GasNet Limited

Asset Management Plan Update (AMP Update)

2019-2029

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1.0 INTRODUCTION

1.1 Purpose and Scope

This Asset Management Plan Update (AMP Update) provides the details of any material changes that have occurred to GasNet's most recent Asset Management Plan (AMP) released on 7 November 2018 as well as commentary on aspects that GasNet considers may be of interest to stakeholders.

A copy of the 2018 AMP and previous Transitional AMP's can be downloaded from www.gasnet.co.nz/gasnet-disclosures

1.2 Details on AMP Planning Period

The AMP planning period is 1 July 2019 to 30 June 2029.

1.3 Date Approved by Directors

GasNet's Board of Directors approved this AMP update on 17 June 2019.

2.0 STRATEGY AND DELIVERY

The planned development of a centralised strategic planning document in the first quarter of 2019 will now be completed prior to the publication of GasNet's 2020 AMP.

3.0 RISK MANAGEMENT

A review conducted in 2018 of GasNet's Risk Matrix (as shown in section 10.5 of the 2018 AMP) resulted in a number of changes and a subsequent review of identified risks with a view to rationalising the number and rating the risks under the new matrix. Migration of the systems and processes around the management of risk was planned following completion of the Public Safety Management System Triennial Recertification Audit in April 2019, but was delayed pending the outcome of a Commerce Commission initiated review in May 2019 of the risk management practices of GasNet and the other Gas Pipeline Businesses.

Subject to the outcome of the Commerce Commission review it is planned to align all systems and processes to the new risk matrix in the second half of 2019.

With respect to the previously identified review of the risk profile of individual assets using material, size, operating conditions, location and history to review their asset life remaining, this is planned to commence in 2019 in conjunction with the implementation of the asset management system referred to in 6.7.

4.0 QUALITY OF SUPPLY

4.1 Low pressure network pressure uprating

The intention to commence planning in 2018-19 for an uprating trial project in Whanganui was deferred in favour of investigating further the reasons for uprating and more importantly confirm with our network modelling software if uprating network pressures will deliver the expected results. It is hoped that this may be completed in 2019-20 although this is dependent upon the planned development of the Whanganui network model (refer section 5.3).

4.2 Hakeke Street – Eastown Road MP Reinforcement

The 50mm diameter medium pressure gas main in Eastown Road, Whanganui has a chequered history of pipe coating defects along its length and in 2012 was identified as being close to its flow capacity limit. In 2013 a new 80mm diameter main reinforcement was constructed part of the way along Hakeke Street to support the supply to Eastown Timber and the Eastown Road District Regulator Station and allow the Eastown Road main to be decommissioned. During testing in subsequent years it became evident that the Hakeke Street main could not fully support the gas load required and therefore required the remaining section of Hakeke Street main to be upgraded before the Eastown Road main could be decommissioned.

In early 2019 the Eastown Road main failed a corrosion protection test and with its history of coating defects and as it is at its flow capacity it is considered more cost effective and prudent to reinforce the network rather than locate and repair the coating defects.

It is planned in 2019-20 to install the remaining 500 metre section of Hakeke Street medium pressure main with an 80mm diameter pipe which will enable the complete disconnection of the Eastown Road main.

5.0 NETWORK DEVELOPMENT PLANNING

5.1 New Connections

The positive and notable increase in new connections which was realised in 2017-18 continued into the 2018-19 financial year with no sign of the demand reducing. This increase is reflected in both the projected number of connections and in the Capital Expenditure Forecast for Consumer Connections.

5.2 MP link of Whanganui River bridges

The planned completion of the strategic linking of the medium pressure network on both sides of the river and all three bridges in Whanganui was completed during the 2018-19 financial year and the costs reflected in the 2019 forecast (Capital Expenditure Forecast for Quality of Supply ($65,000) and Asset Replacement & Renewal ($85,000)).

5.3 Network Analysis – Evaluation Tool

Following the successful modelling of the Flockhouse, Waitotara, and Bulls networks in the Synergi Gas network analysis application in 2017-18, conversion of the Marton Network was completed in 2018-19.

The modelling for the four networks form the basis of the information contained in "Schedule 12b: Report on Forecast Utilisation" (refer Appendix 5).

Due to a combination of effort required to set up the Marton network and availability of resourcing, the planned conversion of the Whanganui network has been deferred to 2019-20.

6.0 LIFECYCLE ASSET MANAGEMENT PLANNING (MAINTENANCE AND RENEWAL)

6.1 Special Crossings - Whanganui Sales Gate IP Stream Crossing

The commissioning of the new 100mm and 150mm diameter intermediate pressure mains pipes that cross the Karoro Stream adjacent to the Whanganui Sales Gate was completed in 2018-19 and the existing pipes removed.

The work was completed on time and under budget due to favourable conditions that existed when the work was completed. A number of physical and financial contingencies had been provided for potential unfavourable working conditions in what was a difficult work environment.

The cost is reflected in the 2019 Capital Expenditure Forecast for "Other Reliability, Safety and Environment" at $219,000 compared to the budget of $295,000.

6.2 Whanganui Riverbank Erosion Threats to IP Assets

The plan in 2018-19 to develop a strategy and plan to manage and monitor the ground movement which occurred adjacent to the Aramoho Rail Bridge in Whanganui has been deferred to 2019-20.

