ISBN no. 978-1-869455-80-4
Project no. 14.09/16274

Public version

Transpower capex input methodology review

Proposed focus areas for the capex IM review

Date of publication: 15 May 2017

Associated documents

Publication date	Reference	Title
5 March 2015	978-1-869454-34-0	Transpower Capital Expenditure Input Methodology Determination 2012 [2012] NZCC 2 – Consolidated as of 5 February 2015
20 December 2016	978-1-869455-53-8	Input methodologies review decisions - Framework for the IM review
28 April 2017	Notice of intention	Notice of Intention – Input Methodology Review: Transpower Capital Expenditure Input Methodology

Commerce Commission
Wellington, New Zealand

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Executive summary

Purpose of this paper

X1. This paper seeks your input in defining the key focus areas and identifying the specific problems to be considered by our review of the Transpower capital expenditure input methodology (**capex IM**).

The capex IM

X2. The capex IM describes the process for capital expenditure (**capex**) to be submitted by Transpower for our approval, the processes that we and Transpower must follow, the information that must be provided to us by Transpower, and the evaluation criteria and approach that we use in considering Transpower's capex proposals.

X3. The capex IM was determined on 31 January 2012 and published on 9 February 2012. A number of amendments to the capex IM have been made since then.

Reviewing the capex IM

X4. Section 52Y of the Commerce Act 1993 requires us to review each IM no later than seven years after its date of publication.

X5. On 28 April 2017, we issued a notice of intention to commence the review of the capex IM, under section 52Y of the Act (the **capex IM review**).

This phase of the capex IM review is focused on problem definition

X6. This paper sets out the proposed focus areas for the capex IM review and explains our views on some of the questions we might consider under each area. We are seeking your input on the key focus areas and the specific problems to be considered by the capex IM review.

The issues should drive the process and timeline for the capex IM review

X7. We consider that the issues the capex IM review will consider should drive the process and timeframes we adopt. As such, we see this problem definition phase being crucial for shaping the remainder of the capex IM review. After reviewing your submissions on this paper, we expect to be well placed to further develop the process and timeline for the capex IM review.

Decision-making framework and objectives for the capex IM review

X8. For the capex IM review, we propose to apply the same framework that we used for reaching decisions on the 2015-2016 input methodologies review (**IM review**).[1]

[1] Commerce Commission "Input methodologies review decisions – Framework for the IM review" (20 December 2016).

We propose five focus areas for the capex IM review

X9. We are proposing five key focus areas for the capex IM review:

X9.1 Focus area 1: Given the changing landscape in the energy sector, are there adjustments that could be made to the capex IM to better ensure the right transmission investments are being made, including non-transmission solutions?

X9.2 Focus area 2: Does the capex IM support a proportionate approach to scrutiny?

X9.3 Focus area 3: Once expenditure has been approved, does the capex IM appropriately deal with changing circumstances?

X9.4 Focus area 4: Are the incentive mechanisms in the capex IM effective?

X9.5 Focus area 5: Are aspects of the capex IM too complex and prescriptive?

X10. We invite your views on whether these are the most useful focus areas for the review, and what are the specific problems we should consider within them. We are also interested in whether there are any other areas we should focus on, that are not already discussed in this paper.

We are holding a knowledge sharing workshop on 24 May 2017

X11. We plan to hold a knowledge sharing workshop for stakeholders on 24 May 2017. The purpose of the workshop will be to:

X11.1 explain how the capex IM works;

X11.2 share some lessons learned to date; and

X11.3 discuss the proposed focus areas for the capex IM review.

X12. We hope that the workshop will provide an opportunity for stakeholders without a close understanding of the capex IM to better understand what it is, how it works, and how it might be relevant for them. The workshop is intended to help inform your submissions on this paper.

Submissions

X13. We invite your written submissions on this paper by 5pm on 14 June 2017. We will publish these submissions, then seek cross-submissions on the points raised in submissions by 5pm on 28 June 2017.

X14. Chapter 3 of this paper highlights our proposed focus areas for the capex IM review. We welcome your views on whether these would be valuable focus areas for the review, and whether there is anything else you think the review should focus on. We also welcome your views on any specific problems within the focus areas that should be considered as part of the capex IM review.

CHAPTER 1: Introduction

Purpose of this paper

1. The purpose of this paper is to:

   1.1 set out the context for the review of the Transpower capital expenditure input methodology (**capex IM review**);

   1.2 set out the potential focus areas and questions for the capex IM review;

   1.3 propose the process and timing for the capex IM review;

   1.4 invite submissions from stakeholders on this paper; and

   1.5 assist interested parties in preparing for the workshops and in writing submissions.

Background to the capex IM and this review

2. Regulation under Part 4 (**Part 4**) of the Commerce Act 1986 (the **Act**) seeks to promote the long-term benefit of consumers of regulated services. These are electricity line services, gas pipelines services, and specified airport services at Auckland, Wellington and Christchurch international airports.

3. Input methodologies (**IM**s) are the upfront rules, processes and requirements of Part 4 regulation. Their purpose is to promote certainty for suppliers and consumers in relation to the rules, requirements and processes applying to regulated services under Part 4. IMs apply to all services regulated under Part 4.

4. We determined the majority of IMs in December 2010. We reviewed those IMs, including subsequent amendments, in 2015-2016 (the **2015-2016 IM review**).[2]

5. We determined the Transpower capital expenditure input methodology (**capex IM**) on 31 January 2012 pursuant to section 54S of the Act.[3] The requirement for us to set a capital expenditure IM for Transpower arose from an amendment to the Act that transferred to us the role of approving Transpower's grid upgrade plan proposals from the Electricity Commission (now disestablished and replaced by the Electricity Authority).[4]

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2 As noted at paragraph 11 below, parts of this 2015-2016 review are still ongoing. Commerce Commission "Input methodologies review decisions: Introduction and process paper" (20 December 2016).

3 *Transpower Capital Expenditure Input Methodology 2012* [2012] NZCC 2. Publication formally occurred when notice of the IM was published in the *New Zealand Gazette* on 9 February 2012.

4 Electricity Industry Act 2010, s 155.

6. As required by s 54S(2) of the Act, the capex IM includes:

   6.1 requirements that must be met by Transpower, including the scope and specificity of information required, the extent of independent verification and audit, and the extent of consultation and agreement with consumers;

   6.2 the criteria the Commission will use to evaluate capital expenditure proposals; and

   6.3 time frames and processes for evaluating capital expenditure proposals, including what happens if the Commission does not comply with those time frames.

7. Some key features of our decisions in setting the capex IM were:[5]

   7.1 Capital expenditure must be classified as either base capex or major capex;

   7.2 The capex IM will apply to all capital expenditure intended to enter Transpower's regulatory asset base (**RAB**), including both base and major capex;

   7.3 Major capex is required to be consulted on, assessed and approved on a project-by-project basis using the requirements set out in the capex IM;[6]

   7.4 An incentive regime applies to both base capex and major capex (an overview of the incentive regime applying to Transpower is provided in Attachment A of this paper); and

   7.5 Transpower must publish an integrated transmission plan that explains Transpower's view about the long-term development of the grid.

8. In 2014, ahead of the 2015-2020 regulatory control period (**RCP2**), we introduced the 'listed projects' mechanism which allows Transpower to obtain additional base capex for listed projects.[7]

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5 Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), para X6.

6 A summary of major capex projects that have been subject to capex IM approval processes is set out in Table B3 in Attachment B. Potential major capex projects that may be subject to the capex IM approval process in the future are discussed in Transpower's integrated transmission plan, see Transpower "Integrated Transmission Plan 2016" (27 September 2016), chapters 4-5.

7 The 'listed projects' mechanism provides a means for Transpower to apply for, and the Commission to approve, additional base capex for inclusion within Transpower's price path during a regulatory period in respect of large scale replacement and refurbishment projects that were anticipated to occur within that regulatory period, but where the specific timing of the project could not be forecast prior to the regulatory period. See: Commerce Commission "Amendments to input methodologies for Transpower to provide a listed project mechanism" (27 November 2014).

9. We have made amendments to the capex IM since it was first determined, a record of which is contained in the determination history of the current consolidated version of the capex IM.[8] A table of these amendments is included in Attachment B of this paper (Table B1).

    9.1 Attachment B also sets out some details on the decisions made in setting the capex IM (Table B2), and the decisions we have made in applying the capex IM (Table B3).

    9.2 Attachment C provides an overview of how the capex IM works, and Attachment D describes the capex IM incentive mechanisms.

Our obligation to review the IMs

10. Section 52Y of the Act requires us to review each IM no later than seven years after its date of publication.

11. On 10 June 2015, we commenced a review of all IMs except for the capex IM.[9] On 20 December 2016, we reached decisions on all areas within the scope of that notice of intention, except for three areas that we are still to reach decisions on this year.[10, 11]

12. Although we considered reviewing the capex IM as part of our 2015-2016 IM review, ultimately we decided it was appropriate to defer the review of the capex IM. This was because the capex IM was originally determined in January 2012, separately from the other IMs, had recently been amended, and did not substantially drive decisions in relation to the other IMs.[12]

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8 *Transpower Capital Expenditure Input Methodology 2012* [2012] NZCC 2, p. 2.

9 Commerce Commission "Notice of intention: Input methodologies review" (10 June 2015).

10 Commerce Commission "Input methodologies review decisions: Introduction and process paper" (20 December 2016), para 23.

11 The three areas we are yet to reach decisions on are: the Transpower Incremental Rolling Incentive Scheme (**IRIS**) IM; the IMs relating to customised price-quality path (**CPP**) information requirements for gas; and related party transactions provisions.

12 Commerce Commission "Input methodologies review decisions: Introduction and process paper" (20 December 2016), para 18.

13. On 28 April 2017 we issued a notice of intention to commence this review of the capex IM.[13, 14] As the original capex IM was published in the *New Zealand Gazette* on 9 February 2012, the statutory deadline for completing the capex IM review is 11 February 2019.[15] We are commencing consultation on the capex IM review now in order to inform our view on what the most appropriate process for the capex IM review would be (within the bounds of the statutory deadline). We discuss this further in paragraphs 17-22.

14. We note that we have other work ongoing with respect to Transpower, which will remain ongoing during the capex IM review. For example:

    14.1 We are considering a listed project capex proposal from Transpower in relation to the Central Park-Wilton B reconductoring project;[16]

    14.2 We are completing our review of the Transpower incremental rolling incentive scheme (**IRIS**) IM as part of the 2015-2016 IM review;[17] and

    14.3 In October 2017, Transpower will submit to us its annual individual price-quality path (**IPP**) compliance statement and annual forecast maximum allowable revenue (**MAR**) update proposal, following which we will determine the annual forecast MAR update in November 2017.[18]

Framework for the capex IM review

15. For the capex IM review, we propose to apply the same framework that we used for reaching decisions on the 2015-2016 IM review. As explained in more detail in our 2016 framework paper for that review, that means we will only change the IM where this is likely to:

    15.1 promote the Part 4 purpose in s 52A more effectively;

    15.2 promote the IM purpose in s 52R more effectively (without detrimentally affecting the promotion of the s 52A purpose); or

    15.3 significantly reduce compliance costs, other regulatory costs or complexity (without detrimentally affecting the promotion of the s 52A purpose).

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13 Commerce Commission "Notice of Intention – Input Methodology Review: Transpower Capital Expenditure Input Methodology" (28 April 2017).

14 The IM under review is the *Transpower Capital Expenditure Input Methodology Determination 2012* [2012] NZCC 2 (31 January 2012) as amended by all subsequent amendments. Table B1 in Attachment B lists the principle determination and all subsequent determination amendments.

15 Section 52Y of the Act requires that we review the IM no later than seven years after the date of its publication.

16 See: http://www.comcom.govt.nz/transpowers-price-quality-path-from-2015-to-2020/.

17 We are aiming to publish our decision on our review of the Transpower IRIS by 30 June 2016. See: Commerce Commission "Input methodologies review draft decision: Transpower Incremental Rolling Incentive Scheme" (24 March 2016).

18 *Transpower Individual Price-Quality Path Determination 2015* [2014] NZCC 35.

16. Please see our 2016 framework paper for more detail on the IM review framework.[19]

The objectives and process for this stage of the capex IM review

Objectives for problem definition phase

17. We want stakeholders to play a key role in defining the issues and problems to be addressed by the capex IM review. In many cases, suppliers, consumers, and other interested parties are better placed than us to identify specific problems and areas for improvement. Regulated suppliers have a rich understanding of businesses and the environments in which they operate. Likewise, some consumers of regulated services may be well placed to describe how the key issues and problems impact them.

18. We consider that this capex IM review will be most effective and efficient if the issues drive the process. We are seeking to adopt a process and timing that properly addresses the key issues and our review requirements, while managing costs and time commitments for all parties.

19. In particular, we are open to phasing the review to ensure it is fit for purpose. For example, we could complete our review of those aspects of the capex IM affecting the IPP for the 2020-2025 regulatory period (**RCP3**) on a shorter timeframe, and complete our review of all other aspects of the capex IM on a longer timeframe.[20] We are seeking stakeholders' views on the merits of this approach, whether the proposed date for completing IPP changes is appropriate, and whether there are any other timing constraints that would affect our process for the capex IM review.

20. We expect that the further development of the process and timing for the capex IM review will be influenced by the number, size, and interdependencies of the problems to be addressed by the capex IM review. As such, it is difficult to further refine the process for the capex IM review until we have a better understanding of the specific problems to be considered by the capex IM review.

21. The focus of this problem definition phase of the capex IM review is therefore on identifying the key focus areas for the capex IM review, clearly defining the problems relating to those focus areas that the capex IM review should consider, and identifying how potential changes to the capex IM might address these problems. We followed a similar process for our IM review in 2015-2016. It is about an upfront, collective attempt to identify and define problems that the capex IM review should consider, prior to considering what capex IM-related solutions might exist for those problems.

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19 Commerce Commission "Input methodologies review decisions – Framework for the IM review" (20 December 2016).

20 Any IM amendments that affect the price-quality path will generally not take effect until the next price-quality path reset (sections 53ZB and 53ZC of the Act). As such, it may be desirable to make any IM amendments that would affect the IPP in advance of RCP3 or else those changes would not take effect until RCP4. Further, because Transpower is required to submit its proposal for its IPP for RCP3 by 1 December 2018 it may be desirable to have any changes to the IMs that affect the IPP in place in advance of that date as well. See clause 2.2.1(3) of *Transpower Capital Expenditure Input Methodology Determination* [2012] NZCC 2.

22. At the end of this phase (ie, after the workshop and stakeholder submissions on this paper), we expect to have a much clearer picture of the problems that the capex IM review should consider. That will allow us to further develop the process and timing for the remainder of the capex IM review.

This paper

23. This paper describes our proposed focus areas for the capex IM review and calls for submissions. Ultimately we want to identify all issues to be addressed by the capex IM review, define specific problems and begin to identify potential solutions where possible. This will allow us to consider the best process to follow on with.

Knowledge sharing workshop

24. We plan to hold a knowledge sharing workshop for stakeholders on 24 May 2017. At this stage, we expect that the purpose of the workshop will be to:

    24.1 explain how the capex IM works;

    24.2 share some lessons learned to date; and

    24.3 discuss the proposed focus areas for the review as outlined in this paper.

25. We hope that the workshop will provide an opportunity for stakeholders without a close understanding of the capex IM to better understand what it is, how it works, and how it might be relevant for them.

26. Details about how to register for the workshop are provided in Chapter 4 of this paper.

Written submissions on this paper

27. This paper seeks your written submissions to help define the focus areas and questions that the capex IM review should consider. As noted above, these submissions should be informed by discussions at the knowledge sharing workshop; although the workshop may not cover all issues and points that parties may want to raise.

28. While you will have the opportunity to put forward your views at the workshop, it is important that you follow that up by setting out your views in full in written submissions.

29. We have allowed three weeks following the workshop for you to prepare your written submissions, and then a further two weeks for cross-submissions.

30. More detailed instructions to submitters are set out in the Chapter 4 of this paper.

We will then refine the process and timing for next phase of the capex IM review

31. After considering submissions and cross-submissions on this paper we expect to have a much clearer picture of the topics and specific problems to be considered by the capex IM review. At that point, we expect to be in a good position to determine the process and timing for the next phase of the capex IM review.

The structure of this paper

32. Chapter 2 sets out the context for the capex IM review by providing an overview of the regulation that applies to Transpower and explaining the importance of Transpower's investment and efficiency performance for consumers.

33. Chapter 3 provides more detail around the focus areas and suggests some questions that might arise under each of these.

34. Chapter 4 outlines the next steps, which covers:

    34.1 the upcoming workshop;

    34.2 the submission process; and

    34.3 updates to the capex IM review on our website.

35. Attachment A gives an overview of the incentive regime that applies to Transpower.

36. Attachment B outlines the amendments we have made to the capex IM since it was set in January 2012 (Table B1), and sets out some key decisions made in setting the capex IM (Table B2) and decisions made in applying the capex IM (Table B3).

37. Attachment C provides an overview of the capex IM, including how it works and what it was designed to achieve.

38. Attachment D describes the suite of incentive mechanisms in the capex IM that collectively provide the incentive for Transpower to improve efficiency, to deliver outputs within approved expenditure, and to improve the outputs themselves.

CHAPTER 2: Regulatory context

Purpose of this chapter

39. The purpose of this chapter is to provide context for the capex IM review by:

    39.1 providing an overview of the regulation that applies to Transpower; and

    39.2 highlighting the importance of Transpower's investment and efficiency performance for consumers.

Transpower's role

40. Transpower is a state-owned enterprise that owns and operates New Zealand's high voltage electricity transmission system (ie, 'the national grid'). Transpower transmits electricity from generators to substations at grid exit points where it is supplied to local electricity distribution businesses or large industrial consumers.

41. Apart from the transmission of electricity throughout the national grid, Transpower also manages the real-time operation of the power system as the system operator. Transpower provides the system operator services under the System operator service provider agreement (**SOSPA**) between Transpower and the Electricity Authority.[21]

How Transpower is regulated

42. Both we, and the Electricity Authority, have a role in regulating the electricity lines services provided by Transpower.[22]

How we regulate Transpower

43. We regulate Transpower under Part 4 of the Commerce Act 1986 (the **Act**). Part 4 "provides for the regulation of the price and quality of goods or services in markets where there is little or no competition and little or no likelihood of a substantial increase in competition."[23]

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21 System operator service provider agreement between the Electricity Authority and Transpower New Zealand Limited, February 2016.

22 See our fact sheet about our role in the electricity sector: Commerce Commission "Electricity and the Commerce Commission's role" (November 2012), available at: http://www.comcom.govt.nz/dmsdocument/9673.

23 Section 52 of the Act.

44. The purpose of Part 4 is:[24]

> … to promote the long-term benefit of consumers in markets referred to in section 52 by promoting outcomes that are consistent with outcomes produced in competitive markets such that suppliers of regulated goods or services—
>
> (a) have incentives to innovate and to invest, including in replacement, upgraded, and new assets; and
>
> (b) have incentives to improve efficiency and provide services at a quality that reflects consumer demands; and
>
> (c) share with consumers the benefits of efficiency gains in the supply of the regulated goods or services, including through lower prices; and
>
> (d) are limited in their ability to extract excessive profits.

45. Section 54Q of the Act is also relevant to the capex IM. Section 54Q requires us to promote incentives, and avoid imposing disincentives, for suppliers of electricity lines services to invest in energy efficiency and demand-side management and to reduce energy losses. Demand-side management and reduction of energy losses are of particular relevance to the capex IM. The capex IM provides for such matters to be taken into account in the assessment of Transpower's capital expenditure proposals. For example:[25]

    45.1 loss reductions are included as a market benefit under our quantitative investment test for major capex.[26] This is intended to promote investment options that result in lower transmission losses over those that do not (other factors being equal);

    45.2 we require close attention be given to the process for identification and consideration of transmission alternatives.[27] This is intended to result in greater consideration being given to investment options that improve network utilisation, for example, load shifting or peak shaving, demand-inter-trip schemes and operation of local generation.

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[24] Section 52A of the Act.

[25] Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), para 1.3.11-1.3.12.

[26] The investment test is an assessment of the costs and benefits of potential investments using discounting of relevant costs and benefits in the electricity market over a defined calculation period to identify a preferred investment option (set out in schedule D of the capex IM).

[27] Transmission alternatives are alternatives to investment in the grid. Where use of a transmission alternative avoids a transmission investment that would otherwise be major capex, the transmission alternative is classified as a 'non-transmission solution'. See: Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), para 2.8.1-2.8.6.

46. Under Part 4, Transpower is subject to two types of regulation:

46.1 IPP regulation:[28] This determines the maximum revenues that Transpower can recover from consumers, as well as the quality standards it must meet, for each year of each five-year regulatory period.[29] The IPP for the current 2015-2020 regulatory period (**RCP2**) is set out in the *Transpower Individual Price-Quality Path Determination 2015* [2014] NZCC 35 (the **Transpower IPP Determination**).

46.2 Information disclosure regulation (**ID**):[30] This sets requirements on Transpower to publicly disclose certain information to allow interested persons to assess whether the Part 4 purpose is being met. The ID requirements for Transpower are set out in the *Transpower Information Disclosure Determination 2014* [2014] NZCC 5 (the **Transpower ID Determination**).

47. These regulatory mechanisms are supported by input methodologies, which set out the underlying rules, requirements, and processes. There are two input methodologies determinations that apply to Transpower:

47.1 *Transpower Input Methodologies Determination 2012* [2012] NZCC 17 (the **Transpower IM Determination**). This determination was reviewed as part of the 2015-2016 input methodologies review.[31] It sets out methodologies for:

47.1.1 Cost allocation;

47.1.2 Asset valuation;

47.1.3 Treatment of taxation;

47.1.4 Cost of capital;

47.1.5 Specification of price;

47.1.6 IRIS; and

47.1.7 Reconsideration of the price-quality path.

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28 The Commerce (Part 4 Regulation – Transpower) Order 2010.

29 Under s 53M(4) of the Act, a regulatory period must be five years, but under s 53M(5) the Commission may set a period of four years if it considers this would better meet the Part 4 purpose.

30 Section 54F of the Act.

31 We published our decisions on the 2015-2016 IM review in December 2016. Those decisions covered all aspects of the Transpower IM Determination except for the incremental rolling incentive scheme, the review of which is ongoing.

47.2 *Transpower Capital Expenditure Input Methodology Determination 2012* [2012] NZCC 2 (**capex IM**). This determination sets out the capex IM and is the subject of the current review. Broadly, the Transpower capex IM currently does five things:

47.2.1 Sets out the process for submitting, assessing, and approving Transpower's base capex proposals;

47.2.2 Sets out the process for submitting, assessing, and approving Transpower's major capex proposals;

47.2.3 Sets out a number of capex-related incentives, which are applied through the IPP;

47.2.4 Sets out the requirements for Transpower to propose grid output measures, which are then set as quality measures in the IPP; and

47.2.5 Sets out the requirements for Transpower to provide an Integrated Transmission Plan (**ITP**). The purpose of the integrated transmission plan is to explain Transpower's view of the long-term operation and development of the grid.

48. Part 4 applies to both the transmission services and system operator services supplied by Transpower.[32] However, we have not included the revenues and costs associated with Transpower's system operator services in the IPP. This is because we consider the existence of a separate arm's-length contract (the SOSPA referred to above) between Transpower and the Electricity Authority for these services should result in outcomes consistent with the Part 4 purpose for those services. As such, the capex IM does not currently apply to capital expenditure relating to the SOSPA.[33]

The Electricity Authority's role in regulating Transpower

49. The Electricity Authority's statutory objective is to promote competition in, reliable supply by, and the efficient operation of, the New Zealand electricity industry for the long-term benefit of consumers.[34] The Authority develops, administers and enforces market rules, contracts with service providers to operate the electricity market and system, and analyses and monitors performance of the electricity market and industry.

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32 Section 150(1) of the Electricity Industry Act 2010 clarifies that system operator services are included as part of the conveyance of electricity by line and hence are regulated services under Part 4.

33 For similar reasons, the capex IM will not usually apply to capital expenditure relating to contracts for transmission services between Transpower and another party where the party that is contracting with Transpower agrees in writing that the terms and conditions are reasonable or reflect workable or effective competition for the provision of the goods and services. These are referred to as 'new investment contracts'. See: Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), para 2.4.14.

34 See: http://www.ea.govt.nz/.

50. The Electricity Authority's functions with respect to Transpower include:

50.1 Setting Grid Reliability Standards (**GRS**).[35] The GRS are a set of standards against which the reliability performance of the existing grid (or future developments to it) can be assessed.

50.1 Setting the guidelines that Transpower must follow when developing the Transmission Pricing Methodology (**TPM**). The TPM sets out how Transpower's total transmission revenue (as approved by the Commission) is allocated between transmission customers that are required to pay the charges calculated under the TPM. The Electricity Authority is currently reviewing the TPM guidelines.

50.2 Setting requirements regarding the use, and contents, of transmission agreements, including setting a default transmission agreement. Transmission agreements are the contracts Transpower has with distribution companies, major users that are directly connected to the grid, and generators that are directly connected to the grid.

