

# **Electricity Information Disclosure 2019**

**22/08/2019**

**Contents**

Introduction.....	3
Schedule 1: Analytical Ratios.....	5
Schedule 2: Return on Investment.....	6
Schedule 3: Regulatory Profit.....	8
Schedule 4: Value of Regulatory Asset Base.....	10
Schedule 5a: Regulatory Tax Allowance.....	12
Schedule 5b: Related Party Transactions.....	14
Schedule 5c: Term Credit Spread Differential.....	15
Schedule 5d: Cost Allocations.....	16
Schedule 5e: Asset Allocations.....	17
Schedule 6a: Capital Expenditure.....	18
Schedule 6b: Operational Expenditure.....	21
Schedule 7: Forecast v Actual Expenditure.....	22
Schedule 8: Billed Quantities and Line Charge Revenue.....	23
Schedule 9a: Asset Register.....	26
Schedule 9b: Asset Age Profile.....	29
Schedule 9c: Overhead Lines and Underground Cables.....	32
Schedule 9d: Embedded Networks.....	35
Schedule 9e: Demand.....	36
Schedule 10: Reliability.....	39
Schedule 14: Mandatory Explanatory Notes.....	45
Schedule 15 Voluntary Explanatory Notes.....	55
Certificate for year-end disclosures.....	60
Auditor's Report.....	61

## 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.

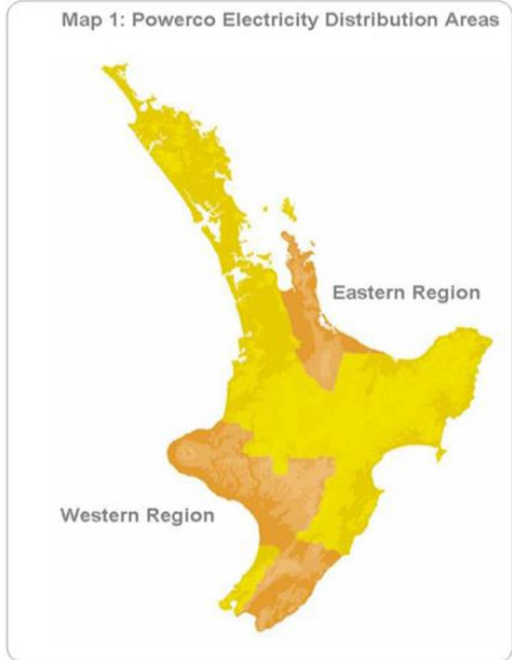
The IDD requires disclosure of the following information for the 2019 disclosure year:

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.

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 2019 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 2019**

## 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

### 1(i): Expenditure metrics

	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)
<b>Operational expenditure</b>	17,917	258	96,003	3,105	26,906
Network	8,387	121	44,939	1,453	12,595
Non-network	9,530	137	51,064	1,652	14,311
<b>Expenditure on assets</b>	44,919	648	240,688	7,784	67,457
Network	40,219	580	215,508	6,970	60,400
Non-network	4,699	68	25,180	814	7,057

### 1(ii): Revenue metrics

	Revenue per GWh energy delivered to ICPs (\$/GWh)	Revenue per average no. of ICPs (\$/ICP)
<b>Total consumer line charge revenue</b>	81,437	1,174
Standard consumer line charge revenue	104,073	1,031
Non-standard consumer line charge revenue	31,945	127,975

### 1(iii): Service intensity measures

Demand density	32	Maximum coincident system demand per km of circuit length (for supply) (kW/km)
Volume density	173	Total energy delivered to ICPs per km of circuit length (for supply) (MWh/km)
Connection point density	12	Average number of ICPs per km of circuit length (for supply) (ICPs/km)
Energy intensity	14,420	Total energy delivered to ICPs per average number of ICPs (kWh/ICP)

### 1(iv): Composition of regulatory income

	(\$000)	% of revenue
Operational expenditure	87,939	22.58%
Pass-through and recoverable costs excluding financial incentives and wash-ups	118,933	30.54%
Total depreciation	67,008	17.21%
Total revaluations	24,327	6.25%
Regulatory tax allowance	29,140	7.48%
Regulatory profit/(loss) including financial incentives and wash-ups	108,724	27.92%
<b>Total regulatory income</b>	<b>389,384</b>	

### 1(v): Reliability

Interruption rate	24.09	Interruptions per 100 circuit km
-------------------	-------	----------------------------------

# Schedule 2: Return on Investment

Company Name **Powerco Limited**  
For Year Ended **31 March 2019**

## 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

2(i): Return on Investment		CY-2	CY-1	Current Year CY
		31 Mar 17	31 Mar 18	31 Mar 19
		%	%	%
<b>ROI – comparable to a post tax WACC</b>				
	Reflecting all revenue earned	7.19%	6.21%	6.12%
	Excluding revenue earned from financial incentives	7.19%	6.31%	6.02%
	Excluding revenue earned from financial incentives and wash-ups	7.22%	6.28%	6.01%
<b>Mid-point estimate of post tax WACC</b>				
	25th percentile estimate	4.77%	5.04%	4.75%
	75th percentile estimate	4.05%	4.36%	4.07%
		5.48%	5.72%	5.43%
<b>ROI – comparable to a vanilla WACC</b>				
	Reflecting all revenue earned	7.73%	6.80%	6.63%
	Excluding revenue earned from financial incentives	7.73%	6.90%	6.53%
	Excluding revenue earned from financial incentives and wash-ups	7.77%	6.87%	6.52%
<b>WACC rate used to set regulatory price path</b>				
		7.19%	7.19%	7.19%
<b>Mid-point estimate of vanilla WACC</b>				
	25th percentile estimate	5.31%	5.60%	5.26%
	75th percentile estimate	4.59%	4.92%	4.58%
		6.03%	6.29%	5.94%
<b>2(ii): Information Supporting the ROI</b>		(\$'000)		
	Total opening RAB value	1,657,737		
	plus Opening deferred tax	(60,533)		
	<b>Opening RIV</b>		1,597,204	
	<b>Line charge revenue</b>		399,711	
	Expenses cash outflow	206,872		
	add Assets commissioned	185,313		
	less Asset disposals	12,096		
	add Tax payments	22,802		
	less Other regulated income	(10,328)		
	<b>Mid-year net cash outflows</b>		413,218	
	<b>Term credit spread differential allowance</b>		1,967	
	Total closing RAB value	1,787,100		
	less Adjustment resulting from asset allocation	(1,173)		
	less Lost and found assets adjustment	-		
	plus Closing deferred tax	(66,871)		
	<b>Closing RIV</b>		1,721,402	
	<b>ROI – comparable to a vanilla WACC</b>			6.63%
	Leverage (%)			42%
	Cost of debt assumption (%)			4.33%
	Corporate tax rate (%)			28%
	<b>ROI – comparable to a post tax WACC</b>			6.12%

Company Name **Powerco Limited**  
For Year Ended **31 March 2019**

**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

**2(iii): Information Supporting the Monthly ROI**

61									
62									
63	Opening RIV								N/A
64									
65									
66		Line charge revenue	Expenses cash outflow	Assets commissioned	Asset disposals	Other regulated income		Monthly net cash outflows	
67	April								-
68	May								-
69	June								-
70	July								-
71	August								-
72	September								-
73	October								-
74	November								-
75	December								-
76	January								-
77	February								-
78	March								-
79	Total	-	-	-	-	-	-	-	-
80									
81	Tax payments								N/A
82									
83	Term credit spread differential allowance								N/A
84									
85	Closing RIV								N/A
86									
87									
88	Monthly ROI – comparable to a vanilla WACC								N/A
89									
90	Monthly ROI – comparable to a post tax WACC								N/A
91									

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

92				
93				
94	Year-end ROI – comparable to a vanilla WACC			6.30%
95				
96	Year-end ROI – comparable to a post tax WACC			5.79%
97				

\* 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**

101				
102	Net recoverable costs allowed under incremental rolling incentive scheme			-
103	Purchased assets – avoided transmission charge			-
104	Energy efficiency and demand incentive allowance			-
105	Quality incentive adjustment			2,094
106	Other financial incentives			-
107	Financial incentives			2,094
108				
109	Impact of financial incentives on ROI			0.09%
110				
111	Input methodology claw-back			-
112	CPP application recoverable costs			-
113	Catastrophic event allowance			-
114	Capex wash-up adjustment			246
115	Transmission asset wash-up adjustment			-
116	2013–15 NPV wash-up allowance			-
117	Reconsideration event allowance			-
118	Other wash-ups			-
119	Wash-up costs			246
120				
121	Impact of wash-up costs on ROI			0.01%

A monthly ROI must only be calculated if during the first three months or last three months of the 2019 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 2019**

## 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

3(i): Regulatory Profit		(\$000)	
7	<b>Income</b>		
8	Line charge revenue	399,711	
9	plus Gains / (losses) on asset disposals	(11,894)	
10	plus Other regulated income (other than gains / (losses) on asset disposals)	1,567	
11			
12	<b>Total regulatory income</b>	<b>389,384</b>	
13	<b>Expenses</b>		
14	less Operational expenditure	87,939	
15	less Pass-through and recoverable costs excluding financial incentives and wash-ups	118,933	
16			
17	<b>Operating surplus / (deficit)</b>	<b>182,512</b>	
18	less Total depreciation	67,008	
19	plus Total revaluations	24,327	
20			
21	<b>Regulatory profit / (loss) before tax</b>	<b>139,831</b>	
22	less Term credit spread differential allowance	1,967	
23	less Regulatory tax allowance	29,140	
24			
25	<b>Regulatory profit/(loss) including financial incentives and wash-ups</b>	<b>108,724</b>	
26			
27			
28			
29			
30			
31			
32			
33	<b>3(ii): Pass-through and Recoverable Costs excluding Financial Incentives and Wash-Ups</b>	<b>(\$000)</b>	
34	<b>Pass through costs</b>		
35	Rates	2,015	
36	Commerce Act levies	646	
37	Industry levies	1,152	
38	CPP specified pass through costs	—	
39	<b>Recoverable costs excluding financial incentives and wash-ups</b>		
40	Electricity lines service charge payable to Transpower	99,627	
41	Transpower new investment contract charges	7,008	
42	System operator services	—	
43	Distributed generation allowance	8,663	
44	Extended reserves allowance	—	
45	Other recoverable costs excluding financial incentives and wash-ups	(178)	
46	<b>Pass-through and recoverable costs excluding financial incentives and wash-ups</b>	<b>118,933</b>	
47			
48	<b>3(iii): Incremental Rolling Incentive Scheme</b>	<b>(\$000)</b>	
49			
50			
51	Allowed controllable opex		
52	Actual controllable opex		
53			
54	Incremental change in year		
55			
56			
57			
58			
59			
60			
61			
62	<b>Net incremental rolling incentive scheme</b>		
63			
64	<b>Net recoverable costs allowed under incremental rolling incentive scheme</b>		



Company Name **Powerco Limited**  
 For Year Ended **31 March 2019**

**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

65	<b>3(iv): Merger and Acquisition Expenditure</b>	
66		✔ (\$000)
67	Merger and acquisition expenditure	-
68		
69	<i>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)</i>	
70	<b>3(v): Other Disclosures</b>	
71		✔ (\$000)
72	Self-insurance allowance	-

