

Amending the outputs for Transpower's Bombay substation 110 kV Bus Security Project

Decision and reasons paper

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Executive Summary

- X1 Transpower New Zealand Limited (Transpower) has submitted an application to the Commerce Commission (the Commission) to amend the major capex project outputs for the Bombay substation 110 kV Bus Security Project. This project was commissioned in March 2012.
- X2 We have decided to amend the major capex project outputs of the Bombay substation 110 kV Bus Security Project as requested by Transpower in its application. Amending these outputs does not affect the cost of this investment to the users of Transpower's services. Transpower has not requested, and we have not amended, the P50 estimate of costs.
- X3 We consider that:
- X3.1 Transpower explored and implemented a solution that provides grid performance consistent with that expected from the originally approved outputs for the project, and
 - X3.2 we should not place disincentives on Transpower to deliver more efficient solutions in place of approved ones when opportunities arise.
- X4 On 23 October 2013, we invited interested parties to submit their views on our draft decision. We received a submission from Counties Power who supported our draft decision.
- X5 As stated in the draft decision reasons paper, since we did not receive any submissions against our draft decision, our draft decision to approve Transpower's application is confirmed.

1. The application and our decision

Purpose of this paper

- 1.1 On 30 September 2013, Transpower New Zealand Limited (Transpower) applied to us to amend the major capex project outputs (outputs) for the Bombay substation 110 kV Bus Security Project.¹
- 1.2 This paper explains our decision to amend the approved outputs that Transpower was required to deliver as part of the Bombay substation 110 kV Bus Security Project. The approved outputs are set out in Transpower's investment proposal.²

Why Transpower needs our approval to amend the outputs for the project

- 1.3 Transpower must seek our approval to amend the components of approved major projects, such as the maximum allowance for a project and the outputs that Transpower is required to deliver.
- 1.4 In this instance, Transpower has delivered different outputs compared to those that were approved for the project to overcome physical constraints at the Bombay substation site.

The regulation that currently applies to Transpower

- 1.5 The price and quality of the service that Transpower supplies to consumers is regulated under Part 4 of the Commerce Act. This service is the delivery of electricity through the national grid (also called the transmission network). The national grid connects the generators of electricity to large electricity consumers and to electricity distribution businesses, who then connect to smaller electricity consumers.
- 1.6 The Commission is responsible for regulating Transpower under the Act.
- 1.7 The rules relating to Transpower's major capital investments are explicitly addressed in the Transpower Capital Expenditure Input Methodology Determination (Capex IM).³

¹ Transpower New Zealand Limited, *Application for Amendment of Outputs for the Bombay 110 kV Bus Security Investment Proposal*, 30 September 2013. In this paper, we refer to this document as Transpower's Application.

² The former Electricity Commission approved the Bombay 110 kV Bus Security Investment Proposal in August 2009 as a Grid Upgrade Plan (GUP) under the old Electricity Governance Rules 2003. Transpower's GUP proposal is available at <http://www.ea.govt.nz/industry/ec-archive/grid-investment-archive/gup/2008-gup/bombay-110kv-bus-security-investment-proposal-history/>, and the outputs are in page 1.

³ Commerce Commission *Re Transpower Capital Expenditure Input Methodology Determination* [2012] NZCC 2 (31 January 2012).

- 1.8 The Capex IM requires Transpower to seek approval for major capital projects in the national grid, and to deliver these projects to a set of approved components in order to recover the full cost of its major capital investments from consumers.⁴
- 1.9 If Transpower does not deliver any of the components, Transpower has to apply to us to amend the respective component. If we decide not to approve the requested amendment, Transpower may not be able to recover the full cost of its investment.
- 1.10 The regulatory framework that applies to output amendments is set out in Attachment B.

What outputs Transpower seeks to amend

- 1.11 Transpower has applied to amend two of the outputs for the Bombay 110 kV Bus Security Project.
- 1.11.1 To install a high impedance bus bar protection scheme, instead of the low impedance bus zone protection scheme.
- 1.11.2 To remove the compressor house and compressors which were previously at the Bombay substation, instead of relocating them.⁵
- 1.12 During the detailed design stage of the project, Transpower discovered that it could not efficiently implement one of the approved project outputs due to physical constraints at the Bombay substation site. Transpower's assessment showed that it was less expensive to deliver an alternative technical solution, rather than overcome the physical constraints.
- 1.13 Transpower's alternative solution required it to replace some existing circuit breakers with modern ones.⁶
- 1.14 This meant that:
- 1.14.1 compressors were no longer required at the Bombay substation, and therefore, the compressor house and compressors were removed, and
- 1.14.2 a lower cost technology bus zone protection scheme could be installed. The high impedance bus zone protection scheme that Transpower installed has the same technical performance as a low impedance bus zone protection scheme, but costs less.

