

**[REVISED DRAFT] Transpower Input Methodologies Amendments
Determination 2016**

[Technical consultation drafting notes:

- This 'revised draft' amendments determination proposes to amend the Transpower Input Methodologies Determination ('principal determination').
 - The included draft amendments were made as a result of our Input Methodologies Review which is aimed to be completed in December 2016 in accordance with s 52Y of the Commerce Act 1986.
 - Proposed amendments to the body of the input methodologies determination are marked as track changes.
 - The track changes in blue were proposed as part of our draft decision, published on 22 June 2016.
- The track changes in red are now proposed as part of our technical consultation, published on 13 October 2016.]

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~~Consolidating all amendments in force as of [XX]12 [XX]February 2016 (a history of this determination, including all amendments, may be found over page).~~

Commerce Commission

Wellington, New Zealand

[XX]12 ~~[XX]~~ February December 2016

Determination history		
Determination date	Decision number	Determination name
29 June 2012	[2012] NZCC 17	Commerce Act (Transpower Input Methodologies) Determination 2010 ('principal determination')*
28 August 2014	[2014] NZCC 22	Transpower Input Methodologies Amendments Determination 2014
26 September 2014	[2014] NZCC 24	Electricity Lines Services Input Methodologies Determination Amendment 2014
29 October 2014	[2014] NZCC 27	Electricity Lines Services and Gas Pipeline Services Input Methodologies Determination Amendment (WACC percentile for price-quality regulation) 2014
27 November 2014	[2014] NZCC 32	Incremental Rolling Incentive Scheme Input Methodology Amendments Determination 2014
27 November 2014	[2014] NZCC 34	Transpower Input Methodologies Amendments Determination 2014 (No. 2)
11 December 2014	[2014] NZCC 38	Electricity Lines Services and Gas Pipeline Services Input Methodologies Determination Amendment (WACC percentile for information disclosure regulation) 2014
5 February 2015	[2015] NZCC 3	Transpower Input Methodologies Amendment Determination 2015
21 October 2015	[2015] NZCC 27	Transpower Input Methodologies Amendment Determination 2015 (No. 2)
[XX] 12 December [XX] 12 December 2016	[2016] NZCC [XX]	Transpower Input Methodologies Amendments Determination 2016

* The principal determination re-determined the input methodologies contained in the *Commerce Act (Transpower Methodologies) Determination 2010* (Commerce Commission Decision No.713, 22 December 2010), as amended by the *Commerce Act (Transpower Input methodologies) Amendment Determination (No. 1) 2011* (Commerce Commission Decision 736, 1 November 2011). A complete history of determinations relevant to the input methodologies applicable to Transpower is available on the Commission's website.

TRANSPower INPUT METHODOLOGIES DETERMINATION

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Pursuant to Part 4 of the Commerce Act 1986 the Commerce Commission makes the following determination:

PART 1 GENERAL PROVISIONS

1.1.1 Title

This determination is the Transpower Input Methodologies Determination.

1.1.2 Application

(1) The **input methodologies** in this determination apply to **electricity transmission services**.

(2) The **input methodologies** in-

(a) Part 2 of this determination apply in relation to information disclosure regulation under Part 4 Subpart 4 of the Act; and

~~(b) Part 3 of this determination apply in relation to individual price-quality regulation under Part 4 Subpart 7 of the Act;~~

~~(B) of Part 4 of the Act.~~

~~For the purposes of subclause (2), this determination must be applied in accordance with-~~

~~the input methodologies in this determination; or~~

~~(3) if clause 1.1.5(1) applies, the next closest alternative approach.~~ Amendments to the **input methodologies** in-

~~(a) Part 2, including any amended definitions in clause 1.1.4(2), apply from the first **disclosure year** of each **IPP** determined after the commencement date described in clause 1.1.3; and~~

~~(b) Part 3, including any amended definitions in clause 1.1.4(2), apply for an **IPP** in force from 1 April 2020.~~

~~(4) For the avoidance of doubt, if the **Commission** determines that any forecast values are required to be calculated consistent with Part 3 for the determination of an **IPP** that is to come into effect after the effective date of this amendments determination, the amendments to the **input methodologies** relating to the forecast values in Part 3 and any amended definitions in clause 1.1.4(2) will apply at the time when the **Commission** requires the forecast information.~~

1.1.3 Commencement Date

This determination comes into force on the day after the date on which notice of it is given in the New Zealand Gazette under section 52W of the **Act**.

1.1.4 Interpretation

(1) In this determination-

(a) unless stated otherwise, references to Parts and Subparts are to named and numbered parts and subparts of the determination;

(b) references to Subparts are to subparts within the same part in which the reference is made;

- (c) unless the context otherwise requires, a word which denotes the singular also denotes the plural and vice versa; and
- (d) unless stated otherwise, any reference to an allowance, amount, cost, sum or value is a reference to an allowance, amount, cost, sum or value calculated in relation to **Transpower** in respect of a **disclosure year**.

(2) In this determination, including in the schedule, the words or phrases in bold type bear the following meanings:

67th percentile estimate of WACC

~~means, an estimate, made in accordance with,~~ for the purpose of-

- (a) Part 2, in accordance with clause 2.4.57(5)(b), of the 67th percentile for the post-tax **mid-point estimate of WACC**; ~~and~~
- (b) Part 3, in accordance with clause 3.5.57(2)(b), of the 67th percentile for the **mid-point estimate of WACC**; and
- ~~(b)(c)~~ Part 3, in accordance with clause 3.5.5(3)(b), of the 67th percentile for the midpoint estimate of WACC;

75th percentile estimate of WACC

means an estimate, made in accordance with clause ~~2.4.57(3)(b)(i)~~, and published pursuant to clause 2.4.68, of the 75th percentile for the post-tax **mid-point estimate of WACC**;

2011 thresholds regulatory asset base

means the regulatory asset base as defined in the **thresholds notice** as of 30 June 2011;

A

Act

means the Commerce Act 1986;

actual controllable opex

means, in relation to a disclosure year, the amount of **operating expenditure** made by **Transpower** in the categories to which **allowed controllable opex** relates;

actual opex

has the meaning specified in clause 3.6.3(8);

allowed controllable opex

means the allowance specified in an **IPP determination** for **operating expenditure** in categories specified as controllable;

adjustment to the opex incentive	means the amount calculated in accordance with clause 3.6.4(1);
amount carried forward	means, for any given disclosure year , the amount determined in accordance with clause 3.6.3;
auditor	means- <ul style="list-style-type: none"> (a) whilst Transpower is a public entity (as defined in s 4 of the Public Audit Act 2001), the Auditor-General; and (b) where paragraph (a) does not apply, a person who is- <ul style="list-style-type: none"> (i) qualified for appointment as an auditor of a company under the Companies Act 1993; and (ii) independent;
base capex	B has the meaning given in the Capex IM ;
business day	means any day on which statistics relating to trading in New Zealand government bonds are published by a financial information service such as Bloomberg or Reuters;
cap	C has the same meaning as defined in the Capex IM ;
Capex IM	means the <i>Transpower Capital Expenditure Input Methodology Determination</i> [2012] NZCC 2, as amended;
capital contributions	means money or the monetary value of other consideration charged to or received from consumers or other parties for the purposes of asset construction, acquisition or enhancement;
capital expenditure	means costs that- <ul style="list-style-type: none"> (a) have been incurred in the acquisition or development of

	<p>an asset that is, or is intended to be, commissioned; and</p> <p>(b) are intended to be included in the value of commissioned asset;</p>
catastrophic event	has the meaning specified in clause 3.7.1;
change event	has the meaning specified in clause 3.7.2;
closing RAB value	<p>means the value determined in accordance with, for the purpose of-</p> <p>(a) Part 2, clause 2.2.3(4); and</p> <p>(b) Part 3, clause 2.2.3(4) as modified pursuant to clause 3.3.1;</p>
collar	has the same meaning as defined in the Capex IM ;
Commission	has the same meaning as defined in s 2 of the Act ;
commissioned	<p>means used by Transpower to provide electricity transmission services, save that in relation to-</p> <p>(a) land that is not easement land; or</p> <p>(b) an easement;</p> <p>'commissioned' means acquired by Transpower where –</p> <p>(c) the land or easement is base capex, or</p> <p>(d) the acquisition was approved by the–</p> <p>(i) Electricity Commission under Part F of the Electricity Governance Rules 2003;</p> <p>(ii) Commission under s 54R(3)(b) of the Act; or</p> <p>(iii) Commission in accordance with an input methodology determined pursuant to s 54S of the Act,</p>

	and 'commission' shall be construed accordingly;
commissioning date	means the date that an asset is first commissioned ;
corporate tax rate	means the rate of income taxation applying to companies as specified in the tax rules ;
cost of debt	means the amount specified for r_d in clause 2.4.1(4);
cost of executing an interest rate swap	has the meaning specified in clause 2.4.9(2);
<u>CPI</u>	<u>has the same meaning as defined in the Capex IM;</u>
D	
debt premium	has the meaning specified in and is the amount determined in accordance with, for the purpose of- <ul style="list-style-type: none"> (a) Part 2, clause 2.4.4; and (b) Part 3, clause 3.5.4;
depreciation	π in relation to a disclosure year , means the allowance for that disclosure year to account for the diminution in an asset's remaining service life potential in the disclosure year in question determined in accordance with with clause 2.2.4(2);
disclosure year	means 12 month period ending on 30 June; <p style="text-align: center;"><i>Example: 'disclosure year 2012' means 12 month period ending on 30 June 2012;</i></p>
disposed asset	means an asset that, in the disclosure year in question, has been sold or transferred, or has been irrecoverably removed from the Transpower's possession without consent, but is not a lost asset ;
document	has the same meaning as defined in s 2 of the Act ;

E

easement	means a right to use but not possess land belonging to another person or a right to prevent certain uses of another person's land ;
easement land	means land acquired with the intention of- <ul style="list-style-type: none"> (a) creating an easement in respect of it; and (b) disposing of the land thereafter;
EDB	has the same meaning as defined in the Commerce Act (Electricity Distribution Input Methodologies) Determination 2010;
Electricity Authority	means the authority established under s 12 of the Electricity Industry Act 2010;
Electricity Commission	means the same body as the Electricity Governance Board established under s 172M of the Electricity Act 1992 as in force immediately before its substitution by s 14 of the Electricity Amendment Act 2004;
electricity transmission services	means electricity lines services (as 'electricity lines services' is defined in s 54C of the Act) supplied by Transpower ;
engineer	means an individual who is- <ul style="list-style-type: none"> (a) a chartered professional engineer as defined in s 6 of the Chartered Professional Engineers <u>of New Zealand</u> Act 2002; (b) acting in that professional capacity; and (c) independent;
error <u>event</u>	has the meaning specified in clause 3.7.3(1);
<u>EV adjustment</u>	<u>has the meaning specified in clause 3.7.4(6);</u>
excluded asset	means an asset that is- <ul style="list-style-type: none"> (a) not used to supply electricity transmission services as on the last day of the disclosure year 2011; or

(b) **easement land;**

F

finance lease

has the same meaning as under **GAAP**;

fixed life easement

means an **easement** that-

- (a) is of fixed duration; or
- (b) whilst of indefinite duration, is to be held for a fixed period;

[forecast CPI](#)

[has the same meaning as defined in the Capex IM;](#)

forecast MAR

has the same meaning as defined in an **IPP determination**;

forecast opex

has the meaning specified in clause 3.6.3(7);

found asset

has the meaning specified in clause 2.2.8(1);

G

GAAP

means generally accepted accounting practice in New Zealand, save that, where the cost of an asset is being determined in accordance with this determination, only the cost model of recognition is applied, insofar as an election may be made between the cost model of recognition and the fair value model of recognition;

GPB

means GDB or GTB, as-

- (a) 'GDB' is defined in the Commerce Act (Gas Distribution Input Methodologies) Determination 2010; and
- (b) 'GTB' is defined in the Commerce Act (Gas Transmission Input Methodologies) Determination 2010;

grid output

has the same meaning as defined in the **Capex IM**;

grid output incentive rate

has the same meaning as defined in the **Capex IM**;

