Defence Infrastructure Organisation

Gas Safety Management Plan (Section A)

Keynsham ARC ACF ATC

16/04/2025

Produced to meet the requirements of the Gas Safety (Installation and Use) Regulations 1998

(Gas Safety Management Plan (Section B) covers the requirements of the Gas Safety (Management) Regulations 1996

ESTABLISHMENT KEY PERSONALITIES (GAS) CONTACTS

Role	Name	Tel No.	Email
Head of Establishment	Lt Col David Thomas	01179 8638224	david.thomas287@mod.gov.uk
Establishment's SHEF	Maj Mark Curd	01179 863571 ext 8237	mark.curd312@mod.gov.uk
Establishments 4C's Coordinator	Maj Mark Curd	01179 863571 ext. 8224	mark.curd312@mod.gov.uk
Senior DIO Estate Representative or Equivalent	Mark Cubitt	07955 280440	wx-est-hd@rfca.mod.uk
Site DIO Estate Representative or Equivalent	Mark Armstrong	07508 129987	wx-est-mgr3@rfca.mod.uk
MMO Site Manager or equivalent	Paul Wakeford	07356101565	Paul.wakeford@vivodefence.com
Gas Safety Manager (GSM)	Justin Westcott	07793222820	Justin.westcott@vivodefence.com
Gas Responsible Person (GRP)	Jason Cuthbert	07592112763	Jason.cuthbert@vivodefence.com

The Content of this Gas Safety Management Plan (GSMP) have been Approved by the Gas Safety Manager:

Signature: JP Westcott **Date: 16/04/2025**

Authorisation for Implementation

The content and format of this GSMP has been agreed and authorised for implementation by Defence Infrastructure Organisation Technical Services Principal Gas Engineer (DIO TS PGE) and a unique reference number has been generated to support this.

Approved – J Obbard PGE – 29th June 2022

The Content of this GSMP have been agreed by the Senior DIO Estate Representative or Equivalent and future works following the findings will be supported:

Signature: M Cubitt **Date: 08/05/2025**

The content of this GSMP have been agreed by the Head of Establishment and future works following the findings will be supported

Signature: …… **……Date: 05/07/3035**

REVIEWS AND AMMENDMENTS

GSMPs are 'living documents' that should be subject to continual review and updating as required. Although the level of attention required will vary considerably depending on the size and complexity of each site, GSMPs should be reviewed at least once per quarter by the GRP, unless otherwise agreed by the PGE. Although it is likely that changes are not required at each review, the date of review and any changes made should be indicated on the tables below. The review of the GSMP will include a site visit to ensure that the site and the content of the GSMP remain valid. The reviews and amendments made will be deleted during the DIO TS three yearly review when the GSMP is re-authorised by the PGE.

Date	Page No.	Amendment
15/02/2022	All	Initial Development
12/07/2022	1 & 6	HOE/CO Change, Maj Inch email correction
04/08/2022	3	Updated Gas Supplier Details to Total Energies
04/08/2022	9 & Annexes	Added Gas Line Drawings, Details & Icon
29/09/2022	9 & Annexes	Added Site Gas Layout Drawing, Details & Icon
22/12/2022	N/A	No Amendments Required
27/03/2023	N/A	No Amendments Required
12/06/2023	N/A	No Amendments Required
18/09/2023	N/A	No Amendments Required
29/12/2023	N/A	No Amendments Required
21/03/2024	N/A	No Amendments Required
27/06/2024	5,10	Updated Section 2.2 After Defect Works. Added New Small Plantroom Boiler Details
30/09/2024	ii & 2, 11	Added New Head of Estates Details, Added SSOV Details
18/10/2024		GSM re-authorisation (previously authorised 12/06/2023)
31/12/2024	N/A	No Amendments Required
18/02/2025	1.3	Added New Head of Estates Details
18/02/2025	Various	Document updated to reflect VIVO as MMO and also responsible for RP and GSM duties