⁴ These components are set out in clause 3.3.3(5) of the Capex IM.

⁵ Transpower's Application, p.4, paragraph H15(1).

⁶ Transpower replaced the circuit breakers under its base capex allowance. Transpower states that it had planned to replace the circuit breakers in 2016. Refer to Transpower's Application, p. 9.

Our decision is to amend the outputs

- 1.15 Our decision is to amend the outputs of the Bombay 110 kV Bus Security Project as requested by Transpower in its application.
- 1.16 We are satisfied that Transpower's reasons for amending the outputs of the project and its application have met the evaluation criteria for approving amendments to the outputs of a major capital project.⁷ In particular, we consider that:
- 1.16.1 Transpower explored and implemented an efficient solution that provides the grid performance consistent with that expected from the originally approved outputs for the project, and
- 1.16.2 we should not place disincentives on Transpower to deliver more efficient solutions in place of approved ones when opportunities arise.
- 1.17 Amending the outputs does not affect the cost of this investment to the users of Transpower's services. The outputs that Transpower delivered meant that the cost of the major capex project was reduced. Transpower can only recover the lower of the actual cost of the project, or the maximum allowance for the project.
- 1.18 We do not see a need to amend any other components of this project, because the project is already commissioned.
- 1.19 A summary of our evaluation is set out in Attachment A.

⁷ These evaluation criteria are set out in clause 6.1.1 of the Capex IM.

Attachment A: Summary of our evaluation

A1 In this attachment we present a summary of our evaluation of Transpower's proposal against the evaluation criteria and process requirements set out in the Capex IM.

Whether the proposal is consistent with the input methodologies that apply to Transpower

A2 We consider that the proposed amendment is consistent with the Capex IM and the Transpower (Input Methodologies) Determination [2012] NZCC 17 (29 June 2012).

The extent to which the proposed amendment promotes the purpose of Part 4 of the Act

A3 We consider the output amendment promotes the purpose of Part 4 of the Act.⁸ The output that Transpower implemented provides a long term benefit to consumers of its transmission services.

A4 In delivering different outputs than were originally approved, Transpower demonstrated its capability in finding and delivering a cost efficient solution to an unforeseen constraint in project delivery. In our view, Transpower has delivered outputs with grid performance consistent with that expected from the originally approved outputs.

A5 Approving the proposed amendment to the originally approved outputs is promoting the purpose of Part 4 of the Act. Allowing Transpower to amend outputs in order to improve cost efficiency, when the opportunity arises, incentivises Transpower to continuously seek to improve efficiency.

Whether the data, analysis and assumptions underpinning the application are fit for purpose

A6 We consider that the information provided by Transpower is fit for us to be able to assess the application and make a decision under the Capex IM.⁹

The key factors relevant to the proposed amendment

A7 The key factor that caused this change in output was that Transpower could not implement one of the outputs - installing a bus coupler circuit breaker - without breaching its clearance violation policy.¹⁰ Transpower discovered this constraint during its detailed design stage.

⁸ The purpose of Part 4 of the Act is set out in paragraphs B10 and B11.

⁹ Clause 3.3.4(4)(d).

¹⁰ Transpower's Application, pp. 1 and 7.

- A8 As part of our evaluation, we consider whether the key factor was foreseeable and within Transpower's control, and how Transpower mitigated the key factors outside its control.
- A9 We consider that this constraint was not reasonably foreseeable. Constraints such as this is one are normally recognised during the detailed design stage of a project.
- A10 The key factor that led to the change in amendment was due to the clearances in the existing installation at Bombay. These installations were designed and built to previous standards.
- A11 Transpower has not provided its mitigation strategy but its actions suggested that Transpower's strategy was to provide the least cost solution. We consider that this strategy was reasonable.
- A12 Transpower's mitigation action was to bring forward the replacement of five ageing circuit breakers. These circuit breakers were scheduled to be replaced in 2016 under Transpower's replacement programme.¹¹
- A13 The new circuit breakers did not require a compressor, so Transpower was able to remove the compressor and the compressor house. The new circuit breakers also allowed Transpower to install a high impedance bus zone protection scheme, which costs less than, and has the same performance as, a low impedance bus zone protection scheme.
- A14 We consider that Transpower's mitigation action was reasonable and cost effective.

