Electricity Information Disclosure 2018

23/08/2018

Contents

Introduction

This disclosure of information is submitted by Powerco Limited ("Powerco") pursuant to subpart 9 of Part 4 of the Commerce Act 1986 ("Act") and in accordance with the Commerce Commission's Electricity Distribution Information Disclosure Determination 2012 ("IDD") and all its subsequent amendments including the 2015 information disclosure amendments.

Part 4 of the Act provides a regulatory regime for electricity lines services and sets out the requirements of information disclosure regulation. The purpose of the information disclosure regulation is to ensure that sufficient information is readily available to enable interested persons to assess whether the purpose of Part 4 of the Act is being met. The purpose of Part 4 is to promote the long-term benefit of consumers by promoting outcomes that are consistent with those produced in competitive markets.

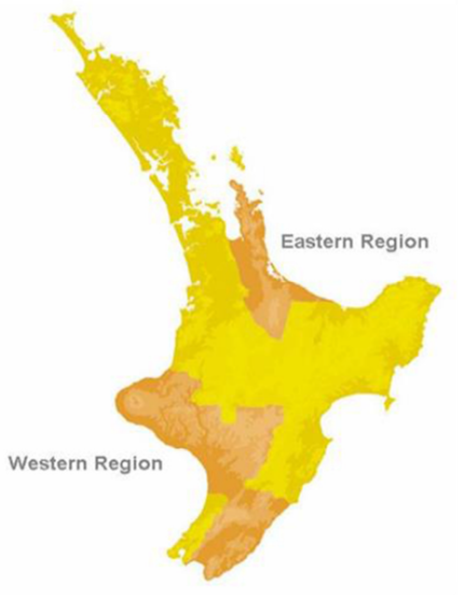
For the purpose of regulatory compliance, Powerco is a provider of "electricity lines services", as defined by section 52C of the Act, and is required to comply with the requirements of Part 4 of the Act.

The IDD requires disclosure of the following information for the 2018 disclosure year:

Schedule	Information provided
1	Analytical Ratios
2	Return on investment
3	Regulatory profit
4	Regulatory asset base (rolled forward)
5a	Regulatory tax allowance
5b	Related party transactions
5c	Term credit spread differential
5d	Report on cost allocation
5e	Report on asset allocation
6a	Capital expenditure
6b	Operational expenditure
7	Actual capital and operational expenditure compared to forecast
8	Billed quantities and line charge revenues
9a	Asset register
9b	Asset age profile
9c	Overhead line and underground cable information
9d	Embedded networks
9e	Network demand
10	Network reliability

The IDD also requires that network and billed quantity information be provided for each sub-network (i.e. each geographically separate part) of a supplier's network. Powerco has two sub-networks which it terms the Eastern Region and Western Region of the North Island. These regions are shown in Map 1.

Map 1: Powerco Electricity Distribution Areas



The following schedules are provided separately for Powerco Limited, Powerco's Western Network and Powerco's Eastern Network:

Schedule 8	Billed quantities and line charge revenue
Schedule 9a	Asset register
Schedule 9b	Asset age profile
Schedule 9c	Overhead line and underground cable information
Schedule 9e	Network demand
Schedule 10	Network reliability

Schedules 14 and 15 provide mandatory and voluntary notes to accompany the schedules relating to the current disclosure year.

Directors' certification of the 2018 information disclosure is provided at the end of this document.

Further information on Powerco's long term forecasts are included in our Asset Management Plan available on our website at http://www.powerco.co.nz.

Schedule 1: Analytical Ratios

Company Name	**Powerco Limited**
For Year Ended	**31 March 2018**

SCHEDULE 1: ANALYTICAL RATIOS

This schedule calculates expenditure, revenue and service ratios from the information disclosed. The disclosed ratios may vary for reasons that are company specific and, as a result, must be interpreted with care. The Commerce Commission will publish a summary and analysis of information disclosed in accordance with the ID determination. This will include information disclosed in accordance with this and other schedules, and information disclosed under the other requirements of the determination.

This information is part of audited disclosure information (as defined in section 1.4 of the ID determination), and so is subject to the assurance report required by section 2.8.

sch ref

7 **1(i): Expenditure metrics**

sch ref		Expenditure per GWh energy delivered to ICPs ($/GWh)	Expenditure per average no. of ICPs ($/ICP)	Expenditure per MW maximum coincident system demand ($/MW)	Expenditure per km circuit length ($/km)	Expenditure per MVA of capacity from EDB-owned distribution transformers ($/MVA)
8						
9	**Operational expenditure**	14,527	209	78,508	2,505	22,034
10	Network	6,479	93	35,016	1,117	9,828
11	Non-network	8,048	116	43,493	1,388	12,207
12						
13	**Expenditure on assets**	35,992	518	194,519	6,206	54,594
14	Network	31,674	455	171,184	5,462	48,045
15	Non-network	4,318	62	23,335	745	6,549
16						

17 **1(ii): Revenue metrics**

sch ref		Revenue per GWh energy delivered to ICPs ($/GWh)	Revenue per average no. of ICPs ($/ICP)
18			
19	**Total consumer line charge revenue**	80,618	1,159
20	Standard consumer line charge revenue	101,431	1,016
21	Non-standard consumer line charge revenue	32,946	130,307
22			

23 **1(iii): Service intensity measures**

sch ref			
24			
25	Demand density	32	*Maximum coincident system demand per km of circuit length (for supply) (kW/km)*
26	Volume density	172	*Total energy delivered to ICPs per km of circuit length (for supply) (MWh/km)*
27	Connection point density	12	*Average number of ICPs per km of circuit length (for supply) (ICPs/km)*
28	Energy intensity	14,379	*Total energy delivered to ICPs per average number of ICPs (kWh/ICP)*
29			

30 **1(iv): Composition of regulatory income**

sch ref		($000)	% of revenue
31			
32	Operational expenditure	70,422	18.38%
33	Pass-through and recoverable costs excluding financial incentives and wash-ups	129,229	33.72%
34	Total depreciation	66,765	17.42%
35	Total revaluations	17,321	4.52%
36	Regulatory tax allowance	28,885	7.54%
37	Regulatory profit/(loss) including financial incentives and wash-ups	105,211	27.46%
38	**Total regulatory income**	383,191	
39			

40 **1(v): Reliability**

sch ref			
41			
42	Interruption rate	21.37	*Interruptions per 100 circuit km*

Schedule 2: Return on Investment

Company Name	**Powerco Limited**
For Year Ended	**31 March 2018**

SCHEDULE 2: REPORT ON RETURN ON INVESTMENT

This schedule requires information on the Return on Investment (ROI) for the EDB relative to the Commerce Commission's estimates of post tax WACC and vanilla WACC. EDBs must calculate their ROI based on a monthly basis if required by clause 2.3.3 of the ID Determination or if they elect to. If an EDB makes this election, information supporting this calculation must be provided in 2(iii).
EDBs must provide explanatory comment on their ROI in Schedule 14 (Mandatory Explanatory Notes).
This information is part of audited disclosure information (as defined in section 1.4 of the ID determination), and so is subject to the assurance report required by section 2.8.

sch ref		CY-2	CY-1	Current Year CY
7	**2(i): Return on Investment**			
8		31 Mar 16	31 Mar 17	31 Mar 18
9	**ROI – comparable to a post tax WACC**	%	%	%
10	Reflecting all revenue earned	6.36%	7.19%	6.21%
11	Excluding revenue earned from financial incentives	6.36%	7.19%	6.31%
12	Excluding revenue earned from financial incentives and wash-ups	6.36%	7.22%	6.28%
13				
14	**Mid-point estimate of post tax WACC**	5.37%	4.77%	5.04%
15	25th percentile estimate	4.66%	4.05%	4.36%
16	75th percentile estimate	6.09%	5.48%	5.72%
17				
18				
19	**ROI – comparable to a vanilla WACC**			
20	Reflecting all revenue earned	7.01%	7.73%	6.80%
21	Excluding revenue earned from financial incentives	7.01%	7.73%	6.90%
22	Excluding revenue earned from financial incentives and wash-ups	7.01%	7.77%	6.87%
23				
24	**WACC rate used to set regulatory price path**	7.19%	7.19%	7.19%
25				
26	**Mid-point estimate of vanilla WACC**	6.02%	5.31%	5.60%
27	25th percentile estimate	5.30%	4.59%	4.92%
28	75th percentile estimate	6.74%	6.03%	6.29%
29				

sch ref				($000)	
30	**2(ii): Information Supporting the ROI**				
31					
32		Total opening RAB value	1,592,546		
33	*plus*	Opening deferred tax	(64,102)		
34	**Opening RIV**			1,528,444	
35					
36	**Line charge revenue**			390,821	
37					
38		Expenses cash outflow	199,652		
39	*add*	Assets commissioned	123,688		
40	*less*	Asset disposals	9,200		
41	*add*	Tax payments	32,454		
42	*less*	Other regulated income	(7,630)		
43	**Mid-year net cash outflows**			354,223	
44					
45	**Term credit spread differential allowance**			–	
46					
47		Total closing RAB value	1,657,737		
48	*less*	Adjustment resulting from asset allocation	146		
49	*less*	Lost and found assets adjustment	–		
50	*plus*	Closing deferred tax	(60,533)		
51	**Closing RIV**			1,597,057	
52					
53	**ROI – comparable to a vanilla WACC**				6.80%
54					
55		Leverage (%)			44%
56		Cost of debt assumption (%)			4.80%
57		Corporate tax rate (%)			28%
58					
59	**ROI – comparable to a post tax WACC**				6.21%

2(iii): Information Supporting the Monthly ROI

Opening RIV	N/A

	Line charge revenue	Expenses cash outflow	Assets commissioned	Asset disposals	Other regulated income	Monthly net cash outflows
April						–
May						–
June						–
July						–
August						–
September						–
October						–
November						–
December						–
January						–
February						–
March						–
Total	–	–	–	–	–	–

Tax payments	N/A
Term credit spread differential allowance	N/A
Closing RIV	N/A
Monthly ROI – comparable to a vanilla WACC	N/A
Monthly ROI – comparable to a post tax WACC	N/A

2(iv): Year-End ROI Rates for Comparison Purposes

Year-end ROI – comparable to a vanilla WACC	6.70%
Year-end ROI – comparable to a post tax WACC	6.11%

** these year-end ROI values are comparable to the ROI reported in pre 2012 disclosures by EDBs and do not represent the Commission's current view on ROI.*

2(v): Financial Incentives and Wash-Ups

Net recoverable costs allowed under incremental rolling incentive scheme	–	
Purchased assets – avoided transmission charge	–	
Energy efficiency and demand incentive allowance	–	
Quality incentive adjustment	(2,084)	
Other financial incentives	–	
Financial incentives		(2,084)
Impact of financial incentives on ROI		–0.10%
Input methodology claw-back	–	
Recoverable customised price-quality path costs	–	
Catastrophic event allowance	–	
Capex wash-up adjustment	675	
Transmission asset wash-up adjustment	–	
2013–2015 NPV wash-up allowance	–	
Reconsideration event allowance	–	
Other wash-ups	–	
Wash-up costs		675
Impact of wash-up costs on ROI		0.03%

A monthly ROI must only be calculated if during the first three months or last three months of the 2017 disclosure year, the value of assets commissioned by Powerco had exceeded 10% of the total opening regulatory asset base values. These criteria have not been met and Powerco has elected to report the ROI for the full disclosure year only.

Schedule 3: Regulatory Profit

Company Name	**Powerco Limited**
For Year Ended	**31 March 2018**

SCHEDULE 3: REPORT ON REGULATORY PROFIT

This schedule requires information on the calculation of regulatory profit for the EDB for the disclosure year. All EDBs must complete all sections and provide explanatory comment on their regulatory profit in Schedule 14 (Mandatory Explanatory Notes).
This information is part of audited disclosure information (as defined in section 1.4 of the ID determination), and so is subject to the assurance report required by section 2.8.

sch ref				
7		**3(i): Regulatory Profit**		**($000)**
8		**Income**		
9		Line charge revenue		390,821
10	*plus*	Gains / (losses) on asset disposals		(9,032)
11	*plus*	Other regulated income (other than gains / (losses) on asset disposals)		1,402
12				
13		**Total regulatory income**		383,191
14		**Expenses**		
15	*less*	Operational expenditure		70,422
16				
17	*less*	Pass-through and recoverable costs excluding financial incentives and wash-ups		129,229
18				
19		**Operating surplus / (deficit)**		183,539
20				
21	*less*	Total depreciation		66,765
22				
23	*plus*	Total revaluations		17,321
24				
25		**Regulatory profit / (loss) before tax**		134,096
26				
27	*less*	Term credit spread differential allowance		–
28				
29	*less*	Regulatory tax allowance		28,885
30				
31		**Regulatory profit/(loss) including financial incentives and wash-ups**		105,211
32				
33		**3(ii): Pass-through and Recoverable Costs excluding Financial Incentives and Wash-Ups**	**($000)**	
34		**Pass through costs**		
35		Rates	2,039	
36		Commerce Act levies	522	
37		Industry levies	1,105	
38		CPP specified pass through costs	–	
39		**Recoverable costs excluding financial incentives and wash-ups**		
40		Electricity lines service charge payable to Transpower	106,596	
41		Transpower new investment contract charges	6,824	
42		System operator services	–	
43		Distributed generation allowance	10,474	
44		Extended reserves allowance	–	
45		Other recoverable costs excluding financial incentives and wash-ups	1,670	
46		**Pass-through and recoverable costs excluding financial incentives and wash-ups**		129,229
47				

48 ## 3(iii): Incremental Rolling Incentive Scheme

			($000)	($000)
49			CY-1	CY
50			31 Mar 17	31 Mar 18
51	Allowed controllable opex		–	–
52	Actual controllable opex		–	–
53				
54	Incremental change in year			–
55				
56			**Previous years' incremental change**	**Previous years' incremental change adjusted for inflation**
57	CY-5	31 Mar 13	–	–
58	CY-4	31 Mar 14	–	–
59	CY-3	31 Mar 15	–	–
60	CY-2	31 Mar 16	–	–
61	CY-1	31 Mar 17	–	–
62	**Net incremental rolling incentive scheme**			–
63				
64	**Net recoverable costs allowed under incremental rolling incentive scheme**			–

65 ## 3(iv): Merger and Acquisition Expenditure

		($000)
70		($000)
66	Merger and acquisition expenditure	–
67		

68 *Provide commentary on the benefits of merger and acquisition expenditure to the electricity distribution business, including required disclosures in accordance with section 2.7, in Schedule 14 (Mandatory Explanatory Notes).*

69 ## 3(v): Other Disclosures

		($000)
70		($000)
71	Self-insurance allowance	–

Schedule 4: Value of Regulatory Asset Base

Company Name	**Powerco Limited**
For Year Ended	**31 March 2018**

SCHEDULE 4: REPORT ON VALUE OF THE REGULATORY ASSET BASE (ROLLED FORWARD)

This schedule requires information on the calculation of the Regulatory Asset Base (RAB) value to the end of this disclosure year. This informs the ROI calculation in Schedule 2.

EDBs must provide explanatory comment on the value of their RAB in Schedule 14 (Mandatory Explanatory Notes). This information is part of audited disclosure information (as defined in section 1.4 of the ID determination), and so is subject to the assurance report required by section 2.8.

sch ref

4(i): Regulatory Asset Base Value (Rolled Forward)

		RAB	RAB	RAB	RAB	RAB
	for year ended	31 Mar 14	31 Mar 15	31 Mar 16	31 Mar 17	31 Mar 18
		($000)	($000)	($000)	($000)	($000)
	Total opening RAB value	1,385,118	1,439,789	1,476,717	1,528,013	1,592,546
less	**Total depreciation**	59,857	57,918	59,697	62,497	66,765
plus	**Total revaluations**	21,063	1,198	8,575	32,664	17,321
plus	**Assets commissioned**	101,470	102,247	113,407	108,878	123,688
less	**Asset disposals**	8,275	8,941	11,131	14,730	9,200
plus	**Lost and found assets adjustment**	-	-	-	-	–
plus	**Adjustment resulting from asset allocation**	270	342	141	218	146
	Total closing RAB value	1,439,789	1,476,717	1,528,013	1,592,546	1,657,737

4(ii): Unallocated Regulatory Asset Base

		Unallocated RAB *		RAB	
		($000)	($000)	($000)	($000)
	Total opening RAB value		1,597,714		1,592,546
less					
	Total depreciation		68,048		66,765
plus					
	Total revaluations		17,369		17,321
plus					
	Assets commissioned (other than below)	124,302		122,832	
	Assets acquired from a regulated supplier	–		–	
	Assets acquired from a related party	855		855	
	Assets commissioned		125,158		123,688
less					
	Asset disposals (other than below)	9,200		9,200	
	Asset disposals to a regulated supplier	–		–	
	Asset disposals to a related party	–		–	
	Asset disposals		9,200		9,200
plus	**Lost and found assets adjustment**		–		–
plus	**Adjustment resulting from asset allocation**				146
	Total closing RAB value		1,662,992		1,657,737

** The 'unallocated RAB' is the total value of those assets used wholly or partially to provide electricity distribution services without any allowance being made for the allocation of costs to services provided by the supplier that are not electricity distribution services. The RAB value represents the value of these assets after applying this cost allocation. Neither value includes works under construction.*

4(iii): Calculation of Revaluation Rate and Revaluation of Assets

	CPI_4	1,011
	CPI_4^{-4}	1,000
	Revaluation rate (%)	1.10%

		Unallocated RAB *		RAB	
		($000)	($000)	($000)	($000)
	Total opening RAB value	1,597,714		1,592,546	
less	Opening value of fully depreciated, disposed and lost assets	18,726		17,882	
	Total opening RAB value subject to revaluation	1,578,988		1,574,664	
	Total revaluations		17,369		17,321

66 **4(iv): Roll Forward of Works Under Construction**

Row			Unallocated works under construction		Allocated works under construction	
67						
68		**Works under construction—preceding disclosure year**		69,030		68,623
69	*plus*	Capital expenditure	155,421		152,853	
70	*less*	Assets commissioned	125,158		123,688	
71	*plus*	Adjustment resulting from asset allocation			15	
72		**Works under construction - current disclosure year**		99,294		97,803
73						
74		Highest rate of capitalised finance applied				5.48%
75						

76 **4(v): Regulatory Depreciation**

Row		Unallocated RAB *		RAB	
78		($000)	($000)	($000)	($000)
79	Depreciation - standard	58,895		58,825	
80	Depreciation - no standard life assets	9,153		7,940	
81	Depreciation - modified life assets	–		–	
82	Depreciation - alternative depreciation in accordance with CPP	–		–	
83	**Total depreciation**		68,048		66,765
84					

85 **4(vi): Disclosure of Changes to Depreciation Profiles** **($000 unless otherwise specified)**

Row	Asset or assets with changes to depreciation*	Reason for non-standard depreciation (text entry)	Depreciation charge for the period (RAB)	Closing RAB value under 'non-standard' depreciation	Closing RAB value under 'standard' depreciation
87	-	-	–	–	–
88	-	-	–	–	–
89	-	-	–	–	–
90	-	-	–	–	–
91	-	-	–	–	–
92	-	-	–	–	–
93	-	-	–	–	–
94	-	-	–	–	–

95 ** include additional rows if needed*

96 **4(vii): Disclosure by Asset Category**

97 **($000 unless otherwise specified)**

Row			Subtransmission lines	Subtransmission cables	Zone substations	Distribution and LV lines	Distribution and LV cables	Distribution substations and transformers	Distribution switchgear	Other network assets	Non-network assets	Total
99		**Total opening RAB value**	70,086	31,402	176,868	410,252	333,760	262,623	145,035	131,503	31,017	1,592,546
100	*less*	Total depreciation	2,166	868	7,692	14,711	15,483	8,669	6,510	4,188	6,476	66,765
101	*plus*	Total revaluations	768	336	1,923	4,480	3,676	2,870	1,570	1,463	236	17,321
102	*plus*	Assets commissioned	3,672	342	13,206	29,211	19,602	18,582	19,655	9,047	10,371	123,688
103	*less*	Asset disposals	203	–	1,617	2,850	321	1,632	1,989	587	1	9,200
104	*plus*	Lost and found assets adjustment	–	–	–	–	–	–	–	–	–	–
105	*plus*	Adjustment resulting from asset allocation	–	–	–	–	–	–	–	–	146	146
106	*plus*	Asset category transfers	(718)	(956)	(2,623)	(5,239)	(2,564)	(3,230)	(3,136)	18,467	–	–
107		**Total closing RAB value**	71,438	30,254	180,064	421,142	338,669	270,543	154,625	155,706	35,294	1,657,737
108												
109		**Asset Life**										
110		Weighted average remaining asset life	41	40	32	37	31	36	29	34	20	(years)
111		Weighted average expected total asset life	60	51	50	59	48	52	39	38	27	(years)

Schedule 5a: Regulatory Tax Allowance

Company Name	**Powerco Limited**
For Year Ended	**31 March 2018**

SCHEDULE 5a: REPORT ON REGULATORY TAX ALLOWANCE

This schedule requires information on the calculation of the regulatory tax allowance. This information is used to calculate regulatory profit/loss in Schedule 3 (regulatory profit). EDBs must provide explanatory commentary on the information disclosed in this schedule, in Schedule 14 (Mandatory Explanatory Notes).
This information is part of audited disclosure information (as defined in section 1.4 of the ID determination), and so is subject to the assurance report required by section 2.8.

sch ref					
7		**5a(i): Regulatory Tax Allowance**		**($000)**	
8		**Regulatory profit / (loss) before tax**		134,096	
9					
10	*plus*	Income not included in regulatory profit / (loss) before tax but taxable	1,736		*
11		Expenditure or loss in regulatory profit / (loss) before tax but not deductible	147		*
12		Amortisation of initial differences in asset values	10,278		
13		Amortisation of revaluations	5,757		
14				17,918	
15					
16	*less*	Total revaluations	17,321		
17		Income included in regulatory profit / (loss) before tax but not taxable	–		*
18		Discretionary discounts and customer rebates	–		
19		Expenditure or loss deductible but not in regulatory profit / (loss) before tax	–		*
20		Notional deductible interest	31,533		
21				48,854	
22					
23		**Regulatory taxable income**		103,160	
24					
25	*less*	Utilised tax losses	–		
26		Regulatory net taxable income		103,160	
27					
28		Corporate tax rate (%)	28%		
29		**Regulatory tax allowance**		28,885	
30					
31	*	Workings to be provided in Schedule 14			
32		**5a(ii): Disclosure of Permanent Differences**			
33		In Schedule 14, Box 5, provide descriptions and workings of items recorded in the asterisked categories in Schedule 5a(i).			
34		**5a(iii): Amortisation of Initial Difference in Asset Values**		**($000)**	
35					
36		Opening unamortised initial differences in asset values	256,948		
37	*less*	Amortisation of initial differences in asset values	10,278		
38	*plus*	Adjustment for unamortised initial differences in assets acquired	–		
39	*less*	Adjustment for unamortised initial differences in assets disposed	1,842		
40		Closing unamortised initial differences in asset values		244,828	
41					
42		Opening weighted average remaining useful life of relevant assets (years)		25	
43					
44		**5a(iv): Amortisation of Revaluations**		**($000)**	
45					
46		Opening sum of RAB values without revaluations	1,463,249		
47					
48		Adjusted depreciation	61,007		
49		Total depreciation	66,765		
50		Amortisation of revaluations		5,757	
51					
52		**5a(v): Reconciliation of Tax Losses**		**($000)**	
53					
54		**Opening tax losses**	–		
55	*plus*	Current period tax losses	–		
56	*less*	Utilised tax losses	–		
57		**Closing tax losses**		–	

5a(vi): Calculation of Deferred Tax Balance

			($000)
	Opening deferred tax	(64,102)	
plus	Tax effect of adjusted depreciation	17,082	
less	Tax effect of tax depreciation	18,786	
plus	Tax effect of other temporary differences*	7,422	
less	Tax effect of amortisation of initial differences in asset values	2,878	
plus	Deferred tax balance relating to assets acquired in the disclosure year	–	
less	Deferred tax balance relating to assets disposed in the disclosure year	(743)	
plus	Deferred tax cost allocation adjustment	(14)	
	Closing deferred tax		(60,533)

5a(vii): Disclosure of Temporary Differences

In Schedule 14, Box 6, provide descriptions and workings of items recorded in the asterisked category in Schedule 5a(vi) (Tax effect of other temporary differences).

