

THE NUMBERS

ANNUAL DELIVERY REPORT 2019
QUANTITATIVE DATA

Year One

DELIVERING ON OUR 5-YEAR INVESTMENT COMMITMENT:

We actioned \$149m (\$146m target), a 30% increase on the previous year.

WE COMMITTED TO:

Delivering 17 major projects (across five years)

- We have completed two projects and three are under construction.

Reducing our defective equipment backlog

- We have reduced this by 33% in Year One.

Replacing poles and wires

We replaced :

- 3,616 poles (3,585 target), which is a 25% increase on the previous year.
- 136km conductor (148km target), which is a 50% increase on the previous year.



POLES REPLACED

Increase in Year One

25%

REGIONAL GROWTH & RENEWALS

\$149m

Total spend



WE'VE ALSO PROGRESSED OTHER IMPORTANT PROJECTS:



New Network Operations Centre



Working towards go-live for our new core business operational system



Completed Pole Top Photography and LiDAR trial data collection



Working towards ISO55001 certification



Network Evolution trials



Improving data for better decision making



This icon shows additional information is available on our website

WE KEPT YOUR LIGHTS ON MOST OF THE TIME



99.95%

For Year One

Like numbers? You will find the full set of numbers about our CPP – Year One delivery in the companion document and online.

If you want to know the story behind the numbers in this document, please visit www.powerco.co.nz for Powerco's 'Delivering on our promise' report.



This document is an appendix to Powerco's 'Delivering on our promise' report.

It contains all data required to meet the regulatory annual quantitative reporting obligations Powerco's Customised Price-quality Path (CPP). On page 28 you will find a copy of the 'Director's Certificate' which certifies the quantitative information within this document, and the qualitative information presented in our 'Delivering on our promise' report.

QUANTITATIVE DATA

Financial summary

ADR reference 3.3a, 3.3b, 3.3c, 3.3f

\$000'S	ACTUAL FY19	ACTUAL CPP REGULATORY PERIOD TO DATE	FORECAST FY19	FORECAST CPP REGULATORY PERIOD TO DATE	VARIANCE FY19	VARIANCE CPP REGULATORY PERIOD TO DATE
Total Expenditure (Totex)	274,793	274,793	273,252	273,252	(1,541)	(1,541)
Capital Expenditure (Capex)	187,033	187,033	180,867	180,867	(6,165)	(6,165)
Operational Expenditure (Opex)	87,760	87,760	92,385	92,385	4,625	4,625

\$000'S	ACTUAL FY19	ACTUAL CPP REGULATORY PERIOD TO DATE	FORECAST FY19	FORECAST CPP REGULATORY PERIOD TO DATE	VARIANCE FY19	VARIANCE CPP REGULATORY PERIOD TO DATE
Network Opex						
Preventative Maintenance	9,733	9,733	11,751	11,751	2,018	2,018
Corrective Maintenance	13,571	13,571	13,133	13,133	(438)	(438)
Reactive Maintenance	7,271	7,271	7,524	7,524	253	253
Vegetation Management	10,589	10,589	10,367	10,367	(222)	(222)
SONS	16,048	16,048	15,202	15,202	(847)	(847)
Total	57,212	57,212	57,977	57,977	764	764

Business Support Costs

Corporate	22,975	22,975	24,586	24,586	1,612	1,612
Facilities	1,355	1,355	2,062	2,062	707	707
Insurance and Governance	2,214	2,214	2,242	2,242	27	27
ICT Opex	4,003	4,003	5,518	5,518	1,515	1,515
Total	30,548	30,548	34,408	34,408	3,861	3,861

\$000'S	ACTUAL FY19	ACTUAL CPP REGULATORY PERIOD TO DATE	FORECAST FY19	FORECAST CPP REGULATORY PERIOD TO DATE	VARIANCE FY19	VARIANCE CPP REGULATORY PERIOD TO DATE
Asset Replacement and Renewal						
Overhead Structures	40,246	40,246	28,998	28,998	(11,248)	(11,248)
Overhead Conductors	6,287	6,287	7,173	7,173	885	885
Cables	11,055	11,055	6,999	6,999	(4,055)	(4,055)
Zone Substations	14,561	14,561	15,695	15,695	1,134	1,134
Distribution Transformers	10,488	10,488	9,272	9,272	(1,216)	(1,216)
Distribution Switchgear	4,143	4,143	9,832	9,832	5,689	5,689
Secondary Systems	1,449	1,449	4,753	4,753	3,303	3,303
Total	88,229	88,229	82,721	82,721	(5,508)	(5,508)
Capital Contributions	-	-	-	-	-	-

\$000'S	ACTUAL FY19	ACTUAL CPP REGULATORY PERIOD TO DATE	FORECAST FY19	FORECAST CPP REGULATORY PERIOD TO DATE	VARIANCE FY19	VARIANCE CPP REGULATORY PERIOD TO DATE
Growth and Security						
Major Projects	18,421	18,421	28,765	28,765	10,344	10,344
Minor Projects	6,244	6,244	11,053	11,053	4,808	4,808
Routine	21,070	21,070	14,739	14,739	(6,331)	(6,331)
Communications	9,205	9,205	5,809	5,809	(3,397)	(3,397)
Reliability	6,326	6,326	3,355	3,355	(2,971)	(2,971)
Total Growth and Security	61,267	61,267	63,720	63,720	2,454	2,454