50.3 Establishing requirements regarding interconnection asset services – for example, providing information on capacity, reliability, and availability of those assets.[36]

50.4 Contracting Transpower to provide system operator services. The system operator is responsible for the real-time operation of the power system, including scheduling and dispatching electricity, in a manner that avoids undue fluctuations in frequency and voltage on the transmission grid.

50.5 Contracting Energy Market Services, a division of Transpower, to act as financial transmission rights (**FTR**) manager. The FTR manager is responsible for the creation and allocation of FTRs.

Linkages between our regulation of Transpower and that of the Electricity Authority

51. Section 54V of the Act sets a number of requirements for us and the Electricity Authority to interact on certain matters relating to our respective roles in regulating the electricity industry, including Transpower. We also have a memorandum of understanding with the Electricity Authority with respect to our respective roles in the electricity industry.[37]

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35 The GRS are set out in Schedule 12.2 of the Electricity Industry Participation Code 2010 (the **Code**).

36 Subpart 6 of Part 12 of the Code.

37 Memorandum of Understanding between the Electricity Authority and the Commerce Commission, (December 2010), available at: http://www.comcom.govt.nz/dmsdocument/9414.

52. Some aspects of the Electricity Authority's role with respect to Transpower are particularly relevant to the capex IM review:

52.1 The GRS that the Electricity Authority has set in the Code are incorporated by reference into our definition of major capex as well as the investment test we apply when assessing major capex proposals.[38]

52.2 The Electricity Authority's concept of 'good electricity industry practice' is incorporated by reference into the capex IM as follows:[39]

52.2.1 as a factor we may consider when evaluating a major capex proposal;[40]

52.2.2 Transpower must demonstrate how a proposed major capex investment reflects good electricity industry practice;[41] and

52.2.3 under the investment test for major capex, Transpower must quantify its project costs using good electricity industry practice.[42]

53. The Electricity Authority is currently reviewing the TPM guidelines and considering new TPM guidelines that would lead to a change in the way transmission charges are shared among transmission customers.[43] Relevantly, the Electricity Authority's proposal would involve changes that are more service-based and cost-reflective. If the proposed changes are adopted, we expect this would heighten the interests of parties that would benefit from (and pay for) specific transmission investments in our processes for assessing Transpower's capex proposals.

The importance of Transpower's investment and efficiency performance

54. As the national grid operator, Transpower's investment decisions and efficiency performance have a significant impact on consumers.

55. Two major functions of the capex IM are to provide for the scrutiny of Transpower's decisions about proposed and actual investment, and to incentivise Transpower to deliver those investments efficiently. As context for the review of the capex IM, it is therefore useful to briefly outline the importance to consumers of Transpower's investment and efficiency performance.

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38 Capex IM, clause 1.1.5, Schedule D.

39 'Good electricity industry practice' is defined in Part 1 of the Code as: **good electricity industry practice** in relation to transmission, means 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 [bold terms in original].

40 Capex IM, clause C2(a)(i).

41 Capex IM, clause G5(12).

42 Capex IM, clause D7(6).

43 See: http://www.ea.govt.nz/development/work-programme/pricing-cost-allocation/transmission-pricing-review/.

56. Good investment performance means investing in the right assets, at the right time, alongside the right operational solutions (ie, consideration of both capex projects and opex (transmission alternatives)).

57. Good efficiency performance means that costs are no higher than necessary to install and operate assets used to provide services to consumers.

58. This is consistent with the Electricity Authority's concept of 'good electricity industry practice' (see paragraph 52.2 above).

Investment

59. Investment is likely the area of Transpower's performance that has the single biggest impact on consumers. Transpower's investment performance is about whether its investment is targeting the right areas, in the right way, at the right times.

60. Investment is closely linked to quality performance. The risks to consumers if Transpower was to under-invest, or to fail to invest in the right areas, would be significant. Failing to invest in the right places at right times could result in:

    60.1 Failure of aspects of the national grid, which could cause interruptions to supply;

    60.2 Catch-up investment being required in future, costing future consumers more than would otherwise have been necessary;

    60.3 Capacity constraints on the national grid, which could mean that the national grid is unable to meet the demand for electricity;

    60.4 Not appropriately trading off opex and capex to minimise lifecycle costs; and/or

    60.5 Consumers paying for investments that are not made, which could occur if we allowed for the necessary investments in setting the IPP but Transpower then did not deliver them.

61. Failure to invest in the right areas could occur if:

    61.1 Transpower does not identify where, when and what investment is needed; or

    61.2 Transpower does identify the right investment, but is unable to deliver that investment.

62. Over-investment (within which we include investing too soon) by Transpower would also pose risks for consumers. For example, the potential impacts of over-investment, or investing too soon, could include:

62.1 The national grid being overbuilt in aggregate too soon, in which case consumers may pay more than necessary for transmission charges;[44]

62.2 The grid being overbuilt in certain areas, at the expense of under-investment in other areas. This could result in declining quality performance in some areas;

62.3 Losing option value with respect to future investment (ie, becoming 'locked in' to going down a particular investment path). The result of this would be that consumers pay more than necessary for transmission charges; and/or

62.4 Being locked into traditional grid solutions (capex) where transmission alternatives would produce greater net benefits for consumers.[45] This would result in consumers paying more than necessary for transmission services.

63. The changing energy landscape increases the challenge when it comes to identifying the right investments, and completing them at the right times. Transpower's work on Transmission Tomorrow identifies these challenges, and highlights the need for Transpower's investment approach to anticipate and rapidly respond to changes in the energy landscape.[46]

Efficiency

64. Once Transpower has selected its investments and the timing thereof, there is still the cost-effectiveness with which the investment is carried out to consider (ie, productive efficiency). While there are a number of types of efficiency (dynamic, allocative, and productive), in the context of the capex IM, productive efficiency appears the most relevant as it relates to Transpower's investment and operating decisions.

65. Inefficient performance by Transpower (ie, Transpower not delivering investment and operations at lowest cost) would mean that consumers pay more than necessary for the quality of transmission services they receive (and/or the shareholder bears some unrecovered costs).

66. However, inefficiency is difficult to observe and measure – in large part because it is difficult to know, even in retrospect, what efficient performance would have looked like.

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[44] For example, MEUG observed that "For NIGUP the expected benefits over the next few years were expected to be far less than the level of transmission charges…", see: MEUG "MEUG submission on Transpower application and the Commission issues paper" (17 January 2014), para 6.

[45] The issue of low benefits mentioned by MEUG is typical of very large projects. In the early stages, the annual costs of the projects to customers exceed the benefit derived from them. For this reason, in a changing environment smaller incremental projects may be more appropriate.

[46] Transpower "Transmission Tomorrow" (2016), available at: https://www.transpower.co.nz/resources/transmission-tomorrow-2016-0.

67. We want to incentivise Transpower to continue to increase efficiency – to find new opportunities to make efficiency gains. The Part 4 regime is not the only driver of Transpower's efficiency – but it does play an important role, including through the capex IM.

68. Transpower has identified the importance of continuing to become more efficient in its Transpower Tomorrow publication.[47] We have recently seen Transpower identifying new opportunities to improve efficiency, including through its current work on enhancing its asset management framework.[48]

Investment and efficiency are important considerations for the capex IM review

69. Promoting good investment and efficiency performance are key objectives of the capex IM. For example, in our 2012 capex IM reasons paper we noted:[49]

> We have developed an incentive regime whereby Transpower is offered incentives to deliver the outcomes valued by consumers. A suite of mechanisms will collectively provide incentives for Transpower to improve efficiency, to deliver outputs within approved expenditure, and to improve the outputs themselves.
>
> Exposing Transpower to incentives will encourage downward pressure on costs, as well as consideration of non-transmission solutions. The benefits of any cost efficiencies achieved will be shared between Transpower and consumers.
>
> An output mechanism has been developed to counter any incentives for Transpower to under-invest. This will help ensure the appropriate level of service is delivered. The mechanism links Transpower's actual delivery of outputs to those outputs agreed at the time the Commission sets the Base capex allowance or approves a Major capex project. This will also provide visibility to stakeholders of the outputs delivered.

70. This focus on investment and efficiency performance has informed the proposed focus areas for the capex IM review, which are discussed in the next chapter of this paper.

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47 Transpower "Transmission Tomorrow" (2016), available at: https://www.transpower.co.nz/resources/transmission-tomorrow-2016-0; Transpower, Presentation to the Commerce Commission on Asset Management (6 March 2017), available at: https://www.transpower.co.nz/industry/regulatory-control-periods/rcp2/updates.

48 Transpower "Asset Management Plan" (2016), p. 5-7.

49 Commerce Commission "Transpower Capital Expenditure Input Methodology: Reasons paper" (31 January 2012), para X7-X9.

CHAPTER 3: Proposed focus areas for the capex input methodology review

Purpose of this chapter

71. The purpose of this chapter is to describe the proposed focus areas for the capex IM review, and to suggest some questions that might arise under each of these.

72. We welcome your views on whether you think that these would be valuable focus areas, and on whether you think there would be other valuable areas to focus on.

The proposed focus areas presented in this paper

73. We are proposing five key focus areas for the capex IM review:

    73.1 Focus area 1: Given the changing landscape in the energy sector, are there adjustments that could be made to the capex IM to better ensure the right transmission investments are being made, including non-transmission solutions?

    73.2 Focus area 2: Does the capex IM support a proportionate approach to scrutiny?

    73.3 Focus area 3: Once expenditure has been approved, does the capex IM appropriately deal with changing circumstances?

    73.4 Focus are 4: Are the incentive mechanisms in the capex IM effective?

    73.5 Focus area 5: Are aspects of the capex IM too complex and prescriptive?

74. These proposed focus areas are based on:

    74.1 Our view that the extent to which Transpower invests in the right areas at the right times, and does so efficiently, can have a significant impact on the prices and quality consumers receive;

    74.2 A desire to maximise the value we provide through our assessment of Transpower's capex – ie, to make sure that the scrutiny we apply to Transpower's capex is proportionate with the potential benefits to consumers of doing so; and

    74.3 Lessons learned from working with the capex IM to date.

75. At this stage, we do not think the capex IM requires wholesale change. Rather, we are only intending to make changes where doing so would be consistent with our framework for the review. That is, we will only change the capex IM where this is likely to:

    75.1 promote the Part 4 purpose in section 52A more effectively;

    75.2 promote the IM purpose in section 52R more effectively (without detrimentally affecting the promotion of the section 52A purpose); or

    75.3 significantly reduce compliance costs, other regulatory costs or complexity (without detrimentally affecting the promotion of the section 52A purpose).

76. While we must review the capex IM in its entirety, this paper sets out proposed focus areas so we can identify key issues for the review and develop these into problem definitions we can consider as we move through the review process.

Proposed focus area 1: Given the changing landscape in the energy sector, are there adjustments that could be made to the capex IM to better ensure the right transmission investments are being made, including non-transmission solutions?

77. The first proposed focus area is about ensuring that the right transmission investments are being made, particularly given the changing environment in the energy sector.

78. The energy sector has gone through, and is still going through, significant changes since the capex IM was determined in January 2012. New and emerging technologies, such as distributed and grid electricity storage, distributed electricity generation including solar photovoltaic (PV) and wind, electric vehicles, and home automation systems, will contribute to the evolution towards a smart grid.[50]

79. As we discussed in our 2015-2016 IM review topic paper on emerging technologies,[51] these developing technologies will enable new business models, and seem destined to enjoy consumer acceptance, both by giving consumers greater options and choice over how they use energy (and how much), and as they facilitate continued global moves to greater use of renewable energy.

80. These technologies, business models, and consumer behaviours are interrelated with policy and regulations that affect market structure (eg, separation between electricity generation/retailing, distribution/transmission and other energy-related services), conduct (eg, pricing and investing), and performance (eg, profitability).

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[50] MBIE's Smart Grid Forum defines a Smart Grid as follows: "A Smart Grid is an electricity network that can intelligently integrate the actions of all users connected to it – generators, consumers and those that do both – in order to efficiently deliver sustainable, economic and secure electricity supplies". See: Smart Grid Forum "Architecting a future electricity system for all New Zealanders" (April 2014), p. 1. Available at: http://www.mbie.govt.nz/info-services/sectors-industries/energy/electricity-market/nz-smart-grid-forum/meeting-1/final-tor-scope-definition.pdf/view.

[51] Commerce Commission "Input methodologies decisions: Topic paper 3 – The future impact of emerging technologies in the energy sector" (20 December 2016).

81. All these changes will inevitably lead to changes in the way the transmission grid is used, and what investment in the grid is needed.[52]

82. This suggests we might consider:

    82.1 Whether any changes to our process or analytical approach for assessing Transpower's capex proposals are warranted by the changing landscape in the energy sector.

    82.2 The extent to which Transpower is adapting how it assesses its capex proposals to allow for the changing landscape.

    82.3 The extent to which Transpower considers transmission alternatives, and interactions with transmission and nodal prices, so that the best solution is identified and adopted;

    82.4 Whether the requirement for Transpower to consider transmission alternatives should be extended to base capex and whether any consequential incentives adjustments would be required; and

    82.5 Whether improvements could be made to the investment test.

Proposed focus area 2: Does the capex IM support a proportionate approach to scrutiny?

83. The second proposed focus area is about ensuring that the time and cost that we, and other parties, spend on scrutinising Transpower's investment proposals of different sizes and different levels of complexity is commensurate in each case with the potential benefits to consumers of doing so.

84. This 'proportionate scrutiny principle' is a balance we have always tried to achieve with our regulation, and we consider that it should guide our scrutiny of Transpower's investment proposals as well as the setting of individual price-quality paths more generally.

85. As well as being consistent with promoting the long-term benefit of consumers, the proportionate scrutiny principle is consistent with Treasury's regulatory good practice principle of proportionality. That is, "the burden of rules and their enforcement should be proportional to the benefits that are expected to result".[53]

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[52] Transpower has published its view of how it can prepare for the changing environment in "Transmission Tomorrow" available at: https://www.transpower.co.nz/about-us/transmission-tomorrow/about-transmission-tomorrow.

[53] See: http://www.treasury.govt.nz/regulation/bpr/bpregpa-feb15.pdf at p. 80.

86. We have previously applied the proportionate scrutiny principle when considering our level of scrutiny of investment proposals, such as:

86.1 when we set the capex IM in 2012. Our application of the proportionate scrutiny principle led to the current division between base capex and major capex; and

86.2 when we reviewed the customised price-quality path (**CPP**) requirements as part of the 2015-2016 IM review and considered improvements to the way default price-quality paths and CPPs work together.[54]

87. In essence, this principle is about ensuring that the level of scrutiny we apply is commensurate with the price and quality impact on consumers of the investment proposal (or element thereof) being scrutinised.

88. In relation to the capex IM, Transpower's investments fall into three categories:[55]

88.1 base capex – these are replacement or refurbishment projects (excluding listed projects as described below), or projects costing less than $20 million which are needed to meet the grid reliability standards or provide a net electricity market benefit;

88.2 major capex – projects costing more than $20 million which are needed to meet the grid reliability standards or provide a net electricity market benefit; and

88.3 listed projects – replacement or refurbishment projects costing over $20 million and which have no specific project commencement date and/or uncertain costs.

[54] Commerce Commission "Input methodologies decisions: Topic paper 2 – CPP requirements" (20 December 2016), Chapter 3.

[55] The processes by which capex is proposed and approved under each of these categories is set out in Attachment C.

89. Therefore, in applying the proportionate scrutiny approach to the capex IM we might consider:

89.1 Whether we should revisit the criteria that determine when we will scrutinise different types of projects so that we increase the magnitude of the benefits we generate through more targeted scrutiny. For instance, this could be by:

89.1.1 changing the $20 million threshold for base capex projects or programmes;[56]

89.1.2 changing which *types* of capex are subject to major capex project approval; or

89.1.3 introducing discretion for us to decide not to scrutinise a project that exceeds the base capex projects or programmes threshold if we do not consider there to be material benefit in us doing so.

89.2 Whether the requirement for Transpower to consider options and consult is appropriate for all major capex proposals.

89.3 Whether we are getting the information we need, when we need it, and in the form that we require it, so we can effectively assess potential investments at the right times. For example:

89.3.1 Are the base capex proposal information requirements clear and unambiguous so that we receive accurate and reliable information with which to set the price path?

89.3.2 Do the base capex incentives provide the right incentives for Transpower to provide us with accurate forecasts for the setting of the base capex allowances, and not to overstate its base capex expenditure needs?

89.3.3 Should we retain the 'listed projects' mechanism for future regulatory periods after RCP2 to avoid an incentive on Transpower to overstate its expenditure needs when there is base capex project timing and/or scope uncertainty at the time of submitting its base capex proposal?

89.3.4 Do the content requirements for each major capex proposal (**MCP**) enable us to efficiently evaluate and make a decision on whether to approve a given MCP?

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[56] For context we note that the current $20 million project and programme threshold translates to annual revenues of between 0.14% and 0.24% of the annual forecast MAR in RCP2, the forecast MAR being the approved revenues each year. This range varies because it depends on the asset life of the assets acquired with the base capex. In comparison with the total regulatory asset base (RAB) the threshold represents approximately 0.44% of the 2016 RAB disclosed by Transpower in its annual information disclosures.

89.3.5 Are the verification and certification requirements appropriate so that we can rely on the information provided by Transpower?

89.4 Whether the requirements for the ITP are clear and allow stakeholders to gain a transparent picture of Transpower's strategy and expenditure requirements.

Proposed focus area 3: Once expenditure has been approved, does the capex IM appropriately deal with changing circumstances during a regulatory period?

90. The third proposed focus area is about making sure the capex IM is flexible enough to deal with changing circumstances during a regulatory period.

91. This differs from focus area 1 above because:

91.1 focus area 1 is about how the capex IM takes into account the changing environment *before* investments are approved; whereas

91.2 focus area 3 is about how the capex IM deals with changing circumstances *after* investments are approved.[57] This includes both:

91.2.1 after investments are approved and before they are made; and

91.2.2 after investments are approved and once investment has started.

92. In our decision to amend Transpower's approved expenditure allowance for the North Island Grid Upgrade Project (**NIGUP**), we noted the merits of a 'stage gate process', which the capex IM does not currently provide for. We observed that:[58]

> In the stage gate approach the project only has approval to proceed to a certain point and then additional funding is provided after justification is provided and assessment has been carried out. This ensures that changing circumstances are considered and the project is developed with the best information available.
>
> In most cases the initial stage funding will be for investigations to refine costs and properly account for risks. This will allow Transpower to develop proposals only as far as is required. This means options can be kept open while necessary investigations, the costs of which Transpower can recover, are carried out.
>
> This may allow us to put in less effort and have a faster turnaround for some proposals. This is relevant for proposals with a high level of risk, eg, if a large expenditure decision was required with higher uncertainty of costs and the future environment.

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[57] For an overview of the current incentive mechanisms under the capex IM and the Transpower IPP that apply to changing circumstances, see Attachment A.

[58] Commerce Commission "Amending Transpower's allowance and outputs for the North Island Grid Upgrade Project (NIGU Project): Final decision" [2015] NZCC 21, paras I23-125.

93. We consider that further exploring the ability of the capex IM to better deal with changing circumstances during regulatory periods would be a useful focus for the capex IM review. For example, we might consider:

93.1 Whether we should have a 'set and forget' approach to some capex.

93.2 Whether we should introduce a 'staged approval' option for major capex. This might allow Transpower to apply for, and us to approve, major capex projects one stage at a time.

93.3 Whether we, or other parties, should be able to initiate a reassessment of major capex once it has been approved. Currently, once we have approved major capex, Transpower can initiate a process to amend the allowance or decide to discontinue the project.[59]

93.4 How the capex IM deals with Transpower not spending its base capex allowance for a regulatory period.

93.5 How effectively the capex IM deals with changes in input costs that are outside of Transpower's control (for example, whether Transpower should be exposed to these risks, such as changes in the consumer price index (**CPI**) and foreign exchange (**FX**) rates, and whether any risk faced should be treated on a symmetrical basis).

93.6 Whether the capex IM should allow Transpower to undertake 'enabling works' in anticipation of major capex projects using the base capex allowance if those works fall under the base capex project threshold (currently $20 million).

Proposed focus area 4: Are the incentive mechanisms in the capex IM effective?

94. The fourth proposed focus area is on whether the incentive mechanisms in the capex IM and their associated implementation in the IPP are effective in meeting the objectives outlined below.

95. The capex IM includes a suite of incentive mechanisms that are intended to collectively provide the incentive for Transpower to improve efficiency, to deliver outputs within approved expenditure, and to improve the outputs themselves. These are described in Attachment D.

96. Exposing Transpower to these incentives is intended to encourage downward pressure on costs. The benefits of any cost efficiencies achieved are then shared between Transpower and consumers.

[59] For amendments to major capex projects and for sunk cost adjustments to abandoned major capex projects, see the overview in Attachment A.

97. Output mechanisms in the capex IM aim to counter any incentives for Transpower to under-deliver on any outputs agreed at the time we set the base capex allowance or approve major capex.[60] This is intended to help ensure the appropriate level of service is delivered, and also provides visibility to stakeholders of the outputs delivered.

98. An overview of all of the incentive mechanisms that apply to Transpower in the capex IM, the Transpower IMs and the RCP2 IPP is included in Attachment A of this paper.

99. Questions we might consider under this proposed focus area include:

    99.1 Whether the incentive mechanisms described in Attachment A are targeting the right things and whether there is evidence that they influence Transpower's behaviour in the ways we intended.

    99.2 Whether or not these incentive mechanisms, individually or together, have been shown in practice to reward Transpower (or penalise it, if appropriate) for things over which it has control, rather than those things over which Transpower has little or no control.

    99.3 Whether the incentive rates are set at an appropriate level.

    99.4 Whether any of the incentives that are currently in the capex IM are ineffective or would be better addressed outside of the capex IM and IPP processes.

    99.5 Whether the capex IM incentives work well with the quality standards that we set in the Transpower IPP Determination and whether any changes need to be made for them to work better together.

    99.6 Whether or not any of the capex IM incentive mechanisms are now redundant and no longer required on their own or in support of other incentive mechanisms.

    99.7 Whether there is a requirement for additional incentive mechanisms to provide support for the existing package of incentives.

[60] See 'grid outputs' for base capex and 'major capex project outputs' as defined in clause 1.1.5 of the capex IM.

100. The following are some examples of incentive issues that might be considered under the above questions:

100.1 The annual base capex expenditure adjustment does not currently take into account whether planned project outputs are delivered. Due to the substitutability of each year's base capex allowance between years in the regulatory period, this linkage does not typically get made until near the end of the regulatory period, which is when the next price-quality reset decision is made. Should a more direct annual linkage of the base capex allowance with the grid output mechanism be made?

100.2 The base capex annual policies and processes adjustment is an asymmetric penalty (ie, one way incentive) that requires Transpower to bear a portion of the cost of base capex assets where the applicable capex has not been subject to Transpower's policies and processes. The quantification under this penalty mechanism relies on disclosure by Transpower and on judgement by the Commission. There is a natural incentive on Transpower to minimise the amount that is disclosed as being non-compliant with the policies and processes. How effective is this incentive mechanism?

100.3 The major capex efficiency adjustment is an asymmetric reward to Transpower following each regulatory period for delivering efficiency savings across its major capex project portfolio. The quantification under this incentive mechanism again relies on disclosure by Transpower and on judgement by the Commission. There is a natural incentive on Transpower to overstate the efficiencies disclosed as qualifying for the incentive and understate any counterbalancing inefficiencies. How effective is this incentive mechanism?

100.4 The major capex overspend adjustment is an asymmetric penalty on Transpower for expenditure in excess of the approved allowance. Is this mechanism continuing to perform a useful function and, if so, are drafting changes needed to better reflect the policy intent? The incentive adjustment may not be effective due to:

100.4.1 Transpower's ability to apply under the capex IM for an increase in the major capex allowance;

100.4.2 The restriction on our ability to reduce the expenditure allowance below the original approved amount when we consider Transpower's application for an increase; and

100.4.3 The overspend adjustment being asymmetrical in Transpower's favour. This is because it does not apply unless Transpower exceeds its original approved allowance, irrespective of the fact that it would have exceeded its allowance had favourable CPI and FX movements been taken into account (ie, the disparities when the actual amounts of these indices are lower than the forecast values used in setting the major capex allowance). Transpower's ability to utilise favourable CPI and FX variances may not create the right incentives for Transpower.

100.5 The quality standards determined in the RCP2 Transpower IPP Determination currently include the following revenue-linked grid output measures:[61]

100.5.1 Measures of grid performance;

100.5.2 Asset performance measures;

100.5.3 Annual asset health grid output measures; and

100.5.4 Periodic (five-year) asset health grid output measures.

To what extent should quality standards be linked to revenue?

[61] The capex IM also provides for asset capability grid outputs measures to be included in the IPP as a revenue-linked quality standard, if proposed by Transpower (*Transpower Capital Expenditure Input Methodology Determination* [2012] NZCC 2, clause 2.2.2(1)). However, for RCP2 Transpower did not propose including asset capability grid outputs measures in the IPP (*Transpower Individual Price-Quality Path Determination 2015* [2014] NZCC 35, clause 14.1).

Proposed focus area 5: Is the capex IM too complex and prescriptive?