I

ID determination	means an information disclosure determination in relation to Transpower made by the Commission under s 52P of the Act ;
identifiable non-monetary asset	has the same meaning as under GAAP save that goodwill is excluded;
incremental adjustment term	means the amount determined in accordance with clause 3.6.6(4);
independent	means neither in a relationship with, nor having an interest in, Transpower that is likely to involve him, her or it in a conflict of interest between his, her or its duties to Transpower and his, her or its duties to the Commission ;
inflation rate	has the meaning specified in clause 3.6.6(5);
initial RAB	has the meaning specified in clause 2.2.1;
initial RAB value	means value of an asset in the initial RAB determined in accordance with clause 2.2.2;
input methodology	has the same meaning as defined in s 52C of the Act ;
investment grade credit rated	means endorsed with a credit rating by an established credit rating agency (such as Standard and Poor's) of "investment grade" on that agency's credit rating scale applicable to long-term investments;
IPP	means individual price-quality path;
IPP determination	means any individual price-quality determination applying to Transpower made by the Commission under s 52P of the Act ;
L	
land	excludes- <ul style="list-style-type: none"> (a) buildings; and (b) easements;
leverage	means the ratio of debt capital to total capital and, for the purpose of-

	(a) Part 2, is the amount specified in clause 2.4.2(1); and
	(b) Part 3, is the amount specified in clause 3.5.2(1);
listed project	has the same meaning as defined in the Capex IM ;
local authority	has the same meaning as defined in s 5(1) of the Local Government Act 2002;
lost asset	means an asset- <ul style="list-style-type: none"> (a) not included in the initial RAB; and (b) having, in relation to the disclosure year in question, an unallocated opening RAB value, but determined by Transpower in that disclosure year never to have been used to provide electricity transmission services;

M

major capex	has the same meaning as defined in the Capex IM ;
major capex allowance	has the same meaning as defined in the Capex IM ;
major capex project	has the same meaning as defined in the Capex IM ;
mid-point estimate of WACC	means, for the purpose of- <ul style="list-style-type: none"> (a) Part 2, the mid-point estimate of- <ul style="list-style-type: none"> (i) vanilla WACC; or (ii) post-tax WACC, as the case may be, as each is estimated in accordance with clause 2.4.1; and (b) <u>Part 3, the mid-point estimate of-</u> <ul style="list-style-type: none"> <u>(i) vanilla WACC; or</u> <u>(ii) post-tax WACC,</u> <u>as the case may be, as each is estimated in accordance with clause 3.5.1-vanilla WACC, as estimated in accordance with clause 3.5.1;</u>

multi-rate PIE has the same meaning as defined in s YA 1 of the Income Tax Act 2007;

N

Nelson-Siegel-Svensson approach has the meaning specified in clause 2.4.4(6);

network spare means an asset that is held by **Transpower** to replace any other asset it holds should that other asset be withdrawn from use owing to failure or damage;

new investment contract means a contract for the provision of new **electricity transmission services** between **Transpower** and another person in respect of which-

- (a) the other person has agreed in writing (whether in the same contract or not) that the terms and conditions of the contract-
 - (i) are reasonable; or
 - (ii) reflect workable or effective competition for the provision of the **electricity transmission services**; or
- (b) **Transpower** demonstrates beyond a reasonable doubt that the terms and conditions of the contract were determined following a process that provided opportunities for-
 - (i) affected customers to make or approve reasonable price-quality trade-offs; and
 - (ii) the competitive provision of new **electricity transmission services** by parties other than **Transpower**;

O

opening RAB value means the value determined in accordance with, for the purpose of-

	(a) Part 2, clause 2.2.3(3); and (b) Part 3, clause 2.2.3(3) as modified pursuant to clause 3.3.1;
opening year	means in respect of- (a) RCP1 , second disclosure year of RCP1 ; and (b) regulatory periods after RCP1 , first disclosure year commencing in the regulatory period ;
operating cost	means a cost incurred by Transpower relating to the supply of electricity transmission services , and excludes- (a) a cost that is treated as a cost of an asset by GAAP ; (b) amounts that are depreciation, tax, subvention payments, revaluations or an interest expense, in accordance with their meanings under GAAP ; and (c) pass-through costs ; and (d) <u>recoverable costs; and</u> (d) — payments associated with a finance lease, where the finance lease has an opening RAB value;
operating expenditure	means operating costs after application of clause 3.2.1;
opex incentive amount	means the amount determined in accordance with clause 3.6.2(1);
	P
pass-through cost	has the meaning specified in clause 3.1.2;
person	<u>has the same meaning as defined in s 2 of the Act;</u>
physical asset life	has the meaning specified in clause 2.2.6;
prescribed investor rate	has the same meaning as defined in the Income Tax Act 2007 or any subsequent legislation that supplements or replaces the provisions relating to prescribed

	investor rate in the Income Tax Act 2007;
<u>programme</u>	<u>means a group of related projects with a common purpose;</u>
<u>project</u>	<u>means a temporary endeavour requiring concerted effort, undertaken to create a defined outcome;</u>
	Q
qualifying debt	has the meaning specified in clause 2.4. 79(1) ;
qualifying issuer	means a New Zealand resident limited liability company- <ul style="list-style-type: none"> (a) that- <ul style="list-style-type: none"> (i) undertakes the majority of its business activities in Australia and New Zealand; or (ii) is part of a corporate group that undertakes the majority of its business activities in Australia and New Zealand; (b) that- <ul style="list-style-type: none"> (i) does not operate predominantly in the banking or finance industries; or (ii) is part of a corporate group that does not operate predominantly in the banking or finance industries; and (c) that issues vanilla NZ\$ denominated bonds that are publicly traded;
qualifying rating	means- <ul style="list-style-type: none"> (a) a Standard and Poor's long term credit rating of the specified grade; or

- (b) an equivalent long term credit rating of another internationally recognised rating agency;

R

RCP1	means the regulatory period commencing on 1 April 2011 and ending on 31 March 2015;
RCP1 psuedo asset	means the asset calculated in accordance with clause 2.2.9(2);
recoverable cost	has the meaning specified in clause 3.1.3;
regulated goods or services	has the same meaning as defined in s 52C of the Act ;
regulated supplier	means a supplier of regulated goods or services ;
regulatory period	means the period to which an IPP determination relates;
regulatory tax asset value	has the meaning specified in clause 2.3.2(1);
related party	means- <ul style="list-style-type: none"> (a) a person that, in accordance with GAAP, is a related to Transpower, other than as a result of Transpower being a crown-owned entity; or (b) any part of Transpower that does not supply electricity transmission services;
remaining asset life	means term remaining of an asset's physical asset life , for the purposes of: <ul style="list-style-type: none"> (a) clauses 2.2.4(1)(a) and 2.2.4(2)(a), at the commencement of the disclosure year in question; (b) clauses 2.2.4(1)(b) and 2.2.4(2)(b), at the asset's commissioning date;
revenue-linked grid output measure	has the same meaning as defined in the Capex IM ;

S

services	has the same meaning as defined in s 2 of the Act ;
standard error	means estimated standard deviation;
standard physical asset life	means life for an asset as specified in Schedule A;
supply	has the same meaning as defined in s 2 of the Act , and supplied must be construed accordingly;
system operator	has the same meaning as defined in s 5 of the Electricity Industry Act 2010;

T

tax rules	means the rules applicable to Transpower for determining income tax payable in the Income Tax Act 2007 (as amended from time to time, and any equivalent preceding legislation, or any subsequent legislation that supplements or replaces that Act);
term credit spread difference	means the amount determined in accordance with clause 2.4. 810 ;
term credit spread differential	means the amount determined in accordance with, for the purpose of- <ul style="list-style-type: none"> (a) Part 2, clause 2.4.911; and (b) Part 3, clause 3.5.810;
term credit spread differential allowance	means the sum of term credit spread differentials ;
thresholds notice	means the Commerce Act (Transpower Thresholds) Notice 2008;
Transpower	has the same meaning as defined in s 54B of the Act ;

U

unallocated closing RAB value	means the value determined in accordance with clause 2.2.3(2);
unallocated depreciation	means an allowance to account for the diminution in an asset's remaining service life potential in the disclosure year in question determined in accordance with clause 2.2.4(1);

unallocated initial RAB value	means value of an asset in the initial RAB determined in accordance with clause 2.2.2(1);
unallocated opening RAB value	means the value determined in accordance with clause 2.2.3(1);
V	
value of commissioned asset	means the value determined in accordance with clause 2.2.7;
value of found asset	means the value determined in accordance with clause 2.2.8(2);
valuer	means an individual who- <ul style="list-style-type: none"> (a) is registered as a valuer under the Valuers Act 1948; (b) holds a current practising certificate issued by- <ul style="list-style-type: none"> (i) the Property Institute of New Zealand; or (ii) the New Zealand Institute of Valuers; (c) has been engaged to act in his or her professional capacity as a valuer; and (d) is independent;
vanilla NZ\$ denominated bonds	means senior unsecured nominal debt obligations denominated in New Zealand dollars without callable, puttable, conversion, profit participation, credit enhancement or collateral features;
W	
WACC	means weighted average cost of capital;
works under construction	means an asset, or a collection of assets that- <ul style="list-style-type: none"> (a) has been or is being constructed by, or on behalf of, Transpower; (b) has not been commissioned; and <u>(c)</u> Transpower intends to commission.

- ~~Next closest alternative approach~~
- ~~The **Commission** may determine that the next closest alternative approach will be applied to any **input methodology** in this determination if that **input methodology** is unworkable.~~
- ~~**Transpower** may propose to the **Commission**, in accordance with subclause (3), that it considers the next closest alternative approach should apply to an **input methodology** where it identifies that the **input methodology** is unworkable.~~
- ~~If **Transpower** proposes a next closest alternative approach, it must—~~
 - ~~identify the unworkable **input methodology** and explain why it considers the **input methodology** is unworkable;~~
 - ~~describe the next closest alternative approach that would apply instead of the unworkable **input methodology**;~~
 - ~~describe whether the next closest alternative approach is likely to have an equivalent or non-equivalent effect to that of the unworkable **input methodology**; and~~
 - ~~certify the information in paragraphs (a)–(c), as may be specified by the **Commission** in a s 52P determination.~~
- ~~If the **Commission** applies the next closest alternative approach in accordance with subclause (1), it must—~~
 - ~~identify the unworkable **input methodology**;~~
 - ~~describe the next closest alternative approach that would apply instead of the unworkable **input methodology**;~~
 - ~~describe whether the next closest alternative approach is likely to have an equivalent or non-equivalent effect to the unworkable **input methodology** and whether a change is required to a s 52P determination to give effect to the next closest alternative approach;~~
 - ~~undertake any consultation that the **Commission** considers appropriate; and~~
 - ~~publish its decision, including a description of the next closest alternative approach as specified in paragraph (b).~~
- ~~If the **Commission** decides that the next closest alternative approach has a non-equivalent effect on the price-quality path during the **regulatory period**, the **Commission** may reconsider the price-quality path in clause 3.7.4(7), as applicable.~~
- ~~(3) For the purposes of subclauses (1)–(4), an **input methodology** may be considered as unworkable if it cannot be reasonably applied as intended.~~

PART 2 INPUT METHODOLOGIES FOR INFORMATION DISCLOSURE

SUBPART 1 Cost allocation

2.1.1 Cost allocation process

(1) For the purpose of any requirement in an **ID determination** to disclose-

- (a) asset values;
- (b) **capital expenditure**; or
- (c) **operating costs**,

amounts or values thereof allocated to activities undertaken by **Transpower** to **supply electricity transmission services** other than **system operator** services must be net of amounts implicitly or explicitly recoverable by **Transpower** in respect of its **supply** of **system operator** services pursuant to any agreement in respect of such services between **Transpower** and the **Electricity Authority**.

(2) In this clause, 'asset value' means, in respect of an asset used by **Transpower** in the **supply** of **electricity transmission services**, in-

- (a) the **disclosure year** 2011, its **unallocated initial RAB value**; and
- (b) all other **disclosure years**, its **unallocated closing RAB value**.

SUBPART 2 Asset valuation

2.2.1 Composition of initial RAB

Initial RAB means assets included in the **2011 thresholds regulatory asset base**, less-

- (a) **excluded assets**;
- (b) intangible assets, unless they are-
 - (i) **finance leases**; or
 - (ii) **identifiable non-monetary assets**; and
- (c) **works under construction**.

2.2.2 Initial RAB values for assets

(1) Subject to subclause (2), the unallocated initial RAB value of an asset is its value determined as of 30 June 2011 in accordance with the **thresholds notice**.

(2) For the purpose of subclause (1), where an asset is used by **Transpower** in the **supply** of **system operator** services, the unallocated initial RAB value is the value of the asset had no allocation of asset value relevant to the **thresholds notice** been undertaken.

