POWERCO

Gas Asset Management Plan

Update **2016**

1 INTRODUCTION

1.1 PURPOSE OF THE DOCUMENT

Powerco's gas network provides an important service to many households and businesses across the North Island of New Zealand. As long-term stewards of the network assets, our aim is to focus on managing the network to deliver a safe, high-quality and highly efficient gas supply. Our gas business has an objective to deliver exceptional service to our customers and this influences our overall attitude, our priorities and day-to-day activities.

In 2015 we published a comprehensive Asset Management Plan (2015 AMP). It set out the long-term strategy for the delivery of Powerco's gas distribution services and described, at a practical level, our asset management policies and processes, and the performance we expect and receive from our network assets. It also detailed how we strive to efficiently utilise the resources required to balance the price and service quality trade-offs that our customers tell us they require.

This 2016 Asset Management Plan Update (AMP update) covers the period from 1 October 2016 to 30 September 2026. It builds on last year's plan, and provides the latest information on Powerco's long-term strategy on managing our gas assets.

This AMP update was approved by Powerco's Board of Directors on 28 September 2016.

1.2 COMPLIANCE WITH INFORMATION DISCLOSURE REQUIREMENTS

This AMP update complies with the Gas Distribution Information Disclosure Determination 2012 – (consolidated in 2015). We have structured this document to enable the reader to easily match the contents with the disclosure requirements.

The specific requirements on the contents of the AMP update are included in clauses 2.6.5 and 2.6.6. The AMP update must:

- Relate to the gas distribution services supplied by the gas distribution business (GDB)
- Identify any material changes to the network development plans disclosed in the last AMP
- Identify any material changes to the lifecycle asset management (maintenance and renewal) plans disclosed in the last AMP
- Provide the reasons for any material changes to the previous disclosures in the Report on Forecast Capital Expenditure set out in Schedule 11a and Report on Forecast Operational Expenditure set out in Schedule 11b
- Identify any changes to the asset management practices of the GDB that would affect a Schedule 13 Report on Asset Management Maturity disclosure
- Include the reports set out in Schedule 11a, 11b, 12a, 12b and 12c, respectively related to:
  - Forecast Capital Expenditure
  - Forecast Operational Expenditure
  - Asset Condition
  - Forecast Utilisation
  - Forecast Demand.

1.3 SUMMARY OF MATERIAL CHANGES

There are no material changes to our network development plans or lifecyle asset management plans since the 2015 AMP. This is a reflection of our higher asset management maturity as demonstrated by the increase in the score obtained through the Asset Management Maturity Assessment Tool. As our maturity increases, we are able to meet our asset objectives and service levels, while delivering a more predictable expenditure forecasts.

Since publishing the 2015 AMP we have continued to develop and refine our asset management approach including project justification and whole-of-life options analysis. Improvements in the works delivery planning and execution process resulted in project delivery targets for 2015 being achieved.

Network capital expenditure in Regulatory Year (RY) 16 is lower than previously forecast because of the delayed commencement of two large projects due to resource availability. Most of the deferred expenditure will occur in RY17 so the total capital expenditure across the planning period has not significantly changed. The operational expenditure forecast has increased slightly over the planning period reflecting increased focus on condition assessment, investigation and analysis to optimise capital investment decisions.

There have been a number of minor amendments to network plans, affecting the timing and, in some cases, the solution proposed in the 2015 AMP. These amendments have been made to accommodate changes in customer initiated subdivision development plans, and advancements in our monitoring and modelling of network performance. The amendments, however, do not materially alter the overall

expenditure forecasts.

We are continuously improving our Asset Management practices. New asset-specific strategies are progressively being introduced to optimise our asset lifecycle activities. We do not see these initiatives materially affecting the results of our Asset Management Maturity assessment disclosed last year.

1.4 STRUCTURE OF THE 2016 AMP UPDATE

This AMP update is designed to meet disclosure requirements. In the interests of brevity, we have not attempted to duplicate the more explanatory style of the 2015 AMP.

If the reader seeks detailed information on how Powerco manages its gas assets over the long-term, we encourage them to revert to the 2015 AMP, available on Powerco's website (www.powerco.co.nz).

This AMP update has 4 sections:

- Section 1 introduces the document
- Section 2 discusses the material changes in the network plans published in Section 8 of the 2015 AMP
- Section 3 provides the justification for the material changes in the expenditure forecasts
- Section 4 provides schedules 11a, 11b, 12a, 12b and 12c.

2 CHANGES IN NETWORK PLANS

2.1 CONTEXT

Powerco operates 35 distribution networks over 5 regions:

- Wellington
- The Hutt Valley and Porirua
- Taranaki
- Manawatu and Horowhenua
- Hawkes Bay.

The two primary drivers for network development are our delivery and efficiency objectives and strategies described in Section 6 of the 2015 AMP. These include aspects such as:

- The rate of demand growth
- Network capacity and utilisation
- Network reliability
- Efficiency and location of stations (DRSs)
- Optimisation of our investment.

Together, these form the basis for our network development plans.

The 2015 AMP considered projects to 2021. This was reflective of our current knowledge and understanding of the network performance and our planning horizon being less accurate after a five-year horizon.

For this AMP update, we have reviewed the list of projects, their timing, and added projects in response to changes or issues identified since publishing the 2015 AMP. Changes in the network plans have affected all regions.

2.2 WELLINGTON

2.2.1 CBD UPGRADE

The first stage of the CBD pressure upgrade, Project Neon, was completed in RY16.

The plan to increase pressure to 25kPa in the remaining part of the CBD to create a single pressure system with the surrounding suburbs began in RY16. The plan for pressure elevation has been refined, with the aim to sectionalise the network in four areas, creating 4 subprojects. Each of these subprojects will take one to two years to complete. The expected cost of the entire project has increased by approximately 25%, from $8m to $10m as the scope and contractor rates have been more accurately established. From RY16 to RY22, we forecast $800k to $2m per year to carry out in-depth inspection of the network and the GMS assets connected to it, and replace any asset that would not be suitable to operate at 25kPa.

2.3 HUTT VALLEY AND PORIUA

2.3.1 ALEXANDER ROAD ADDITIONAL POINT OF SUPPLY

The Alexander Road residential development was originally to start from the west near Dante Road but is now being built commencing on the West side of Ward Street in Wallaceville. The subdivision will now tie-into the Wallaceville pressure system. This will require the upgrade of the Wilford Street point of supply in Wallaceville in order to meet the increased capacity from the subdivision. With the subdivision growth, in addition to requiring increased capacity, this point of supply will be upgraded to a twin stream station with SCADA to meet our security of supply standard. The upgrade will occur in RY17, prior to connection of any new homes in the subdivision, with an estimated cost of $100k.

2.3.2 SYSTEM GROWTH

The reticulation of Maymorn Valley has been deferred from 2018 to 2021. Timing for this development is dictated by the Hutt Valley Council so we are relying on its timeframe to start the project and continue to liaise with the Council.

2.4 TARANAKI

2.4.1 WAIMEA STREET LINK

Following the Ferndale southern looping project, and with the new Base Hospital DRS installation, the network security will be improved by linking Tukapa Street to Frankley Road via a 100NB trunk main along Waimea Street. We forecast to spend $200k in RY21.

2.4.2 SMART ROAD CITY EXPANSION

The Smart Road DRS is being removed in RY16 because our risk assessments identi-

fied it as a safety concern. It will eventually be replaced by an underground DRS, but the replacement will not be required for around ten years, based on current load growth projections. Pressure monitoring will be used to track load growth.