101. The final proposed focus area is about exploring opportunities to reduce complexity and compliance costs.

102. This differs from focus area 2 because:

102.1 focus area 2 is about ensuring we (and other stakeholders) focus our scrutiny where the greatest benefits are likely to result from that scrutiny; and

102.2 focus area 5 is about improving clarity, removing unnecessary complexity and reducing the costs (for Transpower and us) of complying with the capex IM.

103. For example, here we might consider:

103.1 Are there opportunities to streamline the process requirements for making and assessing capex proposals?[62]

103.2 Are there opportunities to simplify the incentive mechanisms without reducing their effectiveness?[63]

[62] For example, some of the process, information and evaluation requirements, such as Transpower seeking amendments to components, may be able to be simplified.

[63] The major capex efficiency incentives as specified are not easy to apply. There may be scope to make these more useful, incentivising Transpower to focus on areas that provide highest benefits such as innovation.

CHAPTER 4: Next steps

Purpose of this chapter

104. This chapter sets out the next steps and timeline for this phase of the capex IM review. It invites your submissions and cross-submissions on this paper, and also shows where on our website you can find information about the capex IM review.

Next steps

105. The next steps and timeline for this phase of the capex IM review are:

105.1 Knowledge sharing workshop – 24 May 2017.

105.2 Submissions on this paper due – 14 June 2017.

105.3 Cross-submissions on this paper due – 28 June 2017.

105.4 Once we have considered submissions and cross-submissions, we expect to issue an update outlining the next steps for the capex IM review – Q3 2017.

Knowledge sharing workshop

106. As discussed at paragraphs 24 to 25 above, to help inform your submissions on this paper, we plan to hold a knowledge sharing workshop for stakeholders on 24 May 2017.

107. Although we originally requested parties to register for the workshop by 12 May 2017, we are able to accept a limited number of late registrations. If you would like to attend the workshop, and have not yet registered, please RSVP by 5pm on 17 May 2017 to regulation.branch@comcom.govt.nz.

108. Those attending the knowledge sharing workshop should be aware that it will not be transcribed or recorded, and any points that submitters wish to make in response to this paper should be formalised in written submissions.

Submissions

109. We invite submissions on:

109.1 What the proposed focus areas for the review should be; and

109.2 Any specific problems that should be considered within those focus areas.

110. We invite your submissions by **5pm on 14 June 2017**. We then invite cross-submissions by **5pm on 28 June 2017**.

111. Please address submissions and cross-submissions to:

Keston Ruxton
Manager, EAD Regulation Development
Regulation Branch
regulation.branch@comcom.govt.nz

Updates to website

112. This paper and all other material relating to the capex IM review can be found on our website at: http://www.comcom.govt.nz/regulated-industries/input-methodologies-2/transpower-input-methodologies/capex-input-methodology-review/.

Attachment A: Overview of the Transpower incentives regime

Expenditure category	When forecast expenditure is initially approved	Incentives – forecast amounts vs actual amounts	Incentive process mechanism	How incentive mechanism is initiated	Effect and timing of mechanism	Comments
Major capex (1)	Major capex may be approved at any time during an RCP	Effect of capex overspend	Major capex overspend adjustment (capex IM clause 3.3.7(1) and Schedule B4)	Transpower provides the information each year (IPP clause 23.1.3(l)) and the adjustment is determined by the Commission as an EV account entry which is applied to a later update of the forecast MAR	• Overspend incentive effect on Transpower is NPV negative • Total actual capex enters the RAB when assets are commissioned • An adjustment for the sum total of incentive adjustments on commissioned projects is given effect through the EV account in the IPP determination • The RAB value and incentive adjustment will only impact the forecast MAR in the RCP if the project is approved (and assets are commissioned) in the first 3 disclosure years of the RCP • Any balance in the EV account carried forward to a future forecast MAR in the current or next RCP is adjusted by the WACC rate	This overspend incentive is a potential penalty calculated at the completion of a major capex project. Transpower bears 100% of costs in excess of total approved project costs

Expenditure category	When forecast expenditure is initially approved	Incentives – forecast amounts vs actual amounts	Incentive process mechanism	How incentive mechanism is initiated	Effect and timing of mechanism	Comments
Major capex (2)	Major capex may be approved at any time during an RCP	Wash-up for actual vs forecast inputs to major capex (correction of overspend adjustment for disparity between forecast CPI/FX and actual CPI/FX)	Major capex overspend adjustment (capex IM clause 3.3.7(1) and Schedule B4 terms *p* and *q*)	Transpower provides the information each year (IPP clause 23.1.3(l)) and the overspend adjustment is determined by the Commission as an EV account entry which is applied to a later update of the forecast MAR	• The wash-up of forecast CPI and FX only applies if an overspend adjustment is required to be made at any stage during the RCP • Total actual capex enters the RAB when assets are commissioned (ie, based on actual CPI and FX)	This mechanism ensures that the overspend adjustment is based on the actual CPI and FX values

Expenditure category	When forecast expenditure is initially approved	Incentives – forecast amounts vs actual amounts	Incentive process mechanism	How incentive mechanism is initiated	Effect and timing of mechanism	Comments
Major capex (3)	Major capex may be approved at any time during an RCP	Effect of capex underspend	Major capex efficiency adjustment (if cost decreases are due to efficiency gains) (capex IM clause 4.1.1 and Schedule B7)	Transpower may apply for an efficiency adjustment (capex IM clause 4.1.1(1)) and the adjustment is determined by the Commission as an EV account entry which is applied to a later forecast MAR (capex IM clause 4.1.1(1))	• Efficiency incentive effect on Transpower is NPV positive • Total actual capex enters the RAB when assets are commissioned • The incentive adjustment is given effect through the EV account in the IPP determination • The determination of the adjustment is carried out after the end of the RCP • This incentive adjustment will only impact the forecast MAR in the next RCP • Any balance in the EV account is carried forward to a future forecast MAR in the next RCP, and is adjusted by the WACC rate	The Commission will calculate a value for net efficiency once per RCP. The major capex incentive rate is 33%. This is the only major capex adjustment that applies to the portfolio of major capex projects as a whole

Expenditure category	When forecast expenditure is initially approved	Incentives – forecast amounts vs actual amounts	Incentive process mechanism	How incentive mechanism is initiated	Effect and timing of mechanism	Comments
Major capex (4)	Major capex may be approved at any time during an RCP	Wash-up for forecast vs actual capex amounts applied in the forecast MAR in the price-quality path	Annual wash-up of the forecast MAR (IPP clause 22.1.1 and Schedule D for the setting of forecast major capex in the forecast MAR, and clause 21.1.3 and Schedule E for the application of actual major capex in the wash-up of the forecast MAR)	Transpower provides the information each year to enable the Commission to determine an update of the forecast MAR that takes account of the forecast MAR wash-up in respect of a preceding year (IPP clauses 9, 22 and 24)	• Total actual capex enters the RAB when assets are commissioned • The annual wash-up is given effect through the EV account in the IPP determination • The RAB value and wash-up adjustment will only impact the forecast MAR in the RCP if the assets are commissioned in the first 3 disclosure years of the RCP • Any balance in the EV account carried forward to a future forecast MAR in the current or next RCP is adjusted by the WACC rate	The effect of the wash-up of forecast vs actual capex values means Transpower's revenue over time is adjusted to reflect actual major capex on an NPV basis

Expenditure category	When forecast expenditure is initially approved	Incentives – forecast amounts vs actual amounts	Incentive process mechanism	How incentive mechanism is initiated	Effect and timing of mechanism	Comments
Major capex (5)	Major capex may be approved at any time during an RCP	Effect of differences in capex project outputs	Major capex project output adjustment (capex IM clause 3.3.7(2) and Schedule B5)	Transpower provides the information each year (IPP clause 23.1.3(m)), with the adjustment determined by the Commission as an EV account entry which is applied to a later update of the forecast MAR	• Output incentive effect on Transpower is NPV negative • Total actual capex enters the RAB when assets are commissioned • An adjustment for the sum total of incentive adjustments on commissioned projects is given effect through the EV account in the IPP determination • The incentive adjustment will only impact the forecast MAR in the RCP if the project is approved (and assets are commissioned) in the first 3 disclosure years of the RCP • Any balance in the EV account carried forward to a future forecast MAR in the current or next RCP is adjusted by the WACC rate	This adjustment is a penalty if Transpower does not deliver the agreed-upon project outputs. The major capex incentive rate is 33%

Expenditure category	When forecast expenditure is initially approved	Incentives – forecast amounts vs actual amounts	Incentive process mechanism	How incentive mechanism is initiated	Effect and timing of mechanism	Comments
Major capex (6)	Major capex may be approved at any time during an RCP	Effect of differences in approved major capex project (major capex allowance, maximum recoverable costs, recovery scheme for recoverable costs, approved major capex project outputs or approval expiry date)	Transpower may apply for an amendment to an approved investment (capex IM clauses 3.3.4(1) and 7.4.2)	Transpower may apply up until the end of September following the disclosure year in which the major capex project is commissioned (or six weeks prior to the approval expiry date in the case of the approval expiry date) for the Commission to approve the project to be amended	• The incentive effect on Transpower is NPV positive • Total actual capex enters the RAB when assets are commissioned • Amended forecast capex is washed up under the capex wash-up mechanism • Any approved amended project values are applied for the purposes of the incentive mechanisms (eg, overspend, efficiency or outputs) and the wash-up mechanism	Allows Transpower to amend approved projects that may have been approved well in advance of construction, and where the actual costs and timing of the investment become clear

Expenditure category	When forecast expenditure is initially approved	Incentives – forecast amounts vs actual amounts	Incentive process mechanism	How incentive mechanism is initiated	Effect and timing of mechanism	Comments
Major capex (7)	Major capex may be approved at any time during an RCP	Project started but never commissioned (ie, capex does not enter the RAB)	Major capex sunk costs adjustment (capex IM, clauses 3.3.5(1), 6.1.1(6) and Schedule B6)	Transpower may apply prior to the commissioning date of a major capex project for a sunk costs adjustment and provide the necessary information each year (IPP clause 23.1.3(n)) and the Commission may calculate and approve the adjustment as an EV account entry which is applied to a later update of the forecast MAR	• The incentive effect on Transpower is NPV positive • Actual commissioned capex enters the RAB when assets are commissioned (excludes any amount not commissioned by virtue of this adjustment) • Amended forecast capex is washed up under the wash-up mechanism • An adjustment for the sum total of incentive adjustments on sunk cost projects is given effect through the EV account in the IPP determination • Any balance in the EV account carried forward to a future forecast MAR in the current or next RCP is adjusted by the WACC rate	Allows Transpower to avoid being exposed to costs where a major capex project is wholly or partially abandoned for a good reason

Expenditure category	When forecast expenditure is initially approved	Incentives – forecast amounts vs actual amounts	Incentive process mechanism	How incentive mechanism is initiated	Effect and timing of mechanism	Comments
Major capex (8)	Major capex may be approved at any time during an RCP	Project does not proceed	Transpower may apply for an amendment to an approved investment (capex IM clauses 3.3.4(1) and 7.4.2)	Transpower may apply up until six weeks prior to the approval expiry date for the Commission to approve the project to be amended	• Actual commissioned capex enters the RAB when assets are commissioned (excludes any amount not commissioned by virtue of this adjustment) • Forecast capex for a project that does not proceed is washed up under the capex wash-up mechanism • Any approved amended project values are applied for the purposes of the incentive mechanisms (eg, overspend, efficiency or outputs) and the wash-up mechanism	
Major capex (9)	Major capex may be approved at any time during an RCP	Effect of changes in Transpower's policies and processes	Not applicable – applies to base capex only	Not applicable – applies to base capex only	Not applicable – applies to base capex only	Major capex projects have no adjustment for changes in policies and processes (base capex does)

Expenditure category	When forecast expenditure is initially approved	Incentives – forecast amounts vs actual amounts	Incentive process mechanism	How incentive mechanism is initiated	Effect and timing of mechanism	Comments
Base capex (1)	The base capex allowance applicable to each year of the RCP is set by the Commission prior to the start of the RCP	Effect of capex overspend	Annual base capex expenditure adjustment (capex IM clause 3.2.3(1)(a) and Schedule B1)	Transpower provides the information each year (IPP clause 23.1.3(j)), and the adjustment is determined by the Commission as an EV account entry which is applied to a later forecast of the forecast MAR	• The overspend incentive effect on Transpower is NPV negative • Total actual capex enters the RAB when assets are commissioned • An adjustment for the sum total of incentive adjustments on commissioned projects is given effect through the EV account in the IPP determination • The RAB value and incentive adjustment will only impact the forecast MAR in the RCP if the project is approved (and assets are commissioned) in the first 3 disclosure years of the RCP • Any balance in the EV account carried forward to a future forecast MAR in the current or next RCP is adjusted by the WACC rate	The 33% base capex incentive rate applies to both over- and under-spends, ie, Transpower retains or bears 33% of any savings or overspends in base capex

Expenditure category	When forecast expenditure is initially approved	Incentives – forecast amounts vs actual amounts	Incentive process mechanism	How incentive mechanism is initiated	Effect and timing of mechanism	Comments
Base capex (2)	The base capex allowance applicable to each year of the RCP is set by the Commission prior to the start of the RCP	Effect of capex underspend	Annual base capex expenditure adjustment (capex IM clause 3.2.3(1)(a) and Schedule B1)	Transpower provides the information each year (IPP clause 23.1.3(j)), and the adjustment is determined by the Commission as an EV account entry which is applied to a later forecast of the forecast MAR	• The underspend incentive effect on Transpower is NPV positive • Total actual capex enters the RAB when assets are commissioned • An adjustment for the sum total of incentive adjustments on commissioned projects is given effect through the EV account in the IPP determination • The RAB value and incentive adjustment will only impact the forecast MAR in the RCP if the assets are commissioned in the first 3 disclosure years of the RCP • Any balance in the EV account carried forward to a future forecast MAR in the current or next RCP is adjusted by the WACC rate	The 33% base capex incentive rate applies to both over- and under-spends, ie, Transpower retains or bears 33% of any savings or overspends in base capex

Expenditure category	When forecast expenditure is initially approved	Incentives – forecast amounts vs actual amounts	Incentive process mechanism	How incentive mechanism is initiated	Effect and timing of mechanism	Comments
Base capex (3)	The base capex allowance applicable to each year of the RCP is set by the Commission prior to the start of the RCP	Wash-up for actual vs forecast expenditure (correction of overspend/ underspend adjustments for disparity between forecast CPI/FX and actual CPI/FX)	Annual base capex expenditure adjustment (capex IM clause 3.2.3(1)(a) and Schedule B1, terms '*e*' and '*f*')	Transpower provides the information each year (IPP clause 23.1.3(j)), and the adjustment is determined by the Commission as an EV account entry which is applied to a later forecast of the forecast MAR	• Total actual capex enters the RAB when assets are commissioned (ie, based on actual CPI and FX)	This adjustment ensures that the overspend and underspend adjustments are based on the actual CPI and FX values

Expenditure category	When forecast expenditure is initially approved	Incentives – forecast amounts vs actual amounts	Incentive process mechanism	How incentive mechanism is initiated	Effect and timing of mechanism	Comments
Base capex (4)	The base capex allowance applicable to each year of the RCP is set by the Commission prior to the start of the RCP	Wash-up for forecast vs actual capex amounts applied in the forecast MAR in the price-quality path	Annual wash-up of the forecast MAR (IPP Schedule D for the setting of forecast base capex in the forecast MAR, and clauses 21.1.1, 21.1.3 and Schedule E for the application of actual base capex in the wash-up of the forecast MAR)	Transpower provides the information each year to enable the Commission to determine an update of the forecast MAR that takes account of the forecast MAR wash-up in respect of a preceding year (IPP clauses 9, 22 and 24)	• Total actual capex enters the RAB when assets are commissioned • The annual wash-up is given effect through the EV account in the IPP determination • The RAB value and wash-up adjustment will only impact the forecast MAR in the RCP if the assets are commissioned in the first 3 disclosure years of the RCP • Any balance in the EV account carried forward to a future forecast MAR in the current or next RCP is adjusted by the WACC rate	The effect of the wash-up of forecast vs actual capex values means Transpower's revenue over time is adjusted to reflect actual base capex on an NPV basis

Expenditure category	When forecast expenditure is initially approved	Incentives – forecast amounts vs actual amounts	Incentive process mechanism	How incentive mechanism is initiated	Effect and timing of mechanism	Comments
Base capex (5)	The base capex allowance applicable to each year of the RCP is set by the Commission prior to the start of the RCP	Effect of differences in capex project outputs	Grid output adjustments (capex IM clause 3.2.3(1)(c) and Schedule B3)	Transpower proposes grid output measures for Commission approval prior to the RCP, Transpower provides the information each year (IPP clause 23.1.3(i)), and the adjustment is determined by the Commission as an EV account entry which is applied to a later forecast of the forecast MAR	• The output incentive effect on Transpower can be NPV positive or negative within the range of the cap and collar for each grid output measure • An adjustment for the sum total of incentive adjustments is given effect through the EV account in the IPP determination • The incentive adjustment will only impact the forecast MAR in the RCP if they are made in respect of the first 3 disclosure years of the RCP	This is a symmetric incentive (ie, applies a penalty for underperformance and rewards performance over targets up to the cap in each case)
Base capex (6)	The base capex allowance applicable to each year of the RCP is set by the Commission prior to the start of the RCP	Effect of expenditure differences in project on which the approved base capex allowance was based	None	N/A	N/A	When the base capex allowance is approved, Transpower has discretion on how to use the allowance

Expenditure category	When forecast expenditure is initially approved	Incentives – forecast amounts vs actual amounts	Incentive process mechanism	How incentive mechanism is initiated	Effect and timing of mechanism	Comments
Base capex (7)	The base capex allowance applicable to each year of the RCP is set by the Commission prior to the start of the RCP	Project started but never commissioned (does not enter the RAB)	None	N/A	N/A	Transpower is not compensated for sunk costs (in comparison with the sunk cost adjustment for major capex projects). Costs must be absorbed within the opex allowance or by the shareholder
Base capex (8)	The base capex allowance applicable to each year of the RCP is set by the Commission prior to the start of the RCP	Project does not proceed	None	N/A	N/A	Approved base capex can be applied towards other projects. Transpower is not compensated for opex sunk costs incurred in planning for the project. Those costs must be absorbed within the opex allowance or by the shareholder

Expenditure category	When forecast expenditure is initially approved	Incentives – forecast amounts vs actual amounts	Incentive process mechanism	How incentive mechanism is initiated	Effect and timing of mechanism	Comments
Base capex (9)	The base capex allowance applicable to each year of the RCP is set by the Commission prior to the start of the RCP	Effect of changes in Transpower's policies and processes	Annual base capex policies and processes adjustment (capex IM clause 3.2.3(1)(b) and Schedule B2)	Transpower provides the information each year (IPP clause 23.1.3(k)), and the adjustment is determined by the Commission as an EV account entry which is applied to a later forecast of the forecast MAR	• The policies and processes incentive effect on Transpower is NPV negative • The incentive adjustment is given effect annually through the EV account in the IPP determination • The incentive adjustment will only impact the forecast MAR in the RCP if it is made in respect of the first 3 disclosure years of the RCP	The adjustment is an asymmetric penalty, with an incentive rate of 33%
Listed projects base capex (1)	Qualifies for inclusion as listed project before the commencement of the RCP, and an addition to the base capex expenditure allowance is able to be approved during RCP	Effect of capex overspend	This is the same as for any other base capex project once there is an approved additional base capex allowance (capex IM Schedule B1, clause 1.1.5(2) definition of 'adjusted base capex allowance' and clause 3.2.4(4))			

Expenditure category	When forecast expenditure is initially approved	Incentives – forecast amounts vs actual amounts	Incentive process mechanism	How incentive mechanism is initiated	Effect and timing of mechanism	Comments
Listed projects base capex (2)	Qualifies for inclusion as listed project before the commencement of the RCP, and an addition to the base capex expenditure allowance is able to be approved during RCP	Effect of capex underspend	This is the same as for any other base capex project once there is an approved additional base capex allowance (capex IM Schedule B1, clause 1.1.5(2) definition of 'adjusted base capex allowance' and clause 3.2.4(4))			
Listed projects base capex (3)	Qualifies for inclusion as listed project before the commencement of the RCP, and an addition to the base capex expenditure allowance is able to be approved during RCP	Wash-up for actual vs forecast inputs to base capex (correction of overspend and underspend adjustments for disparity between forecast CPI/FX and actual CPI/FX)	This is the same as for any other base capex project once there is an approved additional base capex allowance. Forecast CPI and forecast FX values for an approved additional base capex allowance are to be the same as when setting the base capex allowance prior to the RCP (capex IM Schedule B1, clause 1.1.5(2) definition of 'adjusted base capex allowance' and clause 3.2.4(5))			

Expenditure category	When forecast expenditure is initially approved	Incentives – forecast amounts vs actual amounts	Incentive process mechanism	How incentive mechanism is initiated	Effect and timing of mechanism	Comments
Listed projects base capex (4)	Qualifies for inclusion as listed project before the commencement of the RCP, and an addition to the base capex expenditure allowance is able to be approved during RCP	Wash-up for forecast vs actual capex amounts applied in the forecast MAR in the price-quality path	This is the same as for any other base capex project once there is an approved additional base capex allowance (capex IM Schedule B1, clause 1.1.5(2) definition of 'adjusted base capex allowance' and clause 3.2.4(4))			
Listed projects base capex (5)	Qualifies for inclusion as listed project before the commencement of the RCP, and an addition to the base capex expenditure allowance is able to be approved during RCP	Effect of differences in grid outputs	For an approved listed project this is the same as for any other base capex project once the listed project has an approved additional base capex allowance			

Expenditure category	When forecast expenditure is initially approved	Incentives – forecast amounts vs actual amounts	Incentive process mechanism	How incentive mechanism is initiated	Effect and timing of mechanism	Comments
Listed projects base capex (6)	Qualifies for inclusion as listed project before the commencement of the RCP, and an addition to the base capex expenditure allowance is able to be approved during RCP	Effect of differences in listed project	No expenditure allowance is set before the RCP (capex IM clause 2.2.3), application for approval of expenditure may be made up to 22 months before the end of the RCP (capex IM clause 3.2.4(1)), additional expenditure allowance is evaluated and approved by the Commission during the RCP (clause 3.2.4(4))	Transpower may submit an application for approval of additional base capex allowance for a project already listed in the IPP (capex IM clause 3.2.4 (1) and (2) and IPP Schedule I)	Transpower price path is reconsidered in the annual update of the forecast MAR to take into account the revenue effect of the forecast commissioning of any approved additional base capex (Transpower IM clauses 3.7.4(5)and 3.7.5(2)(g)(ii))	The price path reconsideration takes into account in an RCP any forecast commissioning of approved additional listed project capex. Once the additional base capex allowance is approved, Transpower has discretion on how to apply the additional base capex allowance

Expenditure category	When forecast expenditure is initially approved	Incentives – forecast amounts vs actual amounts	Incentive process mechanism	How incentive mechanism is initiated	Effect and timing of mechanism	Comments
Listed projects base capex (7)	Qualifies for inclusion as listed project before the commencement of the RCP, and an addition to the base capex expenditure allowance is able to be approved during RCP	Project started but never commissioned (ie, capex does not enter the RAB)	None	N/A	N/A	Transpower is not compensated for sunk costs (compared with sunk cost adjustment for major capex projects). Costs must be absorbed within the opex allowance or by the shareholder
Listed projects base capex (8)	Qualifies for inclusion as listed project before the commencement of the RCP, and an addition to the base capex expenditure allowance is able to be approved during RCP	Project does not proceed	None	N/A	N/A	Approved base capex can be applied towards other projects. Transpower is not compensated for opex sunk costs incurred in planning for the project. Those costs must be absorbed within the opex allowance or by the shareholder

Expenditure category	When forecast expenditure is initially approved	Incentives – forecast amounts vs actual amounts	Incentive process mechanism	How incentive mechanism is initiated	Effect and timing of mechanism	Comments
Listed projects base capex (9)	Qualifies for inclusion as listed project before the commencement of the RCP, and an addition to the base capex expenditure allowance is able to be approved during RCP	Effect of changes in Transpower's policies and processes	For an approved listed project this is the same as for any other base capex project once the listed project has an approved additional base capex allowance			
Opex (1)	The opex allowance applicable to each year of the RCP is set by the Commission prior to the start of the RCP	Effect of opex overspend	IRIS incentive (Transpower IM clauses 3.6.1 and 3.1.3(1)(a))	Transpower must calculate an opex incentive amount for each disclosure year of RCP3 based on the opex performance in RCP2, which will be treated as a recoverable cost in the price-quality path	• The incentive is NPV negative	

Expenditure category	When forecast expenditure is initially approved	Incentives – forecast amounts vs actual amounts	Incentive process mechanism	How incentive mechanism is initiated	Effect and timing of mechanism	Comments
Opex (2)	The opex allowance applicable to each year of the RCP is set by the Commission prior to the start of the RCP	Effect of opex underspend	IRIS (Transpower IM Determination: Part 3, subpart 6)	Transpower must calculate an opex incentive amount for each disclosure year of RCP3 based on the opex performance in RCP2, which will be treated as a recoverable cost in the price-quality path	• The incentive is NPV positive	

