GasNet Limited

Transitional Asset Management Plan

2016-2026

Pursuant to clause 2.13.9(2) of the Gas Distribution Information Disclosure Determination 2012 under Part 4 of the Commerce Act 1986

Version Control

Version	Date	Summary of Changes
1.0	1 July 2013	First Issue
1.1	18 December 2013	Appendix 3.1 Schedule 11b replaced with updated version (page 48) following discovery of errors in the original version (page 47). Further information available in Box 12 of Schedule 14 in GasNet's 2013 Disclosures pursuant to the Gas Distribution Information Disclosure Determination 2012
2.0	30 June 2014	Annual review and update
3.0	30 June 2015	Annual review and update
4.0	30 June 2016	Annual review and update

Table of Contents

Disclaimer:

This Transitional Asset Management Plan (AMP) has been prepared and disclosed in accordance with the Gas Distribution Information Disclosure Determination 2012.

The information in this document has been prepared in good faith and represents GasNet Limited's (GasNet) intentions and opinions at the date of issue.

GasNet does not give any assurance, either express or implied, about the accuracy of the information or whether GasNet will implement the plan or undertake any work mentioned in the document.

None of GasNet Limited, its directors, officers, shareholder or representatives accepts any liability whatsoever by reason of, or in connection with, any information in this document or any actual or purported reliance on it by any person.

GasNet may change any information in this document at any time.

1.0 EXECUTIVE SUMMARY

1.1 Introduction

The objective of this Transitional Asset Management Plan (AMP) is to outline the asset management practices and strategies used to manage the assets of GasNet Limited (GasNet) and to provide such information pursuant to the transitional provisions provided for GasNet under clause 2.13.9 the Gas Distribution Business Information Disclosure Determination 2012.

This AMP, being the forth produced by GasNet and prepared under transitional provisions, has been prepared to satisfy the new regulatory requirements as a minimum, and as such does not necessarily provide the comprehensive information typically found in mature Asset Management Plans. Following the approval and publication of this AMP GasNet will continue to build on this platform until ultimately meeting the requirements of a fully compliant Asset Management Plan by 30 June 2017 prior to the end of the first regulatory period.

GasNet has a long history of in-practice asset management with limited longer term planning processes. It has operated asset management practices that while effective, comprise a combination of formal and informal documentation. GasNet is however in a relatively unique position in that because there has been very low personnel turn-over, it has a wealth of very long term engineering and operational experience within personnel reaching back some 40 years. GasNet has effectively managed network assets in accordance with gas industry standards, good practice and procedures, and reported compliance over an extensive period of time.

The Commerce Commission recognised that GasNet had not historically been required under information disclosure regulation to publicly disclose an Asset Management Plan, and consequently made additional transitional provisions within its Gas Distribution Information Disclosure Determination 2012 (IDD) that allowed GasNet to elect to publicly disclose a Transitional Asset Management Plan as an alternative to a fully compliant Asset Management Plan.

In consideration of the resourcing needs to develop its first Asset Management Plan and that the requirement to do so was only one of many new regulatory compliance requirements that GasNet needed to meet in 2013 (including the unrelated certification of its Safety Management System for Public Safety), GasNet elected to adopt the transitional provisions and deliver this Transitional Asset Management Plan (AMP).

Therefore in accordance with the transitional provisions specified under clause 2.12.8 of the IDD and copied to Appendix 1, the information contained within this AMP has been provided to satisfy the following:

- Minimum Requirements (IDD clause 2.13.9(2)(c));
- Forecast Information (IDD clause 2.13.9(2)(d));
- Report on Asset Management Maturity (IDD clause 2.13.9(2)(e));
- Identified non-conformances and intended actions to make compliant by end of first DPP regulatory period (IDD clause 2.13.9(2)(f)); and,
- Identified actions taken to achieve conformances with the requirements of a fully compliant Asset Management Plan (IDD clause 2.13.9(2)(g)).

1.2 Reference to AMP

For ease of reference this Transitional Asset Management Plan is referred to throughout this document as an AMP. However it must be noted that whilst referred as such it does not imply, nor is it promoted to be, a fully functional and informative Asset Management Plan. It has been prepared to comply with the transitional provisions afforded to GasNet under the Gas Distribution Business Information Disclosure Determination 2012 and not necessarily to comply with the International Infrastructure Management Manual (IIMM), PAS-55, or any other applicable standard.

1.3 Effective Date of Data in AMP

Except where otherwise specified data contained within this AMP, typically shown in tables and graphs, is based on that which existed as at 30 June 2015.

2.0 BACKGROUND AND OBJECTIVES

2.1 Company Background

GasNet is 100% owned by Wanganui Gas Limited which is itself owned by Whanganui District Council Holdings Limited, a Whanganui District Council "Council Controlled Trading Organisation". GasNet commenced trading on 1 July 2008 after purchasing the network (and metering) business from Wanganui Gas Limited. Previously GasNet had been operating as an independent trading division of Wanganui Gas Limited with responsibility for managing the network (and metering) assets for the company.

GasNet's origins go back to the late 19th century when in 1879 Wanganui Gas Company Limited was formed as a private enterprise to reticulate manufactured gas within the city of Whanganui. All networks owned and operated by GasNet have been constructed to natural gas standards since 1970.

2.2 Gas Distribution Business

GasNet owns and operates five natural gas distribution networks in the Whanganui, Rangitikei and South Taranaki regions in the North Island of New Zealand.

In accordance with the Gas Act 1992, GasNet is defined as a "Gas Distributor" and under the IDD is a Gas Distribution Business (GDB).

2.3 Details on AMP Planning Period

The AMP planning period is 1 July 2016 to 30 June 2026.

2.4 Date Approved by Directors

GasNet's Board of Directors formally approved this AMP on 30 June 2016.

2.5 Stakeholder Interests

Stakeholder interests are considered within GasNet's asset management practices and whilst they may not always be in alignment, the desire to provide a reliable gas supply is generally common to all.

GasNet's asset management practices implicitly acknowledge the diversity of interests and are reviewed and modified over time in response to feedback from stakeholders, change in legal and/or regulatory requirements, and identified organisational practice improvement.

It is recognised that on occasion stakeholder interests either are or appear to be in conflict. GasNet welcomes the opportunity to discuss with the stakeholder any situations where interests may conflict, and will at all times look for outcomes that are mutually acceptable. Where such outcomes are not possible, GasNet offers a "Feedback & Complaints" process that provides for investigation of the reported issue within a defined process and timeframe. In the event that a satisfactory solution cannot be agreed upon, either party may refer the dispute to the Electricity and Gas Complaints Commission.

Whilst the occurrence of conflict with, or between, the needs of stakeholders seldom occurs, GasNet will apply the following considerations in resolving conflict:

- Safety of people and property
- Reliability of the gas supply
- Compliance with the law, industry standards and codes
- Fairness and equity to all parties
- Regulatory compliance

GasNet has identified the following stakeholders as having an interest in how GasNet manages its gas distribution assets:

Table 1 Stakeholders

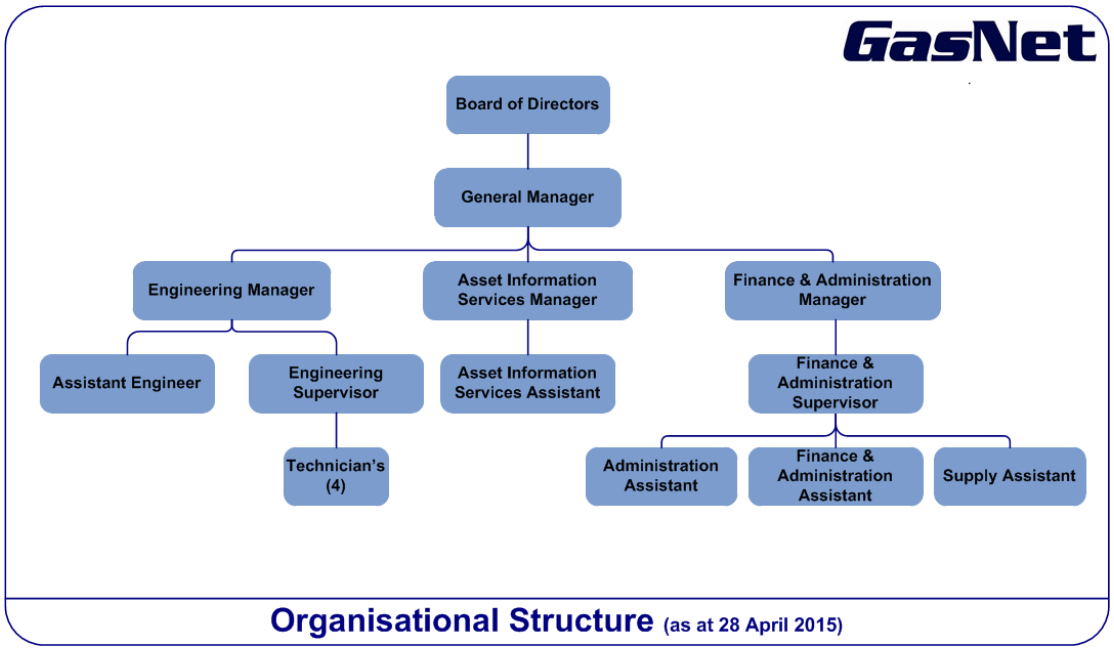
Stakeholder	Interest
District and Regional Councils	Minimising environmental impacts, local economic development and in the control of and access to assets in the road corridor.
Economic Regulator (Commerce Commission)	Statutory obligations, economic efficiency, compliance and public disclosure of this AMP
Electricity and Gas Complaints Commissioner	Compliance with the Electricity and Gas Complaints Scheme.
Emergency Services and Civil Defence	Safety of public and property, preparedness for emergency events
Gas Consumers	Delivery of a safe, reliable, efficient and sustainable supply of gas at minimum cost.
Gas Retailers	Delivery of a safe, reliable, efficient and sustainable supply of gas at minimum cost.

GasNet Board of Directors	GasNet's performance in relation to its statutory obligations and their responsibilities as the governing body of the Company on behalf of the shareholder.
GasNet Employees	Implement GasNet's policies and procedures to maximise the utilisation and performance of its assets.
GMS owners	Provision of gas supply from the outlet of the gas network that meets agreed performance criteria
Industry Regulators (Ministry of Economic Development and Gas Industry Company)	Statutory obligations, economic efficiency, safety of employees and the public, industry best practice
Insurers	GasNet responsibly manages its assets and risks
KiwiRail	Control and access to assets in the rail corridor
Landowners	Landowners with GasNet assets on their property have interests in safety, easements, access requirements and property maintenance.
NZTA (NZ Transport Agency)	Control and access to assets in the State Highway road corridor.
Property developers	Connection policies and costs are fair and that plans for network extensions work within their needs.
Public	Safety and information
Service Providers and Contractors	Support services
Shareholder	Achievement of an adequate return on investment being a good corporate citizen.
Transmission Company (Vector Limited)	To deliver gas to each of the five Sales Gates that meets the gas specification and is odorised.
Utility infrastructure asset owners	Identification of assets for both maintenance and development works, and to ensure that assets owned by GasNet and other asset owners that are in proximity, are managed with the knowledge and presence of the other.

GasNet engages with its stakeholders by a wide range of methods, both planned and ad hoc. One key area of interest on which GasNet has not proactively sought feedback, is with its consumers. Whilst GasNet has regular contact with consumers, for a variety of reasons in the course of operating and maintaining its assets, it has not actively pursued contact, leaving this to the consumer's retailer who in most instances insists on managing the relationship with their customer. With requirements under the new regulatory regime to provide more information to consumers and in recognising the potential value from proactive engagement, GasNet plans to work with the retailers on how GasNet goes about engaging with the consumers to achieve the desired outcome without overly burdening or confusing them.

2.6 Organisational Structure

GasNet's organisational structure is as shown below.



Organisational Structure (as at 28 April 2015)

2.7 Asset Management Accountabilities and Responsibilities

The asset management accountabilities and responsibilities for the key roles within GasNet are as follows:

Table 2: Accountabilities and Responsibilities

Role	Accountabilities and Responsibilities
Board of Directors	Accountable for the overall corporate governance of GasNet and to the shareholder for their actions. The governance role includes the setting of the Company's strategic direction. The Board reviews and approves the following asset management processes and plans: - Strategic Plan; - This Transitional Asset Management Plan; - Key Policies (health & safety, asset management, financial) - Annual operating and capital expenditure budgets; - Delegated financial authorities for GasNet management and other employees; - Major projects; - Risk Management Plan - Interim and Annual Reports; - Disclosure documents. The Board approves any operating expenditure purchase in excess of $50,000 and capital expenditure purchase in excess of $25,000.
General Manager	Accountable to the Board of Directors for recommending and implementing the strategic direction and for managing the day-to-day operations of GasNet.
Engineering Manager	Responsible to the General Manager for ensuring that the gas distribution (network and measurement) systems are designed, constructed, operated and maintained to ensure the safe, reliable and efficient transportation of gas through its systems. The Engineering Manager is also responsible for the Public Safety Management System under GasNet's NZS7901 certification.
Assistant Engineer	Responsible to the Engineering Manager for the technical, planning & operational requirements associated with the design, construction, operation and maintenance of GasNet's gas distribution (network and GMS) system assets.
Engineering Supervisor	Responsible to the Engineering Manager for overseeing the construction, operation and maintenance of new and existing assets, and for the day to day management of employees, contractors and other service providers working on the assets.
Asset Information Services Manager	Responsible to the General Manager for managing the records and systems associated with GasNet's network assets.
Finance & Administration Manager	Responsible to the General Manager for financial, administration and inventory functions of the company.
Technicians	Responsible to the Engineering Supervisor for completing the day to day construction, operation and maintenance activities on GasNet's gas distribution (network and GMS) system assets.

2.8 Asset Management Policy

GasNet's Asset Management Policy was last reviewed in early 2014 and a new policy document approved by the Board of Directors at its meeting on 24 June 2014. In the formulation of the new policy it was decided to adopt the Publicly Available Specification on Asset Management (PAS 55:2008) as the guiding standard given its widespread acceptance and its close alignment with the IDD regulatory requirements. Up until the introduction of the new policy the International Infrastructure Management Manual (IIMM) had been the primary reference standard. The Policy planned for review by December 2016 at which time consideration will be given on the suitability of PAS 55 following the introduction of the ISO 55000 series of Asset Management standards in 2014.

2.9 Strategy and Delivery

Whilst GasNet has yet to develop a formal documented AMP Strategy the absence of such a document should not reflect on the lack of strategic direction, with tangible evidence illustrated throughout the organisation and its documentation. There are many examples of strategies both past and present that GasNet has implemented (some of which are described in this AMP), typically spanning a number of years that relate to the strategic management of its network assets.

GasNet recognises the value and benefit in centralising its strategies into one document and plans to complete this task in parallel with the review of its Asset Management Policy in late 2016,

2.10 Overview of Systems and Data

GasNet's information systems are extensive both in terms of hardware and software applications.

Each GasNet employee is assigned a PC; a desktop for office based personnel and either a tablet or Toughbook device with remote access for field based personnel. All are connected to GasNet's IT network which is provided

under a Service Level Agreement (SLA) with the Whanganui District Council (WDC). Under the terms of the SLA the WDC provide the following hardware and software support services:

Hardware Support

- All infrastructure hardware up to and including the hub at the GasNet building
- Data storage and retrieval
- Printing to network printers
- Internal and external email access
- Internet access
- Data and file access security
- Physical server and data security
- Network infrastructure maintenance
- File and data backup and recovery
- VPN access for remote working

Software Support

- Microsoft suite of applications (Windows, Office Suite, Project, Visio, Internet Explorer, Publisher)
- Finance One
- ANZ Online Banking (software)
- Payglobal
- Web Marshal
- Virus protection

The WDC has provided IT network services to GasNet, and its predecessor and now shareholder Wanganui Gas Limited, for decades in a mutually beneficial arrangement, with the WDC as the "ultimate owner" having an interest in the Company and GasNet's need for IT services. The arrangement is a good fit for GasNet and provides access to services it may otherwise be unable to obtain, or that may not be cost effective for a smaller operation such as GasNet.

Based on this platform and with an extensive suite of software applications in current use GasNet considers it is well placed to provide the ever increasing demand for information, particularly in light of the new regulatory regime under which this AMP has been developed. Whilst GasNet is not presently able to provide the full suite of information required, or must extensively aggregate/disaggregate information currently held to satisfy the information requirements, it is nevertheless confident that by the end of the first regulatory period it will meet the requirements of a fully compliant Asset Management Plan.

The following table provides a summary of the main software applications currently in use.

Table 3 Software Applications

Application	Purpose
ArcGIS (Esri)	Capture, store, manipulate, analyse, manage, and present GasNet's network assets (GIS) in electronic format.
Finance One (Technology One)	Enterprise-wide control and integration of financial information including General and Job Ledger reporting, financial reporting and inventory (inward goods, stock issue, inventory management), with linkage to the payroll application PayGlobal.
Gas Registry (Gas Industry Company)	The central gas registry which stores and manages information to support the ready switching of gas customers between retailers on open access natural gas networks in New Zealand (GasNet, Powerco & Vector).
IntraMaps (Digital Mapping Solutions)	Web based viewing application providing office and field access to GIS records of the network, and ICP information uploaded from the MIDaS application.
FieldGO (previously KernMobile) (KernMobile NZ)	Web based works management and field data capture application.
MasterLink (Mercury)	Proprietary software associated with the Mercury Time of Use devices which log gas flow volume, pressure and temperature.
MIDaS (GasNet)	Developed in 2006 specifically for GasNet's the MIDaS, or "Meter and ICP Data System", application is the database of record for all ICP, retailer and consumer information, which is reconciled on a regular basis with the Gas Registry. All information that is attributed to an ICP is held in MIDaS. MIDaS also provides the throughput and associated billing information for invoicing retailers for network services provided.

Table 3 Software Applications (Continued)

Application	Purpose
OATIS (First Gas previously Vector)	OATIS which stands for "Open Access Transmission Information System", provides access to historic volume throughput information for each of GasNet's 5 Sales Gates, and can be selected in daily or hourly increments.
PayGlobal	Payroll services including timesheet entry and leave management, with linkage to Finance One.
PMAC (Technolog)	Proprietary software associated with the Cello devices which captures and manages the pressure and measurement data from remote monitoring sites (referred to in this AMP as Monitoring and Control Systems) in addition to over/under pressure alarms which are relayed to Technicians for first response.
Risk Manager (Impac)	Web based safety and environmental risk management application which captures stores and manages all risks identified by GasNet, integrated with incident investigation management and reporting.
Synergi Gas	Natural gas network modelling software to assist management of the gas distribution network through modelling of the network assets and application of pressure and flow scenarios to determine the effects on the network. The application provides information to make design, planning and operating decisions.
Intranet (SharePoint)	Central access point to the latest version of key Company documents (i.e. Policies, Procedures, Safe Work Procedures (SWP's), Plans, Registers, Forms, Material Specifications, Material Safety Data Sheets (MSDS), etc.).

In addition to a wealth of information contained within the various applications and databases referred to above, GasNet has an extension range of MS Excel spreadsheets and one MS Access database. Whilst ideally all data should be held within a managed software application, there are many instances where it is not cost effective to do so, typically due to the infrequency of use or the amount of information/data being held.

GasNet recognises that the IDD significantly increases the level of data capture, information management and disclosure, but considers itself well placed to ensure that during the balance of the initial regulatory period the requirements will be fully integrated into GasNet's information technology environment.

2.11 Overview of Asset Management Documentation, Controls and Review Processes

Much of GasNet's asset management documentation is integrated within other documentation and consequently there are few asset management specific documents. The recent certification of GasNet's Public Safety Management System (PSMS) is an example where the opportunity was taken to integrate asset management with the documentation developed for the safety management system, particularly relevant given many of the synergies between the requirements. The Risk Management Policy is a generic document encompassing all risks the Company either is or may be exposed to, as shown in the comprehensive risk matrix contained within the Policy.

With the rate that GasNet has recently developed documentation both in respect of its PSMS and asset management, the strategy has been to continue producing the required documents rather than reviewing existing documentation that may be due for review. Whilst not desirable, this approach has been necessary to ensure the required systems are in place within a reasonable time period.

With the significant increase in documentation over recent years it has been essential to ensure documents are subject to a control regime that guarantees the latest version of any document is available to those that need it, and also that it is clear which documents are in draft and which have been superseded. GasNet's Intranet has provided the primary access point for key GasNet documentation, with the latest versions once approved being posted on the site. In addition a suite of Registers, also available on the Intranet, provides the master list of documents and their status. A more robust form of document version control has been introduced, appropriately at the time the Policy Framework Policy was approved and introduced in January 2013, so that as each document is subject to its next review the version control will be applied.

3.0 OVERVIEW OF ASSETS

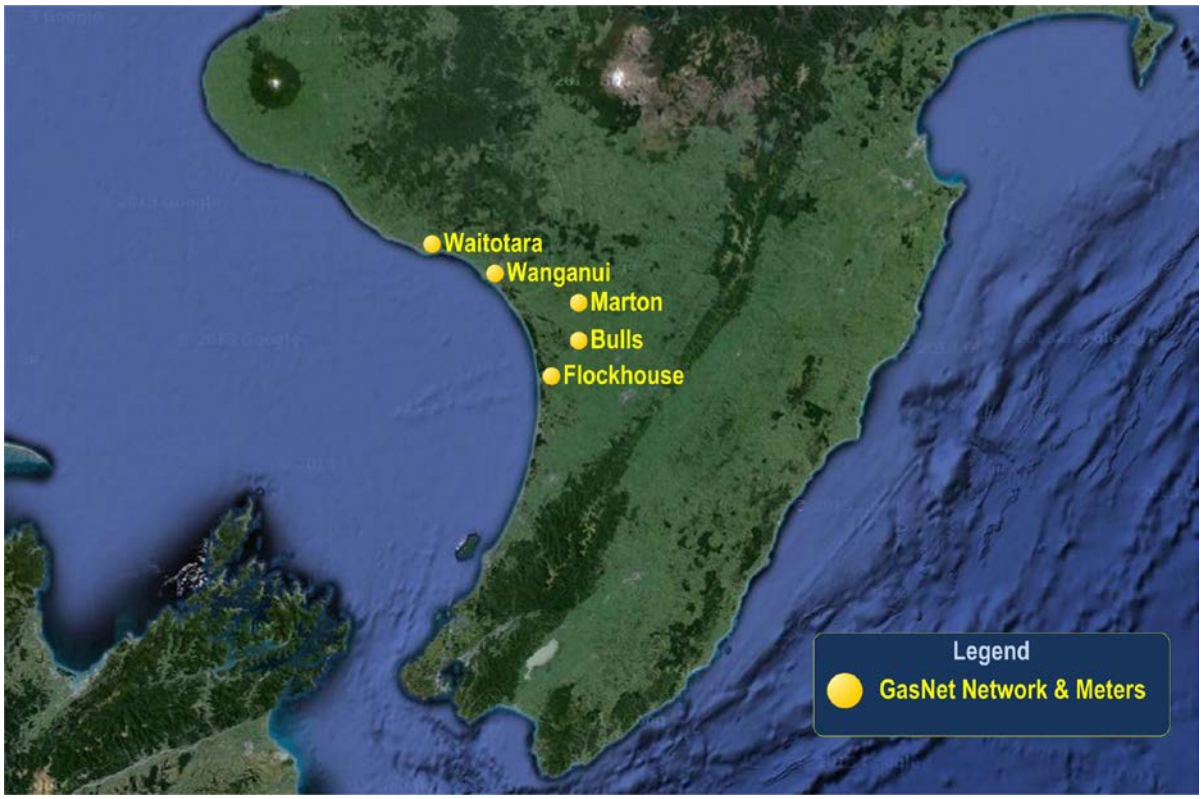
GasNet's origins go back to the reticulation of manufactured gas within the city of Whanganui. Over the following decades as the city developed and grew so too did the gas infrastructure until the availability of natural gas in the late 1960's displaced the need for manufactured gas. Although much of the original infrastructure has been replaced, there still remains approximately 47 km of low pressure metallic mains in operation and subject of an on-going mains replacement activity. All networks owned and operated by GasNet have been constructed to natural gas standards since 1970.

3.1 Gas Distribution Networks

3.1.1 Networks

GasNet owns and operates five discrete natural gas networks as shown below. Each network is connected by a Sales Gate station to the First Gas Limited (previously Vector Limited) owned transmission pipeline. The five networks are known as Whanganui, Marton, Bulls, Waitotara, and Flockhouse.

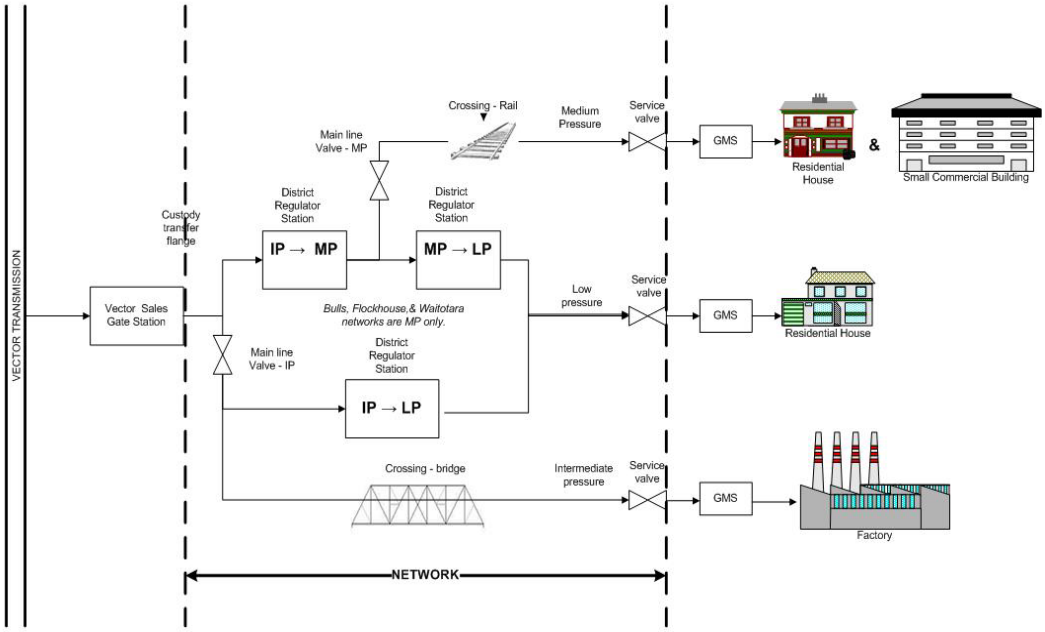
Figure 1: Network Locations



Each GasNet network begins at the designated outlet of each Sales Gate station and labelled 'custody transfer' point. Natural gas is transported through a combination of metallic and polyethylene pipes in the GasNet network, typically reducing in pressure to the consumer's property. The outlet of the gas service valve at a consumer's property represents the end of the network and the 'demarcation point' between network and Gas Measurement System (GMS) assets.

Figure 2 shows the configuration of a typical gas network indicating the demarcation points, the means of supplying gas at various pressures to industrial, commercial, and residential users, and the equipment required to operate the network.

Figure 2: General Network Layout



3.1.2 Network Assets

Each network comprises assets categorised as mains and services, district regulator stations, valves, and crossings, interconnected in a layout similar to that shown in Figure 2 above.

