COMMERCE COMMISSION

Determination of the Cost of Capital for Services Regulated under Part 4 of the Commerce Act 1986, Pursuant to Decisions 709, 710, 711, 712 and 713

Decision Number 718

The **Commerce Commission**:

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Date of Decision: 3 March 2011

ISBN: 978-1-869451-43-1

A determination of Weighted Average Cost of Capital (WACC) estimates applicable to services regulated under Part 4 of the Commerce Act 1986 pursuant to the respective input methodologies determination for each service.

WACC for Electricity Distribution Services

Information Disclosure

1. Pursuant to clause 2.4.1 of the Commerce Act (Electricity Distribution Services Input Methodologies) Determination 2010 (the EDS Determination), the Commerce Commission (Commission) has determined:

   - a mid-point estimate of vanilla WACC[1] of 7.82% for the five year period commencing on the first day of disclosure year 2011 (i.e. 1 April 2010); and with a range, pursuant to clause 2.4.7, from 7.09% to 8.54% where the endpoints are the 25th and 75th percentile estimates; and

   - a mid-point estimate of post-tax WACC[2] of 6.87% for the five year period commencing on the first day of disclosure year 2011 (i.e. 1 April 2010); and with a range, pursuant to clause 2.4.7, from 6.15% to 7.60% where the endpoints are the 25th and 75th percentile estimates.

Default Price-quality Paths

2. Pursuant to clause 4.1.7 of the EDS Determination, the Commission has determined a 75th percentile estimate of vanilla WACC of 8.77% for the first DPP regulatory period (commencing April 2010) based on the risk-free rate and debt premium as at 1 September 2009. The mid-point vanilla WACC is 8.05%.

Customised Price-quality Paths

3. Pursuant to clause 5.3.28 of the EDS Determination, the Commission has determined a 75th percentile estimate of vanilla WACC for inclusion in any CPP application made by an EDB. The 75th percentile estimate of vanilla WACC for CPP periods of three years is 7.66%, of four years is 7.83% and of five years is 8.05%. The corresponding midpoint vanilla WACCs are 6.94%, 7.11% and 7.33% for periods of three, four and five years, respectively. These WACCs are estimated as at 1 September 2010.

WACC for Gas Pipeline Services

Information Disclosure for suppliers with a June financial year (all except MDL)

4. Pursuant to clause 2.4.1 of the Commerce Act (Gas Distribution Services Input Methodologies) Determination 2010, and clause 2.4.1 of the Commerce Act (Gas Transmission Services Input Methodologies) Determination 2010 (the GTS Determination), the Commission has determined, for suppliers with a June balance date:

   - a mid-point estimate of vanilla WACC of 8.39% for the five year period commencing on the first day of disclosure year 2011 (i.e. 1 July 2010); and with a range, pursuant

[1] The vanilla WACC is the weighted average of the pre-corporate tax cost of debt and the cost of equity.

[2] The post-tax WACC is the weighted average of the post-tax cost of debt and the cost of equity.

to clause 2.4.7, from 7.57% to 9.21% where the endpoints are the 25th and 75th percentile estimates; and

- a mid-point estimate of post-tax WACC of 7.47% for the five year period commencing on the first day of disclosure year 2011 (i.e. 1 July 2010); and with a range, pursuant to clause 2.4.7, from 6.65% to 8.28% where the endpoints are the 25th and 75th percentile estimates.

Information Disclosure for MDL – Disclosure Year 2011

5. Pursuant to clause 2.4.1 of the GTS Determination, the Commission has determined for suppliers with a December balance date (Maui Development Ltd (MDL)):

   - a mid-point estimate of vanilla WACC of 8.72% for the five year period commencing on the first day of disclosure year 2011 (i.e. 1 January 2010); and with a range, pursuant to clause 2.4.7, from 7.91% to 9.54% where the endpoints are the 25th and 75th percentile estimates; and

   - a mid-point estimate of post-tax WACC of 7.76% for the five year period commencing on the first day of disclosure year 2011 (i.e. 1 January 2010); and with a range, pursuant to clause 2.4.7, from 6.94% to 8.57% where the endpoints are the 25th and 75th percentile estimates.

Information Disclosure for MDL – Disclosure Year 2012

6. Pursuant to clause 2.4.1 of the GTS Determination, the Commission has determined for suppliers with a December balance date:

   - a mid-point estimate of vanilla WACC of 8.25% for the five year period commencing on the first day of disclosure year 2012 (i.e. 1 January 2011); and with a range, pursuant to clause 2.4.7, from 7.44% to 9.06% where the endpoints are the 25th and 75th percentile estimates; and

   - a mid-point estimate of post-tax WACC of 7.38% for the five year period commencing on the first day of disclosure year 2012 (i.e. 1 January 2011); and with a range, pursuant to clause 2.4.7, from 6.57% to 8.19% where the endpoints are the 25th and 75th percentile estimates.

WACC for Transpower

Information Disclosure

7. Pursuant to clause 2.4.1 of the Commerce Act (Transpower Input Methodologies) Determination 2010 (the Transpower IM Determination), the Commission has determined:

   - a mid-point estimate of vanilla WACC of 7.67% for the five year period commencing on the first day of disclosure year 2011 (i.e. 1 July 2010); and with a range, pursuant to clause 2.4.7, from 6.95% to 8.40% where the endpoints are the 25th and 75th percentile estimates; and

- a mid-point estimate of post-tax WACC of 6.75% for the five year period commencing on the first day of disclosure year 2011 (i.e. 1 July 2010); and with a range, pursuant to clause 2.4.7, from 6.03% to 7.47% where the endpoints are the 25th and 75th percentile estimates.

Individual Price-quality Path

8. Pursuant to clause 3.5.7 of the Transpower IM Determination, the Commission has determined a 75th percentile estimate of vanilla WACC for inclusion in a Transpower IPP of 8.05% for Regulatory Control Period 1 (which commences on 1 April 2011 and ends on 31 March 2015). The midpoint vanilla WACC is 7.33%.

WACC for Airport Services

Information Disclosure for Airports with a June financial year (AIAL and CIAL)

9. Pursuant to clause 5.1 of the Commerce Act (Specified Airport Services Input Methodologies) Determination 2010, the Commission has determined, for companies with a financial year ending in June (Auckland International Airport Limited (AIAL) and Christchurch International Airport Limited (CIAL)):

- a mid-point estimate of vanilla WACC of 8.40% for the five year period commencing on the first day of disclosure year 2011 (i.e. 1 July 2010); and with a range, pursuant to clause 5.7, from 7.41% to 9.39% where the endpoints are the 25th and 75th percentile estimates); and

- a mid-point estimate of post-tax WACC of 8.06% for the five year period commencing on the first day of disclosure year 2011 (i.e. 1 July 2010; and with a range, pursuant to clause 5.7, from 7.07% to 9.05% where the endpoints are the 25th and 75th percentile estimates).

Information Disclosure for Airports with an April financial year (WIAL)

10. Pursuant to clause 5.1 of the Commerce Act (Specified Airport Services Input Methodologies) Determination 2010, the Commission has determined, for companies with a financial year ending in March (Wellington International Airport Limited (WIAL)):

- a mid-point estimate of vanilla WACC of 8.54% for the five year period commencing on the first day of disclosure year 2011 (i.e. 1 April 2010; and with a range, pursuant to clause 5.7, from 7.55% to 9.53% where the endpoints are the 25th and 75th percentile estimates); and

- a mid-point estimate of post-tax WACC of 8.19% for the five year period commencing on the first day of disclosure year 2011 (i.e. 1 April 2010; and with a range, pursuant to clause 5.7, from 7.20% to 9.18% where the endpoints are the 25th and 75th percentile estimates).

COMMERCE COMMISSION

The Weighted Average Cost of Capital for Services Regulated Under Part 4 of the Commerce Act 1986

Explanatory note to Decision 718

3 March 2011

Introduction

1. This paper provides additional information and commentary on the Commission's Decision 718 on the various Weighted Average Cost of Capital (WACC) estimates that will apply in respect of services regulated under Part 4 of the Commerce Act 1986 pursuant to the respective input methodologies determination for each service.

2. The various WACC estimates reflect differences in:

    a. the date of estimation for these WACCs (which results in different estimates of the risk-free rate and debt premium at each estimation date);

    b. differences in the periods to which they will apply;

    c. differences in the context in which the WACCs will be used (75^{th} percentile estimates of the WACC are used when considering default and customised price paths);

    d. differences in the assessed riskiness of the various regulated services (EDBs and Transpower have an asset beta of 0.34, GPBs have an asset beta of 0.44, and Airports have an asset beta of 0.60); and

    e. differences in the level of leverage for airports (17%) and for EDBs, GPBs, and Transpower (44%).

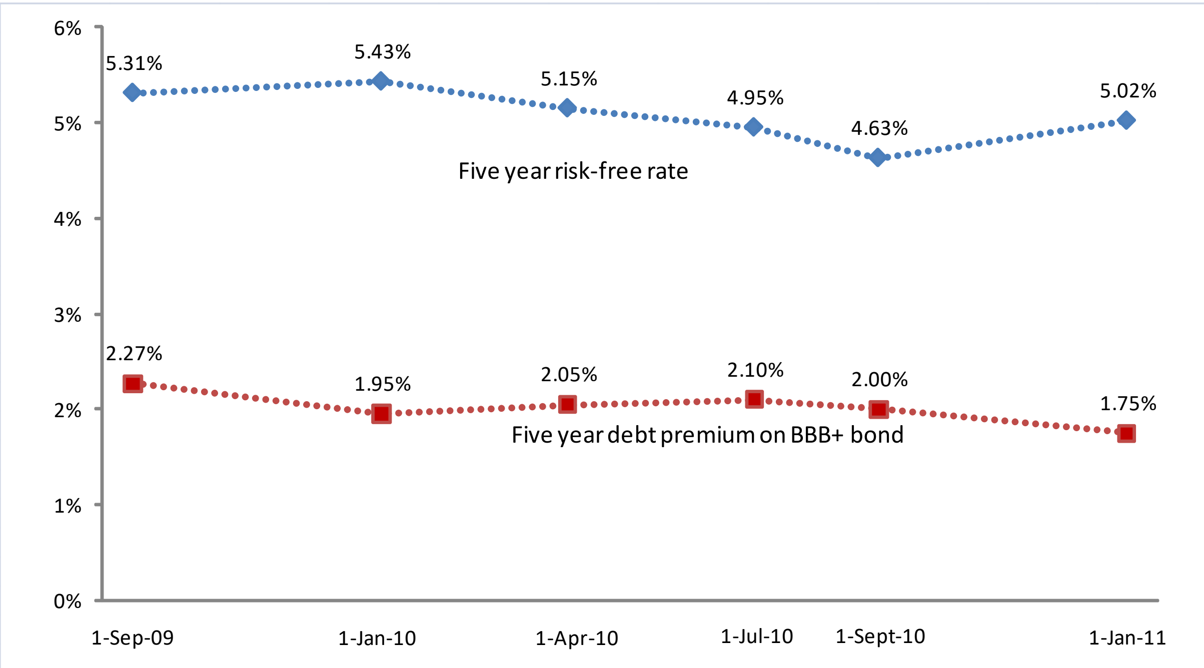
3. The WACC estimates are summarised in the table below.