(3) The initial RAB value of an asset is determined as the value allocated to **electricity transmission services** as a result of-

- (a) adopting its **unallocated initial RAB value**; and
- (b) applying clause 2.1.1 to it.

2.2.3 RAB roll forward

(1) Unallocated opening RAB value in respect of an asset in relation to-

- (a) the **disclosure year** 2012, is its **unallocated initial RAB value**; and
- (b) a **disclosure year** thereafter, is its **unallocated closing RAB value** in the preceding **disclosure year**.
- (2) Unallocated closing RAB value means, in the case of-
- (a) a **found asset**, its **value of found asset**;
- (b) a **disposed asset**, nil;
- (c) a **lost asset**, nil;
- (d) any other asset with an **unallocated opening RAB value**, the value determined in accordance with the formula-
- unallocated opening RAB value - unallocated depreciation;**
- (e) an asset to which clause 2.2.7(4)(b)(i) applies, the result of the formula in paragraph (d), increased by the amount of expenditure described in clause 2.2.7(4)(b)(i) in the **disclosure year** in question; and
- (f) any other asset having a **commissioning date** in the **disclosure year** in question, the value determined in accordance with the formula-
- value of commissioned asset – unallocated depreciation.**
- (3) Opening RAB value in respect of an asset, is, for-
- (a) the **disclosure year** 2012, its **initial RAB value**; and
- (b) a **disclosure year** thereafter, its **closing RAB value** in the preceding **disclosure year**.
- (4) Closing RAB value, in respect of an asset, is determined as the value allocated to **electricity transmission services** by-
- (a) adopting its **unallocated closing RAB value**; and
- (b) applying 2.1.1 to it.

2.2.4 Depreciation

- (1) Unallocated depreciation is determined, subject to subclause (3) and clause 2.2.5, in accordance with the formula, in the case of –
- (a) an asset with an unallocated opening RAB value –
 $[1 \div \text{remaining asset life}] \times \text{unallocated opening RAB value}$; and
- (b) an asset having a **commissioning date** in the **disclosure year** in question –
 $[1 \div \text{remaining asset life}] \times \text{unallocated opening RAB value} \times \text{the fraction of the disclosure year from the commissioning date to the last day of the disclosure year}$.
- (2) Depreciation is determined, subject to subclause (3)(a), in accordance with the formula, in the case of-
- (a) an asset with an unallocated opening RAB value –
 $[1 \div \text{remaining asset life}] \times \text{opening RAB value}$; and
- (b) an asset having a **commissioning date** in the **disclosure year** in question –
 $[1 \div \text{remaining asset life}]$
 ×

value allocated to electricity transmission services by adopting the value of commissioned asset and applying clause 2.1.1 to it as if it were an asset value

×

the fraction of the disclosure year from the commissioning date to the last day of the disclosure year.

- (3) For the purposes of subclauses (1) and (2)-
- (a) unallocated depreciation and depreciation are nil in the case of-
 - (i) **land**;
 - (ii) an **easement** other than a **fixed life easement**; and
 - (iii) a **network spare** in respect of the period before which depreciation for the **network spare** in question commences under **GAAP**; and
 - (b) in all other cases, where an asset's **physical asset life** at the end of the **disclosure year** is nil-
 - (i) unallocated depreciation is the asset's **unallocated opening RAB value**; and
 - (ii) depreciation is the asset's **opening RAB value**.

2.2.5 Unallocated depreciation constraint

- (1) For the purpose of clause 2.2.4, and subject to subclause (2), the sum of **unallocated depreciation** of an asset calculated over its **physical asset life** may not exceed, in the case of an asset-
- (a) in the **initial RAB**, its **unallocated initial RAB value**; or
 - (b) not in the **initial RAB**, its **value of commissioned asset** or **value of found asset**.
- (2) For the purpose of subclause (1), the sum of increases to which clause 2.2.3(2)(e) refers for all **disclosure years** is treated as an increase in the **value of commissioned asset** of the asset in question.

2.2.6 Physical asset life

- (1) Physical asset life means a finite period relating to an asset, being, in the case of-
- (a) a **fixed life easement**, the fixed duration or fixed period (as the case may be) referred to in the definition of **fixed life easement**;
 - (b) a dedicated asset which is not expected to be used by **Transpower** to provide **electricity transmission services** beyond the term of the fixed term agreement relating to the asset between **Transpower** and the customer, at **Transpower's** election, the term of that agreement;
 - (c) an extended life asset or a refurbished asset, its physical service life potential as determined by **Transpower**;
 - (d) a stranded asset, the service life potential specified by the **Commission**;
 - (e) a reduced life asset, its physical service life potential determined by an **engineer**, subject to subclause (2);
 - (f) a **found asset** for which a similar asset exists as described in subclause 2.2.8(2)(b)(i), the asset life applying to the similar asset;

- (g) the HVAC lines pseudo asset described in Schedule 1, clause 3(4)(d) of the **thresholds notice**, five years from 1 July 2011;
- (h) a non-network asset, its asset life as determined under GAAP;
- (i) an asset acquired or transferred from a **regulated supplier**, the asset life that the vendor would have assigned to the asset at the end of its **disclosure year** had the asset not been transferred;
- (j) an asset acquired or transferred from an entity other than a **regulated supplier**:
 - (i) where a similar asset exists, the asset life assigned to the similar asset; or
 - (ii) where a similar asset does not exist, the physical service life potential determined by an **engineer**, subject to subclause (2);
- ~~(h)~~(k) an asset not referred to in paragraphs (a) to ~~(hg)~~-
 - (i) having a **standard physical asset life**, its **standard physical asset life**;
 - (ii) not having a **standard physical asset life**, if there is a similar physical asset in terms of asset type with an **unallocated opening RAB value**, the physical asset life of that similar physical asset; and
 - (iii) in all other cases, ~~its~~the physical service life potential determined by an **engineer**, subject to subclause (2);
- ~~(i)~~(l) a composite asset, the average asset life of the assets comprising it determined in accordance with paragraphs (a) to ~~(jh)~~, with the modification that each such asset life must be weighted with respect to the proportion of its respective **opening RAB value** to the sum of the **opening RAB values** of the components in the earliest **disclosure year** in which all component assets were held by **Transpower**; and
- ~~(j)~~(m) the **RCP1 psuedo asset**, 31 years.

- (2) For the purpose of subclauses (1)(e) and (1)~~(jh)~~(iii), a determination of physical service life potential made by an **engineer**-
 - (a) in relation to an asset with an **unallocated opening RAB value** is deemed applicable to all assets of similar asset type for which there is a requirement in this clause for an **engineer's** determination of physical service life potential; and
 - (b) must be evidenced by a report written by that **engineer** that includes an acknowledgement that the report may be publicly disclosed by **Transpower** pursuant to an **ID determination**.
- (3) In this clause-
 - (a) 'dedicated asset' means an asset operated for the benefit of a particular customer pursuant to a fixed term agreement for the **supply of electricity transmission services** between **Transpower** and that customer;
 - (b) 'extended life asset' means an asset whose physical service life potential is greater than its **standard physical asset life**;

- (c) 'refurbished asset' means an asset on which work (other than maintenance) has been carried out resulting in an extension to its physical service life potential;
- (d) 'reduced life asset' means an asset determined by **Transpower** to have a physical service life potential shorter than its **standard physical asset life**;
- (e) 'stranded asset' means an asset-
 - (i) that has an **opening RAB value**; and
 - (ii) in respect of which, on application by **Transpower** and in accordance with any process for the purpose specified in an **IPP determination**, the **Commission** has determined a service life potential shorter than its **standard physical asset life**; and
- (f) 'composite asset' means a configuration of two or more assets that is not capable of operation in the absence of any of those assets.

2.2.7 Value of commissioned assets

- (1) Value of commissioned asset, in relation to an asset, is the cost of the asset to **Transpower** determined by applying **GAAP** to the asset as on its **commissioning date**, except that the cost of-
 - (a) an intangible asset, unless it is-
 - (i) a **finance lease**; or
 - (ii) an **identifiable non-monetary asset**,
 is nil;
 - (b) an **easement** created by **Transpower** in respect of **easement land**, is limited to the sum of-
 - (i) legal and administrative costs incurred by **Transpower** in relation to the **easement's** creation;
 - (ii) compensation, determined by a **valuer**, for any amount that would otherwise have been paid by **Transpower** on arm's-length terms to a third party owner of **easement land** as compensation for the permanent and material reduction in the value of the **land** or disruption, on account of the **easement's** creation; and
 - (iii) the cost of financing the purchase of the **easement land**, determined in respect of the period on and from the date of acquisition until the **easement's** creation,
 where any gain or loss made by **Transpower** on the sale or disposal of the **easement land** is ignored;
 - (c) **easement land**, is nil;
 - (d) an asset used in providing **electricity transmission services** pursuant to a **new investment contract**, is nil;
 - (e) a **network spare** whose cost is not treated wholly as or part of the cost of an asset under **GAAP**, is nil;
 - (f) an asset-
 - (i) acquired from another **regulated supplier**; and

- (ii) used by that **regulated supplier** in the **supply of regulated goods or services**,

is limited to the unallocated ~~closing~~opening RAB value of the asset that would have applied for the other regulated supplier, had the asset not been acquired~~transferred, by Transpower in the period on the closing day of the disclosure year~~ when the asset was transferred as on the the day before the commissioning date (as 'unallocated ~~closing~~opening RAB value' is defined in the **input methodologies** applying to the **supply of regulated goods or services-supplied** by the other **regulated supplier**);

- (g) an asset that was previously used by **Transpower** in its **supply of other regulated goods or services** is limited to the unallocated opening RAB value of the asset in relation to those **other regulated goods or services** as on the day before the **commissioning date** (as 'unallocated opening RAB value' is defined in the **input methodologies** applying to the **regulated goods or services supplied by Transpower**); and
- (h) an asset acquired from a **related party** other than an asset to which paragraphs (f) or (g) apply is-
- (i) its depreciated historic cost in respect of the **related party** determined by applying **GAAP** as on the day before the acquisition by the **Transpower**; or
- (ii) where sufficient records do not exist to establish this cost, its market value as at its **commissioning date** as determined by a **valuer**.

- (2) When applying **GAAP** for the purpose of subclause (1), the cost of financing-

- (a) is applicable only in respect of the period commencing on the date the asset becomes a **works under construction** and terminating on its **commissioning date**; and
- ~~(b) is calculated using a rate not greater than the weighted average of borrowing costs for each applicable disclosure year, subject to subclause (3), a rate no greater than-~~
- ~~(c) for each disclosure year prior to disclosure year 2016, the 75th percentile estimate of WACC; and~~
- ~~(d) for disclosure year 2016 and each disclosure year thereafter, the 67th percentile estimate of WACC,~~
- ~~(e)(b) applying in respect of the relevant date for its calculation under GAAP.~~

- (3) For the purposes of subclause (2)(b), the 'weighted average of borrowing costs' is calculated for a disclosure year using principles set out in GAAP, where:

- (a) the cost of financing rate is the weighted average of the costs applicable to borrowings in respect of capital expenditure that are outstanding during the disclosure year;
- (b) the total costs applicable to borrowings outstanding, as used in calculating the weighted average, must include costs of borrowings made specifically for the purpose of any particular –

- (i) capital expenditure projects; or
- (ii) capital expenditure programmes; and

(c) the amount of borrowing costs capitalised during the disclosure year must not exceed the amount of borrowing costs incurred during the disclosure year.

~~(3) For the purposes of subclause (2)(b)-~~

- ~~(a) where no WACC in respect of the relevant date has been published pursuant to clause 3.5.8, the rate is calculated using a rate no greater than Transpower's estimate of its post tax WACC as at the relevant date for its calculation under GAAP; and~~
- ~~(b) where an asset has not been commissioned within the period to which the 75th percentile estimate of WACC or 67th percentile estimate of WACC, as applicable, referred to in subclause (2)(b) applied, the cost of financing in each disclosure year after that period is calculated using a rate no greater than-~~
 - ~~(i) for each part of that later period that is in a disclosure year prior to disclosure year 2016, the 75th percentile estimate of WACC applying to that later period; and~~
 - ~~(ii) for each part of that later period that is in disclosure year 2016 or a disclosure year thereafter, the 67th percentile estimate of WACC applying to that later period.~~

(4) For the avoidance of doubt-

- (a) revenue derived in relation to **works under construction** that is not included in regulatory income under an **ID determination** or preceding regulatory information disclosure requirements reduces the cost of an asset by the amount of the revenue where such reduction is not otherwise made under **GAAP**;
- (b) where expenditure on an asset which forms part of the cost of that asset under **GAAP** is incurred by **Transpower** after the asset was first **commissioned**, such expenditure may be treated, at **Transpower's** election, as relating to-
 - (i) that asset; or
 - (ii) a separate asset.