In March 2019 Whanganui District Council confirmed again that it has no plans for riverbank stabilisation in the area so it appears likely that any remedial work identified by GasNet will be for its own assets. The area is being monitored and in the event that the situation changes and remedial works become urgent then additional funds may be provided, reallocated from other projects, or a combination of both.

6.3 Putiki District Regulator Station (DRS) Enclosure Security Upgrade

The Putiki DRS enclosure in Whanganui has three sides with the rear open to allow for any debris from the hillside behind the installation to flush through the enclosure without causing damage. A recent risk assessment and audit identified that although the public cannot easily cause damage to the installation pipework it would be prudent to prevent access to the public completely. It is planned to design and build modifications to the enclosure to prevent public access but to maintain the existing design requirements.

6.4 CELLO Network Pressure Monitoring Devices

With the implementation of the Synergi pipe flow modelling software, the creation of network models requires a greater understanding of the pressure across the gas network in order to fine tune and verify that the models actually represent the network under real time conditions.

GasNet currently operates the CELLO brand electronic pressure recording devices to measure and record network pressures every 5 minutes at various locations across the networks. The devices communicate the information back to a central computer in the GasNet office. It is planned to purchase additional devices to be installed at locations within the Whanganui network to assist with setting up the network models

6.5 Whanganui Sales Gate Security Upgrade

It is planned to upgrade the existing video alarm system installed in 2014 at the Whanganui Sales Gate facility to monitor the site and provide alarms in the event of unauthorised entry to the facility enclosure. The Sales Gate is a critical facility as it is the only source of gas to Whanganui.

6.6 MIDaS Replacement (Non-Network)

GasNet's Meter and ICP Data System (MIDaS) application holds information relating to each of the 13,510 gas connections, the associated ICP details of which uniquely identify each supply and meter information for the 10,420 installed meters. To ensure reliability of the information is maintained at all times, the data held in MIDaS is regularly reconciled with the Gas Registry, the industry's central database.

Each month the energy retailers provide information files containing the quantities of gas either metered or estimated to have been used by each consumer. This information is imported into MIDaS and along with the information held for each consumer connection becomes the basis on which the Retailer charges are determined.

Support for MIDaS is provided by a Wellington based one-person company, which combined with the age of the application and the fact that it was custom-built for GasNet with no other users, has resulted in MIDaS being identified as the area of GasNet's financial system which exposes it to the greatest risk. Whilst there are contingencies in place in the event that MIDaS should fail, it is prudent to evaluate the options that might provide a viable replacement. An evaluation of potential replacements for MIDaS which concluded in April 2019 found that there are a number of reputable NZ/AU software suppliers that could provide viable utility billing applications to replace MIDaS, with indicative pricing that would be economically viable.

As background MIDaS was commissioned in 2007 to replace the previous billing system LOGIS which had been in use since the early 1990's. In 2005 when the decision was made to replace LOGIS it was established that there were no "off-the-shelf" packages which were economically viable.

It is pleasing to note that the availability and cost of suitable gas billing applications appears to have improved markedly since 2005 when the decision was ultimately made to develop and commission our own application given the cost and limited availability of suitable applications at that time.

It is planned to commission a business case study in the 2019-20 financial year that addresses the need to replace MIDaS and possible options for its replacement.

6.7 Asset Management System – AssetFinda (Non-Network)

It is planned to evaluate the asset management software application AssetFinda in 2019-20 for implementation the same year, subject to a positive evaluation.

AssetFinda is a browser-based asset management system with multiple GIS interfaces and a mobile application for field users. AssetFinda was first considered by GasNet in 2012, but with uncertainty over what would be required for the upcoming changes in economic regulations (regulatory asset valuation, information disclosure, etc.) the decision was made not to proceed at that time.

Since then AssetFinda has developed significantly and has a wide user base in NZ. In addition GasNet has a number of mature systems that are manually demanding for which an asset management systems such as AssetFinda is intended e.g. regulatory asset valuation and maintenance scheduling. The ability to manage specific assets, their condition assessment and criticality over time would greatly assist with the way GasNet manages its assets and provide a systematic approach, the benefits of which are unachievable with existing methodologies.

The functionality within the application is substantial but a number of features that are worthy of mention include predictive modelling, improved asset accounting (financial & regulatory), customer services' and work orders' management. The latter is currently achieved with GasNet's fieldGo application and whilst we have only superficially looked at this functionality within AssetFinda the objective may be to replace fieldGo with AssetFinda if practical to do so.

The 2019-20 Forecast includes provision of Capital and Operational Expenditure based on indicative pricing from the software provider.

6.8 Geographic Information System (GIS) Software Review (Non-Network)

Since its introduction in 2003, GasNet's GIS platform has been based on the ESRI ArcMap environment using the Basic Licence on two desktop computers (Asset Information Services Manager & Assistant). Whilst this level of licence has proved prohibitive in that it restricts editing sessions to a single user at any one time, the cost of upgrading to a higher licence level was excessive and could not be justified. As a result the two operators have manged to work around the licence limitations such that it seldom became an issue.

Access to GIS information for others within GasNet is provided through a web based application called IntraMaps which is regularly updated with data supplied out of the GIS database.