2.4.3 NUGENT STREET OVERLAY

A small diameter main is resulting in low pressures in the southwest area of Bell Block North. An overlay of this pipe in a larger diameter will bring the pressures in this network up to acceptable levels. We forecast to spend $30k in RY17.

2.5 MANAWATU AND HOROWHENUA

2.5.1 TREMAINE AVE

The station upgrade of Tremaine Avenue was brought forward and upgraded in RY16. The station had unserviceable components and was modified to align to Powerco's current design philosophies. The core driver was changed from Delivery (capacity and redundancy concerns) to Reliability due to equipment being unserviceable. The upgrade also addressed the capacity and redundancy issues.

2.6 HAWKES BAY

2.6.1 PARKLANDS

The Parklands subdivision mentioned in the 2015 AMP is still underway, with a slight change to the development schedule. Over the next five years we expect to see 225 lots, and in 10 years another 100 lots with the addition of a sporting grounds.

Pressure levels from the 2015 pressure monitoring programme in the Taradale pressure system indicate that the increased load from the Parklands subdivision growth will result in pressure constraints at the extremity of the pressure system (along Gloucester Street). This will be remedied by carrying out one of the following options:

- Increasing the pressure from 140kPa to 200kPa. This would go in the same direction as our network pressure rationalisation strategy.
- Overlaying a 2km section of main along Gloucester Street with larger diameter pipe.

Our preferred option is to increase the pressure. We will continue to monitor the performance of the network as the growth occurs, and plan to increment the pressure by 5% per year beginning in RY19. We forecast an estimated cost of $10k per year over a 7-year period.

3 CHANGES IN EXPENDITURE FORECASTS

3.1 CONTEXT

Our 2015 capital expenditure was close to our forecast published in previous disclosures. In line with our 2015 AMP, our capital expenditure will remain between $15m and $16m for the next 2 to 3 years before reaching a level of $13m to $14m over the remaining planning period.

A summary of forecast capital expenditure (capex) and forecast operational expenditure (opex) over the planning period is provided in the figures below. A more detailed summary of forecast expenditure is provided in the tables at the end of this section. The graphs that follow show forecast expenditures in 2016 constant-dollar terms to 2024/25.

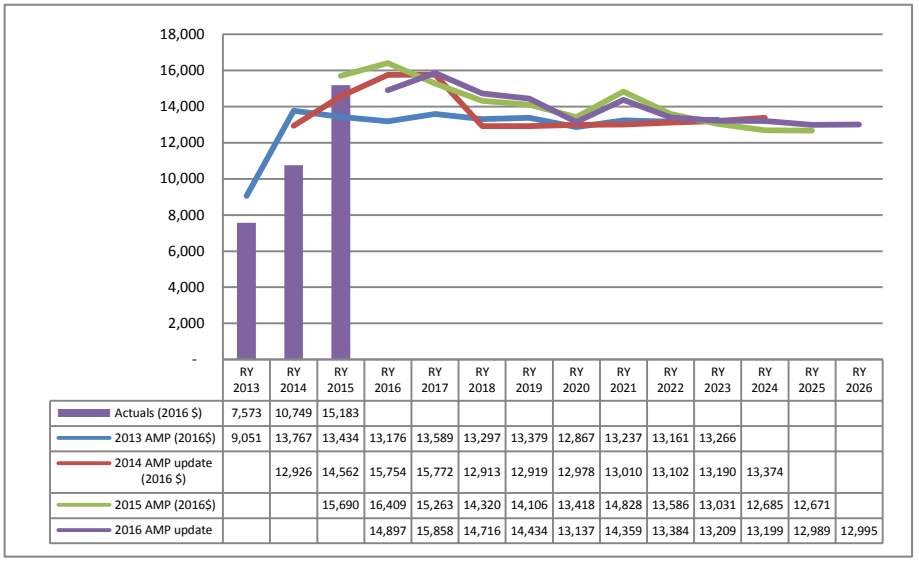
Our field service contracts are rates-based. This gives us more certainty of costs on our minor projects. For larger projects, our ability to tender has delivered more competitive prices.

3.2 CAPITAL EXPENDITURE

The overall forecast expenditure for the period 2013-2017 has decreased by ~$1.4m in real terms as compared to the 2015 AMP. This reduced expenditure has been primarily caused by project delays, specifically the Palmerston North Eastern Reinforcement project, Wellington CBD Upgrade – Phase 2, Porirua CBD DRS Rationalisation and the Holborn Drive Pre-85 Replacement project. These projects have been delayed due to problems with PE pipe availability and construction resources.

The reclassification of some project expenditure has led to a shift in expenditure categories.

Figure 3.1: Comparison of Capital Expenditure.



	RY 2013	RY 2014	RY 2015	RY 2016	RY 2017	RY 2018	RY 2019	RY 2020	RY 2021	RY 2022	RY 2023	RY 2024	RY 2025	RY 2026
Actuals (2016 $)	7,573	10,749	15,183											
2013 AMP (2016$)	9,051	13,767	13,434	13,176	13,589	13,297	13,379	12,867	13,237	13,161	13,266			
2014 AMP update (2016 $)		12,926	14,562	15,754	15,772	12,913	12,919	12,978	13,010	13,102	13,190	13,374		
2015 AMP (2016$)			15,690	16,409	15,263	14,320	14,106	13,418	14,828	13,586	13,031	12,685	12,671	
2016 AMP update				14,897	15,858	14,716	14,434	13,137	14,359	13,384	13,209	13,199	12,989	12,995

3.2.1 NON-NETWORK CAPITAL EXPENDITURE

Non-network capital expenditure forecasts have decreased by a total of $500k over the 2013-2017 period due to a lower than forecast expenditure in RY15.

3.2.2 REVISED TIMING

The expenditure in 2015 was on target with that forecasted in the AMP.

Delays in some projects, notably the Palmerston North Eastern Reinforcement and the Wellington CBD Upgrade, have deferred some of the 2016 expenditure to 2017.

3.2.3 REVISED COST CATEGORIES

The capital works programme, as described in Section 3.2.3.1 of the 2015 AMP, is based on the contents of a network improvement register.

We are still improving the cost category pre-allocation during the project identifi-

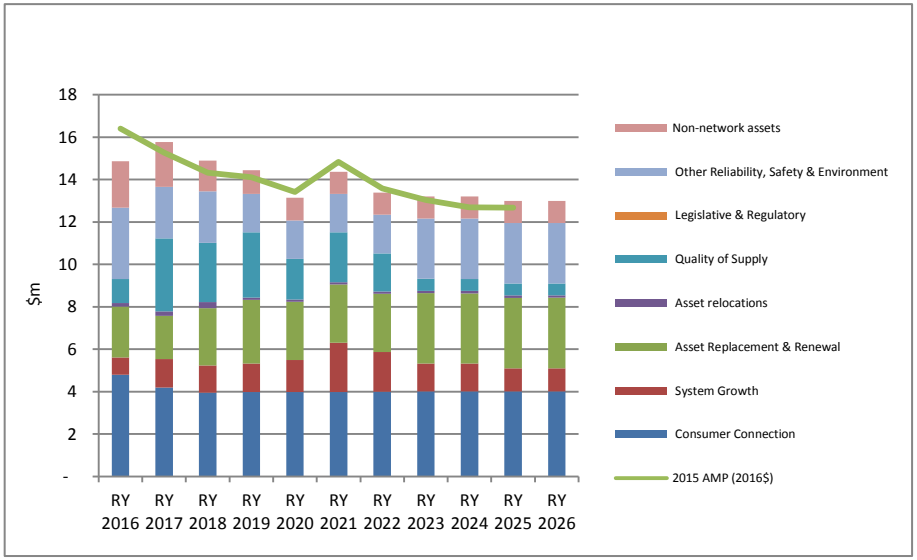
cation stage. As asset life cycle strategies mature the drivers for investment are examined in more detail taking into account performance, operating costs, risk and criticality. This can result in the primary driver for change, and consequently the expenditure classification changing.