2.2.8 Value of found assets

(1) Found asset means, in relation to a **disclosure year**, an asset-

- (a) other than **esement land**;
- (b) other than an intangible asset, unless it is-
 - (i) a **finance lease**; or
 - (ii) an **identifiable non-monetary asset**; and
- (c) not having a **commissioning date** in the **disclosure year** in question;
- (d) the value of which-

- (i) is not included as an **unallocated opening RAB value** in the **disclosure year** in question nor was so included in any prior disclosure year in accordance with clause 2.2.3(1); and
 - (ii) was not included in an **unallocated closing RAB value** in any prior **disclosure year** in accordance with clause 2.2.3(2); and
 - (e) first determined by **Transpower** in the **disclosure year** in question to have a **commissioning date** after the **disclosure year** 2011.
- (2) The value of found asset for a **found asset** is-
- (a) its cost calculated consistently with **GAAP**; or
 - (b) where sufficient records do not exist to establish its cost for the purposes of **GAAP**,
 - (i) where an asset with an **unallocated opening RAB value** for that **disclosure year** is similar (in terms of asset type and age) to the **found asset**, the **unallocated opening RAB value** of the similar asset; and
 - (ii) in all other cases, its market value as determined by a **valuer** as at the date that the asset was first determined by **Transpower** to have been **commissioned** in a prior **disclosure year** after the **disclosure year** 2011.

2.2.9 Adjustment to asset values and establishment of RCP1 pseudo asset

- (1) Each asset with a **commissioning date** in the period commencing
- (a) on the first day of **disclosure year** 2012; and
 - (b) ending on the last day of the **disclosure year** 2015
- shall have its values calculated pursuant to-
- (c) clause 2.2.3(1); and
 - (d) clause 2.2.3(3),
- for the **disclosure year** 2016 adjusted by the amounts necessary to produce the value for each asset as if **depreciation** had applied for the **disclosure year** in which the asset's **commissioning date** occurred.
- (2) The 'RCP1 psuedo asset' is an asset established as of the first day of the **disclosure year** 2016 with-
- (a) an **unallocated opening RAB value** equal to the sum of adjustments for all assets made under subclause (1) in respect of clause 2.2.3(1); and
 - (b) an **opening RAB value** equal to the sum of all adjustments for all assets made under subclause (1) in respect of clause 2.2.3(3).

SUBPART 3 **Treatment of taxation**

2.3.1 Regulatory tax allowance

- (1) Regulatory tax allowance is determined by applying the **tax rules** and the **corporate tax rate** to the regulatory profit / (loss) before tax.

- (2) For the purpose of subclause (1), 'regulatory profit / (loss) before tax' means the amount of 'regulatory profit / (loss) before tax', as determined in accordance with an **ID determination**.
- (3) For the purpose of subclause (1), in applying the **tax rules** in respect of particular items of income and expenses included in 'regulatory profit / (loss) before tax'-
- (a) a tax deduction for interest incurred in relation to debt must be substituted with a tax deduction for notional deductible interest;
 - (b) any tax deduction for depreciation in respect of an asset must be calculated by applying the **tax rules** to the **regulatory tax asset value**; and
 - (c) the effect of any-
 - (i) tax losses (other than those produced from the **supply of electricity transmission services**); and
 - (ii) subvention payment,
 made by **Transpower** must be ignored.
- (4) For the purpose of subclause (3)(a), 'notional deductible interest' means the amount determined in accordance with the formula-
- (sum of opening RAB values × leverage × cost of debt) + term credit spread differential allowance.*

2.3.2 Regulatory tax asset value

- (1) Regulatory tax asset value, in relation to an asset, means the value determined in accordance with the formula-
- tax asset value × result of asset allocation ratio.*
- (2) For the purpose of subclause (1), 'tax asset value' means, in respect of-
- (a) an asset-
 - (i) acquired from a **regulated supplier** who used it to **supply regulated goods or services**; or
 - (ii) acquired or transferred from a **related party**,
 the value of the asset determined by applying the tax depreciation rules to its notional tax asset value; and
 - (b) any other asset, its adjusted tax value.
- (3) In this clause-
- (a) 'tax depreciation rules' means the **tax rules** that relate to the determination of depreciation allowances for tax purposes;
 - (b) 'adjusted tax value' has the same meaning as in the tax depreciation rules.
- (4) 'Notional tax asset value' means, for the purpose of-
- (a) subclause (2)(a)(i), value after applying the tax depreciation rules to the tax asset value (as 'tax asset value' is defined in the **input methodologies**

- applying to the **regulated goods or services** in question) in respect of the **disclosure year** in which the asset was acquired; and
- (b) subclause (2)(a)(ii), value in respect of the **disclosure year** in which the asset was acquired or transferred that is-
- (i) consistent with the **tax rules**; and
- (ii) limited to its **value of commissioned asset**.
- (5) For the purpose of subclause (1), 'result of asset allocation ratio' means, where an asset or group of assets maintained under the **tax rules**-
- (a) has a matching asset or group of assets maintained for the purpose of Subpart 2, the value obtained in accordance with the formula-
- opening RAB value or sum of opening RAB values, as the case may be**
- ÷
- unallocated opening RAB value or sum of unallocated opening RAB values, as the case may be,**
- applying the formula in respect of the asset or smallest group of assets maintained for the purpose of Subpart 2 that has a matching asset or group of assets maintained under the **tax rules**; and
- (b) does not have a matching asset or group of assets maintained for the purpose of Subpart 2, the value of the asset allocated to the **supply of electricity transmission services** were clause 2.1.1 to apply to the asset or group of assets.

SUBPART 4 **Cost of capital**

2.4.1 Methodology for estimating weighted average cost of capital

- (1) The **Commission** will determine a mid-point estimate of vanilla **WACC** for ~~the disclosure year 2011 and~~ each **disclosure year** ~~thereafter~~-
- (a) in respect of the 5 years commencing on the first day of the **disclosure year** in question;
- (b) subject to subclause (3), within 1 month of the start of the **disclosure year** in question; and
- (c) in accordance with the formula-
- $$r_d L + r_e(1 - L).$$
- (2) The **Commission** will determine a mid-point estimate of post-tax **WACC** for ~~the disclosure year 2011 and~~ each **disclosure year** ~~thereafter~~-
- (a) in respect of the 5 years commencing on the first day of the **disclosure year** in question;
- (b) subject to subclause (3), within 1 month of the start of the **disclosure year** in question; and
- (c) in accordance with the formula-

$$r_d (1 - T_c)L + r_e (1 - L).$$

The **Commission** will estimate or determine, as the case may be, the amounts or values-

to which this subclause applies; ~~and~~

~~(3)~~ ~~in respect of the disclosure year 2011,~~

~~(4)~~(3) as soon as practicable after this determination comes into force.

~~(5)~~(4) In this clause-

L is **leverage**;

r_d is the cost of debt and is estimated in accordance with the formula:~~by~~

$$-r_f + p + d;$$

r_e is the cost of equity and is estimated in accordance with the formula:~~by~~

$$r_f(1 - T_i) + \beta_e TAMRP;$$

T_c is the average corporate tax rate;

r_f is the risk free rate;

p is the **debt premium**;

~~d is the debt issuance costs;~~

T_i is the average investor tax rate;

β_e is the equity beta; and

$TAMRP$ is the tax-adjusted market risk premium.

~~(6)~~(5) For the purpose of this clause-

- (a) the average investor tax rate, the equity beta, ~~the debt issuance costs,~~ the average corporate tax rate and the tax-adjusted market risk premium are the values specified in or determined in accordance with clause 2.4.2; and
- (b) the risk-free rate must be estimated in accordance with clause 2.4.3.

2.4.2 Fixed WACC parameters

(1) ~~[Leverage is [XX]414%.]~~

(2) ~~The 'Average investor tax rate'~~ is the average of the investor tax rates that, as at the date that the estimation is made, will apply to each of the **disclosure years** in the 5 year period commencing on the first day of the **disclosure year** in question.

(3) For the purpose of subclause (2), 'investor tax rate' is, for each disclosure year, the maximum prescribed investor rate applicable at the start of that disclosure year to an individual who is-

~~(a) for the disclosure year 2011, 28.5%; and~~

~~(b) for each disclosure year thereafter, the maximum prescribed investor rate applicable at the start of that disclosure year to an individual who is-~~

~~(c)~~(a) resident in New Zealand; and

~~(d)~~(b) an investor in a **multi-rate PIE**.

- (4) The average corporate tax rate is the average of the **corporate tax rates** that, as at the date that the estimation is made, will apply during the 5 year period commencing on the first day of the **disclosure year** in question.

~~(5) The 'Equity beta' is [XX]0.5861.~~

~~(6)(5) The 'Debt issuance costs' are 0.235%.~~

~~(7) The 'Tax-adjusted market risk premium' is, for a 5 year period commencing on the first day of a **disclosure year**, [XX]7.0%.~~

~~(8) the **disclosure year** 2011, 7.1%; and~~

~~(9)(6) a **disclosure year** thereafter, 7.0%.~~

2.4.3 Methodology for estimating risk-free rate

The **Commission** will estimate a risk-free rate-

- (a) for each **disclosure year**; and
- (b) subject to clause 2.4.1(3), within 1 month of the start of the **disclosure year** in question,

by-

- (c) obtaining, for notional benchmark New Zealand government New Zealand dollar denominated nominal bonds the wholesale market linearly-interpolated bid yield to maturity, for a residual period to maturity equal to 5 years on each **business day** in the 3 months preceding the start of the **disclosure year**;
- (d) calculating the annualised interpolated bid yield to maturity for each **business day**; and
- (e) calculating the un-weighted arithmetic average of the daily annualised interpolated bid yields to maturity.

2.4.4 Methodology for estimating debt premium

- (1) Debt premium means the spread between-

- (a) the bid yield to maturity on **vanilla NZ\$ denominated bonds** that-
 - (i) are issued by an **EDB** or a **GPB**;
 - (ii) are publicly traded;
 - (iii) have a **qualifying rating** of grade BBB+; and
 - (iv) have a remaining term to maturity of 5 years; and
- (b) the contemporaneous interpolated bid yield to maturity of benchmark New Zealand government New Zealand dollar denominated nominal bonds having a remaining term to maturity of 5 years.

- (2) The **Commission** will, in accordance with subclause (3), determine an estimate of an amount for the debt premium-

- (a) for each **disclosure year**; and
- (b) subject to clause 2.4.1(3), within 1 month of the start of each **disclosure year**.

- (3) The amount of the debt premium will be estimated by-

- (a) identifying publicly traded **vanilla NZ\$ denominated bonds** issued by a **qualifying issuer** that are-
 - (i) **investment grade credit rated**; and
 - (ii) of a type described in the paragraphs of subclause (4);
- (b) in respect of each bond identified in accordance with paragraph (a)-
 - (i) obtaining its wholesale market annualised bid yield to maturity;
 - (ii) calculating by linear interpolation with respect to maturity, the contemporaneous wholesale market annualised bid yield to maturity for a notional benchmark New Zealand government New Zealand dollar denominated nominal bond with the same remaining term to maturity; and
 - (iii) calculating its contemporaneous interpolated bid to bid spread over notional benchmark New Zealand government New Zealand dollar denominated nominal bonds with the same remaining term to maturity, by deducting the yield calculated in accordance with sub-paragraph (ii) from the yield obtained in accordance with sub-paragraph (i),

for each **business day** in the 3 months immediately preceding the start of the **disclosure year**;

- (c) calculating, for each bond identified in accordance with paragraph (a), the un-weighted arithmetic average of the daily spreads identified in accordance with paragraph (b)(iii); and
- (d) subject to subclause (4), estimating, by taking account of the average spreads identified in accordance with paragraph (c), and having regard to the debt premium estimated from applying the Nelson-Siegel-Svensson approach in accordance with subclause (6), the average spread that would reasonably be expected to apply to a **vanilla NZ\$ denominated bond** that-
 - (i) is issued by an **EDB** or a **GPB** that is neither 100% majority owned by the Crown nor a **local authority**;
 - (ii) is publicly traded;
 - (iii) has a **qualifying rating** of grade BBB+; and
 - (iv) has a remaining term to maturity of 5 years.

