



COMMERCE COMMISSION

DECISION NO. 713

Input methodologies determination applicable to **Transpower** pursuant to Part 4 of the Commerce Act 1986 (the Act).

The Commission:

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COMMERCE ACT (TRANSPOWER INPUT METHODOLOGIES) DETERMINATION 2010

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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 Commerce Act (Transpower Input Methodologies) Determination 2010.

1.1.2 Application

- (1) The **input methodologies** in this determination apply to **electricity transmission services**.
- (2) The **input methodologies** in-
 - (a) Part 2 apply in relation to information disclosure regulation under Subpart 4; and
 - (b) Part 3 apply in relation to individual price-quality regulation under Subpart 7, of Part 4 of the **Act**.

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:

75th percentile estimate of WACC means estimate, made in accordance with clause 2.4.7(3)(b)(i) and published pursuant to clause 2.4.8, 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;

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

auditor means-

- (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-
 - (i) qualified for appointment as an auditor of a company under the Companies Act 1993; and
 - (ii) **independent**;

B

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;

C

capital expenditure, means costs that-

- (a) have been incurred in the acquisition or development of an asset that is, or is intended to be, **commissioned**; and
- (b) are intended to be included in the **value of commissioned asset**;

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

- (a) Part 2, clause 2.2.3(4); and
- (b) Part 3, clause 2.2.3(4) as modified pursuant to clause 3.3.1;

Commission has the same meaning as defined in s 2 of the **Act**;

commissioned means used by **Transpower** to provide **electricity transmission services**, save that in relation to-

- (a) **land** that is not **easement land**; or
- (b) an **easement**;

whose acquisition was approved by the-

- (c) **Electricity Commission** under Part F of the Electricity Governance Rules 2003;
- (d) **Commission** under s 54R(3)(b) of the **Act**; or
- (e) **Commission** in accordance with any input methodology determined pursuant to s 54S of the **Act**;

'commissioned' means acquired by **Transpower**,

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(1);

D

debt premium has the meaning specified in and is the amount determined in accordance with, for the purpose of-

- (a) Part 2, clause 2.4.4; and
- (b) Part 3, clause 3.5.4;

depreciation, 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 with respect to its **opening RAB value** and the amount of such allowance is determined in accordance with clause 2.2.4;

disclosure year means 12 month period ending on 30 June;

Example: 'disclosure year 2012' means 12 month period ending on 30 June 2012;

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-

- (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-

- (a) a chartered professional engineer as defined in s 6 of the Chartered Professional Engineers Act 2002;
- (b) acting in that professional capacity; and
- (c) **independent**;

error has the meaning specified in clause 3.7.3;

excluded asset means an asset that is-

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

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;

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 3.6.1(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 3.6.1(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(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-

- (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);

local authority has the same meaning as defined in s 5(1) of the Local Government Act 2002;

lost asset means an asset-

- (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

mid-point estimate of WACC means, for the purpose of-

- (a) Part 2, the mid-point estimate of-
 - (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) Part 3, the mid-point estimate of vanilla **WACC**, as estimated in accordance with clause 3.5.1;

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

N

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(2)(f); and
- (b) Part 3, clause 2.2.3(2)(f) 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) **recoverable costs**;

operating expenditure means **operating costs** after application of clause 3.2.1;

P

pass-through cost has the meaning specified in clause 3.1.2;

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;

Q

qualifying debt has the meaning specified in clause 2.4.9(1);

qualifying issuer means a New Zealand resident limited liability company-

- (a) that-
 - (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-
 - (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-

- (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;

quality targets means the targets specified in clause 4.2 of the **IPP determination**;

R

RCP1 means the **regulatory period** commencing on 1 April 2011 and ending on 31 March 2015;

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-

- (a) a **person** that, in accordance with **GAAP**, is related to **Transpower**; 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** at the commencement of the **disclosure year** in question;

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 2.4.10;

term credit spread differential means the amount determined in accordance with, for the purpose of-

- (a) Part 2, clause 2.4.11; and
- (b) Part 3, clause 3.5.10;

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 with respect to its **unallocated opening RAB value** and the amount of such allowance is 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-

- (a) is registered as a valuer under the Valuers Act 1948;
- (b) holds a current practising certificate issued by-

- (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-

- (a) has been or is being constructed by, or on behalf of, **Transpower**;
- (b) has not been **commissioned**; and
- (c) **Transpower** intends to **commission**.