After issues occurred following a software upgrade, a number of enquiries were made of other organisations to establish what they were using. With prior knowledge that many had migrated away from ESRI based systems it quickly became apparent that there are solutions available to GasNet that provide greater flexibility and functionality at lower cost.

One such application Quantum GIS (QGIS) is a cloud based GIS application which by all accounts offers a better solution at a lower cost than the current ESRI based platform, and with open licensing could be made available to other users on an enquiry basis to replace the need for IntraMaps.

In 2019-20 it is planned to review GasNet's existing mapping and viewing needs and the viability of migrating to a new platform such as QGIS.

The 2019-20 forecast makes no provision for QGIS as it is expected to be cost neutral in the implementation year with cost savings thereafter.

6.9 Decision to Defer – Safety & Reliability Considerations

On each occasion when the decision was made to defer an activity, as in the case of items 4.1, 5.3 and 6.1 above, it was assessed by GasNet that the brevity of the deferral did not compromise the safety or reliability of the specific assets or the network within which they operate. In each instance deferral will be no longer than 12 months.

7.0 EXPENDITURE FORECASTS

7.1 General

For comparative purposes and for ease of identification of changes to expenditure forecasts, this section provides information extracted from the information disclosure schedules for both the Capital and Operational Expenditure Forecasts (Schedule's 11a and 11b respectively).

In both the following sections the first table provides the current year (2018-19) followed by the 10 year forecast starting with the 2019-20 financial year commencing 1 July 2019. For ease of presentation the totals shown in the Capex tables are consolidated at the category level rather than to the detail in the original schedule.

The second table provides the corresponding forecast values as they were published in the 2018 AMP with a price escalation of 1.5% applied which is based on the movement in CPI from March 2018 to March 2019 (June 2019 CPI was unavailable at the time this AMP Update was prepared).

The third and last table provides the movement in forecasts between this 2019 AMP Update and the previous 2018 AMP.

Commentary to support any notable movements are provided as a footnote to each group of tables.

7.2 Capital Expenditure Forecasts Comparison

2019 AMP Update	Financial Year ($000)										
	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
Consumer connection	211	220	220	220	220	220	220	220	220	220	220
System growth	77	70	70	70	70	70	70	70	70	70	70
Asset replacement & renewal	163	391	380	410	380	410	410	410	380	410	380
Asset relocations	-	-	-	-	-	-	-	-	-	-	-
Quality of supply	65	46	50	50	50	50	50	50	50	50	50
Legislative & regulatory	-	-	-	-	-	-	-	-	-	-	-
Other reliability, safety & environment	234	50	40	40	40	40	40	40	40	40	40
Expenditure on non-network assets	98	73	90	60	90	60	60	60	90	60	90
Total - Capex	848	850	850	850	850	850	850	850	850	850	850

2018 AMP	Financial Year ($000)									
	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
Consumer connection	122	122	122	122	122	122	122	122	122	122
System growth	71	71	71	71	71	71	71	71	71	71
Asset replacement & renewal	240	462	441	441	441	457	457	457	457	457
Asset relocations	-	-	-	-	-	-	-	-	-	-
Quality of supply	68	51	51	51	51	51	51	51	51	51
Legislative & regulatory	-	-	-	-	-	-	-	-	-	-
Other reliability, safety & environment	315	41	41	41	41	41	41	41	41	41
Expenditure on non-network assets	45	96	96	66	66	51	51	51	51	51
Total - Capex	861	843	822	792	792	793	793	793	793	793

Variance: 2019 AMP Update to 2018 AMP	Financial Year ($000)									
	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
Consumer connection	89	98	98	98	98	98	98	98	98	98
System growth	6	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Asset replacement & renewal	(77)	(71)	(61)	(31)	(61)	(47)	(47)	(47)	(77)	(47)
Asset relocations	-	-	-	-	-	-	-	-	-	-
Quality of supply	(3)	(5)	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Legislative & regulatory	-	-	-	-	-	-	-	-	-	-
Other reliability, safety & environment	(81)	9	(1)	(1)	(1)	(1)	(1)	(1)	(1)	(1)
Expenditure on non-network assets	53	(23)	(6)	(6)	24	9	9	9	39	9
Total - Capex	- 13	7	28	58	58	57	57	57	57	57

Notes to variations:

1. The increase in "Consumer Connections" reflects the unfaltering demand for new service connection in the last few years.
2. The change in "Asset Replacement & Renewal" totals reflects the review of forecast expenditure for this activity.
3. The significant reduction in "Other Reliability, Safety & Environment" in the 2018-19 reflects the cost saving from the Whanganui Sales Gate IP Stream Crossing project (refer section 6.1 above).
4. The variations in "Expenditure on Non-Network Assets" reflect the difficulty in forecasting the replacement of shorter life assets and the higher value replacements with items such as the large jumbo vans used by the field Technicians.