(4) For the purpose of subclause (3)(d), the **Commission** will have regard, subject to subclause (5), to the spreads observed on the following types of **vanilla NZ\$ denominated bonds** issued by a **qualifying issuer**:

- (a) those that-
 - (i) have a **qualifying rating** of grade BBB+; and
 - (ii) are issued by an **EDB** or a **GPB** that is neither 100% majority owned by the Crown nor a **local authority**;
- (b) those that-
 - (i) have a **qualifying rating** of grade BBB+; and

- (ii) are issued by an entity other than an **EDB** or a **GPB** that is neither 100% majority owned by the Crown nor a **local authority**;
 - (c) those that-
 - (i) have a **qualifying rating** of a grade different to BBB+; and
 - (ii) are issued by an **EDB** or a **GPB** that is neither 100% majority owned by the Crown nor a **local authority**;
 - (d) those that-
 - (i) have a **qualifying rating** of a grade different to BBB+; and
 - ~~(ii)~~ are issued by an entity, other than an **EDB** or a **GPB** that is neither 100% majority owned by the Crown nor a **local authority**; and
 - (ii)
 - (e) those that are-
 - (i) **investment grade credit rated**; and
 - (ii) issued by an entity that is 100% majority owned by the Crown or a **local authority**.
- (5) For the purpose of subclause (4)-
- (a) progressively lesser regard will ordinarily be given to the spreads observed on the bond types described in subclause (4) in accordance with the order in which the bond types are described in subclause (4);
 - (b) the spread on any bond of the type described in subclause (4) that has a remaining term to maturity of less than 5 years will ordinarily be considered to be the minimum spread that would reasonably be expected to apply on an equivalently credit-rated bond issued by the same entity with a remaining term to maturity of 5 years; and
 - (c) the **Commission** will adjust spreads observed on bonds described under subclauses (4)(b) to (4)(e) to approximate the spread that is likely to have been observed had the bonds in question been of the type described in subclause (4)(a).
- (6) For the purposes of subclause (3)(d), the ‘Nelson-Siegel-Svensson approach’ means a method for modelling yield curves and term structures of interest rates which establishes a relationship between term to maturity and the debt premium, and where a curve is generated by changing the parameters of a yield curve functional form to minimise the squared deviation between estimated and observed values.

2.4.5 Standard error of debt premium

- ~~(1) The **Commission** will estimate an amount for a **standard error** of the **debt premium**-~~
- ~~(a) subject to clause 2.4.1(3), within 1 month of the start of the **disclosure year** in question; and~~
 - ~~(b) as either-~~
 - ~~(i) the result of the formula specified in subclause (2); or~~
 - ~~(ii) 0.0015,~~

whichever is the greater.

(2) For the purpose of subclause (1)(b)(i), the formula is

$$\sqrt{\frac{1}{N-1} \sum_{i=1}^N (p_i - \bar{p})^2}$$

where

N is the number of **qualifying issuers** issuing bonds of the type described in the subparagraphs of clause 2.4.4(3)(d);

p_i is each **qualifying issuer's** arithmetic average spread for its bonds of the type described in the subparagraphs of clause 2.4.4(3)(d); and

\bar{p} is the **debt premium**;

provided that for the purposes of determining N and p_i , no regard may be had to any bonds of the types described in clause 2.4.4(4)(b) to clause 2.4.4(4)(e).

2.4.6 Methodology for estimating the WACC standard error

(1) The **Commission** will determine a **standard error** of a **mid-point estimate of WACC**

- (a) subject to clause 2.4.1(3), within 1 month of the start of the **disclosure year** in question; and
- (b) in accordance with this clause.

(2) The **standard error** for a mid-point estimate of vanilla **WACC** determined in accordance with clause 2.4.1(1) will be determined in accordance with the formula

$$\sqrt{0.00003 + 0.0169E^2(TAMRP) + 0.1936\text{var}(\hat{p})}$$

(3) The **standard error** for a mid-point estimate of post-tax **WACC** determined in accordance with clause 2.4.1(2) will be determined in accordance with the formula

$$\sqrt{0.00003 + 0.0169E^2(TAMRP) + (1 - T_c)^2(0.1936\text{var}(\hat{p}))}$$

(4) In this clause

- (a) $E^2(TAMRP)$ is the square of the tax-adjusted market risk premium determined in accordance with clause 2.4.2(7);
- (b) $\text{var}(\hat{p})$ is the square of the **standard error** of the debt premium determined in accordance with clause 2.4.5; and
- (c) T_c is the average corporate tax rate determined in accordance with clause 2.4.2(4).

2.4.72.4.5 Methodology for estimating the WACC range and the 67th percentile of the WACC

(1) The **Commission** will determine a WACC range for each **mid-point estimate of WACC**

- (a) for each **disclosure year**; and
- (b) subject to clause 2.4.1(3), within 1 month of the start of the disclosure year in question.

(2) For the purpose of subclause (1), 'WACC range' means the values falling between the 25th percentile and 75th percentile inclusive of the **mid-point estimate of WACC**.

(3) ~~For the purpose of subclause (2)-~~

(a) the **mid-point estimate of WACC** must be treated as the 50th percentile; and

(b) the

(i) 75th percentile must be determined in accordance with the formula-
mid-point estimate of WACC + 0.674 x standard error; and

(ii) 25th percentile must be determined in accordance with the formula-
mid-point estimate of WACC - 0.674 x standard error,

where ~~'standard error' means~~ the **standard error** of the relevant **mid-point estimate of WACC is [XX]0.0113, as determined in accordance with clause 2.4.6(2) or 2.4.6(3), as the case may be.**

(4) The **Commission** will determine a 67th percentile estimate of vanilla **WACC** and post-tax **WACC** –

(a) for each **disclosure year**; and

(b) within 1 month of the start of the disclosure year in question.

(5) ~~For the purpose of subclause (4)-~~

(a) the **mid-point estimate of WACC** must be treated as the 50th percentile; and

(b) the 67th percentile must be determined in accordance with the formula-
mid-point estimate of WACC + 0.440 x standard error,

where ~~'standard error' means~~ the **standard error** of the relevant **mid-point estimate of WACC is [XX]0.0113, as determined in accordance with clause 2.4.6(2) or 2.4.6(3), as the case may be.**

2.4.82.4.6 Publication of estimates relating to cost of capital

The **Commission** will publish all determinations and estimates that it is required to make by this Subpart-

(a) on its website; and

(b) no later than 1 month after having made them.

2.4.92.4.7 Interpretation of terms relating to term credit spread differential

(1) Qualifying debt means a line of debt-

(a) with an original tenor greater than 5 years; and

(b) issued by **Transpower**.

~~(2) Cost of executing an interest rate swap means the amount determined in accordance with the formula-~~

~~$A \times B,$~~

~~where-~~

- (a) ~~'A' is the amount that is half of the New Zealand dollar wholesale bid and offer spread for a vanilla interest rate swap determined at the time of pricing the **qualifying debt** (which, for the avoidance of doubt, is expressed in terms of basis points per annum); and~~
- (b) ~~'B' is the book value in New Zealand dollars of the **qualifying debt** at its date of issue.~~

~~2.4.102.4.8~~ Term credit spread difference

(1) ~~]~~ Term credit spread difference is determined in accordance with the formula-

$$T \times U,$$

where-

(a) 'T' is the amount determined in accordance with the formula-

$$\frac{[XX]0.000559 \times (\text{original tenor of the **qualifying debt** - 5)(V - W)}{(X - Y)};$$

~~except that where that amount is-~~

- (i) ~~less than 0.0015, T is 0.0015; and~~
- (ii) ~~more than 0.006, T is 0.006; and~~

(b) 'U' is the book value in New Zealand dollars of the **qualifying debt** at its date of issue.]

~~(2) For the purpose of subclause (1)-~~

- (a) ~~'V' is the yield shown by using the New Zealand Dollar Interest Rate Swap Curve as reported by Bloomberg plus the mean of the credit spreads of New Zealand corporate 'A band' rated bonds as reported by Bloomberg, for a bond with a tenor equal to, or closest to, the original tenor of the **qualifying debt**;~~
- (b) ~~'W' is the New Zealand swap rate quoted by Bloomberg for a tenor equal to the original tenor of the **qualifying debt**;~~
- (c) ~~'X' is the yield shown by using the New Zealand Dollar Interest Rate Swap Curve as reported by Bloomberg plus the mean of the credit spreads of New Zealand corporate 'A band' rated bonds as reported by Bloomberg, for a bond with a tenor of 5 years;~~
- (d) ~~'Y' is the New Zealand swap rate quoted by Bloomberg for a tenor of 5 years; and~~
- (e) ~~V, W, X and Y are determined as at the same time on the same pricing date of the **qualifying debt**.~~

~~(3)~~(2) For the purpose of this clause, where the **qualifying debt** is issued to a **related party**, 'original tenor of the **qualifying debt**' means the-

- (a) tenor of the **qualifying debt**; or
- (b) period from the **qualifying debt's** date of issue to the earliest date on which its repayment is or may be required,

whichever is the shorter.

2.4.112.4.9 Methodology for estimating term credit spread differential

- (1) This clause applies to the determination of the amount of any **term credit spread differential** in respect of a **qualifying debt** for the purpose of disclosure pursuant to an **ID determination** of a-
- (a) **term credit spread differential allowance**; or
 - (b) **term credit spread differential**.
- (2) Disclosure to which this clause applies may only be made by **Transpower** if its debt portfolio, as at the date of its most recently published audited financial statements, has a weighted average original tenor greater than 5 years.
- (3) Term credit spread differential is the amount determined in accordance with the formula-

$$(A \div B) \times C \times D,$$

where-

- (a) 'A' is the sum of the **term credit spread difference**;-
 - ~~(i) term credit spread difference; and~~
 - ~~(ii) cost of executing an interest rate swap; and~~
 - ~~(iii) the debt issuance cost re-adjustment;~~
- (b) 'B' is the book value of **Transpower's** total interest-bearing debt as at the date to which its financial statements audited and published in the **disclosure year** in question relate;
- (c) 'C' is **leverage**; and
- (d) 'D' is the average of-
 - (i) the sum of **opening RAB values**; and
 - (ii) the sum of **closing RAB values**.

~~(4) For the purpose of subclause (3)(a)(iii) the debt issuance cost re-adjustment is the amount determined in accordance with the formula-~~

~~$(0.0175 \div \text{original tenor of the qualifying debt} - 0.00235) \times \text{book value in New Zealand dollars of the qualifying debt at its date of issue,}$~~

~~which amount, for the avoidance of doubt, will be a negative number.~~

PART 3 INPUT METHODOLOGIES APPLYING TO INDIVIDUAL PRICE-QUALITY PATH

SUBPART 1 Specification of price

3.1.1 Price

For the purpose of s 53M(1)(a) of the **Act**, the maximum revenues that may be recovered by **Transpower** will be specified in a s 52P determination as a total revenue cap, net of-

- (a) the sum of **pass-through costs**; and
- (b) the sum of **recoverable costs**.

3.1.2 Pass-through cost requirements

(1) A pass-through cost is a cost that-

- (a) is listed in subclause (2); or
- (b) is a levy, other than one listed in subclause (2), that meets the criteria specified in subclause (3).

(2) For the purpose of subclause (1)(a), the costs are-

- (a) rates on system fixed assets paid or payable by **Transpower** to a **local authority** under the Local Government (Rating) Act 2002; and
- (b) levies payable under regulations made under-
 - (i) s 53ZE of the **Act**; or
 - (ii) the Electricity Industry Act 2010.

(3) For the purpose of subclause (1)(b), the criteria are that the levy-

- (a) is-
 - (i) associated with the provision of **electricity transmission services**;
 - (ii) outside the control of **Transpower**;
 - (iii) not a **recoverable cost**;
 - (iv) appropriate to be passed through to **Transpower's** customers; and
 - (v) one in respect of which provision for its partial or full recovery is not made explicitly or implicitly in the **IPP**;
- (b) was reasonably unforeseen at the time the **IPP determination** was made;
- (c) comes into effect during any **disclosure year** commencing in a **regulatory period**; and
- (d) is specified as a 'pass-through cost' by way of amendment to the **IPP determination**.

(4) In this clause, 'levy' means a tax, charge or fee directly imposed by or under legislation-

- (a) on-
 - (i) **Transpower** alone; or
 - (ii) a class of persons (other than the general public or businesses in general) that includes **Transpower**; or

(b) in relation to **electricity transmission services**.