5a(viii): Regulatory Tax Asset Base Roll-Forward

			($000)
	Opening sum of regulatory tax asset values	944,732	
less	Tax depreciation	67,092	
plus	Regulatory tax asset value of assets commissioned	117,642	
less	Regulatory tax asset value of asset disposals	6,548	
plus	Lost and found assets adjustment	–	
plus	Adjustment resulting from asset allocation	97	
plus	Other adjustments to the RAB tax value	36,345	
	Closing sum of regulatory tax asset values		1,025,176

Schedule 5b: Related Party Transactions

Company Name	**Powerco Limited**
For Year Ended	**31 March 2018**

SCHEDULE 5b: REPORT ON RELATED PARTY TRANSACTIONS

This schedule provides information on the valuation of related party transactions, in accordance with section 2.3.6 and 2.3.7 of the ID determination.
This information is part of audited disclosure information (as defined in section 1.4 of the ID determination), and so is subject to the assurance report required by section 2.8.

sch ref

7 **5b(i): Summary—Related Party Transactions**

sch ref		($000)
8	Total regulatory income	–
9	Operational expenditure	–
10	Capital expenditure	–
11	Market value of asset disposals	–
12	Other related party transactions	855

13 **5b(ii): Entities Involved in Related Party Transactions**

sch ref	Name of related party	Related party relationship
14		
15	Powerline Limited (trading as Basepower)	Wholly owned subsidiary of Powerco
16		
17		
18		
19		

20 ** include additional rows if needed*

21 **5b(iii): Related Party Transactions**

sch ref	Name of related party	Related party transaction type	Description of transaction	Value of transaction ($000)	Basis for determining value
22					
23	Powerline Limited (trading as Basepower)	Capex	Supplies remote area power and storage units	855	IM clause 2.2.11(5)(a)(i)
24					
25					
26					
27					
28					
29					
30					
31					
32					
33					
34					
35					
36					
37					

38 ** include additional rows if needed*

Schedule 5c: Term Credit Spread Differential

Company Name **Powerco Limited**
For Year Ended **31 March 2018**

SCHEDULE 5c: REPORT ON TERM CREDIT SPREAD DIFFERENTIAL ALLOWANCE

This schedule is only to be completed if, as at the date of the most recently published financial statements, the weighted average original tenor of the debt portfolio (both qualifying debt and non-qualifying debt) is greater than five years.
This information is part of audited disclosure information (as defined in section 1.4 of the ID determination), and so is subject to the assurance report required by section 2.8.

sch ref

7
8 ### 5c(i): Qualifying Debt (may be Commission only)
9

sch ref	Issuing party	Issue date	Pricing date	Original tenor (in years)	Coupon rate (%)	Book value at issue date (NZD)	Book value at date of financial statements (NZD)	Term Credit Spread Difference	Cost of executing an interest rate swap	Debt issue cost readjustment
11	USPP (2011) US$72m/NZ$91.4m	7/06/2011	7/06/2011	9	BKBM+1.945%	91,370,558	102,395,328	137,056	–	(142,132)
	USPP (2011) US$90m/NZ$114.2m	7/06/2011	7/06/2011	12	BKBM+1.835%	114,213,198	131,329,504	171,320	–	(233,185)
	USPP (2011) US$83m/NZ$105.3m	7/06/2011	7/06/2011	15	BKBM+1.980%	105,329,949	123,233,296	157,995	–	(245,770)
	2011 Wholesale Bond - Fixed rate	20/12/2011	20/12/2011	7	6.31%	65,000,000	65,755,903	97,500	13,139	(65,000)
	2011 Wholesale Bond - Floating rate	20/12/2011	20/12/2011	6	BKBM + 2.60%	35,000,000	35,407,025	52,500	7,075	(20,417)
	USPP(2013) US$25m/NZ$30.4m	23/01/2013	1/11/2012	12	BKBM + 2.20%	30,439,547	34,258,112	45,659	–	(62,147)
	USPP(2013) US$80m/NZ$97.4m	23/01/2013	1/11/2012	15	BKBM + 2.21%	97,406,551	107,871,094	146,110	–	(227,282)
12	NZD USPP(2014) NZ$135m	15/10/2014	3/07/2014	12.5	6.62%	135,000,000	136,055,112	202,500	20,408	(283,500)
	2015 Wholesale Bond - Fixed rate	28/09/2015	16/09/2015	7	4.76%	150,000,000	149,791,398	225,000	22,469	(150,000)
	2016 Wholesale Bond - Fixed rate	15/11/2016	4/11/2016	8	4.67%	100,000,000	100,507,127	150,000	20,101	(131,250)
13	NZD USPP(2017) NZ$125m	16/11/2017	9/08/2017	12	BKBM + 1.84%	125,000,000	124,959,799	187,500	–	(255,208)
14										
15										
16	** include additional rows if needed*						1,111,563,699	1,573,140	83,192	(1,815,892)

17
18 ### 5c(ii): Attribution of Term Credit Spread Differential
19

sch ref			
20	**Gross term credit spread differential**		(159,560)
21			
22	Total book value of interest bearing debt	1,348,094,000	
23	Leverage	44%	
24	Average opening and closing RAB values	1,625,141,622	
25	**Attribution Rate (%)**		53%
26			
27	**Term credit spread differential allowance**		–

Schedule 5d: Cost Allocations

Company Name	**Powerco Limited**
For Year Ended	**31 March 2018**

SCHEDULE 5d: REPORT ON COST ALLOCATIONS

This schedule provides information on the allocation of operational costs. EDBs must provide explanatory comment on their cost allocation in Schedule 14 (Mandatory Explanatory Notes), including on the impact of any reclassifications.
This information is part of audited disclosure information (as defined in section 1.4 of the ID determination), and so is subject to the assurance report required by section 2.8.

sch ref

7 **5d(i): Operating Cost Allocations**

sch ref		Arm's length deduction	Electricity distribution services	Non-electricity distribution services	Total	OVABAA allocation increase ($000s)
8		Value allocated ($000s)				
10	**Service interruptions and emergencies**					
11	Directly attributable		5,759			
12	Not directly attributable	–	–	–	–	–
13	**Total attributable to regulated service**		5,759			
14	**Vegetation management**					
15	Directly attributable		6,309			
16	Not directly attributable	–	–	–	–	–
17	**Total attributable to regulated service**		6,309			
18	**Routine and corrective maintenance and inspection**					
19	Directly attributable		9,312			
20	Not directly attributable	–	–	–	–	–
21	**Total attributable to regulated service**		9,312			
22	**Asset replacement and renewal**					
23	Directly attributable		10,030			
24	Not directly attributable	–	–	–	–	–
25	**Total attributable to regulated service**		10,030			
26	**System operations and network support**					
27	Directly attributable		10,606			
28	Not directly attributable	–	961	130	1,090	–
29	**Total attributable to regulated service**		11,566			
30	**Business support**					
31	Directly attributable		4,300			
32	Not directly attributable	–	23,147	4,336	27,482	–
33	**Total attributable to regulated service**		27,447			
34						
35	**Operating costs directly attributable**		46,315			
36	**Operating costs not directly attributable**	–	24,107	4,465	28,573	–
37	**Operational expenditure**		70,422			
38						

5d(ii): Other Cost Allocations

Pass through and recoverable costs	($000)
Pass through costs	
Directly attributable	–
Not directly attributable	3,477
Total attributable to regulated service	3,477
Recoverable costs	
Directly attributable	125,564
Not directly attributable	–
Total attributable to regulated service	125,564

5d(iii): Changes in Cost Allocations* †

Change in cost allocation 1			CY-1 ($000)	Current Year (CY) ($000)
Cost category		Original allocation		
Original allocator or line items		New allocation		
New allocator or line items		Difference	–	–

Rationale for change

Change in cost allocation 2			CY-1 ($000)	Current Year (CY) ($000)
Cost category		Original allocation		
Original allocator or line items		New allocation		
New allocator or line items		Difference	–	–

Rationale for change

Change in cost allocation 3			CY-1 ($000)	Current Year (CY) ($000)
Cost category		Original allocation		
Original allocator or line items		New allocation		
New allocator or line items		Difference	–	–

Rationale for change

** a change in cost allocation must be completed for each cost allocator change that has occurred in the disclosure year. A movement in an allocator metric is not a change in allocator or component.*

† include additional rows if needed

Schedule 5e: Asset Allocations

Company Name	**Powerco Limited**
For Year Ended	**31 March 2018**

SCHEDULE 5e: REPORT ON ASSET ALLOCATIONS

This schedule requires information on the allocation of asset values. This information supports the calculation of the RAB value in Schedule 4.
EDBs must provide explanatory comment on their cost allocation in Schedule 14 (Mandatory Explanatory Notes), including on the impact of any changes in asset allocations. This information is part of audited disclosure information (as defined in section 1.4 of the ID determination), and so is subject to the assurance report required by section 2.8.

sch ref		
7	**5e(i): Regulated Service Asset Values**	
8		**Value allocated ($000s)**
9		**Electricity distribution services**
10	**Subtransmission lines**	
11	Directly attributable	71,438
12	Not directly attributable	–
13	**Total attributable to regulated service**	71,438
14	**Subtransmission cables**	
15	Directly attributable	30,254
16	Not directly attributable	–
17	**Total attributable to regulated service**	30,254
18	**Zone substations**	
19	Directly attributable	180,064
20	Not directly attributable	–
21	**Total attributable to regulated service**	180,064
22	**Distribution and LV lines**	
23	Directly attributable	421,142
24	Not directly attributable	–
25	**Total attributable to regulated service**	421,142
26	**Distribution and LV cables**	
27	Directly attributable	338,669
28	Not directly attributable	–
29	**Total attributable to regulated service**	338,669
30	**Distribution substations and transformers**	
31	Directly attributable	270,543
32	Not directly attributable	–
33	**Total attributable to regulated service**	270,543
34	**Distribution switchgear**	
35	Directly attributable	154,625
36	Not directly attributable	–
37	**Total attributable to regulated service**	154,625
38	**Other network assets**	
39	Directly attributable	155,706
40	Not directly attributable	–
41	**Total attributable to regulated service**	155,706
42	**Non-network assets**	
43	Directly attributable	9,343
44	Not directly attributable	25,952
45	**Total attributable to regulated service**	35,294
46		
47	**Regulated service asset value directly attributable**	1,631,785
48	**Regulated service asset value not directly attributable**	25,952
49	**Total closing RAB value**	1,657,737
50		

5e(ii): Changes in Asset Allocations* †

			($000)	
Change in asset value allocation 1			**CY-1**	**Current Year (CY)**
Asset category		Original allocation		
Original allocator or line items		New allocation		
New allocator or line items		Difference	–	–
Rationale for change				

			($000)	
Change in asset value allocation 2			**CY-1**	**Current Year (CY)**
Asset category		Original allocation		
Original allocator or line items		New allocation		
New allocator or line items		Difference	–	–
Rationale for change				

			($000)	
Change in asset value allocation 3			**CY-1**	**Current Year (CY)**
Asset category		Original allocation		
Original allocator or line items		New allocation		
New allocator or line items		Difference	–	–
Rationale for change				

** a change in asset allocation must be completed for each allocator or component change that has occurred in the disclosure year. A movement in an allocator metric is not a change in allocator or component.*

† include additional rows if needed

Schedule 6a: Capital Expenditure

Company Name	**Powerco Limited**
For Year Ended	**31 March 2018**

SCHEDULE 6a: REPORT ON CAPITAL EXPENDITURE FOR THE DISCLOSURE YEAR

This schedule requires a breakdown of capital expenditure on assets incurred in the disclosure year, including any assets in respect of which capital contributions are received, but excluding assets that are vested assets. Information on expenditure on assets must be provided on an accounting accruals basis and must exclude finance costs.
EDBs must provide explanatory comment on their expenditure on assets in Schedule 14 (Explanatory Notes to Templates).
This information is part of audited disclosure information (as defined in section 1.4 of the ID determination), and so is subject to the assurance report required by section 2.8.

sch ref				
7		**6a(i): Expenditure on Assets**	**($000)**	**($000)**
8		Consumer connection		34,769
9		System growth		47,647
10		Asset replacement and renewal		62,780
11		Asset relocations		2,675
12		Reliability, safety and environment:		
13		Quality of supply	4,198	
14		Legislative and regulatory	–	
15		Other reliability, safety and environment	1,483	
16		**Total reliability, safety and environment**		5,681
17		**Expenditure on network assets**		153,552
18		Expenditure on non-network assets		20,931
19				
20		**Expenditure on assets**		174,483
21	*plus*	Cost of financing		2,078
22	*less*	Value of capital contributions		23,709
23	*plus*	Value of vested assets		–
24				
25		**Capital expenditure**		152,853
26		**6a(ii): Subcomponents of Expenditure on Assets (where known)**		**($000)**
27		Energy efficiency and demand side management, reduction of energy losses		1,213
28		Overhead to underground conversion		471
29		Research and development		22
30		**6a(iii): Consumer Connection**		
31		*Consumer types defined by EDB**	**($000)**	**($000)**
32		Small	18,729	
33		Commercial	11,323	
34		Industrial	4,717	
35				
36				
37		** include additional rows if needed*		
38		**Consumer connection expenditure**		34,769
39				
40	*less*	Capital contributions funding consumer connection expenditure	22,499	
41		**Consumer connection less capital contributions**		12,270
42		**6a(iv): System Growth and Asset Replacement and Renewal**		**Asset Replacement**
43			**System Growth**	**and Renewal**
44			**($000)**	**($000)**
45		Subtransmission	15,007	6,306
46		Zone substations	9,642	6,464
47		Distribution and LV lines	6,950	30,815
48		Distribution and LV cables	3,350	4,046
49		Distribution substations and transformers	1,014	7,858
50		Distribution switchgear	11,458	2,816
51		Other network assets	226	4,475
52		**System growth and asset replacement and renewal expenditure**	47,647	62,780
53	*less*	Capital contributions funding system growth and asset replacement and renewal	–	6
54		**System growth and asset replacement and renewal less capital contributions**	47,647	62,774
55				
56		**6a(v): Asset Relocations**		
57		*Project or programme**	**($000)**	**($000)**
58		B2B NZTA Project, Tauranga	220	
59		OHUG/Relocation for Cycleway, Whanganui	236	
60		Reconstruction of Omokoroa Road, Western Bay of Plenty	1,345	
61		Cessna Road 33kV cabling, Palmerston North	220	
62				
63		** include additional rows if needed*		
64		All other projects or programmes - asset relocations	654	
65		**Asset relocations expenditure**		2,675
66	*less*	Capital contributions funding asset relocations	1,204	
67		**Asset relocations less capital contributions**		1,472
68				

69		**6a(vi): Quality of Supply**		
70		*Project or programme**	($000)	($000)
71		Automation Projects	3,760	
72				
73				
74				
75				
76				
77		** include additional rows if needed*		
78		All other projects programmes - quality of supply	437	
		Quality of supply expenditure		4,198
79	*less*	Capital contributions funding quality of supply	–	
80		**Quality of supply less capital contributions**		4,198
81		**6a(vii): Legislative and Regulatory**		
82				
83		*Project or programme**	($000)	($000)
84		Nil projects or programmes		
85				
86				
87				
88				
89		** include additional rows if needed*		
90		All other projects or programmes - legislative and regulatory		
		Legislative and regulatory expenditure		–
91	*less*	Capital contributions funding legislative and regulatory		
92		**Legislative and regulatory less capital contributions**		–
93		**6a(viii): Other Reliability, Safety and Environment**		
94				
95		*Project or programme**	($000)	($000)
96		LV Fusing	1,000	
97		Standby Generation	339	
98				
99				
100				
101				
102		** include additional rows if needed*		
		All other projects or programmes - other reliability, safety and environment	144	
		Other reliability, safety and environment expenditure		1,483
103	*less*	Capital contributions funding other reliability, safety and environment	–	
104		**Other reliability, safety and environment less capital contributions**		1,483
105				
106		**6a(ix): Non-Network Assets**		
107		**Routine expenditure**		
108				
109				
110		*Project or programme**	($000)	($000)
111		IT Renewal	1,316	
112		Land and Building leases	7,353	
113		Vehicle leases	820	
114				
115				
116		** include additional rows if needed*		
117		All other projects or programmes - routine expenditure	199	
118		**Routine expenditure**		9,688
119		**Atypical expenditure**		
120		*Project or programme**	($000)	($000)
121		Cybersecurity	671	
122		Enterprise Asset Management System	6,820	
123		Improve Network Operations (OMS/DMS)	710	
124		Network Operations Centre	1,993	
125				
126		** include additional rows if needed*		
		All other projects or programmes - atypical expenditure	1,048	
127		**Atypical expenditure**		11,243
128		**Expenditure on non-network assets**		20,931

Schedule 6b: Operational Expenditure

Company Name **Powerco Limited**
For Year Ended **31 March 2018**

SCHEDULE 6b: REPORT ON OPERATIONAL EXPENDITURE FOR THE DISCLOSURE YEAR

This schedule requires a breakdown of operational expenditure incurred in the disclosure year.
EDBs must provide explanatory comment on their operational expenditure in Schedule 14 (Explanatory notes to templates). This includes explanatory comment on any atypical operational expenditure and assets replaced or renewed as part of asset replacement and renewal operational expenditure, and additional information on insurance.
This information is part of audited disclosure information (as defined in section 1.4 of the ID determination), and so is subject to the assurance report required by section 2.8.

sch ref			
7	**6b(i): Operational Expenditure**	**($000)**	**($000)**
8	Service interruptions and emergencies	5,759	
9	Vegetation management	6,309	
10	Routine and corrective maintenance and inspection	9,312	
11	Asset replacement and renewal	10,030	
12	**Network opex**		31,409
13	System operations and network support	11,566	
14	Business support	27,447	
15	**Non-network opex**		39,013
16			
17	**Operational expenditure**		70,422
18	**6b(ii): Subcomponents of Operational Expenditure (where known)**		
19	Energy efficiency and demand side management, reduction of energy losses		104
20	Direct billing*		–
21	Research and development		74
22	Insurance		1,122
23	** Direct billing expenditure by suppliers that directly bill the majority of their consumers*		

Schedule 7: Forecast v Actual Expenditure

Company Name	**Powerco Limited**
For Year Ended	**31 March 2018**

SCHEDULE 7: COMPARISON OF FORECASTS TO ACTUAL EXPENDITURE

This schedule compares actual revenue and expenditure to the previous forecasts that were made for the disclosure year. Accordingly, this schedule requires the forecast revenue and expenditure information from previous disclosures to be inserted.
EDBs must provide explanatory comment on the variance between actual and target revenue and forecast expenditure in Schedule 14 (Mandatory Explanatory Notes). This information is part of the audited disclosure information (as defined in section 1.4 of the ID determination), and so is subject to the assurance report required by section 2.8. For the purpose of this audit, target revenue and forecast expenditures only need to be verified back to previous disclosures.

