Defence
Infrastructure
Organisation

Gas Safety Management Plan (Section B)

Produced to meet the requirements of the Gas Safety (Management) Regulations

(Gas Safety Management Plan (Section A) covers the requirements of the Gas Safety (Installation and Use) Regulations)

Version 5.00 – 02 August 2013

Foreword

The Management of Health and Safety at Work Regulations requires employers to put in place arrangements for the effective planning, organisation, control, monitoring and review of the preventive and protective measures necessary to ensure health and safety at work is properly managed and to establish, where necessary, appropriate procedures to be followed in the event of serious and/or imminent danger.

This document contains the template for the Gas Safety Management Plan (Section B) for Establishments on the Ministry of Defence (MOD) Estate. Implementation of this plan will enable the Establishment to demonstrate compliance with the Gas Safety (Management) Regulations (GS(M)R) for working on and maintaining gas systems.

Note: Section 'A' of the Gas Safety Management Plan supports the requirements under the Gas Safety (Implementation and Use) Regulations

The MOD owns the gas supply network at *[Insert Name of Establishment]*. In order to meet MOD responsibilities as a Public Gas Transporter (PGT) a Safety Case[1] has been compiled in accordance with the GS(M)R. This Gas Safety Management Plan (GSMP) has been prepared to demonstrate that the establishment has made adequate arrangements to manage the safe flow of gas within the networks, and to provide effective emergency arrangements.

The Maintenance Management Organisation *[Insert Name of MMO]* has the overall contractual responsibility to operate and maintain the gas network assets under the conditions of their contract. This includes the management of the safe flow of gas within the system and the provision of an emergency service.

The Commanding Office/Head of Establishment (CO/HoE) (as the duty holder with authority over and responsibility for the activities within a MOD establishment – JSP 815) is required to ensure that a Gas Safety Management Plan (GSMP) has been prepared and maintained for the Establishment(s) under their control. The CO/HoE is to be supported in this role by the following persons/organisations.

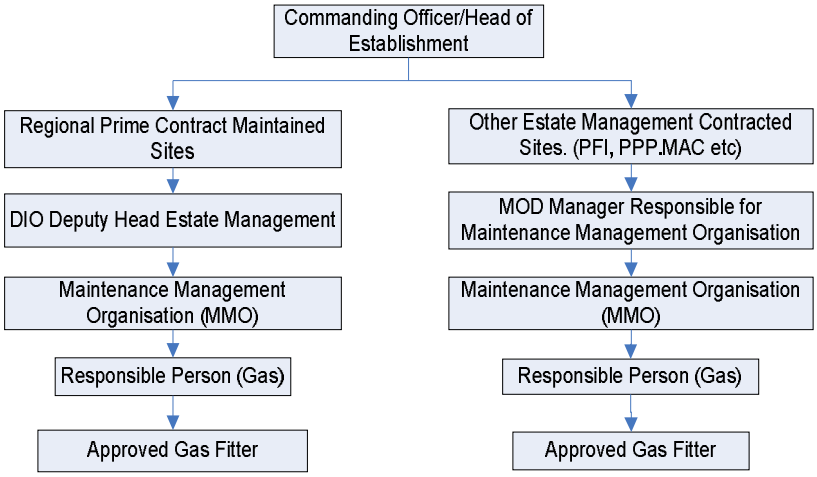
For Establishments or areas of an Establishment which fall within the scope of a Regional Prime Contract:

a) The Defence Infrastructure Organisation (DIO Regional Infrastructure Manager)
b) The Maintenance Management Organisation (the Regional Prime Contractor)

For Establishments maintained under any other form of contract and areas of an Establishment not within the scope of a Regional Prime Contract:

a) The MOD manager responsible for the Maintenance Management Organisation (MMO)
b) The Maintenance Management Organisation (PFI, PPP, MAC etc)

[1] See 1.8 Glossary for an explanation of a Safety Case



Monitoring of the implementation of the GSMP will take place at regular intervals (quarterly during the first year of implementations and then at periods not exceeding 12 month) to make sure that the arrangements are working and that people are fully aware of what their responsibilities are in order to comply with the requirements of the above legislation. The arrangements will need to be reviewed and amendments made particularly when there are changes or modifications to the estate gas infrastructure. The arrangements shall be reviewed every twelve months, (even if there have been no changes), or more frequently if the situation requires. Records of the review are to be kept/maintained.

The details of the review, when it is made, are to be written down, including whether the arrangements are still satisfactory or whether any changes are made. Everyone who needs to know should be informed of any changes made.

Part 1: Introduction
Section 1.1: Contents

Note- Some paragraph numbers are not consecutive as they have been grouped to aid in the preparation of the document

Part 3	Page No.	Para	Heading	Paragraph from Schedule 1 of GS(M)R 1996
Managing Safety (Continued)	30	**5**	Risk Assessment	Risk Assessments made pursuant to the governing regulations. Generic risk assessments are contained in Annex A
	31	Flow Chart 05-1	Managing Risk Assessments	
	32	**6**	Safety Management	Information pertaining to the adequacy of the duty holders management system
	33	**7**	Staff Competence	Information pertaining to the adequacy of the arrangements to ensure the competence of employees
	34	**8**	Managing Contractors	Information pertaining to the adequacy of the arrangements for managing work carried out by third party contractors
	35	Flow Chart 08-1	Managing Contractors	
	36	**9**	Internal Communication	Information pertaining to the adequacy of the arrangements for communicating information through the organisation
	37	Flow Chart 09-1	Information Dissemination	
	38	**10**	External Communication	Information pertaining to the adequacy of the arrangements for communicating information to and from other persons who have duties under the GS(M)R
	39	**11**	Audits	Arrangements for the organisation of audits and the making of any necessary reports
	40	Flow Chart 11-1	Internal Investigation, After a Gas Related Incident	
	41	Flow Chart 11-2	External Investigation, After a Gas Related Incident	
	42	**14**	Incident Investigation	Arrangements for the organisation and co-ordination of investigations
	43	Flow Chart 14-1	Investigating an Incident	
Part 4	**Page No.**	**Para**	**Heading**	**Paragraph Excerpts from Schedule 1 of GS(M)R 1996**
Managing Supply	44		Content Part 4	
	45	**12**	Co-operation	Cooperation with the various parties involved in the safe management of natural gas distribution
	47	**15**	Gas Characteristics	Characteristics of the distributed natural gas
	48	**16**	Minimising Risk of Supply Emergency	Arrangements established to ensure that the risk of a supply emergency is minimised
	49	**17**	Supply Pressure	Arrangements established to ensure that the gas conveyed is at an adequate pressure when it leaves the duty holders network.

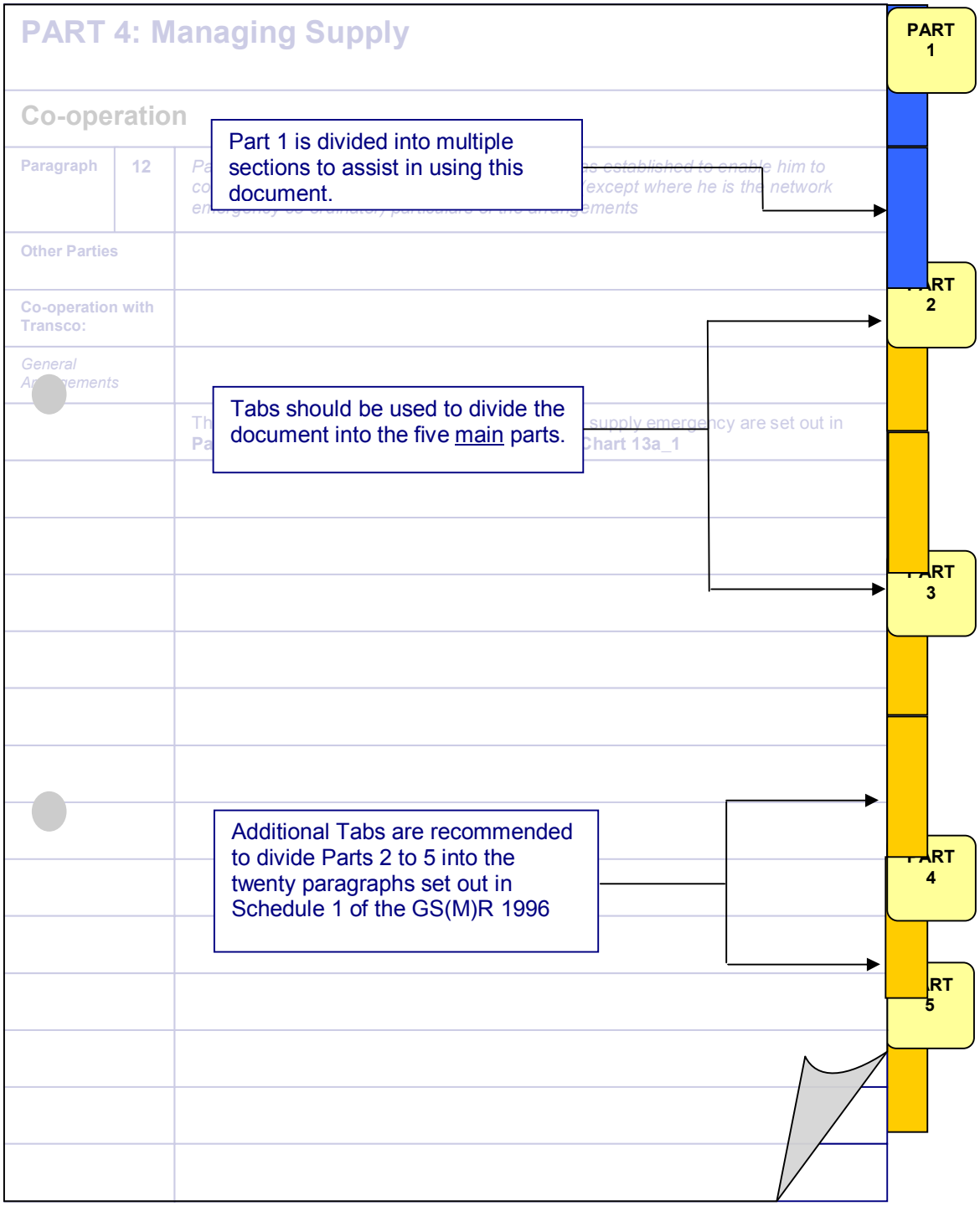
Part 5	Page No.	Para	Heading	Paragraph Excerpts from Schedule 1 of GS(M)R 1996
Managing Emergencies	50		Contents Part 5	
	51	**13a**	Gas Leaks	Particulars of the arrangements the duty holder and any emergency service provider have established to deal with gas leaks
	53	Flow Chart 13a-1	Gas Leak Emergency Management (Overview)	
	54	Flow Chart 13a-2	Incident Notification	
	55	Flow Chart 13a-3	Initial Response	
	56	Flow Chart 13a-4	Emergency Services at scene of incident	
	57	Flow Chart 13a-5	Assessing the level of hazard arising from the gas incident	
	58	Flow Chart 13a-6	Resolving the gas incident	
	59	Form 13a-7	Incident report – Gas Distribution System	
	62	Form 13a-8	Check List for Major Emergencies	
	63	**13b**	Service Providers	Particulars of the arrangements the duty holder has established to appoint emergency service providers
	64	**18**	Supply Emergency	Particulars of the arrangements for dealing with supply emergencies
	65	Flow Chart 18-1	Local Supply Emergency	
	66	Flow Chart 18-2	Local Supply Emergency	
	67	**19**	Non Conforming Gas	Arrangements established for conveying non-conforming gas in the network
	68	**20**	Discontinue Supply	Procedures established to discontinue supply to consumers
	69	Flow Chart 20-1	Interrupting Supply to Customers (1)	
	70	Flow Chart 20-2	Interrupting Supply to Customers (2)	
	71	**21**	Re-establish Supply	Procedures established to restore gas supply to consumers
	72	Flow Chart 21-1	Upon Resolution of Supply Emergency	