Estimate and application	**Mid point**	**25^{th} percentile estimate**	**75^{th} percentile estimate**
Electricity Distribution Services			
Information disclosure (5 year period from 1 April 2011. WACC estimated as at 1 April 2010).			
Vanilla WACC	7.82%	7.09%	8.54%
Post-tax WACC	6.87%	6.15%	7.60%
Default Price Path (First DPP regulatory period. WACC estimated as at 1 Sept 2009).			
Vanilla WACC	8.05%	-	8.77%
Customised Price Path (for any CPP applications. WACC estimated as at 1 Sept 2010).			
Vanilla WACC (3 years)	6.94%	-	7.66%
Vanilla WACC (4 years)	7.11%	-	7.83%
Vanilla WACC (5 years)	7.33%	-	8.05%
Gas Distribution and Gas Transmission Services with a June balance date			

Estimate and application	Mid point	25th percentile estimate	75th percentile estimate
Information disclosure for June balance date companies covering the 5 year period from 1 July 2010. (WACC estimated as at 1 July 2010).			
Vanilla WACC	8.39%	7.57%	9.21%
Post-tax WACC	7.47%	6.65%	8.28%
Gas Transmission Services with a December balance date			
Information disclosure for December balance date companies (I.e. Maui):			
For the 5 year period from 1 January 2010. (WACC estimated as at 1 January 2010).			
Vanilla WACC	8.72%	7.91%	9.54%
Post-tax WACC	7.76%	6.94%	8.57%
For the 5 year period from 1 January 2011. (WACC estimated 1 January 2011).			
Vanilla WACC	8.25%	7.44%	9.06%
Post-tax WACC	7.38%	6.57%	8.19%
Transpower			
Information disclosure for five year period from 1 July 2010. (WACC estimated as at 1 July 2010).			
Vanilla WACC	7.67%	6.95%	8.40%
Post-tax WACC	6.75%	6.03%	7.47%
Individual Price-quality Path (WACC estimated as at 1 Sept 2010).			
Vanilla WACC	7.33%	-	8.05%

Estimate and application	Mid point	25th percentile estimate	75th percentile estimate
Specified Airport Services			
Information Disclosure for June financial year (I.e. AIAL and CIAL. WACC estimated as at 1 July 2010).			
Vanilla WACC	8.40%	7.41%	9.39%
Post-tax WACC	8.06%	7.07%	9.05%
Information Disclosure for March financial year (I.e. WIAL. WACC estimated as at 1 April 2010).			
Vanilla WACC	8.54%	7.55%	9.53%
Post-tax WACC	8.19%	7.20%	9.18%

4. The input methodologies for the regulated services reflect that the risk-free rate (estimated based on an interpolation of bid yields on New Zealand government stock to a term to maturity of five years) and the debt premium (estimated on publicly traded corporate bonds according to the methodology specified in the input methodology determinations) change over time. These changes in the risk-free rate and debt premium over time are illustrated in the graph below.



5. The table includes estimates of both vanilla WACCs and post-tax WACCs. The vanilla WACC is a weighted average of the pre-corporate tax cost of debt and the cost of equity, while the post-tax WACC is a weighted average of the post-corporate tax cost of debt and the cost of equity.

6. As part of developing an Input Methodology for estimating WACC, the Commission took a number of steps to ensure its methodology produced commercially realistic estimates of the cost of capital. In particular, the Commission tested estimates of the cost of capital produced when applying the cost of capital input methodology against:

   - estimates of the historic returns to New Zealand investors over the period from 1900-2009;
   - forecast returns for New Zealand firms of average risk;
   - estimates of the WACC for New Zealand monopolies made by external parties including New Zealand investment banks, advisers (PricewaterhouseCoopers) and unregulated New Zealand monopolies (for example, Airways Corporation); and
   - estimates of the WACC from other regulators especially in Australia and the United Kingdom.

7. Based on these tests, and for the reasons set out in the various input methodology final reasons papers, the Commission is satisfied that the estimates of the WACC are commercially realistic and appropriate for suppliers regulated under Part 4.[3]

8. The parameter values, estimates, and information sources used for each estimate of the WACC are set out below, with a commentary on key aspects, especially on the estimation of the risk-free rate and the debt premium. For example, this commentary explains how the Commission estimated the debt premium at each estimation date, identifying the issuers and bonds that were analysed, and the credit rating and remaining term to maturity, along with the estimated debt premium. The commentary also explains:

   - which debt premiums estimates were given greater weight than other estimates, and
   - that some estimates of the debt premium were given little or no weight as the debt premium estimate was out of line with the debt premium estimated for other issuers (recognising differences such as credit ratings and term to maturity). These differences reflect company specific factors, such as ownership structures, which affect the debt premium for bonds from individual issuers (for example, Wellington International Airport Limited and Powerco).

[3] See, Commerce Commission, *Input Methodologies (Electricity Distribution and Gas Pipeline Services) Reasons Paper*, December 2010, at paragraphs 6.8.1-6.8.17 and Appendix H13; and Commerce Commission, *Input Methodologies (Airport Services) Reasons Paper*, December 2010, at paragraphs 6.8.1-6.8.8, and Appendix E13.

WACC for Electricity Distribution Services

Information Disclosure

9. Pursuant to clause 2.4.1 of the Commerce Act (Electricity Distribution Services Input Methodologies) Determination 2010 (the EDS Determination), the Commission has determined:

   - a mid-point estimate of vanilla WACC of 7.82% for the five year period commencing on the first day of disclosure year 2011 (i.e. 1 April 2010; and with a range, pursuant to clause 2.4.7, from 7.09% to 8.54% where the endpoints are the 25th and 75th percentile estimates); and

   - a mid-point estimate of post-tax WACC of 6.87% for the five year period commencing on the first day of disclosure year 2011 (i.e. 1 April 2010; and with a range, pursuant to clause 2.4.7, from 6.15% to 7.60% where the endpoints are the 25th and 75th percentile estimates).

10. These estimates of vanilla and post-tax WACC reflect the parameters specified in the EDS Determination and the risk-free rate and debt premium estimated in accordance with the EDS Determination. The parameters and estimates are summarised in the table below.

Risk-free rate	5.15%	Debt premium	2.05%
Equity beta	0.61	TAMRP	7.1%
Average corporate tax rate	28.4%	Average investor tax rate	28.2%
Debt issuance costs	0.35%	Leverage	44%
Standard error of debt premium	0.0015	Standard error of WACC	0.011
Cost of debt (pre-corporate tax)	7.55%	Cost of equity	8.03%
Vanilla WACC (midpoint)	7.55% x 0.44 + 8.03% x (1-0.44) = 7.82%		
Post-tax WACC (midpoint)	7.55% x 0.44 x (1-0.284) + 8.03% x (1-0.44) = 6.87%		

11. The risk-free rate reflects the linearly-interpolated, annualised, bid yield to maturity on New Zealand government bonds with a five year term to maturity. The estimate uses data reported by Bloomberg for the month of March 2010 in respect of the April 2013 maturity bonds and the April 2015 maturity bonds. The daily data reported by Bloomberg is annualised (to reflect the 6 monthly payment of interest), averaged to give a monthly average, and linearly interpolated to produce the estimate of a 5.15% interest rate on a NZ government bond with a five year term to maturity as at 1 April 2010.

12. The average corporate tax rate is the five-year average given a corporate tax rate of 30% for disclosure year 2011, and 28% for the following four disclosure years.

13. The average investor tax rate is the five-year average given an average investor tax rate of 29% for disclosure year 2011, and 28% for the following four disclosure years.

14. The standard error of the WACC is determined in accordance with the formula in the EDS Determination, and is shown to three decimal places only in the table above.

15. The methodology for determining the debt premium is set out in clause 2.4.4 of the EDS Determination. Clause 2.4.4(3)(d) requires the Commission to estimate the debt premium that would reasonably be expected to apply to a vanilla NZ$ denominated bond that:

    a. is issued by an EDB or a GPB that is neither majority owned by the Crown nor a local authority;

    b. is publicly traded;

    c. has a credit rating of BBB+[4]; and

    d. has a five year remaining term to maturity.

16. In estimating the debt premium, clause (4) provides that the Commission will have regard to the estimates of the debt premium on:

    a. bonds issued by an EDB or GPB (that is not government-owned) with a rating of BBB+;

    b. bonds issued by another entity (that is not government-owned) with a rating of BBB+;

    c. bonds issued by an EDB or GPB (that is not government-owned) with a rating other than BBB+;

    d. bonds issued by another entity (that is not government-owned) with a rating other than BBB+; and

    e. bonds issued by government-owned entities.

17. Clause (5)(a) provides that progressively lesser regard will ordinarily be given to the debt premium estimates in the order that the bonds are identified in clauses (4)(a) to (e).

18. The table below shows the debt premium determined by the Commission as at 1 April 2010 and a summary of the debt premium information on investment grade bonds the Commission considered in determining the debt premium. A spreadsheet showing the calculations for the debt premium (and the risk-free rate) is on the Commission's website.

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4 All ratings in this document refer to Standard and Poor's long-term credit ratings of debt issues.

Determined debt premium on an EDB/GPB -issued bond rated BBB+ with a remaining term of 5 years as at 1 Apr 2010						
		Industry	**Rating**	**Term to Maturity**	**Debt premium**	**Comment**
Determined Debt Premium		*EDB / GPB*	*BBB+*	5.0	*2.05*	Vector premium provides floor. Regard to results of 4(d). Not inconsistent with 4(e).
Subclause	**Issuer**	**Industry**	**Rating**	**Term to Maturity**	**Debt premium**	**Comment**
4(a)	Vector[1]	EDB/GPB	BBB+	4.5	1.99	Minimum per subclause 5(b).
4(b)	WIAL[2]	Other	BBB+			Anomalous, see paragraph 22.
4(c)	Powerco[3]	EDB/GPB	BBB			Anomalous, see paragraph 22.
4(d)	Contact[4]	Other	BBB	4.1	2.28	BBB+ would be less than this.
	AIAL[5]	Other	A-	5.0	1.70	BBB+ would be more than this.
	Telecom[6]	Other	A	5.0	1.57	BBB+ would be more than this.
	Telstra[7]	Other	A	4.7	1.57	BBB+ would be more than this.
4(e)	Genesis[8]	Other	BBB+	5.0	1.86	
	MRP[9]	Other	BBB+	5.0	1.89	
	Transpower[10]	Other	AA-	5.0	1.16	

Notes on bonds analysed:

1 Vector 7.8% bond maturing 15/10/2014.
2 WIAL 7.5% bond maturing 15/11/2013.
3 Powerco 6.53% bond maturing 29/06/2015.
4 Contact Energy 8% bond maturing 15/05/2014.
5 AIAL 7.25% bond maturing 28/02/2014; 7.25% bond maturing 7/11/2015.
6 Telecom 8.5% bond maturing 22/03/2013; 7.04% bond maturing 22/03/2016.
7 Telstra 7.15% bond maturing 24/11/2014.
8 Genesis 7.25% bond maturing 15/03/2014; 7.65% bond maturing 15/03/2016.
9 Mighty River Power 7.25% bond maturing 15/05/2013; 7.55% bond maturing 12/10/2016.
10 Transpower 5% bond maturing 15/12/2010; 7.19% bond maturing 12/11/2019.

19. Consistent with clause 2.4.4(4)-(5)(a) greatest regard has been given to the estimated debt premium on Vector's October 2014 bond. These are issued by an EDB/GPB, are publicly traded, have a rating of BBB+, and have a term to maturity of 4.5 years. As at 1 April 2010, the debt premium, estimated in accordance with clause 2.4.4 was 1.99%. Consistent with clause 2.4.4(5)(b) this is treated as the minimum debt premium for a bond rated BBB+ with a term of five years.

20. The Commission has also had regard to the estimated debt premium on bonds from a range of other issuers including AIAL (1.70%), Telecom (1.57%) and Telstra (1.57%). Consistent with clause (5)(a) these were given less weight as the issuers are not EDBs or GPBs, and the debt issues had higher credit ratings than the BBB+ rating specified in clause (3)(d). Regard was also had to the estimated debt premium on Contact Energy bonds, though it is not an EDB or GPB, and the bond is rated BBB.

21. Based particularly on the estimated debt premium on the Vector Bond, but having regard to the debt premium on the AIAL, Telecom, Telstra, and Contact Energy bonds, the Commission has determined the debt premium on a publicly traded, EDB/GPB-issued bond, rated BBB+ with a remaining term of five years to be 2.05% as at 1 April 2010.

22. No weight has been placed on the estimated debt premium for WIAL (2.56%, BBB+ rated, 3.6 years remaining) or Powerco (2.82%, BBB rated, 5 years) as their estimated debt premiums are well above that on the bonds of other issuers and are out of line with the debt premiums on other bonds rated BBB+ and the Contact BBB rated bond.