sch ref		Target ($000) [1]	Actual ($000)	% variance
7	**7(i): Revenue**			
8	Line charge revenue	390,139	390,821	0.2%
		Forecast ($000) [2]	**Actual ($000)**	**% variance**
9	**7(ii): Expenditure on Assets**			
10	Consumer connection	36,453	34,769	(5%)
11	System growth	50,976	47,647	(7%)
12	Asset replacement and renewal	63,762	62,780	(2%)
13	Asset relocations	2,347	2,675	14%
14	Reliability, safety and environment:			
15	Quality of supply	2,725	4,198	54%
16	Legislative and regulatory	–	–	–
17	Other reliability, safety and environment	1,263	1,483	17%
18	**Total reliability, safety and environment**	3,988	5,681	42%
19	**Expenditure on network assets**	157,526	153,552	(3%)
20	Expenditure on non-network assets	19,658	20,931	6%
21	Expenditure on assets	177,184	174,483	(2%)
22	**7(iii): Operational Expenditure**			
23	Service interruptions and emergencies	7,249	5,759	(21%)
24	Vegetation management	5,631	6,309	12%
25	Routine and corrective maintenance and inspection	9,805	9,312	(5%)
26	Asset replacement and renewal	11,054	10,030	(9%)
27	**Network opex**	33,739	31,409	(7%)
28	System operations and network support	14,243	11,566	(19%)
29	Business support	32,797	27,447	(16%)
30	**Non-network opex**	47,040	39,013	(17%)
31	**Operational expenditure**	80,779	70,422	(13%)
32	**7(iv): Subcomponents of Expenditure on Assets (where known)**			
33	Energy efficiency and demand side management, reduction of energy losses	–	1,213	–
34	Overhead to underground conversion	–	471	–
35	Research and development	–	22	–
36				
37	**7(v): Subcomponents of Operational Expenditure (where known)**			
38	Energy efficiency and demand side management, reduction of energy losses	–	104	–
39	Direct billing	–	–	–
40	Research and development	–	74	–
41	Insurance	–	1,122	–
42				

43 *1 From the nominal dollar target revenue for the disclosure year disclosed under clause 2.4.3(3) of this determination*

44 *2 From the CY+1 nominal dollar expenditure forecasts disclosed in accordance with clause 2.6.6 for the forecast period starting at the beginning of the disclosure year (the second to last disclosure of Schedules 11a and 11b)*

Schedule 8: Billed Quantities and Line Charge Revenue

Company Name	**Powerco Limited**
For Year Ended	**31 March 2018**
Network / Sub-Network Name	**Powerco Limited**

SCHEDULE 8: REPORT ON BILLED QUANTITIES AND LINE CHARGE REVENUES

This schedule requires the billed quantities and associated line charge revenues for each price category code used by the EDB in its pricing schedules. Information is also required on the number of ICPs that are included in each consumer group or price category code, and the energy delivered to these ICPs.

sch ref

8(i): Billed Quantities by Price Component

Billed quantities by price component

Consumer group name or price category code	Consumer type or types (eg, residential, commercial etc.)	Standard or non-standard consumer group (specify)	Average no. of ICPs in disclosure year	Energy delivered to ICPs in disclosure year (MWh)	Price component: Fixed Unit charging basis: ICP days	Fixed kVA of capacity	Variable kWh	Demand kW of Demand - AMD	Demand kW of Demand - OPD	Power Factor kVArh of demand	Fixed Fixture count
Unmetered	Streetlights	Standard	504	14,502	-	-	14,502,302	-	-	-	9,207,856
Small	Commercial	Standard	334,590	2,626,137	117,792,716	-	2,742,915,447	3,667,102	-	-	-
Medium	Commercial	Standard	1,419	252,473	503,173	-	252,473,062	30,527	14,200	45,428	-
Large	Commercial/Industrial	Standard	251	481,398	-	2,794,187	481,397,545	130,821	64,508	99,961	-
Large	Commercial/Industrial	Non-standard	373	1,473,310	118,625	-	1,473,309,876	-	-	154,127	-
Add extra rows for additional consumer groups or price category codes as necessary											
		Standard consumer totals	336,762	3,374,510	118,295,889	2,794,187	3,491,288,356	3,828,451	78,709	145,390	9,207,856
		Non-standard consumer totals	373	1,473,310	118,625	–	1,473,309,876	–	–	154,127	–
		Total for all consumers	337,135	4,847,820	118,414,514	2,794,187	4,964,598,233	3,828,451	78,709	299,516	9,207,856

8(ii): Line Charge Revenues ($000) by Price Component

Line charge revenues ($000) by price component

Consumer group name or price category code	Consumer type or types (eg, residential, commercial etc.)	Standard or non-standard consumer group (specify)	Total line charge revenue in disclosure year	Notional revenue foregone from posted discounts (if applicable)	Total distribution line charge revenue	Total transmission line charge revenue (if available)	Price component: Fixed Rate (eg, $ per day, $ per kWh, etc.): $/ICP/Day	Fixed $/kVA of capacity	Variable $/kWh	Demand $/kW of demand - AMD	Demand $/kVA of demand - OPD	Power Factor $/kVArh of demand	Fixed $/streetlight/day
-	Streetlights	Standard	1,921	-	1,191	730	-	-	349	-	-	-	1,572
Small	Commercial	Standard	292,194	-	208,147	84,046	34,246	-	187,525	70,422	-	-	-
Medium	Commercial	Standard	22,474	-	16,471	6,003	5,852	-	9,937	4,347	2,222	116	-
Large	Commercial/Industrial	Standard	25,693	-	15,476	10,217	-	5,334	122	9,960	10,174	103	-
Large	Commercial/Industrial	Non-standard	48,539	-	22,987	25,552	39,449	-	8,012	-	-	1,079	-
Add extra rows for additional consumer groups or price category codes as necessary													
		Standard consumer totals	$342,282	–	$241,286	$100,996	$40,098	$5,334	$197,934	$84,729	$12,396	$218	$1,572
		Non-standard consumer totals	$48,539	–	$22,987	$25,552	$39,449	–	$8,012	–	–	$1,079	–
		Total for all consumers	$390,821	–	$264,273	$126,548	$79,547	$5,334	$205,946	$84,729	$12,396	$1,297	$1,572

8(iii): Number of ICPs directly billed

Check: OK

Number of directly billed ICPs at year end: 21

Company Name	**Powerco Limited**
For Year Ended	**31 March 2018**
Network / Sub-Network Name	**Western Region**

SCHEDULE 8: REPORT ON BILLED QUANTITIES AND LINE CHARGE REVENUES

This schedule requires the billed quantities and associated line charge revenues for each price category code used by the EDB in its pricing schedules. Information is also required on the number of ICPs that are included in each consumer group or price category code, and the energy delivered to these ICPs.

sch ref

8(i): Billed Quantities by Price Component

					Billed quantities by price component						
				Price component	Fixed	Fixed	Variable	Demand	Demand	Power Factor	Fixed
Consumer group name or price category code	**Consumer type or types (eg, residential, commercial etc.)**	**Standard or non-standard consumer group (specify)**	**Average no. of ICPs in disclosure year**	**Energy delivered to ICPs in disclosure year (MWh)** / **Unit charging basis (eg, days, kW of demand, kVA of capacity, etc.)**	ICP Days	kVA of Capacity	kWh	kW of Demand - AMD	kW of Demand - OPD	kVArh of Demand	Fixture Count
					-	-	-	-	-	-	-
E1	Commercial	Standard	178607	1439349.453	62,249,710	-	1,556,128,053	3,667,102	-	-	-
E100	Commercial	Standard	221	96005.16335	79,844	-	96,005,163	30,527	14,200	33,709	-
E300/E300R	Commercial/Industrial	Standard	243	479270.4725	-	2,755,100	479,270,473	130,821	64,508	99,526	-
Special	Commercial/Industrial	Non-standard	33.5	230655.5763	6,023	-	230,655,576	-	-	19,796	-
Add extra rows for additional consumer groups or price category codes as necessary											
		Standard consumer totals	179,071	2,014,625	62,329,554	2,755,100	2,131,403,689	3,828,451	78,709	133,236	–
		Non-standard consumer totals	34	230,656	6,023	–	230,655,576	–	–	19,796	–
		Total for all consumers	179,105	2,245,281	62,335,577	2,755,100	2,362,059,265	3,828,451	78,709	153,031	–

8(ii): Line Charge Revenues ($000) by Price Component

								Line charge revenues ($000) by price component						
							Price component	Fixed	Fixed	Variable	Demand	Demand	Power Factor	Fixed
Consumer group name or price category code	**Consumer type or types (eg, residential, commercial etc.)**	**Standard or non-standard consumer group (specify)**	**Total line charge revenue in disclosure year**	**Notional revenue foregone from posted discounts (if applicable)**	**Total distribution line charge revenue**	**Total transmission line charge revenue (if available)**	**Rate (eg, $ per day, $ per kWh, etc.)**	$/ICP/Day	$/kVA of capacity	$/kWh	$/kW of demand - AMD	$/kVA of demand - OPD	$/kVArh of demand	$/streetlight/day
			–	-				-	-	-	-	-	-	-
E1	Commercial	Standard	$158,813	-	114,923	43,890		4,976	-	83,415	70,422	-	-	-
E100	Commercial	Standard	$7,372	-	5,150	2,222		770	-	-	4,347	2,222	34	-
E300/E300R	Commercial/Industrial	Standard	$25,482	-	15,308	10,174		-	5,249	-	9,960	10,174	100	-
Special	Commercial/Industrial	Non-standard	$8,259	-	3,828	4,431		8,120	-	-	-	-	139	-
			–	-				-	-	-	-	-	-	-
			–											
			–											
			–											
			–											
Add extra rows for additional consumer groups or price category codes as necessary														
		Standard consumer totals	$191,668	–	$135,382	$56,286		$5,746	$5,249	$83,415	$84,729	$12,396	$133	–
		Non-standard consumer totals	$8,259	–	$3,828	$4,431		$8,120	–	–	–	–	$139	–
		Total for all consumers	$199,927	–	$139,210	$60,717		$13,866	$5,249	$83,415	$84,729	$12,396	$272	–

8(iii): Number of ICPs directly billed

Check OK

Number of directly billed ICPs at year end	12

Company Name	**Powerco Limited**
For Year Ended	**31 March 2018**
Network / Sub-Network Name	**Eastern Region**

SCHEDULE 8: REPORT ON BILLED QUANTITIES AND LINE CHARGE REVENUES

This schedule requires the billed quantities and associated line charge revenues for each price category code used by the EDB in its pricing schedules. Information is also required on the number of ICPs that are included in each consumer group or price category code, and the energy delivered to these ICPs.

sch ref

8 ### 8(i): Billed Quantities by Price Component

sch ref	Consumer group name or price category code	Consumer type or types (eg, residential, commercial etc.)	Standard or non-standard consumer group (specify)	Average no. of ICPs in disclosure year	Energy delivered to ICPs in disclosure year (MWh)	Billed quantities by price component — Price component: Fixed; Unit charging basis: ICP days	Fixed; kVA of capacity	Variable; kWh	Demand; kW of Demand - AMD	Demand; kW of Demand - OPD	Power Factor; kVArh of demand	Fixed; Fixture count
15	V01, V02, T01, T02	Streetlights	Standard	504	14,502	-	-	14,502,302	-	-	-	9,207,856
16	V05, V06, T05, T06	Commercial	Standard	155,983	1,186,787	55,543,006	-	1,186,787,394	-	-	-	-
17	V24, V28, T22, T24, T41	Commercial	Standard	1,198	156,468	423,329	-	156,467,898	-	-	11,719	-
18	T43	Commercial/Industrial	Standard	8	2,127	-	39,087	2,127,072	-	-	435	-
19	V40, T50, V60, T60	Commercial/Industrial	Non-standard	339	1,242,654	112,603	-	1,242,654,300	-	-	134,331	-
20												
21												
22												
23												
24												
25	*Add extra rows for additional consumer groups or price category codes as necessary*											
26			**Standard consumer totals**	157,691	1,359,885	55,966,335	39,087	1,359,884,667	–	–	12,154	9,207,856
27			**Non-standard consumer totals**	339	1,242,654	112,603	–	1,242,654,300	–	–	134,331	–
28			**Total for all consumers**	158,030	2,602,539	56,078,937	39,087	2,602,538,967	–	–	146,485	9,207,856

31 ### 8(ii): Line Charge Revenues ($000) by Price Component

sch ref	Consumer group name or price category code	Consumer type or types (eg, residential, commercial etc.)	Standard or non-standard consumer group (specify)	Total line charge revenue in disclosure year	Notional revenue foregone from posted discounts (if applicable)	Total distribution line charge revenue	Total transmission line charge revenue (if available)	Line charge revenues ($000) by price component — Price component: Fixed; Rate (eg, $ per day, $ per kWh, etc.): $/ICP/Day	Fixed; $/kVA of capacity	Variable; $/kWh	Demand; $/kW of demand - AMD	Demand; $/kVA of demand - OPD	Power Factor; $/kVArh of demand	Fixed; $/streetlight/day
37	V01, V02, T01, T02	Streetlights	Standard	$1,921	-	1,191	730	-	-	349	-	-	-	1,572
38	V05, V06, T05, T06	Commercial	Standard	$133,381	-	93,224	40,156	29,270	-	104,110	-	-	-	-
39	V24, V28, T22, T24, T41	Commercial	Standard	$15,102	-	11,321	3,781	5,082	-	9,937	-	-	82	-
40	T43	Commercial/Industrial	Standard	$211	-	168	43	-	85	122	-	-	3	-
41	V40, T50, V60, T60	Commercial/Industrial	Non-standard	$40,281	-	19,160	21,121	31,328	-	8,012	-	-	940	-
42				–										
43				–										
44				–										
45				–										
46				–										
47	*Add extra rows for additional consumer groups or price category codes as necessary*													
48			**Standard consumer totals**	$150,614	–	$105,904	$44,710	$34,353	$85	$114,519	–	–	$85	$1,572
49			**Non-standard consumer totals**	$40,281	–	$19,160	$21,121	$31,328	–	$8,012	–	–	$940	–
50			**Total for all consumers**	$190,894	–	$125,063	$65,831	$65,681	$85	$122,531	–	–	$1,025	$1,572

52 ### 8(iii): Number of ICPs directly billed

Check OK

53 **Number of directly billed ICPs at year end** 9

Schedule 9a: Asset Register

Company Name	Powerco Limited
For Year Ended	31 March 2018
Network / Sub-network Name	Powerco Limited

SCHEDULE 9a: ASSET REGISTER

This schedule requires a summary of the quantity of assets that make up the network, by asset category and asset class. All units relating to cable and line assets, that are expressed in km, refer to circuit lengths.

sch ref	Voltage	Asset category	Asset class	Units	Items at start of year (quantity)	Items at end of year (quantity)	Net change	Data accuracy (1–4)
8								
9	All	Overhead Line	Concrete poles / steel structure	No.	223,957	225,484	1,527	4
10	All	Overhead Line	Wood poles	No.	36,809	35,130	(1,679)	3
11	All	Overhead Line	Other pole types	No.	4,908	4,789	(119)	2
12	HV	Subtransmission Line	Subtransmission OH up to 66kV conductor	km	1,513	1,509	(3)	4
13	HV	Subtransmission Line	Subtransmission OH 110kV+ conductor	km	-	-	–	4
14	HV	Subtransmission Cable	Subtransmission UG up to 66kV (XLPE)	km	140	149	10	3
15	HV	Subtransmission Cable	Subtransmission UG up to 66kV (Oil pressurised)	km	19	13	(5)	4
16	HV	Subtransmission Cable	Subtransmission UG up to 66kV (Gas pressurised)	km	-	-	–	4
17	HV	Subtransmission Cable	Subtransmission UG up to 66kV (PILC)	km	6	6	(0)	4
18	HV	Subtransmission Cable	Subtransmission UG 110kV+ (XLPE)	km	-	-	–	4
19	HV	Subtransmission Cable	Subtransmission UG 110kV+ (Oil pressurised)	km	-	-	–	4
20	HV	Subtransmission Cable	Subtransmission UG 110kV+ (Gas Pressurised)	km	-	-	–	4
21	HV	Subtransmission Cable	Subtransmission UG 110kV+ (PILC)	km	-	-	–	4
22	HV	Subtransmission Cable	Subtransmission submarine cable	km	-	-	–	4
23	HV	Zone substation Buildings	Zone substations up to 66kV	No.	135	141	6	2
24	HV	Zone substation Buildings	Zone substations 110kV+	No.	-	-	–	4
25	HV	Zone substation switchgear	50/66/110kV CB (Indoor)	No.	-	-	–	4
26	HV	Zone substation switchgear	50/66/110kV CB (Outdoor)	No.	18	19	1	4
27	HV	Zone substation switchgear	33kV Switch (Ground Mounted)	No.	22	29	7	3
28	HV	Zone substation switchgear	33kV Switch (Pole Mounted)	No.	879	856	(23)	3
29	HV	Zone substation switchgear	33kV RMU	No.	6	6	–	4
30	HV	Zone substation switchgear	22/33kV CB (Indoor)	No.	119	124	5	3
31	HV	Zone substation switchgear	22/33kV CB (Outdoor)	No.	192	193	1	3
32	HV	Zone substation switchgear	3.3/6.6/11/22kV CB (ground mounted)	No.	805	841	36	3
33	HV	Zone substation switchgear	3.3/6.6/11/22kV CB (pole mounted)	No.	50	49	(1)	3
34	HV	Zone Substation Transformer	Zone Substation Transformers	No.	211	210	(1)	3
35	HV	Distribution Line	Distribution OH Open Wire Conductor	km	14,741	14,728	(13)	4
36	HV	Distribution Line	Distribution OH Aerial Cable Conductor	km	-	-	–	4
37	HV	Distribution Line	SWER conductor	km	79	79	–	4
38	HV	Distribution Cable	Distribution UG XLPE or PVC	km	1,800	1,833	33	3
39	HV	Distribution Cable	Distribution UG PILC	km	209	207	(2)	3
40	HV	Distribution Cable	Distribution Submarine Cable	km	11	11	(0)	4
41	HV	Distribution switchgear	3.3/6.6/11/22kV CB (pole mounted) - reclosers and sectionalisers	No.	614	643	29	3
42	HV	Distribution switchgear	3.3/6.6/11/22kV CB (Indoor)	No.	397	399	2	3
43	HV	Distribution switchgear	3.3/6.6/11/22kV Switches and fuses (pole mounted)	No.	38,516	38,636	120	3
44	HV	Distribution switchgear	3.3/6.6/11/22kV Switch (ground mounted) - except RMU	No.	2,414	2,269	(145)	3
45	HV	Distribution switchgear	3.3/6.6/11/22kV RMU	No.	2,214	2,408	194	3
46	HV	Distribution Transformer	Pole Mounted Transformer	No.	26,512	26,798	286	3
47	HV	Distribution Transformer	Ground Mounted Transformer	No.	8,173	8,272	99	3
48	HV	Distribution Transformer	Voltage regulators	No.	120	119	(1)	3
49	HV	Distribution Substations	Ground Mounted Substation Housing	No.	4,135	4,123	(12)	2
50	LV	LV Line	LV OH Conductor	km	5,405	5,385	(20)	3
51	LV	LV Cable	LV UG Cable	km	4,113	4,195	81	3
52	LV	LV Street lighting	LV OH/UG Streetlight circuit	km	2,871	2,931	60	2
53	LV	Connections	OH/UG consumer service connections	No.	269,880	276,953	7,073	2
54	All	Protection	Protection relays (electromechanical, solid state and numeric)	No.	2,328	2,346	18	3
55	All	SCADA and communications	SCADA and communications equipment operating as a single system	Lot	1	1	–	4
56	All	Capacitor Banks	Capacitors including controls	No	46	47	1	4
57	All	Load Control	Centralised plant	Lot	37	36	(1)	3
58	All	Load Control	Relays	No	2,393	2,607	214	3
59	All	Civils	Cable Tunnels	km	-	-	–	4

Not all assets on Powerco's network are reported in this schedule. The Commerce Commission have advised that if assets do not clearly fit into one of the categories in schedule 9a they should be excluded from the schedule.