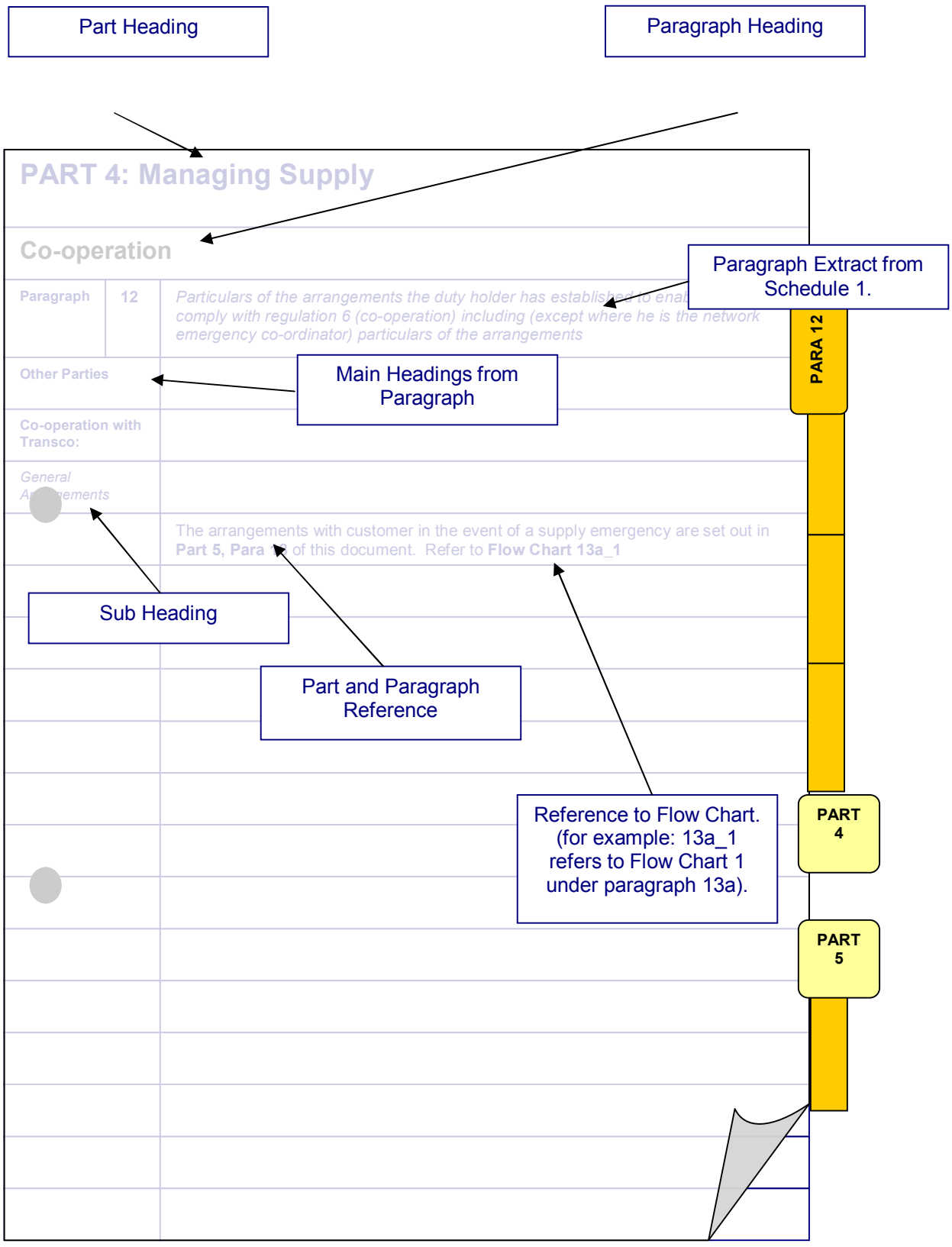
Part 1: Introduction

Section 1.2: About this Document

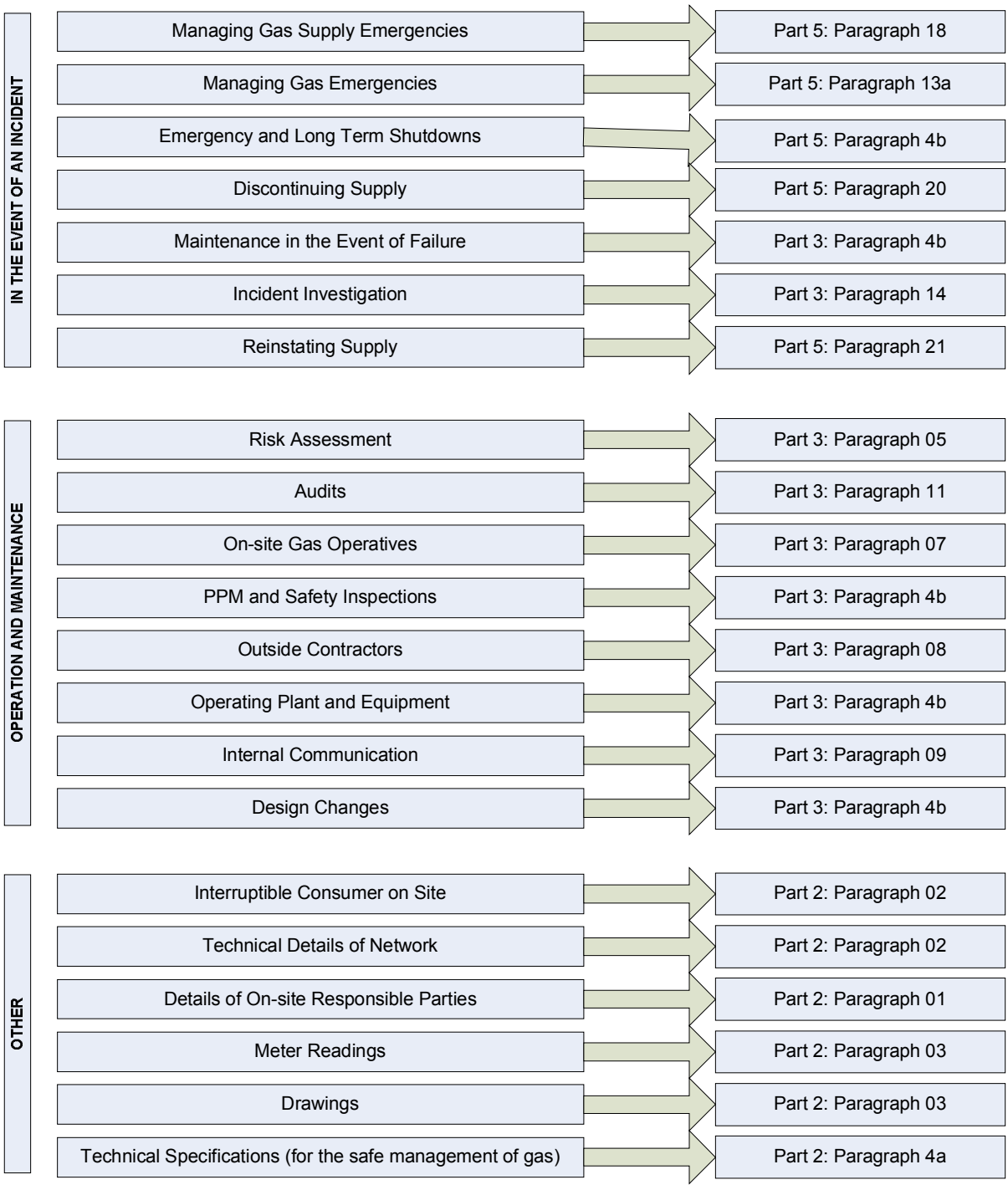
INFORMATION		Part 1 has been written to give the user a better understanding of how the document is meant to be navigated. It is divided into the following 7 sections
1.1	Contents Page	Section 1.1 shows the contents of all five parts
1.2	About this Document	Section 1.2 (this section) gives a brief overview of how the document is laid out and the purpose of the document as a whole
1.3	Using the Document	Section 1.3 gives a visual indication of how the document is divided
1.4	Incident Management	Section 1.4 is a quick selection index which allows the user to turn directly to the required heading
1.5	Document Management	Section 1.5 allows the user to establish revision control. This document should be updated after changes to the design, gas incidents, audits & any other works that impact on the distribution of natural gas on site.
1.6	Acronyms	Section 1.6 lists the various acronyms used in this document
1.7	Appendices	The statutory literature that is connected to this document is enclosed for reference as are other MOD specifications
THE PURPOSE		The purposes of this document are as follows
1a		To define clear lines of communication, procedures and processes that need to be implemented in the day to day running of a gas network
1b		To define clear lines of communication, procedures and processes that need to be implemented to reduce the risk of a 'incident' involving gas
1c		To define clear lines of communication, procedures and processes that need to be implemented in the eventuality of a 'incident' involving gas.
1d		The final purpose of this document is to ensure that the site complies with the Gas Safety (Management) Regulations 1996, and in particular Regulation 3 of the regulations which state the following:
2a		To comply with Regulation 3 of the GS(M)R 1996 which states
		Regulation 3 – Duties on Persons Conveying Gas. "No person shall convey gas in a network unless" – "He has prepared a safety case containing the particulars specified in Schedule 1 of the GS(M)R and that safety case has been accepted by the Executive"
		The MOD has prepared a generic gas safety case for all Establishments in the United Kingdom subject to the GS(M)R, which includes bases that are occupied by the United States Visiting Forces.
2b		**As the MOD is creating a Exemplar Gas Safety Case, each site is to have this follow-up document which points to all site specific documents and procedures required under Schedule 1 of the GS(M)R 1996.**
		This document should be treated as a 'living document' and must be updated and audited on a regular basis.
THE PARTS		This document is divided into five parts as shown below:
Part 1	Introduction	Part 1 introduces this document to a new and returning user. It indicates how the document should be used and also contains a quick reference to the procedures
Part 2	Gas Network Overview	Part 2 contains technical & descriptive information on the gas network
Part 3	Managing Safety	Part 3 describes/refers to the processes and procedures in place that control the gas safety management system on site
Part 4	Managing Supply	Part 4 describes/refers to the processes and procedures in place that control the gas supply management system on site
Part 5	Managing Emergencies	Part 5 describes/refers to the processes and procedures in place that control the gas emergency management system on site