Default Price-quality Paths

23. Pursuant to clause 4.1.7 of the EDS Determination, the Commission has determined a 75th percentile estimate of vanilla WACC of 8.77% for the first DPP regulatory period (commencing April 2010) based on the risk-free rate and debt premium as at 1 September 2009. The mid-point vanilla WACC is 8.05%.

24. Where the Commission takes into account the cost of capital in respect of a DPP determination for the DPP regulatory period commencing April 2010, the Commission will use this 75th percentile estimate of the vanilla WACC.

25. This estimate of vanilla WACC reflects the parameters specified in the EDS Determination and the risk-free rate and debt premium estimated in accordance with the EDS Determination. The parameters are summarised in the table below.

Risk-free rate (as at 1 Sept 2009)	5.31%	Debt premium (as at 1 Sept 2009)	2.27%
Equity beta	0.61	TAMRP	7.1%
Average corporate tax rate	28.4%	Average investor tax rate	28.2%
Debt issuance costs	0.35%	Leverage	44%
Standard error of debt premium	0.0015	Standard error of WACC	0.011
Cost of debt (pre-corporate tax)	7.93%	Cost of equity	8.14%
Vanilla WACC (midpoint)	7.93% x 0.44 + 8.14% x (1-0.44) = 8.05%		

26. The risk-free rate reflects the linearly-interpolated bid yield to maturity on New Zealand government bonds with a five year term to maturity. The estimate uses data reported by Bloomberg for the month of August 2009 in respect of April 2013 maturity bonds and April 2015 maturity bonds. The daily data reported by Bloomberg is annualised (to reflect the 6 monthly payment of interest), averaged to give a monthly average, and linearly interpolated to produce the estimate of a 5.31% interest rate on a NZ government bond with a five year term to maturity as at 1 September 2009.

27. The average corporate tax rate is the five-year average given a corporate tax rate of 30% for disclosure year 2011, and 28% for the following four disclosure years.

28. The average investor tax rate is the five-year average given an average investor tax rate of 29% for disclosure year 2011, and 28% for the following four disclosure years (clause 4.1.2(6) refers).

29. The standard error of the WACC is determined in accordance with the formula in the EDS Determination, and is shown to three decimal places only in the table above.

30. The methodology for determining the debt premium is set out in clause 4.1.4 of the EDS Determination. Clause 4.1.4(3)(d) requires the Commission to estimate the debt premium that would reasonably be expected to apply to a vanilla NZ$ denominated bond that:

    a. is issued by an EDB or GPB, (that is neither majority owned by the Crown nor a local authority);

    b. is publicly traded;

    c. has a credit rating of BBB+; and

    d. has a five year remaining term to maturity.

31. In estimating the debt premium, clause (4) provides that the Commission will have regard to estimates of the debt premium on:

    a. bonds issued by an EDB or GPB (that is not government-owned) with a rating of BBB+;

    b. bonds issued by another entity (that is not government-owned) with a rating of BBB+;

    c. bonds issued by an EDB or GPB (that is not government-owned) with a rating other than BBB+;

    d. bonds issued by another entity (that is not government-owned) with a rating other than BBB+; and

    e. bonds issued by government-owned entities.

32. Clause (5)(a) provides that progressively lesser regard will ordinarily be given to the debt premium estimates in the order that the bonds are identified in clauses (4)(a) to (e).

33. The table below shows the debt premium determined by the Commission as at 1 September 2009 and a summary of the debt premium information on investment grade rated bonds the Commission considered in determining the debt premium.

Determined debt premium on an EDB/GPB -issued bond rated BBB+ with a remaining term of 5 years as at 1 Sept 2009						
		Industry	**Rating**	**Term to Maturity**	**Debt premium**	**Comment**
Determined Debt Premium		*EDB / GPB*	*BBB+*	*5.0*	*2.27*	Vector almost exact match (5.1yrs). Not inconsistent with 4(b)-4(e).
Subclause	**Issuer**	**Industry**	**Rating**	**Term to Maturity**	**Debt premium**	**Comment**
4(a)	Vector[1]	EDB/GPB	BBB+	5.1	2.27	With 5.1 yrs remaining, almost an exact match.
4(b)	WIAL[2]	Other	BBB+			Anomalous, see paragraph 36.
4(c)	Powerco[3]	EDB/GPB	BBB			Anomalous, see paragraph 36.
4(d)	Contact[4]	Other	BBB	4.7	2.30	BBB+ would be less than this.
	AIAL[5]	Other	A-	5.0	2.20	BBB+ would be more than this.
4(e)	Genesis[6]	Other	BBB+	5.0	2.28	
	MRP[7]	Other	BBB+	3.7	2.14	
	Transpower[8]	Other	AA-	5.0	1.39	

Notes on bonds analysed:

1 Vector 7.8% bond maturing 15/10/2014.
2 WIAL 7.5% bond maturing 15/11/2013.
3 Powerco 6.53% bond maturing 29/06/2015.
4 Contact Energy 8% bond maturing 15/05/2014.
5 AIAL 7.25% bond maturing 28/02/2014; 7.25% bond maturing 7/11/2015.
6 Genesis 7.25% bond maturing 15/03/2014; 7.65% bond maturing 15/03/2016.
7 Mighty River Power 7.25% bond maturing 15/05/2013.
8 Transpower 5% bond maturing 15/12/2010; 6.95% bond maturing 10/06/2020.

34. Consistent with clause 4.1.4(4)-(5)(a) greatest regard has been given to the estimated debt premium on Vector's October 2014 bond. This is issued by an EDB/GPB, is publicly traded, has a rating of BBB+, and has a term to maturity of 5.1 years. This is an almost perfect match to the requirements in clause 4.1.4(3)(d). As at 1 September 2009, the debt premium on the Vector bond was estimated at 2.27%.

35. A consideration of the other debt premium information confirms 2.27% is a reasonable estimate of the debt premium on a BBB+ rated, publicly traded, bond as at 1 September 2009. The 2.27% debt premium on the Vector bond is slightly below the estimated debt premium for the Contact Energy bond 2.30% (BBB rated, 4.7 years to maturity), almost identical to the estimated debt premium for Genesis Energy (2.28%, BBB+ rated, 5 years), and slightly above that for AIAL (2.20%, A- rated, 5 years) and for Mighty River Power (2.14%, BBB+ rated, 3.7 years).

36. The estimated debt premiums for WIAL (2.59%, BBB+ rated, 4.2 years) and Powerco (4.29%, BBB rated, 5 years) are large in absolute terms and out of line with the debt premiums estimated for the other issuers, having regard to their respective credit ratings and terms to maturity. Therefore, no weight has been placed on the estimated debt premiums for Powerco and WIAL when determining the debt premium under clause 4.1.4.

Customised Price-quality Paths

37. Pursuant to clause 5.3.28 of the EDS Determination, the Commission has determined a 75th percentile estimate of vanilla WACC for inclusion in any CPP application made by an EDB. The 75th percentile estimate of vanilla WACC for CPP periods of three years is 7.66%, of four years is 7.83% and of five years is 8.05%. The corresponding midpoint vanilla WACCs are 6.94%, 7.11% and 7.33% for periods of three years, four years and five years, respectively.

38. These estimates reflect the parameters specified in the EDS Determination and the risk-free rate and debt premium estimated in accordance with the EDS Determination. The parameters are summarised in the table below. The risk-free rates and debt premiums are estimated as at 1 September 2010, based on data for August 2010.

Risk-free rate (3 year)	4.18%	Debt premium (3 year)	1.75%
Risk-free rate (4 year)	4.42%	Debt premium (4 year)	1.82%
Risk-free rate (5 year)	4.63%	Debt premium (5 year)	2.00%
Equity beta	0.61	TAMRP	7.0%
Average corporate tax rate	28%	Average investor tax rate	28%
Debt issuance costs (3 year)	0.58%	Debt issuance costs (4 year)	0.44%
Debt issuance costs (5 year)	0.35%	Leverage	44%
Standard error of debt premium	0.0015	Standard error of WACC	0.011
Cost of debt (3 year, pre-tax)	6.51%	Cost of equity (3 year)	7.28%
Cost of debt (4 year, pre-tax)	6.68%	Cost of equity (4 year)	7.45%
Cost of debt (5 year, pre-tax)	6.98%	Cost of equity (5 year)	7.60%
Vanilla WACC (midpoint, 3 yr)	6.51% x 0.44 + 7.28% x (1-0.44) = 6.94%		
Vanilla WACC (midpoint, 4 yr)	6.68% x 0.44 + 7.45% x (1-0.44) = 7.11%		
Vanilla WACC (midpoint, 5 yr)	6.98% x 0.44 + 7.60% x (1-0.44) = 7.33%		

39. The risk-free rate reflects the linearly-interpolated bid yield to maturity on New Zealand government bonds with a three, four, or five year term to maturity. The estimate uses data reported by Bloomberg for the month of August 2010 in respect of April 2013 maturity bonds and April 2015 maturity bonds for estimating the risk-free rate for a three year and a four year period, and in respect of April 2015 maturity bonds and December 2017 maturity bonds for estimating the risk-free rate for a five year period. The daily data reported by Bloomberg is annualised (to reflect the 6 monthly payment of interest), averaged to give a monthly average, and linearly interpolated to produce the estimate of a 4.18% interest rate with a three year term to maturity, a 4.42% interest rate with a four year term to maturity, and a 4.63% interest rate with a five year term to maturity, as at 1 September 2010.

40. As at the date of estimating the WACC, the corporate tax rate will be 28% for all disclosure years in the first CPP regulatory period.

41. The average investor tax rate is 28% for all disclosure years in the first CPP regulatory period (that is, which commences with disclosure year 2012).

42. The standard error of the WACC is determined in accordance with the formula in the EDS Determination, and is shown to three decimal places only in the table above.

43. The methodology for determining the debt premium is set out in clause 5.3.25 of the EDS Determination. Clause 5.3.25(3)(d) requires the Commission to estimate the debt premium that would reasonably be expected to apply to a vanilla NZ$ denominated bond that:

    a. is issued by an EDB or a GPB, (that is neither majority owned by the Crown nor a local authority);

    b. is publicly rated;

    c. has a credit rating of BBB+; and

    d. has a five year remaining term to maturity.

44. In estimating the debt premium, clause (4) provides that the Commission will have regard to estimates of the debt premium on:

    a. bonds issued by an EDB or GPB (that is not government-owned) with a rating of BBB+;

    b. bonds issued by another entity (that is not government-owned) with a rating of BBB+;

    c. bonds issued by an EDB or GPB (that is not government-owned) with a rating other than BBB+;

    d. bonds issued by another entity (that is not government-owned) with a rating other than BBB+; and

    e. bonds issued by government-owned entities.

45. Clause 5.3.25(5)(a) provides that progressively lesser regard will ordinarily be given to the debt premium estimates in the order that the bonds are identified in clauses 5.3.25(4)(a) to (e).

46. The table below shows the debt premium determined by the Commission as at 1 September 2010 and a summary of the debt premium information on investment grade rated bonds the Commission considered in determining the debt premium. The tables below show this information for a three year period, four year period and a five year period.

Determined debt premium on an EDB/GPB -issued bond rated BBB+ with a remaining term of 3 years as at 1 Sept 2010

	Industry	Rating	Term to Maturity	Debt premium	Comment
Determined Debt Premium	*EDB / GPB*	*BBB+*	*3.0*	*1.75*	Capped by Vector. Regard to results of 4(c) & 4(d). Not inconsistent with 4(e).