3.1.2.1 Mains

Mains are larger sized pipes which are used to transport volumes of gas from one point on the network to another for further distribution and use. They are principally installed underground, are constructed of either metallic or polyethylene material, and transport gas at intermediate (IP), medium (MP), and low (LP) pressures.

IP mains are all steel construction while MP mains are generally constructed of polyethylene material. LP mains are a mix of materials including polyethylene and various metallic materials (welded or riveted steels, and cast or wrought irons).

3.1.2.2 Services

Services are smaller sized pipes which are used to transport volumes of gas from a main to a GMS installed typically on the consumer's property. Services are principally installed underground, are constructed of either metallic or polyethylene material, and transport gas at intermediate (IP), medium (MP), and low (LP) pressures.

IP services are all steel construction while MP services are generally constructed of polyethylene material. LP services are a mix of materials including polyethylene and various metallic materials.

3.1.2.3 District Regulator Stations (DRS)

District Regulator Stations reduce and regulate the gas to suitable pressures to enable distribution across large areas. DRS are generally constructed of steel components and reduce pressures from IP to MP and/or LP, and MP to LP pressures. The district regulator stations are categorised as DRS or mini DRS. Mini DRS generally supply only a limited number of consumers and are typically installed where the main fronting the properties is not suitable for individual service connections.

3.1.2.4 Main Line Valves (MLV)

Main line valves are installed in strategic locations to allow isolation of sections of the network for public safety in the event of an emergency, to isolate specific network assets such as DRS, to facilitate maintenance, or to allow further connection. MLVs are installed underground and in most cases are accessed via a chamber and lid through which a valve key may be inserted to operate the valve. There are three types of MLV: Polyethylene ball valves, flanged steel ball valves, and flanged steel or iron plug valves.

3.1.2.5 Crossings

A Crossing refers to any section of main or service that passes under or over an area of special interest that has a different risk profile to that of other mains or services located in areas of a more general nature. Crossings include all mains that pass under railway lines or over rivers and streams, are mounted on bridge superstructures, or otherwise supported above the ground.

3.1.2.6 Corrosion Prevention

A range of proprietary coating systems provide the primary means of protecting steel pipes and fittings from corrosion both above and below ground.

A secondary protection system for all underground IP and MP steel mains and services, known as Cathodic Protection (CP), is also installed which uses either an impressed current system, sacrificial anode system, or combination of both. Monitoring test points are positioned at strategic locations along the mains and at District Regulator Stations to enable measurement of the level of protection at that location. Routine CP monitoring checks are performed to confirm adequate levels of protection are maintained.

3.1.2.7 Monitoring and Control Systems

At various strategic locations across the IP, MP, and LP networks, Monitoring and Control Systems are installed to monitor and record network data. Generally a Monitoring and Control System utilises modem and internet connection to transmit time stamped data to a central collection point for analysis. Typically the Monitoring and Control System has the ability to transmit network alarms real time to operational personnel for action.

In addition to pressure and voltage Monitoring and Control Systems, GasNet has included in this asset category its one Network Metering Station located in Whanganui that is used to measure all gas entering a discrete area of residential housing. The Network Metering Station consists of a meter, associated data capture device, remote access telemetry and necessary valving, pipe work, etc.

Information captured from all Monitoring and Control System units can also be used in throughput modelling, consumption predictions, and as a valuable input to network design.

3.1.3 Physical Statistics

Below is a summary of GasNet's network assets covered by the AMP.

Table 4: Network Assets Physical Statistics

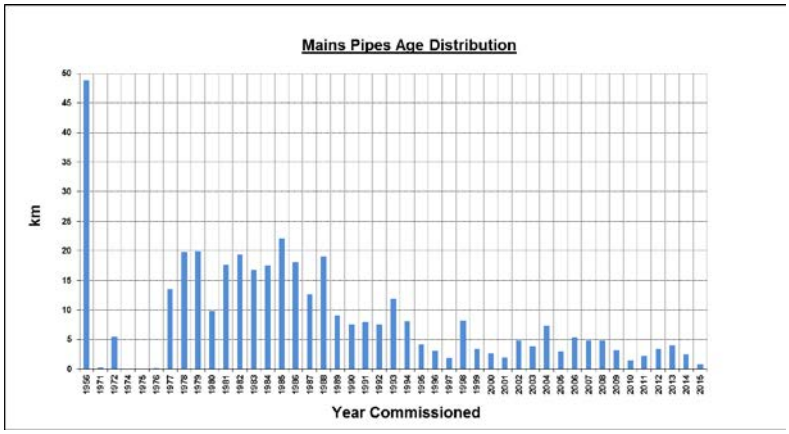
Asset	Number	Length (m)
Mains	-	390,151
Services	12,841	268,455
District Regulator Stations	15	-
Mini District Regulator Stations	9	-
Main Line Valves	172	-
Crossings	56	-
Cathodic Protection	2	-
Monitoring & Control Systems	27	-

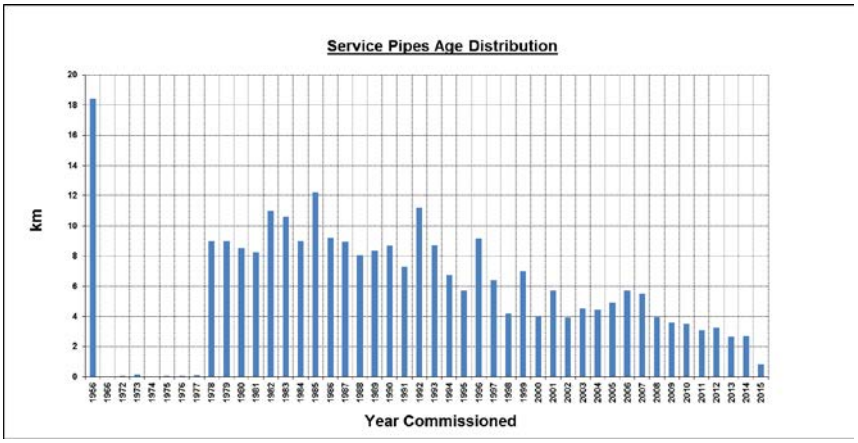
3.1.4 Asset Age Profiles

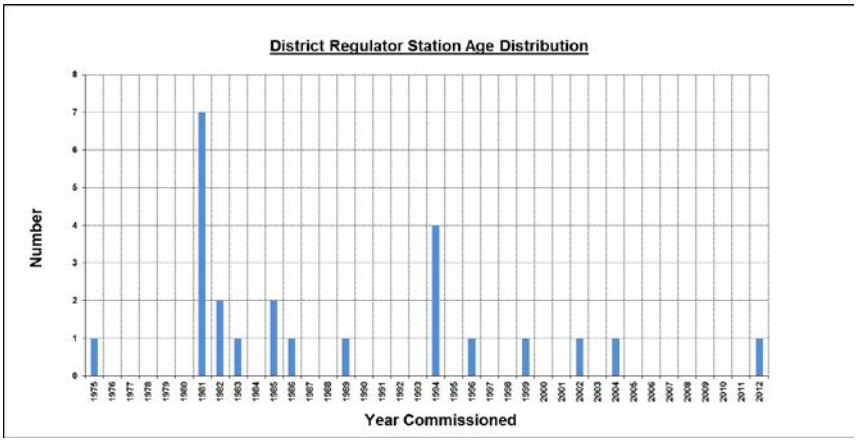
The following profiles are extracted from the most recent data sets available at the time of preparing this AMP. Assets which pre-date natural gas are populated with a default date of 1956 since identifying installation and commissioning dates for assets of that era has proven problematic due to insufficient records.

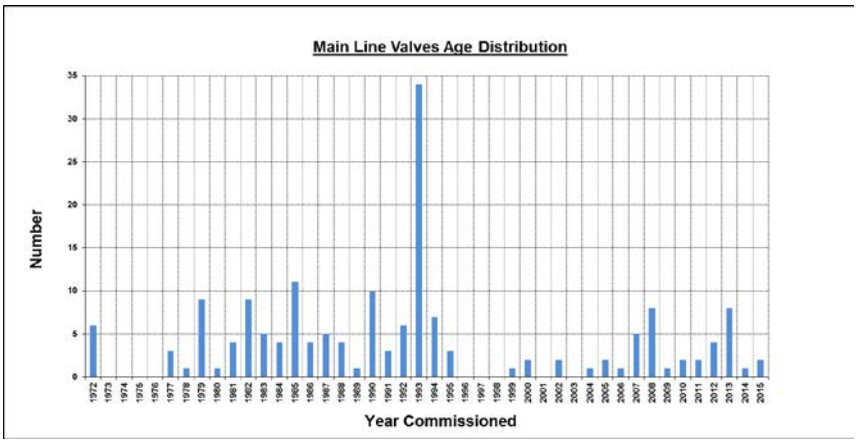
In respect of data accuracy for the pipe assets (mains, services, and crossings) it is judged that 50% of the installation dates are based on known information, while 50% are unconfirmed and based on assumptions made from other related records, or determined by a suite of rules.

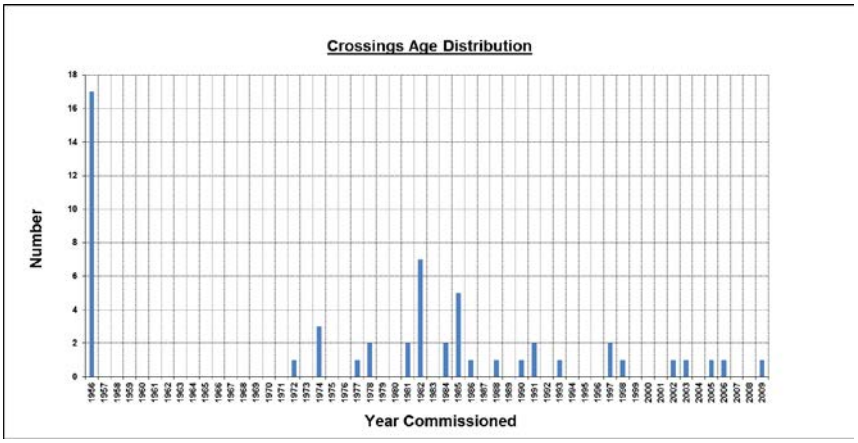
In many instances the service pipe to a consumer's premise comprises multiple sections of pipe that are not necessarily of the same installation date. The age profile then for services reflects the length of each service pipe component, rather than the number of services.




Service Pipes Age Distribution
km
Year Commissioned


District Regulator Station Age Distribution
Number
Year Commissioned


Main Line Valves Age Distribution
Number
Year Commissioned

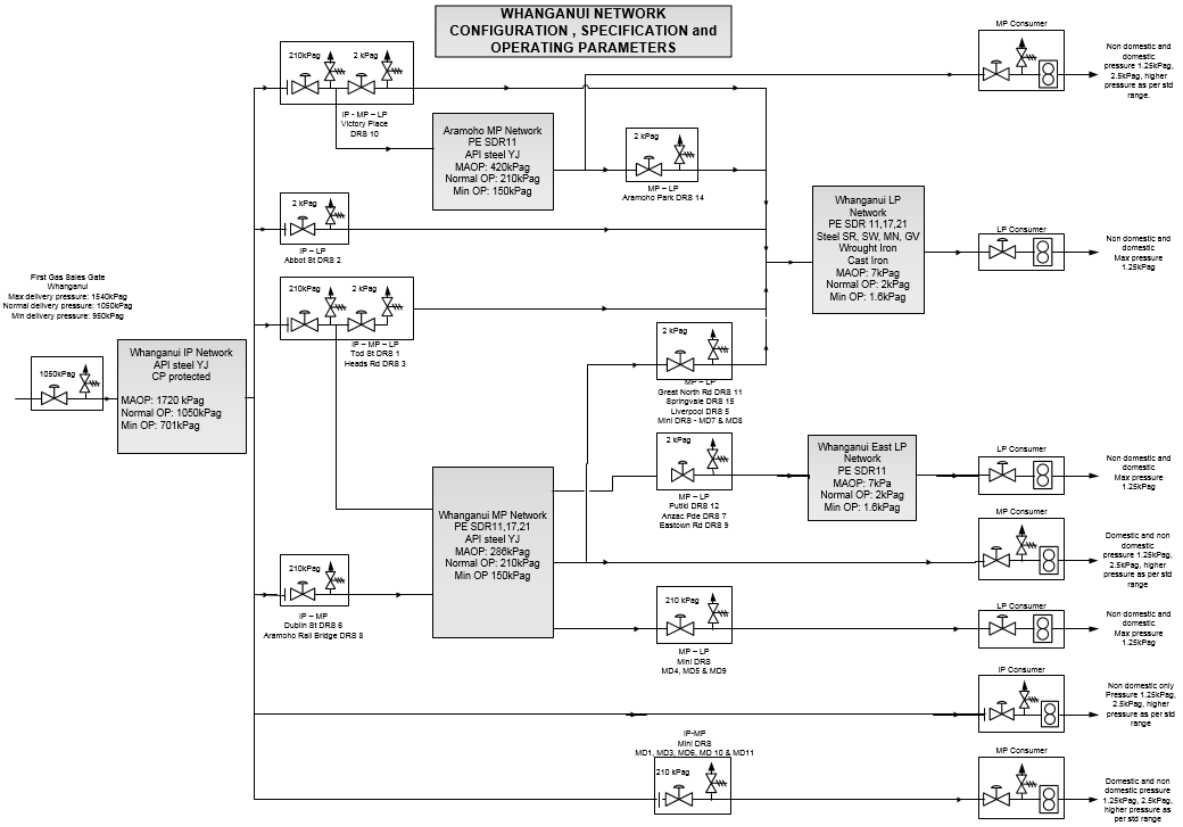

Crossings Age Distribution
Number
Year Commissioned

4.0 ASSETS COVERED

4.1 Whanganui Network

The Whanganui network transports natural gas at intermediate (IP), medium (MP), and low (LP) pressures. Figure 3 is illustrative of the configuration, specification and operating parameters of this network.

Figure 3: Whanganui Network Configuration



4.1.1 Intermediate Pressure (IP) System

The IP system shown in Figure 4 below is generally designed as a single arterial pipeline from the Sales Gate station to Castlecliff in the west and to Aramoho in the north, with reinforcement looping of the industrial areas. It is currently operating at 1050 kPag.

The system was originally designed to supply major industrial consumers and DRS were located at points along the pipeline matching adverse demand requirements. As looping of system sections exists to reinforce industrial demands, the balance of the system is reliant on the integrity of these sections of the IP mains to provide continuous supply.

4.1.1.1 IP Summary Physical Statistics

Intermediate pressure system physical statistics are summarised in Table 5 below.

Table 5: Whanganui IP System Physical Statistics

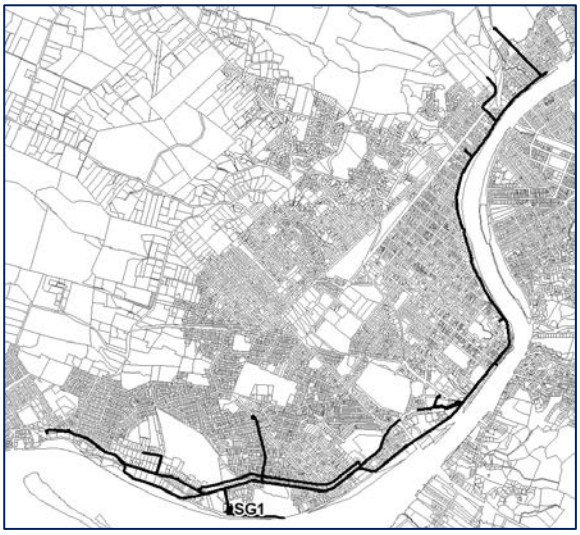
Asset	Number	Length (m)
Mains	-	20,086
Services	35	1,082
District Regulator Stations	6	-
Mini District Regulator Stations	3	-
Main Line Valves	37	-
Crossings	15	-
Cathodic Protection	1	-
Monitoring & Control Systems	7	-

4.1.1.2 IP Mains

The IP mains are constructed of steel API line pipe coated with yellow coloured polyethylene material (known as yellow jacket pipe). The steel pipe is weld jointed at 6 or 12 metre intervals, and terminates at stations or other equipment with welded flanges. The IP mains are generally installed underground by open trenching method and are fully electrically insulated.

In Figure 4, the IP mains are shown as a black line. The Whanganui Sales Gate station is shown as "SG1".

Figure 4: Whanganui Intermediate Pressure System



Following the introduction of natural gas to Whanganui in 1973, the IP system was constructed. Reinforcement looping of the network was constructed in the early 1980s during a period of significant network growth.

4.1.1.3 IP Services

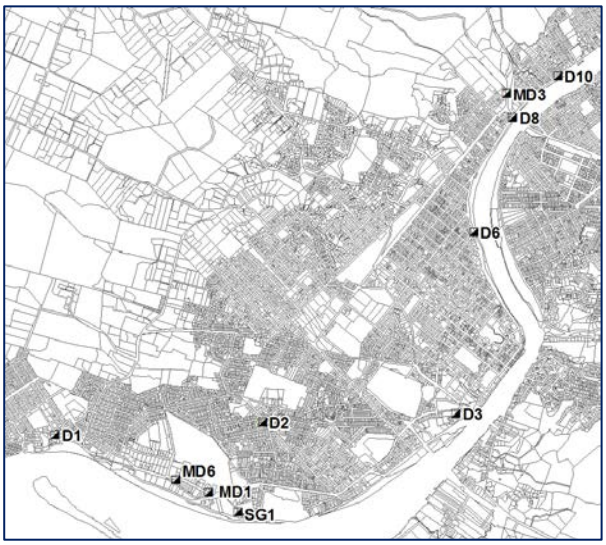
The IP services are connected to mains with a variety of connections and terminate above ground with a welded flange. All IP services are electrically insulated and isolated from the main and from the GMS.

4.1.1.4 IP District Regulator Stations (DRS)

DRS configurations include twin stream active/monitor regulation, single or twin stream active/monitor, worker/standby stream, and single stream worker only. The mini DRS are generally configured as single stream worker only.

In Figure 5, DRS are shown prefixed with a "D" and the smaller mini DRS with "MD". The Sales Gate station is shown as "SG1". Each location is marked with an icon.

Figure 5: Whanganui Intermediate Pressure DRS



4.1.1.5 IP Main Line Valves (MLV)

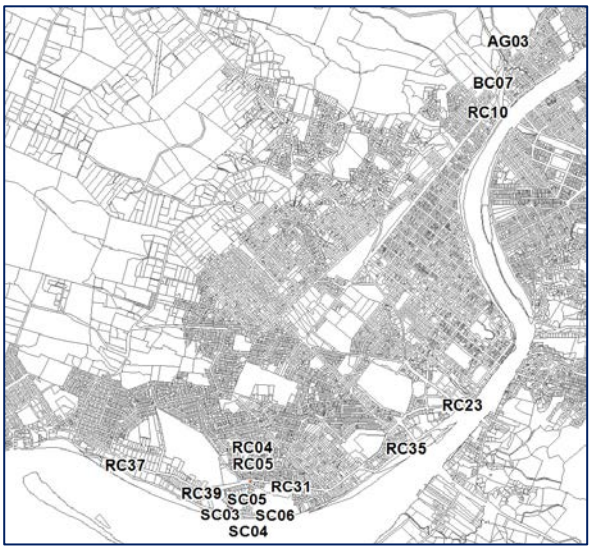
MLVs are used to split sections of looped network, isolate strategic assets such as crossings and DRS, and isolate branch connections off the main arterial pipeline. MLVs are located principally underground, in pits or chambers that are accessible from the surface for insertion of valve keys to enable their operation. IP MLVs are flanged ball or plug types constructed of steel or iron material.

4.1.1.6 IP Crossings

Crossing types include bridge, stream, aboveground and rail. Each type of crossing is constructed to meet the individual specific risk profile of the environment in which the gas asset is crossing. IP crossing construction can include casing and vents, roller support mounts, thermal expansion joints, and other specialist fittings.

In Figure 6, bridge crossings are shown prefixed with “BC”, stream crossings with “SC”; above ground crossings with “AG”, and rail crossings with “RC”.

Figure 6: Whanganui Intermediate Pressure Crossings



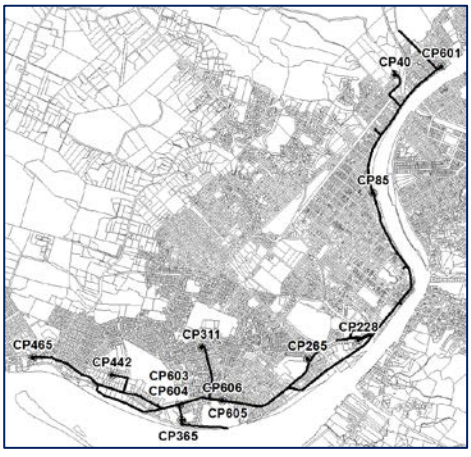
4.1.1.7 IP Corrosion Prevention

The Whanganui Cathodic Protection system comprises a combination of impressed current and sacrificial anode systems. The IP mains constructed in the 1970’s when natural gas was first introduced to Whanganui were protected by sacrificial anodes installed at regular intervals along the buried steel mains, each with its own test point at ground level for monitoring purposes.

In the mid 1980’s a new impressed current system was installed adjacent to the Sales Gate comprising a rectifier supplied from the local electricity network and a sacrificial anode bed installed in the Whanganui River bed. Whilst for a variety of reasons a number of the original sacrificial anodes have been permanently disconnected from the system over the years, a number still remain in service operating in conjunction with the impressed current system.

In Figure 7, cathodic protection monitoring test points are shown prefixed with “CP” and the IP mains shown as a black line.

Figure 7: Whanganui IP Cathodic Protection Test Points



4.1.1.8 IP Monitoring and Control Systems

IP monitoring is a part of the wider network electronic pressure and CP monitoring system. Operational conditions are monitored at various points on the IP system and data is sent to a central monitoring station daily. The equipment is configured to monitor for critical minimum IP system parameters and activate alarms which are transmitted to monitoring software that notifies operational personnel. GasNet has installed pressure monitoring telemetry at a number of large demand sites.

4.1.2 Medium Pressure (MP) System

The MP system shown in Figure 8. below is generally designed in a grid configuration with mains connected wherever pipes cross. The system is constructed predominantly of polyethylene with four sections of API steel, being designed with a maximum allowable operating pressure of 286 kPag and is operating at 210 kPag.

Construction of the MP system commenced in 1977 with API steel mains installed between DRS. Further development of the MP system brought the benefits of higher pressure distribution. Much of the MP system has been constructed by inserting the newer PE pipe into the older (pre natural gas) metallic pipes.

In 1989 a decision was taken to cease refurbishment (reconditioning) of LP metallic mains and instead insert them with polyethylene pipe and thereby be able to increase the operating pressure to MP. Alternatively GasNet would replace them with polyethylene pipe of the same size and continue to operate them at LP.

4.1.2.1 MP Summary Physical Statistics

Medium pressure system statistics are summarised in Table 6 below.

Table 6: Whanganui MP System Physical Statistics

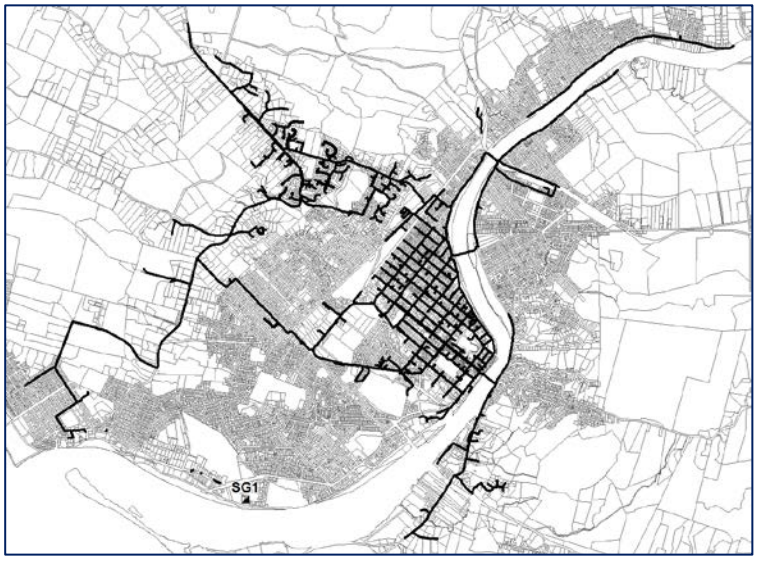
Asset	Number	Length (m)
Mains	-	100,465
Services	2,608	54,350
District Regulator Stations	7	-
Mini District Regulator Stations	6	-
Main Line Valves	104	-
Crossings	11	-
Cathodic Protection	1	-
Monitoring & Control Systems	11	-

4.1.2.2 MP Mains

The MP mains are almost entirely constructed of Polyethylene pipe with a small amount of API line pipe coated with yellow jacket. The first polyethylene pipe installed was high density polyethylene, (HDPE) and it continued to be installed until the introduction of medium density polyethylene (MDPE). Thereafter all further construction used MDPE as this proved to be a more durable pipe material.

In Figure 8, the MP mains are shown as a black line. The Sales Gate station is shown as “SG1”. Some lengths of MP mains appear separated from the bulk of the mains as they are fed from a mini-DRS (not shown).

Figure 8: Whanganui MP System



4.1.2.3 MP Services

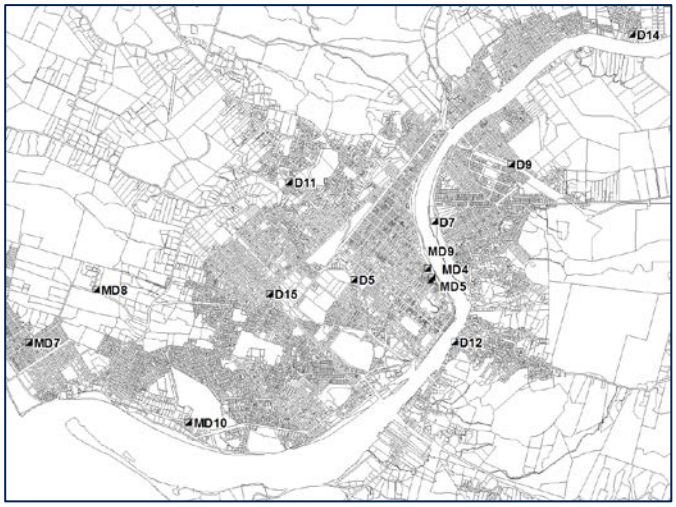
MP services are constructed of predominantly polyethylene material installed directly or inserted in older metallic type service pipes. The majority of MP services to residential properties are 25 mm internal diameter.

4.1.2.4 MP District Regulator Stations (DRS)

DRS configurations include twin stream active/monitor regulation, single or twin stream active/monitor, worker/standby stream, and single stream worker only. The mini DRS are generally configured as single stream worker only.

In Figure 9, full sized DRS are shown prefixed with a "D" and the smaller mini DRS with "MD". Each location is marked with an icon.