Part 1, Section 1.3: USING THE DOCUMENT




Part Heading
Paragraph Heading
PART 4: Managing Supply
Co-operation
Paragraph
12
Particulars of the arrangements the duty holder has established to enable him to comply with regulation 6 (co-operation) including (except where he is the network emergency co-ordinator) particulars of the arrangements
Paragraph Extract from Schedule 1.
PARA 12
Other Parties
Main Headings from Paragraph
Co-operation with Transco:
General Arrangements
The arrangements with customer in the event of a supply emergency are set out in Part 5, Para 1.2 of this document. Refer to Flow Chart 13a_1
Sub Heading
Part and Paragraph Reference
Reference to Flow Chart. (for example: 13a_1 refers to Flow Chart 1 under paragraph 13a).
PART 4
PART 5

PART 1, Section 1.4: Incident Management



Part 1: Introduction

Section 1.5: Document Management

VERSION	ISSUE DETAIL	DESCRIPTION	WORK BY:	APPROVED BY:	REVIEW DATE
Version 1.0	Alconbury GSMP	*Original version produced for RAF Alconbury by DE Ops Int (USF)*			
Version 1.02	Draft of amended GSMP	*Issued to DE Operations Directorates and RPC for consultation*			
Version 2.0	Issued to external Gas Specialists for Review				
Version 5.0		Major update to reflect changes to management structure within DIO. Removal of references to JSP 375 vol 3.	RAC	RAC	June 13
		Annexe G Roles and responsibilities			
		Annexe H Competence, training & appointment			
		Annexe I Cooperation and communication			
		Annexe J Planning & implementing			
		Annexe K Assurance			

This document was created by ……. for the MOD.

The parts of this document that deal with the safe management of the flow of gas and the provision of an emergency response service must be audited periodically. In particular audits are to be conducted a minimum of six months after gas emergencies & incidents. Audits should also be carried out after significant changes to management arrangements and/or the natural gas distribution system. (*GS(M)R 1996, Schedule 1, Paragraph 11*).

Part 1: Introduction	
Section 1.6: Acronyms	
DIO	Defence Infrastructure Organisation
DHW	Domestic Hot Water
DIN	Defence Instruction Notice
E&C	Engineering & Construction
ES	Emergency Services
GSM	Gas Safety Manager (formerly Authorised Engineer –Mechanical)
GS(M)R 1996	Gas Safety (Management) Regulations 1996
GSMP	Gas Safety Management Plan (This Document)
H&S	Health and Safety
HSE	Health and Safety Executive
LPG	Liquid Petroleum Gas
MOD	Ministry of Defence
NEC	Network Emergency Co-ordinator
NG	Natural Gas
NGG	National Grid Gas plc Emergency Co-ordinator
ODC	Operation Delivery & Coherence
PPM	Planned Preventative maintenance
RA	Risk Assessment
RIDDOR	Reporting of Injuries, Diseases and Dangerous Occurrences and Regulations 1995
RP(Gas)	Responsible Person - Gas
SIM	Senior Infrastructure Manager
SN	Site Name

Part 1: Introduction	
Section 1.7: Reference Documents	
SI 1996 No 551	Gas Safety (Management) Regulations 1996
SI 1998 No 2451	Gas Safety (Installation and Use) Regulations 1998
L80	**A Guild to the Gas Safety (Management) Regulations 1996** – HSE Guidance on Regulations – Contains details of what is contained in Schedule 1 of the GS(M)R 1996 Regs
L56	Approved Code of Practice – Safety in the installation and use of gas systems and appliances
HSE GS(M)R Safety Case Assessment Manual	**Gas Safety (Management) Regulations 1996, Safety Case Assessment Manual** – This guide is used by safety case assessors, and as such is a useful document to use as reference in creating a gas safety management plan.
HSE	Enforcement Policy for the replacement of iron gas mains 2006 – 2013 – December 2005 http://www.hse.gov.uk/gas/supply/mainsreplacement/irongasmain.htm
HSE	A Guide to regulation 13A of the Pipeline Safety Regulations 1996
HSE	Gas supply – Monitoring and reporting of Distribution Networks. http://www.hse.gov.uk/gas/supply/mainsreplacement/monitoring.htm
IGE/GL/9	IGEM Gas Legislation Guidance – Guidance for large gas consumers in dealing with Natural Gas supply emergencies

Part 1: Introduction

Section 1.8: Glossary.

Natural Gas	
Low Pressure	Less than 75 mbar
Medium Pressure	Up to 2 bar
Intermediate Pressure	Not exceeding 7bar
Safety Case	A document detailing the organisation and arrangements an organisation has in place for undertaking the role as a Public Gas Transporter. The Safety Case containing the particulars required by Schedule 1 of the Gas Safety (Management) Regulations which has to be formally accepted by the Health and Safety Executive
LPG	
High Pressure	6.8 bar @15^{O} C (Bulk tank)
Medium Pressure	75 mbar
Standard Operating pressure	37mbar (Supply pipe to building)
Incident Commander	Person in charge of the incident
External Gas Distribution Networks	External Gas Distribution Networks (EGDN) in place at the time of publication of this document (see following page)

LDZs

North West, North London, West Midlands, East Midlands, East Anglia, Scotland, South, South East, Wales, South West, North and Yorkshire

EGDNs

North West, North London, West Midlands and East of England are owned and managed by National Grid Gas plc (the area outlined in black)

Scotland & South of England are owned and managed by Scotia Gas Networks – operating as Scotland Gas Networks Ltd and Southern Gas Networks Ltd respectively

Wales and the West is owned and managed by Wales and West Utilities

North of England is owned and operated by Northern Gas Networks Ltd

www.nationalgrid.com/uk/Gas/About/How+Gas+is+Delivered/

National Grid Gas plc also operate the National Transmission System (NTS)

Part 2: Gas Network Overview

Contents of Part 2: Gas Network Overview

Part	Para	Heading	Paragraph Excerpts from Schedule 1 of GS(M)R 1996
2 Gas Network Overview	1	The Duty Holder	Name and address of the person preparing the safety case (in this Schedule referred to as the "Duty Holder").
	2	The Operation	A description of the operation intended to be undertaken by the duty holder.
	3	General Descriptions	A general description of the plant and premises the duty holder intends to use in connection with the operation including, in particular, the geographical location where any pipes he uses join pipes used by other persons for conveying gas.
	4a	Technical Specification	Particulars of any Technical Specifications, which the duty holder intends to follow in connection with the operation he intends to undertake insofar as they affect the health and safety of persons.

Introduction to Part 2: Gas Network Overview

About Part 2:	This section highlights the following:
	Persons responsible for the safe flow of gas on site & their contact details.
	An overview of the gas network onsite.
	Technical details of the gas network (pipe sizes, lengths and operating pressures).

Part 2: Gas Network Overview		
Paragraph 1: The Duty Holder		
Paragraph	**1**	***Name and address of the person preparing the safety case (in this Schedule referred to as the "Duty Holder").***
Duty Holder		Defence Infrastructure Organisation
Duty Holders Address		Kingston Road Sutton Coldfield B75 7RL Tel: 0121 311 3228 Fax 0121 311 3809
Duty Holder Contact		Robin Cawthorne
Duty Holder Contact Address (If different from above)		As Above Tel: Fax:
Site Responsibility		*Contact details of Head of Establishment*
Site Contact Address		*Responsible Person Gas* Tel: Fax:

Part 2: Gas Network Overview

Paragraph 2: The Operation

Paragraph	**2**	***A description of the operation intended to be undertaken by the duty holder.***
Overview		*The site comprises of …….. There are approximately ……. People stationed on this establishment.*
The Purpose of the Pipeline(s)		
Pipe Line Detail		The table below shows approximate total pipeline lengths for the different pipe diameters, the volume of gas currently flowing through the pipes, the capacity constraints and the associated operating pressures.

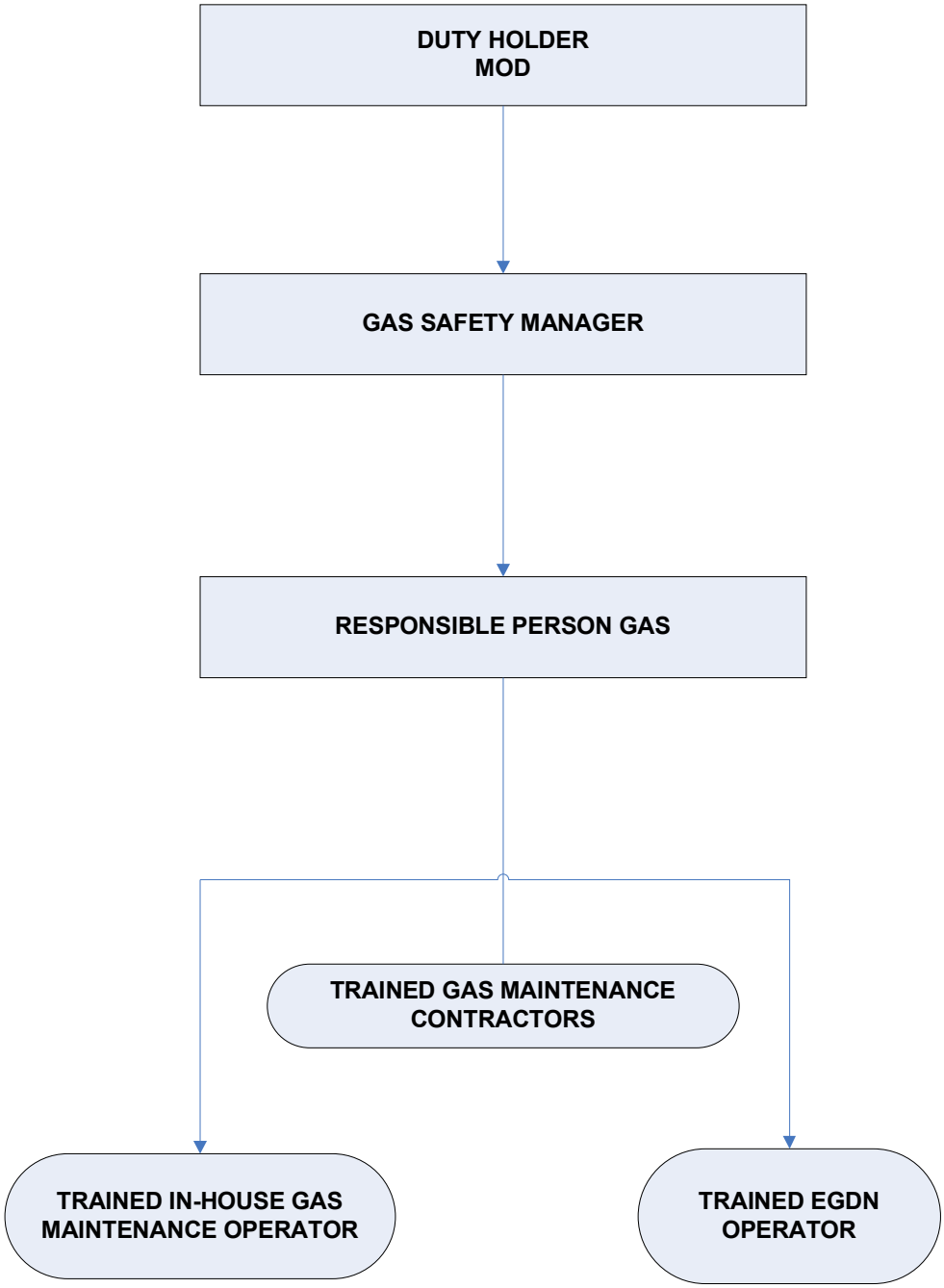
Pressure (bar)	Dia (mm)	Pipe Types	Total Length (m)	Volume (m^3/hr)	Capacity Constrains (m^3/hr)

The volume of gas likely to be conveyed should be determined from a site specific network analysis. The EGDN should be able to identify the supply capacity constraints as this will normally be the EGDN metering capacity to the site.
Supply pressure from the EGDN could vary between medium (up to 2 bar), intermediate (2 bar to 7 bar) or high pressure (above 7 bar).