\$000'S	ACTUAL FY19	FORECAST FY19	VARIANCE FY19
Major Projects			
Papamoa	154	259	105
Palmerston North	6,387	1,495	(4,892)
Putaruru	136	351	215
Whangamata	3,775	6,376	2,601
Omokoroa	-	1,376	1,376
Kopu-Tairua	153	3,963	3,810
Kopu-Kauaeranga	280	3,089	2,809
Moturoa	6,095	5,540	(555)
Kerepehi-Paeroa	6	-	(6)
Whenuakite	59	247	188
Matarangi	1	86	85
Putaruru-Tirau	-	-	-
Kaimarama-Whitianga	106	172	66
Kereone-Walton	38	-	(38)
Feilding-Sanson	100	241	141
Pyes Pa	1,128	2,995	1,867
Inglewood	4	2,574	2,570

\$000'S	ACTUAL FY19	ACTUAL CPP REGULATORY PERIOD TO DATE	FORECAST FY19	FORECAST CPP REGULATORY PERIOD TO DATE	VARIANCE FY19	VARIANCE CPP REGULATORY PERIOD TO DATE
Other Network Capex						
Consumer Connection	13,524	13,524	11,946	11,946	(1,578)	(1,578)
Asset Relocations	233	233	821	821	588	588
Network Evolution	497	497	-	-	(497)	(497)
Total Other Network Capex	14,254	14,254	12,767	12,767	(1,487)	(1,487)

\$000'S	ACTUAL FY19	ACTUAL CPP REGULATORY PERIOD TO DATE	FORECAST FY19	FORECAST CPP REGULATORY PERIOD TO DATE	VARIANCE FY19	VARIANCE CPP REGULATORY PERIOD TO DATE
Non Network						
ICT	16,014	16,014	18,665	18,665	2,651	2,651
Facilities	7,269	7,269	2,994	2,994	(4,274)	(4,274)
Total Non Network	23,283	23,283	21,659	21,659	(1,624)	(1,624)

Enterprise Resource Planning

Expenditure	11,452		13,823			
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Asset renewal

ADR reference 3.3d, 3.3e, 3.3f, 3.3i

KM	ACTUAL FY19	FORECAST FY19	VARIANCE FY19
Conductor Replacement			
Western Region	93	134	(41)
Eastern Region	44	14	30
Total	136	148	(12)

NUMBER	ACTUAL FY19	FORECAST FY19	VARIANCE FY19
Overhead Structures			
Concrete Poles / Steel Structure	2,093	1,930	163
Wood Poles	1,381	1,636	(256)
Other Pole Types	143	18	124
Total	3,616	3,585	31

Overhead Structures by Region

Western Region	2,738	2,896	(158)
Eastern Region	878	689	189
Total	3,616	3,585	31

NUMBER	ACTUAL FY19	FORECAST FY19	VARIANCE FY19
Zone Substation Switchgear			
Made up of:			
Outdoor circuit breakers	9	-	9
Indoor switchboards	1	5	(4)
Individual Indoor circuit break	5	-	5

NUMBER	ACTUAL FY19	FORECAST FY19	VARIANCE FY19
Transformer Replacement			
Distribution Transformers (up to 22kV)	599	413	186
Power Transformers (22kV up to 110kV)	3	2	1

Note: for conductor, pole and distribution transformer replacement quantities, between 17-25% of the replacement quantities are based on an estimate of the number of assets replaced from design and scope documentation, as the assets have been replaced but as-built records have not yet been completed in our GIS system. Conservative assumptions have been used to ensure the replacement quantities are not overstated, but the actual replacement quantities may be slightly different to those stated above.

Unit rates

ADR reference 3.3g, 3.3h

\$000'S	ACTUAL SUBTRANSMISSION	FORECAST DISTRIBUTION	VARIANCE LOW VOLTAGE
Average Unit Value per Renewed Asset			
Poles	6,335	3,569	4,674
Crossarm Assemblies	2,029	1,028	1,367
Conductor (per km)	n/a	40,162	58,628

\$000'S	ACTUAL FY19
Average Unit Value per Renewed Asset	
Power Transformers	n/a
Distribution Transformers	12,281
Zone Substation Switchgear	n/a

Note: an insufficient quantity of subtransmission conductor, power transformers and zone substation switchgear has been replaced, as-built and capitalised in FY19 to calculate an average unit rate. Also, the pole unit rate presented is exclusive of associated crossarm assemblies.

Defects

ADR reference 3.3k, 3.3p

NUMBER	ACTUAL FY19	ACTUAL CPP REGULATORY PERIOD TO DATE
Defect Backlog		
Material asset defects in backlog at start of the year	41,579	
New material defect identified	14,837	
Material defects remedied	28,499	28,499
Material asset defects in backlog at end of the year	27,917	
Red Tag Poles		
Identified	57	57
Replaced	55	55

Note: defects remedied includes both defects closed through field work and defects cancelled through data cleansing programmes.

Inspections

ADR reference 3.3l, 3.3m, 3.3n, 3.3o

NUMBER	ACTUAL FY19	ACTUAL CPP REGULATORY PERIOD TO DATE
Overhead Line Inspections – Western Region		
Number of Poles	33,296	33,296
Estimated Line Length km	2,137	2,137
Overhead Line Inspections – Eastern Region		
Number of Poles	13,645	13,645
Estimated Line Length km	876	876
Transformer Inspections – Western Region		
One Pole Mounted Transformers / Substations	2,757	2,757
Two Pole Mounted Transformers / Substations	93	93
Total	2,850	2,850
Ground Mounted Transformers	6,637	6,637
Transformer Inspections – Eastern Region		
One Pole Mounted Transformers / Substations	1,078	1,078
Two Pole Mounted Transformers / Substations	16	16
Total	1,094	1,094
Ground Mounted Transformers	10,971	10,971