We have reallocated some expenditure from quality of supply, and other reliability, safety and environment.

3.2.4 SUMMARY OF CAPITAL EXPENDITURE

Figure 3.2 below shows the summary of capital expenditure broken down in the different categories. The 2015 AMP forecasts have been added for comparison purposes.

Figure 3.2: 2016 AMP Update Capital Expenditure Summary (Constant $).



3.3 OPERATIONAL EXPENDITURE

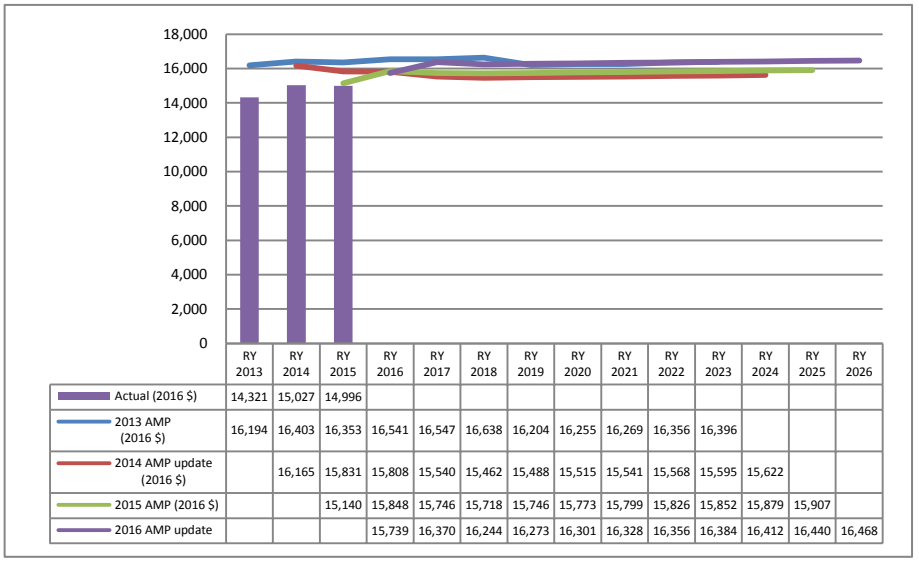
The overall operational expenditure over the period 2013-2017 remains on target with that forecast in the 2015 AMP. As with capital expenditure, some reallocation between cost categories occurred.

The overall operational expenditure forecast has increased by approximately ~$500k per year over the planning period. This is mainly due to higher expenditures in the System Operations and Network Support reflecting the increased focus on condition assessment, investigation and analysis to optimise capital investment decisions. As an example, samples of leaking pre-85 PE pipe are being removed to be analysed and tested in order to develop a maintenance and replacement strategy.

We expect the level of expenditure to be broadly constant over the planning period.

Figure 3.3 below shows the revised operational expenditure forecast.

Figure 3.3: Comparison of Operational Expenditure.



	RY 2013	RY 2014	RY 2015	RY 2016	RY 2017	RY 2018	RY 2019	RY 2020	RY 2021	RY 2022	RY 2023	RY 2024	RY 2025	RY 2026
Actual (2016 $)	14,321	15,027	14,996											
2013 AMP (2016 $)	16,194	16,403	16,353	16,541	16,547	16,638	16,204	16,255	16,269	16,356	16,396			
2014 AMP update (2016 $)		16,165	15,831	15,808	15,540	15,462	15,488	15,515	15,541	15,568	15,595	15,622		
2015 AMP (2016 $)			15,140	15,848	15,746	15,718	15,746	15,773	15,799	15,826	15,852	15,879	15,907	
2016 AMP update				15,739	16,370	16,244	16,273	16,301	16,328	16,356	16,384	16,412	16,440	16,468

4 SCHEDULES

Company Name	**Powerco Limited**
AMP Planning Period	**1 October 2016 – 30 September 2026**

SCHEDULE 11a: REPORT ON FORECAST CAPITAL EXPENDITURE

This schedule requires a breakdown of forecast expenditure on assets for the current disclosure year and a 10 year planning period. The forecasts should be consistent with the supporting information set out in the AMP. The forecast is to be expressed in both constant price and nominal dollar terms. Also required is a forecast of the value of commissioned assets (i.e., the value of RAB additions)
GDBs must provide explanatory comment on the difference between constant price and nominal dollar forecasts of expenditure on assets in Schedule 14a (Mandatory Explanatory Notes).
This information is not part of audited disclosure information.

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		Current Year CY	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*	*CY+6*	*CY+7*	*CY+8*	*CY+9*	*CY+10*
	for year ended	**30 Sep 16**	**30 Sep 17**	**30 Sep 18**	**30 Sep 19**	**30 Sep 20**	**30 Sep 21**	**30 Sep 22**	**30 Sep 23**	**30 Sep 24**	**30 Sep 25**	**30 Sep 26**
	11a(i): Expenditure on Assets Forecast	**$000 (nominal dollars)**										
	Consumer connection	4,787	4,255	4,091	4,210	4,301	4,372	4,482	4,591	4,679	4,778	4,876
	System growth	820	1,378	1,339	1,420	1,617	2,570	2,095	1,504	1,533	1,300	1,326
	Asset replacement and renewal	2,406	2,071	2,800	3,178	2,968	3,017	3,093	3,801	3,874	3,956	4,037
	Asset relocations	204	292	116	118	121	123	126	129	132	134	137
	Reliability, safety and environment:											
	Quality of supply	1,127	3,503	2,895	3,255	2,055	2,581	2,015	645	658	672	685
	Legislative and regulatory	-	-	-	-	-	-	-	-	-	-	-
	Other reliability, safety and environment	3,369	2,474	2,516	1,922	1,962	1,994	2,045	3,262	3,324	3,394	3,464
	Total reliability, safety and environment	4,496	5,977	5,411	5,176	4,017	4,576	4,059	3,907	3,982	4,066	4,149
	Expenditure on network assets	12,714	13,972	13,757	14,103	13,024	14,657	13,856	13,932	14,200	14,233	14,525
	Expenditure on non-network assets	2,183	2,155	1,507	1,167	1,152	1,147	1,170	1,194	1,217	1,242	1,267
	Expenditure on assets	14,897	16,127	15,264	15,270	14,176	15,805	15,026	15,126	15,417	15,475	15,792
plus	Cost of financing	38	40	37	41	43	54	54	56	57	58	59
less	Value of capital contributions	626	672	717	732	747	762	777	792	808	824	841
plus	Value of vested assets	-	-	-	-	-	-	-	-	-	-	-
	Capital expenditure forecast	14,308	15,495	14,583	14,579	13,473	15,097	14,304	14,390	14,665	14,708	15,010
	Assets commissioned	14,396	15,317	14,720	14,580	13,639	14,853	14,423	14,377	14,624	14,702	14,964
		1.01	0.99	1.01	1.00	1.01	0.98	1.01	1.00	1.00	1.00	1.00