7.3 Operational Expenditure Forecasts Comparison

2019 AMP Update	Financial Year ($000)										
	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29
Service interruptions, incidents & emergencies	35	35	35	35	35	35	35	35	35	35	35
Routine & corrective maintenance & inspection	105	105	105	105	105	105	105	105	105	105	105
Asset replacement & renewal	20	20	20	20	20	20	20	20	20	20	20
System operations & network support	700	685	685	685	685	685	685	685	685	685	685
Business support	870	990	990	990	990	990	990	990	990	990	990
Total - Opex	1,730	1,835	1,835	1,835	1,835	1,835	1,835	1,835	1,835	1,835	1,835

2018 AMP	Financial Year ($000)									
	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
Service interruptions, incidents & emergencies	51	51	51	51	51	51	51	51	51	51
Routine & corrective maintenance & inspection	76	76	76	76	76	76	76	76	76	76
Asset replacement & renewal	20	20	20	20	20	20	20	20	20	20
System operations & network support	700	700	700	700	700	700	700	700	700	700
Business support	924	832	832	832	832	832	832	832	832	832
Total - Opex	1,771	1,679	1,679	1,679	1,679	1,679	1,679	1,679	1,679	1,679

Variance: 2019 AMP Update to 2018 AMP	Financial Year ($000)									
	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24	2024-25	2025-26	2026-27	2027-28
Service interruptions, incidents & emergencies	(16)	(16)	(16)	(16)	(16)	(16)	(16)	(16)	(16)	(16)
Routine & corrective maintenance & inspection	29	29	29	29	29	29	29	29	29	29
Asset replacement & renewal	-	-	-	-	-	-	-	-	-	-
System operations & network support	-	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)	(15)
Business support	(54)	158	158	158	158	158	158	158	158	158
Total - Opex	(41)	156	156	156	156	156	156	156	156	156

Notes to variations:

1. The reduction in "Service Interruptions, Incidents & Emergencies" reflects a recent downturn in the costs associated with third party related incidents beyond GasNet's control.
2. The increase in "Routine & Corrective Maintenance & Inspection" reflects an increase in asset inspections such as the Standby Riser Inspection Programme referred to in section 8.2 of the 2018 AMP.
3. The increase in Business Support, which is partially offset by the reduction in "System Operations & Network Support", is due to a combination of erroneous forecasting in the 2018 AMP and additional costs related to the planned introduction of the AssetFinda asset management (refer section 6.7 above) and an increase in governance costs.

Appendix 1 – Report on Forecast Capital Expenditure

Company Name	GasNet Limited
AMP Planning Period	1 July 2019 – 30 June 2029

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.

sch ref	for year ended	Current Year CY 30 Jun 19	CY+1 30 Jun 20	CY+2 30 Jun 21	CY+3 30 Jun 22	CY+4 30 Jun 23	CY+5 30 Jun 24	CY+6 30 Jun 25	CY+7 30 Jun 26	CY+8 30 Jun 27	CY+9 30 Jun 28	CY+10 30 Jun 29
		$000 (nominal dollars)										
9	**11a(i): Expenditure on Assets Forecast**											
10	Consumer connection	211	220	224	229	233	238	243	248	253	258	263
11	System growth	77	70	71	73	74	76	77	79	80	82	84
12	Asset replacement and renewal	163	391	388	427	403	444	453	462	437	480	454
13	Asset relocations	-	-	-	-	-	-	-	-	-	-	-
14	Reliability, safety and environment:											
15	Quality of supply	65	46	51	52	53	54	55	56	57	59	60
16	Legislative and regulatory	-	-	-	-	-	-	-	-	-	-	-
17	Other reliability, safety and environment	234	50	41	42	42	43	44	45	46	47	48
18	**Total reliability, safety and environment**	299	96	92	94	95	97	99	101	103	106	108
19	**Expenditure on network assets**	750	777	775	823	805	855	872	890	873	926	909
20	Expenditure on non-network assets	98	73	92	62	96	65	66	68	103	70	108
21	**Expenditure on assets**	848	850	867	885	901	920	938	958	976	996	1,017
22												
23	*plus* Cost of financing	-	-	-	-	-	-	-	-	-	-	-
24	*less* Value of capital contributions	-	-	-	-	-	-	-	-	-	-	-
25	*plus* Value of vested assets	-	-	-	-	-	-	-	-	-	-	-
26	**Capital expenditure forecast**	848	850	867	885	901	920	938	958	976	996	1,017
27												
28	Assets commissioned	848	850	867	885	901	920	938	958	976	996	1,017
29												
30		for year ended	Current Year CY 30 Jun 19	CY+1 30 Jun 20	CY+2 30 Jun 21	CY+3 30 Jun 22	CY+4 30 Jun 23	CY+5 30 Jun 24	CY+6 30 Jun 25	CY+7 30 Jun 26	CY+8 30 Jun 27	CY+9 30 Jun 28	CY+10 30 Jun 29
31			$000 (in constant prices)										
32	Consumer connection		211	220	220	220	220	220	220	220	220	220	220
33	System growth		77	70	70	70	70	70	70	70	70	70	70
34	Asset replacement and renewal		163	391	380	410	380	410	410	410	380	410	380
35	Asset relocations		-	-	-	-	-	-	-	-	-	-	-
36	Reliability, safety and environment:												
37	Quality of supply		65	46	50	50	50	50	50	50	50	50	50
38	Legislative and regulatory		-	-	-	-	-	-	-	-	-	-	-
39	Other reliability, safety and environment		234	50	40	40	40	40	40	40	40	40	40
40	**Total reliability, safety and environment**		299	96	90	90	90	90	90	90	90	90	90
41	**Expenditure on network assets**		750	777	760	790	760	790	790	790	760	790	760
42	Expenditure on non-network assets		98	73	90	60	90	60	60	60	90	60	90
43	**Expenditure on assets**		848	850	850	850	850	850	850	850	850	850	850
44													
45	**Subcomponents of expenditure on assets (where known)**												
46	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 Jun 19	30 Jun 20	30 Jun 21	30 Jun 22	30 Jun 23	30 Jun 24	30 Jun 25	30 Jun 26	30 Jun 27	30 Jun 28	30 Jun 29
Difference between nominal and constant price forecasts		$000										
Consumer connection		-	-	4	9	13	18	23	28	33	38	43
System growth		-	-	1	3	4	6	7	9	10	12	14
Asset replacement and renewal		-	-	8	17	23	34	43	52	57	70	74
Asset relocations		-	-	-	-	-	-	-	-	-	-	-
Reliability, safety and environment:												
Quality of supply		-	-	1	2	3	4	5	6	7	9	10
Legislative and regulatory		-	-	-	-	-	-	-	-	-	-	-
Other reliability, safety and environment		-	0	1	2	2	3	4	5	6	7	8
Total reliability, safety and environment		-	0	2	4	5	7	9	11	13	16	18
Expenditure on network assets		-	0	15	33	45	65	82	100	113	136	149
Expenditure on non-network assets		-	-	2	2	6	5	6	8	13	10	18
Expenditure on assets		-	0	17	35	51	70	88	108	126	146	167