Vegetation Management

ADR reference 3.3q

\$000'S	ACTUAL FY19	ACTUAL CPP REGULATORY PERIOD TO DATE	FORECAST FY19	VARIANCE FY19
Vegetation Management				
Tree sites trimmed	3,367			
Tree sites removed	5,668			
Tree sites sprayed	1,746			
Total Tree Sites Managed	10,781	10,781	8,213	2,568
% of Work Cleared	131%	26%		

Staff Recruitment

ADR reference 3.3s

\$000'S	ACTUAL FY19	ACTUAL CPP REGULATORY PERIOD TO DATE	FORECAST FY19	VARIANCE FY19
Staff Recruitment				
Full-time equivalent staff recruited	41		30	(11)

Additional FTEs recruited in FY19 were primarily in the following areas:

- Additional network development and fleet management engineers, for work on identifying and scoping project work
- Increase in the number of graduates on Powerco's engineering graduate programme
- Increase in the number of designers and project managers to deliver project work
- Additional IS staff to manage our ERP, GIS and cloud systems
- Additional IS staff managing cyber security risks

Network Performance

ADR reference 3.3t, 3.3u, 3.3v

Network Performance

MINUTES	ACTUAL FY19	LIMIT FY19
SAIDI (Planned)		
Western Region	99.7	
Eastern Region	66.5	
Powerco SAIDI (Planned)	84.0	80.0
SAIFI (Planned)		
Western Region	0.470	
Eastern Region	0.341	
Powerco SAIFI (Planned)	0.409	0.344
SAIDI (Unplanned)		
Western Region	233.8	
Eastern Region	160.9	
Powerco SAIDI (Unplanned)	197.3	191.4
SAIFI (Unplanned)		
Western Region	2.376	
Eastern Region	1.685	
Powerco SAIFI (Unplanned)	2.029	2.285

MINUTES**Average Outage Duration**

	ACTUAL FY19	LIMIT FY19
Planned 6.6kV to 22kV	205	
Planned 22kV to 110kV	338	
Unplanned 6.6kV to 22kV	104	
Unplanned 22kV to 110kV	74	

Note: eastern and western SAIDI/SAIFI figures presented are in respect to the number of ICPs in the eastern and western networks respectively, and will not sum to the total Powerco network SAIDI/SAIFI/

Feeder Performance

ADR reference 3.3t, 3.3u, 3.3v

Interruption Duration Index for 10 Worst Feeders

F1 FEEDER	INDEX	LOCATION	F2 FEEDER	INDEX	LOCATION	F3 FEEDER	INDEX	LOCATION
CARTER H.H.	3,118	Valley, MATATOKI SUB	WATERWORKS RD	1,810	Wanganui, KAI IWI SUB	TARATA	2,961	Taranaki, MOTUKAWA SUB
MATAPU	1,399	Taranaki, KAPUNI SUB	WINDFARM	1,609	Wairarapa, HAU NUI SUB	TOTARA ST	2,075	Wairarapa, TE ORE ORE SUB
MCKEE 1	1,101	Taranaki, MCKEE SUB	EASTOWN RD	934	Wanganui, WANGANUI EAST SUB	TOKO	1,746	Taranaki, DOUGLAS SUB
WOODS RD	1,090	Valley, FARMER ROAD SUB	RENALL ST	922	Wairarapa, AKURA SUB	ACHILLES AVE	1,090	Valley, WHANGAMATA SUB
TATUANUI	982	Valley, FARMER ROAD SUB	LINTON EXPRESSWAY	819	Manawatu, TURITEA SUB	PEPE RD	1,086	Valley, TAIRUA SUB
MANAIA	955	Taranaki, MANAIA SUB	MALDEN ST	724	Manawatu, KELVIN GROVE SUB	TAIRUA NORTH	1,083	Valley, TAIRUA SUB
RANGIURU	635	Tauranga, TE PUKE SUB	PORT RD	695	Valley, WHANGAMATA SUB	OTAHU RD	1,036	Valley, WHANGAMATA SUB
DAIRYFACT	532	Manawatu, KAIRANGA SUB	HORAHORA	692	Valley, PUTARURU SUB	PLEASANT POINT	1,007	Valley, TAIRUA SUB
MANGATOKI	528	Taranaki, ELTHAM SUB	OHAKEA	619	Manawatu, SANSON SUB	WILLS RD	1,007	Tauranga, AONGATETE SUB
ELTHAM TOWN NORTH	489	Taranaki, ELTHAM SUB	COLOMBO RD	582	Wairarapa, TE ORE ORE SUB	PAUANUI	938	Valley, TAIRUA SUB

Number of feeders exceeding its interruption duration targets

F1 NUMBER	F2 NUMBER	F3 NUMBER
41	57	82

F4 FEEDER	INDEX	LOCATION	F5 FEEDER	INDEX	LOCATION
STRATHMORE	5,680	Taranaki, DOUGLAS SUB	TUTURUMURI	3,492	Wairarapa, HAU NUI SUB
PALMER RD	5,392	Taranaki, KAPONGA SUB	ANNEDALE	3,143	Wairarapa, TINUI SUB
DUTHIE RD	4,198	Taranaki, KAPONGA SUB	COAST ROAD	2,972	Manawatu, PONGAROA SUB
PIHAMA	3,889	Taranaki, TASMAN SUB	CASTLEHILL	2,300	Manawatu, ALFREDTON SUB
PARIHAKA	3,311	Taranaki, PUNGAREHU SUB	CASTLEPOINT	2,054	Wairarapa, TINUI SUB
SOUTH RD NGARIKI	3,183	Taranaki, NGARIKI SUB	CLIMIE RD	2,048	Taranaki, CARDIFF SUB
IHAIA RD	2,703	Taranaki, TASMAN SUB	BLAIRLOGIE	1,443	Wairarapa, AWATOITOI SUB
WAREA	2,584	Taranaki, PUNGAREHU SUB	LANGDALE	1,404	Wairarapa, TINUI SUB
CARDIFF RD	2,465	Taranaki, CARDIFF SUB	MANGAPAKEHA	1,336	Wairarapa, AWATOITOI SUB
RAHOTU	2,374	Taranaki, NGARIKI SUB	MAIN RD MOTONU	1,274	Taranaki, WAITARA EAST SUB