Figure 9: Whanganui Medium Pressure DRS



4.1.2.5 MP Main Line Valves (MLV)

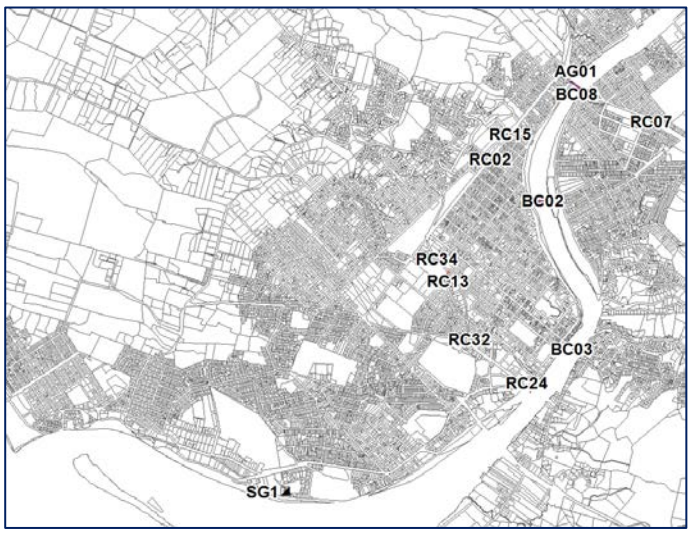
MLVs are used to split sections of the central business district, isolate strategic assets such as crossings and DRS, and isolate branch connections off the main arterial pipeline. MLVs are located principally underground, in pits or chambers that are accessible from the surface for insertion of a valve key to enable their operation. MP MLVs are ball or plug types constructed of steel or Polyethylene material.

4.1.2.6 MP Crossings

Crossing types include bridge, stream, aboveground and rail. Each type of crossing is constructed to meet the individual specific risk profile of the environment in which the gas asset is crossing. MP crossing construction can include casing and vents, roller support mounts, thermal expansion joints and other specialist fittings.

In Figure 10, bridge crossings are shown prefixed with "BC" and rail crossings with "RC". The Sales Gate station is shown as "SG1".

Figure 10: Whanganui Medium Pressure Crossings

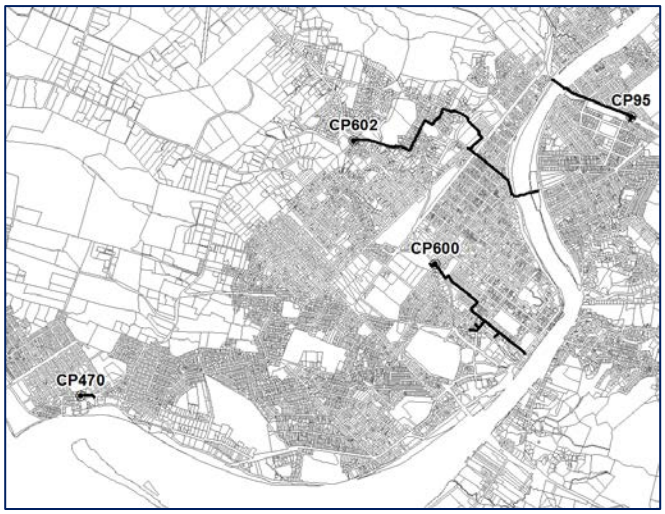


4.1.2.7 MP Corrosion Prevention

Cathodic Protection is applied on all underground metallic MP mains pipes.

In Figure 11, Cathodic Protection monitoring test points are shown prefixed with “CP” followed by a number and the MP metallic mains are shown as a black line.

Figure 11: Whanganui MP CP Test Points



4.1.2.8 MP Monitoring and Control Systems

MP network monitoring is a part of the wider network electronic pressure monitoring system. Operational conditions are monitored at various points on the MP system and data is sent to a central monitoring station daily. The equipment is configured to monitor critical minimum MP system parameters and activate alarms which are transmitted to monitoring software that notifies operational personnel. GasNet has installed pressure alarm telemetry at a number of large demand sites which are also monitored.

GasNet has included in this asset category its one dedicated network Monitoring Station that meters and records the volume throughput into a discrete section of the network made up of residential consumers only. The data provided by the station is transmitted to GasNet monitoring station daily for analysis.

4.1.3 Low Pressure (LP) System

The LP network shown in Figure 12 below is generally constructed in a grid configuration, with LP mains connected wherever pipes cross. The system pre-dates the introduction of natural gas and includes mains and services constructed of many different materials. The system has a design maximum allowable operating pressure of 7 kPag and is operating at 2 kPag.

4.1.3.1 LP Summary Physical Statistics

LP system statistics are summarised in Table 6 below.

Table 7: Whanganui LP System Physical Statistics

Asset	Number	Length (m)
Mains	-	220,864
Services	9,391	190,508
District Regulator Stations	-	-
Main Line Valves	15	-
Crossings	15	-
Cathodic Protection	-	-
Monitoring & Control Systems	17	-

4.1.3.2 LP Mains

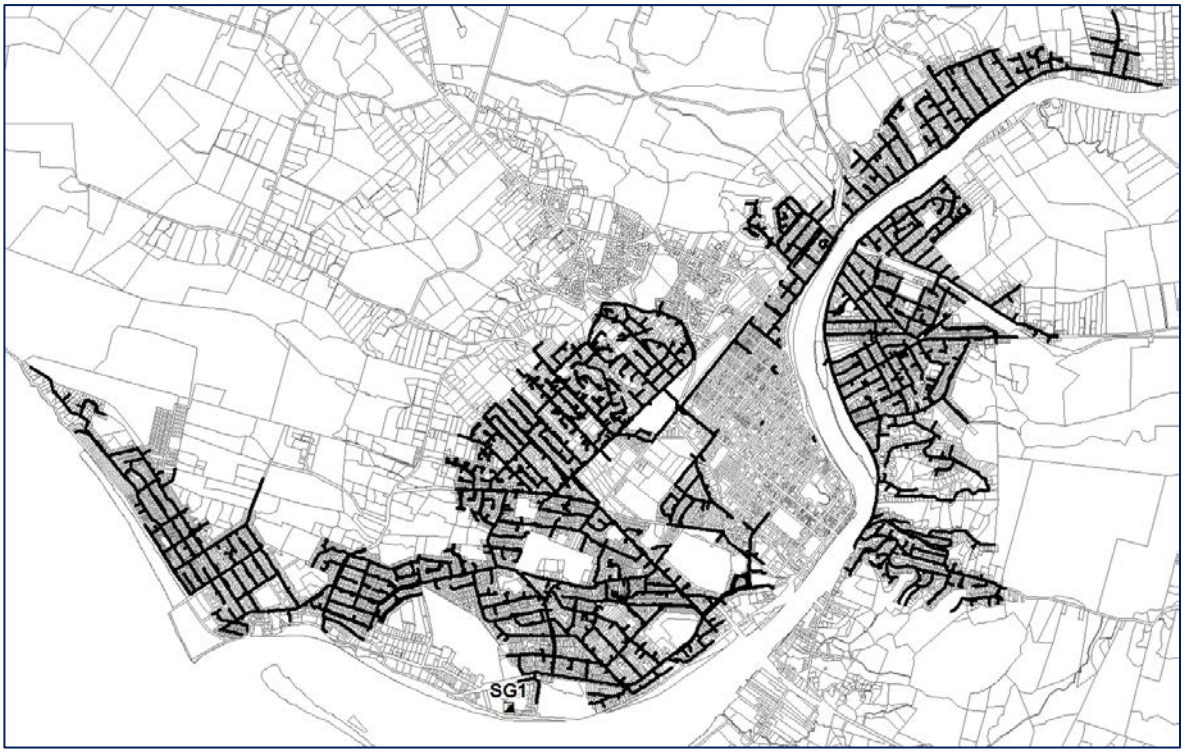
With the introduction of polyethylene pipe, rehabilitation projects began replacing the metal mains and services with PE. Network development plans of the time were to construct new polyethylene mains and services to medium pressure construction standards but remain on low pressure and when significant areas had been completed, to up-rate the operating pressure to medium pressures.

In the early 1990s GasNet embarked on a project involving insertion of the original larger diameter LP mains and services with smaller diameter PE pipes. The immediate benefits of the higher (MP) pressure were realised and

the cost of construction was reduced. This method became the favoured method for future mains rehabilitation for the areas where MP was available and it could be completed without compromising the LP network.

In Figure 12, the LP mains are shown as a black line. The Sales Gate station is shown as "SG1". Some lengths of LP mains appear separated from the bulk of the mains as they are fed from a mini-DRS (not shown).

Figure 12: Whanganui Low Pressure System



Older, pre-natural gas LP mains were constructed of a variety of metallic materials such as cast and wrought irons and various steels manufactured in lengths from 9 feet to 30 feet depending on the material. These LP mains were installed to levels that allowed condensates within the coal gas to drain to a low point where a siphon was installed to collect the liquid which could later be pumped out. The mains were all mechanically jointed using the bell and spigot method for cast iron mains and compression couplings for other types.

LP cast iron pipes are generally in reasonable condition for their age, with many pipe to pipe joints having been encapsulated over the years to prevent leakage. An extensive programme of joint encapsulation was undertaken immediately following the introduction of the dry natural gas to the manufactured gas network in the early 1970's, with initial leakage reported at 82% UFG (Unaccounted for Gas). The bell and spigot joints on the cast iron mains contained a hemp seal which relied on the wet manufactured gas to keep the joint gas tight. The unfortunate consequence of introducing the dry natural gas was that many of the joints dried out and with pipe sections being typically around 3m in length, leakage became a significant issue until it came under control a few years later. Joint leakage is less of a concern nowadays and whilst it does occur from time to time, it does not prevent the safe on-going operation of the LP cast iron network.

The other LP pre-natural gas metallic mains comprise a range of unwrapped bare steel, galvanised and wrought iron materials which are in a range of conditions and are being progressively replaced.

Table 8: Whanganui LP Mains by Material

LP Mains Material	Length (m)	% of Total
PRE-NATURAL GAS (Original manufactured gas network)		
Cast Iron	16,609	7.52%
Galvanised	8,143	3.69%
Mannesman Steel	10,006	4.53%
Spiral Riveted	3,435	1.56%
Steel	2,169	0.98%
Spiral Welded	6,553	2.97%
Wrought Iron	620	0.28%

POST-NATURAL GAS (Built to modern day standards)		
Polyethylene	165,924	75.12%
API Steel (PE Coated)	7,405	3.35%
Total	220,864	100.0%

4.1.3.3 LP Services

LP services supplying gas from the LP mains to the consumer's property are constructed of either metallic or polyethylene material. Older services were constructed of various steels and irons and pre date natural gas. Since the introduction of polyethylene, it has been used with few exceptions for LP services.

LP service pipes are typically 25 mm internal diameter for standard service connections but for longer length or higher capacity services, larger diameter pipes are used.

4.1.3.4 LP Main Line Valves (MLV)

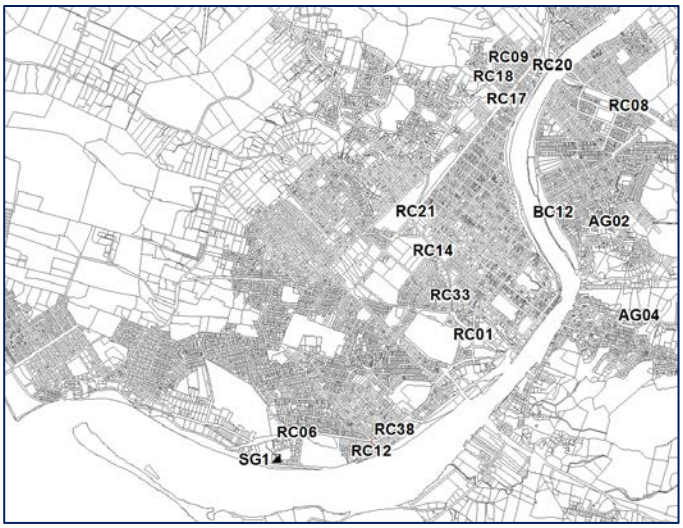
MLVs are utilised for the isolation of strategic assets such as crossings and DRS and are located principally underground, in pits or chambers that are accessible from the surface for insertion of a valve key to enable their operation. MLVs are ball or plug types constructed of steel or Polyethylene material.

4.1.3.5 LP Crossings

Crossing types include bridge, stream, aboveground and rail. Each type of crossing is constructed to meet the individual specific risk profile of the environment in which the gas asset is crossing. LP crossing construction can include casing and vents, roller support mounts, thermal expansion joints and other specialist fittings.

In Figure 13, Bridge crossings are shown prefixed with "BC", above ground crossings with "AG" and rail crossings with "RC". The Sales Gate station is shown as "SG1".

Figure 13: Whanganui Low Pressure Crossings



4.1.3.6 LP Corrosion Prevention

There is no Cathodic Protection applied to LP assets. For discussion of other corrosion prevention methods please refer to section 3.1.2.6 above.

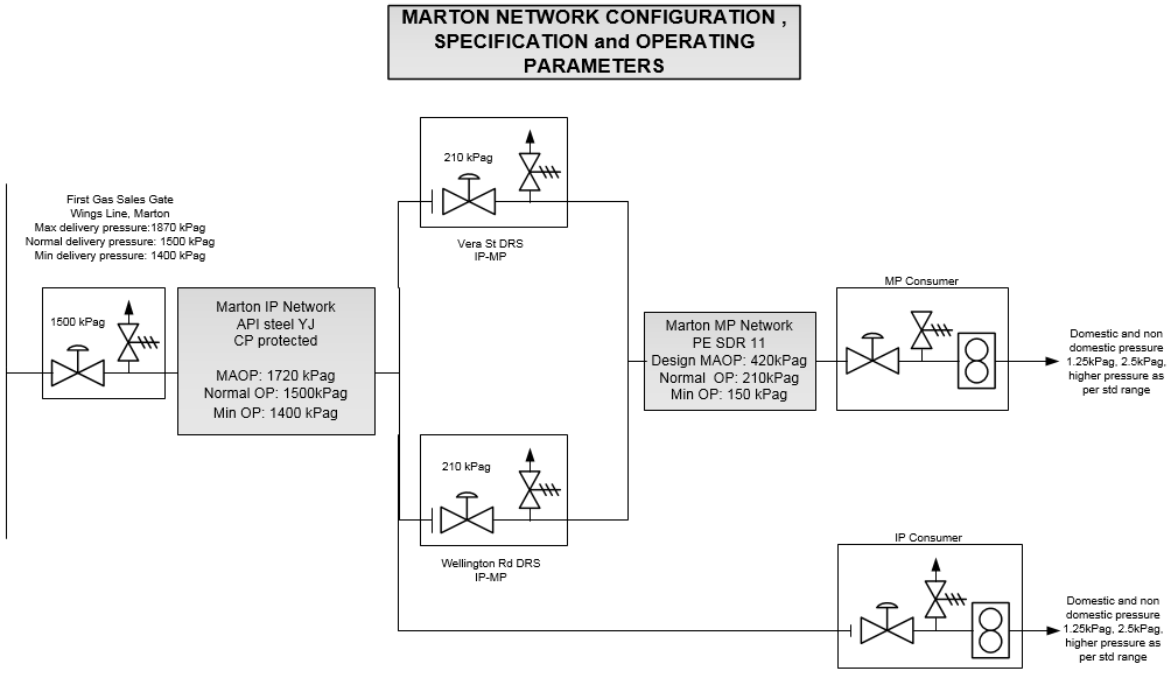
4.1.3.7 LP Monitoring and Control Systems

LP network monitoring is a part of the wider network electronic pressure monitoring system. Operational conditions are monitored at various points on the LP system and data is sent to a central monitoring station daily. The equipment is configured to monitor critical minimum LP system parameters and activate alarms which are transmitted to monitoring software that notifies operational personnel.

4.2 Marton Network

The Marton network transports natural gas at intermediate (IP) and medium (MP) pressures. Figure 14 is illustrative of the configuration, specification and operating parameters of this network.

Figure 14: Marton Network Configuration



4.2.1 Intermediate Pressure (IP) System

4.2.1.1 IP Summary Physical Statistics

Marton IP system statistics are summarised in Table 9 below.

Table 9: **Marton IP System Physical Statistics**

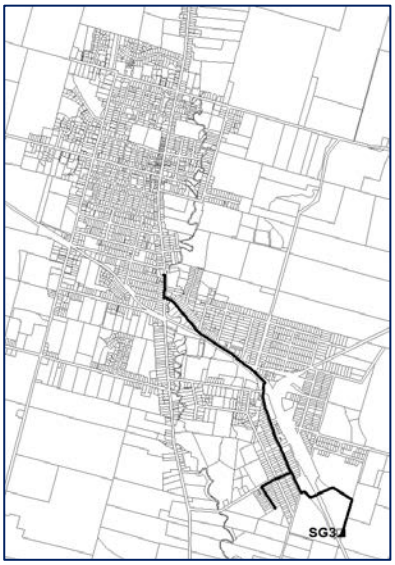
Asset	Number	Length (m)
Mains	-	3,344
Services	3	56
District Regulator Stations	2	-
Main Line Valves	5	-
Crossings	5	-
Cathodic Protection	1	-
Monitoring & Control Systems	2	-

4.2.1.2 IP Mains

The IP system shown in Figure 15. below, is generally designed as an arterial pipeline from the Sales Gate station in Wings Line to Wellington Road. The IP system constructed from 1982 onwards, is yellow jacket API steel pipe designed for a maximum allowable pressure of 1720 kPag and is operating at 1500 kPag.

In Figure 15, the IP mains are shown as a black line. The Sales Gate station is shown as “SG3”.

Figure 15: Marton IP System



The IP system was originally constructed to supply industrial consumers, and two DRS were strategically located at points along the pipeline.

4.2.1.3 IP Services

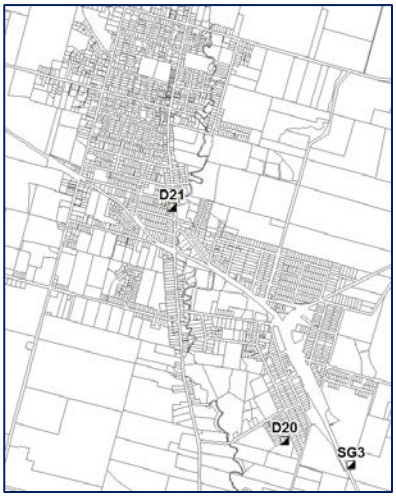
All services are constructed of yellow jacket API line pipe and connected to mains with service saddle connections and terminate above ground with a welded flange. These services are electrically insulated from the main and from the station (DRS or GMS) pipe work to which they interface.

4.2.1.4 IP District Regulator Stations (DRS)

There are two DRS that are located close to the downstream extremities of the IP network and reduce the IP to MP for further reticulation within Marton. The DRS are constructed of steel material and are of twin stream configuration providing backup in the event of active stream equipment failure.

In Figure 16, full sized DRS are shown prefixed with a "D". The Sales Gate station is shown as "SG3".

Figure 16: Marton IP DRS



4.2.1.5 IP Main Line Valves (MLV)

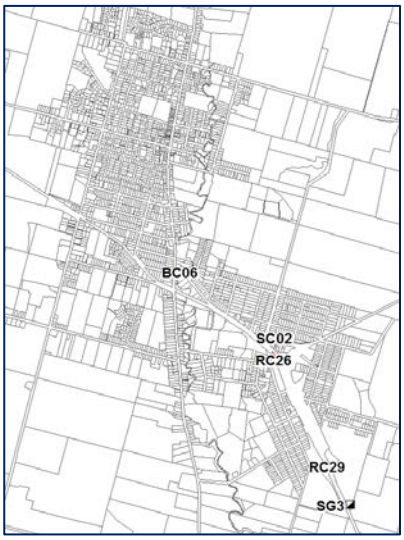
MLVs are used to split sections of looped network, isolate strategic assets such as crossings and DRS, and isolate branch connections off the main arterial pipeline. MLVs are located principally underground, in pits or chambers that are accessible from the surface for insertion of a valve key to enable their operation. IP MLVs are flanged ball or plug types constructed of steel or iron material.

4.2.1.6 IP Crossings

Crossing types include bridge, stream, aboveground, and rail crossings. Each type of crossing is constructed to meet the individual specific risk profile of the environment in which the gas asset is crossing. IP crossing construction can include casing and vents, roller support mounts, thermal expansion joints and other specialist fittings.

In Figure 17, bridge crossings are shown prefixed with a "BC", Stream Crossings with "SC", and rail crossings with "RC". The Sales Gate station is shown as "SG3".

Figure 17: Marton Intermediate Pressure Crossings

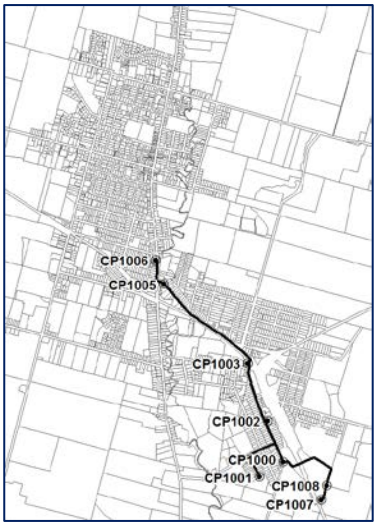


4.2.1.7 IP Corrosion Prevention

Cathodic Protection is applied using sacrificial anodes installed along its route.

In Figure 18, Cathodic Protection monitoring test points are shown prefixed with a "CP" followed by a number and the IP mains are shown as a black line.

Figure 18: Marton IP CP Test Points



4.2.1.8 IP Monitoring and Control Systems

IP monitoring is a part of the wider network electronic pressure and CP monitoring system. Operational conditions are monitored at various points on the IP system and data is sent to a central monitoring station daily. The equipment is configured to monitor for critical minimum IP system parameters and activate alarms which are transmitted to monitoring software that notifies operational personnel. GasNet has installed pressure alarm monitoring at a number of large demand sites.

4.2.2 Medium Pressure (MP) System

4.2.2.1 MP Summary Physical Statistics

Marton MP system statistics are summarised in Table 10 below.

Table 10: Marton MP System Physical Statistics

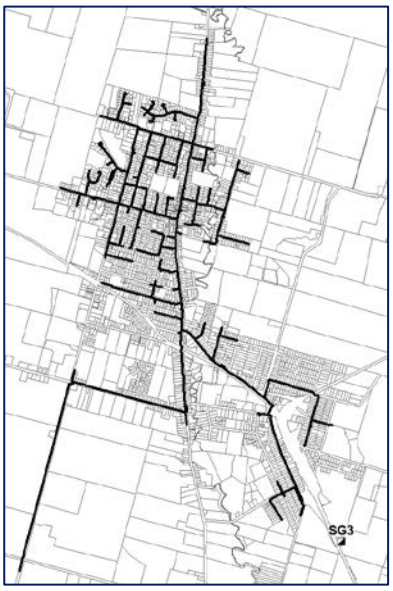
Asset	Number	Length (m)
Mains	-	25,941
Services	637	15,451
District Regulator Stations	-	-
Main Line Valves	9	-
Crossings	8	-
Cathodic Protection	-	-
Monitoring & Control Systems	2	-

4.2.2.2 MP Mains

The MP network in Marton is constructed of polyethylene mains interconnected to a grid configuration. The mains have design maximum allowable pressure of 420 kPag and are operating at 210 kPag

In Figure 19, the MP mains are shown as a black line. The Sales Gate station is shown as “SG3”.

Figure 19: Marton MP System



4.2.2.3 MP Services

MP services are constructed of predominantly Polyethylene material installed directly in the ground by open trench method or drilling methods. MP services are constructed with a design MAOP of 420 kPag and are operating at 210 kPag. MP services to residential properties are 10 mm or 25 mm diameter while non-domestic range between 10-50 mm. MP services are connected to the Polyethylene main by service saddle and terminate at the service riser with a mechanical crimp fitting.

4.2.2.4 MP Main Line Valves (MLV)

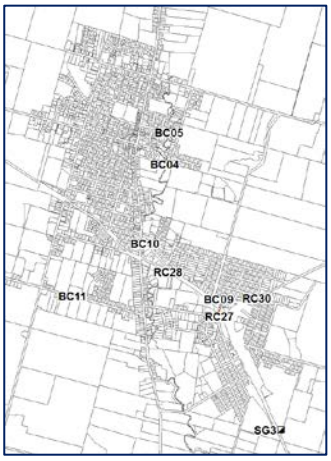
MLVs are used to split sections of the network, isolate strategic assets such as crossings and DRS, and isolate branch connections off the main arterial pipeline. MLVs are located principally underground, in pits or chambers that are accessible from the surface for insertion of a valve key to enable their operation. MP MLV are ball or plug types constructed of steel or Polyethylene material.

4.2.2.5 MP Crossings

Crossing types include bridge, stream, aboveground and rail. Each type of crossing is constructed to meet the individual specific risk profile of the environment in which the gas asset is crossing. MP crossing construction can include casing and vents, roller support mounts, thermal expansion joints and other specialist fittings.

In Figure 20, bridge crossings are shown prefixed with a “BC” and rail crossings as “RC”. The Sales Gate station is shown as “SG3”.

Figure 20: Marton Medium Pressure Crossings



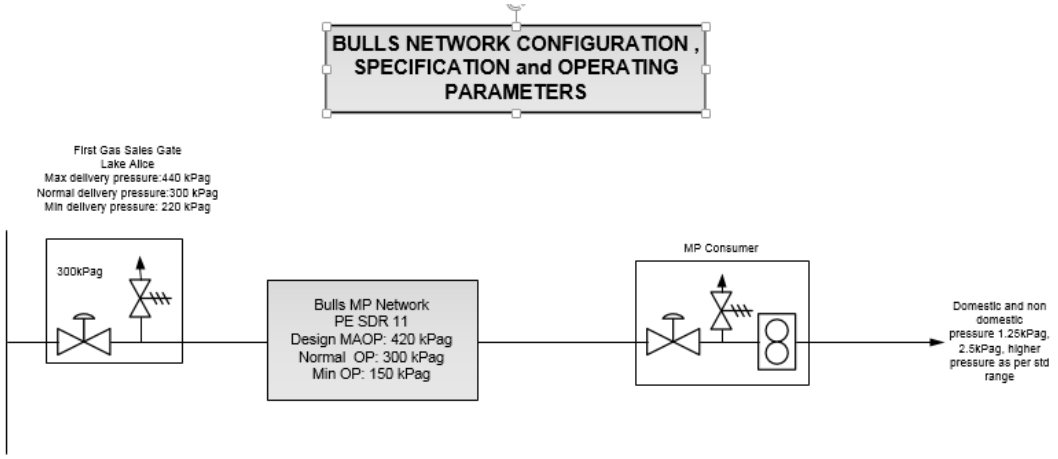
4.2.2.6 MP Monitoring and Control Systems

MP monitoring is a part of the wider network electronic pressure monitoring system. Operational conditions are monitored at various points on the MP system and data is sent to a central monitoring station daily. The equipment is configured to monitor for critical minimum MP system parameters and activate alarms which are transmitted to monitoring software that notifies operational personnel. GasNet has installed pressure alarm monitoring at a number of large demand sites.

4.3 Bulls Network

The Bulls network transports natural gas at medium (MP) pressures. Figure 21 is illustrative of the configuration, specification and operating parameters of this network.

Figure 21: Bulls Network Configuration



4.3.1 Medium Pressure (MP) System

4.3.1.1 MP Summary Physical Statistics

Bulls network statistics are summarised in Table 11 below.