Expenditure category	When forecast expenditure is initially approved	Incentives – forecast amounts vs actual amounts	Incentive process mechanism	How incentive mechanism is initiated	Effect and timing of mechanism	Comments
Opex (3)	The opex allowance applicable to each year of the RCP is set by the Commission prior to the start of the RCP	Wash-up for actual vs forecast expenditure (correction of overspend/ underspend adjustments for disparity between forecast CPI/FX and actual CPI/FX)	No adjustment is made for actual expenditure, but the opex allowance for the purpose of the IRIS incentive is adjusted to reflect actual CPI and FX values for the purposes of the IRIS incentive calculation (IPP clause 11.2)	Transpower must calculate an IRIS opex incentive amount for each disclosure year of RCP3 based on the opex performance in RCP2, which will be treated as a recoverable cost in the price-quality path	• The IRIS incentive amount can be NPV positive or NPV negative	When the opex allowance is approved, Transpower has the discretion on how to use the allowance
Opex (4)	The opex allowance applicable to each year of the RCP is set by the Commission prior to the start of the RCP	Wash-up for forecast vs actual opex amounts applied in the forecast MAR in the price-quality path	None	N/A	N/A	When the opex allowance is approved, Transpower has the discretion on how to use the allowance

Expenditure category	When forecast expenditure is initially approved	Incentives – forecast amounts vs actual amounts	Incentive process mechanism	How incentive mechanism is initiated	Effect and timing of mechanism	Comments
Opex (5)	The opex allowance applicable to each year of the RCP is set by the Commission prior to the start of the RCP	Effect of output differences in project on which the approved opex allowance was based	Grid output adjustments (capex IM clause 3.2.3(1)(c) and Schedule B3)	Transpower proposes grid output measures for Commission approval prior to the RCP, Transpower provides the information each year (IPP clause 23.1.3(i)) and the adjustment is determined by the Commission as an EV account entry which is applied to a later forecast of the forecast MAR	• The output incentive effect on Transpower can be NPV positive or negative within the range of the cap and collar for each grid output measure • An adjustment for the sum total of incentive adjustments is given effect through the EV account in the IPP determination • The incentive adjustment will only impact the forecast MAR in the RCP if they are made in respect of the first 3 disclosure years of the RCP	When the opex allowance is approved, Transpower has the discretion on how to use the allowance
Opex (6)	The opex allowance applicable to each year of the RCP is set by the Commission prior to the start of the RCP	Effect of expenditure differences in project on which the approved opex allowance was based	None	N/A	N/A	When the opex allowance is approved, Transpower has the discretion on how to use the allowance

Expenditure category	When forecast expenditure is initially approved	Incentives – forecast amounts vs actual amounts	Incentive process mechanism	How incentive mechanism is initiated	Effect and timing of mechanism	Comments
Opex (7)	The opex allowance applicable to each year of the RCP is set by the Commission prior to the start of the RCP	Project started but never completed	None	N/A	N/A	When the opex allowance is approved, Transpower has the discretion on how to use the allowance. Transpower is not separately compensated for already incurred opex. These costs must be absorbed within the opex allowance or by the shareholder
Opex (8)	The opex allowance applicable to each year of the RCP is set by the Commission prior to the start of the RCP	Project does not proceed	None	N/A	N/A	When the opex allowance is approved, Transpower has the discretion on how to use the allowance

Expenditure category	When forecast expenditure is initially approved	Incentives – forecast amounts vs actual amounts	Incentive process mechanism	How incentive mechanism is initiated	Effect and timing of mechanism	Comments
Opex (9)	The opex allowance applicable to each year of the RCP is set by the Commission prior to the start of the RCP	Effect of changes in Transpower's policies and processes	None	N/A	N/A	When the opex allowance is approved, Transpower has the discretion on how to use the allowance

Attachment B: Decisions tables

113. This Attachment B includes:

113.1 a list of all IM determinations and reasons papers published by the Commission in respect of the capex IM (Table B1);

113.2 an outline of all of our decisions in the capex IM reasons paper and listed projects reasons paper (Table B2); and

113.3 an outline the decisions we have made in implementing the capex IM since 2012 (Table B3).

Table B1: IM determinations and reasons papers published by the Commission in respect of the capex IM

IM determination	Associated reasons paper	Brief description
Transpower Capital Expenditure Input Methodology Determination 2012 [2012] NZCC 2 (31 January 2012)	Transpower Capital Expenditure Input Methodology: Reasons Paper (31 January 2012)	Original capex IM determination (the "principal determination").
Error correction: repaired reference links in clause D1(2)(b) (2 February 2012)	N/A	Re-publication of the capex IM determination including repaired reference links in clause D1(2)(b).
Transpower Input Methodologies Amendments Determination 2014 [2014] NZCC 22 (28 August 2014)	Amendments to input methodologies for Transpower 2014: Reasons paper (28 August 2014)	Amendments to address issues relevant to the determination of Transpower's IPP that apply from 1 April 2015.
Transpower Input Methodologies Amendments Determination 2014 (No. 2) [2014] NZCC 34 (27 November 2014)	Amendments to input methodologies for Transpower to provide a listed project mechanism: Reasons paper (27 November 2014)	Amends the capex IM determination and, Transpower IM determination to provide a listed project mechanism in respect of electricity lines services supplied by Transpower.
Transpower Input Methodologies Amendment Determination 2015 [2015] NZCC 3 (5 February 2015)	Explanatory note provided in the determination.	This amendment corrects two errors identified post-publication in amendments to the Transpower Input Methodologies Amendments Determination 2014 [2014] NZCC 22 and in the Transpower Input Methodologies Amendments Determination 2014 (No.2) [2014] NZCC 34.

Table B2: Decisions in the capex IM reasons paper and listed project reasons paper

Commission decision	Reference in capex IM determination[64]	References in Transpower RCP2 IPP determination[65], Transpower IM determination[66] and ID determination[67]	Reference in capex IM reasons paper[68] and in listed projects (LP) reasons paper[69]
Interaction with the IPP			
All capital expenditure adjustments are to be applied as post-tax entries to the appropriate EV account		IPP clause 7, definition of 'EV account entry'	Chapter 2 paragraph 2.3.7
Calculations relating to adjustments for base capex and grid outputs	Schedule B Division 1	IPP clause 23.1.3(i), (j) and (k)	Chapter 2 Section 2.3
Calculations relating to major capex adjustments	Schedule B Division 2	IPP clause 23.1.3(l), (m) and (n)	Chapter 2 Section 2.3
Major capex adjustments are EV account entries		IPP clause 7 definition of 'EV account entry'	Chapter 2 Section 2.3
Transpower must calculate EV adjustments that attribute the balances of the EV accounts to the update of the forecast MAR		IPP clause 24	Chapter 2 Section 2.3

64 Commerce Commission, "Transpower Capital Expenditure Input Methodology Determination [2012] NZCC 2, consolidating all amendments to 5 February 2015".
65 Commerce Commission, "Transpower Individual Price-Quality Path Determination [2014] NZCC 35, consolidating all amendments as of 4 November 2016".
66 Commerce Commission, "Transpower Input Methodologies Determination 2010 [2012] NZCC 17, consolidating all amendments to 28 February 2017".
67 Commerce Commission, "Transpower Information Disclosure Determination [2014] NZCC 5".
68 Commerce Commission, "Transpower Capital Expenditure Input Methodology, Reasons Paper", (31 January 2012).
69 Commerce Commission, "Amendments to input methodologies for Transpower to provide a listed project mechanism - Reasons paper", (27 November 2014).

The Commission has discretion to spread an EV adjustment over a number of years where the EV adjustment would result in an unacceptable price shock		IPP clause 25	Chapter 2 paragraph 2.3.8
Capex IM – core framework			
Capex IM applies to capital expenditure related to the provision of regulated services intended to enter Transpower's RAB	Clauses 1.1.2, 1.1.5		Chapter 2 Section 2.4
Capital expenditure definition under the capex IM includes non-transmission solutions	Clause 1.1.5		Chapter 2 Section 2.4
The capex IM does not apply to capital expenditure relating to new investment contracts (NICs)	Clause 1.1.5; Schedule D, clause D2		Chapter 2 paragraph 2.4.14
Capital expenditure requiring approval is classified as either base capex or major capex	Clause 1.1.5		Chapter 2 Section 2.4
Integrated transmission plan for capital expenditure expected to be incurred over the next ten years to be submitted by Transpower and updated annually	Clauses 2.1.1, 3.1.1, 7.2.1; Schedule E, clause E1		Chapter 2 Section 2.4
Base capex allowance to be approved for each year of the regulatory period	Clause 2.2.2	IPP clause 23.2.3	Chapter 2 Section 2.4
Major capex to be assessed and approved by applying the capex IM	Part 3 (subpart 3), 6 and 8		Chapter 2 Section 2.4
No substitution between major capex projects	Clause 1.1.5		Chapter 2 Section 2.4
Incentive regime to apply to base capex	Clause 3.2.3		Chapter 2 Section 2.4

Incentive regime to apply to major capex	Clauses 3.3.5 to 3.3.7; Clause 4.1.1		Chapter 2 Section 2.4
SOSPA capital expenditure not assessed under the capex IM	Clause 1.1.5		Chapter 2 paragraph 2.4.14
Categories and definitions for capital expenditure			
Capital expenditure requiring approval is classified as base capex or major capex	Clause 1.1.5		Chapter 2 Section 2.5
Adjustment made to the base capex allowances for a project that subsequently becomes a major capex project	Schedule B, clause B1(1), term 'g'		Chapter 2 paragraphs 2.6.1, 2.6.2
Situations in which capital expenditure may be recategorised			
Base capex proposal identifies the projects that are forecast to be undertaken during the next regulatory period	Schedule F, clauses F2(1)		Chapter 2 Section 2.6
Commission evaluates the projects in the identified programme and approves the base capex allowance	Schedule A, clause A2, and clause 2.2.2(1)(a)		Chapter 2 Section 2.6
Transpower to report annual information on approved base capex projects in accordance with ID Determinations or s 53ZD notice issued by the Commission	Schedule B, clause B1(1), term 'g'		Chapter 2 Section 2.6

Base capex allowance to be adjusted in calculating the base capex expenditure adjustment when Transpower applies for a previously approved base capex project to become a major capex project	Schedule B, clause B1(1)		Chapter 2 Section 2.6
Integrated transmission plan			
Requirement to submit an integrated transmission plan	Clause 2.1.1(1)		Chapter 2 Section 2.7
Requirement to make each integrated transmission plan publicly available	Clause 2.1.1(2)		Chapter 2 Section 2.7
Required to cover a period of at least ten disclosure years	Schedule E, clause E1		Chapter 2 Section 2.7
Information to be included in each integrated transmission plan, and supporting documents to be provided	Schedule E, clauses E2 and E3		Chapter 2 Section 2.7
Annual requirement to update the integrated transmission plan	Clause 3.1.1		Chapter 2 Section 2.7
Classification of transmission alternatives			
Expenditure on transmission alternatives may comprise operating expenditure, base capex or non-transmission solutions	Clause 1.1.5		Chapter 2 Section 2.8
Operating expenditure is approved under the IPP determination			Chapter 2 Section 2.8
Base capex proposals are approved under the capex IM	Clause 2.2.2		Chapter 2 Section 2.8
Non-transmission solutions are categorised as major capex and are approved as major capex proposals under the capex IM	Clause 3.3.2		Chapter 2 Section 2.8

Definition of non-transmission solutions			
Transmission alternative that avoids or defers expenditure that be major capex and would meet the investment test is defined to be a non-transmission solution	Clause 1.1.5		Chapter 2 paragraphs 2.8.16 to 2.8.20
For approval purposes, a non-transmission solution is treated under the capex IM as if it is a capital expenditure amount	Clause 1.1.5		Chapter 2 paragraphs 2.8.16 to 2.8.20
Approval and cost recovery of non-transmission solutions			
The asset related-portion portion of a non-transmission solution is approved and recovered by Transpower as a transmission investment, subject to a major capex allowance and a commissioning date assumption	Clauses 3.3.3(5)(a), 3.3.3(5)(g)		Chapter 2 paragraphs 2.8.21 to 2.8.25
The non-asset related expenditure portion of a non-transmission solution is subject to maximum recoverable costs and a completion date assumption	Clauses 3.3.3(5)(b), 3.3.3(5)(c), 3.3.3(5)(h)		Chapter 2 paragraphs 2.8.21 to 2.8.25
The non-asset related expenditure portion of a non-transmission solution is recoverable as a recoverable cost under a defined recovery scheme that attributes the maximum recoverable costs to disclosure years, including by way of formulae	Clause 1.1.5		Chapter 2 paragraphs 2.8.21 to 2.8.25
Incremental rolling incentive scheme (IRIS)			
The IRIS is symmetrical from RCP2		IM Part 3 Subpart 6 Section 1	Chapter 2 Section 2.9

Base capex expenditure adjustment			
Commission requirement to calculate the expenditure adjustment annually	Clause 3.2.1(1)(a)		Chapter 3 Section 3.3
Incentive adjustment information requirements	Clauses 3.2.3(2), 3.2.3(3)		Chapter 3 Section 3.3
Formula for calculating the expenditure adjustment	Schedule B, clause B1		Chapter 3 Section 3.3
Commission publishes the expenditure adjustment decision	Clause 3.2.3(5)		Chapter 3 Section 3.3
Transpower records the EV account entry		IPP clause 7, definition of 'EV account entry'	Chapter 3 Section 3.3
Grid output adjustment – development of output measures			
Transpower base capex proposal to include proposed grid output measures	Schedule F, clauses F11 to F13		Chapter 3 paragraphs 3.4.6 to 3.4.10
Grid output adjustment - framework			
Commission requirement to calculate the output adjustment annually	Clause 3.2.3(1)(c)		Chapter 3 paragraphs 3.4.11 to 3.4.16
Output adjustment information requirements	Clauses 3.2.3(2), 3.2.3(3)		Chapter 3 paragraphs 3.4.11 to 3.4.16

Formula for calculating an output adjustment for each grid output measure and accumulation of results into overall output adjustment	Schedule B, clause B3		Chapter 3 paragraphs 3.4.11 to 3.4.16
Commission publishes output adjustment decision	Clause 3.2.3(5)		Chapter 3 paragraphs 3.4.11 to 3.4.16
Transpower records EV account entry		IPP clause 7, definition of 'EV account entry'	Chapter 3 paragraphs 3.4.11 to 3.4.16
Grid output adjustment - process			
Transpower information requirements and base capex proposal	Clauses 2.2.1, 2.2.2(3)		Chapter 3 paragraphs 3.4.17 to 3.4.23
Commission consultation requirements	Clause 8.1.1		Chapter 3 paragraphs 3.4.17 to 3.4.23
Commission consideration of grid output measures to apply	Schedule A, clause A4		Chapter 3 paragraphs 3.4.17 to 3.4.23
Commission consideration of revenue-linked output measures to apply	Schedule A, clause A5		Chapter 3 paragraphs 3.4.17 to 3.4.23

Commission consideration for caps, collars, targets, incentive rates to apply	Schedule A, clause A6		Chapter 3 paragraphs 3.4.17 to 3.4.23
Commission determination of grid output measures, caps, collars, incentive rate, targets and incentive rate	Clauses 2.2.2(1)(c) and 2.2.1(1)(d)		Chapter 3 paragraphs 3.4.17 to 3.4.23
Commission publication of decisions	Clause 2.2.2(5)		Chapter 3 paragraphs 3.4.17 to 3.4.23
Base capex policies and processes adjustment			
Transpower to undertake cost-benefit analysis and consultation for base capex projects or programmes exceeding $20 million	Clauses 3.2.1, 8.1.2		Chapter 3 Section 3.5
Transpower requirements to act in accordance with each policy specified in its base capex proposal	Clause 3.2.2		Chapter 3 Section 3.5
Commission requirement to calculate the policies and processes adjustment annually	Clause 3.2.3(1)(b)		Chapter 3 Section 3.5
Policies and processes adjustment information requirements	Clauses 3.2.3(2), 3.2.3(3)		Chapter 3 Section 3.5
Formula for calculating the policies and processes adjustment	Schedule B, clause B2, subject to clause 3.2.3(4)		Chapter 3 Section 3.5
Commission publishes policies and processes adjustment decision	Clause 3.2.3(5)		Chapter 3 Section 3.5

Transpower records EV account entry		IPP clause 7, definition of 'EV account entry'	Chapter 3 Section 3.5
Base capex incentive rates			
Set rate for base capex expenditure adjustment – RCP2	Clause 2.2.2(1)(b)		Chapter 3 Section 3.6
Set rates for grid output adjustment – RCP2	Clause 2.2.2(1)(d)(iii)		Chapter 3 Section 3.6
Set rate for base capex policies and processes adjustment – RCP2	Clause 2.2.2(1)(b)		Chapter 3 Section 3.6
Major capex efficiency adjustment			
Commission determines major capex incentive rate	Clause 2.3.1		Chapter 4 Section 4.2
Major capex efficiency adjustment applications	Clause 4.1.1(1)		Chapter 4 Section 4.2
Timing for major capex efficiency adjustment applications	Clause 4.1.1(1)		Chapter 4 Section 4.2
Incentive adjustment information requirements – set out in information disclosure determination	Clauses 4.1.1(2)(a), 4.1.1(3)		Chapter 4 Section 4.2
Evaluation criteria for assessing major capex efficiencies for calculating incentive adjustment applications	Clause 6.1.1(7)		Chapter 4 Section 4.2
Formula for calculating incentive adjustment	Schedule B, clause B7		Chapter 4 Section 4.2
Commission's decision by the end of November	Clause 4.1.1(1)		Chapter 4 Section 4.2
Commission publishes its decision	Clause 4.1.1(4)		Chapter 4 Section 4.2

Transpower records EV account entry		IPP clause 7, definition of 'EV account entry'	Chapter 4 Section 4.2
Major capex project output adjustment - framework			
Commission determines incentive rate	Clause 2.3.1		Chapter 4 paragraphs 4.3.1 to 4.3.8
Output adjustment information requirements	Clauses 3.3.6(2), 3.3.7(3), 3.3.7(5)		Chapter 4 paragraphs 4.3.1 to 4.3.8
Commission calculation of output adjustment annually	Clause 3.3.7(2)		Chapter 4 paragraphs 4.3.1 to 4.3.8
Formula for calculating output adjustment	Schedule B, clause B5		Chapter 4 paragraphs 4.3.1 to 4.3.8
The Commission publishes its decision	Clause 3.3.7(6)		Chapter 4 paragraphs 4.3.1 to 4.3.8
Transpower records EV account entry		IPP clause 7, definition of 'EV account entry'	Chapter 4 paragraphs 4.3.1 to 4.3.8
Major capex project output adjustment - process			
Transpower specification of major capex project outputs in each major capex proposal	Schedule G, clause G6		Chapter 4 paragraphs 4.3.9 to 4.3.15

Transpower to report on the major capex projects outputs achieved for commissioned projects	Clause 3.3.6(2)		Chapter 4 paragraphs 4.3.9 to 4.3.15
Commission decision on whether the approved major capex outputs were met	Clause 3.3.6(1)		Chapter 4 paragraphs 4.3.9 to 4.3.15
Commission publishes its decision on whether the approved major capex project outputs were met	Clause 3.3.6(3)		Chapter 4 paragraphs 4.3.9 to 4.3.15
Major capex project output adjustment – development of output measures			
Transpower to propose major capex project outputs for each investment option in a major capex proposal	Schedule G, clause G6		Chapter 4 paragraphs 4.3.16 to 4.3.21
Major capex project output measures to reflect nature and quantum of a transmission investment	Schedule G, clause G6(3)(b)(i)		Chapter 4 paragraph 4.3.17
Major capex project output measures for a non-transmission solution to reflect the nature and quantum of services provided to Transpower	Schedule G, clause G6(3)(b)(iv)		Chapter 4 paragraph 4.3.18
Major capex project output measures to reflect the change in functional capability of the grid from the transmission investment or non-transmission solution	Schedule G, clause G6(3)(b)(ii)		Chapter 4 paragraphs 4.3.17, 4.3.18

Major capex project measures must be consistent with key assumptions in the major capex proposal	Schedule G, clause G6(3)(b)(iii)		Chapter 4 paragraphs 4.3.16 to 4.3.21
Major capex project output measures must be consistent with costs and benefits taken into account in the investment test	Schedule G, clause G6(3)(a)		Chapter 4 paragraphs 4.3.16 to 4.3.21
Major capex overspend adjustment			
Major capex overspend adjustment information requirements	Clauses 3.3.7(3), 3.3.7(5)		Chapter 4 Section 4.4
Commission calculation of major capex overspend adjustment annually	Clause 3.3.7(1)		Chapter 4 Section 4.4
Formula for calculating major capex overspend adjustment	Schedule B, clause B4		Chapter 4 Section 4.4
Commission publishes its decision	Clause 3.3.7(6)		Chapter 4 Section 4.4
Transpower records EV account entry		IPP clause 7, definition of 'EV account entry'	Chapter 4 paragraph 4.4.3
Sunk costs adjustment			
Transpower application for sunk costs adjustment	Clause 3.3.5		Chapter 4 Section 4.5
The timing requirements that limits sunk cost applications to no later than six weeks after the approval expiry date of a project, subject to Commission approval for a time extension	Clauses 7.4.3(1)(a), 7.4.3(2)		Chapter 4 paragraph 4.5.2

Information requirements for sunk costs applications	Clauses 3.3.5(3), 7.4.3(1) and Schedule H, clauses H25 to H30		Chapter 4 Section 4.5
Commission criteria for assessing a sunk costs adjustment application	Clause 6.1.1(6)		Chapter 4 Section 4.5
Formula for calculating sunk costs adjustment	Schedule B, clause B6		Chapter 4 Section 4.5
Commission publishes its decision	Clause 3.3.5(5)		Chapter 4 Section 4.5
Transpower records EV account entry		IPP clause 7, definition of 'EV account entry'	Chapter 4 paragraphs 4.5.3
Major capex incentive rates			
Set rate for major capex overspend adjustment	Schedule B, clauses B4(1) and B4(3)		Chapter 4 paragraph 4.6.3
Set rate for major capex sunk costs adjustment	Schedule B, clause B6		Chapter 4 paragraph 4.6.4
Set rates for major capex project output adjustment and major capex efficiency adjustment – RCP1	Clause 2.3.1(1)		Chapter 4 Table 4.1
Set rate for major capex project output adjustment and major capex efficiency adjustment prior to regulatory period – RCP2	Clause 2.3.1(2)		Chapter 4 Table 4.1
Publish determination of major capex project output adjustment and major capex efficiency adjustment rates – RCP2.	Clause 2.3.1(3)		Chapter 4 Table 4.1

Process for agreeing the quantitative information requirements			
Commission and Transpower to commence pre-proposal process on the first working day of November, one year in advance of the December when the base capex proposal is due for submission.	Clause 2.2.1(1)		Chapter 5 Section 5.2
Commission and Transpower use reasonable endeavours to agree regulatory templates by the last working day of February prior to the December when the base capex proposal is due for submission.	Clause 2.2.1(1)(a)		Chapter 5 Section 5.2
Commission and Transpower must use reasonable endeavours to agree criteria to identify the projects and programmes for review, by the last working day of February prior to the December when the base capex proposal is due for submission.	Clause 2.2.1(1)(b)		Chapter 5 Section 5.2
For the purpose of agreeing criteria, identified programmes are to be defined by reference to specified categories and limitations.	Schedule F, clause F2		Chapter 5 Section 5.2
Where no agreement is reached on regulatory templates or criteria for identifying projects or programmes, the Commission may specify those matters after taking into account Transpower's views.	Clause 2.2.1(2)		Chapter 5 Section 5.2
Commission to notify Transpower of matters that are specified where there is no agreement by the last working day of March prior to the December when the base capex proposal is due for submission.	Clause 2.2.1(2)		Chapter 5 Section 5.2

Timing and content requirements for each base capex proposal			
A base capex proposal must be submitted by Transpower to the Commission by the first working day of December, 16 months prior to commencement of the regulatory period	Clause 2.2.1(3)		Chapter 5 paragraph 5.3.1
Base capex proposal to be in the required document formats and must identify confidential information	Clauses 7.1.1, 7.1.2		Chapter 5 paragraph 5.3.2
Base capex proposal to contain completed regulatory templates	Clauses 7.3.1(1)(a), 7.3.1(2)		Chapter 5 paragraph 5.3.2
Base capex proposal must comply with the qualitative information requirements of the Capex IM Determination	Clause 7.3.1(1)(b) and Schedule F		Chapter 5 paragraph 5.3.2
Base capex proposal must include certifications required by the capex IM	Clauses 7.3.1(1)(c), 9.1.1		Chapter 5 paragraph 5.3.2
Omission of required information must be explained, and the Commission may accept as complaint	Clause 7.1.3		
Qualitative information requirements			
Qualitative information to be included in the base capex proposal is specified in the capex IM	Schedule F		Chapter 5 Section 5.4
Commission's base capex determination and processes requirements			
Commission may request reasonable further information if required for its decision	Clause 2.2.2(3)		Chapter 5 paragraph 5.5.1