		Current Year CY	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*	*CY+6*	*CY+7*	*CY+8*	*CY+9*	*CY+10*
	for year ended	**30 Sep 16**	**30 Sep 17**	**30 Sep 18**	**30 Sep 19**	**30 Sep 20**	**30 Sep 21**	**30 Sep 22**	**30 Sep 23**	**30 Sep 24**	**30 Sep 25**	**30 Sep 26**
		$000 (in constant prices)										
	Consumer connection	4,787	4,184	3,944	3,980	3,986	3,972	3,993	4,009	4,006	4,010	4,012
	System growth	820	1,355	1,291	1,342	1,499	2,335	1,866	1,314	1,313	1,091	1,091
	Asset replacement and renewal	2,406	2,036	2,699	3,004	2,750	2,741	2,755	3,319	3,317	3,320	3,322
	Asset relocations	204	287	112	112	112	112	112	113	113	113	113
	Reliability, safety and environment:											
	Quality of supply	1,127	3,445	2,791	3,076	1,905	2,345	1,795	563	563	564	564
	Legislative and regulatory	-	-	-	-	-	-	-	-	-	-	-
	Other reliability, safety and environment	3,369	2,432	2,426	1,817	1,818	1,812	1,821	2,848	2,846	2,849	2,850
	Total reliability, safety and environment	4,496	5,877	5,217	4,893	3,723	4,157	3,616	3,412	3,409	3,412	3,414
	Expenditure on network assets	12,714	13,739	13,263	13,330	12,070	13,317	12,342	12,166	12,157	11,946	11,953
	Expenditure on non-network assets	2,183	2,119	1,453	1,103	1,068	1,042	1,042	1,042	1,042	1,042	1,042
	Expenditure on assets	14,897	15,858	14,716	14,434	13,137	14,359	13,384	13,209	13,199	12,989	12,995
	Subcomponents of expenditure on assets (where known)											
	Research and development	-	-	-	-	-	-	-	-	-	-	-

		Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5	CY+6	CY+7	CY+8	CY+9	CY+10
	for year ended	30 Sep 16	30 Sep 17	30 Sep 18	30 Sep 19	30 Sep 20	30 Sep 21	30 Sep 22	30 Sep 23	30 Sep 24	30 Sep 25	30 Sep 26
Difference between nominal and constant price forecasts		$000										
Consumer connection		-	71	147	231	315	400	490	582	673	768	864
System growth		-	23	48	78	119	235	229	191	221	209	235
Asset replacement and renewal		-	35	100	174	218	276	338	482	557	636	715
Asset relocations		-	5	4	6	9	11	14	16	19	22	24
Reliability, safety and environment:												
Quality of supply		-	58	104	178	151	236	220	82	95	108	121
Legislative and regulatory		-	-	-	-	-	-	-	-	-	-	-
Other reliability, safety and environment		-	41	90	105	144	182	223	413	478	545	613
Total reliability, safety and environment		-	100	194	283	294	419	444	495	573	653	735
Expenditure on network assets		-	233	493	772	955	1,341	1,514	1,766	2,043	2,287	2,573
Expenditure on non-network assets		-	36	54	64	84	105	128	151	175	200	224
Expenditure on assets		-	269	547	836	1,039	1,446	1,642	1,917	2,218	2,486	2,797

		Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5
11a(ii): Consumer Connection	for year ended	30 Sep 16	30 Sep 17	30 Sep 18	30 Sep 19	30 Sep 20	30 Sep 21
*Consumer types defined by GDB**		$000 (in constant prices)					
Residential / Small Commercial		4,299	3,672	3,460	3,495	3,501	3,489
Commercial		406	429	400	401	401	400
Industrial		82	83	84	84	84	84
* include additional rows if needed							
Consumer connection expenditure		4,787	4,184	3,944	3,980	3,986	3,972
less Capital contributions funding consumer connection		453	417	597	597	597	597
Consumer connection less capital contributions		4,335	3,767	3,347	3,383	3,389	3,375
11a(iii): System Growth							
Intermediate pressure							
Main pipe		-	-	-	-	196	363
Service pipe		-	-	-	-	-	-
Stations		-	112	-	-	-	-
Line valve		-	-	-	-	-	-
Special crossings		-	-	-	-	-	-
Intermediate Pressure total		-	112	-	-	196	363
Medium pressure							
Main pipe		564	851	884	918	892	1,420
Service pipe		240	367	381	396	385	516
Stations		-	-	-	-	-	-
Line valve		6	9	10	10	10	13
Special crossings		1	1	1	2	1	2
Medium Pressure total		811	1,229	1,276	1,326	1,287	1,951
Low Pressure							
Main pipe		7	10	11	11	11	14
Service pipe		3	4	5	5	5	6
Line valve		0	0	0	0	0	0
Special crossings		0	0	0	0	0	0
Low Pressure total		10	15	15	16	15	21
Other network assets							
Monitoring and control systems		-	-	-	-	-	-
Cathodic protection systems		-	-	-	-	-	-
Other assets (other than above)		-	-	-	-	-	-
Other network assets total		-	-	-	-	-	-
System growth expenditure		820	1,355	1,291	1,342	1,499	2,335
less Capital contributions funding system growth		-	-	-	-	-	-
System growth less capital contributions		820	1,355	1,291	1,342	1,499	2,335

11a(iv): Asset Replacement and Renewal

for year ended	Current Year CY 30 Sep 16	CY+1 30 Sep 17	CY+2 30 Sep 18	CY+3 30 Sep 19	CY+4 30 Sep 20	CY+5 30 Sep 21
Intermediate pressure	**$000 (in constant prices)**					
Main pipe	5	21	26	37	37	37
Service pipe	2	9	11	16	16	16
Stations	194	512	544	509	509	508
Line valve	0	0	0	0	0	0
Special crossings	0	0	0	0	0	0
Intermediate Pressure total	200	543	582	562	563	561
Medium pressure						
Main pipe	1,435	1,034	1,289	1,511	1,513	1,508
Service pipe	619	446	556	652	653	651
Station	-	-	-	-	-	-
Line valve	1	5	6	8	8	8
Special crossings	0	1	1	1	1	1
Medium Pressure total	2,056	1,486	1,852	2,173	2,175	2,167
Low Pressure						
Main pipe	1	5	6	9	9	9
Service pipe	0	2	3	4	4	4
Line valve	0	0	0	0	0	0
Special crossings	0	0	0	0	0	0
Low Pressure total	2	7	9	13	13	13
Other network assets						
Monitoring and control systems	-	-	-	-	-	-
Cathodic protection systems	148	-	257	256	-	-
Other assets (other than above)	-	-	-	-	-	-
Other network assets total	148	-	257	256	-	-
Asset replacement and renewal expenditure	2,406	2,036	2,699	3,004	2,750	2,741
less Capital contributions funding asset replacement and renewal	-	-	-	-	-	-
Asset replacement and renewal less capital contributions	2,406	2,036	2,699	3,004	2,750	2,741

11a(v): Asset Relocations

*Project or programme**						
Transmission Gully	132	176	-	-	-	-
** include additional rows if needed*						
All other projects or programmes - asset relocations	72	111	112	112	112	112
Asset relocations expenditure	204	287	112	112	112	112
less Capital contributions funding asset relocations	173	244	95	95	95	95
Asset relocations less capital contributions	31	43	17	17	17	17