# Schedule 4: Value of Regulatory Asset Base

Company Name **Powerco Limited**  
For Year Ended **31 March 2019**

## 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		for year ended					
		RAB 31 Mar 15 (\$000)	RAB 31 Mar 16 (\$000)	RAB 31 Mar 17 (\$000)	RAB 31 Mar 18 (\$000)	RAB 31 Mar 19 (\$000)	
7	<b>4(i): Regulatory Asset Base Value (Rolled Forward)</b>						
10	Total opening RAB value	1,439,789	1,476,717	1,528,013	1,592,546	1,657,737	
12	less Total depreciation	57,918	59,697	62,497	66,765	67,008	
14	plus Total revaluations	1,198	8,575	32,664	17,321	24,327	
16	plus Assets commissioned	102,247	113,407	108,878	123,688	185,313	
18	less Asset disposals	8,941	11,131	14,730	9,200	12,096	
20	plus Lost and found assets adjustment	-	-	-	-	-	
22	plus Adjustment resulting from asset allocation	342	141	218	146	(1,173)	
24	<b>Total closing RAB value</b>	<b>1,476,717</b>	<b>1,528,013</b>	<b>1,592,546</b>	<b>1,657,737</b>	<b>1,787,100</b>	
26	<b>4(ii): Unallocated Regulatory Asset Base</b>						
29	Total opening RAB value		Unallocated RAB * (\$000)		RAB (\$000)		
30	less Total depreciation		1,662,992		1,657,737		
32	plus Total revaluations		67,914		67,008		
34	plus Assets commissioned (other than below)		187,578		184,411		
36	Assets acquired from a regulated supplier		-		-		
37	Assets acquired from a related party		902		902		
38	<b>Assets commissioned</b>		<b>188,480</b>		<b>185,313</b>		
40	less Asset disposals (other than below)		12,106		12,096		
41	Asset disposals to a regulated supplier		-		-		
42	Asset disposals to a related party		-		-		
43	<b>Asset disposals</b>		<b>12,106</b>		<b>12,096</b>		
45	plus Lost and found assets adjustment		-		-		
47	plus Adjustment resulting from asset allocation		-		(1,173)		
49	<b>Total closing RAB value</b>		<b>1,795,855</b>		<b>1,787,100</b>		
50	* 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.						
52	<b>4(iii): Calculation of Revaluation Rate and Revaluation of Assets</b>						
54	CPI <sub>t</sub>					1.026	
55	CPI <sub>t-4</sub>					1.011	
56	Revaluation rate (%)					1.48%	
60	Total opening RAB value		Unallocated RAB * (\$000)		RAB (\$000)		
61	less Opening value of fully depreciated, disposed and lost assets		1,662,992		1,657,737		
62	Total opening RAB value subject to revaluation		18,276		18,123		
64	<b>Total revaluations</b>		<b>1,644,716</b>		<b>1,639,613</b>		
65			24,402		24,327		
67	<b>4(iv): Roll Forward of Works Under Construction</b>						
68	Works under construction—preceding disclosure year		Unallocated works under construction		Allocated works under construction		
69	plus Capital expenditure		99,294		97,803		
70	less Assets commissioned		193,259		188,894		
71	plus Adjustment resulting from asset allocation		188,480		185,313		
72	<b>Works under construction - current disclosure year</b>		<b>104,073</b>		<b>101,346</b>		
74	Highest rate of capitalised finance applied					6.35%	
76	<b>4(v): Regulatory Depreciation</b>						
79	Depreciation - standard		Unallocated RAB * (\$000)		RAB (\$000)		
80	Depreciation - no standard life assets		59,960		59,889		
81	Depreciation - modified life assets		7,953		7,118		
82	Depreciation - alternative depreciation in accordance with CPP		-		-		
83	<b>Total depreciation</b>		<b>67,914</b>		<b>67,008</b>		

Company Name **Powerco Limited**  
 For Year Ended **31 March 2019**

**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(vi): Disclosure of Changes to Depreciation Profiles**

(\$000 unless otherwise specified)

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

\* include additional rows if needed

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

(\$000 unless otherwise specified)

	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
<b>Total opening RAB value</b>	71,438	30,254	180,064	421,142	338,669	270,543	154,625	155,706	35,294	1,657,737
less Total depreciation	2,232	996	7,899	15,075	15,564	9,071	6,269	4,499	5,402	67,008
plus Total revaluations	1,055	549	2,676	6,189	4,916	3,964	2,255	2,317	407	24,327
plus Assets commissioned	5,415	592	4,212	57,845	19,942	30,829	35,868	13,480	17,130	185,313
less Asset disposals	408	3	184	3,947	435	3,335	2,542	967	275	12,096
plus Lost and found assets adjustment										
plus Adjustment resulting from asset allocation				(1,091)					(82)	(1,173)
plus Asset category transfers	(2,746)	6,355	(2,895)	(27,293)	(26,097)	(20,146)	(19,461)	92,272	11	0
<b>Total closing RAB value</b>	72,522	36,751	175,975	437,769	321,432	272,785	164,476	258,308	47,083	1,787,100
<b>Asset Life</b>										
Weighted average remaining asset life	41.6	40.7	31.9	37.9	32.3	35.7	30.1	35.1	17.6	(years)
Weighted average expected total asset life	59.6	51.4	47.7	59.0	48.8	51.3	38.8	39.3	24.2	(years)



Company Name **Powerco Limited**  
 For Year Ended **31 March 2019**

### 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

sch ref	Description	(\$000)
58	<b>5a(vi): Calculation of Deferred Tax Balance</b>	<b>(5000)</b>
59		
60	Opening deferred tax	(60,533)
61		
62	plus Tax effect of adjusted depreciation	17,013
63		
64	less Tax effect of tax depreciation	22,291
65		
66	plus Tax effect of other temporary differences*	1,144
67		
68	less Tax effect of amortisation of initial differences in asset values	2,856
69		
70	plus Deferred tax balance relating to assets acquired in the disclosure year	-
71		
72	less Deferred tax balance relating to assets disposed in the disclosure year	(616)
73		
74	plus Deferred tax cost allocation adjustment	37
75		
76	Closing deferred tax	(66,871)
77		
78	<b>5a(vii): Disclosure of Temporary Differences</b>	
79	<i>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).</i>	
80		
81	<b>5a(viii): Regulatory Tax Asset Base Roll-Forward</b>	<b>(5000)</b>
82		
83	Opening sum of regulatory tax asset values	1,025,176
84	less Tax depreciation	79,612
85	plus Regulatory tax asset value of assets commissioned	181,173
86	less Regulatory tax asset value of asset disposals	9,897
87	plus Lost and found assets adjustment	-
88	plus Adjustment resulting from asset allocation	(1,040)
89	plus Other adjustments to the RAB tax value	-
90	Closing sum of regulatory tax asset values	1,115,800





# Schedule 5d: Cost Allocations

Company Name **Powerco Limited**  
 For Year Ended **31 March 2019**

## 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 8 9		Value allocated (\$000s)				
		Arm's length deduction	Electricity distribution services	Non-electricity distribution services	Total	OVABAA allocation increase (\$000s)
10 <b>5d(i): Operating Cost Allocations</b>						
11 <b>Service interruptions and emergencies</b>						
12 Directly attributable			7,271			
13 Not directly attributable						
14 <b>Total attributable to regulated service</b>			7,271			
15 <b>Vegetation management</b>						
16 Directly attributable			10,589			
17 Not directly attributable						
18 <b>Total attributable to regulated service</b>			10,589			
19 <b>Routine and corrective maintenance and inspection</b>						
20 Directly attributable			13,661			
21 Not directly attributable						
22 <b>Total attributable to regulated service</b>			13,661			
23 <b>Asset replacement and renewal</b>						
24 Directly attributable			9,644			
25 Not directly attributable						
26 <b>Total attributable to regulated service</b>			9,644			
27 <b>System operations and network support</b>						
28 Directly attributable			15,017			
29 Not directly attributable			1,031	197	1,229	
30 <b>Total attributable to regulated service</b>			16,048			
31 <b>Business support</b>						
32 Directly attributable			2,724			
33 Not directly attributable			28,002	5,380	33,382	
34 <b>Total attributable to regulated service</b>			30,726			
35 <b>Operating costs directly attributable</b>			58,905			
36 <b>Operating costs not directly attributable</b>			29,033	5,577	34,610	
37 <b>Operational expenditure</b>			87,939			

39 <b>5d(ii): Other Cost Allocations</b>		(\$000)	
40 <b>Pass through and recoverable costs</b>			
41 <b>Pass through costs</b>			
42 Directly attributable		3,627	
43 Not directly attributable		186	
44 <b>Total attributable to regulated service</b>		3,813	
45 <b>Recoverable costs</b>			
46 Directly attributable		115,120	
47 Not directly attributable			
48 <b>Total attributable to regulated service</b>		115,120	

50 <b>5d(iii): Changes in Cost Allocations* †</b>		(\$000)		
			CY-1	Current Year (CY)
51 <b>Change in cost allocation 1</b>				
52 Cost category				
53 Original allocator or line items		Original allocation		
54 New allocator or line items		New allocation		
55		Difference		
56				
57 Rationale for change				
58				
59				
60 <b>Change in cost allocation 2</b>				
61 Cost category				
62 Original allocator or line items		Original allocation		
63 New allocator or line items		New allocation		
64		Difference		
65				
66 Rationale for change				
67				
68				
69 <b>Change in cost allocation 3</b>				
70 Cost category				
71 Original allocator or line items		Original allocation		
72 New allocator or line items		New allocation		
73		Difference		
74				
75 Rationale for change				
76				
77				

\* 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 2019**

## 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

5e(i): Regulated Service Asset Values		Value allocated (\$000s)	
		Electricity distribution services	
7			
8			
9			
10	<b>Subtransmission lines</b>		
11	Directly attributable	72,522	
12	Not directly attributable	–	
13	<b>Total attributable to regulated service</b>	72,522	
14	<b>Subtransmission cables</b>		
15	Directly attributable	36,751	
16	Not directly attributable	–	
17	<b>Total attributable to regulated service</b>	36,751	
18	<b>Zone substations</b>		
19	Directly attributable	175,975	
20	Not directly attributable	–	
21	<b>Total attributable to regulated service</b>	175,975	
22	<b>Distribution and LV lines</b>		
23	Directly attributable	437,769	
24	Not directly attributable	–	
25	<b>Total attributable to regulated service</b>	437,769	
26	<b>Distribution and LV cables</b>		
27	Directly attributable	321,432	
28	Not directly attributable	–	
29	<b>Total attributable to regulated service</b>	321,432	
30	<b>Distribution substations and transformers</b>		
31	Directly attributable	272,785	
32	Not directly attributable	–	
33	<b>Total attributable to regulated service</b>	272,785	
34	<b>Distribution switchgear</b>		
35	Directly attributable	164,476	
36	Not directly attributable	–	
37	<b>Total attributable to regulated service</b>	164,476	
38	<b>Other network assets</b>		
39	Directly attributable	258,308	
40	Not directly attributable	–	
41	<b>Total attributable to regulated service</b>	258,308	
42	<b>Non-network assets</b>		
43	Directly attributable	9,933	
44	Not directly attributable	37,150	
45	<b>Total attributable to regulated service</b>	47,083	
46			
47	<b>Regulated service asset value directly attributable</b>	1,749,950	
48	<b>Regulated service asset value not directly attributable</b>	37,150	
49	<b>Total dosing RAB value</b>	1,787,100	
50			
51	<b>5e(ii): Changes in Asset Allocations* †</b>		
52			
53	<b>Change in asset value allocation 1</b>		
54	Asset category	–	
55	Original allocator or line items	–	
56	New allocator or line items	–	
57			
58	Rationale for change		
59			
60			
61	<b>Change in asset value allocation 2</b>		
62	Asset category		
63	Original allocator or line items		
64	New allocator or line items		
65			
66	Rationale for change		
67			
68			
69			
70	<b>Change in asset value allocation 3</b>		
71	Asset category		
72	Original allocator or line items		
73	New allocator or line items		
74			
75	Rationale for change		
76			
77			
78			
79	* 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.		
80	† include additional rows if needed		

# Schedule 6a: Capital Expenditure

Company Name **Powerco Limited**  
For Year Ended **31 March 2019**

## 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

### 6a(i): Expenditure on Assets

	(\$000)	(\$000)
Consumer connection		43,041
System growth		55,720
Asset replacement and renewal		86,126
Asset relocations		3,807
Reliability, safety and environment:		
Quality of supply	6,331	
Legislative and regulatory	-	
Other reliability, safety and environment	2,379	
<b>Total reliability, safety and environment</b>		8,711
<b>Expenditure on network assets</b>		197,406
Expenditure on non-network assets		23,065
<b>Expenditure on assets</b>		220,471
plus Cost of financing		2,078
less Value of capital contributions		33,655
plus Value of vested assets		-
<b>Capital expenditure</b>		188,894

### 6a(ii): Subcomponents of Expenditure on Assets (where known)

	(\$000)
Energy efficiency and demand side management, reduction of energy losses	532
Overhead to underground conversion	481
Research and development	497

### 6a(iii): Consumer Connection

Consumer types defined by EDB*	(\$000)	(\$000)
Small	29,003	
Commercial	13,131	
Industrial	907	
<b>Consumer connection expenditure</b>		43,041
less Capital contributions funding consumer connection expenditure	31,295	
<b>Consumer connection less capital contributions</b>		11,746