Commission may only make its decisions after consulting interested persons	Clause 2.2.2(4)(a)		Chapter 5 Section 5.5
Commission may only make its decision after evaluation of the base capex proposal and any additional information	Clause 2.2.2(4)(b) and Part 6		Chapter 5 Section 5.5
Commission to make base capex allowance decision no later than the last working day of August prior to the commencement of the regulatory period	Clause 2.2.2(1)		Chapter 5 paragraph 5.5.2
Commission to determine base capex allowances	Clause 2.2.2(1)(a)		Chapter 5 paragraph 5.5.2(a)
Commission to determine base capex incentive rate	Clause 2.2.2(1)(b)		Chapter 5 paragraph 5.5.2(b)
Commission to determine revenue-linked grid output measures	Clauses 2.2.2(1)(c)(i), 2.2.2(1)(c)(ii) and Schedule A, clauses A4, A5		Chapter 5 paragraphs 5.5.2(c)(i) to 5.5.2(c)(iv)
Commission may determine, at Transpower's request, other revenue-linked grid output measures	Clauses 2.2.2(1)(c)(iii) to 2.2.2(1)(c)(v) and Schedule A, clauses A4, A5		Chapter 5 paragraph 5.5.2(c)(v)
Commission to determine for each revenue-linked grid output measure a cap, collar, a grid output incentive rate and grid output target	Clause 2.2.2(1)(d) and Schedule A, clause A6		Chapter 5 paragraph 5.5.2(d)
Commission to determine the extent, if any, that the grid output mechanism will not apply to grid output measures	Clauses 2.2.2(1)(e) and Schedule A, clause A4		Chapter 5 paragraph 5.5.2(e)

Requirement to specify forecast CPI used to determine base capex allowances	Clause 2.2.2(2)(a)		Chapter 5 paragraph 5.5.3(a)
Requirement to specify forecast FX rates and amount/percentage of base capex allowances that forecast FX rates apply to	Clause 2.2.2(2)(b), 2.2.2(2)(c)		Chapter 5 paragraphs 5.5.3(b), 5.5.3(c)
Commission to publish its base capex allowance decision	Clause 2.2.2(5)		Chapter 5 Section 5.5
Commission's consultation obligations			
Commission's mandatory actions for consultation on base capex proposal	Clauses 2.2.2(4)(a), 8.2.2(1)(a), 8.1(3)		Chapter 5 Section 5.6
Commission's optional actions on base capex proposal	Clauses 2.2.2(4)(a), 8.1.1(1)(b), 8.1.1(4)		Chapter 5 Section 5.6
Commission may set timeframes and processes for consultation that we consider appropriate	Clause 8.1.1(5)		Chapter 5 paragraph 5.6.2
Criteria for evaluating and approving base capex			
Commission's evaluation may take into account results of consultation and any relevant information	Clause 6.1.1(1)(a)		Chapter 5 Section 5.7
Commission may engage appropriately qualified assistance with its evaluation	Clause 6.1.1(1)(b)		Chapter 5 Section 5.7
Commission is to consider consistency with input methodologies in the capex IM and in the IM Determination	Clause 6.1.1(2)(a)		Chapter 5 Section 5.7

Commission is to consider whether the base capex proposal promotes the purpose of Part 4 of the Act	Clause 6.1.1(2)(b)		Chapter 5 Section 5.7
Commission is to consider whether the base capex proposal is fit for purpose of the Commission exercising its powers under Part 4 of the Act	Clause 6.1.1(2)(c)		Chapter 5 Section 5.7
Commission is to evaluate the base capex proposal in accordance with Schedule A of the capex IM	Clause 6.1.1(3)		Chapter 5 Section 5.7
Commission evaluation is to include the required general evaluation factors	Schedule A, clause A1		Chapter 5 Section 5.7
Commission is to review each identified programme	Schedule A, clause A2		Chapter 5 Section 5.7
Commission may apply a variety of evaluation techniques	Schedule A, clause A3		Chapter 5 Section 5.7
Commission evaluation is to include the required evaluation criteria for grid output measures and revenue-linked grid output measures	Schedule A, clauses A4, A5		Chapter 5 Section 5.7
Commission evaluation is to include required evaluation criteria for revenue-linked grid output measures (caps, collars, base capex incentive rate and grid output targets)	Schedule A, clause A6		Chapter 5 Section 5.7
Pre-proposal processes			
Transpower to notify its intention to plan a major capex project	Clause 3.3.1(1)		Chapter 6 Section 6.2

Commission and Transpower to use reasonable endeavours over a two month period to agree a consultation programme, approach for consideration of non-transmission solutions and approval timeframes	Clause 3.3.1(2)		Chapter 6 Section 6.2
Commission may include its own consultation processes without requiring agreement from Transpower	Clause 3.3.1(3)		Chapter 6 Section 6.2
Commission is to specify any steps not agreed upon	Clause 3.3.1(4)		Chapter 6 Section 6.2
Commission and Transpower are to publish conclusions on consultation, consideration of non-transmission solutions and approval timeframes	Clause 3.3.1(5)		Chapter 6 Section 6.2
Commission and Transpower are to regularly review to ensure that the process remains appropriate	Clause 3.3.1(6)		Chapter 6 Section 6.2
Transpower to consult interested persons in accordance with the agreed programme and approach for consideration of non-transmission solutions	Clause 3.3.1(7)		Chapter 6 Section 6.2
Commission decisions not invalidated by failure to meet timeframes	Clause 5.1.1(1)		Chapter 6 Section 6.2
Approach to considering non-transmission solutions			
Transpower must consider non-transmission solutions	Clause 3.3.1(2)(a)(ii)		Chapter 6 Section 6.3
Transpower consultation on non-transmission solutions prior to submitting a major capex proposal to cover relevant parts of the investment test in Schedule I	Clause 8.1.3 and Schedule I, Division 2		Chapter 6 Section 6.3

Consideration of non-transmission solutions must take into account the size of investment need and likelihood that non-transmission solutions could meet the need	Schedule D and Schedule I, clause I5(1)		Chapter 6 Section 6.3
Approach must take into account information needs and views of interested persons	Schedule I, clause I5(2)		Chapter 6 Section 6.3
Transpower is to invite interested persons to provide views and information on possible non-transmission solutions when consulting on an investment need	Schedule G, clauses G2(c), G8(b), and Schedule I, clause I5(3)(a)		Chapter 6 Section 6.3
Transpower is to consult with and proactively engage with interested persons on its longlist of options	Schedule I, clauses I2, I5(3)(b)		Chapter 6 Section 6.3
Transpower is to invite interested persons to provide more comprehensive proposals on its shortlist of options	Schedule I, clauses I3, I5(3)(c)		Chapter 6 Section 6.3
Interested persons to generally have six weeks to respond	Schedule I, clauses I5(4), I5(5)		Chapter 6 Section 6.3
Transpower consultation requirements			
Mandatory guidance when devising consultation programme or approach	Clause 8.1.3(2)(a)		Chapter 6 Section 6.4
Transmission investment consultation requirements	Clause 8.1.3(2)(a) and Schedule I		Chapter 6 Section 6.4
Commission may allow certain matters to be excluded from consultation if it considered unreasonable	Clause 8.1.3(2)(b)		Chapter 6 Section 6.4
Specified matters to consult on for transmission investments	Schedule I, clause I1(1)		Chapter 6 Section 6.4

Required order of consultation on transmission investments	Schedule I, clause I1(2), I1(3)		Chapter 6 Section 6.4
Longlist options must be solutions to meet the investment need	Schedule I, clause I2(1)		Chapter 6 Section 6.4
Specified information requirements for longlist of options	Schedule I, clause I2(2)		Chapter 6 Section 6.4
Specified information requirements for shortlist of investment options to meet each investment need	Schedule I, clause I3(1)		Chapter 6 Section 6.4
Specified key assumptions to be consulted on for shortlist consultation	Schedule I, clause I4		Chapter 6 Section 6.4
Non-transmission solution consultation requirements	Clause 8.1.3(1)(b) and Schedule I, Division 2		Chapter 6 Section 6.4
Consideration of non-transmission solutions must consider size, nature, and likelihood of the solution meeting the investment need	Schedule I, clause I5(1)		Chapter 6 Section 6.4
Approach to consideration of non-transmission solutions must take account of information needs and views of interested persons	Schedule I, clauses I5(2), I5(3)		Chapter 6 Section 6.4
Approach to considerations of non-transmission solutions must generally allow six weeks for interested persons to respond	Schedule I, clauses I5(4), I5(5)		Chapter 6 Section 6.4
Commission's consultation obligations			
Commission's mandatory actions for consultation on a major capex proposal	Clauses 3.3.3(3)(a), 8.1.1(1)(a), 8.1.1(3)		Chapter 6 Section 6.5

Commission's optional actions on major capex proposal	Clauses 3.3.3(3)(a), 8.1.1(1)(b), 8.1.1(4)		Chapter 6 Section 6.5
Commission may set timeframes and processes for consultation that it considers appropriate	Clause 8.1.1(5)		Chapter 6 Section 6.5
Rules for submitting a major capex proposal			
Major capex must be approved by the Commission in order for Transpower to recover the capex under the IPP	Clause 3.3.2(1)		Chapter 6 Section 6.6
Transpower must be submit a major capex proposal for a proposed investment	Clause 3.3.2(2)		Chapter 6 Section 6.6
Transpower may submit a major capex proposal at any time in the RCP	Clause 3.3.2(3)		Chapter 6 Section 6.6
Major capex proposals must comply with the information requirements	Clause 7.4.1(1)(a) and Schedule G		Chapter 6 Section 6.6
Major capex proposals must meet the certification requirements	Clauses 7.4.1(1)(b), 7.4.1(4), 9.2.1		Chapter 6 Section 6.6
Investment options in a proposal must be appropriate	Clause 7.4.1(2)		Chapter 6 Section 6.6
Information and rigour of analysis in a proposal must be commensurate with the size of expenditure	Clause 7.4.1(3)		Chapter 6 Section 6.6
Rules for approving or rejecting a major capex proposal			
The Commission may request further information from Transpower	Clause 3.3.3(2)		Chapter 6 Section 6.7

The Commission may only make its decision after consulting interested persons	Clauses 3.3.3(3)(a) and 8.1.1		Chapter 6 Section 6.7
The Commission may only male its decision after evaluation of the proposal and any additional information	Clause 3.3.3(3)(b)		Chapter 6 Section 6.7
The Commission is to either approve the proposed investment or reject the major capex proposal	Clauses 3.3.3(1), 3.3.3(4)		Chapter 6 Section 6.7
Approved proposed investment must set out components of approval	Clause 3.3.3(5)		Chapter 6 Section 6.7
The Commission must publish its decision	Clause 3.3.3(6)		Chapter 6 Section 6.7
Major capex proposal requirements			
Major capex proposal to include information specified in Schedule G of the capex IM	Clause 7.4.1(1)(a) and Schedule G		Chapter 6 Section 6.8
Major capex proposal must be in the specified format	Clause 7.1.1		Chapter 6 Section 6.8
The number of investment options is to reflect magnitude of the proposed investment and complexity of investment need	Clause 7.4.1(2)		Chapter 6 Section 6.8
Transpower may provide additional information it considers relevant to the major capex proposal	Schedule G, clause G9		Chapter 6 Section 6.8
Project approval expiry date			
Transpower to include, in a major capex proposal, a proposed expiry date and rationale for it	Schedule G, clause G5(2)(j)		Chapter 6 Section 6.9

Commission approval of major capex proposal to include approval expiry date specified by Transpower	Clause 3.3.3(5)(e)		Chapter 6 Section 6.9
Commission publishes its decision	Clause 3.3.3(6)		Chapter 6 Section 6.9
Transpower may apply for an amendment to the approval expiry date no later than six weeks before the existing approval expiry date	Clauses 3.3.4(1)(e), 3.3.4(2)(a), 7.4.2(2)		Chapter 6 Section 6.9
Commission may request further information in support of an application by a date specified by the Commission	Clause 3.3.4(6)		Chapter 6 Section 6.9
Approval expiry date amendment may only be approved prior to the existing expiry date	Clause 3.3.4(3)(a)		Chapter 6 Section 6.9
Commission approval of an amendment to be approval expiry date specified in application by Transpower	Clause 3.3.4(4)(e)		Chapter 6 Section 6.9
The Commission publishes its amendment decision	Clause 3.3.4(7)		Chapter 6 Section 6.9
Criteria for evaluating major capex proposals			
The Commission may take into account the results of its consultation and any other information	Clause 6.1.1(1)		Chapter 6 Section 6.10
The Commission will evaluate a major capex proposal in accordance with Schedule C of the capex IM	Clause 6.1.1(4) and Schedule C		Chapter 6 Section 6.10
Consideration of whether the proposed investment passes the major capex investment test in Schedule D	Schedule C, clause C1(2)(c) and Schedule D, Division D1		Chapter 6 Section 6.10

Form and scope of investment test			
The investment test is a cost-benefit analysis using discounting of relevant costs and benefits in the electricity market over a defined calculation period	Schedule D, clause D1(1)		Chapter 7 Section 7.2
The investment test includes estimates of qualified costs and benefits, including where an expected monetary value can be calculated allowing for uncertainty	Schedule D, clause D1(1)(c)(ii)		Chapter 7 Section 7.2
Where the estimates for two investment options give a similar result after taking into account quantified costs and benefits, Transpower may choose the investment option that gives the highest result including a qualitative assessment to take into account of unqualified costs and benefits	Schedule D, clause D1(1)(c)(ii)		Chapter 7 Section 7.2
Calculation of expected net electricity market benefit using scenarios			
Net electricity market benefit is the aggregate of the electricity market costs and benefits less the project costs	Schedule D, clause D3(2)		Chapter 7 paragraphs 7.3.2 to 7.3.8
Expected net electricity market benefit of each investment option must be evaluated under a number of scenarios	Schedule D, clause D3(1) and Schedule I, clauses I1(1)(e) and I3(1)(a)		Chapter 7 paragraphs 7.3.2 to 7.3.8
Expected net electricity market benefit of each investment option is calculated taking into account the scenario weighting assigned to the scenario by the party who developed the scenario unless Transpower consults on the variation in weighting	Schedule D, clause D3(1) and Schedule I, clause I3(1)(a)		Chapter 7 paragraphs 7.3.2 to 7.3.8

Investment options			
Transpower to develop investment options	Clause 8.1.3(1)(a) and Schedule I, clause I3		Chapter 7 paragraphs 7.3.9 to 7.3.16
Investment options is a feasible major capex project, other than a new investment contract, that is materially different to another major capex project that meets the same investment need	Schedule D, clause D2		Chapter 7 paragraphs 7.3.9 to 7.3.16
Transpower to consider size and complexity when deciding number of investment options	Clause 7.4.1(2), and Schedule I, clause I3(3)(a)		Chapter 7 paragraphs 7.3.9 to 7.3.16
Investment options may include transmission investments and non-transmission solutions	Schedule D, clause D2, clause 1.1.5, definition of major capex project		Chapter 7 paragraphs 7.3.9 to 7.3.16
Transpower must consider non-transmission solutions as part of the investment test	Clause 8.1.3(1)(b) and Schedule I, clause I5		Chapter 7 paragraphs 7.3.9 to 7.3.16
Satisfying the investment test			
The Commission may not approve a proposed investment where it is not satisfied that the investment satisfies the investment test criteria specified in the capex IM	Clause 6.1.1(4), Schedule C, clause C1(2)(c) and Schedule D, clause D1(1)		Chapter 7 paragraphs 7.3.17 to 7.3.26

Unquantified electricity market costs or benefits can only be considered if investment options otherwise have similar outcomes	Schedule D, clauses D1(1)(c)(ii), D1(2)(b)		Chapter 7 paragraphs 7.3.17 to 7.3.26
Similar outcomes means difference in outcome is measured as 10% or less of the aggregate project costs	Schedule D, clauses D1(2)(a)		Chapter 7 paragraphs 7.3.17 to 7.3.26
Transpower may request Commission approval to adopt an alternative percentage to 10% when considering whether outcomes of investment options are similar	Schedule D, clause D1(3)		Chapter 7 paragraphs 7.3.17 to 7.3.26
Costs and benefits			
Costs and benefits accruing to customers in the electricity market, excluding Transpower project costs, are included in the investment test	Schedule D, clauses D3, D5(1), paragraphs (a) to (h) and (k), D5(3), D5(4), D7(2)		Chapter 7 paragraphs 7.4.2 to 7.4.8
Consumer costs are to take into account third party contributions or subsidies	Schedule D, clauses D5(1), paragraphs (i) and (j), D5(5)		Chapter 7 paragraphs 7.4.2 to 7.4.8
Transpower may agree with the Commission to include other electricity market costs and benefits in its shortlist consultation	Schedule D, clause D5(1)		Chapter 7 paragraphs 7.4.2 to 7.4.8
Project costs of each investment option are included in the investment test	Schedule D, clauses D3, D5(2), D7(1), D7(6)		Chapter 7 paragraphs 7.4.2 to 7.4.8

Quantification of the expected values of costs and benefits			
Costs and benefits are to be calculated using expected values	Schedule D, clauses D7(4), D7(5)		Chapter 7 paragraphs 7.4.17 to 7.4.24
Costs and benefits may be treated as unquantified if the cost of calculating the expected value is disproportionate to the size of the effect or the expected value cannot be calculated with an appropriate level of certainty	Schedule D, clause D17(2)(b)		Chapter 7 paragraphs 7.4.17 to 7.4.24
Projects costs are to be calculated using expected values	Schedule D, clause D7(4)		Chapter 7 paragraphs 7.4.17 to 7.4.24
Project costs are to be calculated using good electricity industry practice	Schedule D, clause D7(6)		Chapter 7 paragraphs 7.4.17 to 7.4.24
Expected value is probability-weighted average of possible values, also reflecting uncertainty of assumptions and calculation approaches	Schedule D, clause D7(4)		Chapter 7 paragraphs 7.4.17 to 7.4.24
Discount rate			
Discount rate for the investment test is a default rate of 7%	Schedule D, clause D7(3)(b)(i)		Chapter 7 paragraphs 7.4.25 to 7.4.32

Transpower may apply an alternative discount rate if default rate is not appropriate	Schedule D, clause D7(3)(a)		Chapter 7 paragraphs 7.4.25 to 7.4.32
Transpower's consultation must include the reasons for the alternative discount rate	Schedule I, clauses I3(3)(d)(ii), I4(b)		Chapter 7 paragraphs 7.4.25 to 7.4.32
If default rate is not used, Transpower must also use default rate as part of sensitivity analysis	Schedule D, clause D8(3)		Chapter 7 paragraphs 7.4.25 to 7.4.32
Calculation period and discounting			
Transpower must consult on the calculation period and must specify if a non-standard period has been used	Clause 8.1.3(1)(a) and Schedule I, clauses I3(1)(b), I3(3)(d)(ii), I4(c)		Chapter 7 paragraphs 7.4.33 to 7.4.39
The standard calculation period is 20 years from the last date of asset commissioning under the proposed investment	Clause 1.1.5, definition of 'calculation period'		Chapter 7 paragraphs 7.4.33 to 7.4.39
The calculation period is reduced from standard when significant market benefit or cost elements and project costs are expected to cease prior to the end of a standard 20 year period	Clause 1.1.5, definition of 'calculation period', paragraph (a)		Chapter 7 paragraphs 7.4.33 to 7.4.39
The calculation period is extended from standard when significant market benefit or cost elements and project costs are expected to arise after the end of a standard 20 year period	Clause 1.1.5, definition of 'calculation period', paragraph (b)		Chapter 7 paragraphs 7.4.33 to 7.4.39

Benefits and costs arising or incurred in the calculation period are discounted (by applying the discount rate) back to the start of the calculation period	Schedule D, clause D7(2)		Chapter 7 paragraphs 7.4.33 to 7.4.39
Project costs incurred prior to the start of the calculation period are compounded (by applying the discount rate) from the date incurred to the start of the calculation period	Schedule D, clause D7(1)		Chapter 7 paragraphs 7.4.33 to 7.4.39
Demand and generation scenarios			
Transpower must use the [MBIE] demand and generation scenarios when published	Schedule D, clauses D4(1)(b), D4(3)(b)		Chapter 7 paragraphs 7.4.40 to 7.4.48
Electricity Commission market development scenarios apply until MBIE scenarios are published	Schedule D, clauses D4(1)(a)(i), D4(3)(a)		Chapter 7 paragraphs 7.4.40 to 7.4.48
Reasonable and feasible variations based on specified factors may be used after considering views of interested persons	Schedule D, clauses D4(1)(a)(ii), D4(1)(c), D4(2) and Schedule I, clauses I1(1)(b), I2(2)(b), I3(1)(a)		Chapter 7 paragraphs 7.4.40 to 7.4.48
Sensitivity analysis			
The investment test is only satisfied if the proposed investment is robust under sensitivity analysis	Schedule D, clause D1(1)(a)		Chapter 7 paragraphs 7.4.49 to 7.4.51

Transpower must undertake and report on its sensitivity analysis	Schedule D, clause D8, and Schedule G, clauses G5(8) to G5(11)		Chapter 7 paragraphs 7.4.49 to 7.4.51
Sensitivity analysis is to include specified variables to demonstrate robust results	Schedule D, clause D8		Chapter 7 paragraphs 7.4.49 to 7.4.51
Variables may be excluded if not reasonable practicable or not necessary	Schedule D, clause D8(1)		Chapter 7 paragraphs 7.4.49 to 7.4.51
Value of lost load			
Value of lost load (referred to in the Code as value of expected unserved energy), or VOLL, is to be determined by the Electricity Authority in Schedule 12.2, clause 4 of the Code	Clause 1.1.5, definition of 'value of expected unserved energy', paragraph (a)		Chapter 7 paragraphs 7.4.52 to 7.4.58
Transpower may apply an alternative value if the Electricity Authority value is not appropriate for a particular transmission investment	Clause 1.1.5, definition of 'value of expected unserved energy', paragraph (b)		Chapter 7 paragraphs 7.4.52 to 7.4.58
Where an alternative value is used, Transpower must carry out the sensitivity analysis on both the Electricity Authority value and the alternative value	Schedule D, clause D8(2)		Chapter 7 paragraphs 7.4.52 to 7.4.58
Transpower must consult on and report on the value used	Schedule G, clause G4(5)(c), and Schedule I, clauses I2(2)(b),I2(2)(c), I3(3)(d)		Chapter 7 paragraphs 7.4.52 to 7.4.58

Process requirements for amendment applications			
Transpower may apply for an amendment to components of approved major capex project	Clause 3.3.4		Chapter 8 Section 8.2
An application must meet application requirements	Clause 3.3.4(2)(a)		Chapter 8 Section 8.2
The Commission and Transpower are to agree an approval timeframe	Clause 3.3.4(2)(b)		Chapter 8 Section 8.2
The Commission may request additional information	Clause 3.3.4(6)		Chapter 8 Section 8.2
The Commission may consult with interested persons on the application and may engage expert assistance	Clauses 6.1.1(1), 8.1.1(2)		Chapter 8 Section 8.2
The Commission is to evaluate the application and any additional information	Clause 3.3.4(2)(c)		Chapter 8 Section 8.2
The approval expiry date may only be approved prior to the previous expiry date	Clause 3.3.4(3)(a)		Chapter 8 Section 8.2
Other components of approved major capex must be approved by the first November after the disclosure year of commissioning or completion	Clauses 3.3.4(3)(b), 3.3.4(8)		Chapter 8 Section 8.2
The Commission may specify a major capex allowance, maximum recoverable costs or recovery scheme	Clauses 3.3.4(4)(a), 3.3.4(4)(c)		Chapter 8 Section 8.2
The Commission adopts Transpower's proposed amended major capex project outputs or approval expiry date	Clauses 3.3.4(4)(d), 3.3.4(4)(e)		Chapter 8 Section 8.2

The Commission may make consequential amendments to P50, commissioning and completion date assumptions	Clause 3.3.4(5)		Chapter 8 Section 8.2
The Commission is to publish its decision on the application	Clause 3.3.4(7)		Chapter 8 Section 8.2
Information requirements for amendment applications			
Application for amendment to approval expiry date to be received six weeks or more before previous approved expiry date	Clause 7.4.2(2)		Chapter 8 Section 8.3
Application for other components must be received by last working day of September following the disclosure year of first commissioning	Clause 7.4.2(1)		Chapter 8 Section 8.3
The application must include information specified in Schedule H of the capex IM	Clause 7.4.2(3) and Schedule H		Chapter 8 Section 8.3
Criteria for evaluating amendment applications			
The Commission may consult with interested persons on the amendment application	Clauses 3.3.4(2)(c), 6.1.1(1)(a)(i)		Chapter 8 Section 8.4
The Commission may take into account information it considers relevant	Clauses 3.3.4(2)(c), 6.1.1(1)(a)(ii)		Chapter 8 Section 8.4
The Commission may engage an appropriately qualified person to assist with the evaluation	Clauses 3.3.4(2)(c), 6.1.1(1)(b)		Chapter 8 Section 8.4
The Commission will include the specified criteria in its evaluation of the amendment application	Clause 6.1.1(5)		Chapter 8 Section 8.4