11a(ii): Consumer Connection

	Current Year CY	CY+1	CY+2	CY+3	CY+4	CY+5
for year ended	30 Jun 19	30 Jun 20	30 Jun 21	30 Jun 22	30 Jun 23	30 Jun 24
*Consumer types defined by GDB**	$000 (in constant prices)					
Domestic	203	200	200	200	200	200
Non-domestic	8	20	20	20	20	20
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
*include additional rows if needed						
Consumer connection expenditure	211	220	220	220	220	220
less Capital contributions funding consumer connection	-	-	-	-	-	-
Consumer connection less capital contributions	211	220	220	220	220	220

11a(iii): System Growth

Intermediate pressure							
Main pipe	-	-	-	-	-	-	-
Service pipe	-	-	-	-	-	-	-
Stations	-	-	-	-	-	-	-
Line valve	-	-	-	-	-	-	-
Special crossings	-	-	-	-	-	-	-
Intermediate Pressure total	-	-	-	-	-	-	-
Medium pressure							
Main pipe	20	15	15	15	15	15	15
Service pipe	-	-	-	-	-	-	-
Stations	-	-	-	-	-	-	-
Line valve	-	-	-	-	-	-	-
Special crossings	-	-	-	-	-	-	-
Medium Pressure total	20	15	15	15	15	15	15

92		**Low Pressure**						
93		Main pipe	57	55	55	55	55	55
94		Service pipe	-	-	-	-	-	-
95		Line valve	-	-	-	-	-	-
96		Special crossings	-	-	-	-	-	-
97		**Low Pressure total**	57	55	55	55	55	55
98		**Other network assets**						
99		Monitoring and control systems	-	-	-	-	-	-
100		Cathodic protection systems	-	-	-	-	-	-
101		Other assets (other than above)	-	-	-	-	-	-
102		**Other network assets total**	-	-	-	-	-	-
103								
104		**System growth expenditure**	77	70	70	70	70	70
105	*less*	Capital contributions funding system growth	-	-	-	-	-	-
106		**System growth less capital contributions**	77	70	70	70	70	70
107								
108								
109			*Current Year CY*	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*
		for year ended	**30 Jun 19**	**30 Jun 20**	**30 Jun 21**	**30 Jun 22**	**30 Jun 23**	**30 Jun 24**
110	**11a(iv): Asset Replacement and Renewal**							
111		**Intermediate pressure**	**$000 (in constant prices)**					
112		Main pipe	-	-	-	-	-	-
113		Service pipe	-	-	-	-	-	-
114		Stations	14	3	5	5	5	5
115		Line valve	-	-	-	-	-	-
116		Special crossings	-	-	-	-	-	-
117		**Intermediate Pressure total**	14	3	5	5	5	5
118		**Medium pressure**						
119		Main pipe		25	-	-	-	-
120		Service pipe	-	-	-	-	-	-
121		Station	2	-	-	-	-	-
122		Line valve	-	-	-	-	-	-
123		Special crossings	-	40	-	-	-	-
124		**Medium Pressure total**	2	65	-	-	-	-
125		**Low Pressure**						
126		Main pipe	71	189	260	285	265	285
127		Service pipe	50	134	115	120	110	120
128		Line valve	-	-	-	-	-	-
129		Special crossings	26	-	-	-	-	-
130		**Low Pressure total**	147	323	375	405	375	405

131	**Other network assets**						
132	Monitoring and control systems	-	-	-	-	-	-
133	Cathodic protection systems	-	-	-	-	-	-
134	Other assets (other than above)	-	-	-	-	-	-
135	**Other network assets total**	-	-	-	-	-	-
136							
137	**Asset replacement and renewal expenditure**	163	391	380	410	380	410
138	*less* Capital contributions funding asset replacement and renewal	-	-	-	-	-	-
139	**Asset replacement and renewal less capital contributions**	163	391	380	410	380	410
140							