3.1.3 Recoverable costs

(1) A recoverable cost is a cost that is-

(a) any amount that is-

- (i) an **opex incentive amount**; or
- (ii) a positive net balance determined in accordance with clause 3.6.7(2), provided that any requirements pursuant to an **ID determination** regarding **auditor** certification of any value determined in accordance with that clause have been met;

(b) subject to subclause (2), an instantaneous reserves availability charge, being a charge allocated to **Transpower** under-

- (i) rule 8.59 of the Electricity Industry Participation Code; or
- (ii) any Act or regulations that replace that rule,

net of any rebate received by **Transpower** in accordance with rule 8.65 of the Electricity Industry Participation Code;

(c) a transmission alternative operating cost, subject to the requirements in subclause (3), not to exceed the-

- (i) actual transmission alternative operating cost incurred by **Transpower**; or
- (ii) upper limit of transmission alternative operating costs approved in accordance with subclause (3),

whichever is lower;

(d) in relation to a **major capex project** that has been approved by the **Commission** under the **Capex IM**, and subject to the requirements in subclause (3), any operating costs –

- (i) incurred after the date of approval of the **major capex project** and in relation to the **major capex project**;
- (ii) are not otherwise able to be recovered as part of the **major capex allowance** on the basis that the costs are not **capital expenditure**; and
- (iii) where the sum of the operating costs and the **major capex** approved by the **Commission** in relation to the **major capex project** does not exceed the **major capex allowance**; and

(e) an amount determined by the **Commission** and specified in an **IPP determination** following a reconsideration and amendment of the **IPP** under clauses 3.7.4(2)(a) and 3.7.5(1) for the prudent net additional operating costs, in excess of those provided in an **IPP determination**, incurred in responding to a **catastrophic event**.

(2) For the purpose of subclause (1)(b), an instantaneous reserves availability charge excludes-

(a) any 'event charges' payable by **Transpower**, as defined under-

- (i) rule 8.64 of the Electricity Industry Participation Code, or
 - (ii) any Act or regulations that replace that rule;
- (b) 50% of any such charge incurred by **Transpower**, except one incurred as a direct result of decommissioning of Pole 1 of the HVDC link, in relation to an asset remaining out of service after an initial period of 14 consecutive days out of service, insofar as the cumulative amount so incurred is less than or equal to 1% of **Transpower's forecast MAR** for the **disclosure year** in which the event causing the asset to be out of service commences, as specified in the **IPP determination**;
 - (c) any such charge treated as **capital expenditure** (in accordance with **GAAP**) by **Transpower** in relation to the control systems integration of Pole 2 and the commissioning of Pole 3 of the HVDC link; and
 - (d) any such charge that is treated as having been inefficiently incurred under **GAAP**.
- (3) For the purpose of subclause (1)(c) and subclause (1)(d), the requirements are that the cost must-
- (a) be **operating expenditure**;
 - (b) be incremental to the **operating expenditure** allowance specified by the **Commission** in the **IPP determination**; and
 - (c) have been approved by the-
 - (i) **Electricity Commission** under Part F of the Electricity Governance Rules 2003;
 - (ii) **Commission** in accordance with s 54R(3)(b) of the **Act**; or
 - (iii) **Commission** in accordance with any input methodology determined pursuant to s 54S of the **Act**.
- (4) In this clause-
- (a) 'Act' and 'Regulations' have the same meanings as defined in s 29 of the Interpretation Act 1999; and
 - (b) 'Electricity Industry Participation Code' has the same meaning as 'code' is defined in the Electricity Industry Act 2010.

SUBPART 2 **Cost allocation**

3.2.1 Cost allocation

- (1) For the purpose of making an **IPP determination**, information provided to the **Commission** by **Transpower** regarding **Transpower's operating costs** and **capital expenditure**, whether actual or forecast, must be provided in accordance with clause 2.1.1 with necessary modifications.
- (2) For the avoidance of doubt, in applying subclause (1), any reference to 'any requirement in an **ID determination**' in Subpart 1 of Part 2 means 'any requirement specified by the **Commission**'.

SUBPART 3 Asset valuation

3.3.1 Asset valuation

For the purpose of making an **IPP determination**-

- (a) the value of an asset; and
- (b) any allowance for depreciation,

must be determined in accordance with the **input methodologies** specified in Subpart 2 of Part 2, with necessary modifications to allow-

- (c) such values or allowances to be calculated on a forecast basis where required; and
- (d) for the purposes of determining **forecast MAR** and associated annual wash-ups, the determination of the **value of commissioned asset** by reference to approved amounts of **capital expenditure**.

SUBPART 4 Treatment of taxation

3.4.1 Treatment of taxation

- (1) For the purpose of making an **IPP determination**, **Transpower's regulatory tax allowance** whether on an actual or forecast basis, must be determined in accordance with the **input methodologies** specified in Subpart 3 of Part 2 with necessary modifications.
- (2) For the avoidance of doubt, in applying subclause (1), 'as determined in accordance with an **ID determination**' in clause 2.3.1(2) shall be construed as 'as specified by the **Commission**'.

SUBPART 5 Cost of capital

3.5.1 Methodology for estimating weighted average cost of capital

- (1) The **Commission** will determine a mid-point estimates of vanilla **WACC**-
 - (a) as of the first **business day** of the month 7 months prior to the start of each **regulatory period**;
 - (b) in respect of a 5 year period;
 - (c) subject to subclause 3.5.1(32) and clause 3-5-11, no later than 6 months preceding the start of RCP1 or prior to each other regulatory period as the case may be; and
 - (d) in accordance with the formula-

$$r_d L + r_e(1 - L).$$

- (2) The **Commission** will determine a mid-point estimate of post-tax **WACC**-

- (a) as of the first **business day** of the month 7 months prior to the start of each **regulatory period**;
- (b) in respect of a 5 year period;
- (c) subject to subclause (3), no later than 6 months prior to the start of each **regulatory period**; and

(d) in accordance with the formula-

$$r_d(1 - T_c)L + r_e(1 - L).$$

~~(2) The Commission will estimate or determine, as the case may be, the amounts or values-~~

~~(a) to which this subclause applies; and~~

~~(b) in respect of RCP1,~~

~~as soon as practicable after this determination comes into force.~~

(3) In this clause-

L is **leverage**;

r_d is the cost of debt and is estimated by in accordance with the formula:

$$r_f + p - d;$$

r_e is the cost of equity and is estimated by in accordance with the formula:

$$r_f(1 - T_i) + \beta_e TAMRP;$$

T_c is the average corporate tax rate;

r_f is the risk-free rate;

p is the **debt premium**;

~~d is the debt issuance costs;~~

T_i is the average investor tax rate;

β_e is the equity beta; and

$TAMRP$ is the tax-adjusted market risk premium.

(4) For the purpose of this clause-

(a) the fixed WACC parameters comprising average investor tax rate, the equity beta, ~~the debt issuance costs,~~ and the tax-adjusted market risk premium are the values specified in or determined in accordance with clause 3.5.2;

(b) the risk-free rate must be estimated for the first **business day** of the month 7 months preceding the start of **RCP1** or any other **regulatory period**, as the case may be, in accordance with clause 3.5.3; and

(c) the amount of the debt premium must be estimated for the first **business day** of the month 7 months preceding the start of **RCP1** or any other **regulatory period**, as the case may be, in accordance with clause 3.5.4.

3.5.2 Fixed WACC parameters

(1) [Leverage is ~~XX]414%.~~

(2) The a' average investor tax rate' is the average of the investor tax rates that, as at the date that the estimation is made, will apply to each of the **disclosure years** in the 5 year period commencing on the first day of the **regulatory period** in question.

- (3) For the purpose of subclause (2), 'investor tax rate' is, for each disclosure year, the maximum prescribed investor rate that, as at the date that the estimation is made, will apply at the start of the regulatory period to an individual who is-
- ~~(a)~~ for the ~~disclosure year 2011, 29%~~; and
 - ~~(b)~~ for a ~~disclosure year~~ thereafter, the maximum ~~prescribed investor rate that, as at the date that the estimation is made, will apply at the start of that disclosure year to an individual who is-~~
 - ~~(c)~~(a) resident in New Zealand; and
 - ~~(d)~~(b) an investor in a **multi-rate PIE**.
- (4) ~~[The e'Equity beta' is [XX]0.5861.]~~
~~(5) The d'Debt issuance costs' are 0.235%.~~
~~(6) The t'Tax-adjusted market risk premium' is, for a 5 year period commencing on the first day of the regulatory period, [XX]7.0%.-]~~
~~(7) until 30 June 2011, 7.1%; and~~
~~(8)(5) on and after 1 July 2011, 7%.~~

3.5.3 Methodology for estimating risk-free rate

The **Commission** will estimate a risk-free rate-

- (a) as of the first **business day** of the month 7 months prior to the start of each **regulatory period**;
- (b) in respect of a 5 year period; and
- (c) subject to clause 3.5.1(32) ~~and clause 3.5.11~~, no later than 6 months prior to the start of each **regulatory period**,

by-

- ~~(d)~~ obtaining, for notional benchmark New Zealand government New Zealand dollar denominated nominal bonds the wholesale market linearly-interpolated bid yield to maturity, for a residual period to maturity equal to 5 years on each **business day** in the 3 month period of 8 to 10 months prior to the start of each **regulatory period**;
- (e) calculating the annualised interpolated bid yield to maturity for each **business day**; and
- ~~(f)~~ calculating the un-weighted arithmetic average of the daily annualised interpolated bid yields to maturity.
- (f)

3.5.4 Methodology for estimating debt premium

- (1) Debt premium means the spread between-
- (a) the bid yield to maturity on **vanilla NZ\$ denominated bonds** that-
 - (i) are issued by an **EDB** or a **GPB**;
 - (ii) are publicly traded;
 - (iii) have a **qualifying rating** of grade BBB+; and
 - (iv) have a remaining term to maturity of 5 years; and

- (b) the contemporaneous interpolated bid yield to maturity of benchmark New Zealand government New Zealand dollar denominated nominal bonds having a remaining term to maturity of 5 years.
- (2) The **Commission** will, in accordance with subclause (3), determine an estimate of an amount for the debt premium-
- (a) for each **regulatory period**; and
- (b) subject to clause 3.5.1(32) ~~and clause 3.5.11~~, no later than 6 months prior to the start of each **regulatory period**.
- (3) The amount of the debt premium will be estimated as of the first **business day** of the month 7 months prior to the start of each **regulatory period** by-
- (a) identifying publicly traded **vanilla NZ\$ denominated bonds** that are-
- (i) **investment grade credit rated**; and
- (ii) of a type described in ~~the paragraphs of~~ subclause (4);
- (b) in respect of each bond identified in accordance with paragraph (a)-
- (i) obtaining its wholesale market annualised bid yield to maturity;
- (ii) calculating by linear interpolation with respect to maturity, the contemporaneous wholesale market annualised bid yield to maturity for a notional benchmark New Zealand government New Zealand dollar denominated nominal bond with the same remaining term to maturity; and
- (iii) calculating its contemporaneous interpolated bid to bid spread over notional benchmark New Zealand government New Zealand dollar denominated nominal bonds with the same remaining term to maturity, by deducting the yield calculated in accordance with sub-paragraph (ii) from the yield obtained in accordance with sub-paragraph (i),
- for each **business day** in the 3 month period of 8 to 10 months prior to the start of the **regulatory period**;
- (c) calculating, for each bond identified in accordance with paragraph (a), the un-weighted arithmetic average of the daily spreads identified in accordance with paragraph (b)(iii); and
- (d) subject to subclause (4), estimating, by taking account of the average spreads identified in accordance with paragraph (c) and having regard to the debt premium estimated from applying the Nelson-Siegel-Svensson approach, the average spread that would reasonably be expected to apply to a **vanilla NZ\$ denominated bond** that-
- (i) is issued by an **EDB** or a **GPB** that is neither 100% majority owned by the Crown nor a **local authority**;
- (ii) is publicly traded;
- (iii) has a **qualifying rating** of grade BBB+; and
- (iv) has a remaining term to maturity of 5 years.