Interruptible Consumers	Site Name as a site *is/is not* an interruptible consumer and as such their gas supply *can/cannot* be terminated in the event of a gas emergency.
	In the event of a gas emergency the various premises on the base may have their gas supply temporarily suspended. The procedure associated can be found in **Part 5, Para 18**. The list of consumers over-sheet must be used in conjunction with these procedures.
Operational Characteristics	MOD (Defence Infrastructure Organisation), being the Duty Holder for the site, control the safe management of natural gas distribution on this base. Refer to the *Flow Chart 2-1.*
	The maintenance of the external medium pressure gas line falls to the local gas transporter, (*enter name of EGDN)*.
	The maintenance of the internal medium/low pressure gas line falls to the site maintenance team.
Adjoining networks	*The mains supply (medium pressure pipeline) from which the site receives its gas is shown on drawing no……..*

Part 2: Gas Network Overview				
Paragraph 2: The Operation (Interruptible consumers).				
Building Ref	**Building Type**	**Gas Usage / Heating Plant**	**Safety Critical**	**Contingency**

PART 2, PARA 2: Organisational Hierarchy for the Safe Management of Gas

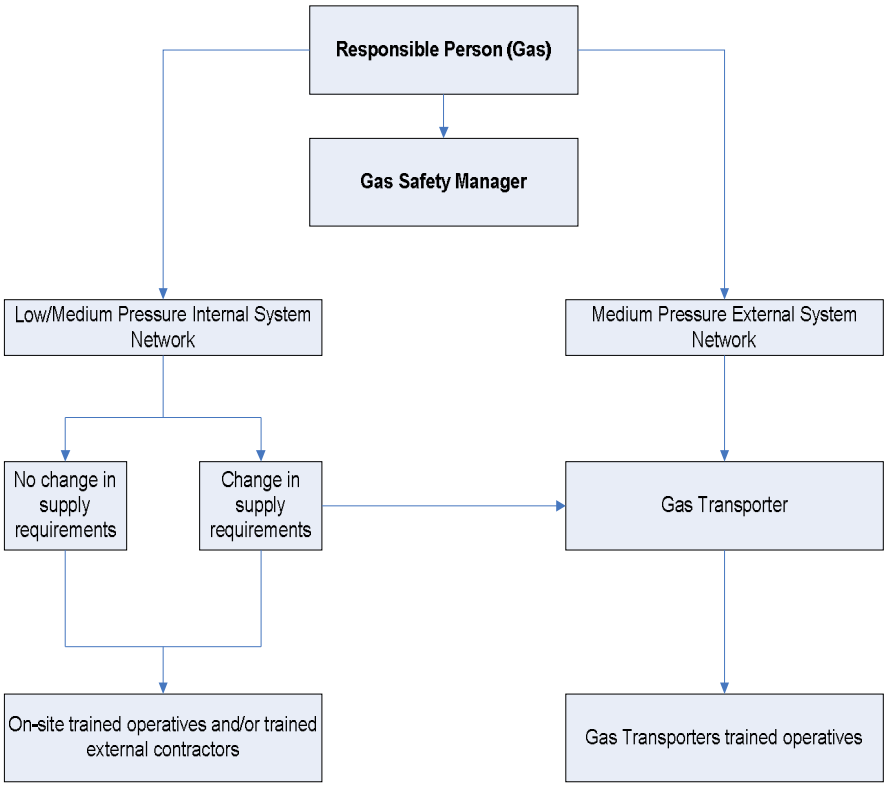


Flow Chart No 02-1

Part 2: Gas Network Overview		
Paragraph 3: General Descriptions		
Paragraph	**3**	***A general description of the plant and premises the duty holder intends to use in connection with the operation including, in particular, the geographical location where any pipes he uses join pipes used by other persons for conveying gas.***
Archive Drawings		*e.g. Original drawings of the gas network can be found in the MMO office (Contact RP(Gas)). These drawings are not to scale.*
Archive Drawing 1		
Archive Drawing 2		
Archive Drawing 3		
Archive Drawing 4		
Drawings Prepared for this document		The drawings shown below (and appended to the end of this paragraph) are re-worked / scaled versions of the archived drawings shown above. Copies of these drawings are to be held in this file, and electronically with this document.
Gas layout drawing 1		
Gas layout drawing 2		
Gas layout drawing 3		
Gas layout drawing 4		
Continue with layout drawings as appropriate.		
Drawing Content		The above drawings indicate the following
Geographical location of pipes		*Refer to the appended drawings to view the installed pipeline network & all associated control equipment*
		Refer to the appended drawings to view the incoming gas supply and outgoing decommissioned pipeline. Also shown is the geographic boundary of the site.
Safety Critical Plant		*The installed safety critical plant and other control equipment are shown on the above drawings.*
Control Centres		*There are no control centres on site which are the responsibility of the RP (Gas), however there is a medium pressure control centre located in the middle of the site which is the responsibility of the gas transporter (insert name of EGDN). This can be seen on Drawings xxxxxxx*
Interfaces		*As shown in Paragraph 2 (General Description) of this document*
		The main supply medium pressure pipeline from which site receives its supply runs
		The duty holder for the incoming pipeline is (enter name of EGDN)
Other General Details		The sections below highlight other details that are set out in Schedule 1
Communication with other duty holders		*Site Name has only one duty holder connected to its gas network. This duty holder is (enter name of EGDN) who is the gas transporter. Communication for all work on both the Medium and Low Pressure networks should be as per* **Flow Chart03_1.**
Network Emergency Co-ordinator		*The Network Emergency Co-ordinator is (enter name of EGDN)*
Design Changes		Refer to **Part 3, Flow Chart 04b_5** for the procedures and processes that control any changes to the design of the gas network.
Gas Consumption		The consumption of gas must be monitored and recorded where possible. It is the CO/HoE responsibility to analyse gas consumption patterns. The table below is to be used to record quarterly and yearly meter readings. This is to be kept updated by the CO/HOE Current running volumes and consumption constraints can be found in Part 2, Paragraph 2 (General Description).
		Supply pressure from the EGDN could vary between medium (up to 2 bar), intermediate (2 bar to 7 bar) or high pressure (above 7 bar).
		The following sheet detail quarterly gas consumption for the site. *This section is to be filled in by the CO/HoE every Quarter.*

Quarter	Year	Meter Reading (m^3)	Usage in Quarter	Running Total for year	Overall Total
1	2009				
2	2009				
3	2009				
4	2009				
1	2010				
2	2010				
3	2010				
4	2010				
1	2011				
2	2011				
3	2011				
4	2011				
1	2012				
2	2012				
3	2012				
4	2012				
1	2013				
2	2013				
3	2013				
4	2013				
1	2014				
2	2014				
3	2014				
4	2014				

PART 2, PARA 3: Communication with Other Duty Holders



Flow Chart 03-1

Part 2: Gas Network Overview		
Paragraph 4a: Technical Specifications		
Paragraph	**4a**	***Particulars of any – (a) Technical Specifications***
Technical Specifications		
		Gas Safety Management Plan (GSMP) – This document highlights the roles and responsibilities of natural gas distribution on MOD sites. It contains references to risk assessments emergency plans & other documents vital to maintaining the safe flow of gas.
		IGE/GL/7 - Communication 1632 - Gas Legislation Guidance for Safety Cases.
		IGE/G/1 - Communication 1703 – Defining the End of the Network, a Meter Installation and Installation Pipework.
		IIGE/TD/10 - Institution of Gas Engineers Recommendations on Transmission and Distribution Practice - Pressure Regulating Installations for Inlet Pressures between 75 mbar and 7 bar. 1976 & 1986.
		IGE/GM/8 - Non-Domestic Meter Installations. Flow rate exceeding 6 m3h-1 and Inlet Pressure Not Exceeding 38 bar. Parts 1 to 5.
		IGE/TD/3: Edition 4:2003 - Communication 1677 - Steel and PE Pipelines for Gas Distribution.
		IGE/TD/4: Edition 3:1994 - Communication 1562 - Gas Services.

Part 3: Managing Safety

Contents of Part 3: Operation & Maintenance.

Part	Para	Heading	Paragraph Excerpts from Schedule 1 of GS(M)R 1996
3 Managing Safety	**4b**	Operation & Maintenance	Particulars of any procedures or arrangements relating to operation and maintenance, which the duty holder intends to follow in connection with the operation he intends to undertake insofar as they affect the health and safety of persons.
	5	Risk Assessment	A statement of the significant findings of the risk assessment have made pursuant to Regulation 3 of the 'Management of health and safety at Work Regulations' , and particulars of the arrangements he has made in accordance with regulation 3 thereof.
	6	Adequate Safety Management	Particulars to demonstrate that the management system of the duty holder is adequate to ensure that the relevant statutory provisions will be (in respect of matters within his control) complied with in relation to the operation he intends to undertake.
	7	Staff Competence	Particulars to demonstrate that the duty holder has established adequate arrangements for ensuring the competence of his employees in health and safety matters.
	8	Managing Contractors	Particular to demonstrate that the duty holder has established adequate arrangements for managing work carried out by persons who are not his employees on or in relation to plant or premises which he owns or controls.
	9	Internal Communication	Particulars to demonstrate that the duty holder has established adequate arrangements for passing information relevant to health and safety to persons within his undertaking.
	10	External Communication	Particulars to demonstrate that the duty holder has established adequate arrangements for passing and receiving information relevant to health and safety to and from other persons who have duties under these regulations.
	11	Audits	Particulars to demonstrate that the duty holder has established adequate arrangements for audit and the making of any necessary reports.
	14	Incident Investigation	Particulars to demonstrate that the duty holder has established adequate arrangements to enable him to comply with Regulation 7(12), (13), (15) & (16) of the GS(M) Regs, for co-ordinating the investigations he causes to be carried out pursuant to that regulation with other investigations carried out pursuant thereto, and for participating in such other investigations.

Introduction to Part 3: Managing Safety

About Part 3:	This section highlights
	The procedures, processes in place to control the safe flow of natural gas at *Site Name*.
	The roles and responsibilities of those who manage or undertake work on the gas system.