Subclause	Issuer	Industry	Rating	Term to Maturity	Debt premium	Comment
4(a)	Vector[1]	EDB/GPB	BBB+	4.1	1.82	Practical maximum, 3 yr would be lower.
4(b)	WIAL[2]	Other	BBB+	-	-	Anomalous, see paragraph 50.
4(c)	Powerco[3]	EDB/GPB	BBB	3.0	2.35	BBB+ would be less than this.
4(d)	Contact[4]	Other	BBB	4.0	1.99	BBB+ would be less than this.
	AIAL[5]	Other	A-	3.0	1.58	BBB+ would be more than this.
	Telecom[6]	Other	A	3.0	1.69	BBB+ would be more than this.
	Telstra[7]	Other	A	4.2	1.46	BBB+ would be more than this.
4(e)	Genesis[8]	Other	BBB+	3.5	1.51	
	MRP[9]	Other	BBB+	3.0	1.50	
	Transpower[10]	Other	AA-	3.0	1.16	

Notes on bonds analysed:

1 Vector 7.8% bond maturing 15/10/2014.
2 WIAL 7.5% bond maturing 15/11/2013.
3 Powerco 6.39% bond maturing 29/03/2013; 6.53% bond maturing 29/06/2015.
4 Contact Energy 8% maturing 15/05/2014; 7.855% bond maturing 13/04/2017.
5 AIAL 7.19% maturing 7/11/2012; 7.25% maturing 28/02/2014.
6 Telecom 8.5% bond maturing 22/03/2013; 7.04% bond maturing 22/03/2016.
7 Telstra 7.15% bond maturing 24/11/2014.
8 Genesis 7.25% bond maturing 15/03/2014.
9 Mighty River Power 7.25% bond maturing 15/05/2013; 7.55% bond maturing 12/10/2016.
10 Transpower 5% bond maturing 15/12/2010; 7.19% bond maturing 12/11/2019.

Determined debt premium on an EDB/GPB -issued bond rated BBB+ with a remaining term of 4 years as at 1 Sept 2010

Subclause	Issuer	Industry	Rating	Term to Maturity	Debt premium	Comment
Determined Debt Premium		*EDB / GPB*	*BBB+*	*4.0*	*1.82*	Vector almost exact match (4.1yrs). Not inconsistent with 4(b)-4(e).

Subclause	Issuer	Industry	Rating	Term to Maturity	Debt premium	Comment
4(a)	Vector[1]	EDB/GPB	BBB+	4.1	1.82	Almost exact match.
4(b)	WIAL[2]	Other	BBB+	-	-	Anomalous, see paragraph 50.
4(c)	Powerco[3]	EDB/GPB	BBB	4.0	2.29	BBB+ would be less than this.
4(d)	Contact[4]	Other	BBB	4.0	1.99	BBB+ would be less than this.
	AIAL[5]	Other	A-	4.0	1.62	BBB+ would be more than this.
	Telecom[6]	Other	A	4.0	1.72	BBB+ would be more than this.
	Telstra[7]	Other	A	4.2	1.46	BBB+ would be more than this.
4(e)	Genesis[8]	Other	BBB+	4.0	1.54	
	MRP[9]	Other	BBB+	4.0	1.62	
	Transpower[10]	Other	AA-	4.0	1.14	

Notes on bonds analysed:

1 Vector 7.8% bond maturing 15/10/2014.
2 WIAL 7.5% bond maturing 15/11/2013.
3 Powerco 6.39% bond maturing 29/03/2013; 6.53% bond maturing 29/06/2015.
4 Contact Energy 8% maturing 15/05/2014; 7.855% bond maturing 13/04/2017.
5 AIAL 7.25% bond maturing 28/02/2014; 7.25% bond maturing 7/11/2015.
6 Telecom 8.5% bond maturing 22/03/2013; 7.04% bond maturing 22/03/2016.
7 Telstra 7.15% bond maturing 24/11/2014.
8 Genesis 7.25% bond maturing 15/03/2014; 7.65% bond maturing 15/03/2016.
9 Mighty River Power 7.25% bond maturing 15/05/2013; 7.55% bond maturing 12/10/2016.
10 Transpower 5% bond maturing 15/12/2010; 7.19% bond maturing 12/11/2019.

Determined debt premium on an EDB/GPB -issued bond rated BBB+ with a remaining term of 5 years as at 1 Sept 2010						
		Industry	Rating	Term to Maturity	Debt premium	Comment
Determined Debt Premium		*EDB / GPB*	*BBB+*	*5.0*	*2.00*	Vector provides floor. Regard to results of 4(c) & 4(d). Not inconsistent with 4(e).
Subclause	**Issuer**	**Industry**	**Rating**	**Term to Maturity**	**Debt premium**	**Comment**
4(a)	Vector[1]	EDB/GPB	BBB+	4.1	1.82	Minimum per subclause 5(b).
4(b)	WIAL[2]	Other	BBB+	-	-	Anomalous, see paragraph 50.
4(c)	Powerco[3]	EDB/GPB	BBB	5.0	2.24	BBB+ would be less than this.
4(d)	Contact[4]	Other	BBB	5.0	2.10	BBB+ would be less than this.
	AIAL[5]	Other	A-	5.0	1.66	BBB+ would be more than this.
	Telecom[6]	Other	A	5.0	1.75	BBB+ would be more than this.
	Telstra[7]	Other	A	4.2	1.46	BBB+ would be more than this.
4(e)	Genesis[8]	Other	BBB+	5.0	1.58	
	MRP[9]	Other	BBB+	5.0	1.73	
	Transpower[10]	Other	AA-	5.0	1.13	

Notes on bonds analysed:

1 Vector 7.8% bond maturing 15/10/2014.
2 WIAL 7.5% bond maturing 15/11/2013.
3 Powerco 6.53% bond maturing 29/06/2015; 6.74% bond maturing 28/09/2017.
4 Contact Energy 8% maturing 15/05/2014; 7.855% bond maturing 13/04/2017.
5 AIAL 7.25% bond maturing 28/02/2014; 7.25% bond maturing 7/11/2015.
6 Telecom 8.5% bond maturing 22/03/2013; 7.04% bond maturing 22/03/2016.
7 Telstra 7.15% bond maturing 24/11/2014.
8 Genesis 7.25% bond maturing 15/03/2014; 7.65% bond maturing 15/03/2016.
9 Mighty River Power 7.25% bond maturing 15/05/2013; 7.55% bond maturing 12/10/2016.
10 Transpower 5% bond maturing 15/12/2010; 7.19% bond maturing 12/11/2019.

47. Consistent with clause 5.3.25(4)-(5)(a) greatest regard has been given to the estimated debt premium on Vector's October 2014 bond. This is rated BBB+, has a term to maturity of 4.1 years, and a debt premium of 1.82%. The remaining term to maturity on the Vector bond is very close to the four year period and the Commission has therefore determined the debt premium on a BBB+ rated bond issued by an EDB/GPB, for a term of four years, to be 1.82%. Since debt premiums rise with term, the debt premium on the Vector bond suggests the debt premium for a three year term would not be higher than 1.82%. Finally, and consistent with clause 5.3.25(5)(b), given the estimated Vector debt premium of 1.82% with a remaining term of 4.1 years, the debt premium for a term of five years would not be less than 1.82%.

48. Having particular regard to the debt premium on the Vector bond, and the other debt premiums included in the table above, the Commission has determined the three, four and five year debt premium on bonds rated BBB+ to be 1.75%, 1.82%, and 2.00% respectively, in August 2010.The three year debt premium of 1.75% reflects Vector's estimated debt premium (1.82% for a four year remaining term), that debt premiums

generally increase with term, and having regard to the three year debt premiums estimated for Powerco, Contact, AIAL, and Telecom.

49. The five year debt premium has been determined at 2.00%, above the debt premium of 1.82% on Vector's bond with a 4.1 year remaining term. This recognises that debt premiums generally increase with term and has regard to the estimated debt premiums on Powerco, Contact Energy, AIAL and Telecom bonds with a remaining term of five years.

50. No weight has been placed on the estimated debt premium for WIAL (2.32%, BBB+ rated, 3.2 years remaining) as the estimated debt premium on its bond is out of line with debt premiums for the other issuers, having regard to term to maturity and credit rating.

WACC for Gas Pipeline Services

Information Disclosure for suppliers with a June financial year (all except MDL)

51. Pursuant to clause 2.4.1 of the Commerce Act (Gas Distribution Services Input Methodologies) Determination 2010 (the GDS Determination), and clause 2.4.1 of the Commerce Act (Gas Transmission Services Input Methodologies) Determination 2010 (the GTS Determination), the Commission has determined, for suppliers with a June balance date:

    - a mid-point estimate of vanilla WACC of 8.39% for the five year period commencing on the first day of disclosure year 2011 (i.e. 1 July 2010); and with a range, pursuant to clause 2.4.6, from 7.57% to 9.21% where the endpoints are the 25th and 75th percentile estimates; and

    - a mid-point estimate of post-tax WACC of 7.47% for the five year period commencing on the first day of disclosure year 2011 (i.e. 1 July 2010); and with a range, pursuant to clause 2.4.6, from 6.65% to 8.28% where the endpoints are the 25th and 75th percentile estimates.

52. These estimates of vanilla and post-tax WACC reflect the parameters specified in the GDS and GTS Determinations and the risk-free rate and debt premium estimated in accordance with the GDS and the GTS Determinations. The parameters are summarised in the table below.

Risk-free rate	4.95%	Debt premium	2.10%
Equity beta	0.79	TAMRP	7.1%
Average corporate tax rate	28.4%	Average investor tax rate	28.1%
Debt issuance costs	0.35%	Leverage	44%
Standard error of debt premium	0.0015	Standard error of WACC	0.012
Cost of debt (pre-corporate tax)	7.40%	Cost of equity	9.17%
Vanilla WACC (midpoint)	7.40% x 0.44 + 9.17% x (1-0.44) = 8.39%		
Post-tax WACC (midpoint)	7.40% x 0.44 x (1-0.284) + 9.17% x (1-0.44) = 7.47%		

53. The risk-free rate reflects the linearly-interpolated, annualised, bid yield to maturity on New Zealand government bonds with a five year term to maturity. The estimate uses data reported by Bloomberg for the month of June 2010 in respect of the April 2015 maturity bonds and the December 2017 maturity bonds. The daily data reported by Bloomberg is

annualised (to reflect the 6 monthly payment of interest), averaged to give a monthly average, and linearly interpolated to produce the estimate of a 4.95% interest rate on a NZ government bond with a five year term to maturity as at 1 July 2010.

54. The average corporate tax rate is the five-year average given a corporate tax rate of 30% for disclosure year 2011, and 28% for the following four disclosure years.

55. The average investor tax rate is the five-year average given an average investor tax rate of 28.5% for disclosure year 2011, and 28% for the following four disclosure years (clause 2.4.2 refers).

56. The standard error of the WACC is determined in accordance with the formula in the GDS and GTS Determinations, and is shown to three decimal places only in the table above.

57. The methodology for determining the debt premium is set out in clause 2.4.4 of the GDS and GTS Determinations. Clause 2.4.4(3)(d) requires the Commission to estimate

58. the debt premium that would reasonably be expected to apply to a vanilla NZ$ denominated bond that:

    a. is issued by a GPB or EDB, (that is neither majority owned by the Crown nor a local authority);

    b. is publicly traded;

    c. has a credit rating of BBB+; and

    d. has a five year remaining term to maturity.

59. In estimating the debt premium, clause 2.4.4(4) provides that the Commission will have regard to:

    a. bonds issued by an EDB or GPB (that is not government-owned) with a rating of BBB+;

    b. bonds issued by another entity (that is not government-owned) with a rating of BBB+;

    c. bonds issued by an EDB or GPB (that is not government-owned) with a rating other than BBB+;

    d. bonds issued by another entity (that is not government-owned) with a rating other than BBB+; and

    e. bonds issued by government-owned entities.

60. Clause 2.4.4(5)(a) provides that progressively lesser regard will ordinarily be given to the debt premium estimates in the order that the bonds are identified in clauses (4)(a) to (e).

61. The table below shows the debt premium determined by the Commission as at 1 July 2010 and a summary of the debt premium information on investment grade rated bonds the

Commission considered in determining the debt premium. A spreadsheet showing the calculations for the debt premium (and the risk-free rate) is on the Commission's website.