11a(vi): Quality of Supply

for year ended	Current Year CY 30 Sep 16	CY+1 30 Sep 17	CY+2 30 Sep 18	CY+3 30 Sep 19	CY+4 30 Sep 20	CY+5 30 Sep 21
*Project or programme**	$000 (in constant prices)					
SCADA site transmittors Ex to IS	87	116	-	-	-	-
Westown Capacity Reinforcement - Ferndale (Taranaki)	119	-	167	502	-	-
Base Hospital DRS installation (Taranaki)	141	-	-	-	-	-
Wellington CBD (Neon)	124	-	-	-	-	-
Wellington CBD - Phase 2	116	1,163	2,289	2,239	1,793	1,787
Alexander Road additional point of supply (HVP)	-	-	-	-	-	223
Palmerston North Eastern Reinforcement (Manawatu)	289	1,776	-	-	-	-
Kelson additional point of supply (HVP)	-	-	-	224	-	-
Awapuni Reinforcement - Stage 1	-	-	168	-	-	-
Waimea/Brois Link	-	-	-	-	-	223
** include additional rows if needed*						
All other projects or programmes - quality of supply	250	389	167	112	112	112
Quality of supply expenditure	1,127	3,445	2,791	3,076	1,905	2,345
less Capital contributions funding quality of supply	-	-	-	-	-	-
Quality of supply less capital contributions	1,127	3,445	2,791	3,076	1,905	2,345

11a(vii): Legislative and Regulatory

Project or programme						
None						
** include additional rows if needed*						
All other projects or programmes - legislative and regulatory						
Legislative and regulatory expenditure	-	-	-	-	-	-
less Capital contributions funding legislative and regulatory						
Legislative and regulatory less capital contributions	-	-	-	-	-	-

11a(viii): Other Reliability, Safety and Environment

*Project or programme**						
Hutt River Crossing (HVP)	1,666	-	-	-	-	-
Wellington CP Safety Improvement	145	99	-	-	-	-
Mount Cook DRS Renewal	149	-	-	-	-	-
Gloucester Street DRS Renewal	277	82	-	-	-	-
Riddlers Crescent DRS Renewal	12	378	369	-	-	-
DRS Renewal prorgramme (All regions)	-	425	1,264	1,145	1,146	1,142
Curtis Street DRS Renewal	139	-	-	-	-	-
Porirua CBD DRS Rationalisation (HVP)	276	412	-	-	-	-
Hawkes Bay IP Valve Safety Improvement	295	282	-	-	-	-
Eastbourne Exposed Pipe	-	110	-	-	-	-
DRS SCADA & Flow measurement	5	224	614	560	560	558
IP Isolation Plans	-	67	67	-	-	-
** include additional rows if needed*						
All other projects or programmes - other reliability, safety and environment	405	354	112	112	112	112
Other reliability, safety and environment expenditure	3,369	2,432	2,426	1,817	1,818	1,812
less Capital contributions funding other reliability, safety and environment	-	-	-	-	-	-
Other Reliability, safety and environment less capital contributions	3,369	2,432	2,426	1,817	1,818	1,812

11a(ix): Non-Network Assets

Routine expenditure

195	*Project or programme**						
196	None						
197							
198							
199							
200							
201	* include additional rows if needed						
202	All other projects or programmes - routine expenditure	2,183	2,119	1,453	1,103	1,068	1,042
203	**Routine expenditure**	2,183	2,119	1,453	1,103	1,068	1,042

Atypical expenditure

205	*Project or programme**						
206	none						
207							
208							
209							
210							
211	* include additional rows if needed						
212	All other projects or programmes - atypical expenditure	-	-	-	-	-	-
213	**Atypical expenditure**	-	-	-	-	-	-
214							
215	**Expenditure on non-network assets**	2,183	2,119	1,453	1,103	1,068	1,042
216							

Company Name	**Powerco Limited**
AMP Planning Period	**1 October 2016 – 30 September 2026**

SCHEDULE 11b: REPORT ON FORECAST OPERATIONAL EXPENDITURE

This schedule requires a breakdown of forecast operational expenditure for the disclosure year and a 10 year planning period. The forecasts should be consistent with the supporting information set out in the AMP. The forecast is to be expressed in both constant price and nominal dollar terms.
GDBs must provide explanatory comment on the difference between constant price and nominal dollar operational expenditure forecasts in Schedule 14a (Mandatory Explanatory Notes).
This information is not part of audited disclosure information.

sch ref

	for year ended	*Current year CY* 30 Sep 16	*CY+1* 30 Sep 17	*CY+2* 30 Sep 18	*CY+3* 30 Sep 19	*CY+4* 30 Sep 20	*CY+5* 30 Sep 21	*CY+6* 30 Sep 22	*CY+7* 30 Sep 23	*CY+8* 30 Sep 24	*CY+9* 30 Sep 25	*CY+10* 30 Sep 26
Operational Expenditure Forecast		**$000 (in nominal dollars)**										
Service interruptions, incidents and emergencies		376	415	426	436	447	459	470	482	494	506	519
Routine and corrective maintenance and inspection		2,230	2,071	2,123	2,176	2,231	2,287	2,344	2,403	2,463	2,525	2,588
Asset replacement and renewal		2,440	3,076	3,090	3,167	3,247	3,328	3,412	3,497	3,585	3,675	3,767
Network opex		5,047	5,562	5,638	5,780	5,925	6,073	6,226	6,382	6,542	6,706	6,875
System operations and network support		4,111	4,283	4,290	4,376	4,463	4,553	4,644	4,737	4,831	4,928	5,026
Business support		6,581	6,802	6,920	7,061	7,202	7,346	7,493	7,643	7,796	7,952	8,111
Non-network opex		10,692	11,085	11,210	11,437	11,666	11,899	12,137	12,380	12,627	12,880	13,137
Operational expenditure		15,739	16,648	16,848	17,216	17,590	17,972	18,363	18,762	19,169	19,586	20,012

	for year ended	*Current year CY* 30 Sep 16	*CY+1* 30 Sep 17	*CY+2* 30 Sep 18	*CY+3* 30 Sep 19	*CY+4* 30 Sep 20	*CY+5* 30 Sep 21	*CY+6* 30 Sep 22	*CY+7* 30 Sep 23	*CY+8* 30 Sep 24	*CY+9* 30 Sep 25	*CY+10* 30 Sep 26
		$000 (in constant prices)										
Service interruptions, incidents and emergencies		376	408	410	412	415	417	419	421	423	425	427
Routine and corrective maintenance and inspection		2,230	2,036	2,047	2,057	2,067	2,077	2,088	2,098	2,109	2,119	2,130
Asset replacement and renewal		2,440	3,025	2,979	2,994	3,009	3,024	3,039	3,054	3,069	3,085	3,100
Network opex		5,047	5,469	5,436	5,463	5,490	5,518	5,545	5,573	5,601	5,629	5,657
System operations and network support		4,111	4,212	4,136	4,136	4,136	4,136	4,136	4,136	4,136	4,136	4,136
Business support		6,581	6,689	6,672	6,674	6,674	6,674	6,674	6,674	6,674	6,674	6,674
Non-network opex		10,692	10,901	10,808	10,810	10,811	10,811	10,811	10,811	10,811	10,811	10,811
Operational expenditure		15,739	16,370	16,244	16,273	16,301	16,328	16,356	16,384	16,412	16,440	16,468
Subcomponents of operational expenditure (where known)												
Research and development		-	-	-	-	-	-	-	-	-	-	-
Insurance		120	121	123	125	127	130	132	135	138	141	143