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-
- the **disclosure year 2012**, is its **unallocated initial RAB value**; and
 - 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 **found asset**, its **value of found asset**;
 - a **disposed asset**, nil;
 - a **lost asset**, nil;
 - any other asset with an **unallocated opening RAB value**, the value determined in accordance with the formula-

unallocated opening RAB value - unallocated depreciation;
 - 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
 - any other asset having a **commissioning date** in the **disclosure year** in question, its **value of commissioned asset**.
- (3) Opening RAB value in respect of an asset, is, for-
- the **disclosure year 2012**, its **initial RAB value**; and
 - 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-
- adopting its **unallocated closing RAB value**; and
 - applying 2.1.1 to it.

2.2.4 Depreciation

- (1) Unallocated depreciation, in the case of an asset with an **unallocated opening RAB value**, is determined, subject to subclause (3) and clause 2.2.5, in accordance with the formula-
- $$[1 \div \text{remaining asset life}] \times \text{unallocated opening RAB value.}$$
- (2) Depreciation, in the case of an asset with an **opening RAB value**, is determined, subject to subclause (3)(a), in accordance with the formula-
- $$[1 \div \text{remaining asset life}] \times \text{opening RAB value.}$$
- (3) For the purposes of subclauses (1) and (2)-
- unallocated depreciation and depreciation are nil in the case of-
 - land**;
 - an **easement** other than a **fixed life easement**; and
 - 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, subject to subclause (2), 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 (3);
 - (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) an asset not referred to in paragraphs (a)-(f)-
 - (i) having a **standard physical asset life**, its **standard physical asset life**;
 - (ii) not having a **standard physical asset life**, the physical asset life applying to an asset with an **unallocated opening RAB value** that is similar in terms of asset type; and
 - (iii) in all other cases, the physical service life potential determined by an **engineer**, subject to subclause (3);
 - (h) a composite asset, the average asset life of the assets comprising it determined in accordance with paragraphs (a)-(g), 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**.

- (2) For the purpose of subclause (1), the physical asset life at the start of a **regulatory period** of an asset that would, in accordance with subclause (1), become fully depreciated during that **regulatory period**, is equal to the duration of the **regulatory period**.
- (3) For the purpose of subclauses (1)(1)(e) and (1)(g)(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**.
- (4) 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 opening RAB value of the asset for the **regulated supplier** as on the 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 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, subject to subclause (3), a rate no greater than the **75th percentile estimate of WACC** applying in respect of the relevant date for its calculation under **GAAP**.
- (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** referred to in subclause (2)(b) applied, the cost of financing after that period is calculated using a rate no greater than the **75th 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 **easement 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**.

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-

$$(\text{sum of opening RAB values} \times \text{leverage} \times \text{cost of debt}) + \text{term credit spread differential allowance}.$$

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-

$$\text{tax asset value} \times \text{result of asset allocation ratio}.$$
- (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-

$$\frac{\text{opening RAB value or sum of opening RAB values, as the case may be}}{\text{unallocated opening RAB value or sum of unallocated opening RAB values, as the case may be}}$$
 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-

$$r_d(1 - T_c)L + r_e(1 - L).$$
- (3) 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 the **disclosure year 2011**,
 as soon as practicable after this determination comes into force.
- (4) In this clause-
 - L is **leverage**;
 - r_d is the cost of debt and is estimated by $r_f + p + d$;
 - r_e is the cost of equity and is estimated 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.
- (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 44%.
- (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-
- (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-
 - (i) resident in New Zealand; and
 - (ii) 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 0.61.
- (6) The debt issuance costs are 0.35%.
- (7) The tax-adjusted market risk premium is, for a 5 year period commencing on the first day of-
- (a) the **disclosure year** 2011, 7.1%; and
 - (b) 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 month 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 estimate 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 month 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), 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 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 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 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 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 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 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;
 - (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).

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).

2.4.7 Methodology for estimating the WACC range

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

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

2.4.8 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.

2.4.9 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.

2.4.10 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-

$$(V - W) - (X - Y);$$

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 on the Bloomberg New Zealand 'A' fair value curve 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 on the Bloomberg New Zealand 'A' fair value curve 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) 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.