Table 11: Bulls Network Physical Statistics

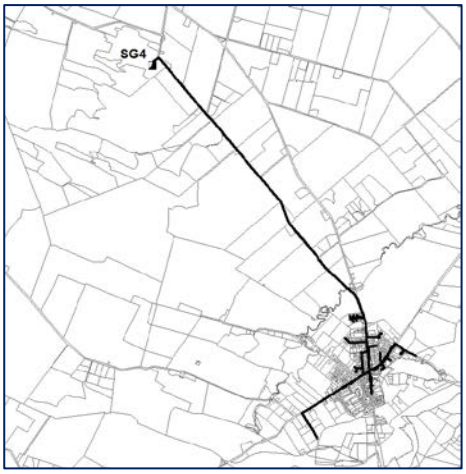
Asset	Number	Length (m)
Mains	-	14,367
Services	157	5,969
District Regulator Stations	-	-
Main Line Valves	2	-
Crossings	2	-
Cathodic Protection	-	-
Monitoring & Control Systems	2	-

4.3.1.2 MP Mains

The Bulls MP system shown in Figure 22. was installed to supply consumers in Bulls township including a CNG station. The design incorporates a single arterial main constructed in 1987 which was installed from the Sales Gate station at Lake Alice, traversing rural land to the west side of Bulls township. The network is supplied direct from the Sales Gate with no District Regulator Stations (DRS). The main has a design maximum allowable pressure of 420 kPag which is operating at 300 kPag. The network within the township is generally designed with arterial mains having little interconnection. The development of a meat processing plant on the outskirts of Bulls has replaced the CNG load.

In Figure 22, the MP mains are shown as a black line. The Sales Gate station is shown as "SG4".

Figure 22: **Bulls Network**



4.3.1.3 MP Services

MP services are constructed of predominantly Polyethylene material installed directly in the ground by open trench method or drilling methods. MP services are constructed with a design MAOP of 420 kPag and are operating at 300 kPag. MP services to residential properties are 10 mm or 25 mm diameter while non-domestic range between 10-50 mm. MP services are connected to the Polyethylene main by service saddle and terminate at the service riser with a mechanical crimp fitting.

4.3.1.4 MP Main Line Valves (MLV)

The MLVs are used to segregate sections of arterial pipeline supplying the town of Bulls and are located principally underground, in pits or chambers that are accessible from the surface for insertion of a valve key to enable their operation. MP MLVs are ball or plug types constructed of steel or Polyethylene material.

4.3.1.5 MP Crossings

The Bulls MP network contains an under stream crossing which is shown in Figure 23. The crossing has been constructed to meet the individual specific risk profile of the stream environment in which the gas asset is crossing. The stream crossing is shown as "SC01" and the Sales Gate station is shown as "SG4".

Figure 23: **Bulls MP Crossings**

4.3.1.6 MP Monitoring and Control Systems

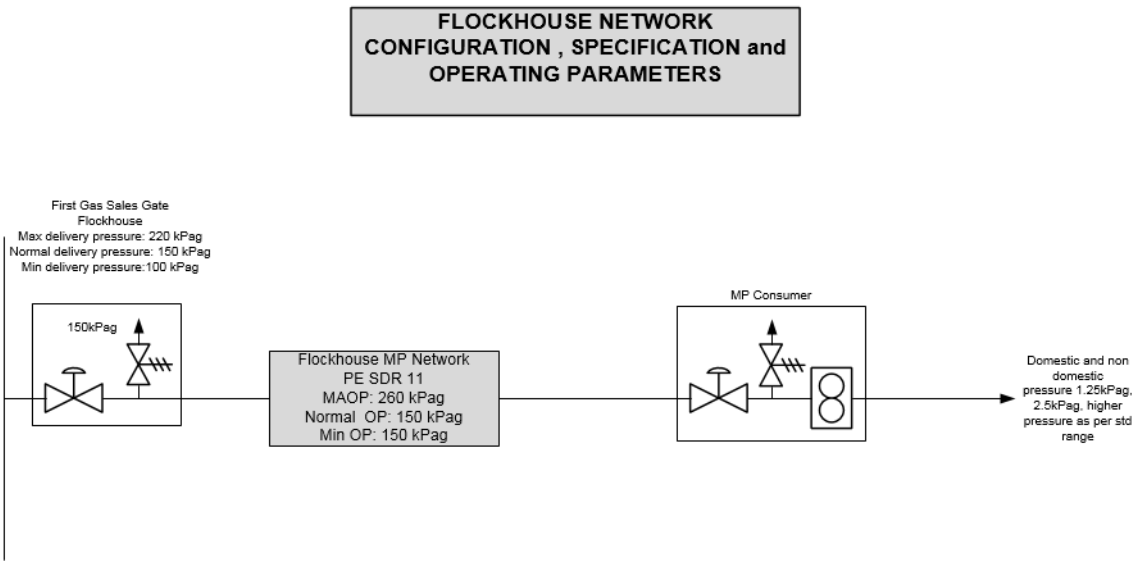
MP monitoring is a part of the wider network electronic pressure monitoring system. Operational conditions are monitored at various points on the MP system and data is sent to a central monitoring station daily. The equipment is configured to monitor for critical minimum MP system parameters and activate alarms which are transmitted to monitoring software that notifies operational personnel. GasNet has installed pressure alarm monitoring at a number of large demand sites.

4.4 Flockhouse Network

The Flockhouse MP network was primarily installed to supply a large agricultural training centre and grain dryer, with both domestic and commercial connections offered to properties along the pipe route. The network is supplied direct from the Sales Gate at MP with no DRS connected.

Figure 24 is illustrative of the configuration, specification and operating parameters of this network.

Figure 24: Flockhouse Network Configuration



4.4.1 Medium Pressure (MP) System

4.4.1.1 MP Summary Physical Statistics

Flockhouse MP system statistics are summarised in Table 12 below.

Table 12: Flockhouse Network Physical Statistics

Asset	Number	Length (m)
Mains		3,438
Services	9	957
District Regulator Stations	-	-
Main Line Valves	-	-
Crossings	-	-
Cathodic Protection	-	-
Monitoring & Control Systems	-	-

4.4.1.2 MP Mains

The Polyethylene main installed in 1986 is a single arterial main from the Flockhouse Sales Gate north along Parewanui Road to the Flock House Estate. The main has a design MAOP of 420 kPag and is operating at 150 kPag.

In Figure 25, the MP mains are shown as a black line. The Sales Gate station is shown as “SG5”.

Figure 25: Flockhouse Network

4.4.1.3 MP Services

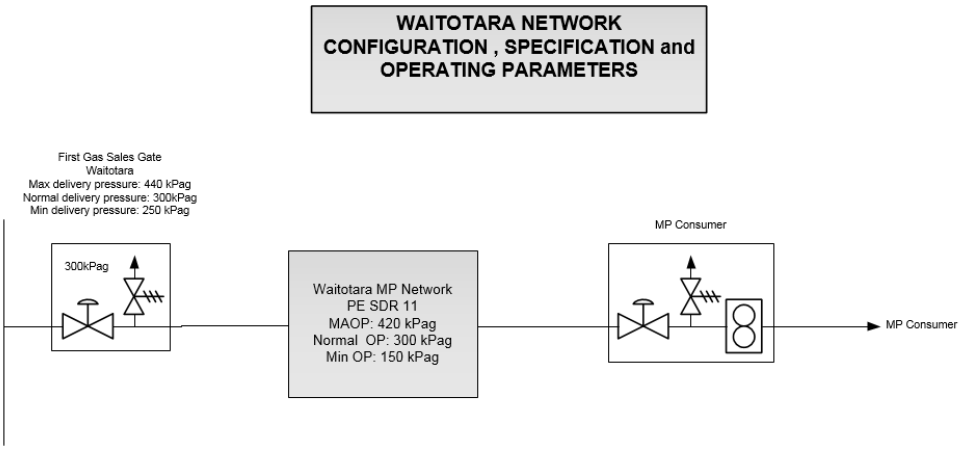
MP services are constructed of predominantly Polyethylene material installed directly in the ground by open trench method or drilling methods. MP services are constructed with a design MAOP of 260 kPag and are operating at 150 kPag. MP services to residential properties are 10 mm or 25 mm diameter while non-domestic range between 10-50 mm. MP services are connected to the Polyethylene main by service saddle and terminate at the service riser with a mechanical crimp fitting.

4.5 Waitotara Network

The Waitotara MP system was constructed to supply a meat processing plant only. The design incorporated a single PE arterial main from Vector Sales Gate station at Waitotara north through rural farmland to the plant. The network is supplied direct from the Sales Gate with no DRS connected.

Figure 26 is illustrative of the configuration, specification and operating parameters of this network.

Figure 26: Waitotara Network Configuration



4.5.1 Medium Pressure (MP) System

4.5.1.1 MP Summary Physical Statistics

Waitotara MP system statistics are summarised in Table 13 below.

Table 13: Waitotara Network Physical Statistics

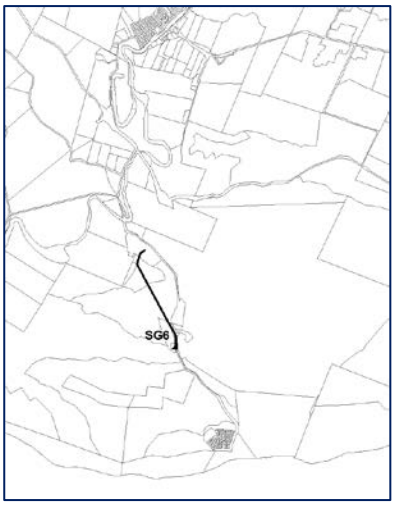
Asset	Number	Length (m)
Mains	-	1,646
Services	1	83
District Regulator Stations	-	-
Main Line Valve	-	-
Crossings	-	-
Cathodic Protection	-	-
Monitoring & Control Systems	-	-

4.5.1.2 MP Mains

The single PE arterial main from Vector Sales Gate station to the meat processing plant was installed in 1987 and has a design MAOP of 420 kPag and is operating at 300 kPag.

In Figure 27, the MP main is shown as a black line. The Sales Gate station is shown as "SG6".

Figure 27: Waitotara System



4.5.1.3 MP Services

The single arterial main terminates at the meat processing plant and a single smaller diameter pipe provides the service connection.

4.5.1.4 MP Monitoring and Control Systems

There is no discrete network monitoring equipment installed but the Time of Use (TOU) equipment installed at the GMS has integral network monitoring equipment that provides remote network monitoring functionality.

5.0 SERVICE LEVELS

5.1 Key Performance Indicators (KPI's)

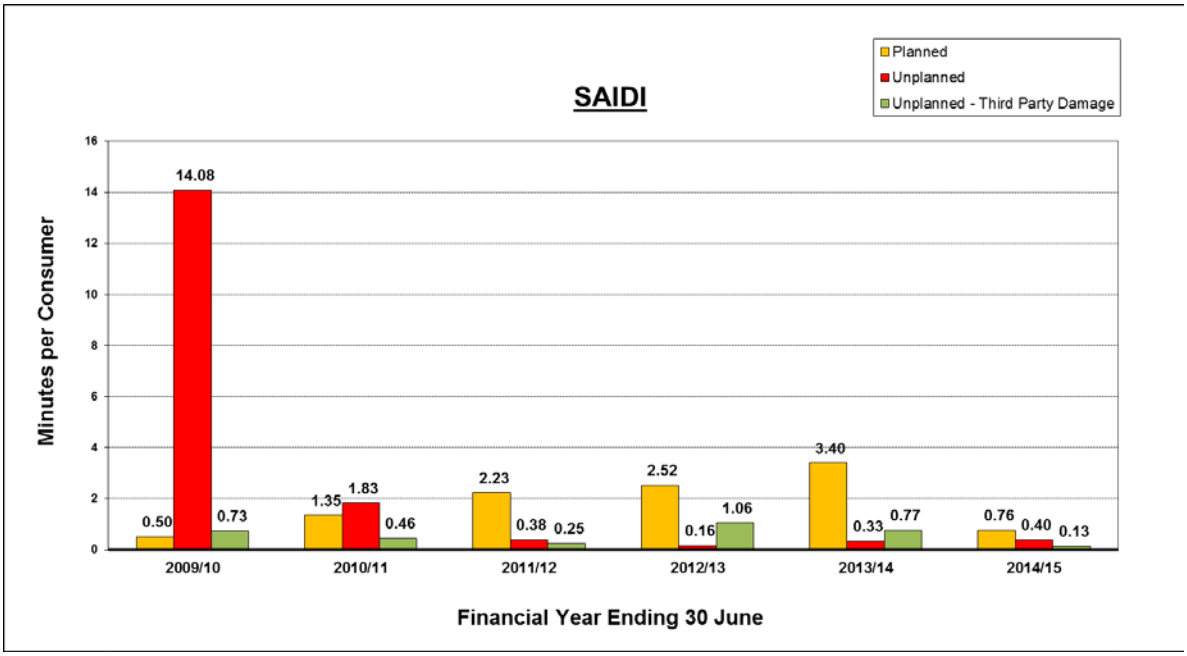
GasNet has actively collected a range of performance statistics for many years, some of which having been reported under previous disclosures, and whilst the content of what will be reported in future AMP's has yet to be finalised, the graphs are provided in the interim.

For consistency all tables cover the six years up until 30 June 2015 but a number of the earlier datasets include both Network and GMS data, a legacy of the Company's previous reporting requirements and the requirements under the now superseded Gas Information Disclosure Regulations 1997. Whilst some datasets are clearly network only, others are not. It is therefore planned to disaggregate the combined datasets wherever practical to do so and include them in future AMP publications.

Network performance for previous years, for both planned and unplanned outages, are shown in the following graphs. The key indicators used are those now required under the IDD and include:

- System Average Interruption Duration Index (SAIDI) in minutes per consumer;
- System Average Interruption Frequency Index (SAIFI) in outages per consumer;
- Customer Average Interruption Duration Index (CAIDI) in minutes per outage.

The data shown applies only to outages caused by failures or planned outages on GasNet's network and does not include outages caused by the Transmission Company or other upstream parties.



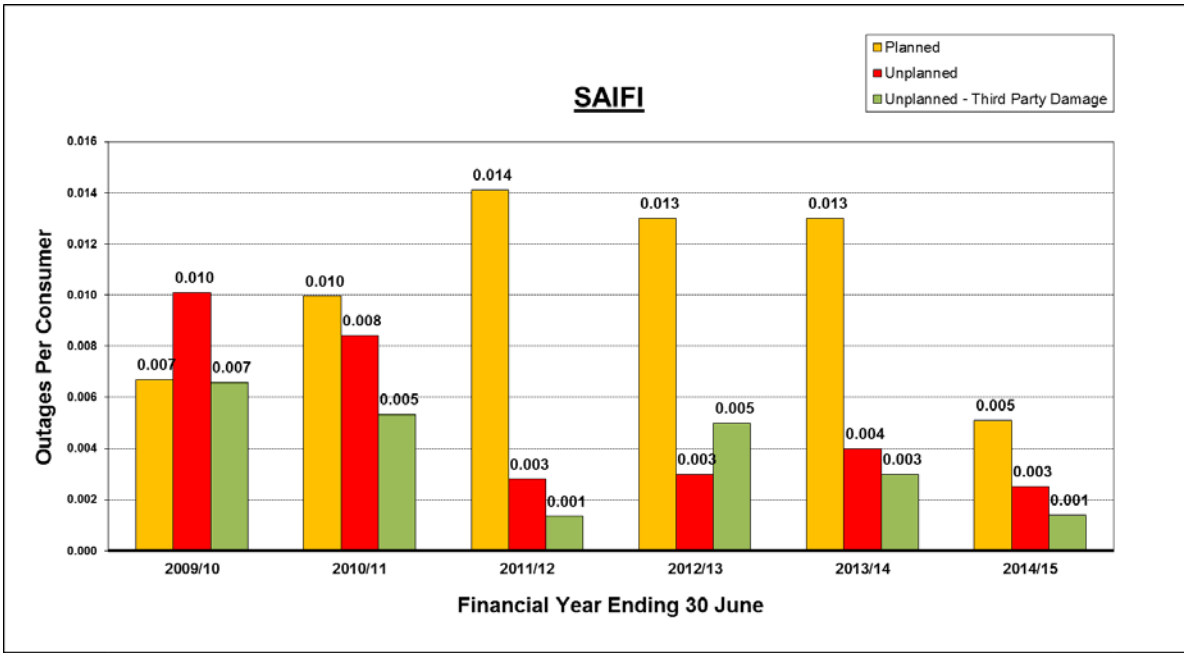
In simple terms SAIDI is a measure of how long the average consumer has been without their gas supply during a particular year.

The high duration of unplanned outages which occurred in 2009/10 and which also flowed through to the beginning of the 2010/11 year was attributed to a single incident in late June 2009 which occurred in St Johns Hill, Whanganui, where a metallic steel water service failed due to corrosion and subsequently eroded an adjacent Low Pressure gas service pipe, eventually causing failure of the gas service pipe. As the water pressure was much greater than the gas pressure, water flowed relatively freely into the pipe until it built up within the Low Pressure gas network causing complete loss of gas supply to consumers within the area. Over the following days after the leaking water service was discovered and repaired, the network was isolated in sections and the water purged out of the pipes.

The subsequent years 2011/12 and 2012/13 are more representative of the typical duration associated with unplanned outages.

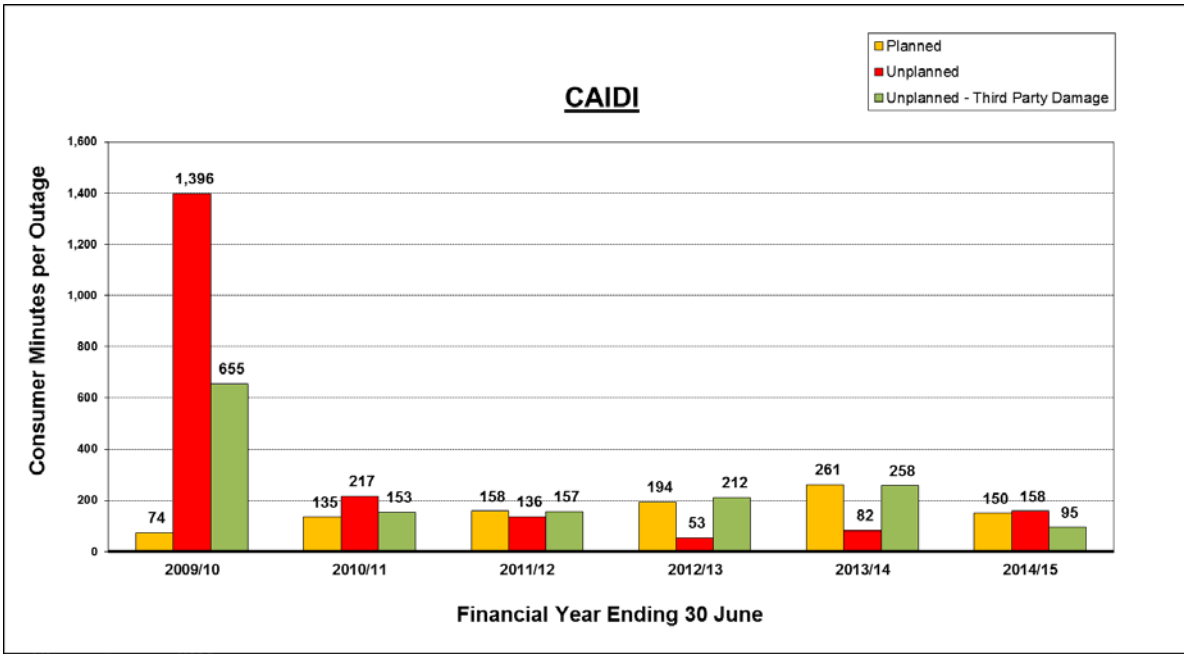
In respect of the planned outages, the marked and continual increases up to 2013/14 were due to a combination of the on-going improvement in data collection methods and an increase in the type and nature of work being performed on the network to improve the consumers supply.

In 2014/15 planned interruptions were significantly down in numbers due to few service disconnections required during main renewal work.

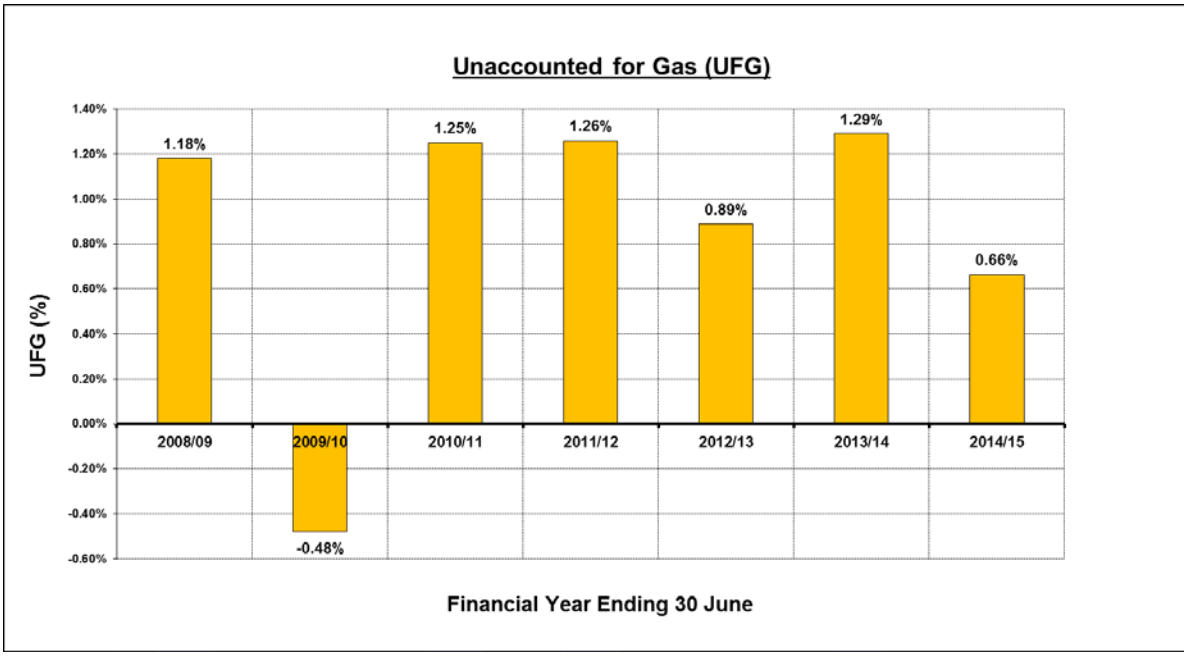


In simple terms SAIFI is a measure of the number of times a consumer will experience an interruption to their gas supply during a particular year.

For the reasons outlined above under SAIDI, the high number of unplanned outages which occurred in 2009/10 was dominated by the St Johns Hill water ingress incident which occurred in late June 2009. Similarly in 2014/15 a low number of planned interruptions was the result of few service disconnections during that period.

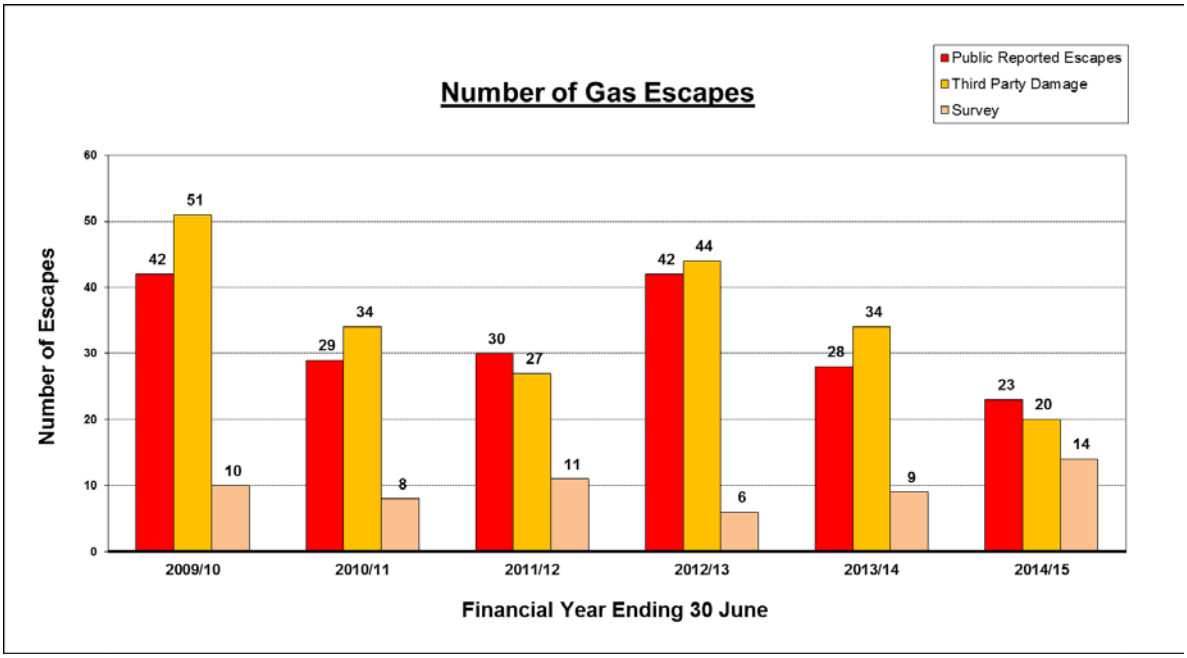


In simple terms CAIDI is a measure of how long an interruption to the gas supply lasted on average during a particular year.

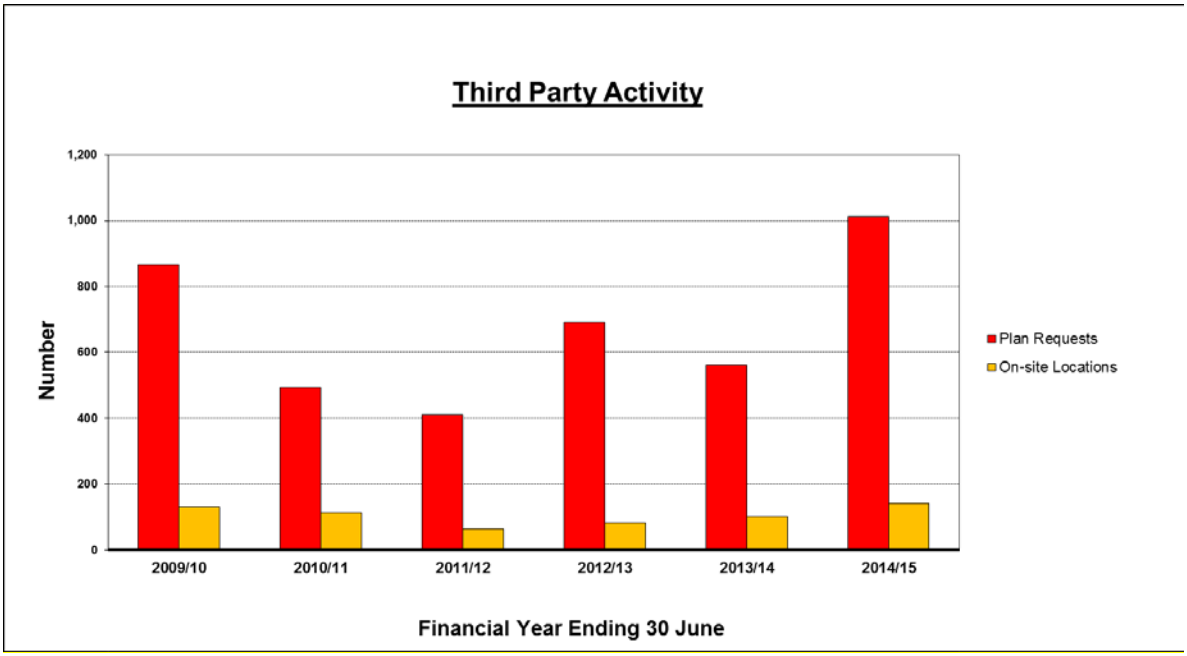


Unaccounted for Gas, or UFG, is the difference between the total volume of gas entering the system at the Sales Gates less the total volume of gas exiting the network where it enters the meter at the Gas Measurement System installed on the consumers' properties.