Date	Reviewed by	Authorised by	Comments
25/03/2022	M Fenwick	N King	Initial Review
29/09/2022	M Fenwick	M Fenwick	Quarterly Review
22/12/2022	M Fenwick	M Fenwick	Quarterly Review
27/03/2023	M Fenwick	M Fenwick	Quarterly Review
12/06/2023	M Fenwick	N King	Annual Review
18/09/2023	M Fenwick	M Fenwick	Quarterly Review
29/12/2023	M Fenwick	M Fenwick	Quarterly Review
21/03/2024	M Fenwick	M Fenwick	Quarterly Review
27/06/2024	M Fenwick		Annual Review
30/09/2024	M Fenwick	M Fenwick	Quarterly Review
18/10/2024	Neville King	Neville King	GSM re-authorisation
31/12/2024	M Fenwick	M Fenwick	Quarterly Review

28/01/2025	M Fenwick	M Fenwick	DNV De-Mobilisation Review / Handover
18/02/2025	J Cuthbert	J Westcott	Quarterly review and updates
16/04/2025	J Westcott	J Westcott	Initial review and approval

FORWARD

MOD, as a gas conveyor within Great Britain, has submitted an Exemplar Gas Safety Case (MOD GSC) to demonstrate compliance with the Gas Safety (Management) Regulations 1996 (GS(M)R). Maintenance Management Organisations (MMO's) are engaged who have the overall contractual responsibility to operate and maintain the gas network assets under their Contract, including the management of the safe flow of gas within the system and the provision of an emergency service. The MOD delegate specific duties to the MMO but accountability for gas safety on each site rests with the Head of Establishment.

Whilst gas downstream of the Emergency Control Valve (ECV) fall outside of the scope of (GS(M)R) similar criteria as those referred to above must be accommodated within an appropriate management system. The specific criteria required to adequately manage gas infrastructure downstream of the ECV are described in the Gas Safety (Installation and Use) Regulations 1998 (GS(IU)R).

The MOD GSC considers all parts of the MOD estates gas supply system that forms part of the gas supply network. This includes all parts of the MOD gas network from the Bulk Primary Meter Installation to the individual gas appliances and the safe release of the products of combustion. The MOD GSC considers primarily those matters that relate to the management of the safe flow of gas within the system and the provision of an emergency service for all aspects of the gas system.

Following initial approval of the Gas Safety Management Plans (GSMPs) by the DIO Principal Gas Engineer (PGE), the Gas Safety Manager (GSM) is required to reapprove this GSMP annually. GSMPs must be submitted to DIO PGE every three years for authorisation.

GSMP Section A document contains site specific details of the establishments utilisation infrastructure to assist with measures to ensure compliance with the GS(IU)R for installation pipework and associated components.

GSMP Section B documents contain site specific details and arrangements as a direct annex to the MOD GSC in line with the Gas Safety (Management) Regulations 1996 (GS(M)R).

GSMP Section C document contains site specific details and requirements of the establishment's LPG networks.

Although the legal status of this document applies in the UK only, the MOD apply the same requirements to the management of gas on its overseas estate, in accordance with the currently published Secretary of State's Health and Safety policy statement.

Contents

1 THE DUTY HOLDER AND ESTABLISHMENT LEVEL KEY PERSONALITIES

1.1. Gas Safety Case Duty Holder.	
The duty holder for the MOD Gas Safety Case is the Permanent Under Secretary for Defence (PUS). However, day to day responsibility for the preparation and maintenance of the document is delegated to the DIO TS Head of Engineering and Construction, who also has the responsibility for managing the system in accordance with the Safety Case. PUS delegates maintenance responsibility to the Top-Level Budget Holders (TLB's), to manage safety of the gas network. The TLB's utilise MOD Contracts i.e. MMOs who have responsibility for maintaining the gas network on behalf of the MOD.	
Name: Address:	Permanent Under Secretary Main Building Horse Guards Parade Whitehall London SW1A 2HB