Determined debt premium on an EDB or GPB -issued bond rated BBB+ with a remaining term of 5 years as at 1 July 2010

		Industry	Rating	Term to Maturity	Debt premium	Comment
Determined Debt Premium		*EDB / GPB*	*BBB+*	*5.0*	*2.10*	Vector premium provides floor. Regard to results of 4(c) & 4(d). Not inconsistent with 4(e).
Subclause	**Issuer**	**Industry**	**Rating**	**Term to Maturity**	**Debt premium**	**Comment**
4(a)	Vector[1]	EDB/GPB	BBB+	4.3	2.02	Minimum per subclause 5(b).
4(b)	WIAL[2]	Other	BBB+	-	-	Anomalous, see paragraph 67.
4(c)	Powerco[3]	EDB/GPB	BBB	5.0	2.47	BBB+ would be less than this.
4(d)	Contact[4]	Other	BBB	3.9	2.21	BBB+ would be less than this.
	AIAL[5]	Other	A-	5.0	1.79	BBB+ would be more than this.
	Telecom[6]	Other	A	-	-	Anomalous, see paragraph 67.
	Telstra[7]	Other	A	4.4	1.74	BBB+ would be more than this.
4(e)	Genesis[8]	Other	BBB+	5.0	1.90	
	MRP[9]	Other	BBB+	5.0	2.00	
	Transpower[10]	Other	AA-	5.0	1.27	

Notes on bonds analysed:

1 Vector 7.8% bond maturing 15/10/2014.
2 WIAL 7.5% bond maturing 15/11/2013.
3 Powerco 6.53% maturing 29/06/2015; 6.74% bond maturing 28/09/2017.
4 Contact Energy 8% bond maturing 15/05/2014.
5 AIAL 7.25% bond maturing 28/02/2014; 7.25% bond maturing 7/11/2015.
6 Telecom 8.5% bond maturing 22/03/2013; 7.04% bond maturing 22/03/2016.
7 Telstra 7.15% bond maturing 24/11/2014.
8 Genesis 7.25% bond maturing 15/03/2014; 7.65% bond maturing 15/03/2016.
9 Mighty River Power 7.25% bond maturing 15/05/2013; 7.55% bond maturing 12/10/2016.
10 Transpower 5% bond maturing 15/12/2010; 7.19% bond maturing 12/11/2019.

62. Consistent with clause 2.4.4(4)-(5)(a) greatest regard has been given to the estimated debt premium on Vector's October 2014 bond. This bond is issued by an EDB/GPB, is publicly traded, has a rating of BBB+, and a term to maturity of 4.3 years. As at 1 July 2010, the debt premium on the Vector bond was estimated at 2.02%. Consistent with clause 2.4.4(5)(b) this is treated as the minimum debt premium for a bond rated BBB+ with a term of five years.

63. The Commission noted the 2.47% debt premium on Powerco (interpolated to give a remaining term of five years), but that its bonds are rated BBB, and have a higher debt premium than Contact Energy's bonds rated BBB and significantly higher than the estimated debt premium on the Genesis and Mighty River Power bonds rated BBB+.

64. The Commission has also had regard to the estimated debt premium on bonds from a range of other issuers including AIAL (1.79%) and Telstra (1.74%). Consistent with clause (5)(a) these were given less weight as the issuers are not EDBs or GPBs, and the debt issues had higher credit ratings than the BBB+ rating specified in clause (3)(d). Regard was also had to the estimated debt premium on the Contact Energy bond, though it is not issued by an EDB or GPB, the bond is rated BBB, and had a remaining term to maturity of 3.9 years.

65. Finally, the Commission notes that the estimated debt premium on the Genesis and Mighty River Power bonds (BBB+ rated, interpolated for a five year term to maturity) were 1.90% and 2.00% respectively.

66. Starting with the estimated debt premium on the Vector bond, but having regard to the debt premium on a range of other bonds, the Commission has determined the debt premium on a publicly traded, EDB/GPB-issued bond, rated BBB+ with a remaining term of five years to be 2.10% as at 1 July 2010.

67. No weight has been placed on the estimated debt premium for WIAL (2.39%, BBB+ rated, 3.4 years remaining) which appears anomalous as it is above the debt premium for other BBB+ rated bonds and the BBB rated Contact Energy bond. The interpolated debt premium on Telecom bonds (1.89%, A rated, interpolated to a five year remaining term) is considered anomalous as it is greater than the interpolated debt premium on the lower rated AIAL bonds, and is almost identical to the interpolated debt premium on the Genesis Energy bonds despite the Genesis Energy bonds being rated two notches lower than Telecom's bonds.

Information Disclosure for MDL – Disclosure Year 2011

68. Pursuant to clause 2.4.1 of the GTS Determination, the Commission has determined for suppliers with a December balance date (such as Maui Developments Limited (MDL)):

- a mid-point estimate of vanilla WACC of 8.72% for the five year period commencing on the first day of disclosure year 2011 (i.e. 1 January 2010); and with a range, pursuant to clause 2.4.7, from 7.91% to 9.54% where the endpoints are the 25th and 75th percentile estimates; and

- a mid-point estimate of post-tax WACC of 7.76% for the five year period commencing on the first day of disclosure year 2011 (i.e. 1 January 2010); and with a range, pursuant to clause 2.4.7, from 6.94% to 8.57% where the endpoints are the 25th and 75th percentile estimates.

69. These estimates of vanilla and post-tax WACC reflect the parameters specified in the GTS Determination and the risk-free rate and debt premium estimated in accordance with the GTS Determination. The parameters are summarised in the table below.

Risk-free rate	5.43%	Debt premium	1.95%
Equity beta	0.79	TAMRP	7.1%
Average corporate tax rate	28.4%	Average investor tax rate	28.3%
Debt issuance costs	0.35%	Leverage	44%
Standard error of debt premium	0.0015	Standard error of WACC	0.012
Cost of debt (pre-corporate tax)	7.73%	Cost of equity	9.50%

Vanilla WACC (midpoint)	7.73% x 0.44 + 9.50% x (1-0.44) = 8.72%
Post-tax WACC (midpoint)	7.73% x 0.44 x (1-0.284) + 9.50% x (1-0.44) = 7.76%

70. The risk-free rate reflects the linearly-interpolated, annualised, bid yield to maturity on New Zealand government bonds with a five year term to maturity. The estimate uses data reported by Bloomberg for the month of December 2009 in respect of the April 2013 bonds and the April 2015 bonds. The daily data reported by Bloomberg is annualised (to reflect the 6 monthly payment of interest), averaged to give a monthly average, and interpolated to produce the estimate of a 5.43% interest rate on a bond with a five year term to maturity as at 1 January 2010.

71. The average corporate tax rate is the five-year average given a corporate tax rate of 30% for disclosure year 2011, and 28% for the following four disclosure years.

72. The average investor tax rate is the five-year average given an average investor tax rate of 29.5% for disclosure year 2011, and 28% for the following four disclosure years (clause 2.4.2(3) refers).

73. The standard error of the WACC is determined in accordance with the formula in the GDS and GTS Determinations, and is shown to three decimal places only in the table above.

74. The methodology for determining the debt premium is set out in clause 2.4.4 of the GTS Determination. Clause 2.4.4(3)(d) requires the Commission to estimate the debt premium that would reasonably be expected to apply to a vanilla NZ$ denominated bond that:

    a. is issued by a GPB or EDB (that is neither majority-owned by the Crown nor a local authority);

    b. is publicly traded;

    c. has a credit rating of BBB+; and

    d. has a five year remaining term to maturity.

75. In estimating the debt premium, clause (4) provides that the Commission will have regard to:

    a. bonds issued by an EDB or GPB (that is not government-owned) with a rating of BBB+;

    b. bonds issued by another entity (that is not government-owned) with a rating of BBB+;

    c. bonds issued by an EDB or GPB (that is not government-owned) with a rating other than BBB+;

    d. bonds issued by another entity (that is not government-owned) with a rating other than BBB+; and

    e. bonds issued by government-owned entities.

76. Clause 2.4.4(5)(a) provides that progressively lesser regard will ordinarily be given to the debt premium estimates in the order that the bonds are identified in clauses 2.4.4(4)(a) to (e).

77. The table below shows the debt premium determined by the Commission as at 1 January 2010 and a summary of the debt premium information on investment grade rated bonds the Commission considered in determining the debt premium.

Determined debt premium on an EDB/GPB -issued bond rated BBB+ with a remaining term of 5 years as at 1 Jan 2010

		Industry	Rating	Term to Maturity	Debt premium	Comment
Detetrmined Debt Premium		*EDB / GPB*	*BBB+*	*5.0*	*1.95*	Vector premium provides floor. Regard to results of 4(d). Result not inconsistent with 4(e).
Subclause	**Issuer**	**Industry**	**Rating**	**Term to Maturity**	**Debt premium**	**Comment**
4(a)	Vector[1]	EDB/GPB	BBB+	4.8	1.90	Minimum per subclause 5(b).
4(b)	WIAL[2]	Other	BBB+	-	-	Anomalous, see paragraph 79.
4(c)	Powerco[3]	EDB/GPB	BBB	-	-	Anomalous, see paragraph 79.
4(d)	Contact[4]	Other	BBB	4.4	2.11	BBB+ would be less than this
	AIAL[5]	Other	A-	5.0	1.66	BBB+ would be more than this
	Telecom[6]	Other	A	5.0	1.59	BBB+ would be more than this
	Telstra[7]	Other	A	4.9	1.75	BBB+ would be more than this
4(e)	Genesis[8]	Other	BBB+	5.0	1.71	
	MRP[9]	Other	BBB+	3.4	1.59	
	Transpower[10]	Other	AA-	5.0	1.14	

Notes on bonds analysed:

1 Vector 7.8% bond maturing 15/10/2014.
2 WIAL 7.5% bond maturing 15/11/2013.
3 Powerco 6.39% bond maturing 29/03/2013; 6.53% bond maturing 29/06/2015.
4 Contact Energy 8% bond maturing 15/05/2014.
5 AIAL 7.25% bond maturing 28/02/2014; 7.25% bond maturing 7/11/2015.
6 Telecom 8.5% bond maturing 22/03/2013; 7.04% bond maturing 22/03/2016.
7 Telstra 7.15% bond maturing 24/11/2014.
8 Genesis 7.25% bond maturing 15/03/2014; 7.65% bond maturing 15/03/2016.
9 Mighty River Power 7.25% bond maturing 15/05/2013.
10 Transpower 5% bond maturing 15/12/2010; 7.19% bond maturing 12/11/2019.

78. Consistent with clause 2.4.4(4)-(5)(a) greatest regard has been given to the estimated debt premium on Vector's October 2014 bond. This bond is issued by an EDB/GPB, is rated BBB+, has a term to maturity of 4.8 years which almost matches the five year term specified in clause 2.4.4(3)(d), and a debt premium of 1.90%. Having regard also to the estimated debt premium on bonds from a range of other issuers such as Contact Energy, AIAL, Telecom and Telstra, the Commission has determined the debt premium on a bond

rated BBB+ with a remaining term of five years to be 1.95% as at 1 January 2010. Such an estimate is consistent also with the estimated debt premium as at 1 January 2010 on bonds issued by Genesis, Mighty River Power, and Transpower having regard to their credit ratings.

79. No weight has been placed on the estimated debt premiums for WIAL (2.45%, BBB+ rated, 3.9 years remaining) or Powerco (3.30%, BBB rated, 5 years) which are large in absolute terms and are significantly above the debt premium for bonds rated BBB+ and the Contact bond rated BBB.

Information Disclosure for MDL – Disclosure Year 2012

80. Pursuant to clause 2.4.1 of the GTS Determination, the Commission has determined for suppliers with a December balance date (such as MDL):

- a mid-point estimate of vanilla WACC of 8.25% for the five year period commencing on the first day of disclosure year 2012 (i.e. 1 January 2011); and with a range pursuant to clause 2.4.7, from 7.44% to 9.06% where the endpoints are the 25th and 75th percentile estimates; and

- a mid-point estimate of post-tax WACC of 7.38% for the five year period commencing on the first day of disclosure year 2012 (i.e. 1 January 2011); and with a range pursuant to clause 2.4.7, from 6.57% to 8.19% where the endpoints are the 25th and 75th percentile estimates.

81. These estimates of vanilla and post-tax WACC reflect the parameters specified in the GTS Determination and the risk-free rate and debt premium estimated in accordance with the GTS Determination. The parameters are summarised in the table below.