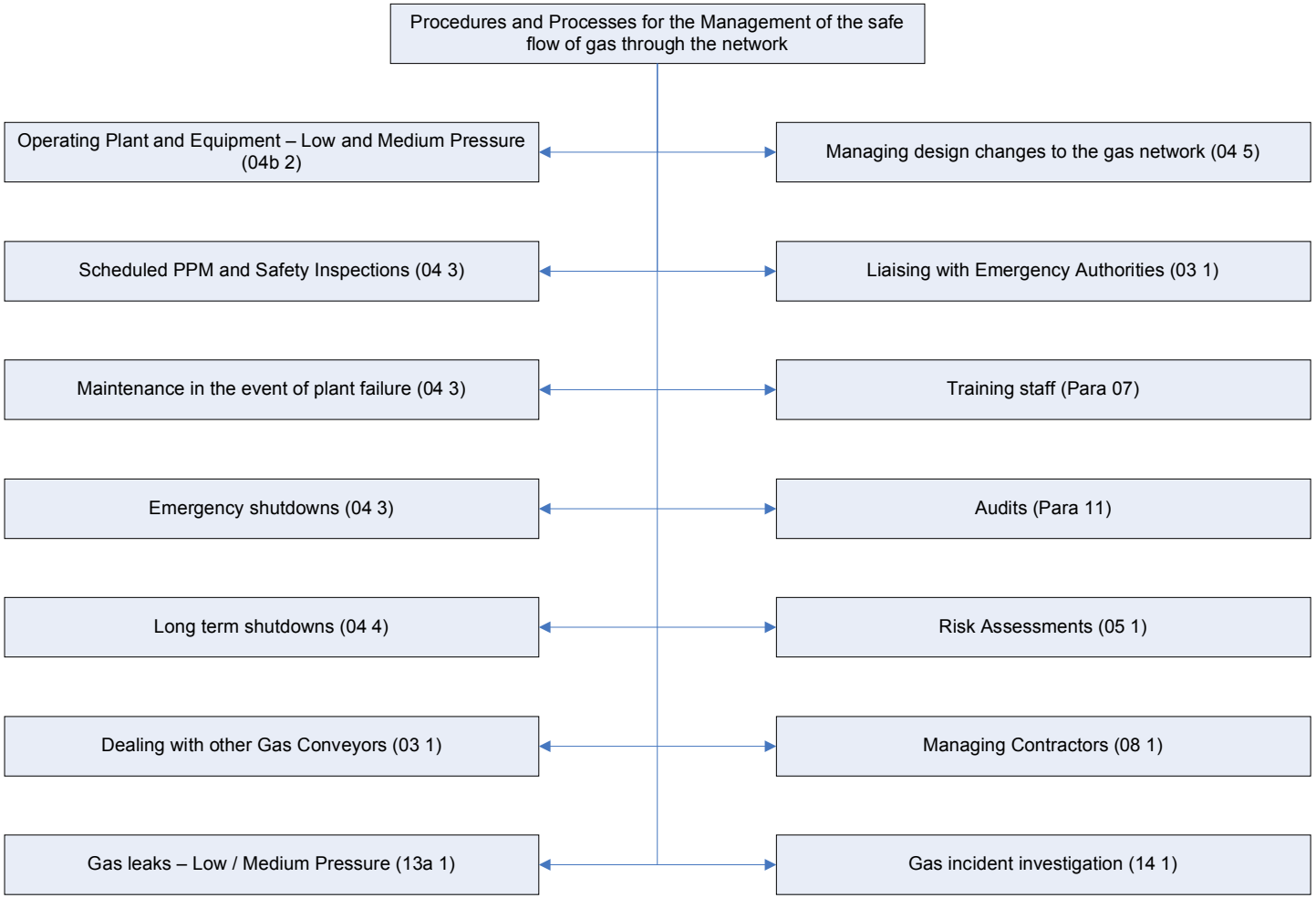
Part 3: Managing Safety

Paragraph 4b: Operation and Maintenance.

Paragraph	**4b**	***Particulars of any – (b) Procedures or arrangements relating to operation and maintenance; Which the duty holder intends to follow in connection with the operation he intends to undertake insofar as they affect the health and safety of persons.***
Safe Management of the flow of gas		This paragraph puts into place the procedures and processes required under Schedule 1 with regards to the management structure needed to safely control the flow of gas in a network. Further information can be found in Annex G of this document
		The various incidents/events that are shown below are further detailed in various Flow Charts. Refer to **Flow Chart 04b_1** over-sheet for more information.
Operating Plant & Equipment		The RP (Gas), has the services of *insert number* Gas Safe Registered operatives on site. These individuals run the day to day operation of the plant and associated equipment. (Ref: **Flow Chart 04b_2**).
Scheduled PPM & Safety Inspections		The RP (Gas) will liaise with Customer Services & *(enter name of EGDN)* to carry out planned works that may interrupt the flow of gas. (Ref: **Flow Chart 04b_3**)
Plant failure		There are *insert number* Gas Safe Registered operatives who are trained on domestic and *insert number* competent persons for work on distribution mains and services and who hold appropriate gas industry recognised qualifications such as Gas Distribution (GD) or Gas Network Operations (GNO) certificates. Normally the external contractors employed by MOD MMO. If external medium pressure work is essential, *(enter name of EGDN)* is contacted. MMO Customer services will inform the interruptible consumers of supply failures. (Ref: **Flow Chart 04b_3**). Personnel working on the MOD gas distribution networks should be registered under the Energy & Utility Skills Register (EUSR), this will ensure that qualifications and competence are appropriate to the work being undertaken. EUSR operates an independent skills register which provides recognised standards for the utilities sector see; http://www.eusr.co.uk/ This is in addition to Gas Safe registered operatives who are qualified to work downstream of the customer Emergency Control valve.
Emergency Shutdowns		The RP (Gas) will inform customer services & *(enter name of EGDN)* in the event of an emergency shutdown. (Ref: **Flow Chart 04b_3**).
Long Duration Shutdowns		In the event of a long duration shutdown, high risk buildings can be provided with *temporary heaters* (houses with very young infants, infirmaries etc). The option to switch the heating plant to a different fuel type is also available. The decision regarding the switch can only be made by the CO/HoE. (Ref: **Flow Chart 04b_4**).
Dealing with other Gas transporters		The gas transporter(s) connected to this site is *(enter name(s) of EGDN)*. Refer to Part 2, Para 3, Diagram 03_1.
Gas Leaks		Management of gas leaks is dealt with in Part 5. (refer to Part 5: Para 13a).
Design Changes		Changes to the gas distribution network should only be made by qualified Gas Distribution (GD) or Gas Network Operations (GNO) operatives. A Network Analysis review should also be undertaken as part of any network design changes, this will ensure correct pipe sizes and also that adequate pressures are maintained in the gas network. For changes to the medium pressure gas network must be instructed through the RP (Gas) as per **Flow Chart 04b_5.** Changes to the external medium pressure network can only be made by the *(enter name of EGDN)* as the Gas transporter will inform personnel on site of any design changes and it is the responsibility of the RP (Gas) to ensure that any changes are incorporated in the site drawings. All drawings must be updated along with the relevant O&Ms and Documentation. Any changes made to the low/medium pressure gas network onsite must be instructed through the RP (Gas) as per **Flow Chart 04b_5.** Changes to the gas network can only be made by qualified Gas Safe Registered operatives. The gas transporter does not need to be informed of any minor changes to the system. However if the requirement for gas supply is significantly increased the gas transporter must be informed. It is the responsibility of the RP (Gas) to notify the gas transporter of any change in supply demand. It is the responsibility of the RP (Gas) to ensure that any changes are incorporated in the site drawings. All drawings

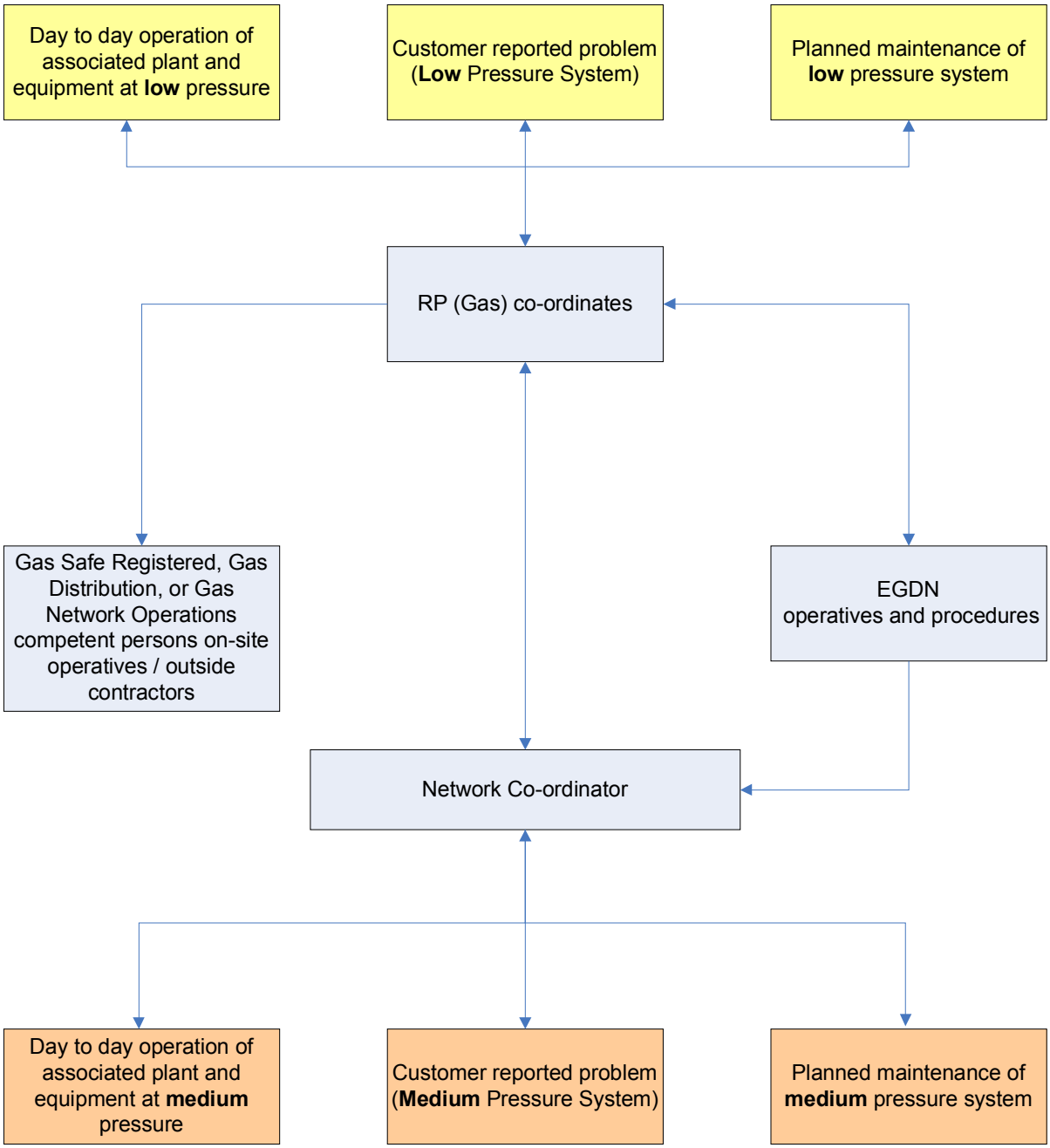
	must be updated along with the relevant O&Ms and documentation.
Liaising with Emergency Services	Part 5: Managing Emergencies, deals with the role played by the emergency services.
Training of Staff	Refer to Part 3: Paragraph 7 for details on training and assessing competence levels.
Audits	Refer to Part 3: Paragraph 11 for details on Audits.
Cast & ductile iron pipe	Where any cast or ductile iron pipework is identified it is to be recorded and entered into a mains replacement programme developed to meet the objectives of the HSE enforcement policy: see; http://www.hse.gov.uk/gas/supply/mainsreplacement/irongasmain.htm