Company Name	**Powerco Limited**
For Year Ended	**31 March 2018**
Network / Sub-network Name	**Western Region**

SCHEDULE 9a: ASSET REGISTER

This schedule requires a summary of the quantity of assets that make up the network, by asset category and asset class. All units relating to cable and line assets, that are expressed in km, refer to circuit lengths.

sch ref

	Voltage	Asset category	Asset class	Units	Items at start of year (quantity)	Items at end of year (quantity)	Net change	Data accuracy (1–4)
8								
9	All	Overhead Line	Concrete poles / steel structure	No.	143,577	144,914	1,337	4
10	All	Overhead Line	Wood poles	No.	31,877	30,412	(1,465)	3
11	All	Overhead Line	Other pole types	No.	2,014	1,971	(43)	2
12	HV	Subtransmission	Subtransmission OH up to 66kV conductor	km	969	965	(3)	4
13	HV	Subtransmission	Subtransmission OH 110kV+ conductor	km	-	-	–	4
14	HV	Subtransmission	Subtransmission UG up to 66kV (XLPE)	km	45	50	5	3
15	HV	Subtransmission	Subtransmission UG up to 66kV (Oil pressurised)	km	19	13	(5)	4
16	HV	Subtransmission	Subtransmission UG up to 66kV (Gas pressurised)	km	-	-	–	4
17	HV	Subtransmission	Subtransmission UG up to 66kV (PILC)	km	6	6	(0)	4
18	HV	Subtransmission	Subtransmission UG 110kV+ (XLPE)	km	-	-	–	4
19	HV	Subtransmission	Subtransmission UG 110kV+ (Oil pressurised)	km	-	-	–	4
20	HV	Subtransmission	Subtransmission UG 110kV+ (Gas Pressurised)	km	-	-	–	4
21	HV	Subtransmission	Subtransmission UG 110kV+ (PILC)	km	-	-	–	4
22	HV	Subtransmission	Subtransmission submarine cable	km	-	-	–	4
23	HV	Zone substation B	Zone substations up to 66kV	No.	77	81	4	2
24	HV	Zone substation B	Zone substations 110kV+	No.	-	-	–	4
25	HV	Zone substation s	50/66/110kV CB (Indoor)	No.	-	-	–	4
26	HV	Zone substation s	50/66/110kV CB (Outdoor)	No.	-	-	–	4
27	HV	Zone substation s	33kV Switch (Ground Mounted)	No.	11	5	(6)	3
28	HV	Zone substation s	33kV Switch (Pole Mounted)	No.	541	529	(12)	3
29	HV	Zone substation s	33kV RMU	No.	5	5	–	4
30	HV	Zone substation s	22/33kV CB (Indoor)	No.	65	70	5	3
31	HV	Zone substation s	22/33kV CB (Outdoor)	No.	106	107	1	3
32	HV	Zone substation s	3.3/6.6/11/22kV CB (ground mounted)	No.	450	478	28	3
33	HV	Zone substation s	3.3/6.6/11/22kV CB (pole mounted)	No.	49	49	–	3
34	HV	Zone Substation T	Zone Substation Transformers	No.	117	117	–	3
35	HV	Distribution Line	Distribution OH Open Wire Conductor	km	10,107	10,095	(12)	4
36	HV	Distribution Line	Distribution OH Aerial Cable Conductor	km	-	-	–	4
37	HV	Distribution Line	SWER conductor	km	17	17	–	4
38	HV	Distribution Cabl	Distribution UG XLPE or PVC	km	615	622	6	3
39	HV	Distribution Cabl	Distribution UG PILC	km	101	100	(1)	3
40	HV	Distribution Cabl	Distribution Submarine Cable	km	-	-	–	4
41	HV	Distribution swit	3.3/6.6/11/22kV CB (pole mounted) - reclosers and secti	No.	322	327	5	3
42	HV	Distribution swit	3.3/6.6/11/22kV CB (Indoor)	No.	197	198	1	3
43	HV	Distribution swit	3.3/6.6/11/22kV Switches and fuses (pole mounted)	No.	23,671	23,761	90	3
44	HV	Distribution swit	3.3/6.6/11/22kV Switch (ground mounted) - except RMU	No.	1,006	894	(112)	3
45	HV	Distribution swit	3.3/6.6/11/22kV RMU	No.	911	1,005	94	3
46	HV	Distribution Tran	Pole Mounted Transformer	No.	17,251	17,328	77	3
47	HV	Distribution Tran	Ground Mounted Transformer	No.	3,203	3,232	29	3
48	HV	Distribution Tran	Voltage regulators	No.	70	69	(1)	3
49	HV	Distribution Subs	Ground Mounted Substation Housing	No.	1,640	1,631	(9)	2
50	LV	LV Line	LV OH Conductor	km	3,467	3,460	(7)	3
51	LV	LV Cable	LV UG Cable	km	2,193	2,218	25	3
52	LV	LV Street lighting	LV OH/UG Streetlight circuit	km	1,355	1,355	1	2
53	LV	Connections	OH/UG consumer service connections	No.	147,305	150,521	3,216	2
54	All	Protection	Protection relays (electromechanical, solid state and nu	No.	1,225	1,241	16	3
55	All	SCADA and comm	SCADA and communications equipment operating as a s	Lot	1	1	–	4
56	All	Capacitor Banks	Capacitors including controls	No	4	4	–	4
57	All	Load Control	Centralised plant	Lot	25	25	–	3
58	All	Load Control	Relays	No	1,203	1,255	52	3
59	All	Civils	Cable Tunnels	km	-	-	–	4

Not all assets on Powerco’s network are reported in this schedule. The Commerce Commission have advised that if assets do not clearly fit into one of the categories in schedule 9a they should be excluded from the schedule.

Company Name	**Powerco Limited**
For Year Ended	**31 March 2018**
Network / Sub-network Name	**Eastern Region**

SCHEDULE 9a: ASSET REGISTER

This schedule requires a summary of the quantity of assets that make up the network, by asset category and asset class. All units relating to cable and line assets, that are expressed in km, refer to circuit lengths.

sch ref

	Voltage	Asset category	Asset class	Units	Items at start of year (quantity)	Items at end of year (quantity)	Net change	Data accuracy (1–4)
8								
9	All	Overhead Line	Concrete poles / steel structure	No.	80,380	80,570	190	4
10	All	Overhead Line	Wood poles	No.	4,932	4,718	(214)	3
11	All	Overhead Line	Other pole types	No.	2,894	2,818	(76)	2
12	HV	Subtransmission Line	Subtransmission OH up to 66kV conductor	km	544	544	(0)	4
13	HV	Subtransmission Line	Subtransmission OH 110kV+ conductor	km	-	-	–	4
14	HV	Subtransmission Cable	Subtransmission UG up to 66kV (XLPE)	km	95	99	5	3
15	HV	Subtransmission Cable	Subtransmission UG up to 66kV (Oil pressurised)	km	-	-	–	4
16	HV	Subtransmission Cable	Subtransmission UG up to 66kV (Gas pressurised)	km	-	-	–	4
17	HV	Subtransmission Cable	Subtransmission UG up to 66kV (PILC)	km	0	0	–	4
18	HV	Subtransmission Cable	Subtransmission UG 110kV+ (XLPE)	km	-	-	–	4
19	HV	Subtransmission Cable	Subtransmission UG 110kV+ (Oil pressurised)	km	-	-	–	4
20	HV	Subtransmission Cable	Subtransmission UG 110kV+ (Gas Pressurised)	km	-	-	–	4
21	HV	Subtransmission Cable	Subtransmission UG 110kV+ (PILC)	km	-	-	–	4
22	HV	Subtransmission Cable	Subtransmission submarine cable	km	-	-	–	4
23	HV	Zone substation Buildings	Zone substations up to 66kV	No.	58	60	2	2
24	HV	Zone substation Buildings	Zone substations 110kV+	No.	-	-	–	4
25	HV	Zone substation switchgear	50/66/110kV CB (Indoor)	No.	-	-	–	4
26	HV	Zone substation switchgear	50/66/110kV CB (Outdoor)	No.	18	19	1	4
27	HV	Zone substation switchgear	33kV Switch (Ground Mounted)	No.	11	24	13	3
28	HV	Zone substation switchgear	33kV Switch (Pole Mounted)	No.	338	327	(11)	3
29	HV	Zone substation switchgear	33kV RMU	No.	1	1	–	4
30	HV	Zone substation switchgear	22/33kV CB (Indoor)	No.	54	54	–	3
31	HV	Zone substation switchgear	22/33kV CB (Outdoor)	No.	86	86	–	3
32	HV	Zone substation switchgear	3.3/6.6/11/22kV CB (ground mounted)	No.	355	363	8	3
33	HV	Zone substation switchgear	3.3/6.6/11/22kV CB (pole mounted)	No.	1	-	(1)	3
34	HV	Zone Substation Transformer	Zone Substation Transformers	No.	94	93	(1)	3
35	HV	Distribution Line	Distribution OH Open Wire Conductor	km	4,634	4,633	(1)	4
36	HV	Distribution Line	Distribution OH Aerial Cable Conductor	km	-	-	–	4
37	HV	Distribution Line	SWER conductor	km	61	61	–	4
38	HV	Distribution Cable	Distribution UG XLPE or PVC	km	1,184	1,211	27	3
39	HV	Distribution Cable	Distribution UG PILC	km	108	107	(1)	3
40	HV	Distribution Cable	Distribution Submarine Cable	km	11	11	(0)	4
41	HV	Distribution switchgear	3.3/6.6/11/22kV CB (pole mounted) - reclosers and sec	No.	292	316	24	3
42	HV	Distribution switchgear	3.3/6.6/11/22kV CB (Indoor)	No.	200	201	1	3
43	HV	Distribution switchgear	3.3/6.6/11/22kV Switches and fuses (pole mounted)	No.	14,845	14,875	30	3
44	HV	Distribution switchgear	3.3/6.6/11/22kV Switch (ground mounted) - except RM	No.	1,408	1,375	(33)	3
45	HV	Distribution switchgear	3.3/6.6/11/22kV RMU	No.	1,303	1,403	100	3
46	HV	Distribution Transformer	Pole Mounted Transformer	No.	9,261	9,470	209	3
47	HV	Distribution Transformer	Ground Mounted Transformer	No.	4,970	5,040	70	3
48	HV	Distribution Transformer	Voltage regulators	No.	50	50	–	3
49	HV	Distribution Substations	Ground Mounted Substation Housing	No.	2,495	2,492	(3)	2
50	LV	LV Line	LV OH Conductor	km	1,937	1,925	(13)	3
51	LV	LV Cable	LV UG Cable	km	1,920	1,977	57	3
52	LV	LV Street lighting	LV OH/UG Streetlight circuit	km	1,516	1,576	59	2
53	LV	Connections	OH/UG consumer service connections	No.	122,575	126,432	3,857	2
54	All	Protection	Protection relays (electromechanical, solid state and r	No.	1,103	1,105	2	3
55	All	SCADA and communications	SCADA and communications equipment operating as a	Lot	1	1	–	4
56	All	Capacitor Banks	Capacitors including controls	No	42	43	1	4
57	All	Load Control	Centralised plant	Lot	12	11	(1)	3
58	All	Load Control	Relays	No	1,190	1,352	162	3
59	All	Civils	Cable Tunnels	km	-	-	–	4

Not all assets on Powerco's network are reported in this schedule. The Commerce Commission have advised that if assets do not clearly fit into one of the categories in schedule 9a they should be excluded from the schedule.

Schedule 9b: Asset Age Profile

Company Name	Powerco Limited
For Year Ended	31 March 2018
Network / Sub-network Name	Powerco Limited

SCHEDULE 9b: ASSET AGE PROFILE

This schedule requires a summary of the age profile (based on year of installation) of the assets that make up the network, by asset category and asset class. All units relating to cable and line assets, that are expressed in km, refer to circuit lengths.

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8 Disclosure Year (year ended): 31 March 2018

Number of assets at disclosure year end by installation date

9	Voltage	Asset category	Asset class	Units	pre-1940	1940–1949	1950–1959	1960–1969	1970–1979	1980–1989	1990–1999	2000	2001	2002
10	All	Overhead Line	Concrete poles / steel structure	No.	18	894	5,218	32,677	57,048	50,884	27,344	3,402	3,198	2,125
11	All	Overhead Line	Wood poles	No.	29	41	905	6,764	9,001	7,587	8,085	423	264	387
12	All	Overhead Line	Other pole types	No.	–	–	2	14	4,260	24	54	16	67	40
13	HV	Subtransmission Line	Subtransmission OH up to 66kV conductor	km	–	10	94	342	355	304	229	9	0	3
14	HV	Subtransmission Line	Subtransmission OH 110kV+ conductor	km	–	–	–	–	–	–	–	–	–	–
15	HV	Subtransmission Cable	Subtransmission UG up to 66kV (XLPE)	km	–	–	–	0	20	7	22	7	1	6
16	HV	Subtransmission Cable	Subtransmission UG up to 66kV (Oil pressurised)	km	–	–	–	13	–	0	–	0	–	–
17	HV	Subtransmission Cable	Subtransmission UG up to 66kV (Gas pressurised)	km	–	–	–	–	–	–	–	–	–	–
18	HV	Subtransmission Cable	Subtransmission UG up to 66kV (PILC)	km	–	–	–	1	1	4	0	–	–	–
19	HV	Subtransmission Cable	Subtransmission UG 110kV+ (XLPE)	km	–	–	–	–	–	–	–	–	–	–
20	HV	Subtransmission Cable	Subtransmission UG 110kV+ (Oil pressurised)	km	–	–	–	–	–	–	–	–	–	–
21	HV	Subtransmission Cable	Subtransmission UG 110kV+ (Gas Pressurised)	km	–	–	–	–	–	–	–	–	–	–
22	HV	Subtransmission Cable	Subtransmission UG 110kV+ (PILC)	km	–	–	–	–	–	–	–	–	–	–
23	HV	Subtransmission Cable	Subtransmission submarine cable	km	–	–	–	–	–	–	–	–	–	–
24	HV	Zone substation Buildings	Zone substations up to 66kV	No.	–	–	1	5	52	13	13	–	–	–
25	HV	Zone substation Buildings	Zone substations 110kV+	No.	–	–	–	–	–	–	–	–	–	–
26	HV	Zone substation switchgear	50/66/110kV CB (Indoor)	No.	–	–	–	–	–	–	–	–	–	–
27	HV	Zone substation switchgear	50/66/110kV CB (Outdoor)	No.	–	–	–	–	2	4	1	–	–	–
28	HV	Zone substation switchgear	33kV Switch (Ground Mounted)	No.	–	–	–	–	–	2	–	–	–	–
29	HV	Zone substation switchgear	33kV Switch (Pole Mounted)	No.	–	–	–	164	159	195	110	10	6	2
30	HV	Zone substation switchgear	33kV RMU	No.	–	–	–	–	–	1	–	–	–	–
31	HV	Zone substation switchgear	22/33kV CB (Indoor)	No.	–	–	–	–	–	–	23	–	–	–
32	HV	Zone substation switchgear	22/33kV CB (Outdoor)	No.	–	–	1	28	30	34	24	5	1	1
33	HV	Zone substation switchgear	3.3/6.6/11/22kV CB (ground mounted)	No.	–	–	–	90	179	96	111	4	9	–
34	HV	Zone substation switchgear	3.3/6.6/11/22kV CB (pole mounted)	No.	–	–	–	2	–	2	10	–	–	–
35	HV	Zone Substation Transformer	Zone Substation Transformers	No.	–	–	6	48	71	28	8	2	2	2
36	HV	Distribution Line	Distribution OH Open Wire Conductor	km	81	109	1,364	2,971	3,502	3,554	1,469	46	72	104
37	HV	Distribution Line	Distribution OH Aerial Cable Conductor	km	–	–	–	–	–	–	–	–	–	–
38	HV	Distribution Line	SWER conductor	km	–	–	0	14	30	11	7	–	–	–
39	HV	Distribution Cable	Distribution UG XLPE or PVC	km	–	0	5	33	212	413	299	49	42	26
40	HV	Distribution Cable	Distribution UG PILC	km	–	–	1	25	70	72	21	2	3	3
41	HV	Distribution Cable	Distribution Submarine Cable	km	–	–	–	–	–	2	7	–	–	–
42	HV	Distribution switchgear	3.3/6.6/11/22kV CB (pole mounted) - reclosers and sectionalisers	No.	–	–	–	1	29	34	39	4	9	13
43	HV	Distribution switchgear	3.3/6.6/11/22kV CB (Indoor)	No.	–	–	10	64	137	57	55	3	1	–
44	HV	Distribution switchgear	3.3/6.6/11/22kV Switches and fuses (pole mounted)	No.	16	18	647	2,424	7,054	6,124	5,289	441	1,028	971
45	HV	Distribution switchgear	3.3/6.6/11/22kV Switch (ground mounted) - except RMU	No.	–	3	11	123	571	445	317	26	35	33
46	HV	Distribution switchgear	3.3/6.6/11/22kV RMU	No.	–	–	3	44	149	184	282	36	66	40
47	HV	Distribution Transformer	Pole Mounted Transformer	No.	24	29	756	2,597	3,748	3,880	4,431	461	450	501
48	HV	Distribution Transformer	Ground Mounted Transformer	No.	1	7	56	379	1,115	1,466	1,167	174	174	162
49	HV	Distribution Transformer	Voltage regulators	No.	–	1	1	2	8	3	11	1	1	4
50	HV	Distribution Substations	Ground Mounted Substation Housing	No.	2	–	3	140	990	1,342	841	92	79	63
51	LV	LV Line	LV OH Conductor	km	1	57	316	1,411	1,667	1,051	450	42	34	26
52	LV	LV Cable	LV UG Cable	km	0	0	8	146	1,065	900	711	59	59	49
53	LV	LV Street lighting	LV OH/UG Streetlight circuit	km	–	15	92	363	847	530	413	42	40	25
54	LV	Connections	OH/UG consumer service connections	No.	24	193	2,223	15,540	116,238	46,172	31,380	2,900	2,817	2,347
55	All	Protection	Protection relays (electromechanical, solid state and numeric)	No.	–	–	–	118	451	239	158	72	6	9
56	All	SCADA and communications	SCADA and communications equipment operating as a single system	Lot	–	–	–	–	–	–	–	–	–	–
57	All	Capacitor Banks	Capacitors including controls	No	–	–	–	–	1	1	29	2	–	–
58	All	Load Control	Centralised plant	Lot	–	–	–	–	4	5	8	–	1	–
59	All	Load Control	Relays	No	–	–	9	21	1,161	166	123	49	21	25
60	All	Civils	Cable Tunnels	km	–	–	–	–	–	–	–	–	–	–

9	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	No. with age unknown	Items at end of year (quantity)	No. with default dates	Data accuracy (1–4)
10	2,367	1,954	1,839	1,904	2,188	2,453	2,852	2,588	2,251	2,443	3,336	3,430	3,393	4,235	3,751	1,692	–	225,484	6,985	3
11	439	313	243	148	193	97	71	90	31	3	3	2	3	–	1	7	–	35,130	1,879	3
12	40	40	50	67	34	29	24	7	10	2	8	1	–	–	–	–	–	4,789	4,204	2
13	2	2	14	2	9	4	11	3	34	17	1	15	0	11	28	10	–	1,509	0	3
14	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
15	1	1	1	2	5	2	7	7	19	6	5	1	2	2	17	10	–	149	4	4
16	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	13	–	4
17	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
18	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0	–	–	6	–	4
19	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
20	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
21	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
22	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
23	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
24	–	2	29	2	6	1	1	1	3	2	3	3	1	3	–	–	–	141	43	2
25	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
26	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
27	–	2	1	1	4	–	–	–	1	–	–	–	3	–	–	–	–	19	–	2
28	–	3	1	–	–	–	1	–	–	–	5	–	7	3	7	–	–	29	–	2
29	4	6	10	1	11	10	16	15	14	25	22	6	22	35	9	4	–	856	18	2
30	–	–	–	2	–	–	2	–	–	1	–	–	–	–	–	–	–	6	–	2
31	–	–	–	6	6	6	5	24	13	–	9	8	4	19	1	–	–	124	–	2
32	1	1	5	3	4	5	4	1	2	3	4	7	9	7	8	5	–	193	6	2
33	7	19	10	17	36	18	27	14	20	20	29	50	20	48	16	1	–	841	49	2
34	2	–	1	–	2	–	4	3	–	4	–	4	7	–	8	–	–	49	–	3
35	2	–	7	2	4	–	6	2	1	5	6	3	5	–	–	–	–	210	19	2
36	80	78	70	85	83	68	86	84	67	98	133	120	117	118	120	50	–	14,728	25	3
37	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
38	5	–	–	–	0	1	0	0	–	–	–	10	–	–	0	–	–	79	–	3
39	30	41	48	57	59	60	53	48	41	39	40	41	56	49	50	40	–	1,833	50	3
40	3	1	1	2	2	0	0	0	0	0	0	0	0	–	0	–	–	207	6	3
41	–	–	–	–	–	–	1	–	–	–	–	–	–	0	0	–	–	11	–	3
42	7	19	20	17	11	17	25	24	21	28	34	39	54	94	66	38	–	643	26	2
43	–	5	4	8	1	2	3	11	9	4	9	4	7	4	1	–	–	399	46	2
44	691	748	951	725	833	796	804	795	706	804	856	1,167	1,293	1,399	1,503	553	–	38,636	470	2
45	42	74	62	80	75	49	68	42	45	36	27	13	18	15	52	7	–	2,269	28	2
46	56	62	81	115	122	112	103	77	77	91	90	105	133	146	166	68	–	2,408	19	3
47	578	665	724	690	570	738	664	551	503	548	552	684	686	675	741	352	–	26,798	27	4
48	159	258	277	358	294	286	237	169	165	183	134	207	291	243	225	85	–	8,272	11	4
49	2	3	4	8	2	15	3	5	3	6	4	10	8	9	5	–	–	119	6	4
50	112	113	42	30	33	42	26	25	12	14	13	21	19	16	14	39	–	4,123	3	3
51	29	25	21	22	24	26	19	16	16	13	21	21	17	22	21	16	–	5,385	46	2
52	56	96	110	114	132	127	113	58	44	40	37	47	48	67	81	26	–	4,195	305	2
53	26	68	70	61	59	50	54	30	23	18	13	13	17	26	27	8	–	2,931	206	2
54	2,945	3,379	3,762	3,491	4,161	3,939	3,529	3,247	3,663	2,853	3,513	3,532	3,864	3,856	4,562	2,823	–	276,953	75,517	2
55	6	20	38	50	28	56	71	15	66	42	62	153	247	228	149	62	–	2,346	150	3
56	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	2
57	–	–	–	–	–	–	1	1	–	6	1	1	2	–	1	1	–	47	1	4
58	–	–	1	–	–	–	3	2	1	6	1	2	–	2	–	–	–	36	3	3
59	15	45	29	61	82	39	68	80	67	33	202	74	63	64	66	44	–	2,607	1,005	2
60	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A

Not all assets on Powerco's network are reported in this schedule. The Commerce Commission have advised that if assets do not clearly fit into one of the categories in schedule 9b they should be excluded from the schedule.