Risk-free rate	5.02%	Debt premium	1.75%
Equity beta	0.79	TAMRP	7.0%
Average corporate tax rate	28.0%	Average investor tax rate	28.0%
Debt issuance costs	0.35%	Leverage	44%
Standard error of debt premium	0.0015	Standard error of WACC	0.012
Cost of debt (pre-corporate tax)	7.12%	Cost of equity	9.14%
Vanilla WACC (midpoint)	7.12% x 0.44 + 9.14% x (1-0.44) = 8.25%		
Post-tax WACC (midpoint)	7.12% x 0.44 x (1-0.28) + 9.14% x (1-0.44) = 7.38%		

82. The risk-free rate reflects the linearly-interpolated, annualised, bid yield to maturity on New Zealand government bonds with a five year term to maturity. The estimate uses data reported by Bloomberg for the month of December 2010 in respect of the April 2015 maturity bonds and the December 2017 maturity bonds. The daily data reported by Bloomberg is annualised (to reflect the 6 monthly payment of interest), averaged to give a monthly average, and linearly interpolated to produce the estimate of a 5.02% interest rate on a NZ government bond with a five year term to maturity as at 1 January 2011.

83. The average corporate tax rate is 28% reflecting the corporate tax rate anticipated as at the date of estimating the WACC.

84. The average investor tax rate reflects the maximum prescribed investor rate as at January 2011 (clause 2.4.2 refers).

85. The standard error of the WACC is determined in accordance with the formula in the GDS and GTS Determinations, and is shown to three decimal places only in the table above.

86. The methodology for determining the debt premium is set out in clause 2.4.4 of the GTS Determination. Clause 2.4.4(3)(d) requires the Commission to estimate the debt premium that would reasonably be expected to apply to a vanilla NZ$ denominated bond that:

    a. is issued by a GPB or EDB, (that is neither majority owned by the Crown nor a local authority);

    b. is publicly traded;

    c. has a credit rating of BBB+; and

    d. has a five year remaining term to maturity.

87. In estimating the debt premium, clause 2.4.4(4)(d) provides that the Commission will have regard to:

    a. bonds issued by an EDB or GPB (that is not government-owned) with a rating of BBB+;

    b. bonds issued by another entity (that is not government-owned) with a rating of BBB+;

    c. bonds issued by an EDB or GPB (that is not government-owned) with a rating other than BBB+;

    d. bonds issued by another entity (that is not government-owned) with a rating other than BBB+; and

    e. bonds issued by government-owned entities.

88. Clause 2.4.4(5)(a) provides that progressively lesser regard will ordinarily be given to the debt premium estimates in the order that the bonds are identified in clauses 2.4.4(4)(a) to (e).

89. The table below shows the debt premium determined by the Commission as at 1 January 2011 and a summary of the debt premium information on investment grade rated bonds the Commission considered in determining the debt premium.

Determined debt premium on an EDB/GPB -issued bond rated BBB+ with a remaining term of 5 years as at 1 Jan 2011						
		Industry	**Rating**	**Term to Maturity**	**Debt premium**	**Comment**
Determined Debt Premium		*EDB / GPB*	*BBB+*	*5.0*	*1.75*	*Vector premium provides floor. Regard to results of 4(c) & 4(d). Not inconsistent with 4(e).*
Subclause	**Issuer**	**Industry**	**Rating**	**Term to Maturity**	**Debt premium**	**Comment**
4(a)	Vector[1]	EDB/GPB	BBB+	3.8	1.63	Minimum per subclause 5(b).
4(b)	WIAL[2]	Other	BBB+	-	-	Anomalous, see paragraph 92.
4(c)	Powerco[3]	EDB/GPB	BBB	5.0	1.99	BBB+ would be less than this.
4(d)	Contact[4]	Other	BBB	5.0	1.94	BBB+ would be less than this.
	AIAL[5]	Other	A-	5.0	1.48	BBB+ would be more than this.
	Telecom[6]	Other	A	-	-	Anomalous, see paragraph 92.
	Telstra[7]	Other	A	3.9	1.33	BBB+ would be more than this.
4(e)	Genesis[8]	Other	BBB+	5.0	1.51	
	MRP[9]	Other	BBB+	2.4	1.25	

Notes on bonds analysed:

1 Vector 7.8% bond maturing 15/10/2014.
2 WIAL 7.5% bond maturing 15/11/2013.
3 Powerco 6.53% bond maturing 29/06/2015; 6.74% bond maturing 28/09/2017.
4 Contact Energy 8% bond maturing 15/05/2014; 7.855% bond maturing 13/04/2017.
5 AIAL 7.25% bond maturing 7/11/2015; 8% bond maturing 15/11/2016.
6 Telecom 8.5% bond maturing 22/03/2013; 7.04% bond maturing 22/03/2016.
7 Telstra 7.15% bond maturing 24/11/2014.
8 Genesis 7.25% bond maturing 15/03/2014; 7.65% bond maturing 15/03/2016.
9 Mighty River Power 7.25% bond maturing 15/05/2013.

90. Consistent with clause 2.4.4(4)-(5)(a) greatest regard has been given to the estimated debt premium on Vector's October 2014 bond. This bond was issued by an EDB/GPB, is publicly traded, is rated BBB+, and has a term to maturity of 3.8 years. Consistent with clause 2.4.4(5)(b) the debt premium on this bond (namely 1.63%) is treated as the minimum level at which the debt premium can be determined under clause 2.4.4.

91. Having regard also to the estimated debt premium on bonds from a range of other issuers such as Powerco, Contact Energy, AIAL, and Telstra, and that the Vector bond has a remaining term of 3.8 years as at 1 January 2011, the Commission has determined the debt premium on a bond rated BBB+ with a remaining term of five years to be 1.75% as at 1 January 2011.

92. No weight has been placed on the estimated debt premiums for WIAL (2.46%, BBB+ rated, 2.9 years) which appears anomalous as it is above the debt premium for other bonds rated BBB+ and the Contact bond rated BBB. No weight has been placed on the estimate of the debt premium on Telecom bonds (1.79%, A rated, 5 years) either as it is above the

debt premium estimated on several bonds with credit ratings that are below the A ratings on the Telecom bonds.

WACC for Transpower

Information Disclosure

93. Pursuant to clause 2.4.1 of the Commerce Act (Transpower Input Methodologies) Determination 2010 (the Transpower IM Determination), the Commission has determined:

   - a mid-point estimate of vanilla WACC of 7.67% for the five year period commencing on the first day of disclosure year 2011 (i.e. 1 July 2010); and with a range, pursuant to clause 2.4.7, from 6.95% to 8.40% where the endpoints are the 25th and 75th percentile estimates; and

   - a mid-point estimate of post-tax WACC of 6.75% for the five year period commencing on the first day of disclosure year 2011 (i.e. 1 July 2010); and with a range, pursuant to clause 2.4.7, from 6.03% to 7.47% where the endpoints are the 25th and 75th percentile estimates.

94. These estimates of vanilla and post-tax WACC reflect the parameters specified in the Transpower IM Determination and the risk-free rate and debt premium estimated in accordance with the Transpower IM Determination. The parameters are summarised in the table below.

Risk-free rate	4.95%	Debt premium	2.10%
Equity beta	0.61	TAMRP	7.1%
Average corporate tax rate	28.4%	Average investor tax rate	28.1%
Debt issuance costs	0.35%	Leverage	44%
Standard error of debt premium	0.0015	Standard error of WACC	0.011
Cost of debt (pre-corporate tax)	7.40%	Cost of equity	7.89%
Vanilla WACC (midpoint)	7.40% x 0.44 + 7.89% x (1-0.44) = 7.67%		
Post-tax WACC (midpoint)	7.40% x 0.44 x (1-0.284) + 7.89% x (1-0.44) = 6.75%		

95. The risk-free rate reflects the linearly-interpolated, annualised, bid yield to maturity on New Zealand government bonds with a five year term to maturity. The estimate uses data reported by Bloomberg for the month of June 2010 in respect of the April 2015 maturity bonds and the December 2017 maturity bonds. The daily data reported by Bloomberg is annualised (to reflect the 6 monthly payment of interest), averaged to give a monthly average, and linearly interpolated to produce the estimate of a 4.95% interest rate on a NZ government bond with a five year term to maturity as at 1 July 2010.

96. The average corporate tax rate is the five-year average given a corporate tax rate of 30% for disclosure year 2011, and 28% for the following four disclosure years.

97. The average investor tax rate is the five-year average given an average investor tax rate of 28.5% for disclosure year 2011, and 28% for the following four disclosure years (clause 2.4.2 refers).

98. The standard error of the WACC is determined in accordance with the formula in the Transpower IM Determination, and is shown to three decimal places only in the table above.

99. The methodology for determining the debt premium is set out in clause 2.4.4 of the Transpower IM Determination. Clause 2.4.4(3)(d) requires the Commission to estimate the debt premium that would reasonably be expected to apply to a vanilla NZ$ denominated bond that:

    a. is issued by an EDB or GPB, (that is neither majority owned by the Crown or a local authority);

    b. is publicly traded;

    c. has a credit rating of BBB+; and

    d. has a five year remaining term to maturity.

100. In estimating the debt premium, clause 2.4.4(4) provides that the Commission will have regard to:

    a. bonds issued by an EDB or GPB (that is not government-owned) with a rating of BBB+;

    b. bonds issued by another entity (that is not government-owned) with a rating of BBB+;

    c. bonds issued by an EDB or GPB (that is not government-owned) with a rating other than BBB+;

    d. bonds issued by another entity (that is not government-owned) with a rating other than BBB+; and

    e. bonds issued by government-owned entities.

101. Clause 2.4.4(5)(a) provides that progressively lesser regard will ordinarily be given to the debt premium estimates in the order that the bonds are identified in clauses 2.4.4(4)(a) to (e).

102. The table below shows the debt premium determined by the Commission as at 1 July 2010 and a summary of the debt premium information on investment grade rated bonds the Commission considered in determining the debt premium. A spreadsheet showing the calculations for the debt premium (and the risk-free rate) is on the Commission's website.

Determined debt premium on an EDB or GPB -issued bond rated BBB+ with a remaining term of 5 years as at 1 July 2010						
		Industry	**Rating**	**Term to Maturity**	**Debt premium**	**Comment**
Determined Debt Premium		*EDB / GPB*	*BBB+*	*5.0*	*2.10*	Vector premium provides floor. Regard to results of 4(c) & 4(d). Not inconsistent with 4(e).
Subclause	**Issuer**	**Industry**	**Rating**	**Term to Maturity**	**Debt premium**	**Comment**
4(a)	Vector[1]	EDB/GPB	BBB+	4.3	2.02	Minimum per subclause 5(b).
4(b)	WIAL[2]	Other	BBB+	-	-	Anomalous, see paragraph 108.
4(c)	Powerco[3]	EDB/GPB	BBB	5.0	2.47	BBB+ would be less than this.
4(d)	Contact[4]	Other	BBB	3.9	2.21	BBB+ would be less than this.
	AIAL[5]	Other	A-	5.0	1.79	BBB+ would be more than this.
	Telecom[6]	Other	A	-	-	Anomalous, see paragraph 108.
	Telstra[7]	Other	A	4.4	1.74	BBB+ would be more than this.
4(e)	Genesis[8]	Other	BBB+	5.0	1.90	
	MRP[9]	Other	BBB+	5.0	2.00	
	Transpower[10]	Other	AA-	5.0	1.27	

Notes on bonds analysed:

1 Vector 7.8% bond maturing 15/10/2014.
2 WIAL 7.5% bond maturing 15/11/2013.
3 Powerco 6.53% maturing 29/06/2015; 6.74% bond maturing 28/09/2017.
4 Contact Energy 8% bond maturing 15/05/2014.
5 AIAL 7.25% bond maturing 28/02/2014; 7.25% bond maturing 7/11/2015.
6 Telecom 8.5% bond maturing 22/03/2013; 7.04% bond maturing 22/03/2016.
7 Telstra 7.15% bond maturing 24/11/2014.
8 Genesis 7.25% bond maturing 15/03/2014; 7.65% bond maturing 15/03/2016.
9 Mighty River Power 7.25% bond maturing 15/05/2013; 7.55% bond maturing 12/10/2016.
10 Transpower 5% bond maturing 15/12/2010; 7.19% bond maturing 12/11/2019.