### 6a(iv): System Growth and Asset Replacement and Renewal

	System Growth (\$000)	Asset Replacement and Renewal (\$000)
Subtransmission	12,093	5,505
Zone substations	15,643	13,944
Distribution and LV lines	7,111	41,338
Distribution and LV cables	5,667	7,282
Distribution substations and transformers	5,319	10,740
Distribution switchgear	334	5,488
Other network assets	9,553	1,828
<b>System growth and asset replacement and renewal expenditure</b>	55,720	86,126
less Capital contributions funding system growth and asset replacement and renewal	350	-
<b>System growth and asset replacement and renewal less capital contributions</b>	55,370	86,126

Company Name **Powerco Limited**  
 For Year Ended **31 March 2019**

### 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

		(\$000)	(\$000)
56	<b>6a(v): Asset Relocations</b>		
57	<i>Project or programme*</i>		
58	WBOPDC Omokoroa Road redevelopment	1,002	
59	Farmers Tauranga Site Redevelopment	307	
60	PNDC James Line redevelopment	193	
61	B2B NZTA Project, Tauranga	1,041	
62	Mangawhero Rd Matamata Road Widening, OHUG of network	127	
63	Wanganui District Council Rangiora St OHUG	198	
64	124 Hewletts Road Mt Maunganui OHUG	341	
65	<i>* include additional rows if needed</i>		
66	All other projects or programmes - asset relocations	599	
67	<b>Asset relocations expenditure</b>		3,807
68	less Capital contributions funding asset relocations	1,796	
69	<b>Asset relocations less capital contributions</b>		2,011
70			
71	<b>6a(vi): Quality of Supply</b>		
72	<i>Project or programme*</i>		
73	Mobile Zone Substation	1,038	
74	Katitkati 2nd 33kv Circuit	793	
75	Automation Projects	1,208	
76			
77			
78	<i>* include additional rows if needed</i>		
79	All other projects programmes - quality of supply	3,292	
80	<b>Quality of supply expenditure</b>		6,331
81	less Capital contributions funding quality of supply	-	
82	<b>Quality of supply less capital contributions</b>		6,331
83	<b>6a(vii): Legislative and Regulatory</b>		
84	<i>Project or programme*</i>		
85	Nil projects or programmes	-	
86			
87			
88			
89			
90	<i>* include additional rows if needed</i>		
91	All other projects or programmes - legislative and regulatory	-	
92	<b>Legislative and regulatory expenditure</b>		-
93	less Capital contributions funding legislative and regulatory	-	
94	<b>Legislative and regulatory less capital contributions</b>		-
95	<b>6a(viii): Other Reliability, Safety and Environment</b>		
96	<i>Project or programme*</i>		
97	LV Fusing and Bare Conductor	405	
98	Lock and Keys Project	665	
99	Hauraki Area SH25 upgrade road crossings	208	
100	Earth Bank Upgrades	256	
101	West Overhead to Underground conversion of High Load crossing	148	
102	<i>* include additional rows if needed</i>		
103	All other projects or programmes - other reliability, safety and environment	698	
104	<b>Other reliability, safety and environment expenditure</b>		2,379
105	less Capital contributions funding other reliability, safety and environment	214	
106	<b>Other reliability, safety and environment less capital contributions</b>		2,165
107			

Company Name **Powerco Limited**For Year Ended **31 March 2019****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

108	<b>6a(ix): Non-Network Assets</b>		
109	<b>Routine expenditure</b>		
110	<i>Project or programme*</i>	<b>(\$000)</b>	<b>(\$000)</b>
111	IT Renewal	840	
112	Land and Building leases	927	
113	Vehicle leases	1,127	
114			
115			
116	<i>* include additional rows if needed</i>		
117	All other projects or programmes - routine expenditure	161	
118	<b>Routine expenditure</b>		<b>3,056</b>
119	<b>Atypical expenditure</b>		
120	<i>Project or programme*</i>	<b>(\$000)</b>	<b>(\$000)</b>
121	Cybersecurity	779	
122	Enterprise Asset Management System	11,452	
123	Improve Network Operations (OMS/DMS)	597	
124	Network Operations Centre	4,090	
125	End User Experience	2,238	
126	<i>* include additional rows if needed</i>		
127	All other projects or programmes - atypical expenditure	852	
128	<b>Atypical expenditure</b>		<b>20,009</b>
129			
130	<b>Expenditure on non-network assets</b>		<b>23,065</b>

# Schedule 6b: Operational Expenditure

Company Name **Powerco Limited**  
 For Year Ended **31 March 2019**

## 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

		(\$000)	(\$000)	
7	<b>6b(i): Operational Expenditure</b>			
8	Service interruptions and emergencies	7,271		
9	Vegetation management	10,589		
10	Routine and corrective maintenance and inspection	13,661		
11	Asset replacement and renewal	9,644		
12	<b>Network opex</b>		41,164	
13	System operations and network support	16,048		
14	Business support	30,726		
15	<b>Non-network opex</b>		46,774	
16				
17	<b>Operational expenditure</b>		87,939	
18	<b>6b(ii): Subcomponents of Operational Expenditure (where known)</b>			
19	Energy efficiency and demand side management, reduction of energy losses		111	
20	Direct billing*		-	
21	Research and development		212	
22	Insurance		1,219	
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 2019**

## 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 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

7(i): Revenue		Target (\$000) <sup>1</sup>	Actual (\$000)	% variance
7				
8	Line charge revenue	398,928	399,711	0%
7(ii): Expenditure on Assets		Forecast (\$000) <sup>2</sup>	Actual (\$000)	% variance
9				
10	Consumer connection	33,049	43,041	30%
11	System growth	64,669	55,720	(14%)
12	Asset replacement and renewal	75,997	86,126	13%
13	Asset relocations	2,314	3,807	65%
14	Reliability, safety and environment:			
15	Quality of supply	2,730	6,331	132%
16	Legislative and regulatory	–	–	–
17	Other reliability, safety and environment	3,045	2,379	(22%)
18	<b>Total reliability, safety and environment</b>	5,775	8,711	51%
19	<b>Expenditure on network assets</b>	181,804	197,406	9%
20	Expenditure on non-network assets	25,867	23,065	(11%)
21	Expenditure on assets	207,671	220,471	6%
7(iii): Operational Expenditure				
22				
23	Service interruptions and emergencies	7,224	7,271	0.7%
24	Vegetation management	10,367	10,589	2.1%
25	Routine and corrective maintenance and inspection	15,602	13,661	(12.4%)
26	Asset replacement and renewal	9,582	9,644	0.6%
27	<b>Network opex</b>	42,775	41,164	(3.8%)
28	System operations and network support	17,677	16,048	(9.2%)
29	Business support	31,933	30,726	(3.8%)
30	<b>Non-network opex</b>	49,610	46,774	(5.7%)
31	<b>Operational expenditure</b>	92,385	87,939	(4.8%)
7(iv): Subcomponents of Expenditure on Assets (where known)				
32				
33	Energy efficiency and demand side management, reduction of energy losses	–	532	–
34	Overhead to underground conversion	–	481	–
35	Research and development	–	497	–
36				
7(v): Subcomponents of Operational Expenditure (where known)				
37				
38	Energy efficiency and demand side management, reduction of energy losses	–	111	–
39	Direct billing	–	–	–
40	Research and development	–	212	–
41	Insurance	–	1,219	–
42				

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

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 2019**  
 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**

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)
Unmetered	Streetlights	Standard	511	13,285
Small	Residential/Small Commercial	Standard	337,768	2,666,486
Medium	Commercial	Standard	1,473	254,621
Large	Large Commercial/Industrial	Standard	242	433,480
Large	Large Commercial/Industrial	Non-standard	385	1,540,359
Standard consumer totals			339,994	3,367,873
Non-standard consumer totals			385	1,540,359
Total for all consumers			340,378	4,908,231

Add extra rows for additional consumer groups or price category codes as necessary

Unit charging basis (eg, days, kW of demand, kVA of capacity, etc.)

Price component	Fixed	Fixed	Variable	Demand	Demand	Power Factor	Fixed
	ICP days	kVA of capacity	kWh	kW of Demand - AMD	kW of Demand - OPD	kVA/h of demand	Fixture Count Days
13,285	-	-	13,284,695	-	-	-	9,430,772
2,666,486	119,206,897	-	2,779,810,573	3,790,083	-	-	-
254,621	524,082	-	254,621,147	29,958	13,900	43,925	-
433,480	-	2,582,736	433,480,445	122,216	58,021	89,491	-
1,540,359	140,160	-	1,540,358,581	-	-	157,266	-
4,908,231	119,730,979	2,582,736	3,481,196,860	3,942,257	71,921	133,416	9,430,772
	140,160	-	1,540,358,581	-	-	157,266	-
	119,871,139	2,582,736	5,021,555,442	3,942,257	71,921	290,681	9,430,772

Add extra columns for additional billed quantities by price component as necessary

**8(ii): 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)
Streetlights	Streetlights	Standard	\$1,921	-
Small	Residential/Small Commercial	Standard	\$301,719	-
Medium	Commercial	Standard	\$23,370	-
Large	Large Commercial/Industrial	Standard	\$23,494	-
Large	Large Commercial/Industrial	Non-standard	\$49,206	-
Standard consumer totals			\$350,505	-
Non-standard consumer totals			\$49,206	-
Total for all consumers			\$399,711	-

Add extra rows for additional consumer groups or price category codes as necessary

Total distribution line charge revenue	Total transmission line charge revenue (if available)
\$1,236	\$685
\$220,487	\$81,233
\$17,654	\$5,717
\$14,892	\$8,602
\$24,342	\$24,864
-	-
-	-
-	-
-	-
\$254,268	\$96,237
\$24,342	\$24,864
\$278,610	\$121,101

Rate (eg, \$ per day, \$ per kWh, etc.)

Price component	Fixed	Fixed	Variable	Demand	Demand	Power Factor	Fixed
	\$/ICP/Day	\$/kVA of capacity	\$/kWh	\$/kW of demand - AMD	\$/kVA of demand - OPD	\$/kVA/h of demand	\$/streetlight/day
-	-	-	\$334	-	-	-	\$1,597
\$34,277	-	\$195,741	\$71,702	-	-	-	-
\$6,131	-	\$10,515	\$4,473	\$2,075	\$177	-	-
-	\$4,924	-	\$9,700	\$8,602	\$268	-	-
\$40,346	-	\$7,759	-	-	\$1,101	-	-
\$40,408	\$4,924	\$206,580	\$85,874	\$10,676	\$446	\$1,597	
\$40,346	-	\$7,759	-	-	\$1,101	-	
\$80,754	\$4,924	\$214,339	\$85,874	\$10,676	\$1,546	\$1,597	

Add extra columns for additional line charge revenues by price component as necessary

**8(iii): Number of ICPs directly billed**

Number of directly billed ICPs at year end:

Check  OK

Company Name: **Powerco Limited**  
 For Year Ended: **31 March 2019**  
 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  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44  
45  
46  
47  
48  
49  
50  
51  
52  
53

**8(i): 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)
E1	Residential/Small Commercial	Standard	179,231	1,458,514
E100	Commercial	Standard	219	92,337
E300/E300R	Large Commercial/Industrial	Standard	240	433,480
Special	Large Commercial/Industrial	Non-standard	35	263,850
Add extra rows for additional consumer groups or price category codes as necessary				
Standard consumer totals			179,689	1,984,331
Non-standard consumer totals			35	263,850
Total for all consumers			179,724	2,248,181

Price component	Billed quantities by price component						
	Fixed 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 Days
	62,787,337		1,571,838,240	3,790,083			
	79,414		92,336,720	29,958	13,900		32,611
		2,582,736	433,480,445	122,216	58,021		89,491
	12,593		263,849,776				21,531
Add extra columns for additional billed quantities by price component as necessary							
	62,866,751	2,582,736	2,097,655,406	3,942,257	71,921	122,101	-
	12,593	-	263,849,776	-	-	21,531	-
	62,879,344	2,582,736	2,361,505,182	3,942,257	71,921	143,632	-

**8(ii): 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)
E1	Residential/Small Commercial	Standard	\$164,831	-
E100	Commercial	Standard	\$7,411	-
E300/E300R	Large Commercial/Industrial	Standard	\$23,494	-
Special	Large Commercial/Industrial	Non-standard	\$9,464	-
Add extra rows for additional consumer groups or price category codes as necessary				
Standard consumer totals			\$195,737	-
Non-standard consumer totals			\$9,464	-
Total for all consumers			\$205,200	-