Company Name	**Powerco Limited**
For Year Ended	**31 March 2018**
Network / Sub-network Name	**Western Region**

SCHEDULE 9b: ASSET AGE PROFILE

This schedule requires a summary of the age profile (based on year of installation) of the assets that make up the network, by asset category and asset class. All units relating to cable and line assets, that are expressed in km, refer to circuit lengths.

sch ref

8 **Disclosure Year (year ended)** 31 March 2018

Number of assets at disclosure year end by installation date

9	Voltage	Asset category	Asset class	Units	pre-1940	1940 –1949	1950 –1959	1960 –1969	1970 –1979	1980 –1989	1990 –1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	No. with age unknown	Items at end of year (quantity)	No. with default dates	Data accuracy (1–4)
10	All	Overhead Line	Concrete poles / steel structure	No.	18	890	4,031	17,738	29,310	34,559	21,702	3,340	3,034	1,662	1,856	1,410	1,354	1,208	1,341	1,406	1,722	1,450	1,434	1,582	2,251	2,500	2,393	3,032	2,458	1,233	–	144,914	4,203	3
11	All	Overhead Line	Wood poles	No.	29	40	641	6,385	8,004	6,646	6,134	408	239	384	438	311	234	148	188	63	61	20	23	3	3	1	3	–	–	6	–	30,412	1,608	3
12	All	Overhead Line	Other pole types	No.	–	–	1	10	1,773	14	36	6	10	7	16	32	30	9	4	5	3	2	10	1	1	1	–	–	–	–	–	1,971	1,736	2
13	HV	Subtransmission Line	Subtransmission OH up to 66kV conductor	km	–	10	57	248	229	192	145	2	0	2	2	1	11	–	3	–	11	2	0	2	0	5	0	11	22	9	–	965	0	3
14	HV	Subtransmission Line	Subtransmission OH 110kV+ conductor	km	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
15	HV	Subtransmission Cable	Subtransmission UG up to 66kV (XLPE)	km	–	–	–	0	5	5	3	3	0	6	0	1	0	–	4	0	6	0	4	0	1	0	1	1	4	5	–	50	4	4
16	HV	Subtransmission Cable	Subtransmission UG up to 66kV (Oil pressurised)	km	–	–	–	13	–	0	–	0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	13	–	4
17	HV	Subtransmission Cable	Subtransmission UG up to 66kV (Gas pressurised)	km	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
18	HV	Subtransmission Cable	Subtransmission UG up to 66kV (PILC)	km	–	–	–	1	1	4	0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6	–	4
19	HV	Subtransmission Cable	Subtransmission UG 110kV+ (XLPE)	km	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
20	HV	Subtransmission Cable	Subtransmission UG 110kV+ (Oil pressurised)	km	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
21	HV	Subtransmission Cable	Subtransmission UG 110kV+ (Gas Pressurised)	km	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
22	HV	Subtransmission Cable	Subtransmission UG 110kV+ (PILC)	km	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
23	HV	Subtransmission Cable	Subtransmission submarine cable	km	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
24	HV	Zone substation Buildings	Zone substations up to 66kV	No.	–	–	1	3	43	9	10	–	–	–	–	2	1	–	5	–	–	1	2	–	1	1	1	1	–	–	–	81	39	2
25	HV	Zone substation Buildings	Zone substations 110kV+	No.	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
26	HV	Zone substation switchgear	50/66/110kV CB (Indoor)	No.	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
27	HV	Zone substation switchgear	50/66/110kV CB (Outdoor)	No.	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
28	HV	Zone substation switchgear	33kV Switch (Ground Mounted)	No.	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3	2	–	–	–	5	–	2
29	HV	Zone substation switchgear	33kV Switch (Pole Mounted)	No.	–	–	–	91	102	144	84	10	6	2	4	6	5	1	2	–	3	2	8	15	8	4	12	16	2	2	–	529	17	2
30	HV	Zone substation switchgear	33kV RMU	No.	–	–	–	–	–	1	–	–	–	–	–	–	–	1	–	–	2	–	–	1	–	–	–	–	–	–	–	5	–	2
31	HV	Zone substation switchgear	22/33kV CB (Indoor)	No.	–	–	–	–	–	–	23	–	–	–	–	–	–	6	6	–	5	14	7	–	4	1	–	3	1	–	–	70	–	2
32	HV	Zone substation switchgear	22/33kV CB (Outdoor)	No.	–	–	–	25	18	26	9	–	–	1	1	1	2	2	2	2	1	–	2	–	2	1	5	2	3	2	–	107	6	2
33	HV	Zone substation switchgear	3.3/6.6/11/22kV CB (ground mounted)	No.	–	–	–	50	127	47	77	–	9	–	5	17	4	–	29	1	–	–	19	4	17	11	20	25	16	–	–	478	39	2
34	HV	Zone substation switchgear	3.3/6.6/11/22kV CB (pole mounted)	No.	–	–	–	2	–	2	10	–	–	–	2	–	1	–	2	–	4	3	–	4	–	4	7	–	8	–	–	49	–	3
35	HV	Zone Substation Transformer	Zone Substation Transformers	No.	–	–	6	30	46	11	5	1	2	1	2	–	2	–	2	–	2	1	–	–	1	–	5	–	–	–	–	117	14	2
36	HV	Distribution Line	Distribution OH Open Wire Conductor	km	81	109	1,274	2,156	2,059	2,517	1,016	42	53	87	63	49	43	39	39	29	38	18	31	43	59	65	63	52	51	20	–	10,095	18	3
37	HV	Distribution Line	Distribution OH Aerial Cable Conductor	km	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
38	HV	Distribution Line	SWER conductor	km	–	–	–	–	5	9	0	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3	–	–	–	–	–	17	–	3
39	HV	Distribution Cable	Distribution UG XLPE or PVC	km	–	0	4	29	117	128	81	12	9	11	6	8	10	14	16	22	17	19	12	12	16	19	17	20	15	8	–	622	40	3
40	HV	Distribution Cable	Distribution UG PILC	km	–	–	0	23	42	19	7	0	0	2	3	1	1	2	1	0	0	0	0	0	0	0	0	–	0	–	–	100	6	3
41	HV	Distribution Cable	Distribution Submarine Cable	km	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
42	HV	Distribution switchgear	3.3/6.6/11/22kV CB (pole mounted) - reclosers and sectionalisers	No.	–	–	–	1	26	32	24	4	7	12	7	9	14	9	2	13	15	7	5	19	14	16	18	34	25	14	–	327	24	2
43	HV	Distribution switchgear	3.3/6.6/11/22kV CB (Indoor)	No.	–	–	9	30	69	37	16	3	–	–	–	–	2	4	–	–	2	5	5	4	5	–	3	3	1	–	–	198	44	2
44	HV	Distribution switchgear	3.3/6.6/11/22kV Switches and fuses (pole mounted)	No.	16	18	607	1,614	5,258	3,524	2,700	284	831	764	486	462	577	386	457	456	442	386	383	459	448	663	787	741	728	284	–	23,761	444	2
45	HV	Distribution switchgear	3.3/6.6/11/22kV Switch (ground mounted) - except RMU	No.	–	3	7	78	227	129	94	13	19	17	28	32	15	16	31	14	35	13	17	16	16	11	7	12	41	3	–	894	19	2
46	HV	Distribution switchgear	3.3/6.6/11/22kV RMU	No.	–	–	3	42	86	115	98	11	51	26	35	21	19	43	39	28	24	34	17	37	42	55	52	50	56	21	–	1,005	7	3
47	HV	Distribution Transformer	Pole Mounted Transformer	No.	24	28	746	2,101	2,542	2,306	2,513	329	332	370	380	374	475	419	296	367	374	242	341	370	317	449	439	442	503	249	–	17,328	23	4
48	HV	Distribution Transformer	Ground Mounted Transformer	No.	1	6	41	177	485	467	418	88	67	112	67	80	90	119	77	104	95	47	71	75	70	121	143	94	77	40	–	3,232	6	4
49	HV	Distribution Transformer	Voltage regulators	No.	–	1	1	2	8	2	7	–	1	4	–	–	2	5	1	8	3	1	1	4	2	5	7	3	1	–	–	69	6	4
50	HV	Distribution Substations	Ground Mounted Substation Housing	No.	2	–	1	55	382	435	329	52	37	47	73	56	23	14	17	19	6	11	5	7	7	12	15	7	8	11	–	1,631	2	3
51	LV	LV Line	LV OH Conductor	km	1	57	260	952	914	639	279	41	29	23	23	21	18	18	18	18	14	12	12	11	18	18	14	20	16	14	–	3,460	42	2
52	LV	LV Cable	LV UG Cable	km	0	0	8	87	628	498	332	30	27	31	31	36	49	50	63	65	64	33	27	18	20	25	25	31	29	10	–	2,218	230	2
53	LV	LV Street lighting	LV OH/UG Streetlight circuit	km	–	15	79	251	414	241	135	16	14	12	12	15	23	17	20	18	23	8	8	4	6	5	6	7	6	2	–	1,355	70	2
54	LV	Connections	OH/UG consumer service connections	No.	24	193	1,587	8,428	54,201	26,094	16,946	2,122	1,944	1,964	2,171	2,321	2,791	2,629	2,728	2,739	2,409	2,146	2,365	1,726	2,253	2,303	2,281	2,376	2,417	1,363	–	150,521	34,600	2
55	All	Protection	Protection relays (electromechanical, solid state and numeric)	No.	–	–	–	70	215	94	99	64	6	7	2	20	19	27	2	20	31	12	45	13	25	89	155	96	94	36	–	1,241	82	3
56	All	SCADA and communications	SCADA and communications equipment operating as a single system	Lot	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	2
57	All	Capacitor Banks	Capacitors including controls	No	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	4	–	–	–	–	–	–	–	4	–	4
58	All	Load Control	Centralised plant	Lot	–	–	–	–	4	5	8	–	1	–	–	–	–	–	–	–	–	–	–	5	–	1	–	1	–	–	–	25	3	3
59	All	Load Control	Relays	No	–	–	–	9	860	83	27	11	12	20	8	28	5	14	23	14	7	8	14	3	9	16	29	21	15	19	–	1,255	821	2
60	All	Civils	Cable Tunnels	km	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A

Not all assets on Powerco's network are reported in this schedule. The Commerce Commission have advised that if assets do not clearly fit into one of the categories in schedule 9b they should be excluded from the schedule.

Company Name	Powerco Limited
For Year Ended	31 March 2018
Network / Sub-network Name	Eastern Region

SCHEDULE 9b: ASSET AGE PROFILE

This schedule requires a summary of the age profile (based on year of installation) of the assets that make up the network, by asset category and asset class. All units relating to cable and line assets, that are expressed in km, refer to circuit lengths.

sch ref

8 Disclosure Year (year ended) 31 March 2018

Number of assets at disclosure year end by installation date

9	Voltage	Asset category	Asset class	Units	pre-1940	1940 –1949	1950 –1959	1960 –1969	1970 –1979	1980 –1989	1990 –1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	No. with age unknown	Items at end of year (quantity)	No. with default dates	Data accuracy (1–4)
10	All	Overhead Line	Concrete poles / steel structure	No.	–	4	1,187	14,939	27,738	16,325	5,642	62	164	463	511	544	485	696	847	1,047	1,130	1,138	817	861	1,085	930	1,000	1,203	1,293	459	–	80,570	2,782	3
11	All	Overhead Line	Wood poles	No.	–	1	264	379	997	941	1,951	15	25	3	1	2	9	–	5	34	10	70	8	–	–	1	–	–	1	1	–	4,718	271	3
12	All	Overhead Line	Other pole types	No.	–	–	1	4	2,487	10	18	10	57	33	24	8	20	58	30	24	21	5	–	1	7	–	–	–	–	–	–	2,818	2,468	2
13	HV	Subtransmission Line	Subtransmission OH up to 66kV conductor	km	–	–	37	94	126	112	84	7	–	1	1	1	3	2	6	4	0	0	34	15	1	10	0	0	5	0	–	544	0	3
14	HV	Subtransmission Line	Subtransmission OH 110kV+ conductor	km	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
15	HV	Subtransmission Cable	Subtransmission UG up to 66kV (XLPE)	km	–	–	–	–	16	1	19	5	1	–	0	0	1	2	1	2	1	6	14	5	4	0	1	1	13	5	–	99	1	4
16	HV	Subtransmission Cable	Subtransmission UG up to 66kV (Oil pressurised)	km	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
17	HV	Subtransmission Cable	Subtransmission UG up to 66kV (Gas pressurised)	km	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
18	HV	Subtransmission Cable	Subtransmission UG up to 66kV (PILC)	km	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	0	–	–	0	–	4
19	HV	Subtransmission Cable	Subtransmission UG 110kV+ (XLPE)	km	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
20	HV	Subtransmission Cable	Subtransmission UG 110kV+ (Oil pressurised)	km	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
21	HV	Subtransmission Cable	Subtransmission UG 110kV+ (Gas Pressurised)	km	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
22	HV	Subtransmission Cable	Subtransmission UG 110kV+ (PILC)	km	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
23	HV	Subtransmission Cable	Subtransmission submarine cable	km	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
24	HV	Zone substation Buildings	Zone substations up to 66kV	No.	–	–	–	2	9	4	3	–	–	–	–	–	28	2	1	1	1	–	1	2	2	2	–	2	–	–	–	60	4	2
25	HV	Zone substation Buildings	Zone substations 110kV+	No.	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
26	HV	Zone substation switchgear	50/66/110kV CB (Indoor)	No.	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
27	HV	Zone substation switchgear	50/66/110kV CB (Outdoor)	No.	–	–	–	–	2	4	1	–	–	–	–	2	1	1	4	–	–	–	1	–	–	–	3	–	–	–	–	19	–	2
28	HV	Zone substation switchgear	33kV Switch (Ground Mounted)	No.	–	–	–	–	–	2	–	–	–	–	–	3	1	–	–	–	1	–	–	–	5	–	4	1	7	–	–	24	–	2
29	HV	Zone substation switchgear	33kV Switch (Pole Mounted)	No.	–	–	–	73	57	51	26	–	–	–	–	–	5	–	9	10	13	13	6	10	14	2	10	19	7	2	–	327	1	2
30	HV	Zone substation switchgear	33kV RMU	No.	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	2
31	HV	Zone substation switchgear	22/33kV CB (Indoor)	No.	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	6	–	10	6	–	5	7	4	16	–	–	–	54	–	2
32	HV	Zone substation switchgear	22/33kV CB (Outdoor)	No.	–	–	1	3	12	8	15	5	1	–	–	–	3	1	2	3	3	1	–	3	2	6	4	5	5	3	–	86	–	2
33	HV	Zone substation switchgear	3.3/6.6/11/22kV CB (ground mounted)	No.	–	–	–	40	52	49	34	4	–	–	2	2	6	17	7	17	27	14	1	16	12	39	–	23	–	1	–	363	10	2
34	HV	Zone substation switchgear	3.3/6.6/11/22kV CB (pole mounted)	No.	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	3
35	HV	Zone Substation Transformer	Zone Substation Transformers	No.	–	–	–	18	25	17	3	1	–	1	–	–	5	2	2	–	4	1	1	5	5	3	–	–	–	–	–	93	5	2
36	HV	Distribution Line	Distribution OH Open Wire Conductor	km	–	–	90	815	1,444	1,037	452	5	20	17	17	29	26	46	43	39	48	66	37	55	74	55	53	65	69	31	–	4,633	7	3
37	HV	Distribution Line	Distribution OH Aerial Cable Conductor	km	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A
38	HV	Distribution Line	SWER conductor	km	–	–	0	14	25	2	7	–	–	–	5	–	–	–	0	1	0	0	–	–	–	7	–	–	0	–	–	61	–	3
39	HV	Distribution Cable	Distribution UG XLPE or PVC	km	–	–	1	4	95	285	219	36	33	15	24	33	38	43	43	38	36	29	29	27	25	22	39	29	35	32	–	1,211	10	3
40	HV	Distribution Cable	Distribution UG PILC	km	–	–	0	3	27	53	15	2	3	1	–	0	0	0	1	0	0	–	–	–	–	–	–	–	–	–	–	107	0	3
41	HV	Distribution Cable	Distribution Submarine Cable	km	–	–	–	–	–	2	7	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	0	0	–	–	11	–	3
42	HV	Distribution switchgear	3.3/6.6/11/22kV CB (pole mounted) - reclosers and sectionalisers	No.	–	–	–	–	3	2	15	–	2	1	–	10	6	8	9	4	10	17	16	9	20	23	36	60	41	24	–	316	2	2
43	HV	Distribution switchgear	3.3/6.6/11/22kV CB (Indoor)	No.	–	–	1	34	68	20	39	–	1	–	–	5	2	4	1	2	1	6	4	–	4	4	4	1	–	–	–	201	2	2
44	HV	Distribution switchgear	3.3/6.6/11/22kV Switches and fuses (pole mounted)	No.	–	–	40	810	1,796	2,600	2,589	157	197	207	205	286	374	339	376	340	362	409	323	345	408	504	506	658	775	269	–	14,875	26	2
45	HV	Distribution switchgear	3.3/6.6/11/22kV Switch (ground mounted) - except RMU	No.	–	–	4	45	344	316	223	13	16	16	14	42	47	64	44	35	33	29	28	20	11	2	11	3	11	4	–	1,375	9	2
46	HV	Distribution switchgear	3.3/6.6/11/22kV RMU	No.	–	–	–	2	63	69	184	25	15	14	21	41	62	72	83	84	79	43	60	54	48	50	81	96	110	47	–	1,403	12	3
47	HV	Distribution Transformer	Pole Mounted Transformer	No.	–	1	10	496	1,206	1,574	1,918	132	118	131	198	291	249	271	274	371	290	309	162	178	235	235	247	233	238	103	–	9,470	4	4
48	HV	Distribution Transformer	Ground Mounted Transformer	No.	–	1	15	202	630	999	749	86	107	50	92	178	187	239	217	182	142	122	94	108	64	86	148	149	148	45	–	5,040	5	4
49	HV	Distribution Transformer	Voltage regulators	No.	–	–	–	–	–	1	4	1	–	–	2	3	2	3	1	7	–	4	2	2	2	5	1	6	4	–	–	50	–	4
50	HV	Distribution Substations	Ground Mounted Substation Housing	No.	–	–	2	85	608	907	512	40	42	16	39	57	19	16	16	23	20	14	7	7	6	9	4	9	6	28	–	2,492	1	3
51	LV	LV Line	LV OH Conductor	km	–	–	56	459	753	412	171	2	4	4	6	5	3	4	6	8	5	4	4	2	3	3	3	1	5	2	–	1,925	5	2
52	LV	LV Cable	LV UG Cable	km	–	–	0	59	437	402	379	29	32	18	25	60	61	64	69	61	49	25	17	23	17	22	23	36	51	17	–	1,977	74	2
53	LV	LV Street lighting	LV OH/UG Streetlight circuit	km	–	–	13	112	432	289	278	26	26	13	14	53	46	45	39	32	32	21	15	14	8	8	10	20	21	7	–	1,576	136	2
54	LV	Connections	OH/UG consumer service connections	No.	–	–	636	7,112	62,037	20,078	14,434	778	873	383	774	1,058	971	862	1,433	1,200	1,120	1,101	1,298	1,127	1,260	1,229	1,583	1,480	2,145	1,460	–	126,432	40,917	2
55	All	Protection	Protection relays (electromechanical, solid state and numeric)	No.	–	–	–	48	236	145	59	8	–	2	4	–	19	23	26	36	40	3	21	29	37	64	92	132	55	26	–	1,105	68	3
56	All	SCADA and communications	SCADA and communications equipment operating as a single system	Lot	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	–	–	–	1	–	2
57	All	Capacitor Banks	Capacitors including controls	No	–	–	–	–	1	1	29	2	–	–	–	–	–	–	–	–	1	1	–	2	1	1	2	–	1	1	–	43	1	4
58	All	Load Control	Centralised plant	Lot	–	–	–	–	–	–	–	–	–	–	–	–	1	–	–	–	3	2	1	1	1	1	–	1	–	–	–	11	–	3
59	All	Load Control	Relays	No	–	–	9	12	301	83	96	38	9	5	7	17	24	47	59	25	61	72	53	30	193	58	34	43	51	25	–	1,352	184	2
60	All	Civils	Cable Tunnels	km	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	N/A

Not all assets on Powerco's network are reported in this schedule. The Commerce Commission have advised that if assets do not clearly fit into one of the categories in schedule 9b they should be excluded from the schedule.