The effect of the amendment on the expected net electricity market benefit

- A15 Transpower states, and we agree, that the amendment will not result in a significant change in the expected net electricity market.¹² We consider that the electricity market benefits of the transmission services are unchanged and there are some maintenance savings from removing the compressors.
- A16 We expect the major capex component of cost to be lower than expected due to this change in outputs. The total project cost would be higher because Transpower replaced some circuit breakers under its base capex allowance.
- A17 Transpower delivered the major capex component for \$4.4 million, which is below its P50 estimate of \$4.5 million.¹³

¹¹ Transpower's Application, p. 8 paragraph H18(2).

¹² Transpower's Application, p. 5, paragraph H15(c)(ii).

¹³ Transpower's Application, p. 6, paragraph H17.

The extent to which Transpower has incurred capital expenditure by the date of application

A18 Transpower applied for the amendment after it commissioned the project.¹⁴

Is the proposal consistent with the process requirements in the Capex IM?

A19 We consider that the proposal is consistent with the Capex IM and meets the necessary process requirements.

A19.1 Transpower satisfied the timing requirements of the Capex IM.¹⁵
Transpower submitted this application on 30 September 2013, which was within the timeframes specified in the Capex IM.¹⁶

A19.2 Transpower satisfied the information requirements of the Capex IM.¹⁷
Transpower included all of the information required by the Capex IM in its application.

A19.3 Transpower satisfied the certification requirements of the Capex IM.¹⁸
Transpower's application included the correct certificate signed by the Chief Executive Officer of Transpower, as required by the Capex IM.

Conclusion

A20 We are satisfied that Transpower's application to amend the outputs of the Bombay 110 kV Bus Security Project complies with the relevant process requirements and satisfies the evaluation criteria for approving amendments to outputs for major capex projects.

A21 We have, therefore, decided to amend the outputs for the project so that Transpower was required to:

A21.1 install a high impedance bus zone scheme instead of a low impedance bus zone scheme, and

A21.2 remove, rather than relocate, the compressor house and compressors.

¹⁴ Transpower's Application, p 6, paragraph H17.

¹⁵ Clause 7.4.2(1).

¹⁶ Transpower's Application, pp. 4-9.

¹⁷ Clause 7.4.2(3)(c) and Schedule H, Division 3.

¹⁸ Clause 7.4.2(3)(4) and clause 9.2.1

Attachment B: Regulatory framework

- B1 Transpower is required to seek approval from the Commission for major capital expenditure projects. It is also required to seek approval to amend certain parts of an approved major capital expenditure project, including outputs. These approvals are sought under the Transpower Capital Expenditure Input Methodology (Capex IM).¹⁹
- B2 This chapter sets out the legal framework against which we have evaluated Transpower's application to amend the outputs.

How we evaluate applications to amend the major capex project outputs – a summary

- B3 Transpower can apply for amendments to previously approved major capex projects prior to the project approval expiry date.²⁰
- B4 Allowing amendments recognises that major capex projects may be planned well in advance. The potentially large lead times can create uncertainty to the costs, timings and requirements of an investment. Likewise, given the nature of major capex projects, there will likely be factors that are outside Transpower's control that will affect projects. Transpower is limited in applying for amendments to only certain components of the approved project.²¹ One such component is the outputs.²²
- B5 We cannot make a decision whether to approve or reject an amendment to outputs until we have carried out the evaluation of the application, and any further information we requested from Transpower, in accordance with Part 6 of the Capex IM.²³
- B6 The evaluation for an amendment to a major capex project under Part 6 of the Capex IM covers two main areas. These areas are:
- B6.1 an evaluation of the application in accordance with the general criteria;²⁴
and
 - B6.2 an evaluation of matters specific to the application, in accordance with the specific evaluation criteria.²⁵

¹⁹ Commerce Commission *Re Transpower Capital Expenditure Input Methodology Determination* [2012] NZCC 2 (31 January 2012).

²⁰ Capex IM, clause 3.3.4(1).

²¹ Capex IM, clause 3.3.4(1).

²² Capex IM, clause 3.3.4(1)(d).

²³ Capex IM, clause 3.3.4(2)(c).

²⁴ Capex IM, clause 6.1.1(2)(a) to (c).

- B7 We have the ability to take into account in our evaluation any additional information that we consider relevant.²⁶
- B8 We also need to assess whether Transpower has met the process requirements of the Capex IM in making the application.²⁷ These include compliance with the timeframes, and the information and certification requirements.

The extent to which the proposal promotes the purpose of Part 4 is the overarching test

- B9 As part of the general criteria the Commission must consider the “the extent to which what is proposed will promote the purpose of Part 4 of the Act” (clause 6.1.1(2)(b)). The Capex IM was enacted under the umbrella of requirements set by Part 4 of the Act, and as such is in accordance with Part 4. The provisions of the Capex IM will ultimately be construed and applied in a way that promotes the purpose of Part 4. Clause 6.1.1(2)(b) is a restatement of this overriding test.