- (4) For the purpose of subclause (3)(d), the **Commission** will have regard, subject to subclause (5), to the spreads observed on the following types of **vanilla NZ\$ denominated bonds** issued by a **qualifying issuer**:
- (a) those that-
 - (i) have a **qualifying rating** of grade BBB+; and
 - (ii) are issued by an **EDB** or a **GPB** that is neither **100%majority** owned by the Crown nor a **local authority**;
 - (b) those that-
 - (i) have a **qualifying rating** of grade BBB+; and
 - (ii) are issued by an entity other than an **EDB** or a **GPB** that is neither **100%majority** owned by the Crown nor a **local authority**;
 - (c) those that-
 - (i) have a **qualifying rating** of a grade different to BBB+; and
 - (ii) are issued by an **EDB** or a **GPB** that is neither **100%majority** owned by the Crown nor a **local authority**;
 - (d) those that-
 - (i) have a **qualifying rating** of a grade different to BBB+; and
 - (ii) are issued by an entity, other than an **EDB** or a **GPB** that is neither **100%majority** owned by the Crown nor a **local authority**; and
 - (e) those that are-
 - (i) **investment grade credit rated**; and
 - (ii) issued by an entity that is **100%majority** owned by the Crown or a **local authority**.
- (5) For the purpose of subclause (4)-
- (a) progressively lesser regard will ordinarily be given to the spreads observed on the bond types ~~described in subclause (4)~~ in accordance with the order in which the bond types are described in subclause (4);
 - (b) the spread on any bond of the type described in subclause (4) that has a remaining term to maturity of less than 5 years will ordinarily be considered to be the minimum spread that would reasonably be expected to apply on an equivalently credit-rated bond issued by the same entity with a remaining term to maturity of 5 years; and
 - (c) the **Commission** will adjust spreads observed on bonds described under subclauses (4)(b) to (4)(e) to approximate the spread that is likely to have been observed had the bonds in question been of the type described in subclause (4)(a).

~~3.5.5 Standard error of debt premium~~

~~(1) The **Commission** will estimate an amount for a **standard error of a debt premium**~~

- ~~(a) subject to clause 3.5.1(2) and clause 3.5.11, no later than 6 months prior to the start of each **regulatory period**; and~~
- ~~(b) as either~~

- (i) the product of the formula specified in subclause (2); or
(ii) 0.0015,
whichever is the greater.

(2) For the purpose of subclause (1)(b)(i), the formula is-

$$\sqrt{\frac{1}{N-1} \sum_{i=1}^N (p_i - \bar{p})^2}$$

where-

- N is the number of **qualifying issuers** issuing bonds of the type described in the subparagraphs of clause 3.5.4(3)(d);
 p_i is each **qualifying issuer's** arithmetic average spread for its bonds of the type described in the subparagraphs of clause 3.5.4(3)(d); and
 \bar{p} is the **debt premium**,

provided that for the purposes of determining N and p_i , no regard may be had to any bonds of the types described in clauses 3.5.4(4)(b) to 3.5.4(4)(e).

3.5.6 Methodology for estimating the WACC standard error

The **Commission** will determine **standard errors** for **mid-point estimates of WACC**-

- (a) subject to clause 3.5.1(2) and clause 3.5.11, no later than 6 months prior to the start of each **regulatory period**; and
(b) in accordance with the formula-

$$\sqrt{0.00003 + 0.0169E^2(TAMRP) + 0.1936\text{var}(\hat{p})}$$

where-

- $E^2(TAMRP)$ is the square of the tax-adjusted market risk premium determined in accordance with clause 3.5.2(6); and
 $\text{var}(\hat{p})$ is the square of the **standard error** of the **debt premium** determined in accordance with clause 3.5.5.

3.5.73.5.5 Methodology for estimating 67th percentile of vanilla WACC

(1) The **Commission** will determine a 67th percentile estimate of **vanilla WACC** and **post-tax WACC**-

- (a) for each **regulatory period**; and
(b) **subject to clause 3.5.11**, no later than 6 months prior to the start of each **regulatory period**.

(2) The **Commission** will estimate a 67th percentile estimate of **post-tax WACC**-

- (a) for each **regulatory period**; and
(b) no later than 6 months prior to the start of each **regulatory period**.

(2) For the purposes of subclause 3.5.5(1)(1) and (2), -

(3) the **mid-point estimate of WACC** must be treated as the 50th percentile; and

~~(4)~~(3) the 67th percentile must be determined in accordance with the formula-

mid-point estimate of WACC + 0.440 × *standard error*,

where ~~'standard error' means~~ the **standard error of the mid-point estimate of WACC is 0.0113**, ~~as determined in accordance with clause 3.5.6; and~~

~~the relevant mid-point estimate of WACC in accordance with clause 5.5.1(1) and (2) must be treated as the 50th percentile.~~

~~3.5.8~~3.5.6 Publication of estimates

The **Commission** will publish all determinations and estimates that it is required to make by this subpart-

- (a) on its website; and
- (b) no later than 1 month after having made them.

~~3.5.9~~3.5.7 Use of published estimates of WACC

For the purpose of setting a price path in an **IPP determination**, the **WACC** published in accordance with clause 3.5.68 most recently prior to the start of the **regulatory period** in question must be applied in respect of each **disclosure year** commencing in the **regulatory period**.

~~3.5.10~~3.5.8 Methodology for estimating term credit spread differential

- (1) This clause applies to the determination of the amount of any **term credit spread differential** in respect of a **qualifying debt** for the purpose of determining a **term credit spread differential allowance** in an **IPP determination**.
- (2) The **Commission** will only determine a **term credit spread differential allowance** if **Transpower's** debt portfolio, as at the date of its most recently published audited financial statements, has a weighted average original tenor greater than 5 years.
- (3) Term credit spread differential is the amount determined in accordance with the formula-

$$(A \div B) \times C \times D,$$

where-

- (a) 'A' is the sum of the **term credit spread difference**;-
 - ~~(i) term credit spread difference; and~~
 - ~~(ii) cost of executing an interest rate swap; and~~
 - ~~(iii) debt issuance cost re-adjustment;~~
- (b) 'B' is the book value of ~~the qualifying supplier's~~**Transpower's** total interest-bearing debt as at the **balance** date ~~of to which~~ **Transpower's** financial statements audited and published most recently before the **IPP determination** is made;
- (c) 'C' is **leverage**; and
- (d) 'D' is, ~~in relation to the qualifying supplier,~~ the average of-
 - (i) the sum of **opening RAB values**; and
 - (ii) the sum of **closing RAB values**.

~~(4) For the purpose of subclause (3)(a)(iii), the debt issuance cost re-adjustment is determined in accordance with the formula-~~

~~$(0.0175 \div \text{original tenor of the qualifying debt} - 0.00235) \times \text{book value in New Zealand dollars of the qualifying debt at its date of issue,}$~~

~~which amount, for the avoidance of doubt, will be a negative number.~~

~~In 2014, references in clauses 3.5.1(1)(c), 3.5.3(c), 3.5.4(2)(b), 3.5.5(1)(a), 3.5.6(a), and 3.5.7(1)(b) to "6 months" are to be read as "5 months".~~

SUBPART 6 Incremental rolling incentive scheme

SECTION 1 Annual IRIS incentive amounts for operating expenditure

3.6.1 Calculation of annual IRIS incentives for operating expenditure as recoverable costs

- (1) **Transpower** must calculate an **opex incentive amount** for each **disclosure year** of each **regulatory period**, subject to subclause (2).
- (2) **Transpower** shall not calculate an **opex incentive amount** for any **disclosure year** commencing prior to 1 April 2020.

3.6.2 How to calculate opex incentive amounts

- (1) The 'opex incentive amount' for a **disclosure year** is an amount equal to the sum of-

- (a) all **amounts carried forward** into that **disclosure year** from a **disclosure year** in a preceding **regulatory period**; and

- (b) where an **adjustment to the opex incentive** is applicable under clause 3.6.4(1)-

- (i) the amount calculated in accordance with the following formula for a **disclosure year** in the **regulatory period**-

$$\left(\frac{\text{Adjustment to the opex incentive}}{l - 1} \right) \times (1 + r)^{y+0.5}$$

~~where applicable under clause 3.6.4(1), an **adjustment to the opex incentive** for that **disclosure year**.~~

where-

l is the number of **disclosure years** in the **regulatory period**;

r is the **cost of debt** applying to the **IPP** in question; and

y is the number of **disclosure years** preceding the **disclosure year** in question in the **regulatory period**; or

- (ii) where subclause (2) applies, nil.

- (2) For the purpose of subclause 3.6.2(1)(b)(ii), 'nil' applies for-

- (a) the first **disclosure year** of the **regulatory period**; or

- (b) a **disclosure year** in a **regulatory period** commencing prior to 1 April 2020.

3.6.3 How to calculate the amount carried forward to subsequent disclosure years

- (1) An 'amount carried forward' must be calculated for each **disclosure year** of a **regulatory period**, subject to subclause (5).
- (2) The 'amount carried forward' for the first **disclosure year** of a **regulatory period** is calculated in accordance with the formula–

$$\text{forecast opex}_t - \text{actual opex}_t$$

where–

t means the **disclosure year** in question.

- (3) The 'amount carried forward' for a **disclosure year** that is not the first or last **disclosure year** of a **regulatory period** is calculated in accordance with the formula–

$$(\text{forecast opex}_t - \text{actual opex}_t) - (\text{forecast opex}_{t-1} - \text{actual opex}_{t-1})$$

where–

t means the **disclosure year** in question; and

$t-1$ means the **disclosure year** preceding the **disclosure year** in question.

- (4) The 'amount carried forward' for the last **disclosure year** of a **regulatory period** is nil.
- (5) **Transpower** shall not calculate an **amount carried forward** for any **disclosure year** commencing prior to 27 November 2014.
- (6) Each **amount carried forward** is notionally carried forward from the **disclosure year** in respect of which it is calculated into each of the subsequent 5 **disclosure years**.
- (7) 'Forecast opex', subject to clause 3.6.5, is, for a **disclosure year**, the amount of forecast **operating expenditure** specified by the **Commission** for the relevant **disclosure year** in an **IPP determination** for the purpose of calculating an **opex incentive amount**.
- (8) 'Actual opex' is the amount of **operating costs** allocated to **electricity transmission services** for the relevant **disclosure year** calculated in accordance with Part 2.

3.6.4 How to calculate the adjustment to the opex incentive in the second year of a regulatory period

- (1) An **adjustment to the opex incentive** must be calculated for the second **disclosure year** of the **regulatory period** in accordance with the formula–

base year adjustment term + baseline adjustment term.

- (2) The 'base year adjustment term' is calculated in accordance with the formula–

$$-\left(\frac{(\text{forecast opex}_{t-1} - \text{actual opex}_{t-1}) - (\text{forecast opex}_{t-2} - \text{actual opex}_{t-2})}{(1+WACC)^4}\right)$$

where–

WACC means the **WACC** as determined by the **Commission** and applicable to **Transpower's** current **IPP**;

$t-1$ means the **disclosure year** immediately prior to the current **regulatory period**; and

$t-2$ means the **disclosure year** commencing two years prior to the current **regulatory period**.

- (3) The 'baseline adjustment term' is calculated in accordance with the formula—
non-recurrent differences in penultimate year

×

$$((1-(1+WACC)^{-6})/WACC)$$

×

$$(1+WACC)^2$$

where—

non-recurrent differences in penultimate year means the amount calculated in accordance with subclause (4); and

WACC means the **WACC** as determined by the **Commission** and applicable to **Transpower's** current **regulatory period**.

- (4) '*non-recurrent differences in penultimate year*' is an amount determined by the **Commission**, having regard to the views of interested persons, attributable to the impact of non-recurrent factors which cause differences between **forecast opex** and **actual opex** in the penultimate **disclosure year** of the preceding **regulatory period**, and notified to **Transpower**.

SECTION 2 Price-quality path amendments and other events

3.6.5 Calculating incentive adjustments for IPP amendments and other events

- (1) Where an **IPP** is amended following—
- (a) a **catastrophic event**;
 - (b) a **change event**;
 - (c) an **error event**; or
 - (d) provision of false or misleading information under clause 3.7.4(4), the **forecast opex** required to be used by **Transpower** to calculate the **amount carried forward** for the **disclosure year** in which the event occurred and each subsequent **disclosure year** prior to the effective date of the amendment to the **IPP**, is the amount specified by the **Commission** in the amended **IPP**.
- (2) Where an alteration to Part 2 or **ID determination** requirements affecting the quantification of **operating costs** allocated to **electricity transmission services** occurs in a **disclosure year** and—
- (a) the **Commission** considers; or
 - (b) **Transpower** satisfies the **Commission** upon application, that the alteration has, or is likely to have, a material effect on the calculation of the **opex incentive amount** that would otherwise have been calculated by **Transpower**, then the **forecast opex** required to be used by **Transpower** to calculate the **amount carried forward** for that **disclosure year** and each subsequent **disclosure year** in the **regulatory period** may be determined by the **Commission**, and notified to **Transpower**, in order to preserve, to the extent appropriate—
 - (c) the correct outcomes for expenditure efficiencies achieved before the event; and

- (d) the relevant incentive properties after the event.