Schedule 9c: Overhead Lines and Underground Cables

Company Name	**Powerco Limited**
For Year Ended	**31 March 2018**
Network / Sub-network Name	**Powerco Limited**

SCHEDULE 9c: REPORT ON OVERHEAD LINES AND UNDERGROUND CABLES

This schedule requires a summary of the key characteristics of the overhead line and underground cable network. All units relating to cable and line assets, that are expressed in km, refer to circuit lengths.

sch ref				
9				
10	**Circuit length by operating voltage (at year end)**	**Overhead (km)**	**Underground (km)**	**Total circuit length (km)**
11	> 66kV	–	–	–
12	50kV & 66kV	163	6	169
13	33kV	1,346	163	1,509
14	SWER (all SWER voltages)	79	–	79
15	22kV (other than SWER)	121	1	122
16	6.6kV to 11kV (inclusive—other than SWER)	14,607	2,050	16,657
17	Low voltage (< 1kV)	5,385	4,195	9,579
18	**Total circuit length (for supply)**	21,701	6,414	28,115
19				
20	Dedicated street lighting circuit length (km)	1,074	1,857	2,931
21	Circuit in sensitive areas (conservation areas, iwi territory etc) (km)			–
22				
23	**Overhead circuit length by terrain (at year end)**	**Circuit length (km)**	**(% of total overhead length)**	
24	Urban	2,460	11%	
25	Rural	7,788	36%	
26	Remote only	–	–	
27	Rugged only	11,135	51%	
28	Remote and rugged	319	1%	
29	Unallocated overhead lines	–	–	
30	**Total overhead length**	21,701	100%	
31				
32		**Circuit length (km)**	**(% of total circuit length)**	
33	Length of circuit within 10km of coastline or geothermal areas (where known)	11,240	40%	
34		**Circuit length (km)**	**(% of total overhead length)**	
35	Overhead circuit requiring vegetation management	21,701	100%	

Company Name	**Powerco Limited**
For Year Ended	**31 March 2018**
Network / Sub-network Name	**Western Region**

SCHEDULE 9c: REPORT ON OVERHEAD LINES AND UNDERGROUND CABLES

This schedule requires a summary of the key characteristics of the overhead line and underground cable network. All units relating to cable and line assets, that are expressed in km, refer to circuit lengths.

sch ref				
9				
10	**Circuit length by operating voltage (at year end)**	**Overhead (km)**	**Underground (km)**	**Total circuit length (km)**
11	> 66kV	–	–	–
12	50kV & 66kV	–	–	–
13	33kV	965	69	1,034
14	SWER (all SWER voltages)	17	–	17
15	22kV (other than SWER)	121	1	122
16	6.6kV to 11kV (inclusive—other than SWER)	9,974	721	10,695
17	Low voltage (< 1kV)	3,460	2,218	5,678
18	**Total circuit length (for supply)**	14,538	3,009	17,547
19				
20	Dedicated street lighting circuit length (km)	751	605	1,355
21	Circuit in sensitive areas (conservation areas, iwi territory etc) (km)			–
22				

23	**Overhead circuit length by terrain (at year end)**	**Circuit length (km)**	**(% of total overhead length)**
24	Urban	1,583	11%
25	Rural	4,391	30%
26	Remote only	–	–
27	Rugged only	8,245	57%
28	Remote and rugged	319	2%
29	Unallocated overhead lines	–	–
30	**Total overhead length**	14,538	100%
31			
32		**Circuit length (km)**	**(% of total circuit length)**
33	Length of circuit within 10km of coastline or geothermal areas (where known)	5,357	31%
34		**Circuit length (km)**	**(% of total overhead length)**
35	Overhead circuit requiring vegetation management	14,538	100%

Company Name	**Powerco Limited**
For Year Ended	**31 March 2018**
Network / Sub-network Name	**Eastern Region**

SCHEDULE 9c: REPORT ON OVERHEAD LINES AND UNDERGROUND CABLES

This schedule requires a summary of the key characteristics of the overhead line and underground cable network. All units relating to cable and line assets, that are expressed in km, refer to circuit lengths.

sch ref				
9				
10	**Circuit length by operating voltage (at year end)**	**Overhead (km)**	**Underground (km)**	**Total circuit length (km)**
11	> 66kV	–	–	–
12	50kV & 66kV	163	6	169
13	33kV	381	94	475
14	SWER (all SWER voltages)	61	–	61
15	22kV (other than SWER)	–	–	–
16	6.6kV to 11kV (inclusive—other than SWER)	4,633	1,329	5,961
17	Low voltage (< 1kV)	1,925	1,977	3,902
18	**Total circuit length (for supply)**	7,163	3,405	10,568
19				
20	Dedicated street lighting circuit length (km)	324	1,252	1,576
21	Circuit in sensitive areas (conservation areas, iwi territory etc) (km)			–
22				
23	**Overhead circuit length by terrain (at year end)**	**Circuit length (km)**	**(% of total overhead length)**	
24	Urban	876	12%	
25	Rural	3,397	47%	
26	Remote only	–	–	
27	Rugged only	2,889	40%	
28	Remote and rugged	–	–	
29	Unallocated overhead lines	–	–	
30	**Total overhead length**	7,163	100%	
31				
32		**Circuit length (km)**	**(% of total circuit length)**	
33	Length of circuit within 10km of coastline or geothermal areas (where known)	5,883	56%	
34		**Circuit length (km)**	**(% of total overhead length)**	
35	Overhead circuit requiring vegetation management	7,163	100%	

Schedule 9d: Embedded Networks

Company Name	**Powerco Limited**
For Year Ended	**31 March 2018**

SCHEDULE 9d: REPORT ON EMBEDDED NETWORKS

This schedule requires information concerning embedded networks owned by an EDB that are embedded in another EDB's network or in another embedded network.

sch ref	Location *	Number of ICPs served	Line charge revenue ($000)
9	Powerco has no networks embedded in another network.		
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			

26 ** Extend embedded distribution networks table as necessary to disclose each embedded network owned by the EDB which is embedded in another EDB's network or in another embedded network*

Powerco has no networks embedded in another network

Schedule 9e: Demand

Company Name	Powerco Limited
For Year Ended	31 March 2018
Network / Sub-network Name	Powerco Limited

SCHEDULE 9e: REPORT ON NETWORK DEMAND

This schedule requires a summary of the key measures of network utilisation for the disclosure year (number of new connections including distributed generation, peak demand and electricity volumes conveyed).

sch ref				
8	**9e(i): Consumer Connections**			
9	*Number of ICPs connected in year by consumer type*			
10	*Consumer types defined by EDB**		**Number of connections (ICPs)**	
11	Residential/Small Commercial		5,235	
12	Commercial		44	
13	Large Commercial/Industrial		9	
14				
15				
16	** include additional rows if needed*			
17	**Connections total**		5,288	
18				
19	**Distributed generation**			
20	Number of connections made in year		826	**connections**
21	Capacity of distributed generation installed in year		2.72	**MVA**
22	**9e(ii): System Demand**			
23				
24			**Demand at time of maximum coincident demand (MW)**	
25	**Maximum coincident system demand**			
26	GXP demand		733	
27	Distributed generation output at HV and above	*plus*	164	
28	**Maximum coincident system demand**		897	
29	Net transfers to (from) other EDBs at HV and above	*less*	–	
30	**Demand on system for supply to consumers' connection points**		897	
31	**Electricity volumes carried**		**Energy (GWh)**	
32	Electricity supplied from GXPs		4,389	
33	Electricity exports to GXPs	*less*	193	
34	Electricity supplied from distributed generation	*plus*	903	
35	Net electricity supplied to (from) other EDBs	*less*	–	
36	**Electricity entering system for supply to consumers' connection points**		5,099	
37	Total energy delivered to ICPs	*less*	4,848	
38	**Electricity losses (loss ratio)**		251	4.9%
39				
40	**Load factor**		0.65	
41	**9e(iii): Transformer Capacity**			
42			**(MVA)**	
43	Distribution transformer capacity (EDB owned)		3,196	
44	Distribution transformer capacity (Non-EDB owned, estimated)		133	
45	**Total distribution transformer capacity**		3,329	
46				
47	**Zone substation transformer capacity**		2,175	

Company Name	**Powerco Limited**
For Year Ended	**31 March 2018**
Network / Sub-network Name	**Eastern Region**

SCHEDULE 9e: REPORT ON NETWORK DEMAND

This schedule requires a summary of the key measures of network utilisation for the disclosure year (number of new connections including distributed generation, peak demand and electricity volumes conveyed).

sch ref				
8	**9e(i): Consumer Connections**			
9	*Number of ICPs connected in year by consumer type*			
10	*Consumer types defined by EDB**		**Number of connections (ICPs)**	
11		Residential/Small Commercial	3,433	
12		Commercial	41	
13		Large Commercial/Industrial	7	
14				
15				
16	** include additional rows if needed*			
17	**Connections total**		3,481	
18				
19	**Distributed generation**			
20		Number of connections made in year	491	**connections**
21		Capacity of distributed generation installed in year	2	**MVA**
22	**9e(ii): System Demand**			
23				
24			**Demand at time of maximum coincident demand (MW)**	
25	**Maximum coincident system demand**			
26		GXP demand	390	
27	*plus*	Distributed generation output at HV and above	76	
28	**Maximum coincident system demand**		466	
29	*less*	Net transfers to (from) other EDBs at HV and above	–	
30	**Demand on system for supply to consumers' connection points**		466	
31	**Electricity volumes carried**		**Energy (GWh)**	
32		Electricity supplied from GXPs	2,393	
33	*less*	Electricity exports to GXPs	152	
34	*plus*	Electricity supplied from distributed generation	460	
35	*less*	Net electricity supplied to (from) other EDBs	–	
36	**Electricity entering system for supply to consumers' connection points**		2,701	
37	*less*	Total energy delivered to ICPs	2,603	
38	**Electricity losses (loss ratio)**		98	3.6%
39				
40	**Load factor**		0.66	
41	**9e(iii): Transformer Capacity**			
42			**(MVA)**	
43		Distribution transformer capacity (EDB owned)	1,579	
44		Distribution transformer capacity (Non-EDB owned, estimated)	42	
45	**Total distribution transformer capacity**		1,621	
46				
47	**Zone substation transformer capacity**		1,071	

Company Name	**Powerco Limited**
For Year Ended	**31 March 2018**
Network / Sub-network Name	**Western Region**

SCHEDULE 9e: REPORT ON NETWORK DEMAND

This schedule requires a summary of the key measures of network utilisation for the disclosure year (number of new connections including distributed generation, peak demand and electricity volumes conveyed).

sch ref					
8		**9e(i): Consumer Connections**			
9		*Number of ICPs connected in year by consumer type*			
				Number of connections (ICPs)	
10		*Consumer types defined by EDB**			
11		Residential/Small Commercial		1,802	
12		Commercial		3	
13		Large Commercial/Industrial		2	
14					
15					
16		** include additional rows if needed*			
17		**Connections total**		1,807	
18					
19		**Distributed generation**			
20		Number of connections made in year		335	**connections**
21		Capacity of distributed generation installed in year		1	**MVA**
22		**9e(ii): System Demand**			
23					
24				**Demand at time of maximum coincident demand (MW)**	
25		**Maximum coincident system demand**			
26		GXP demand		343	
27	*plus*	Distributed generation output at HV and above		90	
28		**Maximum coincident system demand**		433	
29	*less*	Net transfers to (from) other EDBs at HV and above		–	
30		**Demand on system for supply to consumers' connection points**		433	
31		**Electricity volumes carried**		**Energy (GWh)**	
32		Electricity supplied from GXPs		1,996	
33	*less*	Electricity exports to GXPs		41	
34	*plus*	Electricity supplied from distributed generation		443	
35	*less*	Net electricity supplied to (from) other EDBs		–	
36		**Electricity entering system for supply to consumers' connection points**		2,398	
37	*less*	Total energy delivered to ICPs		2,245	
38		**Electricity losses (loss ratio)**		153	6.4%
39					
40		**Load factor**		0.63	
41		**9e(iii): Transformer Capacity**			
42				**(MVA)**	
43		Distribution transformer capacity (EDB owned)		1,617	
44		Distribution transformer capacity (Non-EDB owned, estimated)		91	
45		**Total distribution transformer capacity**		1,708	
46					
47		**Zone substation transformer capacity**		1,104	

Schedule 10: Reliability

Company Name	**Powerco Limited**
For Year Ended	**31 March 2018**
Network / Sub-network Name	**Powerco Limited**

SCHEDULE 10: REPORT ON NETWORK RELIABILITY

This schedule requires a summary of the key measures of network reliability (interruptions, SAIDI, SAIFI and fault rate) for the disclosure year. EDBs must provide explanatory comment on their network reliability for the disclosure year in Schedule 14 (Explanatory notes to templates). The SAIFI and SAIDI information is part of audited disclosure information (as defined in section 1.4 of the ID determination), and so is subject to the assurance report required by section 2.8.

sch ref

8 10(i): Interruptions

sch ref	Interruptions by class	Number of interruptions		
9	**Interruptions by class**			
10	Class A (planned interruptions by Transpower)	3.0		
11	Class B (planned interruptions on the network)	1,824		
12	Class C (unplanned interruptions on the network)	3,545		
13	Class D (unplanned interruptions by Transpower)	9		
14	Class E (unplanned interruptions of EDB owned generation)	–		
15	Class F (unplanned interruptions of generation owned by others)	3		
16	Class G (unplanned interruptions caused by another disclosing entity)	–		
17	Class H (planned interruptions caused by another disclosing entity)	–		
18	Class I (interruptions caused by parties not included above)	624		
19	**Total**	6,008		
20				
21	**Interruption restoration**	≤3Hrs	>3hrs	
22	Class C interruptions restored within	2,019	1,526	**Total**
23				

sch ref	SAIFI and SAIDI by class	SAIFI	SAIDI
24	**SAIFI and SAIDI by class**		
25	Class A (planned interruptions by Transpower)	0.04	1.65
26	Class B (planned interruptions on the network)	0.32	68.44
27	Class C (unplanned interruptions on the network)	2.16	346.44
28	Class D (unplanned interruptions by Transpower)	0.27	20.70
29	Class E (unplanned interruptions of EDB owned generation)	–	–
31	Class F (unplanned interruptions of generation owned by others)	0.09	5.12
31	Class G (unplanned interruptions caused by another disclosing entity)	–	–
32	Class H (planned interruptions caused by another disclosing entity)	–	–
33	Class I (interruptions caused by parties not included above)	0.12	25.47
34	**Total**	3.00	467.81
35			

sch ref	Normalised SAIFI and SAIDI	Normalised SAIFI	Normalised SAIDI
36	**Normalised SAIFI and SAIDI**		
37	Classes B & C (interruptions on the network)	2.42	230.26
38			

sch ref	Quality path normalised reliability limit	SAIFI reliability limit	SAIDI reliability limit
39	**Quality path normalised reliability limit**		
40	SAIFI and SAIDI limits applicable to disclosure year*	2.52	210.63
41	** not applicable to exempt EDBs*		

42 10(ii): Class C Interruptions and Duration by Cause

sch ref	Cause	SAIFI	SAIDI
43			
44	**Cause**		
45	Lightning	0.03	2.13
46	Vegetation	0.24	35.79
47	Adverse weather	0.16	79.65
48	Adverse environment	0.00	0.46
49	Third party interference	0.22	21.31
50	Wildlife	0.12	7.93
51	Human error	0.12	6.63
52	Defective equipment	0.89	162.81
53	Cause unknown	0.38	29.73
54			

55 10(iii): Class B Interruptions and Duration by Main Equipment Involved

sch ref	Main equipment involved	SAIFI	SAIDI
56			
57	**Main equipment involved**		
58	Subtransmission lines	0.00	0.39
59	Subtransmission cables	–	–
60	Subtransmission other	0.00	–
61	Distribution lines (excluding LV)	0.26	60.15
62	Distribution cables (excluding LV)	0.01	0.82
63	Distribution other (excluding LV)	0.05	7.08

64 10(iv): Class C Interruptions and Duration by Main Equipment Involved

sch ref	Main equipment involved	SAIFI	SAIDI
65			
66	**Main equipment involved**		
67	Subtransmission lines	0.27	33.51
68	Subtransmission cables	0.01	0.94
69	Subtransmission other	0.09	5.46
70	Distribution lines (excluding LV)	1.54	286.07
71	Distribution cables (excluding LV)	0.12	10.25
72	Distribution other (excluding LV)	0.12	10.22

73 10(v): Fault Rate

sch ref	Main equipment involved	Number of Faults	Circuit length (km)	Fault rate (faults per 100km)
74	**Main equipment involved**			
75	Subtransmission lines	121	1,509	8.02
76	Subtransmission cables	1	169	0.59
77	Subtransmission other	8		
78	Distribution lines (excluding LV)	4,632	14,807	31.28
79	Distribution cables (excluding LV)	118	2,051	5.75
80	Distribution other (excluding LV)	360		
81	**Total**	5,240		

Company Name	**Powerco Limited**
For Year Ended	**31 March 2018**
Network / Sub-network Name	**Western Region**

SCHEDULE 10: REPORT ON NETWORK RELIABILITY

This schedule requires a summary of the key measures of network reliability (interruptions, SAIDI, SAIFI and fault rate) for the disclosure year. EDBs must provide explanatory comment on their network reliability for the disclosure year in Schedule 14 (Explanatory notes to templates). The SAIFI and SAIDI information is part of audited disclosure information (as defined in section 1.4 of the ID determination), and so is subject to the assurance report required by section 2.8.

10(i): Interruptions

Interruptions by class	**Number of interruptions**
Class A (planned interruptions by Transpower)	1
Class B (planned interruptions on the network)	935
Class C (unplanned interruptions on the network)	2,410
Class D (unplanned interruptions by Transpower)	5
Class E (unplanned interruptions of EDB owned generation)	–
Class F (unplanned interruptions of generation owned by others)	2
Class G (unplanned interruptions caused by another disclosing entity)	–
Class H (planned interruptions caused by another disclosing entity)	–
Class I (interruptions caused by parties not included above)	376
Total	3,729

Interruption restoration	**≤3Hrs**	**>3hrs**
Class C interruptions restored within	1,387	1,023

SAIFI and SAIDI by class	**SAIFI**	**SAIDI**
Class A (planned interruptions by Transpower)	0.01	3.00
Class B (planned interruptions on the network)	0.29	59.49
Class C (unplanned interruptions on the network)	2.58	510.20
Class D (unplanned interruptions by Transpower)	0.09	9.66
Class E (unplanned interruptions of EDB owned generation)	–	–
Class F (unplanned interruptions of generation owned by others)	0.00	0.00
Class G (unplanned interruptions caused by another disclosing entity)	–	–
Class H (planned interruptions caused by another disclosing entity)	–	–
Class I (interruptions caused by parties not included above)	0.16	31.24
Total	3.12	613.59

Normalised SAIFI and SAIDI	**Normalised SAIFI**	**Normalised SAIDI**
Classes B & C (interruptions on the network)	2.60	234.49

Quality path normalised reliability limit	**SAIFI reliability limit**	**SAIDI reliability limit**
SAIFI and SAIDI limits applicable to disclosure year*	-	-

** not applicable to exempt EDBs*

10(ii): Class C Interruptions and Duration by Cause

Cause	**SAIFI**	**SAIDI**
Lightning	0.05	2.87
Vegetation	0.24	46.95
Adverse weather	0.24	138.36
Adverse environment	0.00	0.62
Third party interference	0.20	18.16
Wildlife	0.16	8.98
Human error	0.04	2.38
Defective equipment	1.17	255.43
Cause unknown	0.47	36.46

10(iii): Class B Interruptions and Duration by Main Equipment Involved

Main equipment involved	**SAIFI**	**SAIDI**
Subtransmission lines	0.00	0.62
Subtransmission cables	–	–
Subtransmission other	–	–
Distribution lines (excluding LV)	0.22	49.88
Distribution cables (excluding LV)	0.01	0.77
Distribution other (excluding LV)	0.05	8.22

10(iv): Class C Interruptions and Duration by Main Equipment Involved

Main equipment involved	**SAIFI**	**SAIDI**
Subtransmission lines	0.44	57.24
Subtransmission cables	–	–
Subtransmission other	0.03	0.94
Distribution lines (excluding LV)	1.87	430.66
Distribution cables (excluding LV)	0.09	7.82
Distribution other (excluding LV)	0.14	13.54

10(v): Fault Rate

Main equipment involved	**Number of Faults**	**Circuit length (km)**	**Fault rate (faults per 100km)**
Subtransmission lines	90	965	9.33
Subtransmission cables	–	69	–
Subtransmission other	5		
Distribution lines (excluding LV)	3,341	10,112	33.04
Distribution cables (excluding LV)	47	722	6.51
Distribution other (excluding LV)	230		
Total	3,713		

Company Name	**Powerco Limited**
For Year Ended	**31 March 2018**
Network / Sub-network Name	**Eastern Region**

SCHEDULE 10: REPORT ON NETWORK RELIABILITY

This schedule requires a summary of the key measures of network reliability (interruptions, SAIDI, SAIFI and fault rate) for the disclosure year. EDBs must provide explanatory comment on their network reliability for the disclosure year in Schedule 14 (Explanatory notes to templates). The SAIFI and SAIDI information is part of audited disclosure information (as defined in section 1.4 of the ID determination), and so is subject to the assurance report required by section 2.8.

sch ref

8 **10(i): Interruptions**

sch ref	Interruptions by class	Number of interruptions
10	Class A (planned interruptions by Transpower)	2
11	Class B (planned interruptions on the network)	889
12	Class C (unplanned interruptions on the network)	1,135
13	Class D (unplanned interruptions by Transpower)	4
14	Class E (unplanned interruptions of EDB owned generation)	–
15	Class F (unplanned interruptions of generation owned by others)	1
16	Class G (unplanned interruptions caused by another disclosing entity)	–
17	Class H (planned interruptions caused by another disclosing entity)	–
18	Class I (interruptions caused by parties not included above)	248
19	**Total**	2,279

sch ref	Interruption restoration	≤3Hrs	>3hrs
22	Class C interruptions restored within	632	503

sch ref	SAIFI and SAIDI by class	SAIFI	SAIDI
25	Class A (planned interruptions by Transpower)	0.09	0.14
26	Class B (planned interruptions on the network)	0.35	78.47
27	Class C (unplanned interruptions on the network)	1.69	162.74
28	Class D (unplanned interruptions by Transpower)	0.47	33.08
29	Class E (unplanned interruptions of EDB owned generation)	–	–
30	Class F (unplanned interruptions of generation owned by others)	0.19	10.86
31	Class G (unplanned interruptions caused by another disclosing entity)	–	–
32	Class H (planned interruptions caused by another disclosing entity)	–	–
33	Class I (interruptions caused by parties not included above)	0.08	18.99
34	**Total**	2.87	304.3

sch ref	Normalised SAIFI and SAIDI	Normalised SAIFI	Normalised SAIDI
37	Classes B & C (interruptions on the network)	2.04	217.03

sch ref	Quality path normalised reliability limit	SAIFI reliability limit	SAIDI reliability limit
40	SAIFI and SAIDI limits applicable to disclosure year*	-	-
41	** not applicable to exempt EDBs*		

42 **10(ii): Class C Interruptions and Duration by Cause**

sch ref	Cause	SAIFI	SAIDI
45	Lightning	0.01	1.31
46	Vegetation	0.23	23.27
47	Adverse weather	0.06	13.78
48	Adverse environment	0.00	0.27
49	Third party interference	0.26	24.83
50	Wildlife	0.08	6.77
51	Human error	0.20	11.40
52	Defective equipment	0.57	58.92
53	Cause unknown	0.29	22.19

55 **10(iii): Class B Interruptions and Duration by Main Equipment Involved**

sch ref	Main equipment involved	SAIFI	SAIDI
58	Subtransmission lines	0.00	0.13
59	Subtransmission cables	–	–
60	Subtransmission other	–	–
61	Distribution lines (excluding LV)	0.30	71.66
62	Distribution cables (excluding LV)	0.01	0.88
63	Distribution other (excluding LV)	0.04	5.80

64 **10(iv): Class C Interruptions and Duration by Main Equipment Involved**

sch ref	Main equipment involved	SAIFI	SAIDI
67	Subtransmission lines	0.07	6.90
68	Subtransmission cables	0.03	1.99
69	Subtransmission other	0.17	10.53
70	Distribution lines (excluding LV)	1.16	123.86
71	Distribution cables (excluding LV)	0.16	12.97
72	Distribution other (excluding LV)	0.10	6.49

73 **10(v): Fault Rate**

sch ref	Main equipment involved	Number of Faults	Circuit length (km)	Fault rate (faults per 100km)
75	Subtransmission lines	31	544	5.70
76	Subtransmission cables	1	100	1.00
77	Subtransmission other	3		
78	Distribution lines (excluding LV)	1,291	4,694	27.50
79	Distribution cables (excluding LV)	71	1,329	5.34
80	Distribution other (excluding LV)	130		
81	**Total**	1,527		

Schedule 14: Mandatory Explanatory Notes

This schedule requires EDBs to provide explanatory notes to information provided in accordance with clauses 2.3.1, 2.4.21, 2.4.22, and subclauses 2.5.1(1)(f) and 2.5.2(1)(e).