There are many factors that can effect UFG and whilst losses will occur as the gas is transported through the network, known as Technical Losses, there are numerous other non-network factors than can create adverse UFG quantities e.g. accuracy of the meter in the GMS or, the need for retailers to estimate monthly sales to consumers due to the cyclic nature of meter readings. The value of UFG as a measure of network performance should not be undervalued but considered alongside other measures such as the number of gas escapes as shown in the following table.



The number of gas escapes found by Survey methods increased in 2012/2013 from previous years. The increase was due to a change in the leakage survey procedures. Prior to 2013/2014 leak surveys were arranged by area, i.e. the network was divided up into similar sized areas and survey was completed on a 4-5 year cycle. In 2013/2014 leak survey procedures changed to include a specific survey of all low pressure metallic pipes across all of Whanganui. The risk based survey targets assets that are at a higher risk of leakage



Third party is the term used to refer to people and organisations, other than GasNet. In most instances third parties are contractors installing and maintaining other utilities' assets, but it does include home and property owners.

Over the last two decades up until 2011 Whanganui had seen unprecedented activity within the road corridor as the Whanganui District Council undertook separation of its stormwater and wastewater systems. Requiring major excavations in most of the Whanganui streets the increase in activity inevitably resulted in an increase in enquiries about and damage to GasNet's buried pipes. Ironically just as the project completed around 2011, the government's fast-tracked Ultra-Fast Broadband project commenced with target completion planned within five years. The lull between the two activities can be seen in the level of enquires shown in the above graph, and the general profile of enquiries can also be seen in the 'number of gas escapes' graph above. The challenge for GasNet over the next few years will be to minimise the damage to its network which can only be achieved by working closely with the contractors and taking the appropriate corrective actions when adverse events occur.

5.2 Quality of Supply

Currently GasNet has the following project in planning:

Project or programme	Description
Low pressure network pressure uprating	Network pressure up-rating involving raising the LP network pressure from 2 to 5 kPag to enhance the quality of supply at the ICP which allows the consumer additional choice of appliances as many new appliances require 2.5 kPag.

5.3 Other reliability, Safety and Environment

Currently GasNet has the following projects and programmes in planning:

Project or programme	Description
District Regulator Station Isolation valve project	Installation of isolation valves on all DRS. Includes valves on outlet and inlet mains to provide complete isolation of gas to DRS in the event of an emergency incident.
Interconnection of the dual IP mains – Heads Road	Interconnection of two critical Intermediate pressure mains that together transport the bulk of the gas to the Whanganui network will ensure a reliable supply to consumers is maintained during a planned network crossing upgrade or any event that could compromise the integrity of either main.

6.0 NETWORK DEVELOPMENT PLANNING

6.1 General

The network systems are developed through planning, design and construction phases to eliminate or reduce to as low as reasonably practicable all hazards and risks identified in the hazard identification and control process, and to meet functional requirements. Functional requirements include the provision of an integrated supply system capable of meeting consumer demands at all times, as forecast by gas retailers, taking into account safety, operating conditions, and the environment to which the system is exposed.

6.2 System Growth

Asset Type	Commentary
INTERMEDIATE PRESSURE	
Main pipe	No growth forecast.
Service pipe	Little or no growth forecast.
Stations	No growth forecast.
Line valve	No growth forecast.
Special crossings	No growth forecast.
MEDIUM PRESSURE	
Main pipe	Significant project planned for 2016/2017 involving main extension to Whanganui Waste Water Treatment Plant , Stable level of residential housing development. Growth forecast to remain steady at current levels.
Service pipe	Number of new services is expected to remain stable due to increasing consumer demand for gas instant hot water offset by a reducing demand on space heating due to alternatives, in particular heat pumps.
Stations	Nothing planned
Line valve	Some increased level of growth with the planned sectionalisation of the low and medium pressure networks for emergency network management.
Special crossings	Nothing planned
LOW PRESSURE	
Main pipe	Stable level of residential housing development. High level of existing urban reticulation limits the potential for growth
Service pipe	Growth to remain stable due to increasing consumer demand for gas instant hot water being offset by a reducing demand on space heating due to alternatives, in particular heat pumps.
Line valve	Some increased level of growth with the planned sectionalisation of the low and medium pressure networks for emergency network management.
Special crossings	Nothing planned
OTHER ASSETS	
Monitoring and control systems	Nothing planned
Cathodic protection systems	Nothing planned
Other assets (other than above)	Nothing planned

6.3 Identified Material Network Development Programmes

6.3.1 Network

Currently GasNet has the following network programmes in place:

Programme	Description
Subdivisions	GasNet has for a number of years worked collaboratively with those driving development of new subdivisions (or further stages of existing ones) to provide natural gas reticulation to potential end-users.
MP link of Whanganui River bridges	Strategic link of 3 Whanganui River bridges to reinforce MP supply. Provides ability to isolate any bridge crossing where a bridge crossing has been lost or where a maintenance event requires the shutdown of a bridge and its crossing. Provides a grid configuration which will increase capacity of MP network allowing network growth to be made into all areas. Project has been long term commencing in early 1990s and has taken advantage of trench sharing opportunities with other utilities and is scheduled for completion in 2018.

6.3.2 Non-network

Currently GasNet has the no non-network programmes in place:

6.4 Identified Material Network Development Projects

6.4.1 Network

Currently GasNet has the following network projects in place:

Project	Description
Network Analysis - DRS monitoring project	Installation of equipment at DRS to enable measurement of flow. The equipment will interface into existing telemetry equipment installed at DRS to log and transmit the data to a central computer. The measurement, collection and subsequent analysis of this data will assist future network design, provide utilisation information and aid emergency planning. The project may involve significant modification to DRS installation to fit the new measurement equipment.
Network Analysis – Evaluation Tool	Following the evaluation and subsequent purchase of proprietary "Synergi Gas" network analysis software in late 2014, implementation of the application is underway along with manipulation of the GIS data, a primary data source for the model.
Interconnection of the dual IP mains – Heads Road	Interconnection of two critical Intermediate pressure mains close to the Whanganui Sales Gate that together transport the bulk of the gas to the Whanganui network will ensure a reliable supply to consumers is maintained during a planned network crossing upgrade or any event that could compromise the integrity of either main. With the connection of significant additional gas load on the Intermediate Pressure (IP) system during 2014 the reliance on these two mains increased and removed the redundancy in the network required to isolate each for maintenance.

6.4.2 Non-network

Currently GasNet has no non-network projects in place:

7.0 LIFECYCLE ASSET MANAGEMENT PLANNING (MAINTENANCE AND RENEWAL)

7.1 General

The Networks are operated to safely manage the risks identified in the hazard identification, risk assessment and control process and to meet functional requirements. The functional requirements include the provision of an integrated supply system capable of meeting consumer demands at all times as forecast by gas retailers and responding to emergency situations as and when they arise. All system operational activities are carried out in accordance with the GasNet's Safety and Operating Plan.

7.2 Asset Replacement and Renewal

Asset Type	Commentary
INTERMEDIATE PRESSURE SYSTEM	
Main pipe	The existing 100mm and 150mm diameter mains pipes that cross an open watercourse adjacent to the Whanganui Sales Gate are planned for relocation in conjunction with the Whanganui District Council (WDC). The two pipes, which were installed in 1972 and 1985 respectively, are critical assets as they supply the entire Whanganui network. The two pipes are located above the watercourse and below the water line, and continually immersed in tidal salty/brackish water. One is encased in a carrier pipe the other is not. As they are continually below water it is difficult to access the pipes to inspect them to confirm that the pipe coatings and Cathodic Protection System are providing the necessary corrosion protection. In addition there is a risk of physical damage when the drain is periodically dug out which will increase with the lowering of the drain bed.
Service pipe	Nothing planned
Stations	Some existing station equipment has become obsolete or in other cases replacement parts are becoming uneconomic to procure, requiring replacement with a modern equivalent. Installation of replacement equipment requires modifications to design. Some station enclosure roofs are showing signs of corrosion and will require replacement over 5-10 years.
Line valve	No replacement of IP valves planned. Many valves are not accessible from the surface and require excavation. Valves identified as strategic to have chambers (risers and lids) installed to enable easy access.
Special crossings	Nothing planned
MEDIUM PRESSURE SYSTEM	
Main pipe	Works planned to identify quantity and location, and to test material to determine life remaining.
Service pipe	Nothing planned
Stations	Some regulator equipment installed is becoming obsolete requiring replacement with a modern equivalent. Installation of replacement equipment requires modifications to design. Station enclosures will require refurbishment over 5-10 years. R
Line valve	Nothing planned
Special crossings	Nothing planned
LOW PRESSURE SYSTEM	
Main pipe	Metallic low pressure mains replaced on the basis of condition. Increased level of replacement focused on mains with historically high risk of leakage.
Service pipe	Metallic services are replaced by polyethylene when the main is replaced. Forecast increasing number of older metallic service replacement on the basis of risk identified. Service pipes located under buildings are high priority for relocation and are replaced and/or relocated as identified.
Line valve	Nothing planned
Special crossings	Mechanically jointed LP metallic rail and bridge crossings have elevated safety risk profile and are planned for replacement. The crossings are planned for replacement over the next 10 years.

OTHER ASSETS

Monitoring and control systems	Nothing planned
Cathodic protection systems	CP connection terminals at all test points and service connections are planned for replacement over 5 years

7.3 Identified Material Lifecycle Asset Management Programmes

7.3.1 Network

Currently GasNet has the following network programmes in place:

Programme	Description
Replacement of LP non PE	Replacement of LP non PE mains and services. The metals used in the LP network include wrought and cast irons, spiral riveted, spiral welded, Mannesmann and galvanised steels. Mains constructed of each of these materials have their own characteristics. Steel mains are likely to be in good condition provided the coating is intact and joints are sealed and the cast iron mains are generally in good condition provided the joints are sealed. The replacement of the metallic LP mains is prioritised on past and existing leakage patterns and involves all metal types.
LP crossings	Review of the condition of these assets and where deemed necessary refurbish accordingly
Replacement of service valves	Various types of service valve have been installed on the network over time. Each type of service valve has characteristics that make it more or less suitable for the present duty. Some identified types of valves are replaced when other work is being conducted at the ICP. A program will be developed to identify the type of service valve installed at each ICP and a program for the replacement if required

7.3.2 Non-Network

Currently GasNet has the following non-network programmes in place:

Programme	Description
Safety Management System	Following legislative changes, GasNet has implemented a safety management system dealing with public safety and public property protection from gas related GDB activity. This is a strategic programme involving many aspects of operations and associated safe work practices.
Regulatory	Following legislative changes, GasNet has implemented a number of Commerce Commission Determinations applicable to GDBs of which information disclosure is but one. This is a strategic programme involving many aspects of business practices, documentation and reporting.

7.4 Identified Material Lifecycle Asset Management Projects

7.4.1 Network

Currently GasNet has the following network projects in place:

Project	Description
Data capture of asset information	GasNet is expanding the asset data types and attributes thereof it captures. Within the project planner, a project exists to increase field team based data capture 'at source', and via work package documentation enhancements.

7.4.2 Non-network

Currently GasNet has the following non-network projects in place:

Project	Description
Vehicle fleet	On-going replacement of vehicle fleet – GasNet's fleet of vehicles are utilised to meet operational and capital activities across the five networks. Some vehicles are customised to enable field staff on site access to specialised equipment necessary to undertake planned works and to respond to call-out and emergency situations.

8.0 RISK MANAGEMENT

8.1 Overview

GasNet's risk management process aligns with ISO 31000 to manage risk across the organisation. The risk management process provides a systematic approach for controlling hazards to an acceptable level, or developing appropriate control strategies and measures to minimise the level of risk. The risk management process follows a hierarchy of control whose principle objective is to eliminate hazards. If this is not practical, risks are managed as low as reasonably practicable (ALARP).

8.2 Hazard Identification

All hazards associated with the network assets are systematically identified, described, and documented through hazard identification processes. This covers not only those hazards that have the potential to harm the public or damage public property but also those that affect GasNet personnel and contractors and the environment. For existing assets this process is conducted on or before a predefined review date and whenever changes occur. For new assets the process is initiated in the design phase prior to assets being constructed and going into service. The characteristics of each hazard, its environment, and the exposure of people and property to it, are recorded. The results of the formal hazard and risk management processes are recorded in GasNet's Risk Register.

8.3 Risk Assessment

A qualitative risk assessment is carried out on each hazard in accordance with ISO 31000 to determine whether it presents a significant risk of causing harm to persons, property or the environment. Risks determined to be low or negligible or demonstrated to be ALARP are deemed to be acceptable risks. For those risks that lie above the low or negligible level the costs and benefits are compared to establish the achievable reduction in risk magnitude to meet ALARP requirements.

8.4 Hazard Control

Subsequent to the identification of significant hazards, all practicable steps are identified and taken to control those hazards in the following order:

1. Elimination;
2. Isolation; or
3. Minimisation.

The extent of the controls applied is decided by the:

- Level of risk (high, medium or low) that the hazard represents;
- Costs and benefits of applying the control measures; and
- Current body of knowledge, for example good and accepted practices.

The controls applied to each hazard are designed to lower the likelihood of harm or property damage occurring so that the residual risk is as low as reasonably practicable. The effectiveness of the controls applied to each significant hazard is assessed on a regular basis through the implementation of a monitoring and verification process.

8.5 Coverage

The hazard identification, risk assessment and hazard control processes are carried out to address:

(a) Hazards or potential hazards identified during the design, construction, commissioning, operation, maintenance, failure mode, and decommissioning of assets;
(b) The security and control of access to the assets; and
(c) The implementation and management of contingency plans for emergency situations that may affect, or be affected by the assets.

8.6 Review

In determining when hazard and risk reviews are conducted to test the continuing effectiveness of control measures taken, assessments are updated for the following reasons:

- Implementation of audit findings;
- Proposed changes to the assets that may change the nature or scale of hazards, the operating parameters or asset design;
- Changes to the environment in which the assets are operated;
- Incidents and other experience from elsewhere in the system, or from other supply systems, or from anywhere else that might be relevant;
- Following an emergency;
- Performing non-routine activities;
- Following changes in legislation; and
- The passage of time.

8.7 Information Availability

The information from the identification and control of hazards is made available as appropriate to parties working adjacent to or, in the vicinity of the hazard, or responding to emergencies on the Network in accordance with GasNet's Risk Management Policy supported by the suite of Safe Work Procedures (SWP's).

8.8 Some Specific Observations

GasNet undertakes on-going monitoring across all networks for any options to increase network security. This could be achieved by implementing system looping and/or construction of additional sale gate connections to the high pressure transmission pipeline owned and operated by Vector Limited. Opportunities tend to be rare given the inherent reliability of networks in general and the very high capital costs involved in looping and sale gate construction.

As part of implementation of a complete Safety Management System regime for public safety and public property protection in proximity to GDB assets, in 2013 GasNet achieved Safety Management System accreditation. Inherent to this success was satisfactory evidence of competencies, processes and documentation applicable to the Safety Management System requirements. While the Safety Management System in itself is one aspect of GasNet's overall regulatory requirements, this accreditation provides a level of formal recognition of the practices more generally undertaken at GasNet.

9.0 ACTIONS COMPLETED

In accordance with clause 2.12.8(2)(g) GasNet is required to identify any actions it has completed in order to conform to the requirements in clause 2.6.1 which relates to the provisions of a fully compliant Asset Management Plan as compared to the Transitional Asset management Plan GasNet has elected to provide.

Other than the provision of this document as its first AMP, there are no other actions of significance worthy of mention since the majority of effort has gone into production of this document and the associated collation of information.

However it is expected that in conjunction with the improvement plan discussed below, the progressive enhancement and development of systems to support GasNet's asset management system and its Asset Management Plan, subsequent revisions of this AMP will provide details of actions completed since publication of the previous AMP.

10.0 IMPROVEMENT PLAN

In accordance with clause 2.13.9(2)(f) GasNet is required to identify where it considers it does not yet conform to the requirements of clause 2.6.1 which relates to the provisions of a fully compliant Asset Management Plan as compared to the Transitional Asset management Plan GasNet has elected to provide.

It is GasNet's view that other than its inability to provide the information required in Schedule 12b: Forecast Utilisation, that it complies with the requirements and is well placed to provide evidence of that compliance by publishing a fully compliant Asset management Plan by the end of the first regulatory period at the latest. In addition to the need to formalise its asset management strategies and practices referred to elsewhere within this AMP, there is a need to review its information systems to align with the information requirements under the IDD wherever possible and practicable to do so.

In respect to non-compliance with Schedule 12b: Forecast Utilisation, GasNet purchased the Synergi Gas network modelling analysis application in late 2014 with implementation of the application underway along with manipulation of the GIS data, a primary data source for the model. At the time of preparing this AMP it was anticipated that beta testing would commence in the third quarter of 2015. It was originally hoped that it will be operational by the end of the 2014 calendar year and that GasNet may be in a position to provide some network utilisation information by 30 June 2015, but it is now likely that it will not be operational until early 2017.

The Commerce Commission review of Gas Pipeline Businesses' Asset Management Plans in 2015 identified a number of areas where the reviewer considered aspects of GasNet's AMP were deficient and worthy of further enhancement. Although it was intended after publication of the review in October 2015 that these matters would be addressed in the review of this AMP, it was decided to defer making any changes to this transitional AMP and that they be considered when drafting and reviewing the fully compliant AMP due in 2017.

Appendix 1 – Glossary of Terms

AMP	Transitional Asset Management Plan
ALARP	As Low As Reasonably Practicable
API	American Petroleum Institute
Capex	Capital Expenditure
CNG	Compressed Natural Gas
CP	Cathodic Protection
CY	Current Year
DRS	District Regulator Station
DPP	Default Price-Quality Path
HDPE	High Density Polyethylene
ICP	Installation Control Point
IDD	Gas Distribution Information Disclosure Determination 2012
IP	Intermediate Pressure
ISO	International Standards Organisation
GasNet	GasNet Limited
GDB	Gas Distribution Business
GIS	Geographic Information System
GJ	Gigajoule
GMS	Gas Measurement System
IIMM	International Infrastructure Management Manual
kPag	kiloPascal gauge
LP	Low Pressure
MDPE	Medium Density Polyethylene
MLV	Main Line Valve
MP	Medium Pressure
Opex	Operational Expenditure
PAS-55	Public Available Specification 55 (part 1:2008 and 2:2008) Asset Management
PE	Polyethylene
s53ZD	Reference to clause 53ZD in Commerce Act (1986 and amendments)

Appendix 2 – Transitional AMP Provisions Applicable to GasNet Limited

Clause 2.13.9 of the Commerce Commission's Gas Distribution Information Disclosure Determination 2012 defines the transitional provisions that apply to GasNet if it elects not to publicly disclose a fully compliant AMP under clauses 2.6.1 and 2.6.2 of the determination.

The following is an extract taken directly from the Commerce Commission's determination, which can be downloaded in its entirety from their website at www.comcom.govt.nz/gas-pipelines-2. Any uncertainty regarding the terms used in the extract or its context may be able to be resolved by referring to the source document.

2.13.9 Notwithstanding any requirements set out in clauses 2.6.1, 2.6.2, 2.6.3, 2.6.4 and 2.6.5, the following transitional provision applies to GasNet in respect of each **disclosure year** before and during the first **DPP regulatory period**-

(1) If GasNet Limited has not **publicly disclosed** an **AMP** under clauses 2.6.1 and 2.6.2 then GasNet may elect to-

- (a) not comply with clauses 2.6.1 and 2.6.2 in the current **disclosure year**; and
- (b) complete and **publicly disclose** before the start of the **disclosure year** a **transitional AMP** that meets the requirements of subclause (2);

(2) The **transitional AMP** must-

- (a) relate to the gas distribution services supplied by the **GDB**;
- (b) be identifiable as a **transitional AMP** prepared pursuant to clause (2) of this determination;
- (c) include the minimum requirements set out in subclause (3);
- (d) include the forecast information set out in clause 2.6.6;
- (e) include the Report on Asset Management Maturity in Schedule 13;
- (f) identify where the **GDB** considers the **AMP** does not yet conform to the requirements in clause 2.6.1, and set out the actions the **GDB** is taking to ensure the **AMP** will conform before the end of the first **DPP regulatory period**;
- (g) identify any actions the **GDB** has completed in order to conform to the requirements in clause 2.6.1;

(3) The **transitional AMP** must include the following-

- (a) a summary that provides a brief overview of the contents and highlights information that the **GDB** considers significant;
- (b) details of the background and objectives of the **GDB**'s asset management and planning processes;
- (c) details of the **AMP** planning period, which must cover at least a projected period of 10 years commencing with the **disclosure year** following the date on which the **AMP** is required to be disclosed;
- (d) the date that it was approved by the **directors**;
- (e) a description of stakeholder interests, as set out in clause 3.7 of attachment A;
- (f) a description of the accountabilities and responsibilities for asset management, as set out in clause 3.8 of attachment A;
- (g) an overview of asset management strategy and delivery;
- (h) an overview of systems and information management data;
- (i) an overview of asset management documentation, controls and review processes;
- (j) details of the assets covered;
- (k) a clear identification or definition of a set of asset management performance indicators;
- (l) a description of network development plans and lifecycle management processes, covering material projects and programmes across the planning period;
- (m) details of risk policies, assessment and mitigation.

Company Name	GasNet Limited
AMP Planning Period	1 July 2016 – 30 June 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.

sch ref		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 16	30 Jun 17	30 Jun 18	30 Jun 19	30 Jun 20	30 Jun 21	30 Jun 22	30 Jun 23	30 Jun 24	30 Jun 25	30 Jun 26
	11a(i): Expenditure on Assets Forecast	$000 (nominal dollars)										
	Consumer connection	113	107	109	111	114	116	118	121	123	125	128
	System growth	88	321	328	69	70	72	73	75	76	78	79
	Asset replacement and renewal	370	306	343	584	520	607	563	689	703	717	731
	Asset relocations	-	-	135	-	-	-	-	-	-	-	-
	Reliability, safety and environment:											
	Quality of supply	28	20	52	53	54	55	56	57	59	60	61
	Legislative and regulatory	-	-	-	-	-	-	-	-	-	-	-
	Other reliability, safety and environment	10	139	10	37	38	39	39	40	41	42	43
	Total reliability, safety and environment	38	159	62	90	92	94	95	97	100	102	104
	Expenditure on network assets	609	893	977	854	796	889	849	982	1,002	1,022	1,042
	Expenditure on non-network assets	102	36	146	69	152	72	158	75	117	120	122
	Expenditure on assets	711	929	1,123	923	948	961	1,007	1,057	1,119	1,142	1,164
plus	Cost of financing	-	-	-	-	-	-	-	-	-	-	-
less	Value of capital contributions	-	-	-	-	-	-	-	-	-	-	-
plus	Value of vested assets	-	-	-	-	-	-	-	-	-	-	-
	Capital expenditure forecast	711	929	1,123	923	948	961	1,007	1,057	1,119	1,142	1,164
	Assets commissioned	711	929	1,123	923	948	961	1,007	1,057	1,119	1,142	1,164

		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 16	30 Jun 17	30 Jun 18	30 Jun 19	30 Jun 20	30 Jun 21	30 Jun 22	30 Jun 23	30 Jun 24	30 Jun 25	30 Jun 26
		$000 (in constant prices)										
	Consumer connection	113	105	105	105	105	105	105	105	105	105	105
	System growth	88	315	315	65	65	65	65	65	65	65	65
	Asset replacement and renewal	370	300	330	550	480	550	500	600	600	600	600
	Asset relocations	-	-	130	-	-	-	-	-	-	-	-
	Reliability, safety and environment:											
	Quality of supply	28	20	50	50	50	50	50	50	50	50	50
	Legislative and regulatory	-	-	-	-	-	-	-	-	-	-	-
	Other reliability, safety and environment	10	136	10	35	35	35	35	35	35	35	35
	Total reliability, safety and environment	38	156	60	85	85	85	85	85	85	85	85
	Expenditure on network assets	609	876	940	805	735	805	755	855	855	855	855
	Expenditure on non-network assets	102	35	140	65	140	65	140	65	100	100	100
	Expenditure on assets	711	911	1,080	870	875	870	895	920	955	955	955
	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 Jun 16	30 Jun 17	30 Jun 18	30 Jun 19	30 Jun 20	30 Jun 21	30 Jun 22	30 Jun 23	30 Jun 24	30 Jun 25	30 Jun 26
	Difference between nominal and constant price forecasts	$000										
	Consumer connection	-	2	4	6	9	11	13	16	18	20	23
	System growth	-	6	13	4	5	7	8	10	11	13	14
	Asset replacement and renewal	-	6	13	34	40	57	63	89	103	117	131
	Asset relocations	-	-	5	-	-	-	-	-	-	-	-
	Reliability, safety and environment:											
	Quality of supply	-	-	2	3	4	5	6	7	9	10	11
	Legislative and regulatory	-	-	-	-	-	-	-	-	-	-	-
	Other reliability, safety and environment	-	3	-	2	3	4	4	5	6	7	8
	Total reliability, safety and environment	-	3	2	5	7	9	10	12	15	17	19
	Expenditure on network assets	-	17	37	49	61	84	94	127	147	167	187
	Expenditure on non-network assets	-	1	6	4	12	7	18	10	17	20	22
	Expenditure on assets	-	18	43	53	73	91	112	137	164	187	209

Company Name	**GasNet Limited**
AMP Planning Period	**1 July 2016 – 30 June 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.

sch ref								
64								
65			*Current Year CY*	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*
66	**11a(ii): Consumer Connection**	for year ended	**30 Jun 16**	**30 Jun 17**	**30 Jun 18**	**30 Jun 19**	**30 Jun 20**	**30 Jun 21**
67	*Consumer types defined by GDB**		**$000 (in constant prices)**					
68	Domestic		87	80	80	80	80	80
69	Non-domestic		26	25	25	25	25	25
70			-	-	-	-	-	-
71			-	-	-	-	-	-
72			-	-	-	-	-	-
73	** include additional rows if needed*							
74	**Consumer connection expenditure**		113	105	105	105	105	105
75	*less* Capital contributions funding consumer connection		-	-	-	-	-	-
76	**Consumer connection less capital contributions**		113	105	105	105	105	105
77	**11a(iii): System Growth**							
78	**Intermediate pressure**							
79	Main pipe		-	-	-	-	-	-
80	Service pipe		-	-	-	-	-	-
81	Stations		2	-	-	-	-	-
82	Line valve		-	-	-	-	-	-
83	Special crossings		-	-	-	-	-	-
84	**Intermediate Pressure total**		2	-	-	-	-	-
85	**Medium pressure**							
86	Main pipe		37	280	280	30	30	30
87	Service pipe		-	-	-	-	-	-
88	Stations		-	-	-	-	-	-
89	Line valve		-	-	-	-	-	-
90	Special crossings		-	-	-	-	-	-
91	**Medium Pressure total**		37	280	280	30	30	30
92	**Low Pressure**							
93	Main pipe		49	35	35	35	35	35
94	Service pipe		-	-	-	-	-	-
95	Line valve		-	-	-	-	-	-
96	Special crossings		-	-	-	-	-	-
97	**Low Pressure total**		49	35	35	35	35	35
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**		88	315	315	65	65	65
105	*less* Capital contributions funding system growth		-	-	-	-	-	-
106	**System growth less capital contributions**		88	315	315	65	65	65
107								

Company Name	**GasNet Limited**
AMP Planning Period	**1 July 2016 – 30 June 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.