	for year ended	*Current year CY* 30 Sep 16	*CY+1* 30 Sep 17	*CY+2* 30 Sep 18	*CY+3* 30 Sep 19	*CY+4* 30 Sep 20	*CY+5* 30 Sep 21	*CY+6* 30 Sep 22	*CY+7* 30 Sep 23	*CY+8* 30 Sep 24	*CY+9* 30 Sep 25	*CY+10* 30 Sep 26
Difference between nominal and real forecasts		**$000**										
Service interruptions, incidents and emergencies		-	7	15	24	33	42	51	61	71	81	92
Routine and corrective maintenance and inspection		-	35	76	119	163	209	256	305	354	406	458
Asset replacement and renewal		-	51	111	173	238	304	373	443	516	590	667
Network opex		-	93	202	317	434	556	680	809	941	1,077	1,218
System operations and network support		-	71	154	240	327	416	507	600	695	792	890
Business support		-	113	248	387	528	672	819	969	1,122	1,278	1,437
Non-network opex		-	185	402	626	855	1,088	1,326	1,569	1,817	2,069	2,327
Operational expenditure		-	278	604	943	1,289	1,644	2,007	2,378	2,758	3,147	3,544

Company Name	**Powerco Limited**
AMP Planning Period	**1 October 2016 – 30 September 2026**

SCHEDULE 12a: REPORT ON ASSET CONDITION

This schedule requires a breakdown of asset condition by asset class as at the start of the forecast year. The data accuracy assessment relates to the percentage values disclosed in the asset condition columns. Also required is a forecast of the percentage of units to be replaced in the next 5 years. All information should be consistent with the information provided in the AMP and the expenditure on assets forecast in Schedule 11a.

sch ref

						Asset condition at start of planning period (percentage of units by grade)						
8	**Operating Pressure**	**Asset category**	**Asset class**	**Units**	**Grade 1**	**Grade 2**	**Grade 3**	**Grade 4**	**Grade unknown**	**Data accuracy (1–4)**	**% of asset forecast to be replaced in next 5 years**
9	Intermediate Pressure	Main pipe	IP PE main pipe	km	-	-	0.00%	99.23%	0.77%	3	-
10	Intermediate Pressure	Main pipe	IP steel main pipe	km	-	-	79.94%	0.32%	19.75%	3	-
11	Intermediate Pressure	Main pipe	IP other main pipe	km	-	-	-	-	-	-	-
12	Intermediate Pressure	Service pipe	IP PE service pipe	km	-	-	77.96%	18.04%	4.01%	3	-
13	Intermediate Pressure	Service pipe	IP steel service pipe	km	-	0.03%	24.14%	0.79%	75.04%	3	0.03%
14	Intermediate Pressure	Service pipe	IP other service pipe	km	-	-	94.89%	0.68%	4.43%	3	-
15	Intermediate Pressure	Stations	Intermediate pressure DRS	No.	0.76%	4.58%	80.15%	14.50%	-	2	5.34%
16	Intermediate Pressure	Line valve	IP line valves	No.	-	0.42%	55.40%	6.98%	37.20%	2	0.21%
17	Intermediate Pressure	Special crossings	IP crossings	No.	0.85%	1.84%	80.08%	-	17.22%	2	1.78%
18	Medium Pressure	Main pipe	MP PE main pipe	km	0.21%	0.02%	90.04%	8.96%	0.77%	3	0.23%
19	Medium Pressure	Main pipe	MP steel main pipe	km	-	0.02%	80.04%	0.19%	19.75%	3	0.02%
20	Medium Pressure	Main pipe	MP other main pipe	km	-	-	22.70%	0.05%	77.25%	3	-
21	Medium Pressure	Service pipe	MP PE service pipe	km	0.13%	0.10%	84.00%	11.76%	4.01%	3	0.23%
22	Medium Pressure	Service pipe	MP steel service pipe	km	-	0.06%	24.82%	0.08%	75.04%	3	0.06%
23	Medium Pressure	Service pipe	MP other service pipe	km	-	0.02%	93.66%	1.89%	4.43%	3	0.02%
24	Medium Pressure	Stations	Medium pressure DRS	No.	-	9.38%	75.00%	6.25%	9.38%	2	9.38%
25	Medium Pressure	Line valve	MP line valves	No.	0.14%	0.43%	42.53%	19.33%	37.57%	2	0.36%
26	Medium Pressure	Special crossings	MP special crossings	No.	-	0.90%	69.13%	1.81%	28.15%	2	0.45%
27	Low Pressure	Main pipe	LP PE main pipe	km	-	0.01%	88.06%	11.16%	0.77%	3	0.01%
28	Low Pressure	Main pipe	LP steel main pipe	km	-	-	80.10%	0.15%	19.75%	3	-
29	Low Pressure	Main pipe	LP other main pipe	km	-	-	6.01%	16.75%	77.25%	3	-
30	Low Pressure	Service pipe	LP PE service pipe	km	-	0.67%	86.00%	9.32%	4.01%	3	0.67%
31	Low Pressure	Service pipe	LP steel service pipe	km	-	-	24.59%	0.37%	75.04%	3	-
32	Low Pressure	Service pipe	LP other service pipe	km	-	-	76.44%	19.13%	4.43%	3	-
33	Low Pressure	Line valve	LP line valves	No.	-	0.24%	34.03%	24.98%	40.76%	2	0.12%
34	Low Pressure	Special crossings	LP special crossings	No.	-	-	94.94%	-	5.06%	2	-
35	All	Monitoring and control systems	Remote terminal units	No.	-	-	67.11%	32.89%	-	4	-
36	All	Cathodic protection systems	Cathodic protection	No.	-	6.98%	55.15%	7.64%	30.23%	3	3.49%

Company Name	**Powerco Limited**
AMP Planning Period	**1 October 2016 – 30 September 2026**

SCHEDULE 12b: REPORT ON FORECAST UTILISATION

This Schedule requires a breakdown of current and forecast utilisation (for heavily utilised pipelines) consistent with the information provided in the AMP and the demand forecast in schedule S12c.