Consultation requirements for amendment application			
The Commission selects which consultation actions it will use in its evaluation of the amendment application	Clause 8.1.1(2)(a)		Chapter 8 Section 8.5
Available consultation actions	Clauses 8.1.1(3), 8.1.1(4)		Chapter 8 Section 8.5
The Commission may set its own consultation timeframes and processes	Clause 8.1.1(5)		Chapter 8 Section 8.5
Certification of proposals and applications			
Director certification of base capex proposal	Clauses 7.3.1(1)(c), 9.1.1, and Schedule F		Chapter 9 paragraphs 9.2.1 to 9.2.14
CEO certification of major capex proposal	Clauses 7.4.1(1)(b), 9.2.1, and Schedule G		Chapter 9 paragraphs 9.2.1 to 9.2.14
CEO certification of application for an amendment to a major capex project	Clauses 7.4.2, 9.3.1, and Schedule H, Division 1 to 4		Chapter 9 paragraphs 9.2.1 to 9.2.14
CEO certification of application for sunk costs adjustment	Clauses 7.4.3, 9.3.1, and Schedule H, Division 5		Chapter 9 paragraphs 9.2.1 to 9.2.14

Certification of annual information			
Director certification of annual compliance statement under the IPP Determination		IPP clause 19.2.3	Chapter 9 Section 9.3
No fewer than two Transpower directors required to certify annual information requirements		ID clause 16	Chapter 9 Section 9.3
Director certification of base capex proposal	Clause 9.1.1		Chapter 9 Section 9.3
CEO certification of all information provided for a major capex proposal in Schedule G	Clause 9.2.1		Chapter 9 Section 9.3
CEO certification of major capex project amendment and sunk costs application	Clause 9.3.1		Chapter 9 Section 9.3
Transpower's CEO is required to certify each base capex project or programme forecast to cost more than $20 million		To be included in a future ID determination in respect of relevant base capex disclosures	Chapter 9 Section 9.3
Transpower's CEO will be required to certify each base capex project or programme first commissioned		ID clause 16	Chapter 9 Section 9.3
Change of certification of opinion or matters of fact			
Where there is a change of opinion or fact that impacts on a certification given by a director or CEO, the director or CEO (as applicable) must notify the Commission	Clause 9.4.1		Chapter 9 paragraphs 9.2.15, 9.2.16

Base capex annual reporting requirements			
Annual information requirements specified in ID Determination [now included in the IPP determination]		IPP clause 20.1.15	Chapter 10 Section 10.2
Base capex annual reporting deadline – report due by last working day each September [now the third working week of October]		IPP clause 19.1	Chapter 10 Section 10.2
Major capex annual reporting requirements			
Major capex overspend adjustment annual calculation	Clause 3.3.7(3) and Schedule B clause B4	IPP clause 23.1.3(l)	Chapter 10 Section 10.3
Major capex project output adjustment annual calculation	Clause 3.3.7(3) and Schedule B clause B5	IPP clause 23.1.3(m)	Chapter 10 Section 10.3
Reporting requirements for uncompleted projects		To be included in a future ID determination in respect of relevant base capex disclosures	Chapter 10 Section 10.3
Reporting requirements for commissioned projects		ID clause 8.5 and Schedule F5	Chapter 10 Section 10.3
Formatting of information – Proposals, applications and information requirements			
Formatting – Base capex proposal information	Clause 7.1.1 to 7.1.3, 7.3.1, 9.1.1 and Schedule F		Chapter 10 Section 10.4
Formatting – Major capex proposal information	Clause 7.1.1 to 7.1.3, 7.4.1, 9.2.1 and Schedule G		Chapter 10 Section 10.4

Formatting – Major capex project amendment application information	Clauses 7.1.1 to 7.1.3, 7.4.2 and Schedule H Divisions 1 to 4		Chapter 10 Section 10.4
Formatting – Major capex sunk costs application information	Clauses 7.1.1 to 7.1.3, 7.4.3 and Schedule H Division 5		Chapter 10 Section 10.4
Formatting – Base capex annual information requirements		ID Schedule F3	Chapter 10 Section 10.4
Formatting – Major capex annual information requirements		ID Schedule F5	Chapter 10 Section 10.4
Formatting – Major capex RCP report		To be included in a future ID determination in respect of relevant major capex disclosures	Chapter 10 Section 10.4
Base capex transitional provisions			
Base capex information requirement (regulatory templates, identified programmes and base capex proposal) applies with effect from RCP2	Clauses 1.1.3(1), 1.1.4(3)(a), 2.2.1		Chapter 11 Section 11.2
The Commission is to make a base capex allowance decision under the capex IM with effect from RCP2	Clauses 1.1.3(1), 1.1.4(3)(a), 2.2.2		Chapter 11 Section 11.2
Base capex cost-benefit analysis and consultation requirements (as applicable) to apply from RCP2	Clauses 1.1.3(1), 1.1.4(4), 3.2.1		Chapter 11 Section 11.2
Base capex policies and processes requirement to apply from RCP2	Clauses 1.1.3(1), 1.1.4(4), 3.2.2		Chapter 11 Section 11.2

Base capex revenue adjustments to apply to RCP2	Clauses 1.1.3(1), 1.1.4(3)(b)(ii), 3.2.3		Chapter 11 Section 11.2
Major capex transitional provisions			
Major capex approved prior to the capex IM will be treated as approved under the capex IM	Clause 1.1.4(1)		Chapter 11 Section 11.3
For projects approved prior to the capex IM, the components of those project approvals will be considered to be the approved components under the capex IM	Clause 1.1.4(2)		Chapter 11 Section 11.3
Application for approval of a major capex project received before the date of commencement and where approval is not made at the time of commencement is to be decided in accordance with s 54R(3)(b) of the Commerce Act 1986	Clause 1.1.3(2)		Chapter 11 Section 11.3
Listed projects			
The Commission may identify listed projects in an IPP determination for RCP2	Clause 2.2.3(1)	IPP Schedule I	LP Chapter 2 paragraphs 24.2 and 24.3
A listed project means a base capex project or base capex programme that is identified as a 'listed project' in an IPP determination, and complies with the requirements of clause 2.2.3(2) of the capex IM	Clause 1.1.5(2) definition of 'listed project', and clause 2.2.3(2)		LP Chapter 2 paragraph 24.4 and LP Chapter 3 paragraphs 109 to 111, 131 to 140

Approval of base capex in addition to the base capex allowance			
Transpower may submit a listed project application for approval no later than the last working day in June twenty-two months before the end of an RCP	Clause 3.2.4(1)		LP Chapter 2 paragraph 24.5 and LP Chapter 3 paragraphs 119 to 129
Transpower's listed project application must include a description of the reasons for carrying out the listed project	Clause 3.2.4(2)(a)		LP Chapter 2 paragraph 24.6
Alternative options for carrying out the listed project, including non-transmission solutions, must be considered for a listed project	Clause 3.2.4(2)(b)		LP Chapter 2 paragraph 24.6
The intended scope of the listed project must be identified, including the specified grid outputs	Clause 3.2.4(2)(c)		LP Chapter 2 paragraph 24.6
All relevant technical and costing information must be included	Clause 3.2.4(2)(d)		LP Chapter 2 paragraph 24.6
Transpower must specify the estimated cost of the listed project	Clause 3.2.4(2)(e)		LP Chapter 2 paragraph 24.6
Transpower must undertake a cost-benefit analysis in accordance with clause 3.2.1(a)	Clause 3.2.4(2)(f)		LP Chapter 2 paragraph 24.6
Transpower must consult interested persons in accordance with clause 3.2.1(b)	Clause 3.2.4(2)(g)		LP Chapter 2 paragraph 24.6
Transpower must provide evidence that its board of directors has approved the listed project as a base capex project	Clause 3.2.4(2)(h)		LP Chapter 2 paragraph 24.6

Transpower must comply with certification of the application in accordance with clause 9.1.2	Clause 3.2.4(2)(i)		LP Chapter 2 paragraph 24.6
The Commission may request further information from Transpower on the listed project	Clause 3.2.4(3)		LP Chapter 2 paragraph 24.6
The Commission evaluation of the application includes the consultation requirements in clause 8.1.1 that would apply if the application was a base capex proposal	Clause 3.2.4(4)(a)		LP Chapter 2 paragraph 24.6
The Commission evaluation of the application is to apply the criteria in clause 6.1.1 and Schedule A that would apply as if the listed project was an identified programme in a base capex proposal	Clause 3.2.4(4)(b)		LP Chapter 2 paragraph 24.6 and Chapter 3 paragraph 130
The Commission may, in addition to the existing base capex allowance, determine a further approved amount of base capex in respect of a listed project	Clause 3.2.4(4)	IM clauses 3.7.4(4)(b) and 3.7.5(2)(b)(vii), and IPP clauses 22.1.2, 22.3.2 and 22.3.3	LP Chapter 3 paragraphs 112 to 118
The Commission will apply the forecast CPI and forecast FX rates used for the base capex allowance to the listed project	Clause 3.2.4(5)(a) and 3.2.4(5)(b)		
The Commission will publish its decision as soon as reasonably practicable	Clause 3.2.4(6)		

Table B3: Decisions made in implementing the capex IM decisions since 2012

Commission decision	Decision Date	Reference
Transpower major capex proposals		
HVDC – increase in interim grid expenditure: On 14 June 2011, Transpower applied to the Commission concerning the recovery of the HVDC interim grid expenditure. The former Electricity Commission approved the interim grid expenditure of $6.3 million for preparatory work on the HVDC upgrade project.[70] On 25 August 2011, the Commission agreed to amend the approved amount to $8 million. This was a project amendment made under the transitional provisions of the capex IM.	25 August 2011	Details on this proposal can be found on the Commission website: http://www.comcom.govt.nz/regulated-industries/electricity/electricity-archive/approved-transpower-grid-upgrade-plans/hvdc-increase-in-interim-grid-expenditure-2011/
Kaitaia Capacitor Bank Project Overspend: On 29 March 2011, Transpower applied to the Commission for an amendment of the approved expenditure for the Kaitaia capacitor bank project from $2,600,000 to $2,848,119. The former Electricity Commission approved this project on 9 March 2006 as one of the projects included in the Grid Development Proposals. On 21 June 2011, the Commerce Commission agreed to amend the approved expenditure for this project to $2,848,119. This was a project amendment made under the transitional provisions of the capex IM.	21 June 2011	Details on this proposal can be found on the Commission website: http://www.comcom.govt.nz/regulated-industries/electricity/electricity-archive/approved-transpower-grid-upgrade-plans/kaitaia-capacitor-bank-project-overspend-2011/

[70] Under section 54R of the Commerce Act 1986, the role of approving Transpower's grid upgrade plan proposals passed from the Electricity Commission (now the Electricity Authority) to the Commerce Commission on 1 November 2010.

Kawerau generation export enhancement investment proposal: Norske Skog Tasman proposed to connect a new geothermal power station at Kawerau in December 2012. In addition, a number of other generators had advised Transpower of their plans to build up to 135 MW of geothermal generation in the region within the next 15 years. The capacity of the interconnecting transformers at Kawerau limits the amount of generation that can be exported out of Kawerau. To increase the export limit and thus enable development of further generation in the area Transpower proposed to replace one of its interconnecting transformers with a 250 MVA unit. Transpower expected a cost $9.5 million for the project. On 19 April 2012 the Commission issued a notice of intention to approve Transpower's application. As the proposal from Transpower was received prior to the capex IM being determined, this decision was made under the transitional provisions of the capex IM.	18 April 2012	Details on this proposal and the proposal reasons paper can be found on the Commission website: http://www.comcom.govt.nz/regulated-industries/electricity/electricity-archive/approved-transpower-grid-upgrade-plans/kawerau-generation-export-enhancement-investment-proposal/
Upper South Island Grid reliability stage 1: Transpower established that the 220 kV transmission grid supplying the Islington substation would not be able to supply the expected upper South Island peak demand from 2016. Transpower therefore planned to upgrade the upper South Island grid to increase the transmission capacity. On 29 June 2012, Transpower submitted to the Commission a major capex proposal for stage one of the South Island Reliability Upgrade. The Commission made its decision to approve the major investment proposal on 11 February 2013.	11 February 2013	Details on this proposal and the proposal reasons paper can be found on the Commission website: http://www.comcom.govt.nz/regulated-industries/electricity/electricity-transmission/transpower-major-capital-proposal/upper-south-island-grid-upgrade-stage-1/

Otahuhu Substation Diversity project MCA Amendment Application: On 12 June 2006, an equipment failure at the Otahuhu substation resulted in a widespread loss of supply of electricity to Auckland and Northland. Following this incident, Transpower implemented the Otahuhu Substation Diversity Project to improve the reliability of supply into Auckland and Northland. Transpower commissioned the last asset in November 2011. On 27 September 2012 Transpower submitted to the Commission a proposal to increase the major capex allowance for the Otahuhu Substation Diversity project to $106.1 million (2009 dollars). The former Electricity Commission had approved a maximum of $99 million (2009 dollars) on 31 August 2007. The Commerce Commission made its decision to amend the major capex allowance for the Otahuhu Substation Diversity project to $106.1 million (2009 dollars) on 12 April 2013.	12 April 2013	Details on this proposal can be found on the Commission website: http://www.comcom.govt.nz/regulated-industries/electricity/electricity-transmission/transpower-major-capital-proposal/otahuhu-substation-diversity-project-mca-amendment-application/
Amending Transpower's demand response initiatives in the upper North Island: On 13 August 2013 Transpower submitted to the Commission a proposal to expand the geographical area within which it can test its demand response initiatives. These initiatives were developed as part of Transpower's Upper North Island Dynamic Reactive Support Project. Transpower considered that testing these demand response initiatives nationally would better meet its goals. The outputs that Transpower was required to deliver under the project's approval needed to be amended so that Transpower could test its demand response initiatives with participants outside the upper North Island area.	28 November 2013	Details on this proposal can be found on the Commission website: http://www.comcom.govt.nz/regulated-industries/electricity/electricity-transmission/transpower-major-capital-proposal/amending-the-outputs-of-transpowers-demand-response-initiatives-in-the-upper-north-island-/

Amending the outputs for Transpower's Bombay 110 kV bus security project: During the implementation phase of the project, Transpower discovered that it could not efficiently deliver one of the approved project outputs – install the bus coupler circuit breaker - due to physical constraints at the Bombay substation site. Transpower assessed that it was less expensive to deliver an alternative solution of replacing some of the existing circuit breakers, rather than overcome the physical constraints. Transpower implemented the alternative solution and sought our approval to amend the project outputs. The change in outputs did not affect the level of transmission service delivered by the project. On 30 September 2013, Transpower submitted its proposal to amend the outputs of the project.	1 November 2013	Details on this proposal can be found on the Commission website: http://www.comcom.govt.nz/regulated-industries/electricity/electricity-transmission/transpower-major-capital-proposal/amending-the-outputs-for-transpowers-bombay-110-kv-bus-security-project/
Bunnythorpe Haywards A and B lines conductor replacement investment proposal: Transpower advised that the conductors of these lines had reached the end of their economic life and needed to be replaced. Under the regulatory rules, Transpower could replace the existing conductors and maintain the existing capacity of the lines under its base capital works programme but had to seek approval from the Commission if it wanted to increase the capacity of the lines. On 8 November 2013, Transpower submitted a major capex proposal and sought our approval to upgrade the Bunnythorpe Haywards lines A and B. Transpower sought $161 million dollars in 2020 prices. The Commission approved the proposal on 9 May 2014.	9 May 2014	Details on this proposal can be found on the Commission website: http://www.comcom.govt.nz/regulated-industries/electricity/electricity-transmission/transpower-major-capital-proposal/bunnythorpe-haywards-a-and-b-lines-conductor-replacement-investment-proposal/

Amendment to Upper South Island Grid reliability stage 1: On 27 August 2014 Transpower submitted a proposal to the Commission to amend the allowance for the Upper South Island Grid Upgrade Stage 1 project. Taking into account the proposed changes, Transpower's application also requested an increase in the major capex allowance of $4.15m which would set the maximum major capex allowance at $9.14m (taking into account underspend to date of application). On 18 November 2014, Transpower submitted a letter revising its application – reducing the requested increase in the maximum major capex allowance to $3m. The Commission approved Transpower's revised application on 26 February 2015, setting the major capex allowance for the Upper South Island Reliability Stage 1 project at $7.99m.	26 February 2015	Details on this proposal can be found on the Commission website: http://www.comcom.govt.nz/regulated-industries/electricity/electricity-transmission/transpower-major-capital-proposal/amending-the-allowance-and-outputs-for-the-upper-south-island-stage-1-project/

Amending the allowance and outputs for the North Island Grid Upgrade Project: Transpower's application sought an amendment to the originally approved Maximum Capital Allowance and four major capex project outputs for the North Island Grid Upgrade project. Transpower spent $894 million delivering the project, $70 million more than the originally approved MCA of $824 million, and some of the delivered outputs differed from those originally approved. On 3 March 2015 Transpower modified its amendment application by proposing another output. The information relevant to this proposed amendment can be found with the original application. The Commission's decision on Transpower's application to amend the major capex allowance (MCA) for the North Island Grid Upgrade project was to set an allowance of $876.3 million. This was an increase of $52.3 million above the $824 million originally approved, but was $17.7 million less than the $894 million Transpower applied for. On 30 September 2013 Transpower submitted an application to the Commission to amend the allowance for the North Island Grid Upgrade project. On August 2015 we published our final decision.	6 August 2015	Details on this proposal can be found on the Commission website: http://www.comcom.govt.nz/regulated-industries/electricity/electricity-transmission/transpower-major-capital-proposal/amending-the-allowance-and-outputs-for-the-north-island-grid-upgrade-project/
Transpower's Price-Quality Path from 2015 to 2020 – summary of decisions made during RCP2		
Central Park – Wilton B re-conductoring project: Transpower's cost estimate for the Central Park/Wilton B listed project was $11.3m. However, given uncertainties it considered it could cost up to $12.4m and it requested that we approve this amount. Transpower plans to complete this project by the summer of 2019. Our draft decision was to increase the base capex allowance by $9.8m for Transpower for the disclosure years ending 2018 and 2019.	13 April 2017 (date of draft published)	Details on this proposal can be found on the Commission website: *Transpower Central Park/Wilton reconductoring project – draft decision* (13 April 2017)

2015 update of the forecast MAR for the balance of RCP2 to take account of the washup of the forecast MAR and capex incentives for 2014-15	5 November 2015	*Transpower Individual Price-Quality Path Amendment Determination 2015* [2015] NZCC 29 (5 November 2015)
2016 update of the forecast MAR for the balance of RCP2 to take account of the washup of the forecast MAR and capex incentives for 2015-16	31 October 2016	*Transpower Individual Price-Quality Path Amendment Determination 2016 (MAR update November 2016)* [2016] NZCC 23 (31 October 2016)
Setting Transpower's individual price-quality path for 2015 to 2020 – summary of decisions required by the capex IM to be made by 29 August 2014	29 August 2014 (date of published paper)	*Setting Transpower's individual price-quality path for 2015 – 2020* [2014] NZCC 23 (29 August 2014)
Base capex allowance (nominal values): • For disclosure year 1 July 2015 to 30 June 2016: $235.2 million • For disclosure year 1 July 2016 to 30 June 2017: $249.5 million • For disclosure year 1 July 2017 to 30 June 2018: $242.0 million • For disclosure year 1 July 2018 to 30 June 2019: $231.6 million • For disclosure year 1 July 2019 to 30 June 2020: $213.1 million		Attachment J, Table J1
Base capex incentive rate: 33%		Attachment J, Table J1
Major capex incentive rate: 33%		Attachment J, Table J1

Revenue-linked grid output measures: The decision sets out the description, grid output targets, caps, collars and grid output incentive rates for the following revenue-linked grid output measures for RCP2: • AP1: HVDC availability (%) • AP2: HVAC availability (%) • GP1A: number of unplanned interruptions – high priority category • GP1B: number of unplanned interruptions – important category • GP1C: number of unplanned interruptions – standard category • GP1D: number of unplanned interruptions – generator category • GP1E: number of unplanned interruptions – N-security category • GP2A: average duration (minutes) of unplanned interruptions – high priority category • GP2B: average duration (minutes) of unplanned interruptions – important category • GP2C: average duration (minutes) of unplanned interruptions – standard category • GP2D: average duration (minutes) of unplanned interruptions – generator category • GP2E: average duration (minutes) of unplanned interruptions – N-security category • GP3A: duration (minutes) of P90 unplanned interruption – high priority category		Attachment J, Table J1

• GP3B: duration (minutes) of P90 unplanned interruption – standard category • GP3C: duration (minutes) of P90 unplanned interruption – generator category • GP3D: duration (minutes) of P90 unplanned interruption – generator category • GP3E: duration (minutes) of P90 unplanned interruption – N-security category • AH1: number of towers coated • AH2: number of grillages commissioned • AH3: number of insulators commissioned • AH4: number of outdoor circuit breakers commissioned in the regulatory period • AH5: number of transformers commissioned in the regulatory period • AH6: number of outdoor to indoor conversions commissioned in the regulatory period Attachment J also specifies the grid output measures to which the grid output mechanism do not apply: • AH1RL: change in remaining life (years) of tower coating • AH4RL: change in remaining life(years) of outdoor circuit breakers • AH5RL: change in remaining life (years) of transformers		

CPI & FX forecasts: Schedule J specifies the forecast CPI used to determine the base capex allowances for RCP2: • For disclosure year 1 July 2015 to 30 June 2016: 1.80% • For disclosure year 1 July 2016 to 30 June 2017: 2.09% • For disclosure year 1 July 2017 to 30 June 2018: 2.06% • For disclosure year 1 July 2018 to 30 June 2019: 2.03% • For disclosure year 1 July 2019 to 30 June 2020: 2% Schedule J specifies forecast FX used to determine the base capex allowances for RCP2: USD/NZD: • For disclosure year 1 July 2015 to 30 June 2016: 0.79 • For disclosure year 1 July 2016 to 30 June 2017: 0.77 • For disclosure year 1 July 2017 to 30 June 2018: 0.76 • For disclosure year 1 July 2018 to 30 June 2019: 0.74 • For disclosure year 1 July 2019 to 30 June 2020: 0.72 EUR/NZD: • For each disclosure year in the regulatory period: 0.57		Attachment J, Table J1

GBP/NZD: • For each disclosure year in the regulatory period: 0.47 AUD/NZD: • For each disclosure year in the regulatory period: 0.79 JPY/NZD: • For each disclosure year in the regulatory period: 61.28 SEK/NZD: • For each disclosure year in the regulatory period: 5.1 CAD/NZD: • For each disclosure year in the regulatory period: 0.71 Table J1 also specifies the amount/percentage of base capex allowances to which forecast FX rates may apply.		

Attachment C: How capital expenditure is proposed and approved under the capex IM

PURPOSE

114. The purpose of this attachment is to briefly describe how the Transpower capital expenditure input methodology (**capex IM**) works and what it was designed to achieve.[71]

115. This attachment also notes how the capex IM interacts with external processes that Transpower must comply with as the system operator.

116. The capex IM incentive framework that offers incentives to Transpower to deliver the outcomes of capital expenditure that are valued by consumers is described in Attachment D.

CAPEX IM FRAMEWORK

Core framework

117. The capex IM applies to all capex that is intended to enter Transpower's Regulatory Asset Base (**RAB**).

118. The capex IM describes the process for capital expenditure to be submitted by Transpower for our approval, the processes that we and Transpower must follow, the information that must be provided to us by Transpower, and the evaluation criteria and approach that we use in considering capex proposals.

System operator service provider agreement

119. Where there is a System Operator Service Provider Agreement (**SOSPA**) between the Electricity Authority (the **Authority**) and Transpower, any SOSPA capital expenditure is not assessed under the capex IM.

120. As the system operator of the national grid, Transpower provides the system operator services under the SOSPA between Transpower and the Authority. System operator services are defined under Part 4 as electricity line services.

121. Operating costs or asset values allocated to activities undertaken by Transpower to supply electricity transmission services other than system operator services must be net of costs or asset values implicitly or explicitly recoverable by Transpower. Any costs recovered through such an agreement are to be excluded from any opex or capex forecasts used to determine the Transpower individual price-quality path (**IPP**).

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[71] For a full explanation of how the capex IM works and our reasons for our previous decisions, see: Commerce Commission "Transpower Capital Expenditure Input Methodology – Reasons Paper" (31 January 2012). For the consolidated capex IM, see: Commerce Commission "Transpower Capital Expenditure Input Methodology Determination" (5 February 2015). For the listed projects reasons paper, see: Commerce Commission "Amendments to input methodologies for Transpower to provide a listed project mechanism – Reasons paper" (27 November 2014).

NICs

122. NICs are agreements between Transpower and users of transmission services who are connected directly to the grid in respect of non-core assets or non-core grid assets. The capex IM does not apply to capex relating to new investment contracts (**NIC**s).