1.2. DIO Technical Services Principal Gas Engineer (PGE).	
The PGE assumes the role of Senior Authorising Authority which is a term used within the MOD to recognise the authority of the person responsible for overseeing the appointment of, and auditing Authorising Engineers (AEs). For Gas the AEs are replaced by Gas Safety Managers (GSMs).	
Name: Address: ☎: ✉:	Jeremy Obbard DIO HQ Whittington Barracks Lichfield WS14 9TJ 07748 903260 Jeremy.obbard100@mod.gov.uk

1.3. Establishment Personalities.		
Name of Establishment:	Keynsham ARC ACF ATC	
Establishment Address:	Keynsham ARC ACF ATC Ashmead Road Keynsham Bristol BS31 1SX	
Head of Establishment (HoE) (This is the most senior MOD person identified, by the chain of command, as responsible for the establishment. The HoE holds accountability for ensuring site compliance with the requirements of GSMR and the MOD GSC, including this GSMP.)	Name: Position: Organisation: Address: ☎: ✉:	Lt Col David Thomas HoE British Army, MoD Keynsham ARC ACF ATC Ashmead Road Keynsham Bristol BS31 1SX 01179 638224 david.thomas287@mod.gov.uk

Senior DIO representative or equivalent (This may be the SEFM, but will vary depending on the contract this establishment falls under)	Name: Position: Organisation: Address: ☎: ✉:	Mark Cubitt Head of Estates Wessex Reserve Forces' & Cadets' Association Mount House Mount Street Taunton Somerset TA1 3QE 07955 280440 wx-est-hd@rfca.mod.uk

1.4. **Maintenance Management Organisation (MMO).**		
The MMO for this establishment is:		**VIVO Defence Services**
Gas Emergency Helpdesk (Typically, MMO Helpdesk) (24 Hours) **Note:** Please do not contact the general public National Gas Emergency Service for suspected gas escapes on RFCA infrastructure.	Organisation: ☎:	VIVO Helpdesk Helpdesk 25 Goodlass Road Hunts Cross Liverpool L24 9HJ 0800 030 9320
Gas Safety Manager (GSM)	Name: Organisation: Address: ☎: ✉:	Justin Westcott Vivo Defence Bldg. 003, CTCRM Lympstone Nr Exmouth Devon EX8 5AR 07725 038039 Justin.westcott@vivodefence.com
Gas Responsible Person (GRP)	Name: Organisation: Address: ☎: ✉:	Jason Cuthbert Vivo Defence Imjin Barracks Innsworth Gloucester Gloucestershire GL31HW 07592 112763 Jason.cuthbert@vivodefence.com

1.5. Additional Gas Contacts.		
External Gas Distribution Network (EGDN)	Organisation: Address: ☎: ✉:	Wales & West Utilities Wales & West House, Spooner Close, Celtic Close Coedkernew Newport NP10 8FZ 0800 912 2999 Steve.Harding@WWUtilities.co.uk
Gas Supplier	Organisation: Address: ☎: ✉:	Total energies Gas & Power 55-57 High Street Redhill Surrey RH1 1RX 01737 275 746 gp.redhill.ccs@totalenergies.com
LPG Supplier	Organisation: Address: ☎: ✉:	Not Applicable, no bulk LPG on site.
Meter Asset Manager (MAM)	Organisation: Address: ☎: ✉:	Energy Assets Ltd 6 Almond vale Business Park Almond vale Way Livingston Scotland. EH54 6GA 01506 405 405 RalphReekie@EnergyAssets.co.uk
National Gas Emergency Centre (24 Hours)	☎:	0800 111 999

2 SITE SPECIFIC DETAILS

2.1 Site Overview.

A brief description of the establishment and its current use. This should include how many separate sites are present and the number of buildings being supplied by gas.

Keynsham ARC ACF ATC is a single site establishment with two buildings on site, one of which is supplied by gas. This building (The Main Building) is supplied with gas from the Low Pressure (LP) MoD Network via three service risers.
There are no individual EGDN supplies on site.

The main Building is used for Office Space, Kitchen, Drill Hall (including events), stores, Gymnasium, classrooms, the Caretakers flat and a bar/lounge.