11a(iv): Asset Replacement and Renewal

sch ref	for year ended	*Current Year CY* 30 Jun 16	*CY+1* 30 Jun 17	*CY+2* 30 Jun 18	*CY+3* 30 Jun 19	*CY+4* 30 Jun 20	*CY+5* 30 Jun 21
	Intermediate pressure	**$000 (in constant prices)**					
	Main pipe	-	-	-	-	-	-
	Service pipe	-	-	-	-	-	-
	Stations	-	-	-	-	-	-
	Line valve	-	-	-	-	-	-
	Special crossings	-	-	-	-	-	-
	Intermediate Pressure total	-	-	-	-	-	-
	Medium pressure						
	Main pipe	-	-	-	-	-	-
	Service pipe	-	-	-	-	-	-
	Station	-	-	-	-	-	-
	Line valve	-	-	-	-	-	-
	Special crossings	-	-	-	-	-	-
	Medium Pressure total	-	-	-	-	-	-
	Low Pressure						
	Main pipe	280	230	250	400	350	400
	Service pipe	90	70	80	150	130	150
	Line valve	-	-	-	-	-	-
	Special crossings	-	-	-	-	-	-
	Low Pressure total	370	300	330	550	480	550
	Other network assets						
	Monitoring and control systems	-	-	-	-	-	-
	Cathodic protection systems	-	-	-	-	-	-
	Other assets (other than above)	-	-	-	-	-	-
	Other network assets total	-	-	-	-	-	-
	Asset replacement and renewal expenditure	370	300	330	550	480	550
less	Capital contributions funding asset replacement and renewal	-	-	-	-	-	-
	Asset replacement and renewal less capital contributions	370	300	330	550	480	550

11a(v): Asset Relocations

	*Project or programme**						
	Wanganui Sales Gate Intermediate Pressure stream crossing	-	-	130	-	-	-
		-	-	-	-	-	-
		-	-	-	-	-	-
		-	-	-	-	-	-
		-	-	-	-	-	-
	** include additional rows if needed*						
	All other projects or programmes - asset relocations	-	-	-	-	-	-
	Asset relocations expenditure	-	-	130	-	-	-
less	Capital contributions funding asset relocations	-	-	-	-	-	-
	Asset relocations less capital contributions	-	-	130	-	-	-

Company Name	**GasNet Limited**
AMP Planning Period	**1 July 2016 – 30 June 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.

sch ref

11a(vi): Quality of Supply

	for year ended	*Current Year CY* 30 Jun 16	*CY+1* 30 Jun 17	*CY+2* 30 Jun 18	*CY+3* 30 Jun 19	*CY+4* 30 Jun 20	*CY+5* 30 Jun 21
	*Project or programme**	**$000 (in constant prices)**					
	System reinforcement - Wanganui City 3 bridges MP Interconnect	28	20	50	-	-	-
	Low pressure network uprating	-	-	-	50	50	50
		-	-	-	-	-	-
		-	-	-	-	-	-
		-	-	-	-	-	-
	* include additional rows if needed						
	All other projects or programmes - quality of supply	-	-	-	-	-	-
	Quality of supply expenditure	28	20	50	50	50	50
less	Capital contributions funding quality of supply	-	-	-	-	-	-
	Quality of supply less capital contributions	28	20	50	50	50	50

11a(vii): Legislative and Regulatory

	Project or programme						
	Nothing planned	-	-	-	-	-	-
		-	-	-	-	-	-
		-	-	-	-	-	-
		-	-	-	-	-	-
		-	-	-	-	-	-
	* 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**						
	DRS Isolation Valves	10	10	10	10	10	10
	DRS Metering	-	-	-	25	25	25
	Interconnection of the dual IP mains – Heads Road	-	126	-	-	-	-
		-	-	-	-	-	-
		-	-	-	-	-	-
	* include additional rows if needed						
	All other projects or programmes - other reliability, safety and environment	-	-	-	-	-	-
	Other reliability, safety and environment expenditure	10	136	10	35	35	35
less	Capital contributions funding other reliability, safety and environment	-	-	-	-	-	-
	Other Reliability, safety and environment less capital contributions	10	136	10	35	35	35

Company Name	**GasNet Limited**
AMP Planning Period	**1 July 2016 – 30 June 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.

sch ref								
194	**11a(ix): Non-Network Assets**							
195	**Routine expenditure**							
196	*Project or programme**							
197	information and technology systems	40	35	40	40	40	40	
198	office buildings, depots and workshops	-	-	-	-	-	-	
199	office furniture and equipment	-	-	5	5	5	5	
200	motor vehicles	40	-	75	-	75	-	
201	tools, plant and machinery	22	-	20	20	20	20	
202	** include additional rows if needed*							
203	All other projects or programmes - routine expenditure	-	-	-	-	-	-	
204	**Routine expenditure**	102	35	140	65	140	65	
205	**Atypical expenditure**							
206	*Project or programme**							
207	Nothing planned	-	-	-	-	-	-	
208		-	-	-	-	-	-	
209		-	-	-	-	-	-	
210		-	-	-	-	-	-	
211		-	-	-	-	-	-	
212	** include additional rows if needed*							
213	All other projects or programmes - atypical expenditure							
214	**Atypical expenditure**	-	-	-	-	-	-	
215								
216	**Expenditure on non-network assets**	102	35	140	65	140	65	

Company Name	**GasNet Limited**
AMP Planning Period	**1 July 2016 – 30 June 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												
7		*Current year CY*	*CY+1*	*CY+2*	*CY+3*	*CY+4*	*CY+5*	*CY+6*	*CY+7*	*CY+8*	*CY+9*	*CY+10*
8	for year ended	**30 Jun 16**	**30 Jun 17**	**30 Jun 18**	**30 Jun 19**	**30 Jun 20**	**30 Jun 21**	**30 Jun 22**	**30 Jun 23**	**30 Jun 24**	**30 Jun 25**	**30 Jun 26**
9	**Operational Expenditure Forecast**	**$000 (in nominal dollars)**										
10	Service interruptions, incidents and emergencies	60	61	62	64	65	66	68	69	70	72	73
11	Routine and corrective maintenance and inspection	85	87	88	90	92	94	96	98	100	102	104
12	Asset replacement and renewal	-	-	-	-	-	-	-	-	-	-	-
13	**Network opex**	145	148	150	154	157	160	164	167	170	174	177
14	System operations and network support	680	694	707	722	736	751	766	781	797	813	829
15	Business support	765	780	796	812	828	845	862	879	896	914	933
16	**Non-network opex**	1,445	1,474	1,503	1,534	1,564	1,596	1,628	1,660	1,693	1,727	1,762
17	**Operational expenditure**	1,590	1,622	1,653	1,688	1,721	1,756	1,792	1,827	1,863	1,901	1,939
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 16**	**30 Jun 17**	**30 Jun 18**	**30 Jun 19**	**30 Jun 20**	**30 Jun 21**	**30 Jun 22**	**30 Jun 23**	**30 Jun 24**	**30 Jun 25**	**30 Jun 26**
20		**$000 (in constant prices)**										
21	Service interruptions, incidents and emergencies	60	60	60	60	60	60	60	60	60	60	60
22	Routine and corrective maintenance and inspection	85	85	85	85	85	85	85	85	85	85	85
23	Asset replacement and renewal	-	-	-	-	-	-	-	-	-	-	-
24	**Network opex**	145	145	145	145	145	145	145	145	145	145	145
25	System operations and network support	680	680	680	680	680	680	680	680	680	680	680
26	Business support	765	765	765	765	765	765	765	765	765	765	765
27	**Non-network opex**	1,445	1,445	1,445	1,445	1,445	1,445	1,445	1,445	1,445	1,445	1,445
28	**Operational expenditure**	1,590	1,590	1,590	1,590	1,590	1,590	1,590	1,590	1,590	1,590	1,590
29	**Subcomponents of operational expenditure (where known)**											
30	Research and development	-	-	-	-	-	-	-	-	-	-	-
	Insurance	170	170	170	170	170	170	170	170	170	170	170
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 16**	**30 Jun 17**	**30 Jun 18**	**30 Jun 19**	**30 Jun 20**	**30 Jun 21**	**30 Jun 22**	**30 Jun 23**	**30 Jun 24**	**30 Jun 25**	**30 Jun 26**
35	**Difference between nominal and real forecasts**	**$000**										
36	Service interruptions, incidents and emergencies	-	1	2	4	5	6	8	9	10	12	13
37	Routine and corrective maintenance and inspection	-	2	3	5	7	9	11	13	15	17	19
38	Asset replacement and renewal	-	-	-	-	-	-	-	-	-	-	-
39	**Network opex**	-	3	5	9	12	15	19	22	25	29	32
40	System operations and network support	-	14	27	42	56	71	86	101	117	133	149
41	Business support	-	15	31	47	63	80	97	114	131	149	168
42	**Non-network opex**	-	29	58	89	119	151	183	215	248	282	317
43	**Operational expenditure**	-	32	63	98	131	166	202	237	273	311	349

Company Name	**GasNet Limited**
AMP Planning Period	**1 July 2016 – 30 June 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	N/A	N/A	N/A	N/A	-	N/A	N/A
10	Intermediate Pressure	Main pipe	IP steel main pipe	km	-	-	-	100.00%	-	2	-
11	Intermediate Pressure	Main pipe	IP other main pipe	km	-	-	-	-	-	4	-
12	Intermediate Pressure	Service pipe	IP PE service pipe	km	N/A	N/A	N/A	N/A	-	N/A	N/A
13	Intermediate Pressure	Service pipe	IP steel service pipe	km	-	-	-	100.00%	-	2	-
14	Intermediate Pressure	Service pipe	IP other service pipe	km	-	-	-	-	-	4	-
15	Intermediate Pressure	Stations	Intermediate pressure DRS	No.	-	-	2.00%	98.00%	-	4	0.01
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	-	-	-	100.00%	-	2	-
19	Medium Pressure	Main pipe	MP steel main pipe	km	-	-	-	100.00%	-	2	-
20	Medium Pressure	Main pipe	MP other main pipe	km	-	-	-	-	-	4	-
21	Medium Pressure	Service pipe	MP PE service pipe	km	-	-	-	100.00%	-	2	-
22	Medium Pressure	Service pipe	MP steel service pipe	km	-	-	-	100.00%	-	2	-
23	Medium Pressure	Service pipe	MP other service pipe	km	-	-	-	-	-	4	-
24	Medium Pressure	Stations	Medium pressure DRS	No.	-	-	2.00%	98.00%	-	4	0.01
25	Medium Pressure	Line valve	MP line valves	No.	-	-	-	100.00%	-	2	-
26	Medium Pressure	Special crossings	MP special crossings	No.	-	-	5.00%	95.00%	-	2	0.05
27	Low Pressure	Main pipe	LP PE main pipe	km	-	-	-	100.00%	-	2	-
28	Low Pressure	Main pipe	LP steel main pipe	km	-	6.00%	94.00%	-	-	2	0.08
29	Low Pressure	Main pipe	LP other main pipe	km	-	6.00%	94.00%	-	-	2	0.08
30	Low Pressure	Service pipe	LP PE service pipe	km	-	-	-	100.00%	-	2	-
31	Low Pressure	Service pipe	LP steel service pipe	km	-	30.00%	70.00%	-	-	2	0.30
32	Low Pressure	Service pipe	LP other service pipe	km	-	30.00%	70.00%	-	-	2	-
33	Low Pressure	Line valve	LP line valves	No.	-	-	-	100.00%	-	4	-
34	Low Pressure	Special crossings	LP special crossings	No.	-	-	10.00%	90.00%	-	2	0.10
35	All	Monitoring and control systems	Remote terminal units	No.	-	-	-	100.00%	-	4	-
36	All	Cathodic protection systems	Cathodic protection	No.	-	-	-	100.00%	-	4	-

Company Name	GasNet Limited
AMP Planning Period	1 July 2016 – 30 June 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

7 **Forecast Utilisation of Heavily Utilised Pipelines**

8 **Utilisation**

sch ref	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 16	*CY+1* y/e 30 Jun 17	*CY+2* y/e 30 Jun 18	*CY+3* y/e 30 Jun 19	*CY+4* y/e 30 Jun 20	*CY+5* y/e 30 Jun 21	Comment
11								scmh							
12								kPa							
13								scmh							
14								kPa							
15								scmh							
16								kPa							
17								scmh							
18								kPa							
19								scmh							
20								kPa							
21								scmh							
22								kPa							
23								scmh							
24								kPa							
25								scmh							
26								kPa							
27								scmh							
28								kPa							
29								scmh							
30								kPa							

31 * *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.*

33 **Disclaimer for supply enquiries**

36 **Notes and assumptions**

37 Please refer to Asset Management Plan clause 10 and Appendix 3.3 - Schedule 12b: Forecast Utilisation

Company Name	**GasNet Limited**
AMP Planning Period	**1 July 2016 – 30 June 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 Jun 16**	*CY+1* **30 Jun 17**	*CY+2* **30 Jun 18**	*CY+3* **30 Jun 19**	*CY+4* **30 Jun 20**	*CY+5* **30 Jun 21**
Domestic	70	70	70	70	70	70
Non-domestic	10	10	10	10	10	10
Total	80	80	80	80	80	80

12c(ii): Gas Delivered

	Current year CY **30 Jun 16**	*CY+1* **30 Jun 17**	*CY+2* **30 Jun 18**	*CY+3* **30 Jun 19**	*CY+4* **30 Jun 20**	*CY+5* **30 Jun 21**
Number of ICPs at year end (at year end)	9,900	10,000	10,100	10,200	10,300	10,400
Maximum daily load (GJ per day)	5,020	5,070	5,120	5,170	5,220	5,270
Maximum monthly load (GJ per month)	126,120	127,380	128,650	129,940	131,240	132,550
Number of directly billed ICPs (at year end)	-	-	-	-	-	-
Total gas conveyed (GJ per annum)	1,254,000	1,266,540	1,279,210	1,292,000	1,304,920	1,317,970
Average daily delivery (GJ per day)	3,426	3,470	3,505	3,540	3,565	3,611
Load factor	82.86%	82.86%	82.86%	82.86%	82.86%	82.86%

Company Name	**GasNet Limited**
AMP Planning Period	**1 July 2016 – 30 June 2026**
Asset Management Standard Applied	**PAS 55:2008**

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY

This schedule requires information on the GDB'S self-assessment of the maturity of its asset management practices.

Question No.	Function	Question	Score	Evidence—Summary	Why	Who	Record/documented Information
3	Asset management policy	To what extent has an asset management policy been documented, authorised and communicated?	2.5	GasNet's Asset Management Policy was approved by its Board of Directors on 24 June 2014 following the usual internal consultation process with staff. All 4 managers that comprise the Management Team have attended formal asset management courses.	Widely used AM practice standards require an organisation to document, authorise and communicate its asset management policy (eg, as required in PAS 55 para 4.2 i). A key pre-requisite of any robust policy is that the organisation's top management must be seen to endorse and fully support it. Also vital to the effective implementation of the policy, is to tell the appropriate people of its content and their obligations under it. Where an organisation outsources some of its asset-related activities, then these people and their organisations must equally be made aware of the policy's content. Also, there may be other stakeholders, such as regulatory authorities and shareholders who should be made aware of it.	Top management. The management team that has overall responsibility for asset management.	The organisation's asset management policy, its organisational strategic plan, documents indicating how the asset management policy was based upon the needs of the organisation and evidence of communication.
10	Asset management strategy	What has the organisation done to ensure that its asset management strategy is consistent with other appropriate organisational policies and strategies, and the needs of stakeholders?	2.5	Whilst GasNet does not have a formal documented AMP Strategy, strategic planning is integral to its asset management operations and planning. The annual planning process which is approved by the Board provides activities planned for the coming year of which a number of items will refer to an overall strategy. GasNet's Management Team meet regularly to discuss operational and strategic matters, and are actively involved in the development and review of all policies and procedures.	In setting an organisation's asset management strategy, it is important that it is consistent with any other policies and strategies that the organisation has and has taken into account the requirements of relevant stakeholders. This question examines to what extent the asset management strategy is consistent with other organisational policies and strategies (eg, as required by PAS 55 para 4.3.1 b) and has taken account of stakeholder requirements as required by PAS 55 para 4.3.1 c). Generally, this will take into account the same polices, strategies and stakeholder requirements as covered in drafting the asset management policy but at a greater level of detail.	Top management. The organisation's strategic planning team. The management team that has overall responsibility for asset management.	The organisation's asset management strategy document and other related organisational policies and strategies. Other than the organisation's strategic plan, these could include those relating to health and safety, environmental, etc. Results of stakeholder consultation.
11	Asset management strategy	In what way does the organisation's asset management strategy take account of the lifecycle of the assets, asset types and asset systems over which the organisation has stewardship?	2.5	GasNet's personnel and in particular the General Manager, Engineering Manager and Engineering Supervisor have a wealth of asset knowledge and very much focussed on ensuring they are managed effectively, efficiently and safely throughout their lifecycle.	Good asset stewardship is the hallmark of an organisation compliant with widely used AM standards. A key component of this is the need to take account of the lifecycle of the assets, asset types and asset systems. (For example, this requirement is recognised in 4.3.1 d) of PAS 55). This question explores what an organisation has done to take lifecycle into account in its asset management strategy.	Top management. People in the organisation with expert knowledge of the assets, asset types, asset systems and their associated life-cycles. The management team that has overall responsibility for asset management. Those responsible for developing and adopting methods and processes used in asset management	The organisation's documented asset management strategy and supporting working documents.
26	Asset management plan(s)	How does the organisation establish and document its asset management plan(s) across the life cycle activities of its assets and asset systems?	2.5	GasNet has effectively produced a version of a fully compliant Asset Management Plan that whilst diluted, nevertheless provides evidence of GasNet's asset management strategies and practices. In the development of its AMP it has become evident that further enhancements in progressing to a fully compliant asset Management Plan will not be difficult.	The asset management strategy need to be translated into practical plan(s) so that all parties know how the objectives will be achieved. The development of plan(s) will need to identify the specific tasks and activities required to optimize costs, risks and performance of the assets and/or asset system(s), when they are to be carried out and the resources required.	The management team with overall responsibility for the asset management system. Operations, maintenance and engineering managers.	The organisation's asset management plan(s).

Company Name	**GasNet Limited**
AMP Planning Period	**1 July 2016 – 30 June 2026**
Asset Management Standard Applied	**PAS 55:2008**

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Maturity Level 0	Maturity Level 1	Maturity Level 2	Maturity Level 3	Maturity Level 4
3	Asset management policy	To what extent has an asset management policy been documented, authorised and communicated?	The organisation does not have a documented asset management policy.	The organisation has an asset management policy, but it has not been authorised by top management, or it is not influencing the management of the assets.	The organisation has an asset management policy, which has been authorised by top management, but it has had limited circulation. It may be in use to influence development of strategy and planning but its effect is limited.	The asset management policy is authorised by top management, is widely and effectively communicated to all relevant employees and stakeholders, and used to make these persons aware of their asset related obligations.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
10	Asset management strategy	What has the organisation done to ensure that its asset management strategy is consistent with other appropriate organisational policies and strategies, and the needs of stakeholders?	The organisation has not considered the need to ensure that its asset management strategy is appropriately aligned with the organisation's other organisational policies and strategies or with stakeholder requirements. OR The organisation does not have an asset management strategy.	The need to align the asset management strategy with other organisational policies and strategies as well as stakeholder requirements is understood and work has started to identify the linkages or to incorporate them in the drafting of asset management strategy.	Some of the linkages between the long-term asset management strategy and other organisational policies, strategies and stakeholder requirements are defined but the work is fairly well advanced but still incomplete.	All linkages are in place and evidence is available to demonstrate that, where appropriate, the organisation's asset management strategy is consistent with its other organisational policies and strategies. The organisation has also identified and considered the requirements of relevant stakeholders.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
11	Asset management strategy	In what way does the organisation's asset management strategy take account of the lifecycle of the assets, asset types and asset systems over which the organisation has stewardship?	The organisation has not considered the need to ensure that its asset management strategy is produced with due regard to the lifecycle of the assets, asset types or asset systems that it manages. OR The organisation does not have an asset management strategy.	The need is understood, and the organisation is drafting its asset management strategy to address the lifecycle of its assets, asset types and asset systems.	The long-term asset management strategy takes account of the lifecycle of some, but not all, of its assets, asset types and asset systems.	The asset management strategy takes account of the lifecycle of all of its assets, asset types and asset systems.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
26	Asset management plan(s)	How does the organisation establish and document its asset management plan(s) across the life cycle activities of its assets and asset systems?	The organisation does not have an identifiable asset management plan(s) covering asset systems and critical assets.	The organisation has asset management plan(s) but they are not aligned with the asset management strategy and objectives and do not take into consideration the full asset life cycle (including asset creation, acquisition, enhancement, utilisation, maintenance decommissioning and disposal).	The organisation is in the process of putting in place comprehensive, documented asset management plan(s) that cover all life cycle activities, clearly aligned to asset management objectives and the asset management strategy.	Asset management plan(s) are established, documented, implemented and maintained for asset systems and critical assets to achieve the asset management strategy and asset management objectives across all life cycle phases.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.

Company Name	GasNet Limited
AMP Planning Period	1 July 2016 – 30 June 2026
Asset Management Standard Applied	PAS 55:2008

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Score	Evidence—Summary	Why	Who	Record/documented Information
27	Asset management plan(s)	How has the organisation communicated its plan(s) to all relevant parties to a level of detail appropriate to the receiver's role in their delivery?	3	Whilst GasNet only recently published its first AMP in 2013, the information contained within will be known to those who need to know appropriate to their role and/or interest. Due to the small centralised operation there is very good awareness of what other personnel are doing within the company and with a close and effective Management Team, information is effectively communicated to others as required. The General Manager provides appropriately detailed monthly reports to the Board of Directors who in turn take an active interest at Board of Directors meetings attended by the General Manager. The Chairman of the Board is also Chairman of the shareholder Wanganui Gas Limited, its shareholder Whanganui District Council Holdings Limited and in view of the latter has regular direct contact with the Whanganui District Council as "ultimate" shareholder.	Plans will be ineffective unless they are communicated to all those, including contracted suppliers and those who undertake enabling function(s). The plan(s) need to be communicated in a way that is relevant to those who need to use them.	The management team with overall responsibility for the asset management system. Delivery functions and suppliers.	Distribution lists for plan(s). Documents derived from plan(s) which detail the receivers role in plan delivery. Evidence of communication.
29	Asset management plan(s)	How are designated responsibilities for delivery of asset plan actions documented?	3	Responsibilities are clearly defined in Position Descriptions for all GasNet employees and reviewed on an annual basis in conjunction with the Personal Performance & Development Review (PPDR). Documented Policies and Procedures provide more detailed specific responsibilities and a thorough consultation process ensures maximum knowledge and understanding. Due to the small size of the company and the fact that almost every role is unique, the responsibilities are in most instances apparent to the position holder and others. No one else would logically share or take the responsibility.	The implementation of asset management plan(s) relies on (1) actions being clearly identified, (2) an owner allocated and (3) that owner having sufficient delegated responsibility and authority to carry out the work required. It also requires alignment of actions across the organisation. This question explores how well the plan(s) set out responsibility for delivery of asset plan actions.	The management team with overall responsibility for the asset management system. Operations, maintenance and engineering managers. If appropriate, the performance management team.	The organisation's asset management plan(s). Documentation defining roles and responsibilities of individuals and organisational departments.
31	Asset management plan(s)	What has the organisation done to ensure that appropriate arrangements are made available for the efficient and cost effective implementation of the plan(s)? (Note this is about resources and enabling support)	2.5	All Managers have clear responsibilities within their Position Descriptions for the management of resources under their control, both direct labour and external, and for meeting the company needs and legislative obligations relevant to the role. The Management Team meet regularly and have a good understanding of the issues at hand and their management. Additional financial resources have been made available when necessary to obtain specialist external support where it would be otherwise uneconomic to employ someone for that task. GasNet considers it is well placed to manage any resource issues that might arise through formalisation and further development of its AMP.	It is essential that the plan(s) are realistic and can be implemented, which requires appropriate resources to be available and enabling mechanisms in place. This question explores how well this is achieved. The plan(s) not only need to consider the resources directly required and timescales, but also the enabling activities, including for example, training requirements, supply chain capability and procurement timescales.	The management team with overall responsibility for the asset management system. Operations, maintenance and engineering managers. If appropriate, the performance management team. If appropriate, the performance management team. Where appropriate the procurement team and service providers working on the organisation's asset-related activities.	The organisation's asset management plan(s). Documented processes and procedures for the delivery of the asset management plan.
33	Contingency planning	What plan(s) and procedure(s) does the organisation have for identifying and responding to incidents and emergency situations and ensuring continuity of critical asset management activities?	3	GasNet's Emergency Plan is well established and understood within the Company and a core document with its origins in the early 1990's. Because of the small size of the company, roles that are both clearly defined and understood by all, and a team approach has proven time after time that GasNet is well placed to manage adverse events when they occur. Recent enhancements associated with the formalisation of its Public Safety Management System and its associated focus on risk and emergency management has further improved GasNet's preparedness.	Widely used AM practice standards require that an organisation has plan(s) to identify and respond to emergency situations. Emergency plan(s) should outline the actions to be taken to respond to specified emergency situations and ensure continuity of critical asset management activities including the communication to, and involvement of, external agencies. This question assesses if, and how well, these plan(s) triggered, implemented and resolved in the event of an incident. The plan(s) should be appropriate to the level of risk as determined by the organisation's risk assessment methodology. It is also a requirement that relevant personnel are competent and trained.	The manager with responsibility for developing emergency plan(s). The organisation's risk assessment team. People with designated duties within the plan(s) and procedure(s) for dealing with incidents and emergency situations.	The organisation's plan(s) and procedure(s) for dealing with emergencies. The organisation's risk assessments and risk registers.