This schedule is mandatory—EDBs must provide the explanatory comment specified below, in accordance with clause 2.7.1. Information provided in boxes 1 to 12 of this schedule is part of the audited disclosure information, and so is subject to the assurance requirements specified in section 2.8.

Return on Investment (Schedule 2)

In the box below, comment on return on investment as disclosed in Schedule 2. This comment must include information on reclassified items in accordance with subclause 2.7.1(2).

Box 1: Explanatory comment on return on investment

Our disclosed ROI under both a Vanilla and Post tax approach for 2018 is lower than 2017 primarily as a result of lower CPI in the current regulatory year (1.1% in 2018 compared to 2.17% in 2017). This resulted in a decrease in revaluations to $17.3m in 2018 from $32.7m in 2017.

Regulatory Profit (Schedule 3)

In the box below, comment on regulatory profit for the disclosure year as disclosed in Schedule 3. This comment must include-

- a description of material items included in other regulated income (other than gains / (losses) on asset disposals), as disclosed in 3(i) of Schedule 3
- information on reclassified items in accordance with subclause 2.7.1(2).

Box 2: Explanatory comment on regulatory profit

Regulatory profit for the year to 31 March 2018 is $105.2m. This represents a decrease of $9.4m from the previous year. This decrease in profit was largely due to lower revaluations, higher depreciation and higher pass-through and recoverable costs in the year, offset partially by higher line charge revenue, lower losses on asset disposals and lower operating expenditure.

The ‘other regulated income’ of $1.4m is predominantly income received to reimburse Powerco’s operational costs that arise from network damage caused by a third party (e.g. income received from insurers or directly from the third parties). This amount varies between years as Powerco has no control over the events that lead to this income.

Costs of $1.7m related to the Customised Price-Quality Path application were incurred during the year and are disclosed as other recoverable costs.

Due to the adoption of NZ IFRS 16 – Leases, qualifying leased assets are now included in non-network assets. As a result operational expenditure was reduced for FY18 by $1.6m.

Merger and acquisition expenses (3(iv) of Schedule 3)

If the EDB incurred merger and acquisitions expenditure during the disclosure year, provide the following information in the box below-

- information on reclassified items in accordance with subclause 2.7.1(2)
- any other commentary on the benefits of the merger and acquisition expenditure to the EDB.

Box 3: Explanatory comment on merger and acquisition expenditure

No merger and acquisition expenditure has been incurred during the disclosure year.

Value of the Regulatory Asset Base (Schedule 4)

In the box below, comment on the value of the regulatory asset base (rolled forward) in Schedule 4. This comment must include information on reclassified items in accordance with subclause 2.7.1(2).

Box 4: Explanatory comment on the value of the regulatory asset based (rolled forward)

The Regulatory Asset Base (RAB) has increased by $65.2m during the year. This increase is similar to 2017 (increase $64.5m) with higher commissioned assets and lower asset disposals offset by higher depreciation and lower revaluations.

Due to ongoing data quality checks and updates to asset category mapping there are reclassifications in the Asset category transfer line in Schedule 4(vii).

Details of the movements are detailed below[1].

Subtransmission lines ($000)	Subtransmission cables ($000)	Zone substations ($000)	Distribution and LV Lines ($000)	Distribution & LV cables ($000)	Distribution substations & transformers ($000)	Distribution Switchgear ($000)	Other network assets ($000)
($57)	($895)	($250)	$11	$959	$110	$397	($275)

Regulatory tax allowance: disclosure of permanent differences (5a(i) of Schedule 5a)

In the box below, provide descriptions and workings of the material items recorded in the following asterisked categories in 5a(i) of Schedule 5a-

- Income not included in regulatory profit / (loss) before tax but taxable;
- Expenditure or loss in regulatory profit / (loss) before tax but not deductible;
- Income included in regulatory profit / (loss) before tax but not taxable;
- Expenditure or loss deductible but not in regulatory profit / (loss) before tax.

Box 5: Regulatory tax allowance: permanent differences

There is $1.7m of income that is not included in regulatory profit / (loss) before tax but is taxable. This relates to customer contribution revenue that is recognised over 10 years for tax purposes.

There is $0.15m of expenditure in regulatory profit that is not deductible for tax. This is related to entertainment expenditure.

Regulatory tax allowance: disclosure of temporary differences (5a(vi) of Schedule 5a)

In the box below, provide descriptions and workings of material items recorded in the asterisked category 'Tax effect of other temporary differences' in 5a(vi) of Schedule 5a.

Box 6: Tax effect of other temporary differences (current disclosure year)

Temporary differences amount to $26.5m ($7.4m tax effect) and relate to—

- $6.1m depreciation correction related to a reduction of depreciation related to prior years. Additional information in relation to this is disclosed in Schedule 15 – Voluntary Explanatory Notes.
- $1.5m related to Customer Initiated Work (CIW) income that will be recognised as taxable income over

[1] This table displays the value of asset category transfers that have resulted from asset reclassifications.

a period of 10 years. Additional information in relation to this is disclosed in Schedule 15 – Voluntary Explanatory Notes.

- -$0.2m movement in other general provisions

Related party transactions: disclosure of related party transactions (Schedule 5b)

In the box below, provide descriptions of related party transactions beyond those disclosed on Schedule 5b including identification and descriptions as to the nature of directly attributable costs disclosed under subclause 2.3.6(1)(b).

Box 7: Related party transactions

There are no further related party transactions, other than those disclosed in schedule 5b.

Cost allocation (Schedule 5d)

In the box below, comment on cost allocation as disclosed in Schedule 5d. This comment must include information on reclassified items in accordance with subclause 2.7.1(2).

Box 8: Cost allocation

Powerco has adopted a fully distributed cost approach to allocate shared costs between Powerco's electricity and gas distribution businesses.

All operating costs except some specified systems operations and network support (SONS) costs and some specified business support costs are directly attributable to the specific regulated businesses.

Directly attributable costs are primarily incurred in the functional areas of:

- System Operations and Network Support (SONS)
- Customised Price-Quality Path related costs
- Network management and administration
- Customer related costs

Powerco has opted to use cost allocators that have been calculated under the ABAA (accounting based allocation approach) methodology type as defined in the Input Methodology determination, to allocate those operating costs that are not directly attributable.

The use of causal relationships has been utilised where the cost driver has led to the cost being incurred.

The use of proxy relationships has been utilised to allocate operating costs for which a causal relationship cannot be established. The rationale behind the use of each proxy allocator is based on an analysis of each financial statement item that is not directly attributable and the key cost driver as determined by Powerco's management team. This is based on a combination of experience and knowledge, an analysis of the costs and the comparative sizes of the regulated businesses.

The main reason why a causal relationship cannot be established is that for some functional areas there is not one key causal cost driver. The use of one causal allocator would unfairly effect the allocation of costs between regulated businesses.

SONS costs that are not directly attributable relate to network information services management costs and have been allocated based on a proxy fixed asset allocator (which is based on the carrying value of network fixed assets). The not directly attributable costs include the significant cost categories below:

- Personnel costs
- Professional services

Business support costs that are not directly attributable primarily arise in the functional areas of:

- Corporate services which has a proxy cost allocator of distribution line charge revenue
- Human resources which has a proxy cost allocator of employee numbers
- Regulatory management which has a causal allocation of time spent on electricity regulated and other

regulated and unregulated services.

- Legal services has a proxy fixed asset allocator
- Insurance which has causal allocators of indemnity values, vehicle allocations and employee numbers
- Facility costs which has a causal allocator of employee numbers and a proxy fixed assets allocator
- Information systems and projects which have a proxy fixed asset allocator.

The not directly attributable costs included in business support include the significant cost categories below:

- Personnel costs
- Professional services
- Information technology related expenses
- Building & insurance related costs
- Administration costs
- Communication & marketing costs.

Within each functional area across Powerco only one allocation methodology type has been used.

There have been no changes to the cost allocators applied in the current disclosure year

Asset allocation (Schedule 5e)

In the box below, comment on asset allocation as disclosed in Schedule 5e. This comment must include information on reclassified items in accordance with subclause 2.7.1(2).

Box 9: Commentary on asset allocation

Some non-network assets have been allocated to the regulatory asset base based on the proxy allocator of fixed asset net book value.

The rationale behind the use of the proxy allocator is based on an analysis of the asset types that are not directly attributable and the key driver of each asset type as determined by management. This is based on a combination of managements experience and knowledge, an analysis of the assets and the comparative sizes of the regulated businesses.

There have been no reclassifications in the period reported.

Capital Expenditure for the Disclosure Year (Schedule 6a)

In the box below, comment on expenditure on assets for the disclosure year, as disclosed in Schedule 6a. This comment must include-

- a description of the materiality threshold applied to identify material projects and programmes described in Schedule 6a;
- information on reclassified items in accordance with subclause 2.7.1(2).

Box 10: Explanation of capital expenditure for the disclosure year

Expenditure on assets totalled $174.5m for 2018, an increase of $20.9m from the previous year. This increase reflects an ongoing focus on investing to enable growth, and an increasing focus on renewal related expenditure as an increasing proportion of assets reach the end of their service life.

Materiality threshold

In addition to the programmes outlined in previous AMPs, a material project is defined as any project where

- quality of supply projects where the value exceeds 5% of the category's total value
- asset relocations projects where the total value of the project exceeds $100k

- other reliability, safety and environment projects or programmes where expenditure exceeds $150k
- non-network expenditure programmes exceeding $300k.

Reclassified items

This year Powerco adopted NZ IFRS 16 – Leases, and as a result the treatment of qualifying leases has changed. As a result these leases are now classified as non-network assets.

a) The items reclassified relate to leased assets where these costs were previously included as an operating expense.

b) The value of the leased assets reclassified in the current year are ($000s):

- Land and Building Leases $7,353
- Vehicle Lease $820

Consistent with the transitional approach adopted in relation to NZ IFRIS 16 the prior year has not been restated.

c) In the previous year lease expenditure was treated as an operating expense.

d) In the current year the leases have been classified as non-network assets as per b) above.

The changes are compliant with NZIFRS 16 and additional information in relation to this change is included in Powerco's 2018 Annual Report.

Operational Expenditure for the Disclosure Year (Schedule 6b)

In the box below, comment on operational expenditure for the disclosure year, as disclosed in Schedule 6b. This comment must include-

- Commentary on assets replaced or renewed with asset replacement and renewal operational expenditure, as reported in 6b(i) of Schedule 6b;
- Information on reclassified items in accordance with subclause 2.7.1(2);
- Commentary on any material atypical expenditure included in operational expenditure disclosed in Schedule 6b, including the value of the expenditure the purpose of the expenditure, and the operational expenditure categories the expenditure relates to.

Box 11: Explanation of operational expenditure for the disclosure year

Total operational expenditure (opex) during the period was $70.4m, which is less than the 2017 Asset Management Plan forecast of $80.8m. Network opex and non-network were 7% and 17% respectively below the forecast.

Asset replacement and renewal opex is primarily driven by the need to maintain network asset integrity to maintain current security and quality of supply. This category includes the replacement of minor, low cost assets or asset components.

Further information regarding operational expenditure for the disclosure year is contained in box 12.

Reclassified items

This year NZIFRS 16 – Leases was adopted. As a result qualifying leases are no longer reported in operating expenditure.

a) The items reclassified relate to leases of land and buildings and vehicles that were previously included in operating expenditure.

b) The impact was a reduction in operating expenditure for the items reclassified in the current year as itemised below ($000s):

- Land and building leases $1,201
- Vehicle Lease $415

Consistent with the transitional approach adopted in relation to NZ IFRIS 16 the prior year has not been restated.

c) In the previous year lease expenditure was treated as an operating expense as per b) above.

d) In the current year the qualifying leases have been classified as non-network assets.

The changes are compliant with NZIFRS 16 and additional information in relation to this change is included in the 2018 Annual Report.

There have been no material items of atypical expenditure.

Variance between forecast and actual expenditure (Schedule 7)

In the box below, comment on variance in actual to forecast expenditure for the disclosure year, as reported in Schedule 7. This comment must include information on reclassified items in accordance with subclause 2.7.1(2).

Box 12: Explanatory comment on variance in actual to forecast expenditure

Total capital expenditure during this period is below the 2017 Asset Management Plan (AMP) forecast by 1.3%.

Total Network expenditure on assets for the period is below the forecast in Powerco's 2017 AMP by $4.0m (2.5%). This variance was driven by a reallocation of priorities between development and renewal as well as challenges encountered largely as a result of major storms in the Western Region. Consumer connections and asset relocations delivered expenditure very close to forecast with a net variance of -4.6% to the AMP forecasts. Renewal expenditure, driven by major storms requiring large scale replacements was close to forecast with a -1.5% variance.

Non-network capital expenditure is $1.3m above the forecast in the AMP. This is the result of qualifying leased assets now being recorded in capital expenditure as outlined in Box 10 and Box 11. Offsetting this was a reduction in capital expenditure on the Enterprise Asset Management System largely as a result of timing.

Commentary is provided on each category where the forecast to actual variance is greater than 5.0% (subject to being material in dollar terms).

Consumer Connection

Expenditure on consumer connection was 4.6% below forecast.. While the number of works completed was up 8.3%, the average value of work decreased. This was due to a fall in the amount of "Complex" works (projects over $100,000 or greater than 300kVA capacity), primarily on the Tauranga Network. Lower expenditure on complex works was partially offset by an increase in Medium and Standard works across the Powerco footprint. The cyclical nature of large developments, particularly subdivisions, means that large scale works are often completed in one year with smaller scale work and connections carried out over the following year.

System Growth

System growth expenditure is less than forecast by $3.3m (6.5%). The variances noted were largely driven by routine and minor projects underspending against the forecast amount. A significant portion of this work was delayed when field resource was redirected to address storm related repairs and replacements. In addition to this a significant portion forecast to be spent on Network Evolution ($2.7m) was deferred as the programme was re-established following a reorganisation, contributing to the $3.3m underspend.

Asset Replacement and Renewal

Asset replacement and renewal was $1.0m (1.5%) lower than forecast. There has been lower than forecast expenditure in the renewal space primarily due to the severe storms that occurred in FY18 requiring lower value renewal works to be completed. This has been the significant driver of the variance.

Asset Relocations

Asset relocations expenditure was $0.3m above forecast. Asset relocations are primarily driven from roading projects and new subdivisions. The majority of the relocation work performed in FY18 was associated with known, long term NZTA and housing developments, so Powerco was able to forecast expenditure in this area reasonably accurately.

Other Reliability, Safety and Environment

Expenditure on Other Reliability, Safety and Environment was $0.2m (17.4%) higher than forecast. This has been driven by initiatives to improve the reliability and safety on the Powerco network. The major initiatives in this category are LV Fusing upgrades ($1.0m) and the purchase of standby generators to deploy for emergency response ($0.3m).

Quality of Supply

Expenditure on Quality of supply is above forecast by $1.5m (54%). The $4.2m spent was primarily allocated to automation projects ($3.7m) with the goal of increasing the resilience of supply.

Non-network Capex

Expenditure on non-network capex was $1.3m (6.0%) over forecast. Higher than expected non-network capex as a result of the adoption of NZ IFRS 16 – Leases (as outlined in Box 10 and Box 11), was partially offset by a delay to the timing of a planned upgrade of the Enterprise Asset Management System.

Operational Expenditure

Actual operating expenditure of $70.4m is 12.9% lower than the 2017 AMP forecast of $80.8m.

Network expenditure was $2.3m (6.9%) lower than forecast in the 2017 AMP. This was primarily driven by lower than expected spend on interruptions and emergencies by $1.5m and asset replacement and renewals by $1.0m.

Non-network expenditure was $8.1m below the 2017 AMP forecast.

Commentary is provided for each category where the variance against target exceeds 5.0% (Subject to the difference being material in dollar terms).

Service Interruptions and Emergencies

Service interruptions and emergencies expenditure was $1.5m (-21%) lower than forecast. This is primarily due to the abnormally high number of significant storms throughout FY18, which has led to more first response charges being reported as replacements (replacement being the core activity driver of the action).

Asset Replacement and Renewal

Asset replacement and renewal expenditure was $1.0m (9.3%) under forecast. This was driven by Powerco having significantly less third party damage compared to forecast years. FY18 had $500k less expenditure on third party damage than in FY17. Powerco additionally spent $400k less on OPEX renewal defects than in FY17.

Vegetation Expenditure

Based upon a risk assessment of vegetation conditions around the network Powerco determined that additional spend of $677k (12%) was necessary, especially in the Masterton and Valley regions.

Non-network Opex

Powerco's total non-network operational expenditure in the disclosure period was 17% below the forecast in the 2017 AMP.

There are two main drivers of this, being the $1.6m reduction in expenditure as a result of adopting NZ IFRS 16 – Leases, and a reduction in costs while significant restructures were undertaken with a delay in the recruitment of new employees.

Information relating to revenues and quantities for the disclosure year

In the box below provide-

- a comparison of the target revenue disclosed before the start of the disclosure year, in accordance with clause 2.4.1 and subclause 2.4.3(3) to total billed line charge revenue for the disclosure year, as disclosed in Schedule 8; and

- explanatory comment on reasons for any material differences between target revenue and total billed line charge revenue.

Box 13: Explanatory comment relating to revenue for the disclosure year

Powerco's revenue for FY18 was $390.8m, compared to the targeted revenue of $390.1m. A continuation of strong growth in subdivision developments has driven higher than expected connection numbers and volume growth across the Eastern Region. This offset lower revenue in the Western region due to lower than expected demands across the mass market.

Network Reliability for the Disclosure Year (Schedule 10)

In the box below, comment on network reliability for the disclosure year, as disclosed in Schedule 10.

Box 14: Commentary on network reliability for the disclosure year

In FY18 Powerco's SAIDI and SAIFI (Class B and Class C) was relatively high with a non-normalised SAIDI result of 415 minutes and SAIFI of 2.48. Severe weather was unusually frequent with eight storms and four major event days. Powerco's historical average is around three major storms per year. Putting aside these extreme events, the normalised SAIDI came in just below the regulatory cap.

The outage impacts and growing number of faults on the network are consistent with Powerco's analysis in its customised price path (CPP) application of underlying deterioration in the network performance, reflecting declining asset condition. This is one of the drivers for our increasing investment in asset renewal. Despite increasing expenditure across a number of areas, we expect at best, only marginal improvement in network performance (measured by the average level of unplanned interruptions) during the CPP period; but with increasing improvements over the longer term.

Calculating reliability results

Powerco has well developed processes to capture outage / interruption information and ensure the accuracy of these records. In utilising this data to complete schedule 10 the following key calculation steps are applied —

- To calculate SAIDI and SAIFI customer connection numbers ("ICPs") are calculated from the Geographic Information System ("GIS") for the transformers affected. ICPs are updated to the GIS daily from the Electricity Registry;
- The customer connection number used in the annual calculation of SAIDI and SAIFI is the average of customer numbers at the end of each month of the Assessment year. The sum of all customer minutes interrupted is divided by the average customer connection numbers to derive the annual SAIDI minutes and SAIFI value; and
- Calculation of the final year result is completed using the outage / interruption records in the Outage Management Database noting refinements to the data to correct for a number of practical delays affecting the recorded restoration time for many faults; these include SCADA polling delays, voice communication constraints and clock time coding discrepancies. Consistent with previous reporting periods, an adjustment of three minutes per interruption is made across all fault records to correct for these discrepancies. Powerco's CPP proposal includes investment planned to improve communication systems over the five year CPP period ending March 2023. It is expected the improved communications systems will see the communications adjustment phased out by the end of the CPP period.

The normalised results for Powerco

In Schedule 10 Powerco is required to report the reliability limits established under the 2015 Default Price-Quality Path Determination (DPP) for Powerco Limited (in line 40 of Schedule 10). However the comparative actual normalised result (line 37 of Schedule 10) must apply the methodology contained in the Information Disclosure Determination (IDD).