F4 NUMBER	F5 NUMBER
73	10

Interruption Frequency Index for 10 Worst Feeders

F1 FEEDER	INDEX	LOCATION	F2 FEEDER	INDEX	LOCATION	F3 FEEDER	INDEX	LOCATION
TATUANUI	8	Valley, FARMER ROAD SUB	WINDFARM	7	Wairarapa, HAU NUI SUB	TARATA	20	Taranaki, MOTUKAWA SUB
MCKEE 1	8	Taranaki, MCKEE SUB	WATERWORKS RD	7	Wanganui, KAI IWI SUB	TOKO	14	Taranaki, DOUGLAS SUB
MANAIA	7	Taranaki, MANAIA SUB	PORT RD	6	Valley, WHANGAMATA SUB	OTAHU RD	10	Valley, WHANGAMATA SUB
DEVON RD	7	Taranaki, BELL BLOCK SUB	OHAKEA	6	Manawatu, SANSON SUB	HUNTERVILLE 22KV	10	Wanganui, RATA SUB
WOODS RD	6	Valley, FARMER ROAD SUB	EASTOWN RD	6	Wanganui, WANGANUI EAST SUB	ACHILLES AVE	9	Valley, WHANGAMATA SUB
MANGATOKI	6	Taranaki, ELTHAM SUB	BROWNE ST	5	Taranaki, WAITARA WEST SUB	TOTARA ST	8	Wairarapa, TE ORE ORE SUB
ELTHAM TOWN NORTH	6	Taranaki, ELTHAM SUB	LINTON	5	Manawatu, TURITEA SUB	OPOUTERE	8	Valley, WHANGAMATA SUB
AFFCO-QUEEN ST	5	Taranaki, WAITARA WEST SUB	PAHOIA	5	Tauranga, OMOKOROA SUB	KAPANGA ROAD	8	Valley, COROMANDEL SUB
WAIHI GOLD	5	Valley, WAIHI SUB	MALEME ST	5	Tauranga, TP_TAURANGA 11kV	WYUNA BAY	8	Valley, COROMANDEL SUB
MATAPU	5	Taranaki, KAPUNI SUB	COLOMBO RD	5	Wairarapa, TE ORE ORE SUB	VICTORIA ST	7	Valley, WAIHI SUB

Number of feeders exceeding its interruption frequency targets

F1 NUMBER	F2 NUMBER	F3 NUMBER
44	51	99

Notes: feeder duration and interruption index represent the average duration and number of interruptions a feeder experiences in a given year.

F4 FEEDER	INDEX	LOCATION	F5 FEEDER	INDEX	LOCATION
PALMER RD	22	Taranaki, KAPONGA SUB	CLIMIE RD	16	Taranaki, CARDIFF SUB
PARIHAKA	19	Taranaki, PUNGAREHU SUB	MAIN RD MOTONU	13	Taranaki, WAITARA EAST SUB
PIHAMA	17	Taranaki, TASMAN SUB	TUTURUMURI	12	Wairarapa, HAU NUI SUB
RATAPIKO	16	Taranaki, MOTUKAWA SUB	ANNEDALE	11	Wairarapa, TINUI SUB
DUTHIE RD	15	Taranaki, KAPONGA SUB	COAST ROAD	11	Manawatu, PONGAROA SUB
RIVERLEA	15	Taranaki, KAPONGA SUB	PRINCESS ST	10	Taranaki, WAITARA EAST SUB
KOHETE RD	14	Taranaki, MOTUKAWA SUB	CASTLEPOINT	10	Wairarapa, TINUI SUB
CARDIFF RD	14	Taranaki, CARDIFF SUB	LANGDALE	9	Wairarapa, TINUI SUB
MANAIA RD	13	Taranaki, KAPONGA SUB	IRIRANGI	9	Wanganui, WAIOURU SUB
TIKORANGI	13	Taranaki, WAITARA EAST SUB	OTARAOA RD	9	Taranaki, MCKEE SUB

F4 NUMBER	F5 NUMBER
100	14

Distribution Transformer Performance

ADR reference 3.3v

Duration of Outages Experienced per Distribution Transformer for the 20 Worst-served Distribution Transformers