Company Name	GasNet Limited
AMP Planning Period	1 July 2016 – 30 June 2026
Asset Management Standard Applied	PAS 55:2008

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Maturity Level 0	Maturity Level 1	Maturity Level 2	Maturity Level 3	Maturity Level 4
27	Asset management plan(s)	How has the organisation communicated its plan(s) to all relevant parties to a level of detail appropriate to the receiver's role in their delivery?	The organisation does not have plan(s) or their distribution is limited to the authors.	The plan(s) are communicated to some of those responsible for delivery of the plan(s). OR Communicated to those responsible for delivery is either irregular or ad-hoc.	The plan(s) are communicated to most of those responsible for delivery but there are weaknesses in identifying relevant parties resulting in incomplete or inappropriate communication. The organisation recognises improvement is needed as is working towards resolution.	The plan(s) are communicated to all relevant employees, stakeholders and contracted service providers to a level of detail appropriate to their participation or business interests in the delivery of the plan(s) and there is confirmation that they are being used effectively.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
29	Asset management plan(s)	How are designated responsibilities for delivery of asset plan actions documented?	The organisation has not documented responsibilities for delivery of asset plan actions.	Asset management plan(s) inconsistently document responsibilities for delivery of plan actions and activities and/or responsibilities and authorities for implementation inadequate and/or delegation level inadequate to ensure effective delivery and/or contain misalignments with organisational accountability.	Asset management plan(s) consistently document responsibilities for the delivery of actions but responsibility/authority levels are inappropriate/ inadequate, and/or there are misalignments within the organisation.	Asset management plan(s) consistently document responsibilities for the delivery actions and there is adequate detail to enable delivery of actions. Designated responsibility and authority for achievement of asset plan actions is appropriate.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
31	Asset management plan(s)	What has the organisation done to ensure that appropriate arrangements are made available for the efficient and cost effective implementation of the plan(s)? (Note this is about resources and enabling support)	The organisation has not considered the arrangements needed for the effective implementation of plan(s).	The organisation recognises the need to ensure appropriate arrangements are in place for implementation of asset management plan(s) and is in the process of determining an appropriate approach for achieving this.	The organisation has arrangements in place for the implementation of asset management plan(s) but the arrangements are not yet adequately efficient and/or effective. The organisation is working to resolve existing weaknesses.	The organisation's arrangements fully cover all the requirements for the efficient and cost effective implementation of asset management plan(s) and realistically address the resources and timescales required, and any changes needed to functional policies, standards, processes and the asset management information system.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
33	Contingency planning	What plan(s) and procedure(s) does the organisation have for identifying and responding to incidents and emergency situations and ensuring continuity of critical asset management activities?	The organisation has not considered the need to establish plan(s) and procedure(s) to identify and respond to incidents and emergency situations.	The organisation has some ad-hoc arrangements to deal with incidents and emergency situations, but these have been developed on a reactive basis in response to specific events that have occurred in the past.	Most credible incidents and emergency situations are identified. Either appropriate plan(s) and procedure(s) are incomplete for critical activities or they are inadequate. Training/ external alignment may be incomplete.	Appropriate emergency plan(s) and procedure(s) are in place to respond to credible incidents and manage continuity of critical asset management activities consistent with policies and asset management objectives. Training and external agency alignment is in place.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.

Company Name	GasNet Limited
AMP Planning Period	1 July 2016 – 30 June 2026
Asset Management Standard Applied	PAS 55:2008

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Score	Evidence—Summary	Why	Who	Record/documented Information
37	Structure, authority and responsibilities	What has the organisation done to appoint member(s) of its management team to be responsible for ensuring that the organisation's assets deliver the requirements of the asset management strategy, objectives and plan(s)?	3	The 3 Section Managers are each directly responsible to the General Manager and collectively responsible for delivery of the company's business requirements. Each Section is functionally based with little scope for confusion. Roles and responsibilities are clearly defined in Position Descriptions and delegated authorities are clearly understood and reflected in the managers performance and behaviour.	In order to ensure that the organisation's assets and asset systems deliver the requirements of the asset management policy, strategy and objectives responsibilities need to be allocated to appropriate people who have the necessary authority to fulfil their responsibilities. (This question, relates to the organisation's assets eg, para b), s 4.4.1 of PAS 55, making it therefore distinct from the requirement contained in para a), s 4.4.1 of PAS 55).	Top management. People with management responsibility for the delivery of asset management policy, strategy, objectives and plan(s). People working on asset-related activities.	Evidence that managers with responsibility for the delivery of asset management policy, strategy, objectives and plan(s) have been appointed and have assumed their responsibilities. Evidence may include the organisation's documents relating to its asset management system, organisational charts, job descriptions of post-holders, annual targets/objectives and personal development plan(s) of post-holders as appropriate.
40	Structure, authority and responsibilities	What evidence can the organisation's top management provide to demonstrate that sufficient resources are available for asset management?	3	GasNet's Management Team is highly effective at identifying and managing resourcing issues and needs as they are identified or become apparent. In addition to their management responsibilities the managers are operational and work closely with their direct reports within the same small office environment. The Management Team is efficient because of its active participation and size in making changes when necessary to ensure business requirements are met. Where the change requires additional resources and/or guidance from the Board, the General Manager has access to a designated Director outside of official Board meetings, and has a good working relationship with the Board during meetings. The Management Team is constantly aware of the increasing and changing resourcing needs, particularly given the recent changes in safety and commercial legislation and has made a number of significant resourcing changes. The asset management resourcing needs will continue to be monitored and addressed as necessary.	Optimal asset management requires top management to ensure sufficient resources are available. In this context the term 'resources' includes manpower, materials, funding and service provider support.	Top management. The management team that has overall responsibility for asset management. Risk management team. The organisation's managers involved in day-to-day supervision of asset-related activities, such as frontline managers, engineers, foremen and chargehands as appropriate.	Evidence demonstrating that asset management plan(s) and/or the process(es) for asset management plan implementation consider the provision of adequate resources in both the short and long term. Resources include funding, materials, equipment, services provided by third parties and personnel (internal and service providers) with appropriate skills competencies and knowledge.
42	Structure, authority and responsibilities	To what degree does the organisation's top management communicate the importance of meeting its asset management requirements?	3	Each of the 3 Section Managers that along with the General Manager make up the Management Team manage a small number of direct reports with whom regular operational meetings are held. With the relatively small number of employees GasNet could not operate effectively if individuals did not have a good understanding of what they are required to do and what is expected of others. In addition to the formal and informal communication from their managers, all office based employees operate out of a single open plan office effectively exposing them to all aspects of GasNet's business activities both strategic and operational, with a consequence that there is a good understanding of business systems and processes.	Widely used AM practice standards require an organisation to communicate the importance of meeting its asset management requirements such that personnel fully understand, take ownership of, and are fully engaged in the delivery of the asset management requirements (eg, PAS 55 s 4.4.1 g).	Top management. The management team that has overall responsibility for asset management. People involved in the delivery of the asset management requirements.	Evidence of such activities as road shows, written bulletins, workshops, team talks and management walk-abouts would assist an organisation to demonstrate it is meeting this requirement of PAS 55.
45	Outsourcing of asset management activities	Where the organisation has outsourced some of its asset management activities, how has it ensured that appropriate controls are in place to ensure the compliant delivery of its organisational strategic plan, and its asset management policy and strategy?	N/A	GasNet does not outsource asset management activities. GasNet has, and will continue to seek occasional ad hoc specialist support from external parties, but whenever it does the responsibility for the activity remains clearly with the relevant Manager.	Where an organisation chooses to outsource some of its asset management activities, the organisation must ensure that these outsourced process(es) are under appropriate control to ensure that all the requirements of widely used AM standards (eg, PAS 55) are in place, and the asset management policy, strategy objectives and plan(s) are delivered. This includes ensuring capabilities and resources across a time span aligned to life cycle management. The organisation must put arrangements in place to control the outsourced activities, whether it be to external providers or to other in-house departments. This question explores what the organisation does in this regard.	Top management. The management team that has overall responsibility for asset management. The manager(s) responsible for the monitoring and management of the outsourced activities. People involved with the procurement of outsourced activities. The people within the organisations that are performing the outsourced activities. The people impacted by the outsourced activity.	The organisation's arrangements that detail the compliance required of the outsourced activities. For example, this this could form part of a contract or service level agreement between the organisation and the suppliers of its outsourced activities. Evidence that the organisation has demonstrated to itself that it has assurance of compliance of outsourced activities.

Company Name	GasNet Limited
AMP Planning Period	1 July 2016 – 30 June 2026
Asset Management Standard Applied	PAS 55:2008

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Maturity Level 0	Maturity Level 1	Maturity Level 2	Maturity Level 3	Maturity Level 4
37	Structure, authority and responsibilities	What has the organisation done to appoint member(s) of its management team to be responsible for ensuring that the organisation's assets deliver the requirements of the asset management strategy, objectives and plan(s)?	Top management has not considered the need to appoint a person or persons to ensure that the organisation's assets deliver the requirements of the asset management strategy, objectives and plan(s).	Top management understands the need to appoint a person or persons to ensure that the organisation's assets deliver the requirements of the asset management strategy, objectives and plan(s).	Top management has appointed an appropriate people to ensure the assets deliver the requirements of the asset management strategy, objectives and plan(s) but their areas of responsibility are not fully defined and/or they have insufficient delegated authority to fully execute their responsibilities.	The appointed person or persons have full responsibility for ensuring that the organisation's assets deliver the requirements of the asset management strategy, objectives and plan(s). They have been given the necessary authority to achieve this.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
40	Structure, authority and responsibilities	What evidence can the organisation's top management provide to demonstrate that sufficient resources are available for asset management?	The organisation's top management has not considered the resources required to deliver asset management.	The organisations top management understands the need for sufficient resources but there are no effective mechanisms in place to ensure this is the case.	A process exists for determining what resources are required for its asset management activities and in most cases these are available but in some instances resources remain insufficient.	An effective process exists for determining the resources needed for asset management and sufficient resources are available. It can be demonstrated that resources are matched to asset management requirements.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
42	Structure, authority and responsibilities	To what degree does the organisation's top management communicate the importance of meeting its asset management requirements?	The organisation's top management has not considered the need to communicate the importance of meeting asset management requirements.	The organisations top management understands the need to communicate the importance of meeting its asset management requirements but does not do so.	Top management communicates the importance of meeting its asset management requirements but only to parts of the organisation.	Top management communicates the importance of meeting its asset management requirements to all relevant parts of the organisation.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
45	Outsourcing of asset management activities	Where the organisation has outsourced some of its asset management activities, how has it ensured that appropriate controls are in place to ensure the compliant delivery of its organisational strategic plan, and its asset management policy and strategy?	The organisation has not considered the need to put controls in place.	The organisation controls its outsourced activities on an ad-hoc basis, with little regard for ensuring for the compliant delivery of the organisational strategic plan and/or its asset management policy and strategy.	Controls systematically considered but currently only provide for the compliant delivery of some, but not all, aspects of the organisational strategic plan and/or its asset management policy and strategy. Gaps exist.	Evidence exists to demonstrate that outsourced activities are appropriately controlled to provide for the compliant delivery of the organisational strategic plan, asset management policy and strategy, and that these controls are integrated into the asset management system	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.

Company Name	GasNet Limited
AMP Planning Period	1 July 2016 – 30 June 2026
Asset Management Standard Applied	PAS 55:2008

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Score	Evidence—Summary	Why	Who	Record/documented Information
48	Training, awareness and competence	How does the organisation develop plan(s) for the human resources required to undertake asset management activities - including the development and delivery of asset management strategy, process(es), objectives and plan(s)?	2.5	With clearly defined Position Descriptions within a functionally based organisational structure, the responsibilities and expectations from each employee are well documented and understood by all. All employees are subject to an annual Personal Performance and Development Review (PPDR) attended by their supervisor/manager and manager/General Manager, where their performance over the past 12 months is reviewed, performance targets for the next 12 months are set and agreed, and any training needs resulting from personal development of changing business needs are discussed and agreed.	There is a need for an organisation to demonstrate that it has considered what resources are required to develop and implement its asset management system. There is also a need for the organisation to demonstrate that it has assessed what development plan(s) are required to provide its human resources with the skills and competencies to develop and implement its asset management systems. The timescales over which the plan(s) are relevant should be commensurate with the planning horizons within the asset management strategy considers e.g. if the asset management strategy considers 5, 10 and 15 year time scales then the human resources development plan(s) should align with these. Resources include both 'in house' and external resources who undertake asset management activities.	Senior management responsible for agreement of plan(s). Managers responsible for developing asset management strategy and plan(s). Managers with responsibility for development and recruitment of staff (including HR functions). Staff responsible for training. Procurement officers. Contracted service providers.	Evidence of analysis of future work load plan(s) in terms of human resources. Document(s) containing analysis of the organisation's own direct resources and contractors resource capability over suitable timescales. Evidence, such as minutes of meetings, that suitable management forums are monitoring human resource development plan(s). Training plan(s), personal development plan(s), contract and service level agreements.
49	Training, awareness and competence	How does the organisation identify competency requirements and then plan, provide and record the training necessary to achieve the competencies?	2.5	Requirements for change are guided by GasNet's Change Management Policy, as a result of an identified need or deficiency occurring following an incident or non-conformance of a system or process, or during the annual Personal Performance and Development Review (PPDR). The annual training budget is based on a training plan developed at the time the budget is prepared and is based on the plan rather than a nominal percentage of salary target. Competencies achieved are recorded in the employees Personnel File and in the Risk Manager application.	Widely used AM standards require that organisations to undertake a systematic identification of the asset management awareness and competencies required at each level and function within the organisation. Once identified the training required to provide the necessary competencies should be planned for delivery in a timely and systematic way. Any training provided must be recorded and maintained in a suitable format. Where an organisation has contracted service providers in place then it should have a means to demonstrate that this requirement is being met for their employees. (eg, PAS 55 refers to frameworks suitable for identifying competency requirements).	Senior management responsible for agreement of plan(s). Managers responsible for developing asset management strategy and plan(s). Managers with responsibility for development and recruitment of staff (including HR functions). Staff responsible for training. Procurement officers. Contracted service providers.	Evidence of an established and applied competency requirements assessment process and plan(s) in place to deliver the required training. Evidence that the training programme is part of a wider, co-ordinated asset management activities training and competency programme. Evidence that training activities are recorded and that records are readily available (for both direct and contracted service provider staff) e.g. via organisation wide information system or local records database.
50	Training, awareness and competence	How does the organization ensure that persons under its direct control undertaking asset management related activities have an appropriate level of competence in terms of education, training or experience?	3	Each of the 3 Section Managers have an appropriate and relevant combination of qualifications and experience required for the position they hold. The Engineering Manager, a key asset management role, has two NZCE's the first in Mechanical Engineering and the second in Gas, combined with 29 years experience covering all aspects of natural gas distribution engineering. The General Manager has a Degree in Mechanical Engineering and has 35 years experience in gas distribution engineering both in NZ and UK. The Engineering Supervisor has 40 years experience in a variety of field based operational gas distribution engineering roles. The Engineering Supervisor and 4 Technicians have all been trained under the NZ qualifications framework to National Certificate Levels 3 and 4 in accordance with NZ Gas Industry minimum competency requirements as specified in the GANZ Certificate of Competency Framework. In addition to this platform of qualifications, experience and competencies it is relatively easy to identify non-performance and deficiencies in competence within a company the size of GasNet and where employees work within the same open plan office environment.	A critical success factor for the effective development and implementation of an asset management system is the competence of persons undertaking these activities. organisations should have effective means in place for ensuring the competence of employees to carry out their designated asset management function(s). Where an organisation has contracted service providers undertaking elements of its asset management system then the organisation shall assure itself that the outsourced service provider also has suitable arrangements in place to manage the competencies of its employees. The organisation should ensure that the individual and corporate competencies it requires are in place and actively monitor, develop and maintain an appropriate balance of these competencies.	Managers, supervisors, persons responsible for developing training programmes. Staff responsible for procurement and service agreements. HR staff and those responsible for recruitment.	Evidence of a competency assessment framework that aligns with established frameworks such as the asset management Competencies Requirements Framework (Version 2.0); National Occupational Standards for Management and Leadership; UK Standard for Professional Engineering Competence, Engineering Council, 2005.
53	Communication, participation and consultation	How does the organisation ensure that pertinent asset management information is effectively communicated to and from employees and other stakeholders, including contracted service providers?	2.5	GasNet provides its employees open access to required documentation through the Company Intranet, with the exception of commercially sensitive and confidential documents and information. Where there is an identified need for a specific group or individual in respect of information whether it be asset management or any other information, the relevant manager will ensure those needs are met. There is a good communication link between the Management Team and the Board of Directors via the General Manager and regularly reporting to the Board on a monthly basis. In view of the low level of activity and the advisory nature of the engagement, contracted service providers are not typically exposed to, nor require access to asset management information, but clearly would be provided with such if it were required in order to complete the task.	Widely used AM practice standards require that pertinent asset management information is effectively communicated to and from employees and other stakeholders including contracted service providers. Pertinent information refers to information required in order to effectively and efficiently comply with and deliver asset management strategy, plan(s) and objectives. This will include for example the communication of the asset management policy, asset performance information, and planning information as appropriate to contractors.	Top management and senior management representative(s), employee's representative(s), employee's trade union representative(s); contracted service provider management and employee representative(s); representative(s) from the organisation's Health, Safety and Environmental team. Key stakeholder representative(s).	Asset management policy statement prominently displayed on notice boards, intranet and internet; use of organisation's website for displaying asset performance data; evidence of formal briefings to employees, stakeholders and contracted service providers; evidence of inclusion of asset management issues in team meetings and contracted service provider contract meetings; newsletters, etc.

Company Name	GasNet Limited
AMP Planning Period	1 July 2016 – 30 June 2026
Asset Management Standard Applied	PAS 55:2008

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Maturity Level 0	Maturity Level 1	Maturity Level 2	Maturity Level 3	Maturity Level 4
48	Training, awareness and competence	How does the organisation develop plan(s) for the human resources required to undertake asset management activities - including the development and delivery of asset management strategy, process(es), objectives and plan(s)?	The organisation has not recognised the need for assessing human resources requirements to develop and implement its asset management system.	The organisation has recognised the need to assess its human resources requirements and to develop a plan(s). There is limited recognition of the need to align these with the development and implementation of its asset management system.	The organisation has developed a strategic approach to aligning competencies and human resources to the asset management system including the asset management plan but the work is incomplete or has not been consistently implemented.	The organisation can demonstrate that plan(s) are in place and effective in matching competencies and capabilities to the asset management system including the plan for both internal and contracted activities. Plans are reviewed integral to asset management system process(es).	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
49	Training, awareness and competence	How does the organisation identify competency requirements and then plan, provide and record the training necessary to achieve the competencies?	The organisation does not have any means in place to identify competency requirements.	The organisation has recognised the need to identify competency requirements and then plan, provide and record the training necessary to achieve the competencies.	The organisation is the process of identifying competency requirements aligned to the asset management plan(s) and then plan, provide and record appropriate training. It is incomplete or inconsistently applied.	Competency requirements are in place and aligned with asset management plan(s). Plans are in place and effective in providing the training necessary to achieve the competencies. A structured means of recording the competencies achieved is in place.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
50	Training, awareness and competence	How does the organization ensure that persons under its direct control undertaking asset management related activities have an appropriate level of competence in terms of education, training or experience?	The organization has not recognised the need to assess the competence of person(s) undertaking asset management related activities.	Competency of staff undertaking asset management related activities is not managed or assessed in a structured way, other than formal requirements for legal compliance and safety management.	The organization is in the process of putting in place a means for assessing the competence of person(s) involved in asset management activities including contractors. There are gaps and inconsistencies.	Competency requirements are identified and assessed for all persons carrying out asset management related activities - internal and contracted. Requirements are reviewed and staff reassessed at appropriate intervals aligned to asset management requirements.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
53	Communication, participation and consultation	How does the organisation ensure that pertinent asset management information is effectively communicated to and from employees and other stakeholders, including contracted service providers?	The organisation has not recognised the need to formally communicate any asset management information.	There is evidence that the pertinent asset management information to be shared along with those to share it with is being determined.	The organisation has determined pertinent information and relevant parties. Some effective two way communication is in place but as yet not all relevant parties are clear on their roles and responsibilities with respect to asset management information.	Two way communication is in place between all relevant parties, ensuring that information is effectively communicated to match the requirements of asset management strategy, plan(s) and process(es). Pertinent asset information requirements are regularly reviewed.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.

Company Name	GasNet Limited
AMP Planning Period	1 July 2016 – 30 June 2026
Asset Management Standard Applied	PAS 55:2008

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Score	Evidence—Summary	Why	Who	Record/documented Information
59	Asset Management System documentation	What documentation has the organisation established to describe the main elements of its asset management system and interactions between them?	2.5	GasNet has an extensive range of documentation to support its asset management, such as policies, procedures and plans integrated with its risk management, public and workplace safety management systems. The review processes referred to in the AMP and its alignment with the regulatory requirements under the IDD will provide the catalyst for the identification of any gaps in the existing systems and documentation and formalisation of the asset management system.	Widely used AM practice standards require an organisation maintain up to date documentation that ensures that its asset management systems (ie, the systems the organisation has in place to meet the standards) can be understood, communicated and operated. (eg, s 4.5 of PAS 55 requires the maintenance of up to date documentation of the asset management system requirements specified throughout s 4 of PAS 55).	The management team that has overall responsibility for asset management. Managers engaged in asset management activities.	The documented information describing the main elements of the asset management system (process(es)) and their interaction.
62	Information management	What has the organisation done to determine what its asset management information system(s) should contain in order to support its asset management system?	2	GasNet identified its needs through a review conducted in 2012 and culminating in the adoption of a project plan by the Management Team. Produced in MS Project the planner covered both the requirements to develop a fully compliant Asset Management Plan in addition to the unrelated requirements associated with the implementation of the Public Safety Management System (PSMS). The needs for the AMP were based on guidance from the NAMS International Infrastructure Management Manual (IIMM) and assigned to the relevant Section Manager. Implementation of the more detailed elements of asset management planning has been completed to varying degrees with resources more recently being focussed on completion of the Transitional Asset Management Plan.	Effective asset management requires appropriate information to be available. Widely used AM standards therefore require the organisation to identify the asset management information it requires in order to support its asset management system. Some of the information required may be held by suppliers. The maintenance and development of asset management information systems is a poorly understood specialist activity that is akin to IT management but different from IT management. This group of questions provides some indications as to whether the capability is available and applied. Note: To be effective, an asset information management system requires the mobilisation of technology, people and process(es) that create, secure, make available and destroy the information required to support the asset management system.	The organisation's strategic planning team. The management team that has overall responsibility for asset management. Information management team. Operations, maintenance and engineering managers	Details of the process the organisation has employed to determine what its asset information system should contain in order to support its asset management system. Evidence that this has been effectively implemented.
63	Information management	How does the organisation maintain its asset management information system(s) and ensure that the data held within it (them) is of the requisite quality and accuracy and is consistent?	2	GasNet has developed a robust document management system combined with registers providing a record of documents held and their status. GasNet has identified its GIS, MIDaS and KernMobile applications as its core asset information systems and with access limited to only a few personnel with the authority to change and update data, the reliance is on the competency of the persons making those changes to maintain quality. With its increasing use and dependency on electronic based data GasNet has recognised the need to set and maintain standards in data management and quality, and in conjunction with a business system process review being undertaken at the time of preparing this document, plans to introduce systems to check data accuracy.	The response to the questions is progressive. A higher scale cannot be awarded without achieving the requirements of the lower scale. This question explores how the organisation ensures that information management meets widely used AM practice requirements (eg, s 4.4.6 (a), (c) and (d) of PAS 55).	The management team that has overall responsibility for asset management. Users of the organisational information systems.	The asset management information system, together with the policies, procedure(s), improvement initiatives and audits regarding information controls.
64	Information management	How has the organisation's ensured its asset management information system is relevant to its needs?	2	Following the review undertaken in 2012 referred to in qu 62 above, GasNet identified opportunities for improvement in its information systems all of which are considered manageable and achievable and assigned responsibilities to the relevant Section Manager,	Widely used AM standards need not be prescriptive about the form of the asset management information system, but simply require that the asset management information system is appropriate to the organisations needs, can be effectively used and can supply information which is consistent and of the requisite quality and accuracy.	The organisation's strategic planning team. The management team that has overall responsibility for asset management. Information management team. Users of the organisational information systems.	The documented process the organisation employs to ensure its asset management information system aligns with its asset management requirements. Minutes of information systems review meetings involving users.

Company Name	**GasNet Limited**
AMP Planning Period	**1 July 2016 – 30 June 2026**
Asset Management Standard Applied	**PAS 55:2008**

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Maturity Level 0	Maturity Level 1	Maturity Level 2	Maturity Level 3	Maturity Level 4
59	Asset Management System documentation	What documentation has the organisation established to describe the main elements of its asset management system and interactions between them?	The organisation has not established documentation that describes the main elements of the asset management system.	The organisation is aware of the need to put documentation in place and is in the process of determining how to document the main elements of its asset management system.	The organisation in the process of documenting its asset management system and has documentation in place that describes some, but not all, of the main elements of its asset management system and their interaction.	The organisation has established documentation that comprehensively describes all the main elements of its asset management system and the interactions between them. The documentation is kept up to date.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
62	Information management	What has the organisation done to determine what its asset management information system(s) should contain in order to support its asset management system?	The organisation has not considered what asset management information is required.	The organisation is aware of the need to determine in a structured manner what its asset information system should contain in order to support its asset management system and is in the process of deciding how to do this.	The organisation has developed a structured process to determine what its asset information system should contain in order to support its asset management system and has commenced implementation of the process.	The organisation has determined what its asset information system should contain in order to support its asset management system. The requirements relate to the whole life cycle and cover information originating from both internal and external sources.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
63	Information management	How does the organisation maintain its asset management information system(s) and ensure that the data held within it (them) is of the requisite quality and accuracy and is consistent?	There are no formal controls in place or controls are extremely limited in scope and/or effectiveness.	The organisation is aware of the need for effective controls and is in the process of developing an appropriate control process(es).	The organisation has developed a controls that will ensure the data held is of the requisite quality and accuracy and is consistent and is in the process of implementing them.	The organisation has effective controls in place that ensure the data held is of the requisite quality and accuracy and is consistent. The controls are regularly reviewed and improved where necessary.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
64	Information management	How has the organisation's ensured its asset management information system is relevant to its needs?	The organisation has not considered the need to determine the relevance of its management information system. At present there are major gaps between what the information system provides and the organisations needs.	The organisation understands the need to ensure its asset management information system is relevant to its needs and is determining an appropriate means by which it will achieve this. At present there are significant gaps between what the information system provides and the organisations needs.	The organisation has developed and is implementing a process to ensure its asset management information system is relevant to its needs. Gaps between what the information system provides and the organisations needs have been identified and action is being taken to close them.	The organisation's asset management information system aligns with its asset management requirements. Users can confirm that it is relevant to their needs.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.