The methodology for calculating SAIDI and SAIFI between the DPP and IDD is significantly different therefore the actual normalised result reported in this information disclosure should not be compared to the

DPP quality path normalised reliability limits.

The Commerce Commission is aware of this inherent inconsistency and will consider this issue in future amendments to the Information Disclosure Determination.[2]

Powerco's normalised reliability results for information disclosure compared with the DPP quality path (both prepared on the same basis as for 2017) are:

FY18 SAIDI & SAIFI Disclosure Results						
Measure	Information Disclosure Determination (IDD – Schedule 10)			Default Price Path (DPP)		
	MED[3] Boundary (minutes)	Annual Max. SAIDI Limit (minutes)	Annual Result[4] (minutes) [Line 37 of Schedule 10]	MED[5] Boundary (minutes)	Annual Max. SAIDI Limit (minutes) [Line 40 of Schedule 10]	Annual Result (minutes)
SAIDI	8.68	-	230.26	11.21440792	210.629	205.265
SAIFI	0.1288	-	2.42	0.064	2.520	2.12

The normalised results for Powerco's sub-networks

When calculating the normalised SAIDI and SAIFI for the sub-networks for the purposes of Information Disclosure, Powerco has derived normalised datasets for each sub-network using boundary values calculated using the reference dataset (2005-2009 disclosure years) for each sub-network. This approach follows one of the two options provided by the Commerce Commission in its Issues Register for Electricity and Gas Information Disclosure.[6] Powerco has chosen this option as we consider it provides a more meaningful analysis of the actual performance of each sub-network than the alternative option of applying a Powerco wide network boundary value to the sub-networks.

Insurance cover

In the box below, provide details of any insurance cover for the assets used to provide electricity distribution services, including-

- The EDB's approaches and practices in regard to the insurance of assets used to provide electricity distribution services, including the level of insurance;
- In respect of any self insurance, the level of reserves, details of how reserves are managed and invested, and details of any reinsurance.

Box 15: Explanation of insurance cover

Powerco holds significant insurance cover relating to material damage and business interruption, targeted at key assets. This includes full cover for buildings and contents, substations and IS server equipment, and natural disaster cover for distribution transformers and SCADA equipment.

Powerco continues to prudently insure our network and other assets where it is economically feasible to do so, in line with good industry practice. Cover for poles, wires and pipes (commonly referred to as transmission and distribution cover) are, for all practical purposes, unavailable in NZ. Where it may be available in small amounts across our geographic region, the cost is considered to be uneconomic versus the risk, as there is a restricted retained limit and a premium cost of 10-15% of the sum insured.

To manage the immediate financial exposure to a catastrophic event affecting uninsured assets, the company maintains headroom in its debt facilities as explained below. The geographically diverse nature of Powerco's assets, and the resilience of those assets, also provides some practical mitigation of seismic

[2] Commerce Commission's issues register for gas and electricity information disclosure, item number 447.
[3] For IDD a Major Event Day (MED) occurs when the daily SAIDI/SAIFI value for Powerco's Class B (Planned) and Class C (Unplanned) interruptions exceeds the Unplanned SAIDI/SAIFI Boundary Value.
[4] The Annual Result for Information Disclosure (IDD) normalises the sum of both Unplanned and Planned SAIDI/SAIFI using the MED Boundary Values. In comparison the Default Price Path (DPP) normalises Unplanned SAIDI/SAIFI only using its MED Boundary Values then adds 50% of total Planned SAIDI.
[5] For DPP a Major Event Day (MED) occurs when the daily SAIDI/SAIFI value for Powerco's Class C (Unplanned) interruptions exceeds the Unplanned SAIDI/SAIFI Boundary Value.
[6] Commerce Commission's issues register for gas and electricity information disclosure, item number 231.

risks.

Powerco maintains debt facilities, in excess of net (drawn) debt, that would be available for use should events occur which require extra funds to be made available quickly. This headroom amount is in excess of our day-to-day working capital requirements.

The value of this facility headroom, currently $70 million, is based primarily on an assessment of the uninsured damage to Powerco's network assets undertaken by Marsh Risk Consulting. This analysis reviewed the catastrophic risk and expected loss from a catastrophic event, and was last assessed at $50-70 million.

Insurance costs are allocated to Powerco's separate businesses following Powerco's allocation policies discussed earlier in this document.

Amendments to previously disclosed information

In the box below, provide information about amendments to previously disclosed information disclosed in accordance with clause 2.12.1 in the last 7 years, including:

- a description of each error; and
- for each error, reference to the web address where the disclosure made in accordance with clause 2.12.1 is publicly disclosed.

Box 16: Disclosure of amendment to previously disclosed information

There have been no amendments to previously disclosed information.

Schedule 15 Voluntary Explanatory Notes

This section includes notes, which supplement the mandatory notes set out in Schedule 14 and provide additional information to aid understanding of the required disclosure schedules.

Finance Schedules

Changes to Regulatory tax Disclosures

The 2018 Electricity Information Disclosures include some corrections that relate to previous Electricity Information Disclosures. These corrections are not considered to be material, but are outlined here to provide supplementary information to aid understanding of the 2018 schedules.

1) **Customer Contribution income.** A portion of customer contributions received has historically been recognised as taxable income and spread over 10 years as permitted under the Tax Rules. Historical Information Disclosures from 2010 to 2017 did not capture this correctly. The correction of this in the current year includes:
    a. Inclusion of $1.0m (tax effect) as a temporary difference in Schedule 5a(vi) Calculation of Deferred Tax Balance. This reflects the net deferred tax impact of the Customer Contribution income that will be recognised as taxable income in future years, and the depreciation of these assets as they are now included in the Regulatory Tax Asset Base as per b. below.
    b. Inclusion of $14.6m as an addition to Schedule 5a(viii) Regulatory Tax Asset Base Roll-Forward. This is included in the Other adjustments to the RAB tax value line. It reflects the Recognition of the Customer Contribution component as a Regulatory Tax Asset. Under the Tax Rules these are treated as an asset, and as such should also be included as a Regulatory Tax Asset.
2) **Tax Depreciation.** Previous Information Disclosures from 2010 to 2017 have not accurately reflected the tax depreciation filed in tax returns. This is the result of manual adjustments that are made post year-end and post publication of the Electricity Information Disclosure, but prior to filing of the annual tax return. The correction of this in the current year includes:
    a. Inclusion of $6.1m (tax effect) as a temporary difference in Schedule 5a(vi) Calculation of Deferred Tax Balance. This reflects the tax effect of the depreciation adjustment (as per 2b. below) that would normally have flowed through line 64 (Tax effect of tax depreciation) of this schedule.
    b. Inclusion of $21.8m as an addition to Schedule 5a(viii) Regulatory Tax Asset Base Roll-Forward. This is included in the Other adjustments to the RAB tax value line. It corrects depreciation that had been overstated in previous Information Disclosures by this amount.

Weighted average remaining useful life of assets (schedule 4)

The weighted average remaining useful life of assets has been calculated in accordance with Schedule 16 of the IDD which specifies the weighting be based on opening RAB values. Opening RAB is a depreciated value which skews the weighted average remaining useful life value towards the newer, and consequently, higher value longer remaining life assets. This measure is therefore not a true reflection of the age of Powerco's assets.

It is also important to note that asset age, particularly total average remaining asset life, is not a key driver of the need to replace network assets. Good asset management practice would suggest this is primarily driven by overall asset health – i.e. condition/performance/criticality. For this reason, Powerco's forecast investment profiles set out in the company's current Asset Management Plan are not directly linked to addressing specific movements in average asset age although this is one of a number of key considerations.

Overhead to underground conversion (schedule 6a)

Powerco does not collect information separately where the conversion from overhead line to underground cable forms part of a larger project. The capital expenditure for this metric reported in schedule 6a is for those projects that are only converting overheard distribution to underground.

Billed Quantities and Revenues (schedule 8)

Billed Quantities

Powerco operates an ICP (installation control point) pricing methodology for the Eastern region and a GXP (grid exit point) pricing methodology for the Western region. Schedule 8 requires the reporting of energy delivered to ICPs and also the billed quantities by price component.

Under the GXP pricing methodology, the actual energy delivered to ICPs differs from the chargeable kWh quantities detailed in the billed quantities section of Schedule 8, which is based on GXP quantities delivered.

Powerco's Western Region uses volumes reconciled at each GXP to determine billable charges. Consequently, Powerco does not hold information on the energy delivered to ICPs for the Western Region. Powerco has obtained retailer submission data from the Reconciliation Manager to complete this metric.

In FY18 we revised how we determine volumes for a single large industrial customer in the non-standard consumer group. To be more consistent with how we report volumes and demands across the business we have excluded onsite generation from the calculation (previously onsite generation was deducted from the overall consumption). This re-calculation has resulted in an increase of energy delivered for the large non-standard consumer group of 256 GWh which contributes materially to the increase in total energy delivered from FY17 to FY18.

In FY17 Powerco revised demand charges for the commercial and industrial customers in our Western region. Historically these customers were charged demand charges based on the average of their twelve highest half hourly peaks (kVA) over the previous twelve months. Based on feedback from retailers and customers we have moved to a less complicated and more transparent methodology. This involves taking historical half hourly (kW) Anytime Maximum Demands (AMD) and On Peak Demands (OPD) from the previous year to determine chargeable quantities.

From 1 April 2016 we split the existing demand charge into two to allow us to separately apply a distribution charge and a transmission charge. The distribution charge will have the AMD quantity applied to it. The transmission charge will have the OPD quantity applied, similar to Transpower's current pricing methodology.

As the two new chargeable quantities have different prices and revenues associated with them we have separated out the two different demand quantities in schedule 8 of the Information Disclosure.

Consumer types

The IDD permits Powerco to define the appropriate consumer types that are typical of the consumers connected to our network.

Powerco has three major types of consumer groups:

- residential/ small commercial;
- commercial; and
- industrial.

The Industrial consumer group is further separated into those on standard and non-standard contracts.

Table one illustrates the application of these consumer groups to our pricing groups for the 2018 assessment period.

Table One: Price groups assigned to consumer groups

Consumer Group	Eastern Region Price Categories	Western Region Price Categories
Residential/Small Commercial	0-69 KVA (V05, V06, T05, T06 tariff groups)	<301 kVA (E1 tariff group)
Commercial	69-299 kVA (V24,V28,T22,T24,T41 tariff groups)	100-300 kVA (E100 tariff group)
Large Commercial/Industrial (standard)	≥300kVA (T43 tariff group)	>300kVA (E300 tariff group)

Large Commercial/Industrial (non-standard)	≥300kVA (T50, T60, V40, V60 tariff groups)	≥300kVA (Special)

ICP numbers

When reporting Powerco's ICPs, Powerco has included ready, inactive and active ICPs in the disclosed number.

Transmission line charge revenue

Transmission line charge revenue reflects Powerco's recovery, via prices, of recoverable costs and pass-through costs in FY18. Recoverable costs are mostly transmission costs. Pass-through costs include rates and levies. Further information on Powerco's recoverable and pass-through costs included in prices is available in the annual Electricity Default Price-Quality compliance statement available on Powerco's website.

Asset Information (schedules 9a-9c)

Powerco's network is made up of fifteen legacy lines networks that have been amalgamated over time. This diversity of networks has created on-going data and systems integration and improvement challenges for Powerco.

Powerco has invested in both systems and data cleansing programmes over the past decade to help align and cleanse the data, resulting in material and progressive improvements in the quality and completeness of our asset related data sets.

Whilst we believe that the quality of our data is now adequate for business purposes, and in line with the levels of quality available by other electricity distributors, there are some known limitations to our current data set as set out in schedules 9a and 9b; key points are noted as follows:

- The underlying GIS data comprises a comprehensive set of network information that is generally complete and consistently applied. However, a small proportion of the asset data is either internally conflicting or not wholly reliable and, for a small number of asset categories, there are also gaps in the attribute information.
- Ongoing programmes of work are underway to improve the completeness and accuracy of our asset data. This work may impact the future reporting of quantities reflected in the schedules, most significantly for OH/UG consumer service connections.
- The asset age profile (Schedule 9b) includes some default ages in each asset class. For some asset classes (particularly poles and switches), an installation date estimate has been made at some time after the initial data capture. While based on the best information available, these estimates are likely to contain some inaccuracies.

Asset Age

- Powerco asset data modelling is applied to determine the most likely installation date where that information is not directly recorded. For example, conductor dates can be inferred from associated poles and adjacent conductor when conductor age is not directly recorded. As a result, the dataset does not contain assets in the age-unknown category.
- Some date information is known to have been defaulted, and this is reported as such.

Network Asset Classification

The programmes we have put in place to ensure on-going improvement of asset data over time, as well as the process of clarification used by the Commission to ensure data is calculated on a consistent basis between companies, means that from time to time we re-categorise small numbers of assets to reflect the latest guidance and latest available data.

Asset Categorisation

Powerco operates network assets, as set out in table 2, which do not clearly fit in to a specified category. These assets have been included in the category that most closely relates to the asset type and function.

Table Two: asset categorisation

Asset Type	Included in	
	Asset category	Asset class
Ground mounted 33/66kV fuses	Zone substation switchgear	33kV switch (ground mounted)
Pole mounted 33/66kV fuses	Zone substation switchgear	33kV switch (pole mounted)
33kV reclosers	Zone substation switchgear	22/33kV CB(outdoor)
Reclosers in zone substations	Zone substation switchgear	3.3/6.6/11/22kV CB (pole mounted)
Ground mounted 3.3/6.6/11/22kv fuses	Distribution switchgear	3.3/6.6/11/22kv switch (ground mounted) except RMU
Pole mounted distribution conversion and SWER isolation transformers	Distribution transformer	Pole mounted transformer
Ground mounted distribution conversion and SWER isolation transformers	Distribution transformer	Ground mounted transformer
Ground mounted subtransmission switchgear (not in zone substations)	Zone substation switchgear	33kV switch (ground mounted)
Pole mounted subtransmission switchgear (not in zone substations)	Zone substation switchgear	33kV switch (pole mounted)
Protection system pilots	Not included[7]	Not included

Service Connections

Service connections are calculated for Schedules 9a and 9b based on the guidance provided by the Commerce Commission in their issues register for electricity and gas businesses.

For completeness we note that streetlight connections are not considered a service connection.

SCADA and Communications equipment operating as a single system

The entire Powerco network operates from a single SCADA and communications system.

An average installation date has been calculated in response to Commission's issues register item #443.

Low voltage circuit length

Powerco notes that low voltage circuit length has been calculated in accordance with updated disclosure information provided by the Commission. This updated definition requires low voltage service lines in transport corridors (other than road crossings) to be excluded from the calculation. For completeness

[7] Refer to the information disclosure determination issues register published by the Commerce Commission

Powerco considers that this definition understates the practical circuit length under management by Powerco.

Circuits in sensitive areas

Powerco does not record sensitive area geography. Therefore no circuit length is reported for this criterion.

Circuit length under vegetation management

Powerco's vegetation management policy applies to the overhead electricity network. Subject to annual budget constraints, this strategy involves an intensive trimming period in high criticality areas until the areas are under control and then a reduction to a sustainable level of vegetation management to maintain clearance from the lines.

Transformer capacity (schedule 9e)

Distribution transformer capacity

The disclosed Powerco owned distribution transformer capacity includes transformers that are recorded in the GIS as network connected. In accordance with Powerco's operational approach to ownership, transformers with no clear owner (where the GIS ownership field is null or unknown) are regarded as Powerco owned for disclosure purposes.

Assumptions have been made for operational distribution substations where installed capacity is not known.

Zone substation transformer capacity

Powerco owns transformers provided by various suppliers with ratings calculated at varying temperatures. The capacity reported in the information disclosure uses a standardised rating for continuous operation at 20^{o}C.

Amendments to formulae in the schedules

There have been no amendments to the templates provided by the Commerce Commission for the 2018 Information Disclosure.

Certificate for year-end disclosures

CERTIFICATE FOR YEAR-END DISCLOSURES

Pursuant to clause 2.9.2 of section 2.9

We, Michael Bessell and John Loughlin,

being directors of Powerco Limited certify that, having made all reasonable enquiry, to the best of our knowledge—

a) The information prepared for the purposes of clauses 2.3.1, 2.3.2, 2.4.21, 2.4.22, 2.5.1, 2.5.2 and 2.7.1 of the Electricity Distribution Information Disclosure Determination 2012 in all material respects complies with that determination; and

b) The historical information used in the preparation of Schedules 8, 9a, 9b, 9c, 9d, 9e, 10, and 14 has been properly extracted from the Powerco Limited's accounting and other records sourced from its financial and non-financial systems, and that sufficient appropriate records have been retained.

Director

Director

John Loughlin
Director

23/8/18

Date

23/8/18

Date

Deloitte.

INDEPENDENT AUDITOR'S REPORT
TO THE DIRECTORS OF POWERCO LIMITED AND THE COMMERCE COMMISSION

Report on the Disclosure Information prepared in accordance with the Electricity Distribution Information Disclosure Determination 2012 (consolidated in 2015)

We have conducted a reasonable assurance engagement on whether the information disclosed by Powerco Limited (the 'Company') in schedules 1, 2, 3, 4, 5a-5g, 6a, 6b, 7, the system average interruption duration index ('SAIDI') and system average interruption frequency index ('SAIFI') information disclosed in Schedule 10 and the explanatory notes disclosed in boxes 1 to 12 of Schedule 14 for the disclosure year ended 31 March 2018 ('the Disclosure Information') has been prepared, in all material respects, in accordance with the Electricity Distribution Information Disclosure Determination 2012 (consolidated in 2015) ('the Determination').

Opinion

This opinion has been formed on the basis of, and is subject to, the inherent limitations outlined elsewhere in this independent assurance report.

In our opinion:

- The Company has complied, in all material respects, with the Determination in preparing the Disclosure Information;

- As far as appears from an examination of them, proper records to enable the complete and accurate compilation of the Disclosure Information have been kept by the Company; and

- As far as appears from an examination of the records, the information used in the preparation of the Disclosure Information has been properly extracted from the Company's accounting and other records and has been sourced, where appropriate, from the Company's financial and non-financial systems.

Basis of opinion

We have conducted our engagement in accordance with Standard on Assurance Engagements 3100 (Revised): *Compliance Engagements* ('SAE3100 (Revised) issued by the New Zealand Auditing and Assurance Standards Board.

We believe that the evidence we have obtained is sufficient and appropriate to provide a basis for our conclusion.

Responsibilities of the Board of Directors for the Disclosure Information

The Board of Directors is responsible on behalf of the Company for the preparation of the Disclosure Information in accordance with the Determination. The responsibility includes the design, implementation and maintenance of internal control relevant to the Company's preparation of the Disclosure Information with the Determination.

Our Independence and Quality Control

We have complied with the independence and other ethical requirements of the Professional and Ethical Standard 1 (Revised): *Code of Ethics for Assurance Practitioners* issued by the

New Zealand Auditing and Assurance Standards Board, which is founded on fundamental principles of integrity, objectivity, professional competence and due care, confidentiality and professional behaviour.

Other than in our capacity as independent auditor and the provision of other assurance services including the audit of regulatory disclosure statements, project quality assurance and trustee reporting, we have no relationship with or interests in the Company or any of its subsidiaries. These services have not impaired our independence as auditor of Powerco Limited.

The firm applies Professional and Ethical Standard 3 (Amended): *Quality Control for Firms that Perform Audits and Reviews of Financial Statements, and Other Assurance Engagements* issued by the New Zealand Auditing and Assurance Standards Board, and accordingly maintains a comprehensive system of quality control including documented policies and procedures regarding compliance with ethical requirements, professional standards and applicable legal and regulatory requirements.

Auditor's Responsibility

Our responsibility is to express an opinion whether the Disclosure information has been prepared, in all material respects, in accordance with the Determination. SAE 3100 requires that we plan and perform our procedures to obtain reasonable assurance that the Company has complied, in all material aspects, with the Determination in relation to the preparation of the Disclosure Information.

An assurance engagement to report on the Company's preparation of the Disclosure Information in accordance with the Determination involves performing procedures to obtain evidence about the compliance activity and controls implemented to meet the requirements of the Determination. The procedures selected depend on our judgement, including the identification and assessment of risk of material non-compliance with the Determination.

Our procedures included:
- evaluating the methodologies used in preparing the Disclosure Information and confirming that they are in accordance with the requirements set out in the Determination;
- ensuring proper records to enable the complete and accurate compilation of the Disclosure Information have been kept by the Company;
- identifying key inputs to the Disclosure Information;
- ensuring the information used in preparing the Disclosure Information has been properly extracted from the Company's accounting and other records, sourced from its financial and non-financial systems; and
- ensuring the calculations are mathematically correct.

These procedures have been undertaken to form an opinion as to whether the Disclosure Information has been prepared, in all material respects, in accordance with the Determination for the period 1 April 2017 to 31 March 2018.

Inherent Limitations

Because of the inherent limitations of an assurance engagement, together with the inherent limitations of any systems of internal control, there is unavoidable risk that fraud, error or non-compliance by the Company with the Determination in relation to the Disclosure Information may occur and not be detected, even though the engagement is properly planned and performed in accordance with SAE 3100.

Use of Report

This report is provided solely for your exclusive use and solely for the purpose of Section 2.8 of the Determination. Our report is not to be used for any other purpose, recited or referred to in any document, copied or made available (in whole or in part) to any other person without our prior written express consent. We accept or assume no duty, responsibility or liability to any other party in connection with the report or this engagement, including without limitation, liability for negligence in relation to the opinion expressed in this report.

Deloitte Limited

Wellington, New Zealand
23 August 2018