F1 TRANSFORMER	DURATION MINUTES	LOCATION	F2 TRANSFORMER	DURATION MINUTES	LOCATION	F3 TRANSFORMER	DURATION MINUTES	LOCATION
K4155:E	5,511	Taranaki, MATAPU	X2945:W	4,946	Wanganui, WATERWORKS RD	Y3186:T	7,906	Taranaki, TOKO
K4050:E	4,825	Taranaki, MATAPU	X2290:W	4,706	Wanganui, WATERWORKS RD	TC4112:B	6,773	Valley, PAUANUI
X4235:T	4,767	Taranaki, MANGATOKI	X2567:W	4,706	Wanganui, WATERWORKS RD	TB2-038:B	5,443	Tauranga, WILLS RD
K4048:E	4,752	Taranaki, MATAPU	X1765:W	4,699	Wanganui, WATERWORKS RD	T1471:M	5,185	Wairarapa, TOTARA ST
K4067:E	4,331	Taranaki, MATAPU	X2939:W	4,699	Wanganui, WATERWORKS RD	TE4-101:B	4,714	Tauranga, OHAUITI RD
K4065:E	4,323	Taranaki, MATAPU	X1764:W	4,699	Wanganui, WATERWORKS RD	TE4-202:B	4,714	Tauranga, OHAUITI RD
X2233:T	3,436	Taranaki, MANGATOKI	X1761:W	4,604	Wanganui, WATERWORKS RD	TP619:B	4,714	Tauranga, OHAUITI RD
TC1868:B	3,118	Valley, CARTER H.H.	X1762:W	4,604	Wanganui, WATERWORKS RD	TE4-083:B	4,714	Tauranga, OHAUITI RD
K4060:E	3,012	Taranaki, MATAPU	X1760:W	4,604	Wanganui, WATERWORKS RD	TE4-146:B	4,714	Tauranga, OHAUITI RD
K4055:E	3,012	Taranaki, MATAPU	X1763:W	4,604	Wanganui, WATERWORKS RD	TE4-173:B	4,714	Tauranga, OHAUITI RD
K4062:E	3,012	Taranaki, MATAPU	X2559:W	4,604	Wanganui, WATERWORKS RD	TE4-209:B	4,714	Tauranga, OHAUITI RD
K4070:E	3,012	Taranaki, MATAPU	X4185:W	4,486	Wanganui, WATERWORKS RD	TP1925:B	4,714	Tauranga, OHAUITI RD
TC782:B	2,293	Valley, KENNEDY DRIVE	X1758:W	4,378	Wanganui, WATERWORKS RD	TE4-197:B	4,714	Tauranga, OHAUITI RD
M4045:E	2,252	Taranaki, MANAIA	X1759:W	4,378	Wanganui, WATERWORKS RD	TE4-043:B	4,714	Tauranga, OHAUITI RD
K4255:E	2,108	Taranaki, MATAPU	X2840:W	4,378	Wanganui, WATERWORKS RD	TE4-044:B	4,714	Tauranga, OHAUITI RD
K4260:E	2,108	Taranaki, MATAPU	X4042:W	4,378	Wanganui, WATERWORKS RD	Y2331:T	4,696	Taranaki, TARATA

F4 TRANSFORMER	DURATION MINUTES	LOCATION	F5 TRANSFORMER	DURATION MINUTES	LOCATION
T1173:E	24,157	Taranaki, IHAIA RD	X5039:T	12,396	Taranaki, CLOTON RD SOUTH
X5009:E	18,083	Taranaki, OTAKEHO	X3333:T	10,391	Taranaki, CLOTON RD SOUTH
X1691:W	16,301	Wanganui, RAETIHI	T2944:M	9,753	Wairarapa, TUTURUMURI
X4239:T	16,250	Taranaki, STRATHMORE	T3862:M	9,549	Wairarapa, TUTURUMURI
W2372:E	15,903	Taranaki, MEREMERE	T2603:M	9,376	Wairarapa, TUTURUMURI
X2553:T	14,689	Taranaki, STRATHMORE	X2834:T	8,648	Taranaki, CLOTON RD SOUTH
X4119:T	14,058	Taranaki, STRATHMORE	Y3760:T	7,502	Taranaki, RAWHITIROA
X4120:T	13,779	Taranaki, STRATHMORE	T2024:M	7,219	Wairarapa, LANGDALE
X3180:T	12,576	Taranaki, STRATHMORE	T69:M	6,349	Wairarapa, MANGAPAKEHA
X2624:T	12,480	Taranaki, STRATHMORE	T9/196:P	6,195	Manawatu, COAST ROAD
X3526:T	12,333	Taranaki, STRATHMORE	T9/201:P	6,055	Manawatu, COAST ROAD
X3239:T	12,281	Taranaki, STRATHMORE	T9/200:P	5,809	Manawatu, COAST ROAD
X4145:T	11,467	Taranaki, STRATHMORE	T1599:M	5,612	Wairarapa, ANNEDALE
T5255:E	11,365	Taranaki, PIHAMA	T1760:M	5,612	Wairarapa, ANNEDALE
X4101:T	11,312	Taranaki, STRATHMORE	T1819:M	5,612	Wairarapa, ANNEDALE
X4142:T	11,312	Taranaki, STRATHMORE	T1924:M	5,612	Wairarapa, ANNEDALE

F1 TRANSFORMER	DURATION MINUTES	LOCATION	F2 TRANSFORMER	DURATION MINUTES	LOCATION	F3 TRANSFORMER	DURATION MINUTES	LOCATION
X2241:T	2,087	Taranaki, MANGATOKI	X1757:W	4,378	Wanganui, WATERWORKS RD	W5305:E	4,650	Taranaki, KETEMARAE RD
X4933:T	2,036	Taranaki, MANGATOKI	X2504:W	4,378	Wanganui, WATERWORKS RD	Y2595:T	4,601	Taranaki, TARATA
K4045:E	1,957	Taranaki, MATAPU	X2955:W	4,378	Wanganui, WATERWORKS RD	Y2593:T	4,497	Taranaki, TARATA
K4082:E	1,952	Taranaki, MATAPU	T2/254:P	3,786	Manawatu, AOKAUTERE	Y3045:T	4,497	Taranaki, TARATA