Company Name	**GasNet Limited**
AMP Planning Period	**1 July 2016 – 30 June 2026**
Asset Management Standard Applied	**PAS 55:2008**

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Score	Evidence—Summary	Why	Who	Record/documented Information
69	Risk management process(es)	How has the organisation documented process(es) and/or procedure(s) for the identification and assessment of asset and asset management related risks throughout the asset life cycle?	2.5	GasNet has developed a comprehensive risk management system under its Risk Management Policy which addresses all forms of risk to which the company is or may be exposed. Whilst the recent focus was on satisfying the requirements of the Public Safety Management System and attaining the required audit certification, the approach taken encompassed both safety and asset related risks.	Risk management is an important foundation for proactive asset management. Its overall purpose is to understand the cause, effect and likelihood of adverse events occurring, to optimally manage such risks to an acceptable level, and to provide an audit trail for the management of risks. Widely used standards require the organisation to have process(es) and/or procedure(s) in place that set out how the organisation identifies and assesses asset and asset management related risks. The risks have to be considered across the four phases of the asset lifecycle (eg, para 4.3.3 of PAS 55).	The top management team in conjunction with the organisation's senior risk management representatives. There may also be input from the organisation's Safety, Health and Environment team. Staff who carry out risk identification and assessment.	The organisation's risk management framework and/or evidence of specific process(es) and/ or procedure(s) that deal with risk control mechanisms. Evidence that the process(es) and/or procedure(s) are implemented across the business and maintained. Evidence of agendas and minutes from risk management meetings. Evidence of feedback in to process(es) and/or procedure(s) as a result of incident investigation(s). Risk registers and assessments.
79	Use and maintenance of asset risk information	How does the organisation ensure that the results of risk assessments provide input into the identification of adequate resources and training and competency needs?	2	Given the safety considerations inherent in a natural gas infrastructure business, the management of risk has become naturally embedded within GasNet's business processes and activities. With close alignment to the hazard and risk management processes required under the workplace health and safety legislation and as asset related risk is often identified in conjunction with health and safety related risks, the focus on managing asset risk information is not new to GasNet or its employees. It is acknowledged however that by formalising its asset management system and practices and with specific consideration to asset related risks that gaps will be identified.	Widely used AM standards require that the output from risk assessments are considered and that adequate resource (including staff) and training is identified to match the requirements. It is a further requirement that the effects of the control measures are considered, as there may be implications in resources and training required to achieve other objectives.	Staff responsible for risk assessment and those responsible for developing and approving resource and training plan(s). There may also be input from the organisation's Safety, Health and Environment team.	The organisations risk management framework. The organisation's resourcing plan(s) and training and competency plan(s). The organisation should be able to demonstrate appropriate linkages between the content of resource plan(s) and training and competency plan(s) to the risk assessments and risk control measures that have been developed.
82	Legal and other requirements	What procedure does the organisation have to identify and provide access to its legal, regulatory, statutory and other asset management requirements, and how is requirements incorporated into the asset management system?	3	As required under its comprehensive Compliance Policy, GasNet has published internally a comprehensive legislation register applying across all business interest of the company, accessible to all employees via its intranet. The register provides the specific items of legislation and covers acts, regulations, standards, codes of practice and guidelines, with active links to documents where they are available on the web. In addition GasNet is a member of the Gas Association of New Zealand, LPG Association, subscribes to email notifications from the Gas Industry Company and is either a member itself, or individual employees are members of, a range of various organisations with interests in asset related matters.	In order for an organisation to comply with its legal, regulatory, statutory and other asset management requirements, the organisation first needs to ensure that it knows what they are (eg, PAS 55 specifies this in s 4.4.8). It is necessary to have systematic and auditable mechanisms in place to identify new and changing requirements. Widely used AM standards also require that requirements are incorporated into the asset management system (e.g. procedure(s) and process(es))	Top management. The organisations regulatory team. The organisation's legal team or advisors. The management team with overall responsibility for the asset management system. The organisation's health and safety team or advisors. The organisation's policy making team.	The organisational processes and procedures for ensuring information of this type is identified, made accessible to those requiring the information and is incorporated into asset management strategy and objectives
88	Life Cycle Activities	How does the organisation establish implement and maintain process(es) for the implementation of its asset management plan(s) and control of activities across the creation, acquisition or enhancement of assets. This includes design, modification, procurement, construction and commissioning activities?	2.5	Up until 2008 when GasNet Limited purchased the assets from Wanganui gas Limited, there was less focus on documented policies, procedures and plans due to the low turnover of key personnel and the combination of experience and length of service. Since then there has been significant effort made in policy development and documentation of subordinate procedures and plans etc. Whilst there are still identified gaps in documentation and systems, they are diminishing and will be completed as a matter of course. In recognition at the need and rate of change, GasNet has introduced a Change Management Policy which formalises the requirements and processes to manage change within the organisation.	Life cycle activities are about the implementation of asset management plan(s) i.e. they are the "doing" phase. They need to be done effectively and well in order for asset management to have any practical meaning. As a consequence, widely used standards (eg, PAS 55 s 4.5.1) require organisations to have in place appropriate process(es) and procedure(s) for the implementation of asset management plan(s) and control of lifecycle activities. This question explores those aspects relevant to asset creation.	Asset managers, design staff, construction staff and project managers from other impacted areas of the business, e.g. Procurement	Documented process(es) and procedure(s) which are relevant to demonstrating the effective management and control of life cycle activities during asset creation, acquisition, enhancement including design, modification, procurement, construction and commissioning.

Company Name	GasNet Limited
AMP Planning Period	1 July 2016 – 30 June 2026
Asset Management Standard Applied	PAS 55:2008

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Maturity Level 0	Maturity Level 1	Maturity Level 2	Maturity Level 3	Maturity Level 4
69	Risk management process(es)	How has the organisation documented process(es) and/or procedure(s) for the identification and assessment of asset and asset management related risks throughout the asset life cycle?	The organisation has not considered the need to document process(es) and/or procedure(s) for the identification and assessment of asset and asset management related risks throughout the asset life cycle.	The organisation is aware of the need to document the management of asset related risk across the asset lifecycle. The organisation has plan(s) to formally document all relevant process(es) and procedure(s) or has already commenced this activity.	The organisation is in the process of documenting the identification and assessment of asset related risk across the asset lifecycle but it is incomplete or there are inconsistencies between approaches and a lack of integration.	Identification and assessment of asset related risk across the asset lifecycle is fully documented. The organisation can demonstrate that appropriate documented mechanisms are integrated across life cycle phases and are being consistently applied.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
79	Use and maintenance of asset risk information	How does the organisation ensure that the results of risk assessments provide input into the identification of adequate resources and training and competency needs?	The organisation has not considered the need to conduct risk assessments.	The organisation is aware of the need to consider the results of risk assessments and effects of risk control measures to provide input into reviews of resources, training and competency needs. Current input is typically ad-hoc and reactive.	The organisation is in the process ensuring that outputs of risk assessment are included in developing requirements for resources and training. The implementation is incomplete and there are gaps and inconsistencies.	Outputs from risk assessments are consistently and systematically used as inputs to develop resources, training and competency requirements. Examples and evidence is available.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
82	Legal and other requirements	What procedure does the organisation have to identify and provide access to its legal, regulatory, statutory and other asset management requirements, and how is requirements incorporated into the asset management system?	The organisation has not considered the need to identify its legal, regulatory, statutory and other asset management requirements.	The organisation identifies some its legal, regulatory, statutory and other asset management requirements, but this is done in an ad-hoc manner in the absence of a procedure.	The organisation has procedure(s) to identify its legal, regulatory, statutory and other asset management requirements, but the information is not kept up to date, inadequate or inconsistently managed.	Evidence exists to demonstrate that the organisation's legal, regulatory, statutory and other asset management requirements are identified and kept up to date. Systematic mechanisms for identifying relevant legal and statutory requirements.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
88	Life Cycle Activities	How does the organisation establish implement and maintain process(es) for the implementation of its asset management plan(s) and control of activities across the creation, acquisition or enhancement of assets. This includes design, modification, procurement, construction and commissioning activities?	The organisation does not have process(es) in place to manage and control the implementation of asset management plan(s) during activities related to asset creation including design, modification, procurement, construction and commissioning.	The organisation is aware of the need to have process(es) and procedure(s) in place to manage and control the implementation of asset management plan(s) during activities related to asset creation including design, modification, procurement, construction and commissioning but currently do not have these in place (note: procedure(s) may exist but they are inconsistent/incomplete).	The organisation is in the process of putting in place process(es) and procedure(s) to manage and control the implementation of asset management plan(s) during activities related to asset creation including design, modification, procurement, construction and commissioning. Gaps and inconsistencies are being addressed.	Effective process(es) and procedure(s) are in place to manage and control the implementation of asset management plan(s) during activities related to asset creation including design, modification, procurement, construction and commissioning.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.

Company Name	GasNet Limited
AMP Planning Period	1 July 2016 – 30 June 2026
Asset Management Standard Applied	PAS 55:2008

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Score	Evidence—Summary	Why	Who	Record/documented Information
91	Life Cycle Activities	How does the organisation ensure that process(es) and/or procedure(s) for the implementation of asset management plan(s) and control of activities during maintenance (and inspection) of assets are sufficient to ensure activities are carried out under specified conditions, are consistent with asset management strategy and control cost, risk and performance?	2.5	GasNet has operated comprehensive asset maintenance regimes for a number of years, typically based on fixed interval preventative maintenance. Over time and with the recent introduction of risk based management under the gas safety and measurement regulations, GasNet has modified its practises to reflect the risk profile of the assets or their operation. With its small number of employees and the close working environment within which its employees operate, GasNet is well placed to implement change and take appropriate corrective action if an adverse event or incident should occur. There is little growth opportunities for GasNet within its existing footprint so the creation of new assets are typically associated with asset renewals, with a focus on the pre-natural gas era Low Pressure assets.	Having documented process(es) which ensure the asset management plan(s) are implemented in accordance with any specified conditions, in a manner consistent with the asset management policy, strategy and objectives and in such a way that cost, risk and asset system performance are appropriately controlled is critical. They are an essential part of turning intention into action (eg, as required by PAS 55 s 4.5.1).	Asset managers, operations managers, maintenance managers and project managers from other impacted areas of the business	Documented procedure for review. Documented procedure for audit of process delivery. Records of previous audits, improvement actions and documented confirmation that actions have been carried out.
95	Performance and condition monitoring	How does the organisation measure the performance and condition of its assets?	1.5	GasNet has a number of lagging performance measures that are collected for management purposes from which a sub-set is reported on a monthly basis to the Board of Directors in the form of a dashboard report. A number of these measures have been included in the AMP but not all. With the scale of GasNet's operation, their awareness of the business activities and the operational nature of most managerial positions with the Company, including the General Manager, it is often the case that the statistics only serve to confirm what was already known or suspected. However it is acknowledged that this is not always the case and that whilst it may be well known and understood within the Company, unless it is reported by way of a publicly available AMP or other means, no one else would know. GasNet is comfortable providing a suite of leading and lagging KPI's of its own selection in future AMPs, but would also welcome the introduction of gas industry standard measures providing the opportunity for comparison with other operators.	Widely used AM standards require that organisations establish implement and maintain procedure(s) to monitor and measure the performance and/or condition of assets and asset systems. They further set out requirements in some detail for reactive and proactive monitoring, and leading/lagging performance indicators together with the monitoring or results to provide input to corrective actions and continual improvement. There is an expectation that performance and condition monitoring will provide input to improving asset management strategy, objectives and plan(s).	A broad cross-section of the people involved in the organisation's asset-related activities from data input to decision-makers, i.e. an end-to end assessment. This should include contactors and other relevant third parties as appropriate.	Functional policy and/or strategy documents for performance or condition monitoring and measurement. The organisation's performance monitoring frameworks, balanced scorecards etc. Evidence of the reviews of any appropriate performance indicators and the action lists resulting from these reviews. Reports and trend analysis using performance and condition information. Evidence of the use of performance and condition information shaping improvements and supporting asset management strategy, objectives and plan(s).
99	Investigation of asset-related failures, incidents and nonconformities	How does the organisation ensure responsibility and the authority for the handling, investigation and mitigation of asset-related failures, incidents and emergency situations and non conformances is clear, unambiguous, understood and communicated?	3	All incidents that occur on the gas network are recorded in our Risk Manager software application and investigated. The effort and extent to which an incident is investigated depends entirely on the type and nature of the event. Two managers have received formal training in incident investigation including the Engineering Manager who undertakes most investigations. There have been a few occasions where an external investigator has been engaged to undertake the investigation due typically to the complex nature of the incident and/or the need to ensure the interview process is robust and captures information which as closely as possible reflects the events that had occurred prior to and/or during the incident. In early 2014 GasNet implemented its Corrective and Preventative Actions Policy which addresses issues on non-conformance and promotes the practice of continual improvement.	Widely used AM standards require that the organisation establishes implements and maintains process(es) for the handling and investigation of failures incidents and non-conformities for assets and sets down a number of expectations. Specifically this question examines the requirement to define clearly responsibilities and authorities for these activities, and communicate these unambiguously to relevant people including external stakeholders if appropriate.	The organisation's safety and environment management team. The team with overall responsibility for the management of the assets. People who have appointed roles within the asset-related investigation procedure, from those who carry out the investigations to senior management who review the recommendations. Operational controllers responsible for managing the asset base under fault conditions and maintaining services to consumers. Contractors and other third parties as appropriate.	Process(es) and procedure(s) for the handling, investigation and mitigation of asset-related failures, incidents and emergency situations and non conformances. Documentation of assigned responsibilities and authority to employees. Job Descriptions, Audit reports. Common communication systems i.e. all Job Descriptions on Internet etc.
105	Audit	What has the organisation done to establish procedure(s) for the audit of its asset management system (process(es))?	1.5	GasNet is very much aware of the benefits of subjecting its systems and processes to an audit regime, whether it be internal or external or a combination of both. However it is also very aware that in an environment where there is increasing expectations from multiple stakeholders the audit must be well managed to ensure it achieves the desired outcomes both in terms of integrity and cost. With the recent re-certification of its Public Safety Management System (PSMS) GasNet is already working under its audit plan but has not yet focussed on the audit requirements of its asset management system and is unlikely to do so until later in 2016.	This question seeks to explore what the organisation has done to comply with the standard practice AM audit requirements (eg, the associated requirements of PAS 55 s 4.6.4 and its linkages to s 4.7).	The management team responsible for its asset management procedure(s). The team with overall responsibility for the management of the assets. Audit teams, together with key staff responsible for asset management. For example, Asset Management Director, Engineering Director. People with responsibility for carrying out risk assessments	The organisation's asset-related audit procedure(s). The organisation's methodology(s) by which it determined the scope and frequency of the audits and the criteria by which it identified the appropriate audit personnel. Audit schedules, reports etc. Evidence of the procedure(s) by which the audit results are presented, together with any subsequent communications. The risk assessment schedule or risk registers.

Company Name	**GasNet Limited**
AMP Planning Period	**1 July 2016 – 30 June 2026**
Asset Management Standard Applied	**PAS 55:2008**

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Maturity Level 0	Maturity Level 1	Maturity Level 2	Maturity Level 3	Maturity Level 4
91	Life Cycle Activities	How does the organisation ensure that process(es) and/or procedure(s) for the implementation of asset management plan(s) and control of activities during maintenance (and inspection) of assets are sufficient to ensure activities are carried out under specified conditions, are consistent with asset management strategy and control cost, risk and performance?	The organisation does not have process(es)/procedure(s) in place to control or manage the implementation of asset management plan(s) during this life cycle phase.	The organisation is aware of the need to have process(es) and procedure(s) in place to manage and control the implementation of asset management plan(s) during this life cycle phase but currently do not have these in place and/or there is no mechanism for confirming they are effective and where needed modifying them.	The organisation is in the process of putting in place process(es) and procedure(s) to manage and control the implementation of asset management plan(s) during this life cycle phase. They include a process for confirming the process(es)/procedure(s) are effective and if necessary carrying out modifications.	The organisation has in place process(es) and procedure(s) to manage and control the implementation of asset management plan(s) during this life cycle phase. They include a process, which is itself regularly reviewed to ensure it is effective, for confirming the process(es)/ procedure(s) are effective and if necessary carrying out modifications.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
95	Performance and condition monitoring	How does the organisation measure the performance and condition of its assets?	The organisation has not considered how to monitor the performance and condition of its assets.	The organisation recognises the need for monitoring asset performance but has not developed a coherent approach. Measures are incomplete, predominantly reactive and lagging. There is no linkage to asset management objectives.	The organisation is developing coherent asset performance monitoring linked to asset management objectives. Reactive and proactive measures are in place. Use is being made of leading indicators and analysis. Gaps and inconsistencies remain.	Consistent asset performance monitoring linked to asset management objectives is in place and universally used including reactive and proactive measures. Data quality management and review process are appropriate. Evidence of leading indicators and analysis.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
99	Investigation of asset-related failures, incidents and nonconformities	How does the organisation ensure responsibility and the authority for the handling, investigation and mitigation of asset-related failures, incidents and emergency situations and non conformances is clear, unambiguous, understood and communicated?	The organisation has not considered the need to define the appropriate responsibilities and the authorities.	The organisation understands the requirements and is in the process of determining how to define them.	The organisation are in the process of defining the responsibilities and authorities with evidence. Alternatively there are some gaps or inconsistencies in the identified responsibilities/authorities.	The organisation have defined the appropriate responsibilities and authorities and evidence is available to show that these are applied across the business and kept up to date.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
105	Audit	What has the organisation done to establish procedure(s) for the audit of its asset management system (process(es))?	The organisation has not recognised the need to establish procedure(s) for the audit of its asset management system.	The organisation understands the need for audit procedure(s) and is determining the appropriate scope, frequency and methodology(s).	The organisation is establishing its audit procedure(s) but they do not yet cover all the appropriate asset-related activities.	The organisation can demonstrate that its audit procedure(s) cover all the appropriate asset-related activities and the associated reporting of audit results. Audits are to an appropriate level of detail and consistently managed.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.

Company Name	**GasNet Limited**
AMP Planning Period	**1 July 2016 – 30 June 2026**
Asset Management Standard Applied	**PAS 55:2008**

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Score	Evidence—Summary	Why	Who	Record/documented Information
109	Corrective & Preventative action	How does the organisation instigate appropriate corrective and/or preventive actions to eliminate or prevent the causes of identified poor performance and non conformance?	3	The Corrective and Preventative Actions Policy was approved and implemented in early 2014 to address issues of non-conformance and promote the practice of continual improvement. With the investigation of every incident, event and near-miss occurrence, corrective actions are identified in almost every instance with few exceptions, and whilst in the majority of instances the improvements are minor in nature, they nevertheless contribute and confirm GasNet's commitment to continual improvement. With the ease of access to senior management, employees are encouraged to make their managers aware of any improvement opportunities, which in the case of the operational field Technicians are often discussed in the daily meeting with their supervisor.	Having investigated asset related failures, incidents and non-conformances, and taken action to mitigate their consequences, an organisation is required to implement preventative and corrective actions to address root causes. Incident and failure investigations are only useful if appropriate actions are taken as a result to assess changes to a businesses risk profile and ensure that appropriate arrangements are in place should a recurrence of the incident happen. Widely used AM standards also require that necessary changes arising from preventive or corrective action are made to the asset management system.	The management team responsible for its asset management procedure(s). The team with overall responsibility for the management of the assets. Audit and incident investigation teams. Staff responsible for planning and managing corrective and preventive actions.	Analysis records, meeting notes and minutes, modification records. Asset management plan(s), investigation reports, audit reports, improvement programmes and projects. Recorded changes to asset management procedure(s) and process(es). Condition and performance reviews. Maintenance reviews
113	Continual Improvement	How does the organisation achieve continual improvement in the optimal combination of costs, asset related risks and the performance and condition of assets and asset systems across the whole life cycle?	2	The approval and implementation of the Corrective and Preventative Actions Policy has provided the catalyst for formalising the existing practices embedded within GasNet's system and processes. Whilst GasNet has historically promoted and supported the identification of improvement opportunities (made easier by ease of access for all employees to their Section Manager and the General Manager) there will inevitably have been opportunities missed through the absence of formal systems in place.	Widely used AM standards have requirements to establish, implement and maintain process(es)/procedure(s) for identifying, assessing, prioritising and implementing actions to achieve continual improvement. Specifically there is a requirement to demonstrate continual improvement in optimisation of cost risk and performance/condition of assets across the life cycle. This question explores an organisation's capabilities in this area—looking for systematic improvement mechanisms rather that reviews and audit (which are separately examined).	The top management of the organisation. The manager/team responsible for managing the organisation's asset management system, including its continual improvement. Managers responsible for policy development and implementation.	Records showing systematic exploration of improvement. Evidence of new techniques being explored and implemented. Changes in procedure(s) and process(es) reflecting improved use of optimisation tools/techniques and available information. Evidence of working parties and research.
115	Continual Improvement	How does the organisation seek and acquire knowledge about new asset management related technology and practices, and evaluate their potential benefit to the organisation?	2	GasNet has a history of active participation with persons and organisations external to its own operation and if it identifies a gap in knowledge or capabilities will seek assistance or advice. Whilst GasNet had previously adopted the International Infrastructure Management Manual (IIMM) as the primary guidance in establishing its asset management practices, this has now changed to the Publicly Available Specification on Asset Management (PAS 55:2008) as referred to in its latest Asset Management Policy approved and implemented on 24 June 2014. It is however noted that PAS 55:2008 is now obsolete and has been superseded by ISO 55001.	One important aspect of continual improvement is where an organisation looks beyond its existing boundaries and knowledge base to look at what 'new things are on the market'. These new things can include equipment, process(es), tools, etc. An organisation which does this (eg, by the PAS 55 s 4.6 standards) will be able to demonstrate that it continually seeks to expand its knowledge of all things affecting its asset management approach and capabilities. The organisation will be able to demonstrate that it identifies any such opportunities to improve, evaluates them for suitability to its own organisation and implements them as appropriate. This question explores an organisation's approach to this activity.	The top management of the organisation. The manager/team responsible for managing the organisation's asset management system, including its continual improvement. People who monitor the various items that require monitoring for 'change'. People that implement changes to the organisation's policy, strategy, etc. People within an organisation with responsibility for investigating, evaluating, recommending and implementing new tools and techniques, etc.	Research and development projects and records, benchmarking and participation knowledge exchange professional forums. Evidence of correspondence relating to knowledge acquisition. Examples of change implementation and evaluation of new tools, and techniques linked to asset management strategy and objectives.

Company Name	GasNet Limited
AMP Planning Period	1 July 2016 – 30 June 2026
Asset Management Standard Applied	PAS 55:2008

SCHEDULE 13: REPORT ON ASSET MANAGEMENT MATURITY (cont)

Question No.	Function	Question	Maturity Level 0	Maturity Level 1	Maturity Level 2	Maturity Level 3	Maturity Level 4
109	Corrective & Preventative action	How does the organisation instigate appropriate corrective and/or preventive actions to eliminate or prevent the causes of identified poor performance and non conformance?	The organisation does not recognise the need to have systematic approaches to instigating corrective or preventive actions.	The organisation recognises the need to have systematic approaches to instigating corrective or preventive actions. There is ad-hoc implementation for corrective actions to address failures of assets but not the asset management system.	The need is recognized for systematic instigation of preventive and corrective actions to address root causes of non compliance or incidents identified by investigations, compliance evaluation or audit. It is only partially or inconsistently in place.	Mechanisms are consistently in place and effective for the systematic instigation of preventive and corrective actions to address root causes of non compliance or incidents identified by investigations, compliance evaluation or audit.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
113	Continual Improvement	How does the organisation achieve continual improvement in the optimal combination of costs, asset related risks and the performance and condition of assets and asset systems across the whole life cycle?	The organisation does not consider continual improvement of these factors to be a requirement, or has not considered the issue.	A Continual Improvement ethos is recognised as beneficial, however it has just been started, and or covers partially the asset drivers.	Continuous improvement process(es) are set out and include consideration of cost risk, performance and condition for assets managed across the whole life cycle but it is not yet being systematically applied.	There is evidence to show that continuous improvement process(es) which include consideration of cost risk, performance and condition for assets managed across the whole life cycle are being systematically applied.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.
115	Continual Improvement	How does the organisation seek and acquire knowledge about new asset management related technology and practices, and evaluate their potential benefit to the organisation?	The organisation makes no attempt to seek knowledge about new asset management related technology or practices.	The organisation is inward looking, however it recognises that asset management is not sector specific and other sectors have developed good practice and new ideas that could apply. Ad-hoc approach.	The organisation has initiated asset management communication within sector to share and, or identify 'new' to sector asset management practices and seeks to evaluate them.	The organisation actively engages internally and externally with other asset management practitioners, professional bodies and relevant conferences. Actively investigates and evaluates new practices and evolves its asset management activities using appropriate developments.	The organisation's process(es) surpass the standard required to comply with requirements set out in a recognised standard. The assessor is advised to note in the Evidence section why this is the case and the evidence seen.

Appendix 3.2 – 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 disclosure year, 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 the Change in CPI, 2 Index forecasts provided by the Commerce Commission in its Financial Model for the GPB DPP. As the Commissions data set only extended to December 2018 the remaining years were assumed to remain constant at 2%.

For Year Ended	Change in CPI, 2 index
Jun-17	2.00%
Jun-18	2.00%
Jun-19	2.00%
Jun-20	2.00%
Jun-21	2.00%
Jun-22	2.00%
Jun-23	2.00%
Jun-24	2.00%
Jun-25	2.00%
Jun-26	2.00%

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 disclosure year, 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 the Change in CPI, 2 Index forecasts provided by the Commerce Commission in its Financial Model for the GPB DPP. As the Commissions data set only extended to December 2018 the remaining years were assumed to remain constant at 2%.

For Year Ended	Change in CPI, 2 index
Jun-17	2.00%
Jun-18	2.00%
Jun-19	2.00%
Jun-20	2.00%
Jun-21	2.00%
Jun-22	2.00%
Jun-23	2.00%
Jun-24	2.00%
Jun-25	2.00%
Jun-26	2.00%

Appendix 3.3 – Schedule 15: Voluntary Explanatory Notes

1. This Schedule enable GDBs to provide, should they wish to:
   1.1 additional explanatory comment to reports prepared in accordance with clauses 2.3.1, 2.4.21, 2.4.22, 2.5.1, and 2.6.5.
   1.2 information on any substantial changes to information disclosed in relation to a prior disclosure year, as a result of final wash-ups.
2. Information in this Schedule is not part of the audited disclosure information, and so is not subject to the assurance requirements specified in section 2.8.
3. Provide additional explanatory comment in the box below.

Box 1: Voluntary explanatory comment on disclosed information

Schedule 11a Forecast Capital Expenditure

'Cost of financing', 'Value of capital contributions', 'Value of vested assets' and 'Research and development' are all assessed as nil.

Schedule 11b Forecast Operational Expenditure

'Research and development' expenditure is assessed as nil.

Schedule 12b: Forecast Utilisation

GasNet is unable to estimate physical capacity of systems in aggregate or that of an individual system due the complexity of the network modelling, lack of operational data and sites throughout each network and the absence of sophisticated modelling software to achieve robust reproducible results.

GasNet has reviewed how it could go about calculating current and thus future utilisation of each network as sought in the Report. GasNet has concluded that while some improved data capture instrumentation is now available on the Whanganui network, and with similar instrumentation to be added to other networks in coming financial years, there is both a lack of sufficient time series of data points and confirmation that all necessary sites are being sampled to enable any sensible estimates to be made at this time.

GasNet has purchased Synergi Gas network modelling software which when fully operational is expected to enable GasNet to provide the information necessary to populate this schedule.

This issue is also referred to under section 10.0 of this AMP.

Appendix 4 – Schedule 17: Certification for Transitional Asset Management Plan

Schedule 17: Certification for Year-beginning Disclosures

Clause 2.9.1

1 We, Matthew James Doyle and Harvey George Green, 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)(b), 2.6.5(2)1 and 2.12.8(1)(b) 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.

Dated 30th day of JUNE 2016

Matthew James Doyle

Harvey George Green