PART 3 (PARA 4b): Managing Safety – Operation Maintenance



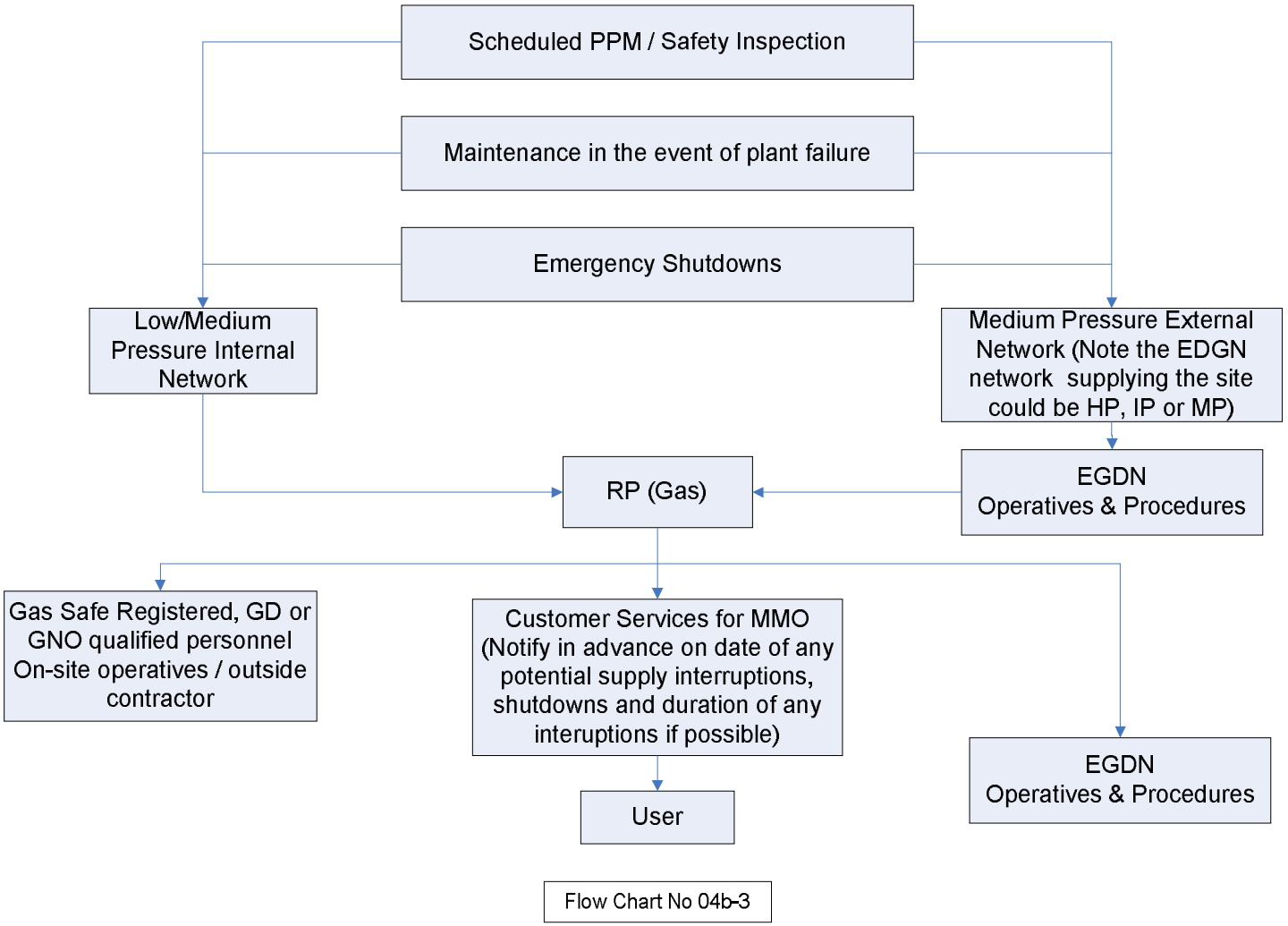
Flow Chart No. 04b-1

PART 3, PARA 4b: Operating Plant and Equipment – Low & Medium Pressure



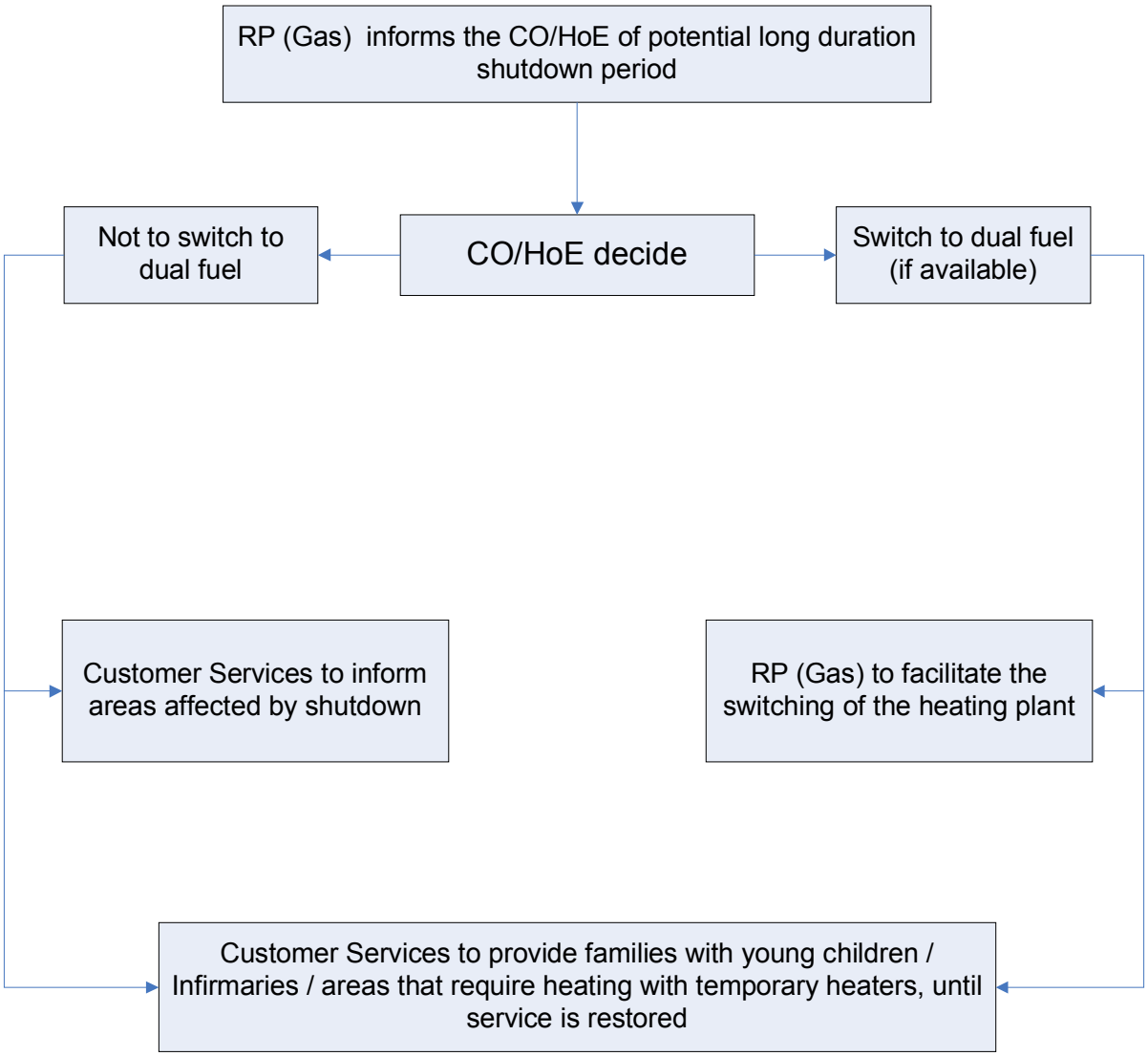
Flow Chart No 04b-2

PART 3, PARA 4b: Scheduled and Unscheduled Activities



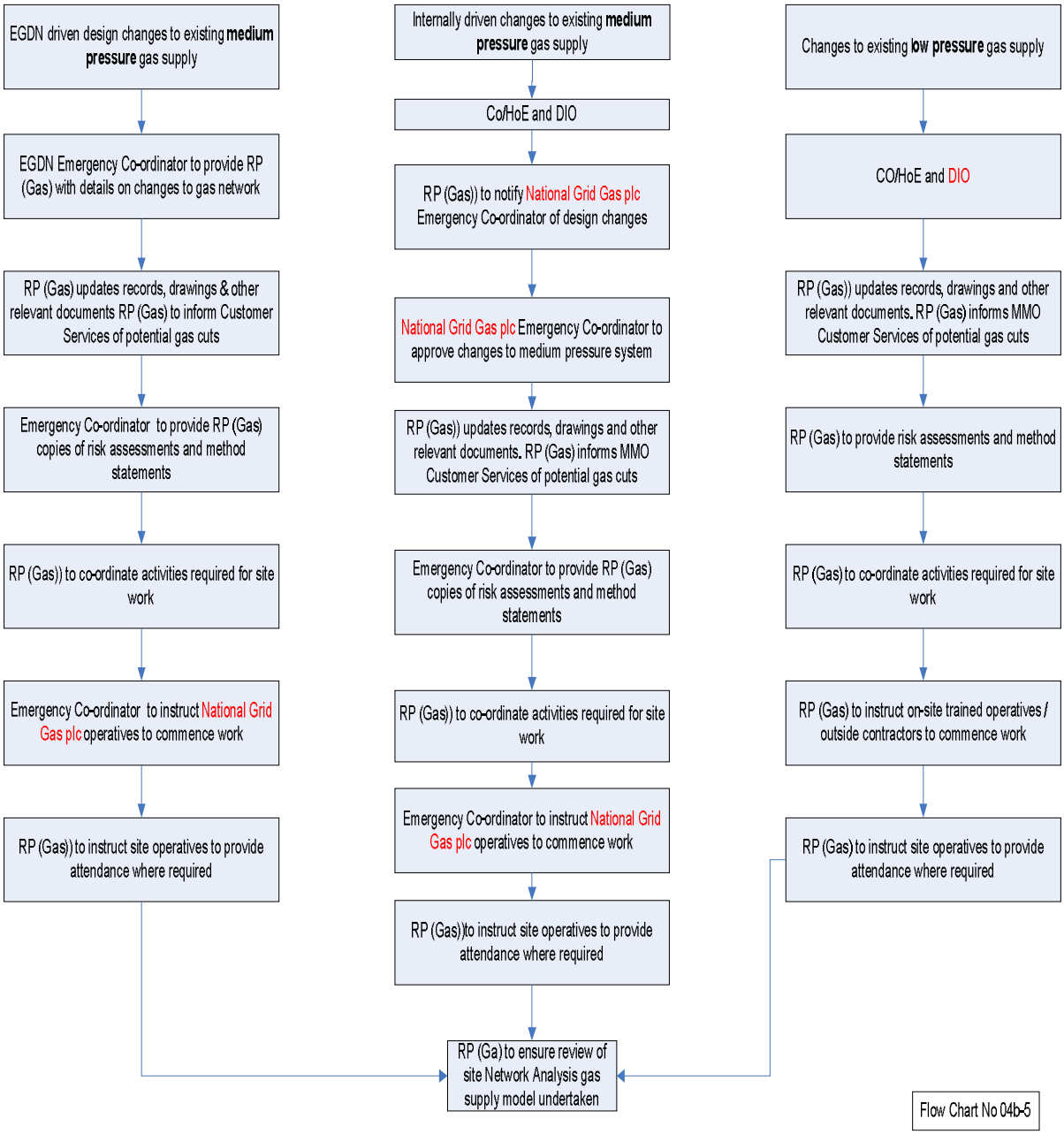
Flow Chart No 04b-3

PART 3, PARA 4b: Dealing with long duration shutdowns



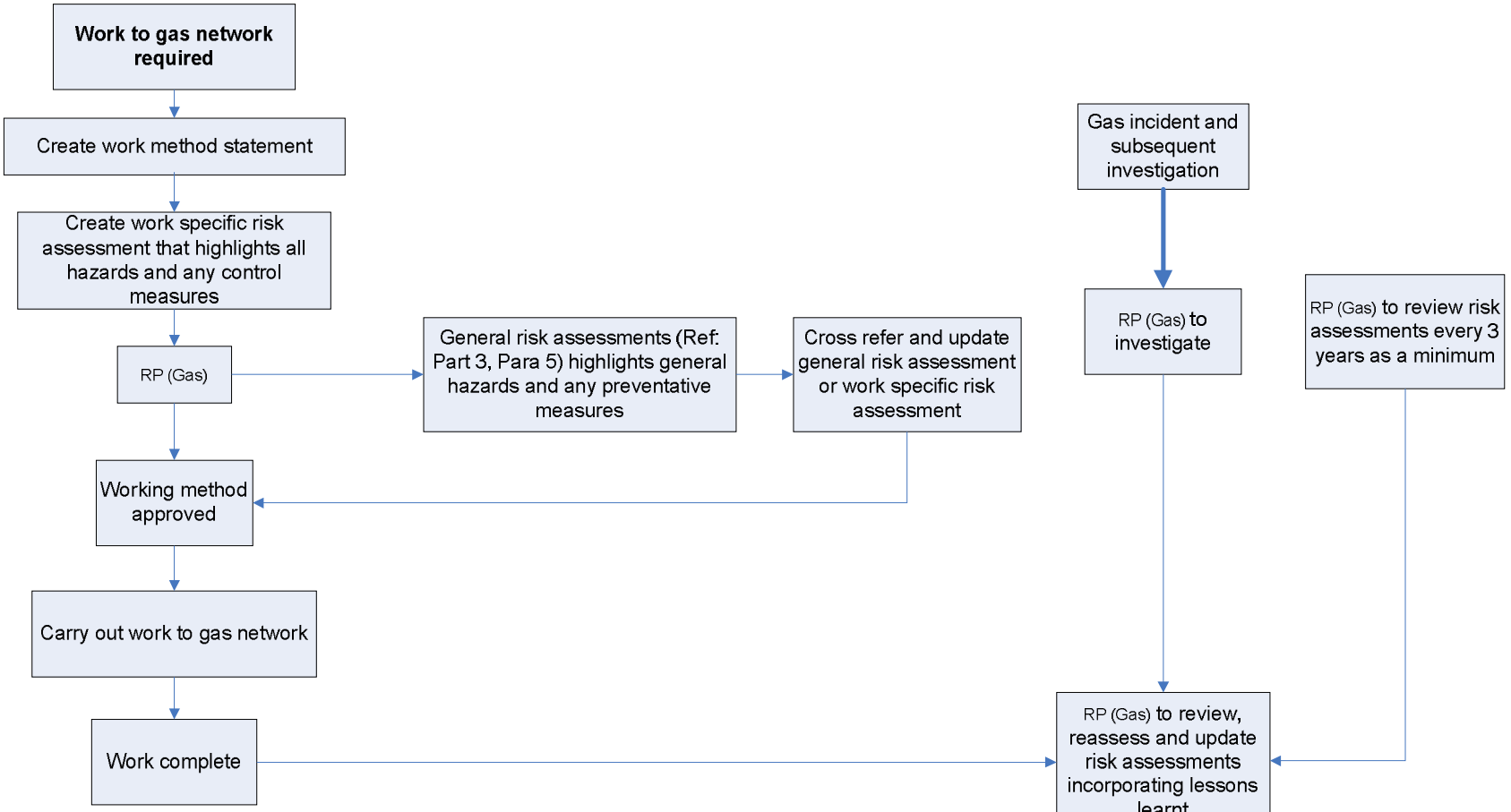
Flow Chart No 04b-4

PART 3 PARA 4b: Network Changes



Part 3: Managing Safety		
Paragraph 5: Risk Assessment.		
Paragraph	**5**	***A statement of the significant findings of the risk assessment he has made pursuant to regulation 3 of the 'Management of health and safety at Work Regulations' 1992 (SI 1992/2051), and particulars of the arrangements he has made in accordance with regulation 4 thereof.***
Risk Assessments		The generic risk assessments in Annex A, highlight the factors that will affect the safe management of the flow of gas, and the provision of the emergency response service.
Required RA's		As per the incident management section of this document, the following risk assessments analyse the hazards associated with the following:
1		Any gas leak considered hazardous to persons or property (Under med/low pressure conditions).
2		Fire or explosion near to, or directly involving, a pipeline or gas facility.
3		A failure of operation of pipeline/plant onsite, or immediately downstream of site, that is maintained by the gas transporter ((enter name of EGDN)).
4		A failure of operation of pipeline/plant onsite that is maintained by site services.
5		Failure of safety critical equipment.
6		Under-pressure in the gas system.
7		Over-pressure in the gas system.
8		Failure in system during load shedding.
9		General changes to the gas network.
10		Failure of PPM, general operation of the gas network plant/equipment and safety inspections.
11		Emergency Shutdowns.
12		Interface with Gas Transporter.
13		Interface with the Customer.
14		Interface with Emergency Services.
15		Natural Disasters, civil disturbances, other unforeseen events.
16		Production of Carbon Monoxide from incomplete burning of gas
17		Faulty Appliances