sch ref

Forecast Utilisation of Heavily Utilised Pipelines

Utilisation

Region	Network	Pressure system	Nominal operating pressure (NOP) (kPa)	Minimum operating pressure (MinOP) (kPa)	Total capacity at MinOP (scmh)	Remaining capacity at MinOP (scmh)	Unit	*Current Year CY* y/e 30 Sep 16	*CY+1* y/e 30 Sep 17	*CY+2* y/e 30 Sep 18	*CY+3* y/e 30 Sep 19	*CY+4* y/e 30 Sep 20	*CY+5* y/e 30 Sep 21	Comment
Hawkes Bay	Hastings	Hastings LMP	150	90	1,141	68	scmh	1,134	1,148	1,184	1,220	1,256	1,278	This pressure system becomes a HUP system in RY18. We will continue to actively monitor. We will uprate the pressure by 5% once the network becomes constrained (expected start in RY19). The 5% pressure uprating is expected to keep up with the growth on this network (just enough to keep it at 40% droop).
							kPa	93	93	87	91	95	99	
Hawkes Bay	Hastings	Taradale	140	84	611	115	scmh	614	652	695	728	756	756	We will keep an eye on the new Parklands subdivision growth and actively monitor.
							kPa	82	81	79	78	77	77	
Hutt Valley/Porirua	Belmont	Belmont LIP	860	516	15,355	173	scmh	15,268	14,948	15,027	15,107	15,186	15,243	Removal of Woodridge in RY17 sees a drop in demand on the Belmont network. However, the low point is at the Norfolk Street DRS in Wainuiomata, and will continue to decline with two major subdivisions in the area. We will monitor through SCADA at the Norfolk Street DRS. Also, this network has experienced lower pressures at the Miro Street DRS inlet from previous pressure monitoring programmes, we will monitor throughout winter 2016.
							kPa	621	600	577	554	528	514	
Hutt Valley/Porirua	Belmont	Kelson	200	120	458	72	scmh	399	399	435	471	507	543	New growth results in constraint in RY19. Will install new point of supply in RY19 as per Section 8.
							kPa	155	155	143	166	152	135	
Hutt Valley/Porirua	Belmont	Lower Hutt LMP	135	81	56	40	scmh	6,061	6,061	6,061	6,061	6,061	6,061	Low point is at Riverside Drive North due to large load at 471 Riverside Drive North. There is no room for growth here regardless, due to the location, so effectively the network has much more available capacity in other locations. If additional capacity were requested at this point, we could do an interconnection with the other side of Riverside Drive North to increase capacity.
							kPa	67	67	67	67	67	67	
Hutt Valley/Porirua	Belmont	Woodridge	200	120	987	170	scmh	1,027	626	626	626	626	626	The Horokiwi Quarry came onto this pressure system in RY16 and has seen this network become a HUP system. The Hutt Road South DRS regulators are at capacity, and require an upgrade in order to meet the needs of the Horokiwi Quarry customer. The Woodridge suburb is transferred over to Tawa A in RY17 leaving the Horokiwi Quarry as the main consumer and removing the constraint from the network.
							kPa	104	168	168	168	168	168	
Hutt Valley/Porirua	Waitangirua/ Pauatahanui	Plimmerton IP	1,000	300	804	639	scmh	577	591	602	611	621	630	This pressure system is actively monitored through SCADA.
							kPa	657	640	628	618	606	595	
Manawatu	Palmerston North	Awapuni LMP	100	60	63	46	scmh	160	160	160	160	174	188	A subdivision beginning in RY20 is expected to put this pressure system on the HUP list. We will keep an eye on the subdivision growth with pressure monitoring and reinforce when required.
							kPa	61	61	61	61	58	55	
Manawatu	Palmerston North	Palmerston North LMP	100	60	6,163	89	scmh	6,219	6,279	6,314	6,349	6,384	6,395	This forecast show the effect of the pressure elevation described as Hokowhitu reinforcement (in Section 8) in addition to the Palmerston North Eastern Reinforcement project currently underway with an expected completion in RY17.
							kPa	29	48	54	61	67	74	
Manawatu	Palmerston North	Palmerston North MP East	400	240	3,104	940	scmh	3,105	5,049	5,076	5,103	5,143	5,159	Palmerston North MP East is experiencing constraint and expected to degrade. It will be interconnected with Palmerston North MP West (becoming Palmerston North MP) as part of the Palmerston North Eastern Reinforcement project expected to be completed in RY17. The NOP will become 350kPa. The new Palmerston North MP will no longer be a HUP system once interconnected.
							kPa	239	269	269	269	267	266	
Manawatu	Palmerston North	Summerhill	100	60	474	133	scmh	387	419	451	483	515	547	This is the biggest identified area for growth in Palmerston North. We will keep an eye on the subdivision growth with active pressure monitoring. A pressure uprating to 200kPa may be required as reinforcement beyond RY21.
							kPa	77	74	70	65	60	59	
Taranaki	Manaia	Manaia	340	204	147	53	scmh	169	169	169	169	169	169	This pressure system is dependent on a single commercial consumer. We do not expect any increase in the demand on this network, but we will actively monitor the performance of this
							kPa	149	149	149	149	149	149	

Taranaki	New Plymouth	Bell Block North	225	135	869	61	scmh	887	926	985	1,023	1,052	1,081	The NOP was reduced from 240kPa to 225kPa in RY16. Pressure monitoring has confirmed constraint in the SW part of the network. Reinforcement with Nugent Street overlay in RY17. We will continue to monitor with active subdivision growth.
							kPa	114	125	122	119	117	114	
Taranaki	New Plymouth	New Plymouth IP	1,250	750	8,334	1,270	scmh	8,204	8,341	8,434	8,530	8,595	8,646	The Base Hospital Cocon installation in RY16 sees the IP low point move to this location. The IP leg feeding this DRS is 80NB with a significant load. We will monitor through SCADA on the new Cocon. We can allow down to a 450kPa minimum, as differential for supply to the 250kPa New Plymouth MP pressure system.
							kPa	677	589	582	574	570	570	
Taranaki	New Plymouth	New Plymouth MP	250	150	5,355	129	scmh	5,684	5,760	5,789	5,821	5,835	5,835	The model indicates pressure issues at Hutchen Place due to a relatively long and small diameter (50NB) main feeding some larger consumers. We are pressure monitoring in RY16 to verify pressures.
							kPa	144	134	134	134	134	134	
Taranaki	Patea	Patea	350	210	196	79	scmh	241	238	235	232	229	226	This pressure system is expected to see its performance increasing due to the decrease of demand forecasted over the period. We will actively monitor the performance of this pressure system.
							kPa	138	145	151	157	163	169	
Taranaki	Waitara	Waitara MP (Lepperton)	250	150	713	64	scmh	724	323	323	323	323	323	An increase in demand due to new chicken sheds has seen Waitara MP (Lepperton) become a HUP system. A project is underway to make Lepperton a separate pressure system from Waitara in RY16, with the NOP for Lepperton uprated to 350kPa. This reinforcement will remove the constraint from the network, even with further load increases expected at Karawhaka Chicken sheds (and likely others).
							kPa	133	210	210	210	210	210	
Wellington	Tawa A	Eastern Suburbs	125	75	3,223	70	scmh	3,242	3,242	3,242	3,242	3,242	3,242	This pressure system is not expected to see any growth however we will continue to actively monitor through the permanent pressure monitoring point as well as a few other points in RY16 to validate where the model is showing constraint. Reinforcement may be identified based on the results of the pressure monitoring.
							kPa	62	62	62	62	62	62	
Wellington	Tawa A	Karori	130	78	1,135	35	scmh	1,142	1,142	1,142	1,142	1,142	1,142	This pressure system is not expected to see any growth however we will continue to actively monitor through the pressure monitoring programme as long as it is on the HUP system list.
							kPa	70	70	70	70	70	70	
Wellington	Tawa A	Wellington 25 kPa	25	15	8,394	38	scmh	8,404	8,576	8,576	10,303	10,303	10,857	Project Gotham will see the flow and capacity on this pressure system increase, however the low point remains in the South of Wellington and Mount Cook. Will continue to actively monitor pressures in these areas.
							kPa	12	12	12	12	12	12	
Wellington	Tawa A	Wellington CBD	10	6	4,816	1,328	scmh	4,987	4,885	4,885	3,158	3,158	2,604	Project Gotham will see this pressure system decreasing in size every one to two years until it is fully integrated inot the 25kPa network. The network will remained constrained until the full Project Gotham is completed.
							kPa	5	5	5	4	4	5	
Wellington	Tawa A	Wellington IP	1,200	300	26,577	3,437	scmh	25,577	26,002	26,123	26,200	26,276	26,359	The Wellington IP low point is at the Mein Street DRS in Newtown. We expect this to be able to go as low as 300kPa in order to supply the Wellington 200kPa pressure system. We will continue to monitor through the Mein Street DRS SCADA system. Project Gotham sees some constraint taken off of the Wellington IP as the regulator supply pressures are uprated and the networks become interconnected, seeing more supply coming from the CBD area into the 25kPa system.
							kPa	523	507	501	534	531	526	
Wellington	Tawa A	Wellington North	185	111	3,995	230	scmh	4,046	4,384	4,486	4,543	4,600	4,683	The demand on this network will increase due to the subdivision activity in the region. In RY17, a section of the network in the Newlands area serviced by the Belmont Gas Gate will be transferred onto the Tawa A network. Reinforcement work is scheduled to accomodate this transfer and for the future growth in the area (Burgess Road overlay and Horokiwi Road West overlay, respectively). The low pressure point is currently located away from the growth area, specifically at the Butavas Street DRS inlet. The Rama Crescent overlay will resolve this issue in RY17 as discussed in Section 8.
							kPa	60	117	117	117	117	117	

