval expiry date is to allow it to account for late project costs in its regulatory accounts. Our decision is to accept the proposed approval expiry date of 31 December 2032.

[73] *Unison/Centralines*, RDF MCP draft decision submission, p.2, available here.
[74] *Transpower NZ Ltd*, RDF MCP draft decision cross-submission, p.1, available here.