2.4.11 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-
 - (i) **term credit spread difference**;
 - (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-

$(0.0175 \div \textit{original tenor of the qualifying debt} - 0.0035) \times \textit{book value in New Zealand dollars of the **qualifying debt** at its date of issue}$,

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 positive net balance determined in accordance with clause 3.6.2(2), provided that any requirements pursuant to an **ID determination** regarding **auditor** certification of the value determined in accordance with those clauses 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; and
 - (c) a transmission alternative operating cost, subject to the requirements in subclause (3).
- (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), 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**;
 - (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; and
- (d) be the-
 - (i) actual transmission alternative operating cost incurred by **Transpower**; or
 - (ii) upper limit of transmission alternative operating costs approved in accordance with paragraph (c),
 whichever is the lower.
- (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 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 (2), no later than 6 months preceding the start of **RCP1** or 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 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 $r_f + p + d$;

r_e is the cost of equity and is estimated by $r_f(1 - T_i) + \beta_e TAMRP$;

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 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 44%.
- (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 **regulatory period** in question.
- (3) For the purpose of subclause (2), 'investor tax rate' 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-
 - (i) resident in New Zealand; and
 - (ii) an investor in a **multi-rate PIE**.
- (4) The equity beta is 0.61.
- (5) The debt issuance costs are 0.35%.
- (6) The tax-adjusted market risk premium is, for a 5 year period commencing on the first day of-
 - (a) until 30 June 2011, 7.1%; and
 - (b) 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(2), 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 month 8 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.

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 estimate an amount for the debt premium-
 - (a) for each **regulatory period**; and
 - (b) subject to clause 3.5.1(2), 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 month 8 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), 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 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 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 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 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 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 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;
 - (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), 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), 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.

3.5.7 Methodology for estimating 75th percentile of vanilla WACC

- (1) The **Commission** will determine a **75th percentile estimate of WACC**-
- (a) for each regulatory period;
 - (b) no later than 6 months prior to the start of each **regulatory period**.

- (2) For the purpose of subclause (1)-
- (a) the **mid-point estimate of WACC** must be treated as the 50th percentile; and
 - (b) the 75th percentile must be determined in accordance with the formula-

$$\text{mid-point estimate of WACC} + 0.674 \times \text{standard error},$$

where 'standard error' means the **standard error** of the **mid-point estimate of WACC**, as determined in accordance with clause 3.5.6.

3.5.8 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 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 3.5.8 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 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-
 - (i) **term credit spread difference**;
 - (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** total interest-bearing debt as at the date 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-

$(0.0175 \div \text{original tenor of the qualifying debt} - 0.0035) \times \text{book value in New Zealand dollars of the qualifying debt at its date of issue,}$

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

SUBPART 6 Incremental rolling incentive scheme

3.6.1 Calculation of annual incremental changes and adjustment term

- (1) The incremental change for an **opening year** is the difference between **allowed controllable opex** and **actual controllable opex**.
- (2) The incremental change for a **disclosure year** of the **regulatory period** 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 the **regulatory period** is treated as nil.
- (4) The incremental adjustment term is determined-
 - (a) in the **opening year** of every **regulatory period** except **RCPI1**; 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 the preceding **regulatory period**; and

$t-2$ means the penultimate **disclosure year** commencing in the preceding **regulatory period**.

- (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.

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

- (1) Each incremental change determined in accordance with clause 3.6.1 and **incremental adjustment term** is notionally carried forward, subject to clause 3.6.3, 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 a preceding **regulatory period**; and
 - (b) any **incremental adjustment term** carried into that **disclosure year**.

3.6.3 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 the **regulatory period** in accordance with clauses 3.6.1(1) and 3.6.1(2) are negative,

clause 3.6.2(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 **quality targets** being exceeded 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 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

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

Error means 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 subclause (2) or (4) applies.
- (2) This subclause applies if-
 - (a) subject to subclause (3), a **catastrophic event** has occurred;
 - (b) there has been **error**; 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
 - or
 - (b) commercial insurance held by **Transpower**,

the **Commission** will only reconsider the **quality targets**.
- (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**; and
 - (b) an EV adjustment,

on **forecast MAR**.
- (6) For the purpose of subclause (5)-
 - (a) in respect of **RCP1**, the **Commission** will undertake the reconsideration described in that subclause only in the second and third **disclosure years**; and
 - (b) 'major capex' and 'EV adjustment' have the same meanings as defined in an **IPP determination**.

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 **quality targets**, 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

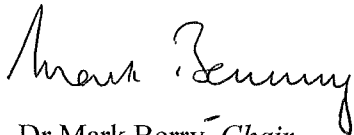
- (b) **quality targets** more than are reasonably necessary to take into account any necessary change in quality,

arising from-

- (c) the **catastrophic event**;
- (d) the **change event**;
- (e) **error**;
- (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) an EV adjustment,

as the case may be.

- (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 **quality targets**.



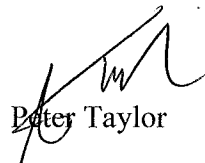
Dr Mark Berry, *Chair*



Sue Begg, *Deputy Chair*



Pat Duignan



Peter Taylor

Dated at Wellington this 22nd day of December 2010.

COMMERCE COMMISSION

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