The site is currently the headquarters of the 243 (Wessex) Multi-role Medical Regiment, 128 Support Sqn 243 (Wessex) Multi-role Medical Regiment, the headquarters of the 101 Theatre Support Battalion REME, the headquarters of the City and County Army Cadet Force and the 2386 (Keynsham) Squadron of the ATC.

Day to Day there are around 20 - 25 people on site and there can be up to 200 people on site when there are functions, events or parades.

2.2 Natural Gas.

A brief description of the natural gas installations, including how many MOD networks are present, the number of buildings each MOD network supplies and how many buildings are supplied direct from the EGDN. This should also include any demarcations in place between stakeholders and responsibilities.

There is one single stream bulk fiscal meter on site supplied at Low pressure by the EGDN network (Wales & West Utilities). This meter then supplies the MoD network at 21.4 mbar with one building (main building, 3 service risers) fed from the MoD network. The bulk fiscal meter is in a standalone brick-built meter house located next to the North end of the main building within the wire.

Bulk Fiscal Meter – Elster RVG G65
S/N – 75132855
100 m/3hr
MPRN - 3801308

The EGDN network enters the Bulk Fiscal Meter house in 63mm PE and transitions to 2” Steel on the ECV inlet. The gas continues through the MAM owned and operated regulator and meter. The gas pipework increases to 4” steel after the meter outlet valve and enters an 8” steel manifold where there is one 3” steel outlet and two 2” steel outlets. The outlets exit the meter house and drop below ground to feed:

- 3” Steel Outlet – Drops below ground via steel pipework to feed the main plantroom
- 2” Steel Outlet - Drops below ground via steel pipework to feed the small plantroom
- 2” PE Outlet - Drops below ground via PE pipework to feed the Kitchen

The MoD network begins after the Bulk Fiscal meter outlet valve. The MoD is responsible from the Bulk Fiscal meter outlet valve up to and including the appliances in the buildings.

The entire MoD network is laid in individual services with a total of two steel and one PE riser.
The buried sections to the two plantrooms are thought to be steel and the buried section to the kitchen is thought to be PE.
A pipeline survey is required to confirm pipe size, material, depth and length of the buried section of MoD network.
There is one utilisation gas meter on this site. This is for the Caretakers flat and shares the steel riser for the small plantroom.
The MoD network pipework is thought to have been installed in the late 1990's.
The total load on the bulk fiscal meter is 596.5 KW.
There is a mix of steel and PE pipe within the network.
The Gas Safety Management Plan Part B will contain all Network information.

Main Building

Main Plant Room

There is an SIV on this section of the network and there is an external ECV at the point of entry to the building. The gas enters the plant room storeroom via a below ground 63mm PE entry. The gas runs to low level and enters the main plant room and runs through an isolation valve and SSOV before entering a manufactured manifold to feed three heating boilers.

Small Plant Room

There is an SIV within 1 metre of the point of entry for this plant room and the gas enters the building in 2" steel via an external ECV and PE riser. On the point of entry there is a tee section. From the left tee the gas continues in 2" steel through an isolation valve before reducing to 1½" steel and feeding two heating boilers. The other tee section feeds the caretaker's flat as detailed below.

Caretakers Flat

From the other tee section outlet, the gas pipe transitions to 22mm copper and continues through a 22mm ECV and U6 meter. On the meter outlet the gas pipe size increases to 28mm copper and exits the plant room internally and runs to high level. The gas runs through the ceiling void to the Caretakers Flat where it reduces to 22mm copper to feed a cooker and fire with back boiler.

Utilization Meter – Sclumberger U6
S/N – 0421553 S
6 m3/hr

Kitchen

The gas pipe exits the ground in 63mm PE into an external ECV before dropping back below ground to an external riser and entering the kitchen. The gas continues through a manual internal AECV before rising to high level. At high level the gas pipe transitions to 40mm copper running through a solenoid interlocking valve. The gas pipe continues to the cooking canopy and drops to low level to become a manifold for 5 gas appliances.