** Current year utilisation figures may be estimates. Year 1–5 figures show the utilisation forecast to occur given the expected system configuration for each year, including the effect of any new investment in the pressure system.*

Disclaimer for supply enquiries

The information in this table contains modelled estimates of utilisation and capacity. Any interested party seeking to invest in supply from Powerco's distribution networks should contact Powerco or their retailer and confirm availability of capacity.

Notes and assumptions

Growth patterns used were outlined in the 2016 Gas AMP update, revised with our current knowledge.
If the growth was expected to spread over multiple years, it was uniformly spread over life.
The number of lots identified in the 2016 Gas AMP update was multiplied by 0.72scm/h to calculate a diversified load per connection. This was summed and placed at a single point in the model where the load is expected to occur.
If the growth specified in the 2016 Gas AMP update was inferior to our supply forecasts, we would reconcile these by adding the load at one extremity of the network.

Company Name	**Powerco Limited**
AMP Planning Period	**1 October 2016 – 30 September 2026**

SCHEDULE 12c: REPORT ON FORECAST DEMAND

This schedule requires a forecast of new connections (by consumer type), peak demand and energy volumes for the disclosure year and a 5 year planning period. The forecasts should be consistent with the supporting information set out in the AMP as well as the assumptions used in developing the expenditure forecasts in Schedule 11a and Schedule 11b and the capacity and utilisation forecasts in Schedule 12b.

sch ref

12c(i) Consumer Connections

Number of ICPs connected in year by consumer type

Consumer types defined by GDB	*Current year CY* **30 Sep 16**	*CY+1* **30 Sep 17**	*CY+2* **30 Sep 18**	*CY+3* **30 Sep 19**	*CY+4* **30 Sep 20**	*CY+5* **30 Sep 21**
Residential / Small Commercial	1,262	1,286	1,306	1,315	1,316	1,316
Commercial	178	178	178	177	176	176
Industrial	1	1	1	1	1	1
Total	1,441	1,465	1,485	1,492	1,493	1,493

12c(ii): Gas Delivered

	Current year CY **30 Sep 16**	*CY+1* **30 Sep 17**	*CY+2* **30 Sep 18**	*CY+3* **30 Sep 19**	*CY+4* **30 Sep 20**	*CY+5* **30 Sep 21**
Number of ICPs at year end (at year end)	105,775	106,476	107,206	107,937	108,667	109,403
Maximum daily load (GJ per day)	41,920	42,136	42,576	43,025	43,482	43,948
Maximum monthly load (GJ per month)	1,005,063	1,010,245	1,020,794	1,031,562	1,042,502	1,053,672
Number of directly billed ICPs (at year end)	-	-	-	-	-	-
Total gas conveyed (GJ per annum)	9,011,765	9,082,109	9,177,434	9,274,507	9,373,375	9,473,297
Average daily delivery (GJ per day)	24,622	24,882	25,144	25,410	25,610	25,954
Load factor	74.72%	74.92%	74.92%	74.92%	74.93%	74.92%

Schedule 14a: Mandatory Explanatory Notes on Forecast Information

1. This Schedule requires GDBs to provide explanatory notes to reports prepared in accordance with clause 2.6.6.

2. This Schedule is mandatory—GDBs must provide the explanatory comment specified below, in accordance with clause 2.7.2. This information is not part of the audited disclosure information, and so is not subject to the assurance requirements specified in section 2.8.

Commentary on difference between nominal and constant price capital expenditure forecasts (Schedule 11a)

3. In the box below, comment on the difference between nominal and constant price capital expenditure for the disclosure year and the 10 year planning period, as disclosed in Schedule 11a.

Box 1: Commentary on difference between nominal and constant price capital expenditure forecasts

The index used to translate nominal $ forecasts into constant $ forecasts is the Statistics NZ CPI (All Groups). The CPI index applied is the annual average rate of increase based on the CPI index predictions included in the NZIER Quarterly Predictions from March 2016.

For example, the index used for the year ending 30 September 2017 is based on the annual average movement using CPI predictions (actuals where available) as follows:

(Q1 RY17 + Q2 RY17 + Q3 RY17 + Q4 RY17)/(Q1 RY16 + Q2 RY16 + Q3 RY16 + Q4 RY16).

Commentary on difference between nominal and constant price operational expenditure forecasts (Schedule 11b)

4. In the box below, comment on the difference between nominal and constant price operational expenditure for the disclosure year, as disclosed in Schedule 11b.

Box 2: Commentary on difference between nominal and constant price operational expenditure forecasts

The index used to translate nominal $ forecasts into constant $ forecasts is the Statistics NZ CPI (All Groups). The CPI index applied is the annual average rate of increase based on the CPI index predictions included in the NZIER Quarterly Predictions from March 2016.

For example, the index used for the year ending 30 September 2017 is based on the annual average movement using CPI predictions (actuals where available) as follows:

(Q1 RY17 + Q2 RY17 + Q3 RY17 + Q4 RY17)/(Q1 RY16 + Q2 RY16 + Q3 RY16 + Q4 RY16).

5 COMPLIANCE CERTIFICATION

Certificate for Year-beginning Disclosures

Pursuant to clause 2.9.1 of Section 2.9

We, John Loughlin and Tom Parry, being directors of Powerco Limited certify that, having made all reasonable enquiry, to the best of our knowledge:

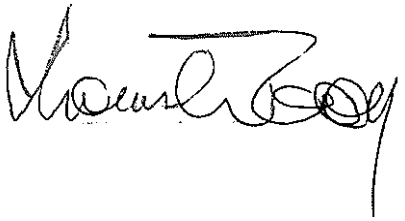
(a) The following attached information of Powerco Limited prepared for the purposes of clauses 2.6.1, 2.6.6 and 2.7.2 of the Gas Distribution Information Disclosure Determination 2012 in all material respects complies with that determination.

(b) The prospective financial or non-financial information included in the attached information has been measured on a basis consistent with regulatory requirements or recognised industry standards.

(c) The forecasts in Schedules 11a, 11b, 12a, 12b and 12c are based on objective and reasonable assumptions which both align with Powerco Limited's corporate vision and strategy and are documented in retained records.

Director

28 September 2016



Director

28 September 2016