The purpose of Part 4 of the Act

- B10 The purpose of Part 4 of the Act is to promote the long-term benefit of consumers in markets where there is little or no competition and little or no likelihood of a substantial increase in competition.²⁸ ‘Competition’ means ‘workable or effective competition’.²⁹
- B11 To promote workable or effective competition that is in the long term interests of consumers, we must promote outcomes in regulated markets that are consistent with outcomes in competitive markets. The four limbs of the purpose of Part 4 set out specific outcomes that we should promote, so that regulated suppliers, including Transpower:
- B11.1 have incentives to innovate and invest;³⁰
 - B11.2 have incentives to improve efficiency and provide services at a quality that reflects consumer demands;³¹
 - B11.3 share the benefits of efficiency gains with consumers, including through lower prices;³² and

²⁵ Capex IM, clause 6.1.1(5)(a) to (d).

²⁶ Capex IM, clause 6.1.1(1)(a)(ii).

²⁷ Capex IM, clause 3.3.4(2)(a) requires the Transpower complies with clause 7.4.2

²⁸ Section 52A(1)

²⁹ Section 3(1)

³⁰ Section 52A(1)(a)

³¹ Section 52A(1)(b)

- B11.4 are limited in their ability to extract excessive profits.³³
- B12 In our view, the correct legal test of the purpose of Part 4 is to promote outcomes consistent with workably competitive markets. The specific outcomes in limbs (a)-(d) are integral to promoting the long-term benefit of consumers, and reflect the key areas of supplier performance that characterise workable competition.
- B13 In order to determine whether the central purpose (long-term benefit of consumers) is to be fulfilled, it is appropriate to inquire whether outcomes consistent with outcomes produced in workably competitive markets are being promoted so that the section 52A(1)(a) to (d) requirements are met. This is how we have interpreted and applied the purpose of Part 4.
- B14 We do not think that the limbs of the purpose of Part 4 preclude us from, more generally, considering the concept or practice of workable competition or outcomes in workably competitive markets. This is because:
- B14.1 If that was the case, the purpose of Part 4 should simply be the four limbs in section 52A(1)(a)-(d), and the remaining words in section 52A(1) could be deleted from the Act;
- B14.2 Where the four limbs at section 52A(1)(a)-(d) do not provide us with the answer about key choices we have to make (for instance the allocation of risk), we act consistently with outcomes that promote (a)-(d), but seek further guidance from workably competitive markets more generally; and
- B14.3 This approach is consistent with the approach that we took to determining suppliers' starting regulatory asset base ('RAB') when formulating our IMs at the start of the Part 4 regulatory regime.

The Commission's discretion when making decisions on project output amendments

- B15 The Commission's discretion when making decisions on project output amendments is limited by the propose/respond framework applying in such circumstances under clause 3.3.4(4)(d) of the Capex IM.
- B16 Upon carrying out its evaluation of Transpower's proposal, the Commission may either decide to:
- B16.1 approve the amendment as proposed by Transpower in its application; or
- B16.2 reject the amendment as proposed by Transpower in its application.

³² Section 52A(1)(c)

³³ Section 52A(1)(d)

- B17 Where the proposed change in outputs impacts on the major capex allowance or the relevant project timeframes, the Commission may also decide to adjust any of the following:
- B17.1 P50 estimate of costs;
 - B17.2 commissioning date assumption; and
 - B17.3 completion date assumption.³⁴
- B18 When applying the evaluation criteria in Part 6, the Commission has the discretion to assess the application by weighing up the extent to which the proposal is promoting the purpose of Part 4 against the foreseeability and controllability of each key factor that led to the application. In the absence of an absolute standard against which to assess a proposal, the regime requires us to consider the merits of a proposal and make a relativist judgment.
- B19 The Capex IM recognises that circumstances around a project may change and the approval may need to be updated as better information becomes available. This may include cost information, and changes to technology or circumstances that are not within Transpower's control. When the uncertainties, or changes in circumstances or the environment, affect the project it may be appropriate to adjust the approval accordingly.

What the Capex IM does not allow us to do

- B20 The Capex IM sets the framework for our treatment of Transpower's capital expenditure. This restricts our decision on the application to amend the outputs as requested in Transpower's application.
- B21 The Capex IM gives us no scope to reopen the original approval for a major capex project. Under the amendment mechanism, Transpower is only applying to the Commission for an amendment of a project output component of the project.
- B22 The Capex IM does not allow us to make a decision that goes against the purpose of Part 4 of the Act, or is inconsistent with the other relevant input methodologies.
- B23 The Capex IM gives us no scope to look at Transpower's WACC.

³⁴ Capex IM clause 3.3.4(5))