103. Consistent with clause 2.4.4(4)-(5)(a) greatest regard has been given to the estimated debt premium on Vector's October 2014 bond. This bond is issued by an EDB/GPB, is publicly traded, has a rating of BBB+, and a term to maturity of 4.3 years. As at 1 July 2010, the debt premium on the Vector bond was estimated at 2.02%. Consistent with clause 2.4.4(5)(b) this estimated debt premium is treated as the minimum debt premium for a bond rated BBB+ with a term of five years.

104. Powerco bond has a 2.47% debt premium, but its bonds are rated BBB, and have a higher debt premium than Contact Energy's BBB rated bonds. As discussed previously in this paper, the Powerco bonds have typically had a higher debt premium than could be expected given the debt premium on other New Zealand bonds with a BBB or BBB+ rating.

105. The Commission has also had regard to the estimated debt premium on bonds from a range of other issuers including AIAL (1.79%), and Telstra (1.74%). Consistent with

clause (5)(a) these were given less weight as the issuers are not EDBs or GPBs, and the debt issues had higher credit ratings than the BBB+ rating specified in clause (3)(d). Regard was also had to the estimated debt premium on Contact Energy bonds, though it is not an EDB or GPB, the bond is rated BBB, and had a remaining term to maturity of 3.9 years.

106. The estimated debt premium on the Genesis and Mighty River Power bonds (rated BBB+, and for a five year term to maturity) were 1.90% and 2.0% respectively, slightly lower than the debt premium on the Vector bond.

107. Starting with the estimated debt premium on the Vector bond, but having regard to the debt premium on a range of other bonds, the Commission has determined the debt premium on a publicly traded, EDB/GPB-issued bond, rated BBB+ with a remaining term of five years to be 2.10% as at 1 July 2010.

108. No weight has been placed on the estimated debt premium for WIAL which appears anomalous as it is above the debt premium for other BBB+ bonds and the Contact BBB rated bond. The interpolated debt premium on Telecom bonds (1.89%, A rated, interpolated to a five year remaining term) is also considered anomalous as it is greater than the interpolated debt premium on the lower rated AIAL bonds, and is almost identical to the interpolated debt premium on the Genesis Energy bonds despite the Genesis Energy bonds being rated two notches lower than Telecom's bonds.

Individual Price-quality Path

109. Pursuant to clause 3.5.7 of the Transpower IM Determination, the Commission has determined a 75th percentile estimate of vanilla WACC for inclusion in a Transpower IPP of 8.05% for Regulatory Control Period 1 (which commences on 1 April 2011 and ends on 31 March 2015). The midpoint vanilla WACC is 7.33%.

110. These estimates of vanilla WACC reflect the parameters specified in the Transpower IM Determination and the risk-free rate and debt premium estimated in accordance with the Transpower IM Determination. The risk-free rates and debt premiums are estimated as at 1 September 2010, based on data for August 2010. The parameters are summarised in the table below.

Risk-free rate	4.63%	Debt premium	2.00%
Equity beta	0.61	TAMRP	7.0%
Average investor tax rate	28%	Leverage	44%
Debt issuance costs	0.35%	Standard error of WACC	0.011
Standard error of debt premium	0.0015		
Cost of debt (pre-corporate tax)	6.98%	Cost of equity	7.60%
Vanilla WACC (midpoint)	6.98% x 0.44 + 7.60% x (1-0.44) = 7.33%		

111. The risk-free rate reflects the linearly-interpolated, annualised, bid yield to maturity on New Zealand government bonds with a five year term to maturity. The estimate uses data reported by Bloomberg for the month of August 2010 in respect of the April 2015 maturity bonds and the December 2017 maturity bonds. The daily data reported by Bloomberg is annualised (to reflect the 6 monthly payment of interest), averaged to give

a monthly average, and linearly interpolated to produce the estimate of a 4.63% interest rate on a NZ government bond with a five year term to maturity as at 1 September 2010.

112. The average investor tax rate is 28% for regulatory control period 1.

113. The standard error of the WACC is determined in accordance with the formula in the Transpower IM Determination, and is shown to three decimal places only in the table above.

114. The methodology for determining the debt premium is set out in clause 3.5.4 of the Transpower IM Determination. Clause 3.5.4(3)(d) requires the Commission to estimate the debt premium that would reasonably be expected to expect to a vanilla NZ$ denominated bond that:

    a. is issued by an EDB or GPB, (that is neither majority owned by the Crown or a local authority);

    b. is publicly traded;

    c. has a credit rating of BBB+; and

    d. has a five year remaining term to maturity.

115. In estimating the debt premium, clause (4) provides that the Commission will have regard to:

    a. bonds issued by an EDB or GPB (that is not government-owned) with a rating of BBB+;

    b. bonds issued by another entity (that is not government-owned) with a rating of BBB+;

    c. bonds issued by an EDB or GPB (that is not government-owned) with a rating other than BBB+;

    d. bonds issued by another entity (that is not government-owned) with a rating other than BBB+; and

    e. bonds issued by government-owned entities.

116. Clause 3.5.4(5)(a) provides that progressively lesser regard will ordinarily be given to the debt premium estimates in the order that the bonds are identified in clauses 3.5.4(4)(a) to (e).

117. The table below shows the debt premium determined by the Commission as at 1 September 2010 and a summary of the debt premium information on investment grade rated bonds the Commission considered in determining the debt premium.

Determined debt premium on an EDB/GPB -issued bond rated BBB+ with a remaining term of 5 years as at 1 Sept 2010

	Industry	Rating	Term to Maturity	Debt premium	Comment
Determined Debt Premium	*EDB / GPB*	*BBB+*	*5.0*	*2.00*	Vector provides floor. Regard to results of 4(c) & 4(d). Not inconsistent with 4(e).

Subclause	Issuer	Industry	Rating	Term to Maturity	Debt premium	Comment
4(a)	Vector[1]	EDB/GPB	BBB+	4.1	1.82	Minimum per subclause 5(b).
4(b)	WIAL[2]	Other	BBB+	-	-	Anomalous, see paragraph 122.
4(c)	Powerco[3]	EDB/GPB	BBB	5.0	2.24	BBB+ would be less than this.
4(d)	Contact[4]	Other	BBB	5.0	2.10	BBB+ would be less than this.
	AIAL[5]	Other	A-	5.0	1.66	BBB+ would be more than this.
	Telecom[6]	Other	A	5.0	1.75	BBB+ would be more than this.
	Telstra[7]	Other	A	4.2	1.46	BBB+ would be more than this.
4(e)	Genesis[8]	Other	BBB+	5.0	1.58	
	MRP[9]	Other	BBB+	5.0	1.73	
	Transpower[10]	Other	AA-	5.0	1.13	

Notes on bonds analysed:

1 Vector 7.8% bond maturing 15/10/2014.
2 WIAL 7.5% bond maturing 15/11/2013.
3 Powerco 6.53% bond maturing 29/06/2015; 6.74% bond maturing 28/09/2017.
4 Contact Energy 8% maturing 15/05/2014; 7.855% bond maturing 13/04/2017.
5 AIAL 7.25% bond maturing 28/02/2014; 7.25% bond maturing 7/11/2015.
6 Telecom 8.5% bond maturing 22/03/2013; 7.04% bond maturing 22/03/2016.
7 Telstra 7.15% bond maturing 24/11/2014.
8 Genesis 7.25% bond maturing 15/03/2014; 7.65% bond maturing 15/03/2016.
9 Mighty River Power 7.25% bond maturing 15/05/2013; 7.55% bond maturing 12/10/2016.
10 Transpower 5% bond maturing 15/12/2010; 7.19% bond maturing 12/11/2019.

118. Consistent with clause 3.5.4(4)-(5)(a) greatest regard has been given to the estimated debt premium on Vector's October 2014 bond. This bond is issued by an EDB/GPB, is rated BBB+, and has a term to maturity of 4.1 years. The estimated debt premium on this bond was 1.82% as at 1 September 2010. Consistent with clause 3.5.4(5)(b) this estimated debt premium is treated as the minimum debt premium for a bond rated BBB+ with a term of five years.

119. In determining the debt premium, the Commission has also taken into account the estimated debt premium on the Powerco bonds. Powerco is an EDB and GPB, and its bonds are rated BBB and have an estimated 2.24% debt premium with an (interpolated) remaining term to maturity of 5 years. A 5 year BBB+ rated debt premium would be expected to be somewhat lower than the 2.24% on Powerco's BBB rated bonds.

120. Regard was also had to the estimated debt premiums on bonds from other issuers, including Contact Energy, AIAL, Telecom and Telstra. The estimated debt premium on Contact Energy's bonds with a term to maturity of 5 years was 2.10%. Contact

Energy's bonds are rated BBB, implying the debt premium on a BBB+ rated bond would be somewhat lower than 2.10% with an equivalent term to maturity.

121. Taking the foregoing into account, the Commission has determined the debt premium on a bond rated BBB+ with a remaining term of five years to be 2.00% as at 1 September 2010.

122. No weight has been placed on the estimated debt premium for WIAL (2.32%, BBB+ rated) which appears anomalous as it is above the debt premium for other BBB+ bonds and the debt premium on the Contact Energy and Powerco BBB rated bonds, despite the WIAL bonds having a shorter remaining term of 3.2 years as at September 2010.

WACC for Airport Services

Information Disclosure for Airports with a June financial year (AIAL and CIAL)

123. Pursuant to clause 5.1 of the Commerce Act (Specified Airport Services Input Methodologies) Determination 2010 (the Airports IM Determination), the Commission has determined, for companies with a financial year ending in June (namely, Auckland International Airport Limited (AIAL) and Christchurch International Airport Limited (CIAL)):

- a mid-point estimate of vanilla WACC of 8.40% for the five year period commencing on the first day of disclosure year 2011 (i.e. 1 July 2010); and with a range, pursuant to clause 5.7, from 7.41% to 9.39% where the endpoints are the 25th and 75th percentile estimates; and

- a mid-point estimate of post-tax WACC of 8.06% for the five year period commencing on the first day of disclosure year 2011 (i.e. 1 July 2010); and with a range, pursuant to clause 5.7, from 7.07% to 9.05% where the endpoints are the 25th and 75th percentile estimates.

124. These estimates of vanilla and post-tax WACC reflect the parameters specified in the Airports IM Determination and the risk-free rate and debt premium estimated in accordance with the Airports IM Determination. The parameters and estimates are summarised in the table below.

Risk-free rate	4.95%	Debt premium	1.79%
Equity beta	0.72	TAMRP	7.1%
Average corporate tax rate	28.4%	Average investor tax rate	28.1%
Debt issuance costs	0.35%	Leverage	17%
Standard error of debt premium	0.0015	Standard error of WACC	0.015
Cost of debt (pre-corporate tax)	7.09%	Cost of equity	8.67%
Vanilla WACC (midpoint)	7.09% x 0.17 + 8.67% x (1-0.17) = 8.40%		
Post-tax WACC (midpoint)	7.09% x 0.17 x (1-0.284) + 8.67% x (1-0.17) = 8.06%		

125. The risk-free rate reflects the linearly-interpolated, annualised, bid yield to maturity on New Zealand government bonds with a five year term to maturity. The estimate uses data reported by Bloomberg for the month of June 2010 in respect of the April 2015

maturity bonds and the December 2017 maturity bonds. The daily data reported by Bloomberg is annualised (to reflect the 6 monthly payment of interest), averaged to give a monthly average, and linearly interpolated to produce the estimate of a 4.95% interest rate on a NZ government bond with a five year term to maturity as at 1 July 2010.

126. The average corporate tax rate is the five-year average given a corporate tax rate of 30% for disclosure year 2011, and 28% for the following four disclosure years.