F4 TRANSFORMER	DURATION MINUTES	LOCATION	F5 TRANSFORMER	DURATION MINUTES	LOCATION
X3726:T	11,302	Taranaki, STRATHMORE	T2909:M	5,612	Wairarapa, ANNEDALE
X4100:T	11,266	Taranaki, STRATHMORE	T58:M	5,612	Wairarapa, ANNEDALE
N1060:E	10,770	Taranaki, NGARIKI RD	T59:M	5,612	Wairarapa, ANNEDALE
N1065:E	10,764	Taranaki, NGARIKI RD	T1905:M	5,612	Wairarapa, ANNEDALE

Frequency of Outages Experienced per Distribution Transformer for the 20 Worst-served Distribution Transformers

F1 TRANSFORMER	FREQUENCY NUMBER	LOCATION	F2 TRANSFORMER	FREQUENCY NUMBER	LOCATION	F3 TRANSFORMER	FREQUENCY NUMBER	LOCATION
K4065:E	14	Taranaki, MATAPU	T1/245:P	12	Manawatu, OHAKEA	Y2331:T	28	Taranaki, TARATA
K4067:E	14	Taranaki, MATAPU	T1/590:P	12	Manawatu, OHAKEA	Y2595:T	26	Taranaki, TARATA
X4655:T	10	Taranaki, ELTHAM TOWN NORTH	T1/199:P	12	Manawatu, OHAKEA	Y2593:T	26	Taranaki, TARATA
X4661:T	10	Taranaki, ELTHAM TOWN NORTH	TC2-224:B	11	Tauranga, PAHOIA	Y3037:T	26	Taranaki, TARATA
TC195:B	10	Valley, TATUANUI	X2945:W	11	Wanganui, WATERWORKS RD	Y3045:T	26	Taranaki, TARATA
K4055:E	10	Taranaki, MATAPU	X4181:W	11	Wanganui, WATERWORKS RD	Y4196:T	23	Taranaki, TARATA
K4060:E	10	Taranaki, MATAPU	X1753:W	10	Wanganui, WATERWORKS RD	Y2453:T	23	Taranaki, TARATA
K4062:E	10	Taranaki, MATAPU	X1754:W	10	Wanganui, WATERWORKS RD	Y3319:T	22	Taranaki, TARATA
K4070:E	10	Taranaki, MATAPU	X1757:W	10	Wanganui, WATERWORKS RD	Y2826:T	22	Taranaki, TARATA
TC183:B	10	Valley, TATUANUI	X1758:W	10	Wanganui, WATERWORKS RD	Y3224:T	22	Taranaki, TARATA
TC185:B	10	Valley, TATUANUI	X1759:W	10	Wanganui, WATERWORKS RD	X3746:T	22	Taranaki, TOKO
TC1945:B	10	Valley, TATUANUI	X1760:W	10	Wanganui, WATERWORKS RD	Y2250:T	22	Taranaki, TARATA

F4 TRANSFORMER	FREQUENCY NUMBER	LOCATION	F5 TRANSFORMER	FREQUENCY NUMBER	LOCATION
X2731:T	26	Taranaki, CARDIFF RD	X4872:T	28	Taranaki, MAIN RD MOTONU
X3767:T	26	Taranaki, CARDIFF RD	X2975:T	27	Taranaki, MAIN RD MOTONU
X3713:T	26	Taranaki, CARDIFF RD	X3422:T	27	Taranaki, MAIN RD MOTONU
X3768:T	26	Taranaki, CARDIFF RD	X3928:T	27	Taranaki, MAIN RD MOTONU
X2681:T	26	Taranaki, CARDIFF RD	X3930:T	27	Taranaki, MAIN RD MOTONU
X2766:T	26	Taranaki, CARDIFF RD	X3942:T	27	Taranaki, MAIN RD MOTONU
X2796:T	26	Taranaki, CARDIFF RD	X3812:T	26	Taranaki, MAIN RD MOTONU
X3706:T	26	Taranaki, CARDIFF RD	X3410:T	26	Taranaki, MAIN RD MOTONU
X4657:T	26	Taranaki, CARDIFF RD	X3416:T	26	Taranaki, MAIN RD MOTONU
X4760:T	26	Taranaki, CARDIFF RD	X4976:T	26	Taranaki, MAIN RD MOTONU
P4357:E	25	Taranaki, PARIHAKA	X3404:T	26	Taranaki, MAIN RD MOTONU
P4365:E	25	Taranaki, PARIHAKA	X4795:T	25	Taranaki, MAIN RD MOTONU

F1 TRANSFORMER	FREQUENCY NUMBER	LOCATION	F2 TRANSFORMER	FREQUENCY NUMBER	LOCATION	F3 TRANSFORMER	FREQUENCY NUMBER	LOCATION
TC2478:B	10	Valley, TATUANUI	X1761:W	10	Wanganui, WATERWORKS RD	Y2251:T	22	Taranaki, TARATA
TC2927:B	10	Valley, TATUANUI	X1762:W	10	Wanganui, WATERWORKS RD	Y2577:T	22	Taranaki, TARATA
TC3082:B	10	Valley, TATUANUI	X1763:W	10	Wanganui, WATERWORKS RD	Y2583:T	22	Taranaki, TARATA
TC3972:B	10	Valley, TATUANUI	X1764:W	10	Wanganui, WATERWORKS RD	Y2633:T	22	Taranaki, TARATA
TC4145:B	10	Valley, TATUANUI	X1765:W	10	Wanganui, WATERWORKS RD	Y2833:T	22	Taranaki, TARATA
TC4643:B	10	Valley, TATUANUI	X2290:W	10	Wanganui, WATERWORKS RD	Y3119:T	22	Taranaki, TARATA
TC4916:B	10	Valley, TATUANUI	X2504:W	10	Wanganui, WATERWORKS RD	Y3432:T	22	Taranaki, TARATA
TC6472:B	10	Valley, TATUANUI	X2559:W	10	Wanganui, WATERWORKS RD	Y3732:T	22	Taranaki, TARATA