SECTION 3 Transitional provisions

3.6.6 Calculation of annual incremental changes and adjustment term

- (1) The incremental change for the **opening year** of **RCP1** is the difference between **allowed controllable opex** and **actual controllable opex**.
- (2) The incremental change for a **disclosure year** of **RCP1** other than the **opening year** or final **disclosure year** must be determined in accordance with the formula-

$$(\text{allowed controllable opex}_t - \text{actual controllable opex}_t) - (\text{allowed controllable opex}_{t-1} - \text{actual controllable opex}_{t-1}),$$

where-

t means the **disclosure year** in question; and

$t-1$ means the **disclosure year** preceding the **disclosure year** in question.

- (3) The incremental change for the final **disclosure year** of **RCP1** is treated as nil.
- (4) The incremental adjustment term is determined-

- (a) in the **opening year** of **RCP2**; and
- (b) by applying the **inflation rate** to the result of the formula-

$$(\text{allowed controllable opex}_{t-1} - \text{actual controllable opex}_{t-1}) - (\text{allowed controllable opex}_{t-2} - \text{actual controllable opex}_{t-2}),$$

where-

$t-1$ means the final **disclosure year** commencing in **RCP1**; and

$t-2$ means the penultimate **disclosure year** commencing in **RCP1**.

- (5) Inflation rate means the amount determined in accordance with the formula-

$$[(CPI_1 + CPI_2 + CPI_3 + CPI_4) \div (CPI_1^{-4} + CPI_2^{-4} + CPI_3^{-4} + CPI_4^{-4})] - 1,$$

where-

CPI_n means forecast CPI for the nth quarter of the **disclosure year** in question; and

CPI_n^{-4} means forecast CPI for the equivalent quarter in the preceding **disclosure year**.

- (6) For the purpose of subclause (5), 'forecast CPI' means means CPI, unless CPI does not apply to the period in question, in which case it means the most recent CPI extended by-
- (a) in the case of a quarter for which a forecast of the annual percent change in the headline CPI contained in the current Monetary Policy Statement issued by the Reserve Bank of New Zealand has been made, that forecast; and
- (b) in respect of later quarters, a constant annual percent change equal to the arithmetic average of the values forecast in the most recent four quarters in respect of which a forecast described in paragraph (a) has been made.

- (7) For the purpose of subclause (6), 'CPI' means-
- (a) subject to paragraph (c), in respect of the December 2010 quarter and subsequent quarters, the consumer price index stipulated in the 'All Groups Index SE9A' as published by Statistics New Zealand;
 - (b) subject to paragraph (c) in respect of each quarter prior to the December 2010 quarter, the same index as described in paragraph (a) multiplied by 1.02; and
 - (c) in respect of quarters prior to any quarter in which the rate of GST is amended after this determination comes into force, the same index as described in paragraph (a), multiplied by the Reserve Bank of New Zealand's forecast change in that index (expressed as a decimal) arising from the amendment;
- (8) For the purpose of subclause (7), 'GST' has the same meaning as defined in s YA 1 of the Income Tax Act 2007 as amended from time to time, and any equivalent legislation that supplements or replaces that definition.
- (9) For the purpose of this Subpart, **RCP2** means the **regulatory period** commencing on 1 April 2015 and ending on 31 March 2020.

3.6.7 Determination of amount to be taken into account as a recoverable cost

- (1) Each incremental change determined in accordance with clause 3.6.6 and **incremental adjustment term** is notionally carried forward, subject to clause 3.6.8, from the **disclosure year** in respect of which it is determined into each of the subsequent 5 **disclosure years** by applying the **inflation rate**.
- (2) In each of the **disclosure years** into which an amount has been carried pursuant to subclause (1), a net balance must be determined by addition of-
 - (a) any incremental changes carried forward into that **disclosure year** from **RCP1**; and
 - (b) any **incremental adjustment term** carried into that **disclosure year**.

3.6.8 Calculating gains and losses after a catastrophic event

Where-

- (a) an **IPP** is amended pursuant to clause 3.7.5 by reason of a **catastrophic event**; and
 - (b) incremental changes calculated in the remaining **disclosure years** of **RCP1** in accordance with clauses 3.6.6(1) and 3.6.6(2) are negative,
- clause 3.6.7(1) does not apply to those incremental changes.

SUBPART 7 **Reconsideration of an individual price-quality path**

3.7.1 Catastrophic event

Catastrophic event means an event-

- (a) beyond the reasonable control of **Transpower**;
- (b) that could not have been reasonably foreseen by **Transpower** at the time the most recent **IPP determination** was made; and
- (c) in respect of which-

- (i) action required to rectify its adverse consequences cannot be delayed until a future **regulatory period** without the **grid outputs** associated with the **revenue-linked grid output measures** being outside the range specified by the relevant **cap** and **collar** in the remaining **disclosure years** of the **regulatory period**;
- (ii) remediation requires either or both of **capital expenditure** or **operating expenditure** during the **regulatory period**;
- (iii) the full costs of remediation are not provided for in that **IPP determination**; and
- (iv) the cost of remediation net of any insurance or compensatory entitlements ~~would~~has had or will have an impact on the price path over the **disclosure years** of the **IPP** remaining on and after the first date at which a remediation cost is proposed to be or has been incurred, by an amount at least equivalent to 1% of the aggregated **forecast MARs** for the **disclosure years** of the **IPP** in which the cost was or will be incurred.

3.7.2 Change event

Change event means-

- (a) change in a; or
- (b) a new,

legislative or regulatory requirement applying to **Transpower** the effect of which-

- (c) must take place during the current **regulatory period**;
- (d) is not explicitly or implicitly provided for in the **IPP**; and either-
- (e) necessitates incurring additional reasonable costs in responding to the change or new requirement that has an impact on the price path of the disclosure years of the regulatory period in which the change or new requirement applies of at least 1% of the aggregate amount of the forecast MARs for the disclosure years in which the net costs are or will be incurred; or
- (d)(f) causes an input methodology to become incapable of being applied.

~~will necessitate incursion of costs in response, which costs, over the disclosure years of the IPP remaining on and after the first date on which they are reasonably incurred, have an impact on the price path by an amount at least equivalent to 1% of the aggregated forecast MARs for the disclosure years of the IPP in which costs were or will be incurred.~~

3.7.3 Error event

- (1) 'Error event' means, subject to subclause (2), a clearly unintended circumstance identified by the Commission where the IPP was determined or amended based on an error, including where:

- (a) incorrect data was used in setting the price path, revenue-linked grid output measure or a quality standard; or
- (b) data was incorrectly applied in setting the price path, revenue-linked grid output measure or a quality standard.

(2) For the purposes of subclause (1), an error relating to-

- (a) the price path will not constitute an **error event** unless the error has an impact on the price path of an amount equivalent to at least 1% of the aggregate **forecast MAR** for the affected **disclosure years** of the **IPP**; and
- (b) the quality standards, or grid output measures, is to the value of a metric by which such quality standards or grid output measures are specified in the **IPP**, but not to the metric itself.

~~incorrect data-~~

- ~~(a) discovered in an **IPP determination** and clearly unintended by the **Commission** to be included in it; or~~
- ~~(b) relied upon by the **Commission** in making or amending an **IPP determination** and clearly unintended by the **Commission** to be relied upon in making or amending it,~~

~~determined by the **Commission** to have an impact on the price path of an amount at least equivalent to 1% of the aggregated **forecast MARs** for the **disclosure years** of the **IPP** affected by the incorrect data.~~

3.7.4 When price-quality paths may be reconsidered

(1) **Transpower's IPP** may be reconsidered where-

- (a) the **Commission** considers; or
- (b) **Transpower** satisfies the **Commission**, upon application,

that subclauses (2), or (4), ~~(7) or (8)~~ applies.

(2) This subclause applies if-

- (a) subject to subclause (3), a **catastrophic event** has occurred;
- (b) there has been an **error event**; or
- (c) a **change event** has occurred.

(3) For the purpose of subclause (2)(a), where the costs to rectify the adverse consequences of a **catastrophic event** are fully covered by-

- (a) the **IPP** (e.g. through an **operating expenditure** allowance for self-insurance); or
- (b) commercial insurance held by **Transpower**,

the **Commission** will only reconsider the **grid output targets, caps, collars, and grid output incentive rates** associated with **revenue-linked grid output measures**.

(4) This subclause applies if-

- (a) false or misleading information relating to the making or amending of an **IPP determination** has been knowingly-
 - (i) provided by **Transpower** or any of its agents to the **Commission**; or
 - (ii) disclosed pursuant to an **ID determination** or information disclosure requirements under Subpart 3 of Part 4A of the **Act**, as continued in force by s 54W of the **Act**; and
 - (b) the **Commission** relied on that information in making an **IPP determination**.
- (5) The **Commission** will reconsider, in each **disclosure year** commencing in a **regulatory period**, subject to subclause (6), save the last, the **IPP** in respect of the remaining **disclosure years** commencing in the **regulatory period** to take account of-
- (a) the revenue impact of major capex approved by the **Commission**;
 - (b) the revenue impact of any **base capex** approved by the **Commission** for a **listed project**; and
 - (c) an EV adjustment,
- on **forecast MAR**.
- (6) ~~For the purpose of subclause (5) 'EV adjustment' has the meaning as defined in an **IPP determination**.~~
- ~~(a) in respect of **RCP1**, the **Commission** will undertake the reconsideration described in that subclause only in the second and third **disclosure years**; and~~
 - ~~'EV adjustment' has the same meaning as defined in an **IPP determination**.~~
- ~~The price path may be reconsidered by the **Commission** if it applies a next closest alternative approach in accordance with clause 1.1.5(1) which has a non-equivalent effect.~~
- ~~(7) The price-quality path may be reconsidered by the **Commission** if a requirement in a s 52P determination is considered by the **Commission** to be unworkable and the application of s 52Q results in a non-equivalent effect on the price-quality path.~~

3.7.5 Amending price-quality path after reconsideration

- (1) Where, after reconsidering an **IPP**, the **Commission** determines that it should be amended, the **Commission** may amend either or both of the price path or the **grid output targets, caps, collars** and **grid output incentive rates** associated with **revenue-linked grid output measures**, subject to clause 3.7.4(3) and subclauses (2) and (3).
- (2) The **Commission** must not amend the-
 - (a) price path more than is reasonably necessary to take account of the change in costs net of any insurance or compensatory entitlements; and
 - (b) **grid output targets, caps, collars** and **grid output incentive rates** associated with **revenue-linked grid output measures** more than are reasonably necessary to take into account any necessary change in quality,

arising from-

- (c) the **catastrophic event**;
- (d) the **change event**;
- (e) the error event;
- (f) the provision of false or misleading information; or
- (g) the amendment required to **forecast MAR** to account for-
 - (i) the revenue impact of **major capex** approved by the **Commission**; or
 - (ii) the revenue impact of any **base capex** approved by the **Commission** for a **listed project**; or
 - (iii) an **EV adjustment**,

as the case may be.

~~The **Commission** will not amend the price path for the application of a next closest alternative approach more than is necessary to adopt the effect of that next closest alternative approach in the price quality path.~~

~~(3) The **Commission** will not amend the price quality path for the application of s 52Q in respect of an unworkable requirement in a s 52P determination more than is necessary to adopt the effect of that s 52Q amendment in the price quality path.~~

~~(4)~~(3) Where the **Commission's** reconsideration of the **IPP** was triggered by a **catastrophic event**, in determining the extent of the amendment required, the **Commission** will consider the extent to which **Transpower** has demonstrated that it has reviewed its **capital expenditure** and **operating expenditure** plans for the remainder of the **regulatory period** and made such substitutions as is possible without adversely affecting its ability to meet the **grid output targets** associated with **revenue-linked grid output measures**.

SCHEDULE A STANDARD PHYSICAL ASSET LIVES

Standard Physical Asset Lives for Transpower

ASSET DESCRIPTION	STANDARD PHYSICAL ASSET LIFE (YEARS)
Substations	55
Transformers	55
Oil Containment	45
Switchgear	45
Reactive Power Plant:	
220/110/66 kV Two Zone Bus Protection	15
22/11 kV Neutral Earthing Resistor	45
Transmission Lines	55