Price component	Line charge revenues (\$000) by price component							
	Rate (eg, \$ per day, \$ per kWh, etc.)	Fixed \$/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
		\$5,311		\$87,818	\$71,702			
		\$766			\$4,473	\$2,075		\$98
			\$4,924		\$9,700	\$8,602		\$268
		\$9,313						\$151
Add extra columns for additional line charge revenues by price component as necessary								
		\$6,077	\$4,924	\$87,818	\$85,874	\$10,676	\$366	-
		\$9,313	-	-	-	-	\$151	-
		\$15,390	\$4,924	\$87,818	\$85,874	\$10,676	\$517	-

**8(iii): Number of ICPs directly billed**

Number of directly billed ICPs at year end:

Check:





# Schedule 9a: Asset Register

Company Name	Powerco Limited
For Year Ended	31 March 2019
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	Items at end of	Net change	Data accuracy (1-4)
					year (quantity)	year (quantity)		
8	All	Overhead Line	Concrete poles / steel structure	No.	225,484	227,018	1,534	4
9	All	Overhead Line	Wood poles	No.	35,130	33,406	(1,724)	3
10	All	Overhead Line	Other pole types	No.	4,789	4,741	(48)	2
11	HV	Subtransmission Line	Subtransmission OH up to 66kV conductor	km	1,509	1,498	(12)	4
12	HV	Subtransmission Line	Subtransmission OH 110kV+ conductor	km	-	-	-	4
13	HV	Subtransmission Cable	Subtransmission UG up to 66kV (XLPE)	km	149	210	61	3
14	HV	Subtransmission Cable	Subtransmission UG up to 66kV (Oil pressurised)	km	13	13	(0)	4
15	HV	Subtransmission Cable	Subtransmission UG up to 66kV (Gas pressurised)	km	-	-	-	4
16	HV	Subtransmission Cable	Subtransmission UG up to 66kV (PILC)	km	6	4	(2)	4
17	HV	Subtransmission Cable	Subtransmission UG 110kV+ (XLPE)	km	-	-	-	4
18	HV	Subtransmission Cable	Subtransmission UG 110kV+ (Oil pressurised)	km	-	-	-	4
19	HV	Subtransmission Cable	Subtransmission UG 110kV+ (Gas Pressurised)	km	-	-	-	4
20	HV	Subtransmission Cable	Subtransmission UG 110kV+ (PILC)	km	-	-	-	4
21	HV	Subtransmission Cable	Subtransmission submarine cable	km	-	-	-	4
22	HV	Zone substation Buildings	Zone substations up to 66kV	No.	141	142	1	2
23	HV	Zone substation Buildings	Zone substations 110kV+	No.	-	-	-	4
24	HV	Zone substation switchgear	50/66/110kV CB (Indoor)	No.	-	-	-	4
25	HV	Zone substation switchgear	50/66/110kV CB (Outdoor)	No.	19	19	-	4
26	HV	Zone substation switchgear	33kV Switch (Ground Mounted)	No.	29	52	23	3
27	HV	Zone substation switchgear	33kV Switch (Pole Mounted)	No.	856	841	(15)	3
28	HV	Zone substation switchgear	33kV RMU	No.	6	6	-	4
29	HV	Zone substation switchgear	22/33kV CB (Indoor)	No.	124	124	-	3
30	HV	Zone substation switchgear	22/33kV CB (Outdoor)	No.	193	191	(2)	3
31	HV	Zone substation switchgear	3.3/6.6/11/22kV CB (ground mounted)	No.	841	843	2	3
32	HV	Zone substation switchgear	3.3/6.6/11/22kV CB (pole mounted)	No.	49	49	-	3
33	HV	Zone Substation Transformer	Zone Substation Transformers	No.	210	212	2	3
34	HV	Distribution Line	Distribution OH Open Wire Conductor	km	14,728	14,713	(16)	4
35	HV	Distribution Line	Distribution OH Aerial Cable Conductor	km	-	-	-	4
36	HV	Distribution Line	SWER conductor	km	79	79	0	4
37	HV	Distribution Cable	Distribution UG XLPE or PVC	km	1,833	1,883	50	3
38	HV	Distribution Cable	Distribution UG PILC	km	207	174	(33)	3
39	HV	Distribution Cable	Distribution Submarine Cable	km	11	11	(0)	4
40	HV	Distribution switchgear	3.3/6.6/11/22kV CB (pole mounted) - reclosers and sectionalisers	No.	643	706	63	3
41	HV	Distribution switchgear	3.3/6.6/11/22kV CB (Indoor)	No.	399	409	10	3
42	HV	Distribution switchgear	3.3/6.6/11/22kV Switches and fuses (pole mounted)	No.	38,636	39,123	487	3
43	HV	Distribution switchgear	3.3/6.6/11/22kV Switch (ground mounted) - except RMU	No.	2,269	1,556	(713)	3
44	HV	Distribution switchgear	3.3/6.6/11/22kV RMU	No.	2,408	2,877	469	3
45	HV	Distribution Transformer	Pole Mounted Transformer	No.	26,798	27,193	395	3
46	HV	Distribution Transformer	Ground Mounted Transformer	No.	8,272	8,459	187	3
47	HV	Distribution Transformer	Voltage regulators	No.	119	135	16	3
48	HV	Distribution Substations	Ground Mounted Substation Housing	No.	4,123	4,038	(85)	2
49	LV	LV Line	LV OH Conductor	km	5,385	5,367	(18)	3
50	LV	LV Cable	LV UG Cable	km	4,195	4,347	152	3
51	LV	LV Street lighting	LV OH/UG Streetlight circuit	km	2,931	3,019	88	2
52	LV	Connections	OH/UG consumer service connections	No.	276,953	285,080	8,127	2
53	All	Protection	Protection relays (electromechanical, solid state and numeric)	No.	2,346	2,393	47	3
54	All	SCADA and communications	SCADA and communications equipment operating as a single system	Lot	1	1	-	4
55	All	Capacitor Banks	Capacitors including controls	No.	47	46	(1)	4
56	All	Load Control	Centralised plant	Lot	36	36	-	3
57	All	Load Control	Relays	No.	2,607	2,902	295	3
58	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 2019
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	Items at end of	Net change	Data accuracy
					year (quantity)	year (quantity)		(1-4)
8	All	Overhead Line	Concrete poles / steel structure	No.	144,914	146,008	1,094	4
9	All	Overhead Line	Wood poles	No.	30,412	29,096	(1,316)	3
10	All	Overhead Line	Other pole types	No.	1,971	1,943	(28)	2
11	HV	Subtransmission Line	Subtransmission OH up to 66kV conductor	km	965	954	(11)	4
12	HV	Subtransmission Line	Subtransmission OH 110kV+ conductor	km	-	-	-	4
13	HV	Subtransmission Cable	Subtransmission UG up to 66kV (XLPE)	km	50	63	13	3
14	HV	Subtransmission Cable	Subtransmission UG up to 66kV (Oil pressurised)	km	13	13	(0)	4
15	HV	Subtransmission Cable	Subtransmission UG up to 66kV (Gas pressurised)	km	-	-	-	4
16	HV	Subtransmission Cable	Subtransmission UG up to 66kV (PILC)	km	6	4	(2)	4
17	HV	Subtransmission Cable	Subtransmission UG 110kV+ (XLPE)	km	-	-	-	4
18	HV	Subtransmission Cable	Subtransmission UG 110kV+ (Oil pressurised)	km	-	-	-	4
19	HV	Subtransmission Cable	Subtransmission UG 110kV+ (Gas Pressurised)	km	-	-	-	4
20	HV	Subtransmission Cable	Subtransmission UG 110kV+ (PILC)	km	-	-	-	4
21	HV	Subtransmission Cable	Subtransmission submarine cable	km	-	-	-	4
22	HV	Zone substation Buildings	Zone substations up to 66kV	No.	81	81	-	2
23	HV	Zone substation Buildings	Zone substations 110kV+	No.	-	-	-	4
24	HV	Zone substation switchgear	50/66/110kV CB (Indoor)	No.	-	-	-	4
25	HV	Zone substation switchgear	50/66/110kV CB (Outdoor)	No.	-	-	-	4
26	HV	Zone substation switchgear	33kV Switch (Ground Mounted)	No.	5	9	4	3
27	HV	Zone substation switchgear	33kV Switch (Pole Mounted)	No.	529	521	(8)	3
28	HV	Zone substation switchgear	33kV RMU	No.	5	5	-	4
29	HV	Zone substation switchgear	22/33kV CB (Indoor)	No.	70	70	-	3
30	HV	Zone substation switchgear	22/33kV CB (Outdoor)	No.	107	107	-	3
31	HV	Zone substation switchgear	3.3/6.6/11/22kV CB (ground mounted)	No.	478	479	1	3
32	HV	Zone substation switchgear	3.3/6.6/11/22kV CB (pole mounted)	No.	49	49	-	3
33	HV	Zone Substation Transformer	Zone Substation Transformers	No.	117	116	(1)	3
34	HV	Distribution Line	Distribution OH Open Wire Conductor	km	10,095	10,088	(8)	4
35	HV	Distribution Line	Distribution OH Aerial Cable Conductor	km	-	-	-	4
36	HV	Distribution Line	SWER conductor	km	17	17	(0)	4
37	HV	Distribution Cable	Distribution UG XLPE or PVC	km	622	650	28	3
38	HV	Distribution Cable	Distribution UG PILC	km	100	73	(27)	3
39	HV	Distribution Cable	Distribution Submarine Cable	km	-	-	-	4
40	HV	Distribution switchgear	3.3/6.6/11/22kV CB (pole mounted) - reclosers and sectionalisers	No.	327	375	48	3
41	HV	Distribution switchgear	3.3/6.6/11/22kV CB (Indoor)	No.	198	206	8	3
42	HV	Distribution switchgear	3.3/6.6/11/22kV Switches and fuses (pole mounted)	No.	23,761	24,111	350	3
43	HV	Distribution switchgear	3.3/6.6/11/22kV Switch (ground mounted) - except RMU	No.	894	610	(284)	3
44	HV	Distribution switchgear	3.3/6.6/11/22kV RMU	No.	1,005	1,149	144	3
45	HV	Distribution Transformer	Pole Mounted Transformer	No.	17,328	17,548	220	3
46	HV	Distribution Transformer	Ground Mounted Transformer	No.	3,232	3,299	67	3
47	HV	Distribution Transformer	Voltage regulators	No.	69	74	5	3
48	HV	Distribution Substations	Ground Mounted Substation Housing	No.	1,631	1,607	(24)	2
49	LV	LV Line	LV OH Conductor	km	3,460	3,452	(8)	3
50	LV	LV Cable	LV UG Cable	km	2,218	2,286	68	3
51	LV	LV Street lighting	LV OH/UG Streetlight circuit	km	1,355	1,368	12	2
52	LV	Connections	OH/UG consumer service connections	No.	150,521	154,034	3,513	2
53	All	Protection	Protection relays (electromechanical, solid state and numeric)	No.	1,241	1,281	40	3
54	All	SCADA and communications	SCADA and communications equipment operating as a single system	Lot	1	1	-	4
55	All	Capacitor Banks	Capacitors including controls	No.	4	5	1	4
56	All	Load Control	Centralised plant	Lot	25	26	1	3
57	All	Load Control	Relays	No.	1,255	1,377	122	3
58	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 2019**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	Items at end of	Net change	Data accuracy
					year (quantity)	year (quantity)		(1-4)
8	All	Overhead Line	Concrete poles / steel structure	No.	80,570	81,010	440	4
9	All	Overhead Line	Wood poles	No.	4,718	4,310	(408)	3
10	All	Overhead Line	Other pole types	No.	2,818	2,798	(20)	2
11	HV	Subtransmission Line	Subtransmission OH up to 66kV conductor	km	544	544	(0)	4
12	HV	Subtransmission Line	Subtransmission OH 110kV+ conductor	km	-	-	-	4
13	HV	Subtransmission Cable	Subtransmission UG up to 66kV (XLPE)	km	99	147	48	3
14	HV	Subtransmission Cable	Subtransmission UG up to 66kV (Oil pressurised)	km	-	-	-	4
15	HV	Subtransmission Cable	Subtransmission UG up to 66kV (Gas pressurised)	km	-	-	-	4
16	HV	Subtransmission Cable	Subtransmission UG up to 66kV (PILC)	km	0	-	(0)	4
17	HV	Subtransmission Cable	Subtransmission UG 110kV+ (XLPE)	km	-	-	-	4
18	HV	Subtransmission Cable	Subtransmission UG 110kV+ (Oil pressurised)	km	-	-	-	4
19	HV	Subtransmission Cable	Subtransmission UG 110kV+ (Gas Pressurised)	km	-	-	-	4
20	HV	Subtransmission Cable	Subtransmission UG 110kV+ (PILC)	km	-	-	-	4
21	HV	Subtransmission Cable	Subtransmission submarine cable	km	-	-	-	4
22	HV	Zone substation Buildings	Zone substations up to 66kV	No.	60	61	1	2
23	HV	Zone substation Buildings	Zone substations 110kV+	No.	-	-	-	4
24	HV	Zone substation switchgear	50/66/110kV CB (Indoor)	No.	-	-	-	4
25	HV	Zone substation switchgear	50/66/110kV CB (Outdoor)	No.	19	19	-	4
26	HV	Zone substation switchgear	33kV Switch (Ground Mounted)	No.	24	43	19	3
27	HV	Zone substation switchgear	33kV Switch (Pole Mounted)	No.	327	320	(7)	3
28	HV	Zone substation switchgear	33kV RMU	No.	1	1	-	4
29	HV	Zone substation switchgear	22/33kV CB (Indoor)	No.	54	54	-	3
30	HV	Zone substation switchgear	22/33kV CB (Outdoor)	No.	86	84	(2)	3
31	HV	Zone substation switchgear	3.3/6.6/11/22kV CB (ground mounted)	No.	363	364	1	3
32	HV	Zone substation switchgear	3.3/6.6/11/22kV CB (pole mounted)	No.	-	-	-	3
33	HV	Zone Substation Transformer	Zone Substation Transformers	No.	93	96	3	3
34	HV	Distribution Line	Distribution OH Open Wire Conductor	km	4,633	4,625	(8)	4
35	HV	Distribution Line	Distribution OH Aerial Cable Conductor	km	-	-	-	4
36	HV	Distribution Line	SWER conductor	km	61	61	0	4
37	HV	Distribution Cable	Distribution UG XLPE or PVC	km	1,211	1,234	23	3
38	HV	Distribution Cable	Distribution UG PILC	km	107	100	(7)	3
39	HV	Distribution Cable	Distribution Submarine Cable	km	11	11	(0)	4
40	HV	Distribution switchgear	3.3/6.6/11/22kV CB (pole mounted) - reclosers and sectionalisers	No.	316	331	15	3
41	HV	Distribution switchgear	3.3/6.6/11/22kV CB (Indoor)	No.	201	203	2	3
42	HV	Distribution switchgear	3.3/6.6/11/22kV Switches and fuses (pole mounted)	No.	14,875	15,012	137	3
43	HV	Distribution switchgear	3.3/6.6/11/22kV Switch (ground mounted) - except RMU	No.	1,375	946	(429)	3
44	HV	Distribution switchgear	3.3/6.6/11/22kV RMU	No.	1,403	1,728	325	3
45	HV	Distribution Transformer	Pole Mounted Transformer	No.	9,470	9,645	175	3
46	HV	Distribution Transformer	Ground Mounted Transformer	No.	5,040	5,160	120	3
47	HV	Distribution Transformer	Voltage regulators	No.	50	61	11	3
48	HV	Distribution Substations	Ground Mounted Substation Housing	No.	2,492	2,431	(61)	2
49	LV	LV Line	LV OH Conductor	km	1,925	1,915	(10)	3
50	LV	LV Cable	LV UG Cable	km	1,977	2,061	84	3
51	LV	LV Street lighting	LV OH/UG Streetlight circuit	km	1,576	1,652	76	2
52	LV	Connections	OH/UG consumer service connections	No.	126,432	131,046	4,614	2
53	All	Protection	Protection relays (electromechanical, solid state and numeric)	No.	1,105	1,112	7	3
54	All	SCADA and communications	SCADA and communications equipment operating as a single system	Lot	1	1	-	4
55	All	Capacitor Banks	Capacitors including controls	No.	43	41	(2)	4
56	All	Load Control	Centralised plant	Lot	11	10	(1)	3
57	All	Load Control	Relays	No.	1,352	1,525	173	3
58	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 2019
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	Disclosure Year (year ended)	Number of assets at disclosure year end by installation date																												No. with age unknown	Items at end of year (quantity)	No. with default dates	Data accuracy (1-4)			
		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	2019								
9	31 March 2019																																			
10	Voltage	Asset category	Asset class	Units																																
10	All	Overhead Line	Concrete poles / steel structure	No.	18	847	3,873	17,444	28,634	34,142	21,246	3,218	3,008	1,646	1,840	1,393	1,350	1,203	1,328	1,388	1,719	1,445	1,436	1,580	2,248	2,504	2,411	3,034	2,809	2,270	1,792	146,008	4,094	3		
11	All	Overhead Line	Wood poles	No.	26	37	585	5,795	7,643	6,458	6,095	409	337	382	438	310	293	147	185	62	61	20	16	3	1	1	1	1	1	1	1	1	29,095	1,491	3	
12	All	Overhead Line	Other pole types	No.	--	--	4	11	1,745	25	35	5	11	7	16	32	30	8	3	6	3	2	2	11	3	1	1	1	1	1	1	1,943	1,874	2		
13	HV	Subtransmission Line	Subtransmission OH up to 66kV conductor	km	--	9	54	241	229	191	144	2	1	2	2	1	11	--	3	--	11	2	0	2	0	5	0	13	22	10	1	954	1	3		
14	HV	Subtransmission Line	Subtransmission OH 110kV+ conductor	km	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	N/A	--	4	
15	HV	Subtransmission Cable	Subtransmission UG up to 66kV (XLPE)	km	--	--	--	0	5	5	3	0	6	0	1	0	--	4	0	6	0	4	0	1	0	1	1	4	6	12	--	63	4	4		
16	HV	Subtransmission Cable	Subtransmission UG up to 66kV (Oil pressurised)	km	--	--	--	13	--	--	--	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	--	--	--	0	1	2	0	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	4	--	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	1	1	1	81	39	2		
25	HV	Zone substation Buildings	Zone substations 110kV+	No.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	0	--	--	--	--	--	--	--	--	--	--	--	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.	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	9	--	2	
29	HV	Zone substation switchgear	33kV Switch (Pole Mounted)	No.	--	--	--	88	92	140	84	10	6	2	4	6	5	1	2	--	2	2	2	8	15	8	4	12	20	2	3	5	521	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.	--	--	--	23	14	28	9	--	--	--	1	1	2	2	2	2	1	--	2	1	--	3	2	3	7	2	--	107	6	2		
33	HV	Zone substation switchgear	3.3/6.6/11/22kV CB (ground mounted)	No.	--	--	--	50	107	58	77	--	9	--	5	17	4	--	29	1	--	19	4	17	11	20	35	16	--	--	479	28	2			
34	HV	Zone substation switchgear	3.3/6.6/11/22kV CB (pole mounted)	No.	--	--	--	3	--	3	7	--	--	--	3	--	11	--	3	--	4	3	--	4	--	4	7	--	8	--	2	--	49	3		
35	HV	Zone Substation Transformer	Zone Substation Transformers	No.	--	--	6	39	46	11	5	1	2	1	2	--	2	--	2	--	1	1	--	1	--	5	1	--	--	--	116	14	2			
36	HV	Distribution Line	Distribution OH Open Wire Conductor	km	80	105	1,249	2,241	2,058	2,502	1,009	43	53	87	63	49	42	38	39	26	38	18	30	43	59	65	63	52	57	43	33	--	10,088	24	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	28	116	127	81	12	9	11	6	9	10	15	16	22	17	19	12	12	16	19	17	20	15	11	26	--	650	39	3	
40	HV	Distribution Cable	Distribution UG PILC	km	--	--	0	12	32	15	6	0	0	2	3	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0	--	73	5	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	37	24	4	4	11	7	8	13	10	1	12	14	7	4	17	14	15	18	34	33	44	17	--	375	24	2		
43	HV	Distribution switchgear	3.3/6.6/11/22kV CB (indoor)	No.	--	--	8	32	69	37	16	3	2	1	--	2	4	--	2	4	--	5	5	4	5	--	3	7	1	--	208	44	2			
44	HV	Distribution switchgear	3.3/6.6/11/22kV Switches and fuses (pole mounted)	No.	16	18	593	1,551	4,996	3,370	2,605	273	809	747	472	449	565	383	450	450	428	384	377	448	447	653	779	745	774	735	592	--	24,111	429	2	
45	HV	Distribution switchgear	3.3/6.6/11/22kV Switch (ground mounted) - except RMU	No.	--	--	83	120	68	73	10	15	15	28	18	17	16	32	15	28	11	13	17	13	11	4	10	15	5	1	--	610	20	2		
46	HV	Distribution switchgear	3.3/6.6/11/22kV RMU	No.	--	1	5	89	119	135	114	14	54	28	33	21	24	38	38	37	27	23	28	36	47	47	44	49	64	48	23	--	1,149	4	3	
47	HV	Distribution Transformer	Pole Mounted Transformer	No.	23	27	734	2,058	2,461	2,247	2,421	321	325	358	373	371	467	414	298	361	370	236	336	366	313	439	437	448	528	398	418	--	17,548	22	4	
48	HV	Distribution Transformer	Ground Mounted Transformer	No.	1	6	38	170	468	451	412	86	67	111	66	80	89	116	73	105	95	47	71	75	71	120	142	98	96	87	58	--	3,299	5	4	
49	HV	Distribution Transformer	Voltage regulators	No.	--	1	1	2	8	2	7	--	1	6	--	--	2	5	1	8	3	1	1	4	2	5	7	3	1	1	2	--	74	6	4	
50	HV	Distribution Substations	Ground Mounted Substation Housing	No.	2	--	1	53	375	424	323	52	37	46	73	56	23	14	17	19	6	11	4	7	7	12	15	6	8	9	7	--	1,607	1	3	
51	LV	LV Line	LV OH Conductor	km	1	50	248	925	902	644	286	43	30	24	24	22	19	18	18	18	16	12	13	11	19	19	15	21	19	21	13	--	3,452	39	2	
52	LV	LV Cable	LV UG Cable	km	0	0	8	86	629	498	332	30	27	31	31	37	49	50	63																	