Consumers with 5+ planned interruptions

F1 ACTUAL NUMBER	F2 ACTUAL NUMBER	F3 ACTUAL NUMBER
17	-	594

F4 TRANSFORMER	FREQUENCY NUMBER	LOCATION	F5 TRANSFORMER	FREQUENCY NUMBER	LOCATION
P4360:E	25	Taranaki, PARIHAKA	X4297:T	25	Taranaki, MAIN RD MOTONUUI
X3094:T	24	Taranaki, TIKORANGI	X4296:T	24	Taranaki, MAIN RD MOTONUUI
P4120:E	24	Taranaki, PARIHAKA	X2664:T	24	Taranaki, MAIN RD MOTONUUI
P4095:E	23	Taranaki, PARIHAKA	X2908:T	24	Taranaki, MAIN RD MOTONUUI
P4097:E	23	Taranaki, PARIHAKA	X2947:T	24	Taranaki, MAIN RD MOTONUUI
P4100:E	23	Taranaki, PARIHAKA	X2982:T	24	Taranaki, MAIN RD MOTONUUI
P4110:E	23	Taranaki, PARIHAKA	X3775:T	24	Taranaki, MAIN RD MOTONUUI
P4117:E	23	Taranaki, PARIHAKA	X4288:T	24	Taranaki, MAIN RD MOTONUUI

F4 ACTUAL NUMBER	F5 ACTUAL NUMBER
977	103

Customer complaints

ADR reference 3.3x

MINUTES	ACTUAL FY19
% of Complaints responded to in 2 days	53%
Number of Complaints received	980
% of Complaints resolved within 20 days	75%
% of Complaints resolved within 40 days	87%
Number of Complaints deadlocked and referred to Utilities Disputes Limited	9
% of Complaints deadlocked and referred to Utilities Disputes Limited	1%

Notes: in timing our response and resolution of complaints, day 1 is considered the first business day after the complaint is received.

MAJOR PROJECTS

PROJECT & DESCRIPTION	PROGRESS	RISKS & ISSUES	2019 EXPENDITURE	CPP TOTAL FORECAST
<p>Papamoa Install two 33kV cable circuits from Te Matai GXP to Papamoa east, construct a new zone substation at Papamoa east (Wairakei) and a new 33kV indoor switchboard at Te Matai GXP.</p>	<p>Cables, substation and switchboard installed and commissioned. Some minor 11kV interconnection work still outstanding.</p>	<p>None. 11kV connection work timing is dependent on residential development.</p>	<p>154 (CPP 259)</p>	<p>18,729</p>
<p>Palmerston North Install new 33kV cables in the Palmerston North CBD to reinforce supply. Construct a new zone substation (Ferguson) and install new 33kV circuits between Linton GXP and the new substation. Construct a new 33kV indoor switchboard at Linton GXP.</p>	<p>New 33kV cables have been installed between Pascal St and Main St substations. Further cable reinforcement to commence shortly.</p> <p>The Ferguson substation complete, pending final commissioning.</p> <p>Ducting completed on the cycle bridge.</p>	<p>Preferred route for the two new circuits from Linton yet to be confirmed with landowner.</p> <p>Linton GXP 33kV switchboard now to be a Powerco project</p>	<p>6,387 (CPP 1,495)</p>	<p>30,322</p>
<p>Putaruru Construct new 110/33kV substation adjacent to the existing Putaruru zone substation.</p> <p>Construct a new 110kV circuit from Arapuni hydro to the new substation.</p>	<p>Non-networks alternatives assessment complete. Supporting material for this process is available here.</p> <p>Line and cable route options are currently being assessed. Updated cost estimates being prepared.</p>	<p>Anticipated cost and project delivery issues.</p>	<p>136 (CPP 351)</p>	<p>28,788</p>
<p>Whangamata Install a battery energy storage solution (BESS) and integrated standby diesel generator at Whangamata zone substation.</p>	<p>Supply contracts in place, land purchase complete and civil works underway.</p> <p>BESS delivery to site scheduled for August 19. Diesel generator delivery to site scheduled for June 19.</p> <p>Further public information on the project is available on the Powerco website.</p>	<p>BESS cost escalation compared to CPP estimate and timeline slippage.</p> <p>Work ceased on second circuit pending outcome of long-term BESS viability.</p>	<p>3,775 (CPP 6,376)</p>	<p>20,800</p>
<p>Omokoroa Install a 33kV cable from Wairoa Rd to the Omokoroa substation, and another between Greerton switching station and Bethlehem substation.</p> <p>Construct a new 33kV indoor switchboard at the Omokoroa substation.</p> <p>Install a new capacitor bank at Aongatete.</p>	<p>Design underway for the cable routes. Capacitor bank detailed design is about to commence.</p>	<p>Omokoroa substation switchboard work on hold pending clarity around the impact of the proposed Tauranga Northern Link (TNL) highway.</p> <p>Aongatete capacitor bank added to project to mitigate risk.</p>	<p>- (CPP 1,376)</p>	<p>13,552</p>