General Risk Assessment		The RA's in Annex A are overview RA's and identify what hazards can be expected. These should also show preventative measures in place. The RA in Annex A are generic and must be made job specific before they can be used for undertaking work activities. Any identified site specific risks to the safe management of the flow of gas or the provision of an effective emergency response should be added at Annex A to this GSMP
Work Specific Risk Assessments		Before any works which involve the gas network are started, the parties involved must present a RA to the RP (Gas) for approval. The RP (Gas) must check the RA against the General RAs in Annex A to ensure that all hazards are identified before approving any works or issuing any permits.
Communicating with other parties		It is the RP (Gas) responsibility to request an RA from the party intending to do the work.
Re-assessment		Currently any permits must pass/gain several signatures, from the various heads of departments, before work is authorised.
		According to Regulation 4(3) the above RA's should be re-evaluated every three years, as part of the general review of this document.
		The re-assessment allows any previously unidentified risks, or new risks to be identified and preventative measures to be put into place.
		Re-assessment must also be carried out after any gas related incident.
		For more information on how risks are managed Refer to **Flow Chart 05_1.**

PART 3 PARA 5: Managing Risk Assessments



Flow Chart No 05-1

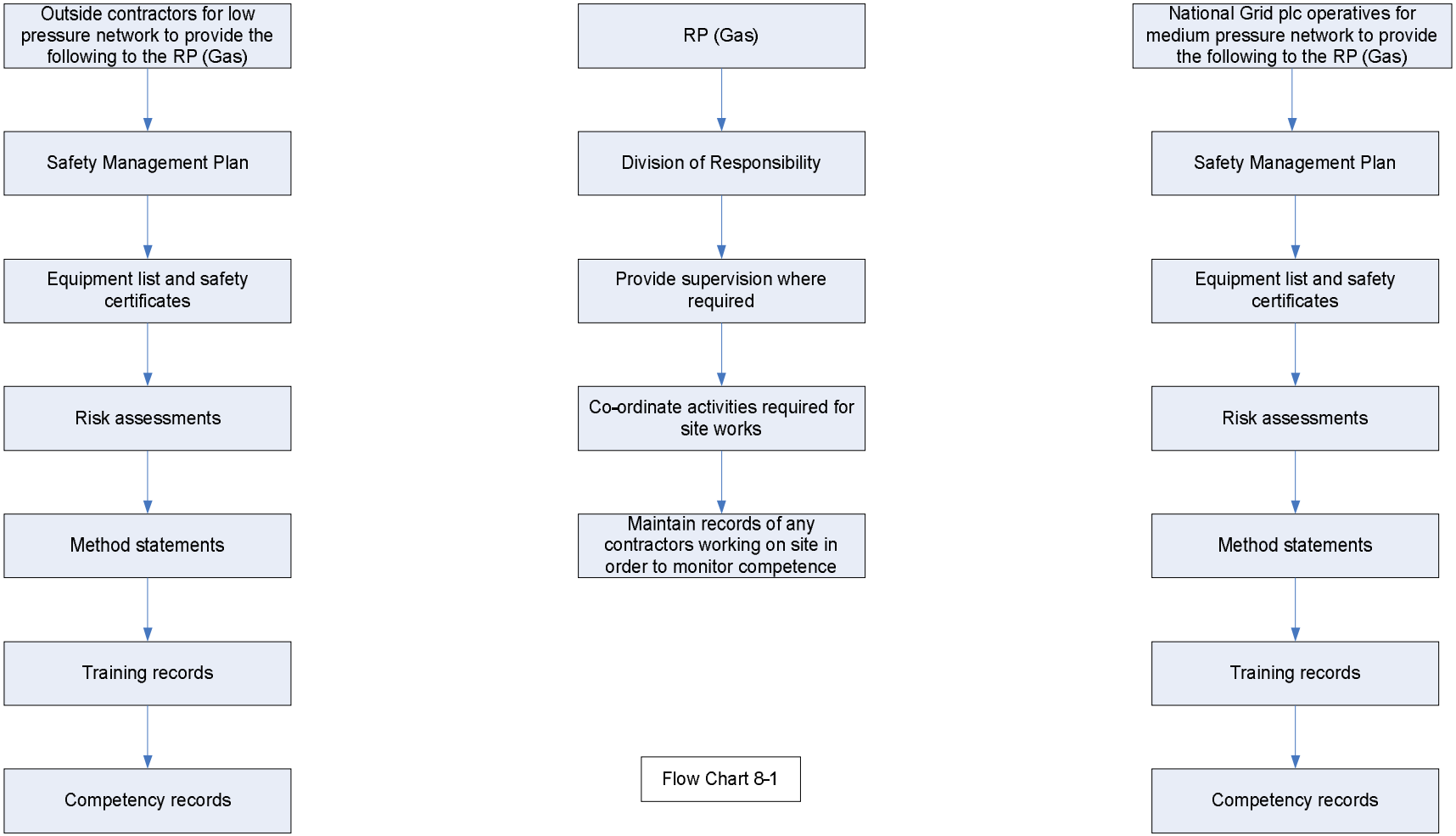
Part 3: Managing Safety	
Paragraph 6: Adequate Safety Management.	
Paragraph 6	***Particulars to demonstrate that the management system of the duty holder is adequate to ensure that the relevant statutory provisions will (in respect of matters within his control) be complied with in relation to the operation he intends to undertake***
Management System	Under this paragraph of Schedule 1, the duty holder has a responsibility to demonstrate that the management system is capable of controlling safely the flow of gas
	This document is the primary reference onsite that demonstrates due diligence
Monitoring H&S Performance	Under this paragraph of Schedule 1, the duty holder must make a provision to monitor the progress of H&S arrangements onsite
	Part 3 in this document is the primary reference onsite that demonstrates due diligence
Internal monitoring	Refer to Part 3, Para 11: Audits.
Recording and Reporting	Refer to Part 3, Para 11 & Part 3, Para 14