2.3 LPG Gas.

A brief description of the LPG installations, including how many compounds are at the establishment, condition and make up of each compound, the number and size (kg) of vessels in each compound, the number of LPG MOD networks, the number of buildings supplied from the LPG MOD networks, how many buildings are supplied direct and not from an LPG MOD network. Details of the LPG pipework after the first stage regulator up to the building(s).

Note: The demarcation agreement between the LPG supplier and the MOD has been agreed and the MOD take responsibility from the outlet of the first stage regulator. The LPG supplier is responsible for the vessel, vessel associated components (excluding any earth bonding) pipework up to and including the first stage regulator.

No LPG on this establishment

2.4 External Installation Pipework.

A brief description of the external installation pipework (above or below ground) on each building. This is from the ECV to where it enters the building(s), the material, diameter, lengths, supports, conditions etc.

There is no external installation pipework

2.5 Details of buildings served.

A list of the buildings being supplied by gas via an MOD network, LPG compound or directly from the EGDN and the usage of the gas (catering, hot water, heating, fire training, etc) at the building.

Ser	Building Number	Building description	Supplied by	Gas usage
1	Main Building – Main Plant Room	Office space, meeting/conference rooms, stores, drill hall, gymnasium and a lounge/bar.	MoD Network	Heating
2	Main Building – Small Plant room	Offices	MoD Network	Heating
3	Main Building – Caretakers Flat	Accommodation	MoD Network	Heating, Hot Water, Catering
4	Main Building - Kitchen	Kitchen	MoD Network	Catering

2.6 Additional details of buildings being served.

Any additional detail about a building that may be required or useful in an emergency or requires more details than captured above.

NOTE: This section is to be used to capture the Service Family Accommodation (SFA) properties where it is not practical to fit above.

N/A

3 METER DETAILS

3.1 Primary Meter Details.

The following table describes the basic arrangement of the primary meter installation(s). (These are the responsibility of the MAM)

NOTE: More detail on the primary meters that supply MOD networks can be seen in the GSMP part B.

Number of primary meter installations: 1

Meter Name / ID	MPRN	Supplying (MOD network ID or Bldg number)	location	Incoming pressure tier – HP, IP, MP, LP	Outlet pipeline				Max Flow (M^3 hr)
					P tier – HP, IP, MP, LP	Pressure (mbar)	Material	Diameter (mm)	
Keynsham ARC ACF ATC	3801308	Network 001	Standalone brick-built Meter House at the North End of the main Building	LP	LP	21.4	Steel	50	100

3.2 Utilisation Meter Details. (meters supplied directly from the MOD gas network)

The following table describes the basic arrangement of the utilisation meter installation(s). (These are the responsibility of the MOD)

Number of utilisation meter installations: 1 (Buildings Supplied by MoD Network are shown)

Meter Name / ID	Being supplied from (MOD network ID)	Inlet pipeline				Outlet pipework				Max Flow (M^3 hr)
		P tier – HP, IP, MP, LP	Pressure (mbar)	Material	Diameter (mm)	P tier – HP, IP, MP, LP	Pressure (mbar)	Material	Diameter (mm)	
Main Building – Main Plant Room – Not Metered	Network 001	LP	NTP	Steel	50	LP	20.9	Steel	50	N/A
Main Building – Small Plant Room – Not Metered	Network 001	LP	NTP	Steel	50	LP	NTP	Steel	50	N/A
Main Building – Caretakers Flat	Network 001	LP	NTP	Copper	20	LP	20.8	Copper	20	6
Main Building – Kitchen – Not Metered	Network 001	LP	21.4	PE	50	LP	21.4	Steel	40	N/A

4 DIAGRAMS AND DRAWINGS

4.1 Line diagrams for building(s) internal gas installation pipework.

This section is to contain line diagrams for building internal installation pipework and associated components. This diagram should be fixed to the building at a practical and accessible location as well as within any associated document centres. It may be embedded as a PDF to this document for online use.