# Schedule 9c: Overhead Lines and Underground Cables

Company Name **Powerco Limited**

For Year Ended **31 March 2019**

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

		Overhead (km)	Underground (km)	Total circuit length (km)
9				
10	<b>Circuit length by operating voltage (at year end)</b>			
11	> 66kV	–	–	–
12	50kV & 66kV	163	6	169
13	33kV	1,334	223	1,558
14	SWER (all SWER voltages)	79	–	79
15	22kV (other than SWER)	121	1	122
16	6.6kV to 11kV (inclusive—other than SWER)	14,592	2,090	16,681
17	Low voltage (< 1kV)	5,367	4,347	9,714
18	<b>Total circuit length (for supply)</b>	<b>21,656</b>	<b>6,667</b>	<b>28,322</b>
19				
20	Dedicated street lighting circuit length (km)	1,072,519	1,946,893	3,019,413
21	Circuit in sensitive areas (conservation areas, iwi territory etc) (km)			–
22				
23	<b>Overhead circuit length by terrain (at year end)</b>			
24	Urban	2,454		11%
25	Rural	7,761		36%
26	Remote only	–		–
27	Rugged only	11,122		51%
28	Remote and rugged	318		1%
29	Unallocated overhead lines	–		–
30	<b>Total overhead length</b>	<b>21,656</b>		<b>100%</b>
31				
32				
33	Length of circuit within 10km of coastline or geothermal areas (where known)	11,388		40%
34				
35	Overhead circuit requiring vegetation management	21,656		100%



Company Name **Powerco Limited**For Year Ended **31 March 2019**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

	Overhead (km)	Underground (km)	Total circuit length (km)
9			
10	<b>Circuit length by operating voltage (at year end)</b>		
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23	<b>Overhead circuit length by terrain (at year end)</b>		
24			
25			
26			
27			
28			
29			
30			
31			
32			
33			
34			
35			

	Overhead (km)	Underground (km)	Total circuit length (km)
> 66kV	–	–	–
50kV & 66kV	–	–	–
33kV	954	82	1,036
SWER (all SWER voltages)	17	–	17
22kV (other than SWER)	121	1	122
6.6kV to 11kV (inclusive—other than SWER)	9,967	743	10,710
Low voltage (< 1kV)	3,452	2,286	5,738
<b>Total circuit length (for supply)</b>	<b>14,511</b>	<b>3,112</b>	<b>17,623</b>
Dedicated street lighting circuit length (km)	750	618	1,368
Circuit in sensitive areas (conservation areas, iwi territory etc) (km)			–