11a(v): Asset Relocations

142	*Project or programme**						
143	Nil	-	-	-	-	-	-
144		-	-	-	-	-	-
145		-	-	-	-	-	-
146		-	-	-	-	-	-
147		-	-	-	-	-	-
148	** indude additional rows if needed*						
149	All other projects or programmes - asset relocations	-	-	-	-	-	-
150	**Asset relocations expenditure**	-	-	-	-	-	-
151	*less* Capital contributions funding asset relocations	-	-	-	-	-	-
152	**Asset relocations less capital contributions**	-	-	-	-	-	-
153							

11a(vi): Quality of Supply

		Current Year CY	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*
154	for year ended	**30 Jun 19**	**30 Jun 20**	**30 Jun 21**	**30 Jun 22**	**30 Jun 23**	**30 Jun 24**
155							
156							
157	*Project or programme**	**$000 (in constant prices)**					
158	System Reinforcement (Whanganui Bridges MP Mains Interconnect)	65	-	-	-	-	-
159	Hakeke Street - Eastown Road MP Reinforcement		46	-	-	-	-
160							
161							
162							
163	** indude additional rows if needed*						
164	All other projects or programmes - quality of supply	-	-	50	50	50	50
165	**Quality of supply expenditure**	65	46	50	50	50	50
166	*less* Capital contributions funding quality of supply	-	-	50	50	50	50
167	**Quality of supply less capital contributions**	65	46	-	-	-	-
168							

11a(vii): Legislative and Regulatory

	2020	2021	2022	2023	2024	2025
Project or programme						
Nil	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
	-	-	-	-	-	-
** 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

	2020	2021	2022	2023	2024	2025
*Project or programme**						
DRS Isolation Valves	15	15	15	15	15	15
Whanganui Sales Gate IP Pipelines stream crossing	219	-	-	-	-	-
DRS Metering	-	-	25	25	25	25
Putiki DRS Enclosure Security Upgrade		10	-	-	-	-
CELLO Network Monitoring Devices		15	-	-	-	-
Whanganui Sales Gate Security Upgrade		10	-	-	-	-
** include additional rows if needed*						
All other projects or programmes - other reliability, safety and environment	-	-	-	-	-	-
Other reliability, safety and environment expenditure	234	50	40	40	40	40
less Capital contributions funding other reliability, safety and environment	-	-	-	-	-	-
Other Reliability, safety and environment less capital contributions	234	50	40	40	40	40

11a(ix): Non-Network Assets

Routine expenditure

	2020	2021	2022	2023	2024	2025
*Project or programme**						
Information and technology systems	2	40	10	10	10	10
Office buildings, depots and workshops	7	-	-	-	-	-
Office furniture and equipment	2	11	5	5	5	5
Motor vehicles	59	-	60	30	60	30
Tools, plant and machinery	28	22	15	15	15	15
** include additional rows if needed*						
All other projects or programmes - routine expenditure	-	-	-	-	-	-
Routine expenditure	98	73	90	60	90	60

Atypical expenditure

	2020	2021	2022	2023	2024	2025
*Project or programme**						
[Description of material project or programme]	-	-	-	-	-	-
[Description of material project or programme]	-	-	-	-	-	-
[Description of material project or programme]	-	-	-	-	-	-
[Description of material project or programme]	-	-	-	-	-	-
[Description of material project or programme]	-	-	-	-	-	-
** include additional rows if needed*						
All other projects or programmes - atypical expenditure	-	-	-	-	-	-
Atypical expenditure	-	-	-	-	-	-

	2020	2021	2022	2023	2024	2025
Expenditure on non-network assets	98	73	90	60	90	60