NOTE: Drawings are only required for commercial installations or for installation in commercial settings (non-domestic use). This may mean more installations than listed in IGEM/UP/2 Edition 3 (4.2.14), depending on the installations intended use.

Drawing Number	Building	Comments
WX48-A-A3	Main Plant Room	Not to Scale Gas Line Drawing
WX48-A-A3	Small Plant Room & Caretakers Flat	Not to Scale Gas Line Drawing
WX48-A-A3	Kitchen	Not to Scale Gas Line Drawing
		WX48-A-A3.pdf

4.2 Additional drawings.

This section is to contain any additional drawings that may be required or may be of benefit to this GSMP or emergency procedures.

Drawing Number	Building	Comments
WX48-B-A1	Site Wide	Site Gas Network Layout Drawing
		WX48-B-A1.pdf

5 GAS INCIDENTS

5.1 Site reporting procedures for dealing with gas incidents.

This section is to contain the establishment's site-specific procedure for dealing with reports of gas incidents with regards the external installation pipework, internal installation pipework and equipment. Details of all individuals with responsibilities under this procedure should be included.

Procedure for an incident involving the gas installation on site:

- Call VIVO helpdesk on 0800 030 9320, open 24 hours per day
- The helpdesk will contact the EGDN emergency provider who shall attend and make safe a gas incident.
- The helpdesk will contact the VIVO site team and Gas RP via a text alert/Teams message

6 GAS EQUIPMENT

6.1 Equipment List.
This section is to include details of all the gas equipment being used at the establishment.

Building number	Equipment location	Equipment type (make, model)	Serial Number	Appliance kW rating	Flue classification	Comments
Main Building	Plant Room	Worcester Greenstar GB162 V2 Heating Boiler	3290-175-000032-7736701037	100	Open Flue	Boiler No.1
Main Building	Plant Room	Worcester Greenstar GB162 V2 Heating Boiler	3290-175-000014-7736701037	100	Open Flue	Boiler No.2
Main Building	Plant Room	Worcester Greenstar GB162 V2 Heating Boiler	3290-175-000015-7736701037	100	Open Flue	Boiler No.3
Main Building	Small Plant Room	Vaillant VU GB 806/5-5 R5 Heating Boiler	212239001001076720100052 88N0	74.7	Open Flue	Boiler 1
Main Building	Small Plant Room	Vaillant VU GB 806/5-5 R5 Heating Boiler	212234001001076720100052 08N0	74.7	Open Flue	Boiler 2
Main Building	Caretakers Flat	Baxi Bermuda GF Super Fire and LFE 3 Super Back Boiler	No Access to Data Plate	20	Open Flue	
Main Building	Caretakers Flat	Parkinson Cowan CPLA50WN Cooker	9 35 00020	16	Flueless	

Main Building	Kitchen	Falcon G2512 Grill	F414503	22	Flueless – Canopy Extract	
Main Building	Kitchen	Blueseal Solid Top with Oven	Not Visible	20.5	Flueless – Canopy Extract	
Main Building	Kitchen	Blueseal G 50 D 6 Burner Range with Oven	Data Plate not Visible	41.5	Flueless – Canopy Extract	
Main Building	Kitchen	Moffat GT 45 Single Deep Fat Fryer	436027	9.5	Flueless – Canopy Extract	
Main Building	Kitchen	Zannussi Deep Fat Fryer	No Data Plate	20	Flueless – Canopy Extract	

6.2 Additional equipment information.

This section is to contain any additional equipment information that may be required or may be of benefit to this GSMP or emergency procedures.

Safety shut off valves are required to be frequently checked every year in accordance with CRFCA hard FM task list: 160418-GL-EST-Task2Ser9-GasApplianceandPipework
A list of the checks is captured below.

160418-GL-EST-Task 2Ser09-GasAppliance

Kitchen Canopy Gas Interlock installed in Main Building Kitchen, with SSOV and emergency stop button by exit door.