	Circuit length (km)	(% of total overhead length)
Urban	1,582	11%
Rural	4,377	30%
Remote only	–	–
Rugged only	8,234	57%
Remote and rugged	318	2%
Unallocated overhead lines	–	–
<b>Total overhead length</b>	<b>14,511</b>	<b>100%</b>

	Circuit length (km)	(% of total circuit length)
Length of circuit within 10km of coastline or geothermal areas (where known)	5,386	31%

	Circuit length (km)	(% of total overhead length)
Overhead circuit requiring vegetation management	14,511	100%

Company Name **Powerco Limited**For Year Ended **31 March 2019**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

	Overhead (km)	Underground (km)	Total circuit length (km)
9			
10	<b>Circuit length by operating voltage (at year end)</b>		
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23	<b>Overhead circuit length by terrain (at year end)</b>		
24			
25			
26			
27			
28			
29			
30			
31			
32			
33			
34			
35			

# Schedule 9d: Embedded Networks

Company Name **Powerco Limited**  
 For Year Ended **31 March 2019**

## 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)
8			
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			

\* 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

# Schedule 9e: Demand

Company Name **Powerco Limited**

For Year Ended **31 March 2019**

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	<b>9e(i): Consumer Connections</b>		
9	<i>Number of ICPs connected in year by consumer type</i>		
10	<i>Consumer types defined by EDB*</i>	<b>Number of connections (ICPs)</b>	
11	Residential/Small Commercial	4,885	
12	Commercial	44	
13	Large Commercial/Industrial	13	
14			
15			
16	<i>* include additional rows if needed</i>		
17	<b>Connections total</b>	4,942	
18			
19	<b>Distributed generation</b>		
20	Number of connections made in year	908	connections
21	Capacity of distributed generation installed in year	5.76	MVA
22	<b>9e(ii): System Demand</b>		
23			
24		<b>Demand at time of maximum coincident demand (MW)</b>	
25	<b>Maximum coincident system demand</b>		
26	GXP demand	808	
27	plus Distributed generation output at HV and above	108	
28	<b>Maximum coincident system demand</b>	916	
29	less Net transfers to (from) other EDBs at HV and above		
30	<b>Demand on system for supply to consumers' connection points</b>	916	
31	<b>Electricity volumes carried</b>	<b>Energy (GWh)</b>	
32	Electricity supplied from GXPs	4,459	
33	less Electricity exports to GXPs	156	
34	plus Electricity supplied from distributed generation	861	
35	less Net electricity supplied to (from) other EDBs		
36	<b>Electricity entering system for supply to consumers' connection points</b>	5,164	
37	less Total energy delivered to ICPs	4,908	
38	<b>Electricity losses (loss ratio)</b>	256	5.0%
39			
40	<b>Load factor</b>	0.64	
41	<b>9e(iii): Transformer Capacity</b>		
42		<b>(MVA)</b>	
43	Distribution transformer capacity (EDB owned)	3,268	
44	Distribution transformer capacity (Non-EDB owned, estimated)	137	
45	<b>Total distribution transformer capacity</b>	3,406	
46			
47	<b>Zone substation transformer capacity</b>	2,229	

Company Name **Powerco Limited**For Year Ended **31 March 2019**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	<b>9e(i): Consumer Connections</b>		
9	Number of ICPs connected in year by consumer type		
10	<i>Consumer types defined by EDB*</i>		<b>Number of connections (ICPs)</b>
11	Residential/Small Commercial		1,909
12	Commercial		1
13	Large Commercial/Industrial		3
14			
15			
16	* include additional rows if needed		
17	<b>Connections total</b>		<b>1,913</b>
18	<b>Distributed generation</b>		
19	Number of connections made in year		401 connections
20	Capacity of distributed generation installed in year		1.76 MVA
21			
22	<b>9e(ii): System Demand</b>		
23			
24			<b>Demand at time of maximum coincident demand (MW)</b>
25	<b>Maximum coincident system demand</b>		
26	GXP demand		373
27	plus	Distributed generation output at HV and above	69
28	<b>Maximum coincident system demand</b>		<b>442</b>
29	less	Net transfers to (from) other EDBs at HV and above	
30	<b>Demand on system for supply to consumers' connection points</b>		<b>442</b>
31	<b>Electricity volumes carried</b>		<b>Energy (GWh)</b>
32	Electricity supplied from GXPs		1,981
33	less	Electricity exports to GXPs	31
34	plus	Electricity supplied from distributed generation	452
35	less	Net electricity supplied to (from) other EDBs	
36	<b>Electricity entering system for supply to consumers' connection points</b>		<b>2,402</b>
37	less	Total energy delivered to ICPs	2,248
38	<b>Electricity losses (loss ratio)</b>		<b>154 6.4%</b>
39			
40	<b>Load factor</b>		<b>0.62</b>
41	<b>9e(iii): Transformer Capacity</b>		
42			<b>(MVA)</b>
43	Distribution transformer capacity (EDB owned)		1,647
44	Distribution transformer capacity (Non-EDB owned, estimated)		93
45	<b>Total distribution transformer capacity</b>		<b>1,740</b>
46			
47	<b>Zone substation transformer capacity</b>		<b>1,095</b>

Company Name **Powerco Limited**For Year Ended **31 March 2019**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	<b>9e(i): Consumer Connections</b>		
9	Number of ICPs connected in year by consumer type		
10	<i>Consumer types defined by EDB*</i>	<b>Number of connections (ICPs)</b>	
11	Residential/Small Commercial	2,976	
12	Commercial	43	
13	Large Commercial/Industrial	10	
14			
15			
16	<i>* include additional rows if needed</i>		
17	<b>Connections total</b>	<b>3,029</b>	
18			
19	<b>Distributed generation</b>		
20	Number of connections made in year	507	connections
21	Capacity of distributed generation installed in year	4.01	MVA
22	<b>9e(ii): System Demand</b>		
23			
24		<b>Demand at time of maximum coincident demand (MW)</b>	
25	<b>Maximum coincident system demand</b>		
26	GXP demand	444	
27	plus Distributed generation output at HV and above	39	
28	<b>Maximum coincident system demand</b>	483	
29	less Net transfers to (from) other EDBs at HV and above		
30	<b>Demand on system for supply to consumers' connection points</b>	483	
31	<b>Electricity volumes carried</b>	<b>Energy (GWh)</b>	
32	Electricity supplied from GXPs	2,478	
33	less Electricity exports to GXPs	125	
34	plus Electricity supplied from distributed generation	409	
35	less Net electricity supplied to (from) other EDBs		
36	<b>Electricity entering system for supply to consumers' connection points</b>	2,762	
37	less Total energy delivered to ICPs	2,660	
38	<b>Electricity losses (loss ratio)</b>	102	3.7%
39			
40	<b>Load factor</b>	0.65	
41	<b>9e(iii): Transformer Capacity</b>		
42		<b>(MVA)</b>	
43	Distribution transformer capacity (EDB owned)	1,621	
44	Distribution transformer capacity (Non-EDB owned, estimated)	45	
45	<b>Total distribution transformer capacity</b>	1,665	
46			
47	<b>Zone substation transformer capacity</b>	1,134	

# Schedule 10: Reliability

Company Name	Powerco Limited
For Year Ended	31 March 2019
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	<b>10(i): Interruptions</b>		
9	<b>Interruptions by class</b>	<b>Number of interruptions</b>	
10	Class A (planned interruptions by Transpower)	9	
11	Class B (planned interruptions on the network)	2,277	
12	Class C (unplanned interruptions on the network)	3,849	
13	Class D (unplanned interruptions by Transpower)	19	
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)	668	
19	<b>Total</b>	<b>6,823</b>	
20			
21	<b>Interruption restoration</b>	<b>≤3Hrs</b>	<b>&gt;3hrs</b>
22	Class C interruptions restored within	2,041	1,808
23			
24	<b>SAIFI and SAIDI by class</b>	<b>SAIFI</b>	<b>SAIDI</b>
25	Class A (planned interruptions by Transpower)	0.08	8.10
26	Class B (planned interruptions on the network)	0.41	84.04
27	Class C (unplanned interruptions on the network)	2.08	226.84
28	Class D (unplanned interruptions by Transpower)	0.41	20.00
29	Class E (unplanned interruptions of EDB owned generation)		
30	Class F (unplanned interruptions of generation owned by others)	0.01	0.08
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)	0.13	25.55
34	<b>Total</b>	<b>3.13</b>	<b>364.62</b>
35			
36	<b>Normalised SAIFI and SAIDI</b>	<b>Normalised SAIFI</b>	<b>Normalised SAIDI</b>
37	Classes B & C (interruptions on the network)	2.49	278.36
38			
39	<b>10(ii): Class C Interruptions and Duration by Cause</b>		
40			
41	<b>Cause</b>	<b>SAIFI</b>	<b>SAIDI</b>
42	Lightning	0.16	19.79
43	Vegetation	0.23	43.59
44	Adverse weather	0.10	21.74
45	Adverse environment	0.00	0.85
46	Third party interference	0.25	22.31
47	Wildlife	0.17	11.46
48	Human error	0.02	1.05
49	Defective equipment	0.71	75.09
50	Cause unknown	0.44	30.96
51			

Company Name	Powerco Limited
For Year Ended	31 March 2019
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

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

	SAIFI	SAIDI
Subtransmission lines	0.00	0.48
Subtransmission cables	–	
Subtransmission other	0.00	0.01
Distribution lines (excluding LV)	0.31	69.02
Distribution cables (excluding LV)	0.01	1.25
Distribution other (excluding LV)	0.09	13.29

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

	SAIFI	SAIDI
Subtransmission lines	0.48	57.95
Subtransmission cables	–	
Subtransmission other	0.04	1.07
Distribution lines (excluding LV)	1.33	141.45
Distribution cables (excluding LV)	0.10	6.86
Distribution other (excluding LV)	0.14	19.52

**10(v): Fault Rate****Main equipment involved**

	Number of Faults	Circuit length (km)	Fault rate (faults per 100km)
Subtransmission lines	213	1,498	14.22
Subtransmission cables		229	–
Subtransmission other	13		
Distribution lines (excluding LV)	4,482	14,791	30.30
Distribution cables (excluding LV)	91	2,091	4.35
Distribution other (excluding LV)	456		
<b>Total</b>	<b>5,255</b>		



Company Name	Powerco Limited
For Year Ended	31 March 2019
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, SAIFI, SAIDI 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	<b>10(i): Interruptions</b>		
9	<b>Interruptions by class</b>	<b>Number of interruptions</b>	
10	Class A (planned interruptions by Transpower)	5	
11	Class B (planned interruptions on the network)	1,355	
12	Class C (unplanned interruptions on the network)	2,723	
13	Class D (unplanned interruptions by Transpower)	8	
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)	397	
19	<b>Total</b>	<b>4,489</b>	
20			
21	<b>Interruption restoration</b>	<b>≤3Hrs</b>	<b>&gt;3hrs</b>
22	Class C interruptions restored within	1,420	1,303
23			
24	<b>SAIFI and SAIDI by class</b>	<b>SAIFI</b>	<b>SAIDI</b>
25	Class A (planned interruptions by Transpower)	0.09	14.65
26	Class B (planned interruptions on the network)	0.47	99.74
27	Class C (unplanned interruptions on the network)	2.37	260.15
28	Class D (unplanned interruptions by Transpower)	0.27	6.91
29	Class E (unplanned interruptions of EDB owned generation)		
30	Class F (unplanned interruptions of generation owned by others)	0.02	0.15
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)	0.18	32.09
34	<b>Total</b>	<b>3.40</b>	<b>413.68</b>
35			
36	<b>Normalised SAIFI and SAIDI</b>	<b>Normalised SAIFI</b>	<b>Normalised SAIDI</b>
37	Classes B & C (interruptions on the network)	2.84	314.53
38			
39	<b>10(ii): Class C Interruptions and Duration by Cause</b>		
40			
41	<b>Cause</b>	<b>SAIFI</b>	<b>SAIDI</b>
42	Lightning	0.23	26.60
43	Vegetation	0.24	33.78
44	Adverse weather	0.14	37.61
45	Adverse environment	0.01	1.61
46	Third party interference	0.27	20.64
47	Wildlife	0.21	13.04
48	Human error	0.03	1.87
49	Defective equipment	0.83	93.52
50	Cause unknown	0.42	31.46
51			

Company Name	Powerco Limited
For Year Ended	31 March 2019
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.