123. All contracting parties have input on the output of the contract. In order to be a new investment contract, a contract needs to be for the provision of new electricity transmission services between Transpower and another party, and must meet the requirements set out in the NIC definition in the capex IM.[72]

Capex IM decisions

124. Our core decisions on the categories of capex in *setting* the capex IM are:

    124.1 capital expenditure must be classified as either base capex or major capex;

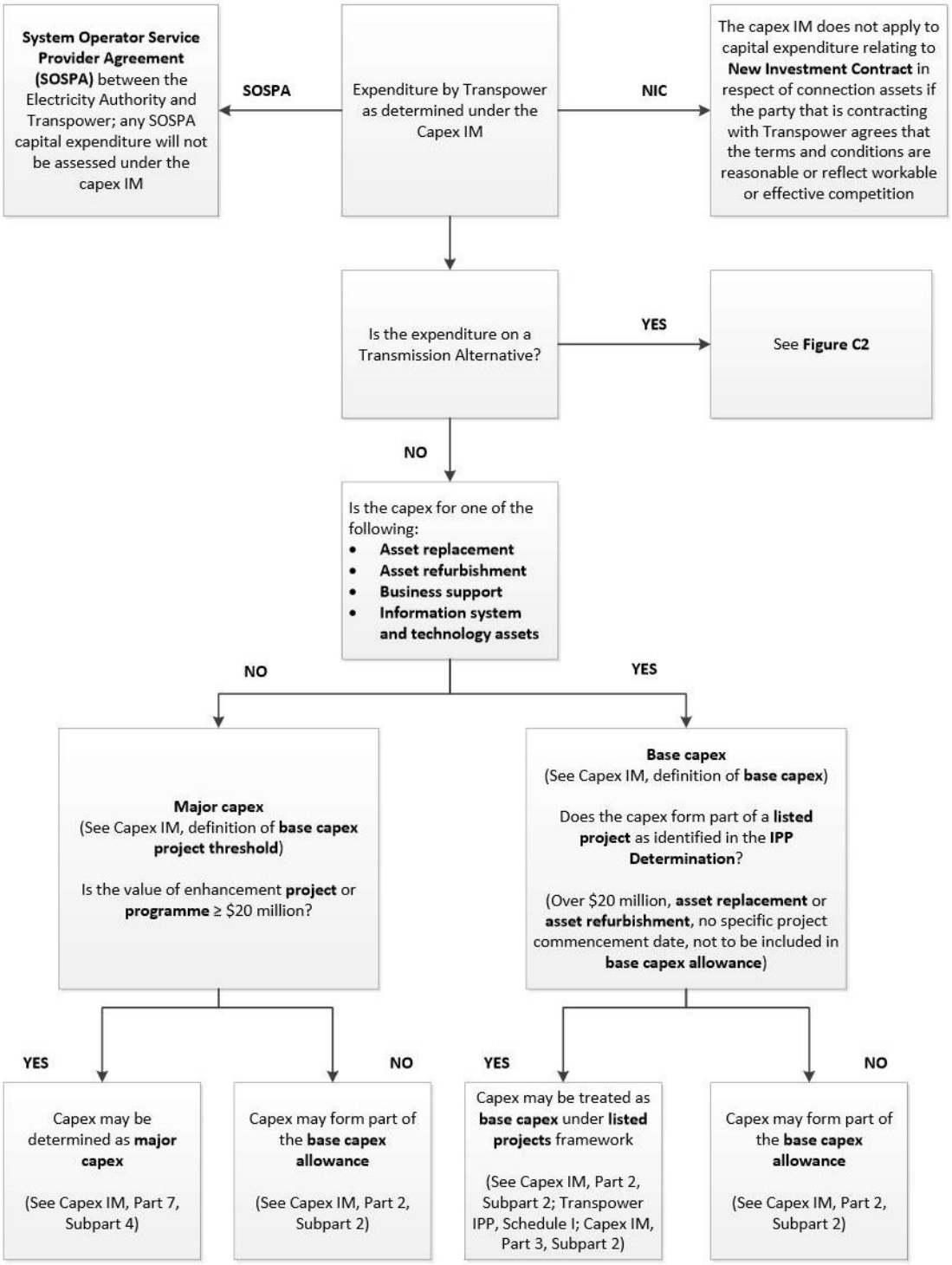
    124.2 Transpower cannot substitute expenditure between individual major capex projects or between major capex projects and base capex allowance; and

    124.3 full substitution of expenditure between years and across categories within base capex is allowed.

125. Figure C1 sets out an overview of expenditure categories under the capex IM.

[72] Commerce Commission "Transpower Capital Expenditure Input Methodology Determination – Consolidating all amendments as of 5 February 2015", clause 1.1.5(2), definition of 'new investment contract'. Commerce Commission "Transpower Capital Expenditure Input Methodology Determination" (5 February 2015).

Figure C1: Overview of expenditure categories



126. Our core decisions in *applying* the capex IM are:

126.1 capital expenditure requiring approval by the Commission is approved as either base capex or major capex;

126.2 major capex is required to be consulted on, assessed and approved on a project-by-project basis using the requirements set out in the capex IM;

126.3 a major capex project must be the preferred investment option with regard to the major capex investment test;

126.4 base capex is subject to *ex-ante* approval prior to each regulatory control period (**RCP**) of a base capex allowance for each year of the RCP;

126.5 base capex projects that are not sufficiently certain (in terms of costs and/or completion date) may be classified as listed projects;

126.6 an incentive regime applies to both base capex and major capex (see Attachment D); and

126.7 Transpower is required to consider transmission alternatives in its development of all major capex proposals.

Integrated transmission plan

127. The integrated transmission plan is designed to sit at a level above the base capex and major capex information requirements, providing context for stakeholders within which the base capex and major capex proposals can be assessed.

128. Transpower must publish an integrated transmission plan that explains Transpower's view about the long-term development of the grid.

129. The purpose of the integrated transmission plan is to provide an integrated overview of the long-term development of, and activities on, the grid. It provides detail on Transpower's stated long-term quality and performance objectives, and summarises the future expenditure requirements of the grid and the outputs or benefits this expenditure will deliver.

130. The integrated transmission plan must be submitted to us before the start of each IPP regulatory period. The plan must forecast at least ten years ahead. Transpower must also submit to us annual updates that explain any material changes to matters covered in the integrated transmission plan.[73]

[73] Commerce Commission "Transpower Capital Expenditure Input Methodology – Reasons Paper" (31 January 2012), Section 2.7. Commerce Commission "Transpower Capital Expenditure Input Methodology Determination" (5 February 2015), Schedule E.

Transmission alternatives

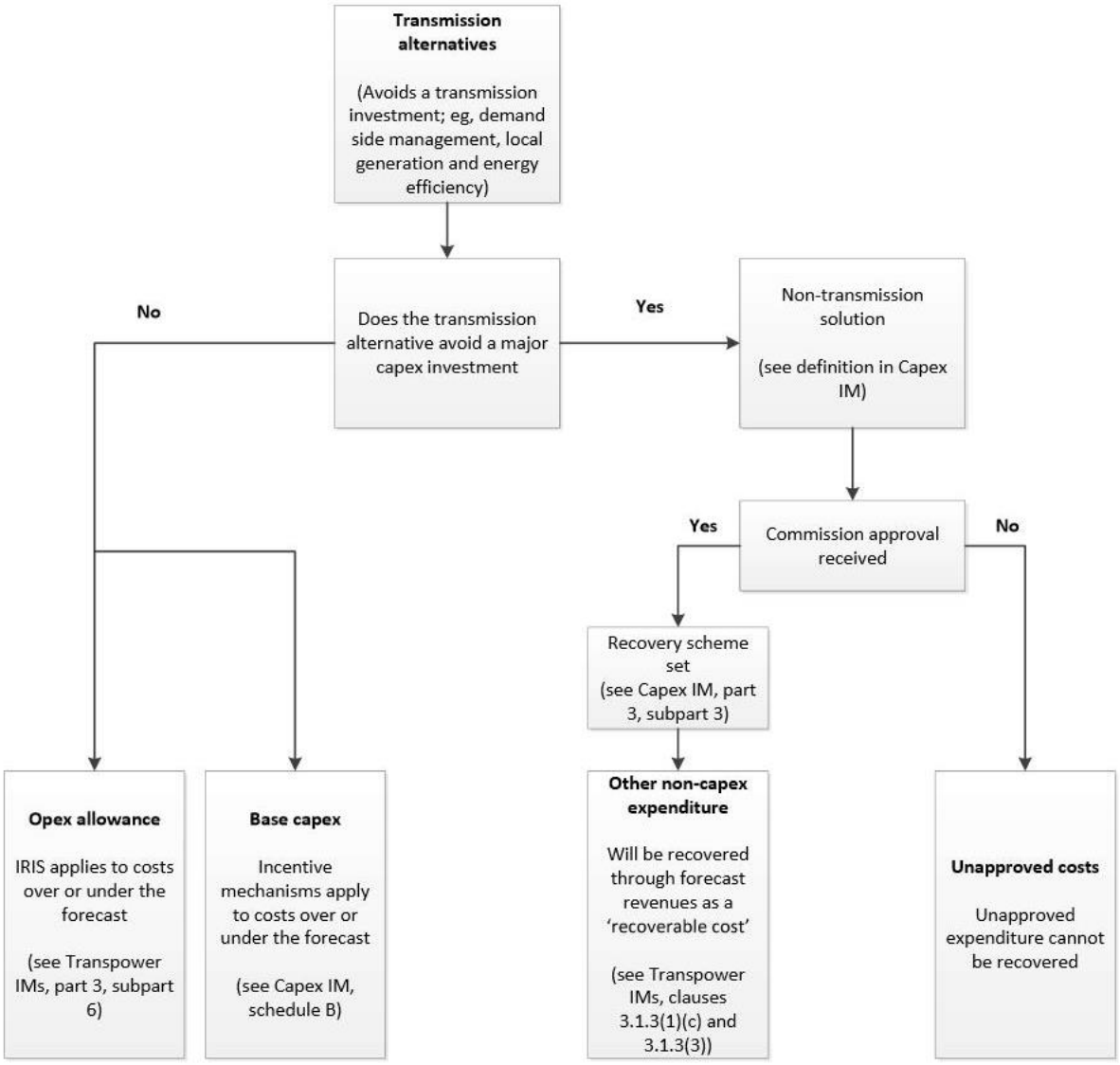
131. Transmission alternatives are alternatives to investment in the grid, and play an important role in delivering efficient investment outcomes for the electricity market. Making use of transmission alternatives may be an economically efficient decision where it avoids or defers expenditure on transmission investment. Transpower is required to consider transmission alternatives in its development of all major capex proposals.

132. Where expenditure on transmission alternatives is not major capex (ie, the expenditure is classified as operating expenditure or base capex and would not otherwise be major capex), no project-specific approval is required from the Commission.[74, 75] Figure C2 sets out how the identification and recovery of non-transmission solutions works under the capex IM.

[74] Commerce Commission "Transpower Capital Expenditure Input Methodology – Reasons Paper" (31 January 2012), Section 2.8. For additional information on non-transmission solutions, see: Commerce Commission "Transpower Capital Expenditure Input Methodology Determination" (5 February 2015), Schedule I, Division 2.

[75] For these types of expenditure, the respective approval process and incentive framework apply.

Figure C2: Identification and recovery of non-transmission solutions



How the IPP applies the capex IM decisions

133. The IPP sets out how forecast and actual capital expenditure impacts the actual revenues that Transpower may recover.[76] All of the incentive mechanisms and adjustments in the capex IM also flow through to the IPP revenue calculation mechanism.

134. Prior to the start of a five-year regulatory period, we set Transpower's maximum allowable revenue (**MAR**) on a forecast basis (ie, the 'forecast MAR') for each of the five years on an *ex-ante* basis. This provides certainty regarding the baseline revenue that Transpower will be able to recover.

[76] The key building blocks of the revenue calculation that are impacted by capital expenditure are the WACC return on the RAB, the depreciation charge on the RAB, and the tax charge on the resulting additional net revenue.

135. Transpower maintains a revenue and incentive wash-up account (economic value (**EV**) account) that records the post-tax effect of revenue adjustments that at any time have not been passed back to or recovered from customers.[77]

136. Updates to the forecast MAR are then made annually, which includes the zeroing of the EV account balance. This is done by offsetting the balance of the EV account with an equivalent pre-tax adjustment to the revenues.

137. From the 2015-2020 regulatory period (**RCP2**), the Commission has had the discretion to spread an EV adjustment over more than one year of forecast MAR, in order to avoid an unacceptable price shock to consumers.

CATEGORIES AND DEFINITIONS FOR CAPITAL EXPENDITURE UNDER THE CAPEX IM

Overview

138. As set out in figure C1, the capex IM categorises capital expenditure as either base capex or major capex. Capex is categorised into different types based on the purpose of the expenditure; base capex includes asset replacement and asset refurbishment and asset enhancements, while major capex is limited to asset enhancement. The current threshold for capex being classified as major capex is enhancement capex projects over $20 million.

139. Base capex (including listed projects) is intended to cover all capital expenditure, except those individual, large enhancement projects that, given their nature and magnitude (over the threshold), warrant individual scrutiny and public consultation. This was originally explained in more detail prior to the capex IM in Section 5.2 of the 2010 IPP Reasons Paper.[78]

140. The base capex threshold has been progressively increased since it was first implemented for the 2011-2015 regulatory period (**RCP1**), increasing from $1.5 million for each project in disclosure year 2012 up to $20 million from disclosure year 2016.

141. At the time the capex IM was determined, the current $20 million base capex threshold applying from RCP2 was considered to be the level that best balances the interest of certain stakeholders in wanting larger capex projects to be subject to individual scrutiny, and conversely the benefits of the *ex-ante* pooled capex allowance approach for projects below the threshold.[79]

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77 The revenue part of the wash-up essentially compares the forecasts used when setting the forecast MAR with the actual values for revenue and costs that actually applied in the disclosure year. This has the effect over time of basing Transpower's recovered revenues on actual values of costs rather than estimates.

78 Commerce Commission "Individual Price-Quality Path (Transpower) – Reasons Paper" (22 December 2010).

79 The threshold was originally set at $1.5 million per individual project for the first year of RCP1 as a transitional level and this was further increased to $5 million for projects and programmes for the last three years of RCP1. The level was reset to $20 million for projects and programmes with effect from RCP2.

Situations in which capital expenditure may be recategorised

142. Transpower may submit to the Commission for approval a project that was originally accounted for in the base capex allowance for that RCP. It may do this where the project has become a major capex project due to forecast scope.[80] In such instances, the project is subject to review under the major capex approval process (with the amount of the base capex allowance being reduced accordingly). A planned major capex project can be recategorised as a base capex project if its estimated cost reduces to below the threshold for major capex.

MAJOR CAPEX – APPROVAL PROCESS

Major capex pre-proposal process requirements

143. Transpower must notify us of its intention to plan a major capex project once Transpower considers it may become a proposed investment. In the two-month period following such notification, the Commission and Transpower must use reasonable endeavours to agree, for that major capex project:[81]

    143.1 an approach to ensure appropriate consideration of non-transmission solutions; and

    143.2 a consultation programme for the transmission or non-transmission solution.

Non-transmission solutions

144. Where use of a transmission alternative avoids or defers a transmission investment that would otherwise be major capex, the transmission alternative is called a 'non-transmission solution'. This is to distinguish non-transmission solutions from other transmission alternatives and ensure non-transmission solutions are given equal consideration alongside transmission investment options, including through the application of the investment test.[82]

Consultation program for Transpower and the Commission

Transpower's consultation requirements

145. In accordance with the consultation programme agreed with the Commission, and prior to submitting a major capex proposal for approval, Transpower must consult with interested parties. The requirement to consult applies to transmission and non-transmission solutions.

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80 The base capex pool can be interchanged between major capex projects and the base capex allowance.

81 Refer to: Commerce Commission "Transpower Capital Expenditure Input Methodology – Reasons Paper" (31 January 2012), Section 6.2 for more detail.

82 Information on the investment test can be found in Schedule D of the capex IM. See: Commerce Commission "Transpower Capital Expenditure Input Methodology Determination" (5 February 2015).

146. Transpower's consultation obligations are set out in Schedule I of the capex IM. Each consultation programme must have regard to:

146.1 the complexity, nature and amount of the project;

146.2 the likely costs and benefits arising from consultation;

146.3 the urgency of investment need;

146.4 consideration of non-transmission solutions; and

146.5 the extent of any relevant prior consultations.

147. The consultation process is a critical aspect of the capex IM for major capex proposals. Effective consultation is likely to result in a more comprehensive and robust investment proposal and better-informed stakeholders. Requiring Transpower to publish the agreed consultation programme early in the major capex investment proposal process ensures transparency and allows appropriate consideration of investment options.

Commission's consultation obligations

148. The Commission must, after receiving a major capex proposal, and in accordance with the timeframes and processes it considers appropriate, publish the proposal, publish a draft decision (or decisions), and consult on the information published. Stakeholders, including Transpower, have a strong interest in the Commission's evaluation of major capex proposals. Enabling stakeholder input will likely lead to more informed and robust evaluation outcomes and, for this reason, we have set an obligation to publish and consult.

Rules for submitting a major capex proposal

149. Transpower may submit a major capex proposal at any time during a regulatory period. The proposal must:

149.1 comply with the information requirements set out in Schedule G of the capex IM; and

149.2 contain the certificate specified in clause 9.2.1 of the capex IM.

150. We developed the major capex proposal information requirements taking account of the information requirements of the Commission, and the following roles and responsibilities:

150.1 Transpower's role is to identify potential investment needs and propose solutions; and

150.2 the Commission's role is to consider investment proposals submitted by Transpower.

151. The content requirements are strongly dependent on other key aspects of the capex IM including, in particular, the investment test methodology, the consultation process and the approach for considering non-transmission solutions.

Rules for approving or rejecting a major capex proposal

152. The Commission may either approve or reject a major capex proposal. The Commission cannot change any of the components of the proposal. The Commission must publish its decision as soon as reasonably practicable.

153. The Commission may approve a proposed investment after consulting on, and evaluating the proposal in accordance with the requirements set out in the capex IM.

154. The Commission may reject a major capex proposal we are not satisfied with a proposed investment having regard to the evaluation criteria in Schedule C of the capex IM, for example, if we are not satisfied:

    154.1 with the proposed investment in part or whole;

    154.2 with one (or more) components of the proposed investment;[83] or

    154.3 that the investment test is not satisfied.

155. In setting the capex IM, we considered it appropriate that the responsibility to determine the needs, deliverables and grid outputs remains with Transpower. For this reason, we limited the process to either approving the proposed investment or rejecting the major capex proposal as a whole.

Project approval expiry date

156. Transpower must include in each major capex proposal, an approval expiry date assumption. Where an investment is approved by the Commission, the approval expiry date is that specified in the proposal. A project approval expiry date is necessary to recognise that significant delays in undertaking a project may affect the benefits delivered by or the need for the project.

[83] In practice we discuss this with Transpower and allow Transpower to amend the proposal rather than reject the proposal.

Criteria for evaluating major capex proposals

157. The Commission evaluates each major capex proposal in accordance with Schedules C and D of the capex IM. When evaluating a major capex proposal, the Commission may take into account the views of any person or any information we consider relevant, and engage any appropriately qualified person to assist with our evaluation. The evaluation criteria in Schedule C of a major capex proposal include:[84]

    157.1 general evaluation of major capex proposal;

    157.2 evaluation of major capex allowance and maximum recoverable costs;

    157.3 evaluation of approval expiry date; and

    157.4 evaluation of major capex project outputs.

158. The Commission must not only be concerned with the process used to develop, analyse and present the proposal, but with the outcome itself. We must be satisfied that the proposed investment satisfies the investment test and promotes the long-term benefit of consumers.

MAJOR CAPEX – INVESTMENT TEST

159. The investment test uses a cost-benefit analysis using discounting of relevant costs and benefits in the electricity market over a defined calculation period to identify a preferred investment option (set out in Schedule D of the capex IM).

Form and scope of the investment test

160. Schedule D of the capex IM provides details on the investment test for proposed major capex projects.[85]

161. The costs and benefits to be included in the investment test are those accruing to participants in the electricity market. Accordingly, the investment test is called a 'net electricity market benefit test'. Where investment options have a similar quantified net electricity market benefit, Transpower may identify the investment option with the highest net benefit using both:

    161.1 estimates of the expected monetary value of the electricity market costs and benefits; and

    161.2 a qualitative assessment of the unquantified electricity market costs and benefits for which Transpower has not provided an expected monetary value.

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[84] Commerce Commission "Transpower Capital Expenditure Input Methodology Determination" (5 February 2015), Schedule C.

[85] Commerce Commission "Transpower Capital Expenditure Input Methodology Determination" (5 February 2015), Schedule D.

162. In setting the capex IM we considered that all of the effects that a transmission investment has on either the cost or price of delivered electricity must be taken into account by Transpower in assessing its investment options. Therefore, in proposing major capex under the capex IM, Transpower must assess the likely costs and benefits of different investment options for all participants in the electricity market.

Application of the investment test

163. Application of the investment test includes:

163.1 the calculation of expected net electricity market benefit using scenarios;

163.2 investment options; and

163.3 satisfying the investment test (as per Schedule D1 of the capex IM).

164. The expected net electricity market benefit for each investment option is calculated by combining the net electricity market benefit for each investment option for each scenario, consistent with scenario weightings. Scenarios are developed by the Ministry of Business, Innovation and Employment (**MBIE**) and are known as electricity demand and generation scenarios (**EDGES**).[86]

165. Using scenarios in the quantitative investment test accounts for the uncertainty in the future development of the electricity sector, particularly given the long life of transmission assets. We considered a multi-scenario approach using weightings was the most practical way of taking account of the range of possible, but uncertain, futures.

166. Transpower must develop a number of investment options, including both transmission and non-transmission solutions. An investment option means a solution that is:

166.1 designed to meet a particular need;

166.2 technically feasible; and

166.3 materially different to another major capex project designed to meet the same investment need.

167. After consultation, Transpower must identify a limited number of investment options to which the investment test is applied (the shortlist). The proposed investment must satisfy the investment test.

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[86] Electricity demand and supply generation scenarios can be found on MBIE's website: http://www.mbie.govt.nz/info-services/sectors-industries/energy/energy-data-modelling/modelling/electricity-demand-and-generation-scenarios.

168. To satisfy the investment test with respect to Schedule D1 of the capex IM, the proposed investment must:

168.1 have the highest expected net electricity market benefit;

168.2 have a positive expected net electricity market benefit unless it is designed to meet an investment need generated by a deterministic requirement of the grid reliability standards; and

168.3 be sufficiently robust under sensitivity analysis.

Implementation of the investment test

169. Transpower must calculate the expected net electricity market benefit using the expected values of the project costs, and the electricity market costs and benefits. The calculation period is a 20-year period starting from the base year unless varied by Transpower after consultation. The base year is the year in which the last asset to be delivered by the proposed investment is commissioned. All project costs prior to the base year are compounded forward at the discount rate to the base year. All subsequent costs and benefits occurring in the calculation period are discounted back at the discount rate to the base year.

170. The capex IM requires Transpower to use, in the investment test analysis, a value of lost load (**VOLL**) for the purpose of quantifying benefits associated with transmission investments.[87]

171. The VOLL to be used is that determined by the Authority as recorded in clause 4 of Schedule 12.2 of the Code.[88] The VOLL is used to estimate the economic impact of planned and unplanned outages in the grid, and is therefore a key input to the calculation of cost and benefit to end users.

AMENDMENTS TO MAJOR CAPEX APPROVALS

Process requirements for amendment applications

172. Transpower may only apply to the Commission for an amendment to one or more of the following components of an approved major capex project:

172.1 major capex allowance; Maximum recoverable costs;

172.2 recovery scheme;

172.3 approved major capex project outputs; and

172.4 approval expiry date.

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87 In the 2012 Reasons Paper, VOLL was called the value of expected unserved energy (**VoEUE**). See: Commerce Commission "Transpower Capital Expenditure Input Methodology – Reasons Paper" (31 January 2012), Para 7.4.52 to 7.4.58.

88 Electricity Authority, "Electricity Industry Participation Code 2010" (1 April 2017). Information on the Code can be found on the Authority's website: https://www.ea.govt.nz/code-and-compliance/the-code/.

173. All major capex amendment applications must comply with the timing and information requirements specified in clause 7.4.2 of the capex IM. An amendment may be made by the Commission to an approval expiry date by no later than the approval expiry date previously approved. The Commission evaluates each application in accordance with Part 6 of the capex IM.

174. Transpower may apply, prior to the commissioning date or completion date and within six weeks after the date, on which our approval in respect of the major capex project expires, for a major capex sunk costs adjustment. We have the discretion to decide to calculate that adjustment in accordance with Schedule B6 of the capex IM.

175. As the P50 commissioning date and commissioning date assumptions are used in the forecast MAR calculations, these also need to be amended, consistent with any amendments to the components.[89] As these components are washed-up for actual expenditure (under the IPP), actual completion or actual commissioning date, they do not impact on any of the major capex adjustments.[90]

Information requirements for amendment applications

176. All major capex amendment applications must comply with the information requirements specified in clause 7.4.2(3) of the capex IM. The information requirements set out in the capex IM are separately specified for amendments to the:

    176.1 major capex allowance;

    176.2 maximum recoverable costs or recovery scheme;

    176.3 approved major capex project outputs; and

    176.4 approval expiry date.

177. We considered that information was required in sufficient detail so that the evaluation of an application could be made in the context of the original approval. It must also take into account that the overall net benefit of the project may have changed. For this reason, a similar level of information is required to that of the original approval application.

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89 P50 means estimated cost of a project where the probability of the actual cost being lower than that estimated is 50%.