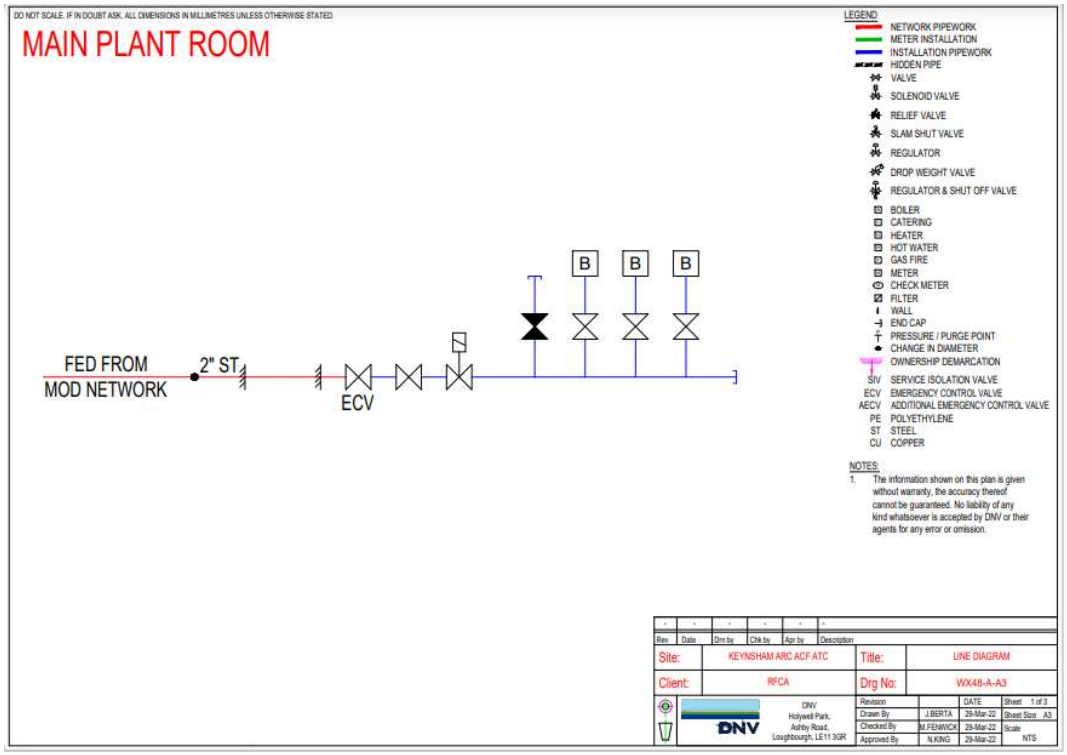
KEYNSHAM TA JB50345 57649 PMV.

In-line solenoid observed in plant room, believed to be fire alarm linked, unable to validate and test.