PROJECT & DESCRIPTION	PROGRESS	RISKS & ISSUES	2019 EXPENDITURE	CPP TOTAL FORECAST
Kopu-Tairua Reconductor the existing 66 kV line between Kopu GXP and Tairua substation.	Detailed designs complete for most of the route. landowner negotiations continuing at the Tairua end of the circuit.	Timeline slippage due to delays in design work and landowner concerns.	153 (CPP 3,963)	9,765
Kopu-Kaueranga Reconductor the existing 66kV line between Parawai and Kaueranga Valley and thermally upgrade the line between Kopu GXP and Parawai. Construct a new 110kV overhead line from the Kopu GXP to the Kaueranga Valley.	Designs are complete for the thermal upgrade and reconductor work. New 110kV line route consented, awaiting resolution of Treaty settlement claim.	110kV line is subject to Treaty settlement process.	280 (CPP 3,089)	10,517
Moturoa – NPL GXP Install dual 33kV cable circuits from Carrington Street GXP to Moturoa zone substation.	The installation of the cables is nearing completion. The expected commissioning date for the cables is late August 2019.	Cable commissioning delayed to coordinate with Moturoa substation reconstruction.	6,095 (CPP 5,540)	9,158
Kerepehi-Paeroa Construct a new 33kV line between Paeroa substation and Kerepehi substation. Install a backup 33/11kV transformer at Kerepehi substation.	A review of the possibility of re-establishing an old 50kV line route has been completed. A reassessment of project options is underway.	Reliance on existing use rights unlikely. Options to be reconsidered. Anticipated cost and project delivery issues.	6 (CPP -)	7,092
Whenuakite Construct a new zone substation at Whenuakite, south of Whitianga and install new 66kV line deviation off the existing Tairua-Whitianga circuit.	Substation and line route evaluations well advanced. Landowner negotiations underway	None.	59 (CPP 247)	8,364
Matarangi Construct a new zone substation at Matarangi and install a new 66kV circuit from Whitianga substation to the new substation.	Initial landowner consultation is underway for the line route and the substation site.	Delays anticipated due to landowner concerns regarding the line route.	1 (CPP 86)	9,318

PROJECT & DESCRIPTION	PROGRESS	RISKS & ISSUES	2019 EXPENDITURE	CPP TOTAL FORECAST
Putaruru-Tirau Install a new 33kV underground cable between Putaruru and Tirau substations.	Cable route option studies are currently underway. Early landowner consultation has begun.	None.	- (CPP -)	7,459
Kaimarama-Whitianga Install a new 110kV-capable underground cable between Kaimarama & Whitianga or construct a new gas insulated 66kV switchboard (GIS) at Kaimarama.	GIS option deemed to be lowest cost. Concept designs complete and landowner negotiations underway. Detailed estimates currently being prepared.	Preferred solution still unclear. Anticipated delivery timeline issues if solutions need to be reassessed.	106 (CPP 172)	7,118
Kereone-Walton Install a new 33kV cable link between the Kereone Tee and the Walton zone substation. Construct a new 33kV switchboard and a 5MVAR switched capacitor bank at Walton substation.	The cable and substation concept designs are in progress and are expected to be completed July 2019. The capacitor bank switching studies are currently in progress.	None.	38 (CPP -)	7,223
Feilding-Sanson-Bulls Construct a new 33kV subtransmission link between the Sanson and Bulls substations. Construct a new 33/11kV zone substation at the Ohakea airbase. Install new 33kV switchgear at Sanson and Bulls substations. Thermally upgrade a section of the existing 33kV line between Marton and Bulls.	Concept designs and engineering estimates have been completed. Detailed design is currently out for tender.	Customer requirements have changed which could require the project to be brought forward or an interim solution implemented.	100 (CPP 241)	7,142
Pyes Pa Construct a new 33/11kV zone substation at Pyes Pa, Tauriko	The Pyes Pa substation was commissioned in May 2018.	None.	1,128 (CPP 2,995)	5,644
Inglewood Convert Inglewood substation to 11kV by upgrading the remaining 6.6kV/415V distribution transformers	Survey of transformer sites completed. Detailed design underway.	None.	4 (CPP 2,574)	6,910

Supporting material: in addition to the documents mentioned in the narrative above, all projects are further discussed in Chapter 11 and Appendix 8 of the 2019 Asset Management Plan. Project overview documents describing the Major Projects as at the time of the CPP submission are available on the Commerce Commission's website.

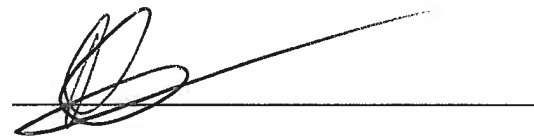
Certificate for Annual Delivery Report

CERTIFICATE FOR ANNUAL DELIVERY REPORT

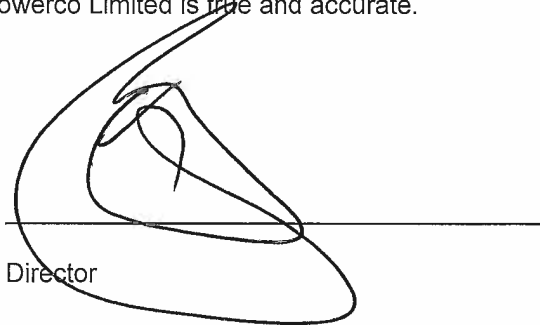
John Loughlin
Director

We, Michael Cummings and _____,

being directors of Powerco Limited certify that, having made all reasonable enquiry, to the best of our knowledge the attached Annual Delivery Report of Powerco Limited is true and accurate.



Director



Director

22/8/19

Date

22/8/19

Date

Note: Section 103(2) of the Commerce Act 1986 provides that no person shall attempt to deceive or knowingly mislead the Commission in relation to any matter before it. It is an offence to contravene section 103(2) and any person who does so is liable on summary conviction to a fine not exceeding \$100,000 in the case of an individual or \$300,000 in the case of a body corporate.