90 Refer to Attachment A of this paper for an overview of forecast vs actual expenditure wash-ups.

Criteria for evaluating major capex amendment applications

178. When evaluating a major capex amendment proposal, the Commission may take into account the views of any persons or any other information we consider relevant. In summary, the Commission applies the following criteria in evaluating a major capex amendment proposal:[91]

178.1 whether the proposal is consistent with the capex IM;

178.2 the extent to which the proposal promotes the purpose of Part 4;

178.3 whether the data, analysis and assumptions underpinning the proposal are fit for the purpose of the Commission exercising its powers under Part 4;

178.4 the extent to which each key factor relevant to the proposal amendment:

178.4.1 was reasonably foreseeable by Transpower before the major capex project was approved by the Commission; and

178.4.2 was or is within Transpower's control;

178.5 for each key factor outside Transpower's control:

178.5.1 the reasonableness of any applicable mitigation strategy devised by Transpower; and

178.5.2 the reasonableness and extent of mitigation actions taken by Transpower;

178.6 the extent to which the expected net electricity market benefit would be materially lower as a result of the amendment than when it was approved; and

178.7 in respect of a major capex project that has already commenced, the extent to which Transpower has incurred capital expenditure by the date of the application.

179. We considered that the evaluation approach and criteria should have been similar to that used when reviewing a major capex proposal for the first time, taking into account changes to the project and evaluating the overall continuing benefit of the project.

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[91] Commerce Commission "Transpower Capital Expenditure Input Methodology – Reasons Paper" (31 January 2012), Section 8.4.

Consultation requirements for amendment applications

180. The Commission may take none, any, or all of the actions listed below:

180.1 publish the relevant proposal or application;

180.2 make and publish a draft decision(s);

180.3 seek the written views of interested persons on anything published;

180.4 seek the written views of interested persons on others' submissions;

180.5 seek the views of any person the Commission considers has expertise on a relevant matter; and

180.6 hold a conference at which the views of some or all interested persons may be sought.

181. As amendment applications are likely to vary significantly, we considered it appropriate to retain flexibility to undertake some, none, or all of the consultation measures.

CERTIFICATION REQUIREMENTS

Certification requirements for proposals and amendments applications

182. There are no requirements to obtain independent verification or audit. However, there are requirements for self-verification in the form of certification in respect of Transpower's directors and CEO. The directors must each certify in writing their belief, having made all reasonable enquiries, that the information was derived from, and accurately represents, the operations of Transpower, and is provided in accordance with the relevant requirements of the capex IM.

183. Major capex proposals, major capex project amendments applications, and sunk costs adjustment applications, as well as supporting information, must be certified by Transpower's CEO. As base capex is set only once every five years, and considering the magnitude of this expenditure, we considered that director-level certification was appropriate at the time of the 2012 Reasons Paper.[92]

184. Audits are not required for capex proposals, because they are not as effective for forecasts or non-financial information. The Commission considered that the combination of certification by Transpower's directors and its CEO was relatively low-cost and flexible.

[92] Commerce Commission "Transpower Capital Expenditure Input Methodology – Reasons Paper" (31 January 2012), clause 9.2.7.

Certification of annual information

185. The capex IM sets out disclosure requirements. These relate to rules for calculations and information to be provided about capital expenditure as part of its annual information requirements. The annual information requirements for base and major capex are included in an information disclosure determination (**ID determination**).[93] Two Transpower directors are required to certify the annual information requirements for base and major capex. Transpower's CEO is also required to certify each base capex project first commissioned in the disclosure year in question.

Certification for listed projects

186. In relation to all information provided with respect to an application for approval of base capex in respect of a listed project, the CEO of Transpower must certify, in writing, that:

    186.1 the information provided in Transpower's application to the Commission was derived from and accurately represents the relevant operations of Transpower; and

    186.2 the base capex in respect of the listed project was approved by Transpower in accordance with the applicable requirements of Transpower's capital expenditure approval policies.

BASE CAPEX ALLOWANCE – APPROVAL PROCESS

187. Unlike major capex, which is subject to individual approval, base capex is approved in aggregate (ie, at the total level) and for the whole RCP (a five-year period). We considered that this approach had a number of economic and process benefits for this type of expenditure.

Process for agreeing the quantitative information requirements

188. Base capex for each RCP is approved and set prior to the start of each RCP. The Commission evaluates the level of base capex proposed by Transpower, and determines and sets the allowance.

189. The base capex proposal must also present Transpower's view on the most appropriate grid output measures to apply to that regulatory control period. Some of these measures are linked to revenue, and have targets, caps and collars set to maintain the impact of the incentives provided at an appropriate level.

190. The capex IM sets out the process for submitting, assessing and approving Transpower's base capex proposals. Likewise, the capex IM provides detailed information requirements that Transpower must comply with, and assessment criteria that the Commission will apply.

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[93] Commerce Commission "Information Disclosure Requirements for Transpower – Reasons Paper" (28 February 2014).

191. The key steps in the assessment and approval process include:

191.1 Prior to a regulatory period, the Commission and Transpower will agree the regulatory templates that Transpower will complete and provide as part of its base capex proposal including the criteria for identifying which projects and programmes may be subject to individual review.

191.2 After receiving a base capex proposal, the Commission publishes the proposal, assesses the proposal, publishes its draft decisions and seeks the views of interested persons.

191.3 By the end of August of the year before the April start of a regulatory period, the Commission determines:

191.3.1 the base capex allowances for each year of the RCP;

191.3.2 the opex allowance;[94]

191.3.3 the base capex incentive rate;[95]

191.3.4 the revenue-linked grid output measures (quality standards);

191.3.5 all listed projects approved for the RCP; and

191.3.6 any grid output measures to which will be only subject to disclosure.

Timing and content requirements for each base capex proposal

192. Transpower must submit to the Commission a base capex proposal by the first working day of December, 16 months prior to the start of the RCP – for the 2020-2025 regulatory period (**RCP3**) this will be Monday 3 December 2018. This timing provides certainty to Transpower and the Commission on both process and timing regarding the submission of a base capex proposal.

Base capex – qualitative information requirements

193. Transpower is required to provide qualitative information when submitting a base capex proposal. Schedule F of the capex IM sets out the required information.

[94] Transpower's proposal includes opex, but this is not included in the base capex allowance.

[95] Refer to Attachment D for an explanation of the incentive rate.

Commission's base capex determination and process requirements

194. The Commission determines in respect of that regulatory period:

194.1 base capex allowances for each year of the RCP;

194.2 the quantum of the base capex incentive rate; and

194.3 revenue-linked grid output measures.

195. The Commission may require Transpower to provide, in a time that is reasonable, any additional information we consider is necessary for determining an appropriate base capex allowance.

Commission's consultation obligations

196. After receiving a base capex proposal, the Commission must:

196.1 publish the proposal;

196.2 publish its draft decision(s); and

196.3 seek the written views of interested persons on anything published or on others' submissions.

197. Enabling stakeholder input as part of the consultation was considered to lead to more informed and robust evaluation outcomes.

Criteria for evaluating and approving base capex

198. The Commission's evaluation criteria for the base capex are set out in Part 6 and Schedule A of the capex IM. In summary, when evaluating a base capex proposal, the Commission must have regard to:

198.1 level of focus towards achieving efficient solutions;

198.2 Transpower's process to determine reasonableness and cost-effectiveness;

198.3 the reasonableness of key assumptions relied upon used to prepare to proposed base capex allowances;

198.4 the overall deliverability of the proposal;

198.5 Transpower's internal processes for assessing the need for an identified programme and the possible alternative solutions;

198.6 dependencies between proposed grid output targets and proposed base capex allowances; and

198.7 how grid outputs, key drivers, assumptions, and cost modelling were used to determine forecast capital expenditure.

199. A process review, together with a more detailed examination of a sample of base capex projects, was considered to provide sufficient understanding and knowledge of Transpower's base capex requirements to set the base capital allowance for a regulatory period.

LISTED PROJECTS

200. The listed projects mechanism may be used by Transpower to apply for, and us to approve, additional base capex for inclusion in the price path to take into account the additional expenditure on certain 'listed projects'.[96] Capex projects can be applied for by Transpower for inclusion in the IPP as 'listed projects' prior to an RCP if the project if specified conditions in the capex IM are met.[97]

201. The mechanism allows Transpower more time to do technical studies and refine its forecasts before it submits its proposal for approval at some time in the regulatory period following our evaluation of the base capex proposal for the RCP.

Whether listed projects should be evaluated on an approve/reject basis

202. Within the base capex allowance, there is the ability for funds to be substituted between any base capex projects. An application for approval of a specified amount of base capex for a listed project should not be considered on an approve/reject basis. It is for us to determine the amount of approved base capex.

Requirements that must be met by Transpower

203. Before seeking approval of base capex in respect of any listed project, Transpower must undertake consultation with interested persons.[98] Transpower must also undertake a cost-benefit analysis commensurate to the project size and complexity. The cost-benefit analysis must include consideration of alternatives to the project, including non-transmission solutions. In addition to the cost-benefit analysis, Transpower must provide us with all relevant costing, scope, and any other information that we consider necessary.

Criteria we use to evaluate applications for approval of base capex in respect of listed projects

204. After receiving an application in respect of a project listed in the IPP, we will consider and evaluate it in line with the consultation requirements and evaluation criteria in the capex IM that apply to base capex. We will then decide whether to approve an appropriate amount of base capex for inclusion in the IPP.

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96 Listed projects are defined in the capex IM: Commerce Commission "Transpower Capital Expenditure Input Methodology Determination" (5 February 2015), clause 2.2.3.

97 These requirements are listed in the amendment paper: Commerce Commission "Amendments to input methodologies for Transpower to provide a listed project mechanism – Reasons paper" (27 November 2014), Para 110.

98 In line with clause 3.2.1(b) of the capex IM.

How base capex in respect of listed projects will feed into the base capex incentive framework

205. Approved base capex associated with listed projects is subject to incentive mechanisms that apply to base capex. The key components of the incentive framework for base capex are contained in Schedule B of the capex IM. Revenue adjustments are given effect through the wash-up process in the IPP.

ANNUAL REPORTING REQUIREMENTS

Base capex annual reporting requirements

206. The base capex annual reporting requirements to apply to Transpower are set out by the Commission in an ID determination. The information provided through the base capex annual reporting requirements was intended to enable the Commission to implement and operate the various base capex incentive mechanisms. This allows the Commission to track approved base capex against actual expenditure for each defined category, and track actual performance for all grid outputs listed in the relevant ID determination.

Major capex annual reporting requirements

207. The information specified in the capex IM as to reporting requirements for major capex was considered to be necessary for the Commission to be able to monitor Transpower's progress on major capex projects. It was also required for calculating incentive adjustments. Reporting requirements are set out in the relevant ID determination. Transpower is required to report information to the Commission by the last working day of September each year, including information:

    207.1 on uncompleted projects;

    207.2 for each commissioned or completed major capex project; and

    207.3 for calculating the major capex overspend adjustment and the Major capex project output adjustment.

208. We considered that stakeholders are likely to be highly interested in this information. We also considered that providing greater transparency on tracking project costs and deliverables provides an incentive for Transpower to control those costs and influence the delivery of outputs against agreed targets.

Formatting for reporting, proposals and applications

209. We considered that requiring data and information to be provided in industry-standard electronic formats, with the capability to reformat that data or information, provides the Commission with greater flexibility to evaluate proposals and applications from Transpower.

Attachment D: Capex IM incentives

PURPOSE

210. The purpose of this attachment is to describe the Transpower capital expenditure input methodology (**capex IM**) incentive framework.

CAPEX IM INCENTIVE FRAMEWORK

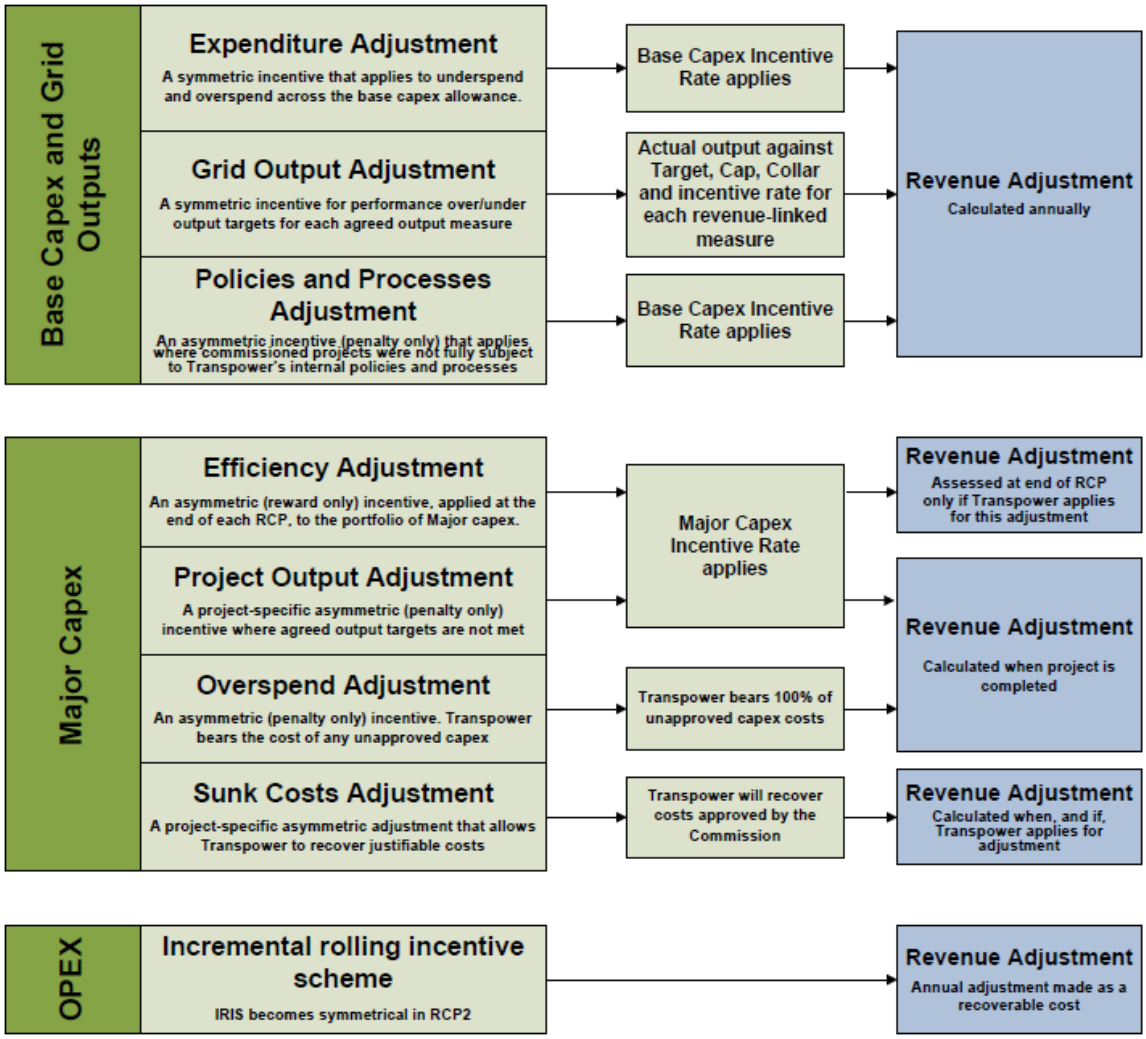
211. The suite of incentives is intended to incentivise Transpower to improve efficiency, deliver outputs within approved expenditure, and improve the outputs themselves. It is designed to work hand-in-hand with the Transpower Individual Price-Quality Path Determination (**IPP Determination**) and the other input methodologies (**IM**s) that apply to Transpower.[99]

212. Figure D1 shows how the incentive mechanisms in the capex IM and the Transpower IMs fit together for the current 2015-2020 regulatory period (**RCP2**).[100]

[99] See: Commerce Commission, "Transpower Individual Price-Quality Path Determination 2015 [2014] NZCC 35 (consolidated as of 4 November 2016)"; Commerce Commission, "Transpower Input Methodologies Determination 2010 [2012] NZCC 17 (consolidated as of 28 February 2017)".

[100] Refer to: Commerce Commission "Transpower Capital Expenditure Input Methodology – Reasons Paper" (31 January 2012), section 2.2.

Figure D1: Overview of Transpower capex and opex incentive mechanisms in RCP2



BASE CAPEX INCENTIVE AND OUTPUT FRAMEWORK

213. Under a price/revenue cap regime, capex incentives exist regardless of whether a more specific incentive regime is implemented. We considered it appropriate to amend the 'natural' incentive properties so that each incentive is explicit and targeted at promoting specific behaviours and outcomes.

214. Three annual incentive mechanisms apply to base capex:

214.1 annual base capex expenditure adjustment;

214.2 base capex annual policies and processes adjustment; and

214.3 annual grid output adjustment.

Annual base capex expenditure adjustment

215. The base capex expenditure adjustment provides a symmetric incentive (ie, it applies to both overspend and underspend of approved capex) across the base capex allowance within each disclosure year. The purpose of the incentive is to encourage Transpower to pursue project efficiency savings (ie, more economically deliver planned project outputs).

216. This revenue adjustment provides an incentive that recalibrates the strength of the 'natural incentive' by allowing Transpower to retain part of any savings or require it to bear part of any cost increases relative to the base capex allowance.

217. The base capex incentive rate that applies to this adjustment is the same for underspends and overspends. This is because we considered it desirable for the incremental incentive strength to be consistent regardless of whether Transpower over-spends or under-spends the base capex allowance. This avoids creating an incentive for Transpower to over- or under-capitalise.

218. The base capex incentive rate for RCP2 is currently 33% (ie, Transpower retains 33% of any underspend or bears 33% of any overspend).[101] We will consult on this rate prior to making any IPP determination for the 2020-2025 regulatory period (**RCP3**).

219. The base capex incentive rate is also approximately the same as for the incremental rolling incentive scheme (**IRIS**) incentive rate for opex. This ensures that Transpower would be indifferent to whether it spent operating expenditure or capital expenditure on a project. Transpower should select the lowest lifetime cost, rather than making opex versus capex trade-off decisions based on the nature of regulatory mechanisms.

Base capex annual policies and process adjustment

220. This is an asymmetric penalty that makes Transpower bear a portion of cost overruns (determined by the base capex incentive rate) for base capex assets that were not fully subjected to Transpower's policies and processes, or do not (in all material respects) meet the requirement to undertake a cost-benefit analysis and consultation consistent with major capex. This incentive adjustment is additional to any adjustment made under the base capex expenditure adjustment.

221. The reason for this adjustment is to ensure that a thorough and rigorous process is applied by Transpower when testing the economics and engineering solutions of any base capex.

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[101] Commerce Commission, "Setting Transpower's individual price-quality path for 2015 – 2020 [2014] NZCC 23" (29 August 2014), Para 3.17.

Annual grid output adjustment

222. This adjustment is designed to provide an incentive to Transpower to deliver the agreed levels of outputs. It was considered necessary to reduce incentives for under-investment that could result from the other incentive mechanisms used. It is a symmetric incentive that applies penalties for performance that does not achieve the targets set, and rewards performance for outperforming the targets.

223. There are four types of grid output adjustments:

    223.1 Grid performance;

    223.2 Asset performance;

    223.3 Asset health; and

    223.4 Asset capability.

224. Each revenue-linked grid output measure has a target, incentive rate, cap and collar. The mix of grid output measures that Transpower proposed for RCP2 was developed to ensure a balanced overview of performance is provided. This includes the performance of individual components of the grid, as well as of the grid as a whole. The asset health and asset capability outputs are measures of the impact of base capex expenditure on the average condition of grid assets and on grid capacity respectively.

MAJOR CAPEX INCENTIVE AND OUTPUT FRAMEWORK

225. Four incentive mechanisms apply to major capex projects:

    225.1 one periodic incentive that applies for each regulatory control period (major capex efficiency adjustment); and

    225.2 three project-specific incentives (major capex project output adjustment, major capex overspend adjustment, and sunk costs adjustment).

Major capex efficiency adjustment

226. The major capex efficiency adjustment is an asymmetric incentive mechanism that rewards Transpower for efficiency gains at the conclusion of a regulatory control period. Only net efficiencies are included in the calculation of the incentive amount. If the Commission decides that no net efficiencies were achieved over the portfolio of major capex projects commissioned during the regulatory control period, the incentive amount is zero.

227. The intention of the major capex efficiency adjustment is to provide an incentive to maintain downward pressure on costs within the aggregate amount of the portfolio of approved major capex projects, not just on those costs in excess of the approved level.

Major capex project output adjustment

228. The major capex project output adjustment is an asymmetric incentive mechanism that applies a penalty if Transpower does not deliver the agreed outputs for a major capex project. An adjustment is made for each individual major capex project whenever the approved outputs are not delivered. Under the major capex overspend adjustment Transpower then bears 100% of the difference between actual cost and the adjusted major capex allowance (if the actual cost is greater than the adjusted allowance).

229. The purpose of this output adjustment incentive is to make Transpower accountable to deliver the outputs that are agreed at the time the capex allowance is approved (or when Transpower subsequently seeks an amendment due to changing circumstances).

230. The major capex incentive rate for each regulatory period that applies to this adjustment is set by the Commission prior to the start of the period, and applies for the length of the period. The Commission determines and sets the incentive rate at the same time as we review Transpower's base capex proposal and set the base capex incentive rate.

231. For RCP2, we decided that 33% is an appropriate balance of risk and reward.[102] This incentive rate is applied to the major capex efficiency adjustment and the major capex project output adjustment.

Major capex overspend adjustment

232. The overspend adjustment is a penalty calculated at the completion of a project. It applies where costs on a major capex project exceed the level of capex approval for that project.

233. The penalty requires Transpower to bear 100% of the costs in excess of the total approved costs for the project. If Transpower underspend the major capex allowance, only the actual capex incurred is entered into the RAB and recovered through future revenues. The difference between the forecast capex in the approval of the major capex allowance and the actual capex is washed-up.[103]

234. The major capex overspend adjustment is imposed only if Transpower exceeds the approved major capex allowance for a project and Transpower has not sought and obtained an amendment to the project allowance that reflects the actual costs incurred.

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[102] Commerce Commission, "Setting Transpower's individual price-quality path for 2015 – 2020 [2014] NZCC 23" (29 August 2014), Para 3.17.

[103] See the incentive summary in Attachment A for further details.

235. This approach is intended to encourage Transpower to deliver the outputs at the level of cost that the assessment of Transpower's major capex proposal is based on (or when Transpower subsequently seeks an amendment due to changing circumstances). This is considered to encourage Transpower to discuss alternatives with the Commission at the time Transpower recognises the agreed outputs will not be achieved at the expected cost.

Sunk costs adjustment

236. The purpose of the major capex sunk costs adjustment is to provide the correct incentive for Transpower to discontinue a project when it is no longer in customers' interests (ie, is abandoned for good reason), or the project takes longer than expected (ie, passes the approved expiry date). This avoids an incentive to finish a project that is still part way through construction and is identified as no longer needed due to changes in market conditions.

237. The incentive to correctly abandon projects is provided by allowing Transpower to recover its costs up to the point that Transpower becomes aware that the project is no longer economical or needed.

INTERACTION OF CAPEX INCENTIVES WITH OPEX INCENTIVE SCHEME

238. The Transpower IRIS is an incentive mechanism in the Transpower IMs that applies to opex.[104]

239. This incentive mechanism creates a time-constant incentive for Transpower to make opex efficiency savings. The mechanism is symmetric (ie, the proportion retained by Transpower is equal for opex savings and expenditure overruns).

240. The retention factor as set in the Transpower IMs is 34%, which means that Transpower retains 34% of any efficiency gains or losses. This means that Transpower has no incentive to reallocate expenditure between capex and opex in order to benefit from a higher retention factor, as both types of expenditure have similar retention factors.

241. The IRIS mechanism results in an annual adjustment that is implemented as a recoverable cost (or negative recoverable cost, if applicable), with savings (or cost overruns) being passed on to consumers.

242. The Transpower IRIS is currently under review as part of the IM review.[105]

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[104] See: Commerce Commission, "Transpower Input Methodologies Determination 2010 [2012] NZCC 17, as amended and consolidated as of 28 February 2017", Part 3, Subpart 6.

[105] Commerce Commission, "Input methodologies review draft decision – Transpower Incremental Rolling Incentive Scheme" (24 March 2017).

HOW THE CAPEX IM INCENTIVES ARE APPLIED IN THE IPP DETERMINATION

243. All of the incentive mechanisms and adjustments in the capex IM flow through to the IPP revenue calculation mechanism.

244. The incentive adjustments for major capex and base capex are given effect through accounting entries in the EV account. This maintains the transparency of all adjustments and ensures the impact of those adjustments flow through to the next available forecast maximum allowable revenue (**MAR**) update. It ensures that the incentive amounts are recovered from or passed back to customers.

245. The processes in the IPP determination will be subject to consultation in conjunction with the next full reset of the forecast MAR for RCP3 in 2019 (ie, for the 2020-2025 regulatory period). A matter that we signalled previously when we reset the forecast MAR for the RCP2 regulatory period is whether we should continue to make annual determinations of the forecast MAR and all relevant component inputs, including annual incentive adjustments in the capex IM.[106]

[106] Commerce Commission, "Setting Transpower's individual price-quality path for 2015-2020 [2014] NZCC 23" (29 August 2014), Attachment A: The individual price-quality path evolves over time.