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 Jun 19	CY+1 30 Jun 20	CY+2 30 Jun 21	CY+3 30 Jun 22	CY+4 30 Jun 23	CY+5 30 Jun 24	CY+6 30 Jun 25	CY+7 30 Jun 26	CY+8 30 Jun 27	CY+9 30 Jun 28	CY+10 30 Jun 29
7		$000 (in nominal dollars)										
8	**Operational Expenditure Forecast**											
9	Service interruptions, incidents and emergencies		35	36	36	37	38	39	39	40	41	42
10	Routine and corrective maintenance and inspection		105	107	109	111	114	116	118	121	123	125
11	Asset replacement and renewal		20	20	21	21	22	22	23	23	23	24
12	**Network opex**		160	163	166	169	174	177	180	184	187	191
13	System operations and network support		685	699	713	727	741	756	771	787	803	819
14	Business support		990	1,010	1,030	1,051	1,072	1,093	1,115	1,137	1,160	1,183
15	**Non-network opex**		1,675	1,709	1,743	1,778	1,813	1,849	1,886	1,924	1,963	2,002
16	**Operational expenditure**		1,835	1,872	1,909	1,947	1,987	2,026	2,066	2,108	2,150	2,193
17												
18		*Current year CY*	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*	*CY+6*	*CY+7*	*CY+8*	*CY+9*	*CY+10*
19	for year ended	**30 Jun 19**	**30 Jun 20**	**30 Jun 21**	**30 Jun 22**	**30 Jun 23**	**30 Jun 24**	**30 Jun 25**	**30 Jun 26**	**30 Jun 27**	**30 Jun 28**	**30 Jun 29**
20		$000 (in constant prices)										
21	Service interruptions, incidents and emergencies	35	35	35	35	35	35	35	35	35	35	35
22	Routine and corrective maintenance and inspection	105	105	105	105	105	105	105	105	105	105	105
23	Asset replacement and renewal	20	20	20	20	20	20	20	20	20	20	20
24	**Network opex**	160	160	160	160	160	160	160	160	160	160	160
25	System operations and network support	700	685	685	685	685	685	685	685	685	685	685
26	Business support	870	990	990	990	990	990	990	990	990	990	990
27	**Non-network opex**	1,570	1,675	1,675	1,675	1,675	1,675	1,675	1,675	1,675	1,675	1,675
28	**Operational expenditure**	1,730	1,835	1,835	1,835	1,835	1,835	1,835	1,835	1,835	1,835	1,835
29	**Subcomponents of operational expenditure (where known)**											
30	Research and development	-	-	-	-	-	-	-	-	-	-	-
	Insurance	180	180	180	180	180	180	180	180	180	180	180
32												
33		*Current year CY*	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*	*CY+6*	*CY+7*	*CY+8*	*CY+9*	*CY+10*
34	for year ended	**30 Jun 19**	**30 Jun 20**	**30 Jun 21**	**30 Jun 22**	**30 Jun 23**	**30 Jun 24**	**30 Jun 25**	**30 Jun 26**	**30 Jun 27**	**30 Jun 28**	**30 Jun 29**
35	**Difference between nominal and real forecasts**	$000										
36	Service interruptions, incidents and emergencies	-	-	1	1	2	3	4	4	5	6	7
37	Routine and corrective maintenance and inspection	-	-	2	4	6	9	11	13	16	18	20
38	Asset replacement and renewal	-	-	-	1	1	2	2	3	3	3	4
39	**Network opex**	-	-	3	6	9	14	17	20	24	27	31
40	System operations and network support	-	-	14	28	42	56	71	86	102	118	134
41	Business support	-	-	20	40	61	82	103	125	147	170	193
42	**Non-network opex**	-	-	34	68	103	138	174	211	249	288	327
43	**Operational expenditure**	-	-	37	74	112	152	191	231	273	315	358

Appendix 3 – Report on Asset Condition

Company Name **GasNet Limited**

AMP Planning Period **1 July 2019 – 30 June 2029**

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)						
	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				100.00%		2	-
10	Intermediate Pressure	Main pipe	IP steel main pipe	km						4	-
11	Intermediate Pressure	Main pipe	IP other main pipe	km						4	-
12	Intermediate Pressure	Service pipe	IP PE service pipe	km				100.00%		2	-
13	Intermediate Pressure	Service pipe	IP steel service pipe	km						4	-
14	Intermediate Pressure	Service pipe	IP other service pipe	km		7.00%	93.00%			4	7.00
15	Intermediate Pressure	Stations	Intermediate pressure DRS	No.			10.00%	90.00%		3	7.00
16	Intermediate Pressure	Line valve	IP line valves	No.				100.00%		2	-
17	Intermediate Pressure	Special crossings	IP crossings	No.				100.00%		2	-
18	Medium Pressure	Main pipe	MP PE main pipe	km		10.00%		90.00%		4	-
19	Medium Pressure	Main pipe	MP steel main pipe	km				100.00%		4	-
20	Medium Pressure	Main pipe	MP other main pipe	km				100.00%		2	-
21	Medium Pressure	Service pipe	MP PE service pipe	km				100.00%		2	-
22	Medium Pressure	Service pipe	MP steel service pipe	km						4	-
23	Medium Pressure	Service pipe	MP other service pipe	km			100.00%			4	-
24	Medium Pressure	Stations	Medium pressure DRS	No.				100.00%		3	-
25	Medium Pressure	Line valve	MP line valves	No.		3.00%		97.00%		2	3.00
26	Medium Pressure	Special crossings	MP special crossings	No.				100.00%		2	-
27	Low Pressure	Main pipe	LP PE main pipe	km		8.00%	92.00%			2	10.00
28	Low Pressure	Main pipe	LP steel main pipe	km		8.00%	92.00%			2	10.00
29	Low Pressure	Main pipe	LP other main pipe	km				100.00%		2	-
30	Low Pressure	Service pipe	LP PE service pipe	km		30.00%	70.00%			2	50.00
31	Low Pressure	Service pipe	LP steel service pipe	km		30.00%	70.00%			2	50.00
32	Low Pressure	Service pipe	LP other service pipe	km				100.00%		3	-
33	Low Pressure	Line valve	LP line valves	No.			40.00%	60.00%		2	27.00
34	Low Pressure	Special crossings	LP special crossings	No.				100.00%		4	-
35	All	Monitoring and control systems	Remote terminal units	No.				100.00%		4	-
36	All	Cathodic protection	Cathodic protection	No.							