sch ref

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

	SAIFI	SAIDI
Subtransmission lines	0.00	0.55
Subtransmission cables		
Subtransmission other	0.00	0.02
Distribution lines (excluding LV)	0.37	85.12
Distribution cables (excluding LV)	0.00	0.26
Distribution other (excluding LV)	0.10	13.80

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

	SAIFI	SAIDI
Subtransmission lines	0.46	45.44
Subtransmission cables		
Subtransmission other	0.06	1.46
Distribution lines (excluding LV)	1.58	181.56
Distribution cables (excluding LV)	0.12	7.40
Distribution other (excluding LV)	0.16	24.29

**10(v): Fault Rate****Main equipment involved**

	Number of Faults	Circuit length (km)	Fault rate (faults per 100km)
Subtransmission lines	158	954	16.56
Subtransmission cables		82	—
Subtransmission other	11		
Distribution lines (excluding LV)	3,221	10,105	31.88
Distribution cables (excluding LV)	33	744	4.43
Distribution other (excluding LV)	312		
<b>Total</b>	<b>3,735</b>		

Company Name	Powerco Limited
For Year Ended	31 March 2019
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	<b>10(i): Interruptions</b>		
9	<b>Interruptions by class</b>	<b>Number of interruptions</b>	
10	Class A (planned interruptions by Transpower)	4	
11	Class B (planned interruptions on the network)	922	
12	Class C (unplanned interruptions on the network)	1,126	
13	Class D (unplanned interruptions by Transpower)	11	
14	Class E (unplanned interruptions of EDB owned generation)		
15	Class F (unplanned interruptions of generation owned by others)		
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)	271	
19	<b>Total</b>	<b>2,334</b>	
20			
21	<b>Interruption restoration</b>	<b>≤3Hrs</b>	<b>&gt;3hrs</b>
22	Class C interruptions restored within	621	505
23			
24	<b>SAIFI and SAIDI by class</b>	<b>SAIFI</b>	<b>SAIDI</b>
25	Class A (planned interruptions by Transpower)	0.06	0.78
26	Class B (planned interruptions on the network)	0.34	66.47
27	Class C (unplanned interruptions on the network)	1.76	189.57
28	Class D (unplanned interruptions by Transpower)	0.58	34.65
29	Class E (unplanned interruptions of EDB owned generation)		
30	Class F (unplanned interruptions of generation owned by others)		
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	18.24
34	<b>Total</b>	<b>2.82</b>	<b>309.71</b>
35			
36	<b>Normalised SAIFI and SAIDI</b>	<b>Normalised SAIFI</b>	<b>Normalised SAIDI</b>
37	Classes B & C (interruptions on the network)	2.10	243.71
38			
39	<b>10(ii): Class C Interruptions and Duration by Cause</b>		
40			
41	<b>Cause</b>	<b>SAIFI</b>	<b>SAIDI</b>
42	Lightning	0.08	12.17
43	Vegetation	0.23	54.57
44	Adverse weather	0.06	3.98
45	Adverse environment		
46	Third party interference	0.22	24.18
47	Wildlife	0.13	9.69
48	Human error	0.01	0.13
49	Defective equipment	0.57	54.45
50	Cause unknown	0.45	30.39
51			

Company Name **Powerco Limited**For Year Ended **31 March 2019**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

**52 10(iii): Class B Interruptions and Duration by Main Equipment Involved****53 54 Main equipment involved**

	SAIFI	SAIDI
55 Subtransmission lines	0.00	0.40
56 Subtransmission cables		
57 Subtransmission other		
58 Distribution lines (excluding LV)	0.24	51.00
59 Distribution cables (excluding LV)	0.02	2.35
60 Distribution other (excluding LV)	0.08	12.73

**61 10(iv): Class C Interruptions and Duration by Main Equipment Involved****62 63 Main equipment involved**

	SAIFI	SAIDI
64 Subtransmission lines	0.50	71.95
65 Subtransmission cables		
66 Subtransmission other	0.02	0.63
67 Distribution lines (excluding LV)	1.05	96.56
68 Distribution cables (excluding LV)	0.08	6.25
69 Distribution other (excluding LV)	0.11	14.19

**70 10(v): Fault Rate****71 Main equipment involved**

	Number of Faults	Circuit length (km)	Fault rate (faults per 100km)
72 Subtransmission lines	55	544	10.12
73 Subtransmission cables		147	-
74 Subtransmission other	2		
75 Distribution lines (excluding LV)	1,261	4,686	26.91
76 Distribution cables (excluding LV)	58	1,346	4.31
77 Distribution other (excluding LV)	144		
78 <b>Total</b>	<b>1,520</b>		

## Schedule 14: Mandatory Explanatory Notes

*(Guidance Note: This Microsoft Word version of Schedules 14, 14a and 15 is from the Electricity Distribution Information Disclosure Determination 2012 – as amended and consolidated 3 April 2018. Clause references in this template are to that determination)*

1. 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).
2. 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 11 of this schedule is part of the audited disclosure information, and so is subject to the assurance requirements specified in section 2.8.
3. Schedule 15 (Voluntary Explanatory Notes to Schedules) provides for EDBs to give additional explanation of disclosed information should they elect to do so.

### Return on Investment (Schedule 2)

4. 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

The disclosed ROI under both a Vanilla and Post tax approach for 2019 is slightly lower than 2018. This is driven by opening RAB increasing to \$1,658m (4% or \$65m) and commissioned assets of \$185m (increased 50% or \$61.6m), which in turn is offset by revaluations of \$24m (increased 40% or \$7m). The increased commissioned assets reflect the first-year work program under Powerco's Customised Price-Quality Path plan.

### Regulatory Profit (Schedule 3)

5. In the box below, comment on regulatory profit for the disclosure year as disclosed in Schedule 3. This comment must include-
  - 5.1 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
  - 5.2 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 2019 is \$109m. This represents an increase of \$3.5m from the previous year. This increase in profit was due to an increase in revaluations by \$7.0m, a \$10.3m decrease in pass-through costs and a \$8.9m increase in line revenue. Offsetting these was a \$2.9m increase in losses on asset disposals, a \$17.5m increase in operating expenditure, and a \$2m term credit spread differential allowance.

Other regulated income 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.

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

6. If the EDB incurred merger and acquisitions expenditure during the disclosure year, provide the following information in the box below-
  - 6.1 information on reclassified items in accordance with subclause 2.7.1(2)
  - 6.2 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 have been incurred during the disclosure year.

## Value of the Regulatory Asset Base (Schedule 4)

7. 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 \$129.4m during the year. This increase is nearly double the 2018 increase (\$65.2m) due to the higher commissioned assets. This is a result of the increased work program under the first year of Powerco's Customised Price-Quality Path.

The \$1.2m 'adjustment resulting from asset allocation' represents the removal of fibre related pole assets from the RAB due to the removal of Avoidable Cost Allocation Methodology (ACAM) as a stand-alone cost allocation methodology from 01 April 2018.

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

Details of the movements are detailed below<sup>1</sup>.

Sub transmission lines	Sub transmission cables	Zone substations	Distribution and LV lines	Distribution & LV cables	Distribution substations & transformers	Distribution switchgear	Other network assets	Non-network assets
(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)	(\$000)
\$29	\$6,736	\$485	\$100	(\$6,737)	\$109	\$62	(\$795)	\$11

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

8. In the box below, provide descriptions and workings of the material items recorded in the following asterisked categories of 5a(i) of Schedule 5a-
- 8.1 Income not included in regulatory profit / (loss) before tax but taxable;
  - 8.2 Expenditure or loss in regulatory profit / (loss) before tax but not deductible;
  - 8.3 Income included in regulatory profit / (loss) before tax but not taxable;
  - 8.4 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 \$0.2m of expenditure in regulatory profit that is not deductible for tax. This is related to entertainment expenditure.

<sup>1</sup> This table displays real changes in classification only.

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

9. 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 \$4.1m (\$1.1m tax effect) and relate to:

- \$0.5m related to CIW income that will be recognised as taxable income over a period of 10 years.
- \$0.6m movement employee related provisions.

**Cost allocation (Schedule 5d)**

10. 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 7: Cost allocation**

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

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

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

- 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 affect 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 (i.e. the carrying value of network fixed assets).

Not directly attributable costs are primarily incurred in business support and arise in the functional areas of:

- Corporate services apply a proxy cost allocator of distribution line charge revenue.
- Regulatory management apply a causal allocation of Management's estimate of staff time working on electricity regulated, other regulated and unregulated services.
- Legal apply a proxy fixed asset allocator.
- Human resources apply a proxy cost allocator of employee numbers.
- Information systems and projects apply a proxy fixed asset allocator.
- Facility costs apply a causal allocator of employee numbers and a proxy fixed assets allocator.
- Insurance apply causal allocators of indemnity values, vehicle allocations and employee numbers.

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

- Professional services
- Personnel costs
- 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)

11. 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 8: 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.

Note: The fixed asset net book value methodology has been updated for the removal of Avoidable Cost Allocation Methodology (ACAM) as a stand-alone cost allocation methodology from 01 April 2018.

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)

12. In the box below, comment on expenditure on assets for the disclosure year, as disclosed in Schedule 6a. This comment must include-
- 12.1 a description of the materiality threshold applied to identify material projects and programmes described in Schedule 6a;
  - 12.2 information on reclassified items in accordance with subclause 2.7.1(2).

### Box 9: Explanation of capital expenditure for the disclosure year

Expenditure on assets totalled \$220.4m during this period which is \$46.0m higher than the previous year and \$12.8m above the 2018 Asset Management Plan (AMP) forecast.

The main drivers of the increase above the previous year include increased expenditure in consumer connections (\$8.3m to \$43m), increased system growth (\$8.1m to \$56m) and increased asset replacement and renewal (\$23.3m to \$86m).

#### 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

No items have been reclassified during this disclosure year.

## Operational Expenditure for the Disclosure Year (Schedule 6b)

13. In the box below, comment on operational expenditure for the disclosure year, as disclosed in Schedule 6b. This comment must include-
- 13.1 Commentary on assets replaced or renewed with asset replacement and renewal operational expenditure, as reported in 6b(i) of Schedule 6b;
  - 13.2 Information on reclassified items in accordance with subclause 2.7.1(2);
  - 13.3 Commentary on any material atypical expenditure included in operational expenditure disclosed in Schedule 6b, a including the value of the expenditure the purpose of the expenditure, and the operational expenditure categories the expenditure relates to.

### Box 10: Explanation of operational expenditure for the disclosure year

Total operational expenditure (opex) during the period was \$87.9m, which is \$4.4m less than the 2018 Asset Management Plan forecast. Network and non-network opex were 4% and 6% 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 opex expenditure for the disclosure year is contained in box 12.

#### Reclassified items

No items have been reclassified during this disclosure year.

#### Atypical expenditure

There have been no material items of atypical expenditure.

## Variance between forecast and actual expenditure (Schedule 7)

14. 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 11: Explanatory comment on variance in actual to forecast expenditure****Expenditure on assets**

Total expenditure on assets for the period exceeded the forecast in Powerco's 2018 AMP update by \$12.8m (6.2%).

Total expenditure on network assets for the period is above the 2018 AMP forecast by \$15.6m (8.6%). The largest contributors to the increased expenditure were Asset Replacement and Renewal expenditure and higher than anticipated consumer connection expenditure.

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

Customer development has continued to be strong across much of the Powerco footprint. The number of works completed was comparable to the previous year, but the average value of that work increased significantly. This was driven by an increase in "Complex" works (projects over \$100,000 or a greater than 300kVA capacity), with industrial and commercial developments primarily in Tauranga and the Manawatu. Subdivision work also increased significantly, both in number of projects and value of work carried out. This was again primarily in the Bay of Plenty and Manawatu regions.

System growth

Actual expenditure on system growth is less than forecast by \$8.9m (13.8%). The variances noted were largely driven by changes to major project schedules with a significant shift in expenditure from FY19 to FY20 including:

- Approximately \$6m of expenditure for the Whangamata energy storage system.
- An estimated \$2m of expenditure on Kopu-Kauaeranga 66kV thermal and conductor upgrades.

Some of the underspend in system growth has been offset by higher quality of supply expenditure levels.

Asset replacement and renewal

Asset replacement and renewal expenditure exceeded the forecast by \$10.1m (13.3%). This variance is largely attributed to an increase in expenditure on distribution and LV lines with high volumes of reactive renewals resulting from a focus on managing the defects backlog to reduce safety risk and outages.