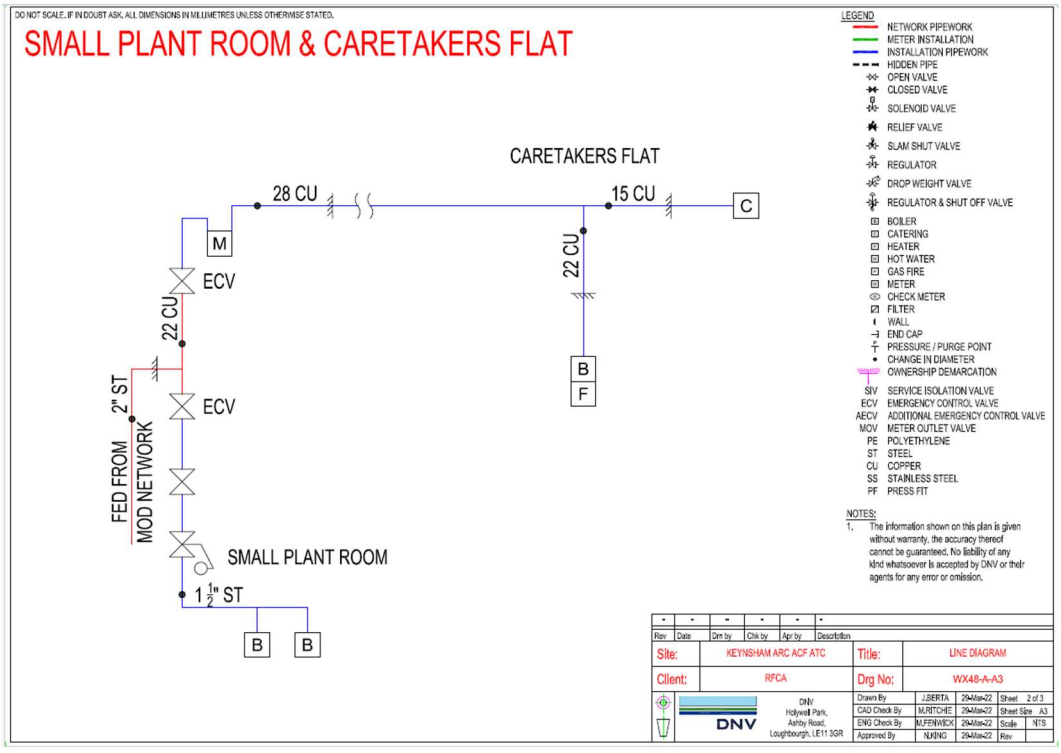
7 ANNEXES

Gas Line Drawings

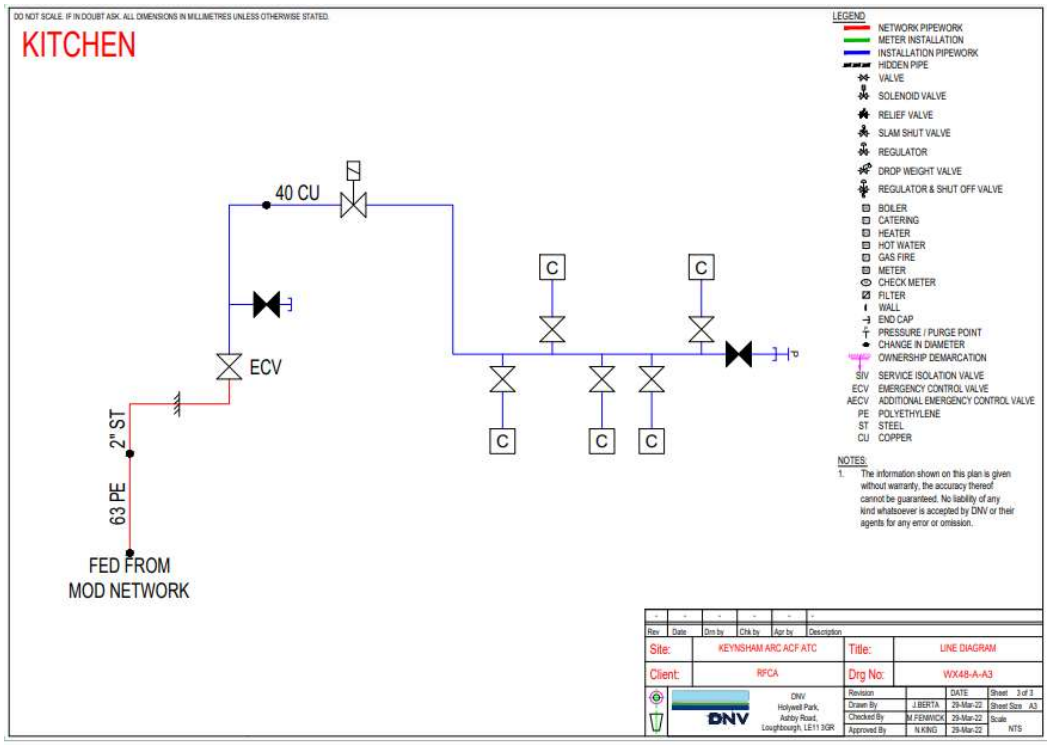
Main Plant Room



Small Plant Room & Caretakers Flat



Kitchen



Site Gas Layout Drawing