127. The average investor tax rate is the five-year average given an average investor tax rate of 28.5% for disclosure year 2011, and 28% for the following four disclosure years (clause 5.2 refers).

128. The standard error of the WACC is determined in accordance with the formula in the Airports IM Determination, and is shown to three decimal places only in the table above.

129. The methodology for determining the debt premium is set out in clause 5.4 of the Airports IM Determination. Clause 5.4(3)(d) requires the Commission to estimate the debt premium that would reasonably be expected to apply to a vanilla NZ$ denominated bond that:

   a. is issued by an airport, (that is neither majority owned by the Crown nor a local authority);

   b. is publicly traded;

   c. has a credit rating of A-; and

   d. has a five year remaining term to maturity.

130. In estimating the debt premium, clause 5.4(4) provides that the Commission will have regard to:

   a. bonds issued by an airport (that is not government-owned) with a rating of A-;

   b. bonds issued by another entity (that is not government-owned) with a rating of A-;

   c. bonds issued by an airport (that is not government-owned) with a rating other than A-;

   d. bonds issued by another entity (that is not government-owned) with a rating other than A-; and

   e. bonds issued by government-owned entities.

131. Clause 5.4(5)(a) provides that progressively lesser regard will ordinarily be given to the debt premium estimates in the order that the bonds are identified in clauses 5.4(4)(a) to (e).

132. The table below shows the debt premium determined by the Commission as at 1 July 2010 and a summary of the debt premium information on investment grade rated bonds the Commission considered in determining the debt premium. A spreadsheet showing

the calculations for the debt premium (and the risk-free rate) is on the Commission's website.

Determined debt premium on an Airport-issued bond rated A- with a remaining term of 5 years as at 1 July 2010						
		Industry	**Rating**	**Term to Maturity**	**Debt premium**	**Comment**
Determined Debt Premium		*Airport*	*A-*	*5.0*	*1.79*	AIAL is an exact match. Not inconsistent with 4(d)-4(e).
Subclause	**Issuer**	**Industry**	**Rating**	**Term to Maturity**	**Debt premium**	**Comment**
4(a)	AIAL[1]	Airport	A-	5.0	1.79	Exact match.
4(b)						No applicable bond.
4(c)	WIAL[2]	Airport	BBB+	-	-	Anomalous, see paragraph 135.
4(d)	Vector[3]	Other	BBB+	4.3	2.02	A- would be less than this.
	Contact[4]	Other	BBB	3.9	2.21	A- would be less than this.
	Powerco[5]	Other	BBB	5.0	2.47	A- would be less than this.
	Telecom[6]	Other	A	-	-	Anomalous, see paragraph 135.
	Telstra[7]	Other	A	4.4	1.74	A- would be more than this.
4(e)	Genesis[8]	Other	BBB+	5.0	1.90	
	MRP[9]	Other	BBB+	5.0	2.00	
	Transpower[10]	Other	AA-	5.0	1.27	

Notes on bonds analysed:

1 AIAL 7.25% bond maturing 28/02/2014; 7.25% bond maturing 7/11/2015.
2 WIAL 7.5% bond maturing 15/11/2013.
3 Vector 7.8% bond maturing 15/10/2014.
4 Contact Energy 8% bond maturing 15/05/2014.
5 Powerco 6.53% maturing 29/06/2015; 6.74% bond maturing 28/09/2017.
6 Telecom 8.5% bond maturing 22/03/2013; 7.04% bond maturing 22/03/2016.
7 Telstra 7.15% bond maturing 24/11/2014.
8 Genesis 7.25% bond maturing 15/03/2014; 7.65% bond maturing 15/03/2016.
9 Mighty River Power 7.25% bond maturing 15/05/2013; 7.55% bond maturing 12/10/2016.
10 Transpower 5% bond maturing 15/12/2010; 7.19% bond maturing 12/11/2019.

133. Consistent with clause 5.4(4)-(5)(a) greatest regard has been given to the estimated debt premium on Auckland Airport's bonds. These bonds are issued by an airport, are publicly traded, are rated A-, and have a debt premium of 1.79% when interpolated to give a remaining term to maturity of five years. This exactly matches the requirements of the bond defined in clause 5.4(3)(d), and the Commission has determined the debt premium on a bond rated A- to be 1.79% as at 1 July 2010.

134. The Commission has also taken account of the debt premium on bonds from a range of other issuers, but none of these match the requirements in clause 5.4(3)(d) as well as the AIAL bonds. The estimated debt premiums from these other bonds are not inconsistent with the debt premium on the AIAL bonds when consideration is taken of different credit ratings, and terms to maturity.

135. No weight has been placed on the estimated debt premium for WIAL (2.39%) which appears large in absolute terms and is above the debt premium for other bonds rated BBB+ and the Contact bond (BBB rated). The interpolated debt premium on Telecom bonds (1.89%, A rated, interpolated to a five year remaining term) is also considered anomalous as it is greater than the interpolated debt premium on the lower rated AIAL bonds, and is almost identical to the interpolated debt premium on the Genesis Energy bonds despite the Genesis Energy bonds being rated two notches lower than Telecom's bonds.

Information Disclosure for Airports with a March financial year (WIAL)

136. Pursuant to clause 5.1 of the Airports IM Determination, the Commission has determined, for companies with a financial year ending in March (namely Wellington International Airport Limited (WIAL)):

- a mid-point estimate of vanilla WACC of 8.54% for the five year period commencing on the first day of disclosure year 2011 (i.e. 1 April 2010); and with a range, pursuant to clause 5.7, from 7.55% to 9.53% where the endpoints are the 25th and 75th percentile estimates; and

- a mid-point estimate of post-tax WACC of 8.19% for the five year period commencing on the first day of disclosure year 2011 (i.e. 1 April 2010); and with a range, pursuant to clause 5.7, from 7.20% to 9.18% where the endpoints are the 25th and 75th percentile estimates.

137. These estimates of vanilla and post-tax WACC reflect the parameters specified in the Airports IM Determination and the risk-free rate and debt premium estimated in accordance with the Airports IM Determination. The parameters and estimates are summarised in the table below.

Risk-free rate	5.15%	Debt premium	1.70%
Equity beta	0.72	TAMRP	7.1%
Average corporate tax rate	28.4%	Average investor tax rate	28.2%
Debt issuance costs	0.35%	Leverage	17%
Standard error of debt premium	0.0015	Standard error of WACC	0.015
Cost of debt (pre-corporate tax)	7.21%	Cost of equity	8.81%
Vanilla WACC (midpoint)	7.21% x 0.17 + 8.81% x (1-0.17) = 8.54%		
Post-tax WACC (midpoint)	7.21% x 0.17 x (1-0.284) + 8.81% x (1-0.17) = 8.19%		

138. The risk-free rate reflects the linearly-interpolated, annualised, bid yield to maturity on New Zealand government bonds with a five year term to maturity. The estimate uses data reported by Bloomberg for the month of March 2010 in respect of the April 2013 maturity bonds and the April 2015 maturity bonds. The daily data reported by Bloomberg is annualised (to reflect the 6 monthly payment of interest), averaged to give a monthly average, and linearly interpolated to produce the estimate of a 5.15% interest rate on a NZ government bond with a five year term to maturity as at 1 April 2010.

139. The average corporate tax rate is the five-year average given a corporate tax rate of 30% for disclosure year 2011, and 28% for the following four disclosure years.

140. The average investor tax rate is the five-year average given an average investor tax rate of 29% for disclosure year 2011, and 28% for the following four disclosure years (clause 5.2 refers).

141. The standard error of the WACC is determined in accordance with the formula in the Airports IM Determination, and is shown to three decimal places only in the table above.

142. The methodology for determining the debt premium is set out in clause 5.4 of the Airports IM Determination. Clause 5.4(3)(d) requires the Commission to estimate the debt premium that would reasonably be expected to apply to a vanilla NZ$ denominated bond that:

   a. is issued by an airport, (that is neither majority owned by the Crown nor a local authority);

   b. is publicly traded;

   c. has a credit rating of A-; and

   d. has a five year remaining term to maturity.

143. In estimating the debt premium, clause 5.4(4) provides that the Commission will have regard to:

   a. bonds issued by an airport (that is not government-owned) with a rating of A-;

   b. bonds issued by another entity (that is not government-owned) with a rating of A-;

   c. bonds issued by an airport (that is not government-owned) with a rating other than A-;

   d. bonds issued by another entity (that is not government-owned) with a rating other than A-; and

   e. bonds issued by government-owned entities.

144. Clause 5.4(5)(a) provides that progressively lesser regard will ordinarily be given to the debt premium estimates in the order that the bonds are identified in clauses 5.4(4)(a) to (e).

145. The table below shows the debt premium determined by the Commission as at 1 April 2010 and a summary of the debt premium information on investment grade rated bonds the Commission considered in determining the debt premium.

Determined debt premium on an Airport-issued bond rated A- with a remaining term of 5 years as at 1 April 2010						
		Industry	**Rating**	**Term to Maturity**	**Debt premium**	**Comment**
Determined Debt Premium		*Airport*	*A-*	*5.0*	*1.70*	AIAL exact match. Not inconsistent with 4(d)-4(e)
Subclause	**Issuer**	**Industry**	**Rating**	**Term to Maturity**	**Debt premium**	**Comment**
4(a)	AIAL[1]	Airport	A-	5.0	1.70	Exact match
4(b)						No applicable bond
4(c)	WIAL[2]	Airport	BBB+	-	-	Anomalous, see paragraph 148.
4(d)	Vector[3]	Other	BBB+	4.5	1.99	A- would be less than this
	Contact[4]	Other	BBB	4.1	2.28	A- would be less than this
	Powerco[5]	Other	BBB	-	-	Anomalous, see paragraph 148.
	Telecom[6]	Other	A	5.0	1.57	A- would be more than this
	Telstra[7]	Other	A	4.7	1.57	A- would be more than this
4(e)	Genesis[8]	Other	BBB+	5.0	1.86	
	MRP[9]	Other	BBB+	5.0	1.89	
	Transpower[10]	Other	AA-	5.0	1.16	

Notes on bonds analysed:

1 AIAL 7.25% bond maturing 28/02/2014; 7.25% bond maturing 7/11/2015.
2 WIAL 7.5% bond maturing 15/11/2013.
3 Vector 7.8% bond maturing 15/10/2014.
4 Contact Energy 8% bond maturing 15/05/2014.
5 Powerco 6.53% bond maturing 29/06/2015.
6 Telecom 8.5% bond maturing 22/03/2013; 7.04% bond maturing 22/03/2016.
7 Telstra 7.15% bond maturing 24/11/2014.
8 Genesis 7.25% bond maturing 15/03/2014; 7.65% bond maturing 15/03/2016.
9 Mighty River Power 7.25% bond maturing 15/05/2013; 7.55% bond maturing 12/10/2016.
10 Transpower 5% bond maturing 15/12/2010; 7.19% bond maturing 12/11/2019.

146. Consistent with clause 5.4(4)-(5)(a) greatest regard has been given to the estimated debt premium on Auckland Airport's bonds. These bonds are issued by an airport, are publicly traded, are rated A-, and have a debt premium of 1.70% when interpolated to give a remaining term to maturity of five years. This exactly matches the requirements of the bond defined in clause 5.4(3)(d), and the Commission has determined the debt premium on a bonds rated A- to be 1.70% as at 1 April 2010.

147. The Commission has taken account of the debt premiums on bonds from a range of other issuers, but none of these match the requirements in clause 5.4(3)(d) as well as the AIAL bonds. The estimated debt premiums from these other bonds are not inconsistent with the debt premium on the AIAL bonds when consideration is taken of different credit ratings, and terms to maturity.

148. No weight has been placed on the estimated debt premium for WIAL (2.56%, BBB+ rated, 3.6 years remaining) which appears anomalous as it is above the debt premium for other bonds rated BBB+ and the Contact bond (BBB rated). Similarly, no weight has been placed on the estimated debt premium for Powerco (2.82%, BBB rated, 5 years remaining) which is large in absolute terms and is significantly above the debt premium for bonds rated BBB+ and the Contact bond (rated BBB).