Asset relocations

Asset relocations (\$1.5m or 64.5% higher than forecast) were largely due to roading projects. For example, a long term major urban motorway development in Tauranga has involved multiple relocation of Powerco assets. Other projects included several Council-driven road redevelopments associated with urban subdivision growth, and several NZTA highway safety improvement projects.

Other reliability, safety and environment

Expenditure on other reliability, safety and environment was \$0.7m (21.9%) lower than forecast. The major initiatives in this category are LV fusing upgrades, the purchase of standby generators to deploy for emergency response and the standardisation of lock and keys. There was some reclassification of projects from the other reliability, safety and environment categories to improve alignment of expenditures to information disclosure requirements.

Quality of supply

Expenditure on quality of supply has exceeded forecast for the period by \$3.6m (131.9%). This increase was partially due to the deferral of system growth major project expenditure enabling the completion of a higher number of automation projects. \$1m of the increase against forecast was caused by the reclassification of mobile substation expenditure from other reliability, safety and environment in the 2018 AMP to quality of supply.

Non-network capex

Expenditure on non-network capex was \$2.8m (10.8%) below forecast. The variance resulted from the timing of a planned upgrade of the Enterprise Asset Management System.

**Operational expenditure**

Total operating expenditure of \$87.9m was 4.8% lower than the 2018 AMP forecast of \$92.4m, driven by lower than forecast expenditure in both network and non-network areas.

Network expenditure was \$1.6m (3.8%) lower than forecast, primarily driven by underspend on Routine Corrective Maintenance and Inspections.

Non-network expenditure was \$2.8m below the 2018 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).

Routine corrective maintenance and inspections

Routine corrective maintenance and inspections expenditure was \$1.9m (12.4%) less than forecast. The 2018 AMP forecast was a significant uplift in expenditure from FY18 with the instigation of several new preventative maintenance and inspection improvement initiatives. The actual uplift has been less than forecast due to the delayed timing of these initiatives with FY19 activities focusing more on technology evaluation, with implementation expected in FY20.

Non-network opex

Powerco's total non-network operational expenditure in the disclosure period was 5.7% below the forecast in the 2018 AMP. The main driver of this was a delay in recruitment of planned new roles. This is largely viewed as a timing issue with recruitment of these roles still planned or having just occurred.

**Information relating to revenues and quantities for the disclosure year**

15. In the box below provide-

- 15.1 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
- 15.2 explanatory comment on reasons for any material differences between target revenue and total billed line charge revenue.

**Box 12: Explanatory comment relating to revenue for the disclosure year**

Powerco's revenue for FY19 was \$399.7m, compared to the targeted revenue of \$398.9m. A continuation of strong growth in the Eastern Region drove higher connection numbers and higher consumption. This offset lower revenue in the Western region, which occurred despite higher connection growth.

## Network Reliability for the Disclosure Year (Schedule 10)

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

### Box 13: Commentary on network reliability for the disclosure year

In FY19 Powerco's SAIDI (Class B and Class C) was 311 minutes which was higher than normal due to a worsening trend in unplanned fault restoration durations. Normalised SAIDI also rose. SAIFI (Class B and Class C) remained relatively unchanged at 2.49.

This, and the growing number of faults on the network, supports 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 several 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 several 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

The normalised result (line 37 of Schedule 10) reports SAIDI and SAIFI by applying the methodology contained in the Information Disclosure Determination (IDD).

This methodology is different to the methodology used for calculating SAIDI and SAIFI for the Customised Price-Quality Path (CPP) compliance statement therefore the actual normalised result reported in this information disclosure should not be compared with the CPP 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<sup>2</sup>. This is the first year the quality path normalised reliability limits are not required to be disclosed in this Schedule 10.

#### 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<sup>3</sup>. 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.

<sup>2</sup> Commerce Commission's issues register for gas and electricity information disclosure, item number 447.

<sup>3</sup> Commerce Commission's issues register for gas and electricity information disclosure, item number 231.

## Insurance cover

17. In the box below, provide details of any insurance cover for the assets used to provide electricity distribution services, including-
- 17.1 The EDB's approaches and practices regarding the insurance of assets used to provide electricity distribution services, including the level of insurance;
  - 17.2 In respect of any self-insurance, the level of reserves, details of how reserves are managed and invested, and details of any reinsurance.

### Box 14: 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 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 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

18. 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:
- 18.1 a description of each error; and
  - 18.2 for each error, reference to the web address where the disclosure made in accordance with clause 2.12.1 is publicly disclosed.

### Box 15: Disclosure of amendment to previously disclosed information

There have been no material amendments to previously disclosed information.

## Schedule 15 Voluntary Explanatory Notes

*(In this Schedule, clause references are to the Electricity Distribution Information Disclosure Determination 2012 – as amended and consolidated 3 April 2018.)*

1. This schedule enables EDBs to provide, should they wish to-
  - 1.1 additional explanatory comment to reports prepared in accordance with clauses 2.3.1, 2.4.21, 2.4.22, 2.5.1 and 2.5.2;
  - 1.2 information on any substantial changes to information disclosed in relation to a prior disclosure year, as a result of final wash-ups.
2. Information in this schedule is not part of the audited disclosure information, and so is not subject to the assurance requirements specified in section 2.8.
3. Provide additional explanatory comment in the box below.

**Box 1: Voluntary explanatory comment on disclosed information****Finance schedules**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 several key considerations.

Related party transactions (schedule 5b)

Powerline Limited (trading as Basepower) is a wholly owned subsidiary of Powerco Limited. The principal activities of Basepower is the provision of a standalone, off-grid energy system. During the year ended March 2019 Powerco Limited purchased Basepower units from Basepower, valued at \$0.9m. The transaction was valued consistent with the arm's length principle as evidenced by comparable pricing.

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 (individual connection 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 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.

Commercial and industrial customers in our Western region are charged based on peak demands. This involves taking the historical Anytime Maximum Demand ("AMD") and On Peak Demand ("OPD") from the previous year to determine chargeable quantities.

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 2019 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' and 'pass-through' costs. Levies, rates and regulatory adjustments make up part of this, although transmission costs are approximately 95% of the total figure. Further information on Powerco's recoverable and pass-through costs is available in the annual electricity Price-Quality compliance statements available on Powerco's website.

Transmission line charge revenue decreased by \$5.4m for FY19 compared to FY18. This was mainly due to a drop in Transpower's FY19 charges to Powerco, which reduced the transmission revenue targeted by Powerco in our FY19 prices.

**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 sub transmission switchgear (not in zone substations)	Zone substation switchgear	33kV switch (ground mounted)
Pole mounted sub transmission switchgear (not in zone substations)	Zone substation switchgear	33kV switch (pole mounted)
Protection system pilots	Not included <sup>4</sup>	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 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 entire 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 included 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°C.

**Amendments to formulae in the schedules**

There have been no amendments to the templates provided by the Commerce Commission for the 2019 Information Disclosure.

<sup>4</sup> Refer to the information disclosure determination issues register published by the Commerce Commission.

## Certificate for year-end disclosures

### CERTIFICATE FOR YEAR-END DISCLOSURES

Pursuant to clause 2.9.2 of section 2.9

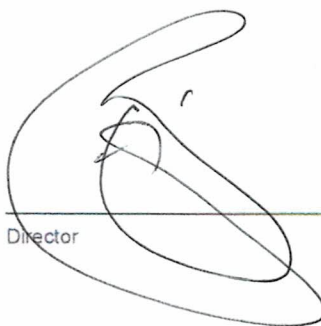
We, PAUL CALLOW and JOHN LOUGHLIN,

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 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.
- c) In respect of information concerning assets, costs and revenues valued or disclosed in accordance with clause 2.3.6 of the Electricity Distribution Information Disclosure Determination 2012 and clauses 2.2.11(1)(g) and 2.2.11(5) of the Electricity Distribution Services Input Methodologies Determination 2012, we are satisfied that-
  - i. the costs and values of assets or goods or services acquired from a related party comply, in all material respects, with clauses 2.3.6(1) and 2.3.6(3) of the Electricity Distribution Information Disclosure Determination 2012 and clauses 2.2.11(1)(g) and 2.2.11(5)(a)-2.2.11(5)(b) of the Electricity Distribution Services Input Methodologies Determination 2012; and
  - ii. the value of assets or goods or services sold or supplied to a related party comply, in all material respects, with clause 2.3.6(2) of the Electricity Distribution Information Disclosure Determination 2012.



Director



Director

22 August 2019

Date

22 August 2019

Date



**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 April 2018)**

We have conducted a reasonable assurance engagement on whether the information disclosed by Powerco Limited (the 'Company') required to be disclosed in accordance with the Electricity Distribution Information Disclosure Determination 2012 (consolidated April 2018) ('the Determination') for the disclosure year ended 31 March 2019, has been prepared, in all material respects, in accordance with the Determination.

The information required to be reported by the Company, under the Determination is in schedules 1 to 4, 5a to 5g, 6a and 6b, 7, the explanatory notes in boxes 1 to 11 in Schedule 14 ('the Disclosure Information'), and the related party relationships section in box 1 of Schedule 15.

Further, we have conducted a reasonable assurance engagement on whether the Company's basis for valuation of related party transactions ('the Related Party Transaction Information') for the disclosure year ended 31 March 2019, has been prepared, in all material respects, in accordance with clause 2.3.6 and 2.3.8 of the Determination, and clauses 2.2.11(1)(g) and 2.2.11(5) of the Electricity Distribution Services Input Methodologies Determination 2012 (consolidated January 2019) ('the Input Methodologies 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;
- The Related Party Transaction Information complies, in all material respects, with the Determination and the Input Methodologies Determination;
- As far as appears from an examination of them, proper records to enable the complete and accurate compilation of the Disclosure Information and the Related Party Transaction 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 and the Related Party Transaction 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 conducted our engagement in accordance with the International Standard on Assurance Engagements (New Zealand) 3000 (Revised): *Assurance Engagements Other Than Audits or Reviews of Historical Financial Information* and the Standard on Assurance Engagements 3100 (Revised): *Compliance Engagements* issued by the New Zealand Auditing and Assurance Standards Board. Copies of these standards are available on the External Reporting Board's website.

These standards require that we comply with ethical requirements and plan and perform our assurance engagement to provide reasonable assurance about whether the Disclosure Information has been prepared, in all material respects, with the Determination, and about whether the Related Party Transaction Information has been prepared, in all material respects, with the Determination and the Input Methodologies Determination. Reasonable assurance is a high level of assurance.



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

### **Key audit matters**

We have determined that there are no key audit matters to communicate in our report.

### **Responsibilities of the Board of Directors for the Disclosure Information and Related Party Transaction Information**

The Board of Directors is responsible on behalf of the Company for the preparation of the Disclosure Information and Related Party Transaction 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 and the Related Party Transaction 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.

### **Our responsibility for the audit of the Disclosure Information and the Related Party Transaction Information**

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

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

We have performed procedures to obtain evidence about the amounts and disclosures in the Disclosure Information and the basis of valuation in the Related Party Transaction Information. The procedures selected depend on our judgement, including the assessment of the risks of material misstatement of the Disclosure Information and Related Party Transaction Information, whether due to fraud or error or non-compliance with the Information Disclosure Determination or the Input Methodologies Determination. In making those risk assessments, we considered internal control relevant to the Company's preparation of the Disclosure Information and Related Party Transaction Information in



order to design procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control.

### **Inherent Limitations**

Because of the inherent limitations of a reasonable assurance engagement, and the test basis of the procedures performed, it is possible that fraud, error or non-compliance may occur and not be detected.

We did not examine every transaction, adjustment or event underlying the Disclosure Information or the Related Party Transaction Information nor do we guarantee complete accuracy of the Disclosure Information or the Related Party Transaction Information. Also we did not evaluate the security and controls over the electronic publication of the Disclosure Information or the Related Party Transaction Information.

The opinion expressed in this independent assurance report has been formed on the above basis.

### **Use of Report**

This independent assurance report has been prepared solely for the directors of the Company and for the Commerce Commission for the purpose of providing those parties with reasonable assurance about whether the Disclosure Information has been prepared, in all material respects, in accordance with the Determination, and about whether the Related Party Transaction Information has been prepared in all material respects with the Determination and the Input Methodologies Determination. We disclaim any assumption of responsibility for any reliance on this report to any person other than the directors of the Company or the Commerce Commission, or for any other purpose than that for which it was prepared.

*Deloitte Limited*

Wellington, New Zealand  
22 August 2019