Company Name	GasNet Limited
AMP Planning Period	1 July 2019 – 30 June 2029

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 Jun 19	CY+1 y/e 30 Jun 20	CY+2 y/e 30 Jun 21	CY+3 y/e 30 Jun 22	CY+4 y/e 30 Jun 23	CY+5 y/e 30 Jun 24	Comment
Rangitikei	Bulls	MP16	300	180	612	215	scmh	397	399	401	403	405	407	Bulls network has two large commercial consumers connected and domestic/small commercial load. A small annual increase in the domestic load is expected.
							kPa	272	271	271	270	269	269	
Rangitikei	Flockhouse	MP4	150	90	348	328	scmh	20	20	20	20	20	20	The Flockhouse network has small commercial and domestic load which is not expected to increase. The network was originally constructed for a agricultural training facility that no longer exists.
							kPa	150	150	150	150	150	150	
South Taranaki	Waitotara	MP5	300	180	288	23	scmh	265	265	265	265	265	265	This pressure system has one consumer, a meat processing plant. We are not aware of any change to load but will continue to liaise with Retailer.
							kPa	200	200	200	200	200	200	
Rangitikei	Marton	MP3	210	126	1,132	3	scmh	1129	1140	1152	1163	1175	1187	MinOP occurs at an extremity of the network where a small diameter main supplies two commercial consumers, the load was increased at this point to calculate MinOP. The application of additional load at this extremity is not likely.
							kPa	128	121	112	102	91	78	
Rangitikei	Marton	IP2	1,500	900	7,145	4,297	scmh	2848	2876	2905	2934	2964	2993	This network is a single arterial main ending at a DRS. The DRS load was increased to calculate MinOp.
							kPa	1466	1464	1463	1462	1460	1459	
							scmh							
							kPa							
							scmh							
							kPa							
							scmh							
							kPa							
							scmh							
							kPa							
							scmh							
							kPa							

** 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 contained in this Table has been provided from models using estimates of utilisation and capacity. Parties interested in connection to the network should contact GasNet directly.

Notes and assumptions

1. Development of GasNet's network models using the Synergi application is in progress with Waitotara, Flockhouse and Bulls models completed. The information contained in this Report only contains data from these models. Further development of GasNet's remaining networks is on going and utilisation information for these networks will be provided in future reports.
2. It is GasNet's intention to report on utilisation of all GasNet networks in future, not only 'Heavily Utilised Pipelines'.
3. The minimum operating pressure (MinOP) has been determined to be 60% of the Nominal Operating Pressure (NOP).
4. Total capacity at MinOP has been determined by applying additional load at the network extremity presenting he lowest pressure under current operation to the point that MinOP is reached at that point in the pressure network.

Company Name	**GasNet Limited**
AMP Planning Period	**1 July 2019 – 30 June 2029**

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 Jun 19**	*CY+1* **30 Jun 20**	*CY+2* **30 Jun 21**	*CY+3* **30 Jun 22**	*CY+4* **30 Jun 23**	*CY+5* **30 Jun 24**
Domestic	120	71	49	49	49	49
Non-domestic	2	1	1	1	1	1
Total	122	72	50	50	50	50

12c(ii): Gas Delivered

	Current year CY **30 Jun 19**	*CY+1* **30 Jun 20**	*CY+2* **30 Jun 21**	*CY+3* **30 Jun 22**	*CY+4* **30 Jun 23**	*CY+5* **30 Jun 24**
Number of ICPs at year end (at year end)	10,028	10,100	10,150	10,200	10,250	10,300
Maximum daily load (GJ per day)	5,000	5,040	5,060	5,080	5,100	5,120
Maximum monthly load (GJ per month)	125,400	126,300	126,930	127,560	128,190	128,820
Number of directly billed ICPs (at year end)	-	-	-	-	-	-
Total gas conveyed (GJ per annum)	1,272,543	1,264,889	1,285,118	1,281,581	1,282,542	1,284,045
Average daily delivery (GJ per day)	3,486	3,456	3,521	3,511	3,514	3,508
Load factor	84.57%	83.46%	84.37%	83.72%	83.38%	83.06%

Appendix 6 – Schedule 14a: Mandatory Explanatory Notes on Forecast Information

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

1. In the box below, comment on the difference between nominal and constant price capital expenditure for the current 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 difference between nominal and constant price capital expenditure forecasts is due to forecast indexation being applied, based on an anticipated annual change in CPI of 2%.

For Year Ended	Change in CPI
Jun-19	0.00%
Jun-20	0.00%
Jun-21	2.00%
Jun-22	2.00%
Jun-23	2.00%
Jun-24	2.00%
Jun-25	2.00%
Jun-26	2.00%
Jun-27	2.00%
Jun-28	2.00%
Jun-29	2.00%

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

2. In the box below, comment on the difference between nominal and constant price operational expenditure for the current disclosure year and the 10 year planning period, as disclosed in Schedule 11b.

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

The difference between nominal and constant price operational expenditure forecasts is due to forecast indexation being applied, based on an anticipated annual change in CPI of 2%.

For Year Ended	Change in CPI
Jun-19	0.00%
Jun-20	0.00%
Jun-21	2.00%
Jun-22	2.00%
Jun-23	2.00%
Jun-24	2.00%
Jun-25	2.00%
Jun-26	2.00%
Jun-27	2.00%
Jun-28	2.00%
Jun-29	2.00%

Appendix 7 – Schedule 17: Certification for Year-beginning Disclosures

Schedule 17: Certification for Year-beginning Disclosures

Clause 2.9.1

We, CHARLES PETER HAZLEDINE, and

ANNETTE KAY MAN, being directors of GasNet Limited certify that, having made all reasonable enquiry, to the best of our knowledge:

(a) the following attached information of GasNet Limited prepared for the purposes of clause 2.6.1, 2.6.3, 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 GasNet Limited's corporate vision and strategy and are documented in retained records.

Director

Director

17 JUNE 2019

Date