Part 3: Managing Safety	
Paragraph 7: Staff Competence.	
Paragraph 7	***Particulars to demonstrate that the duty holder has established adequate arrangements for ensuring the competence of his employees in health and safety matters.***
Personnel	The Gas Safety Manager Oversees multiple sites. TheGSM will have the appropriate qualifications and experience as defined in Annex G
	The Responsible Person (RP) (Gas): Co-ordinates the maintenance and repair of the site's natural gas network. Monitors the operatives on site including contractors, ensuring they are fully trained and competent. Ensures that the risk assessments are up to date and that the procedures are followed. The RP (Gas) will have the appropriate qualifications and experience as defined in Annex G
	The Operatives: All operatives will be Gas Safe Registered, in both Domestic and Commercial installation and are able to work on the low pressure network both internal and external. There is also a requirement to have access via the MMO to trained personnel who are qualified to work on gas distribution mains and services and hold appropriate gas industry recognised qualifications such as Gas Distribution (GD) or Gas Network Operations (GNO) certificates.
	Personnel working on the MOD gas distribution networks should be registered under the Energy & Utility Skills Register (EUSR), this will ensure that qualifications and competence are appropriate to the work being undertaken. EUSR operates an independent skills register which provides recognised standards for the utilities sector see; http://www.eusr.co.uk/. This is in addition to Gas Safe registered operatives who are qualified to work downstream of the customer Emergency Control valve.
	Customer Services: MMO staff used to handle incident related communications.
	Contractors: That are brought onto site, must prove competence with the relevant certification. This is covered under Part 3, Para 8.
	Emergency Services (Internal): The onsite emergency services are controlled by the CO/HoE and as such all training and equipment is provided by the CO/HoE.
	Emergency Services (External): The local Police, Fire and Ambulance Services
Assessing Competence	It is the responsibility of the RP(Gas) to undertake such checks as is necessary prior to work commencing on the low/medium pressure systems that the onsite personnel & contractors are trained/certified to appropriate industry standards.
	The operatives must retake their Gas Safe Registration in accordance with the requirements laid down by Gas Safe Register. Records of the training undertaken can be found in the Training File kept with the Responsible Person (RP) (Gas).
	The staff used to answer gas incident calls and dispatch a response team are *insert details*, and as such the training and competence assessment is set out in *insert details* training manuals.
GSMs Instructions to RESPONSIBLE PERSON (GAS)	The specifications that sets out the required actions and standards for training staff can be found in the following,
	All RPs (Gas) are to ensure the following actions are instigated to ensure an acceptable level of management and control is maintained on gas distribution systems applicable MOD sites:
A	Provide and maintain detailed records for inclusion in the RP (Gas) Register of all NG and LPG storage and distribution systems.
B	Maintain up to date records of companies and personnel working on the Gas storage and distribution systems on site.
C	Ensure those companies used on site operate a safe system of work to comply with statutory requirements.
D	Carry out an assessment on individuals training and competency prior to carrying out work.

E	Set up points of demarcation for both NG and LPG systems.
F	Ensure requirements of the HSE approved Safety Case for NG systems that fall within the Gas Safety (Management) Regulations (GSMR)1996 are up to date and in accordance with schedule 1 of the GS(M)R and held in the RP (Gas) Register.

Part 3: Managing Safety		
. Paragraph 8: Managing Contractors		
Paragraph	**8**	***Particular to demonstrate that the duty holder has established adequate arrangements for managing work carried out by persons who are not his employees on or in relation to plant or premises which he owns or controls***
Service Families Accommodation (SFA) Housing Outside Contractors		The SFA housing gas systems are maintained through the MMO customer services who can call upon the site maintenance department or, if required an outside contractor.
External Medium Pressure Outside Contractors		(enter name of EGDN) are contacted regarding any works to the external medium pressure network. Refer to **Flow Chart 08_1** for documentation that the Responsible Person (RP) (Gas) must check before allowing any works to proceed. (*Note The external EGDN network supplying the site could be high pressure (HP), intermediate pressure (IP) or medium pressure (MP))*
Responsible Person (Gas) Duties for managing outside contractors		The RP (Gas) must ensure that any contractors working on the network have the following arrangements in place. The RP (Gas) must keep records of the following and as set out in **Flow Chart 08_1**
Management System		The contractors have a management system in place which is consistent with the site management plan and meets safety objectives
Responsibility		The division of responsibility must be highlighted by the RP (Gas) for specific aspects of safety management
Safe System of Work		Contractors to follow safe systems of work, including the use of suitable plant and equipment
Training		The contractor has enough staff with suitable training and competence.
Supervision		Ensure the contractor provides adequate supervision to be supplied where necessary
Monitoring Competence		Maintain records of any contractors working on site in order to monitor their performance and standards
Other Documentation		Risk assessments, permits to work & method statements are required, and fall under the procedures as set out in Part 3, Para 5

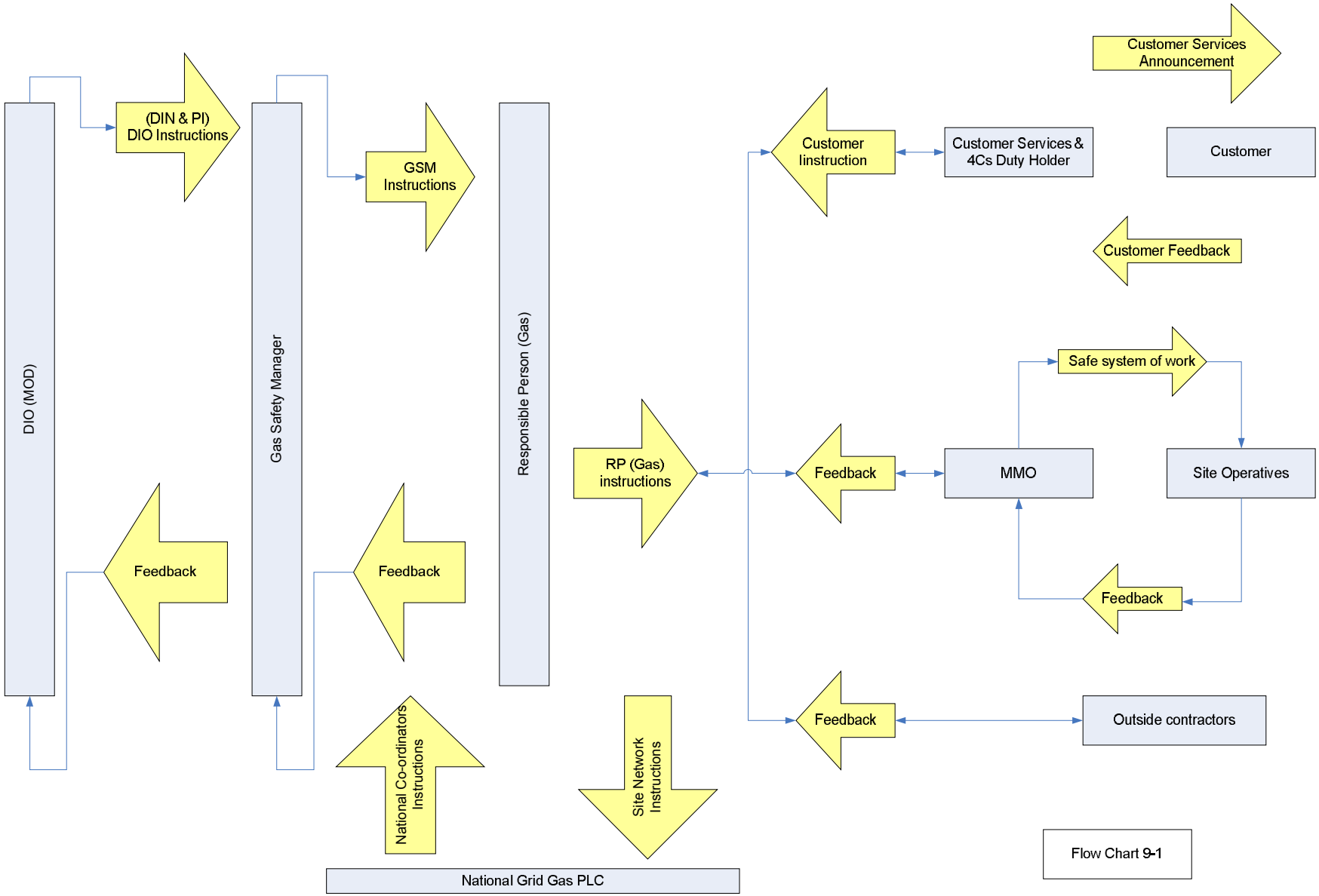
PART 3 (Para 8): Managing Contractors



Flow Chart 8-1

Part 3: Managing Safety		
Paragraph 9: Internal Communication		
Paragraph	**9**	***Particulars to demonstrate that the duty holder has established adequate arrangements for passing information relevant to health and safety to persons within his undertaking.***
		There are several systems in place for the successful distribution of information down the chain of command
		Insert details of any site wide tannoy system
		Insert details of any internal email to inform consumers
		Insert details of any direct contact by MOD & MMO employees on a door to door basis
		*These are shown in **Flow Chart 9_1** over sheet*
		Insert details of any site wide emergency plans and arrangements
		Arrangements for the provision of information for dealing with gas escapes from the network can be found in Part 3 Paragraph 14 of this document

PART 3, (Para 9): Information Dissemination

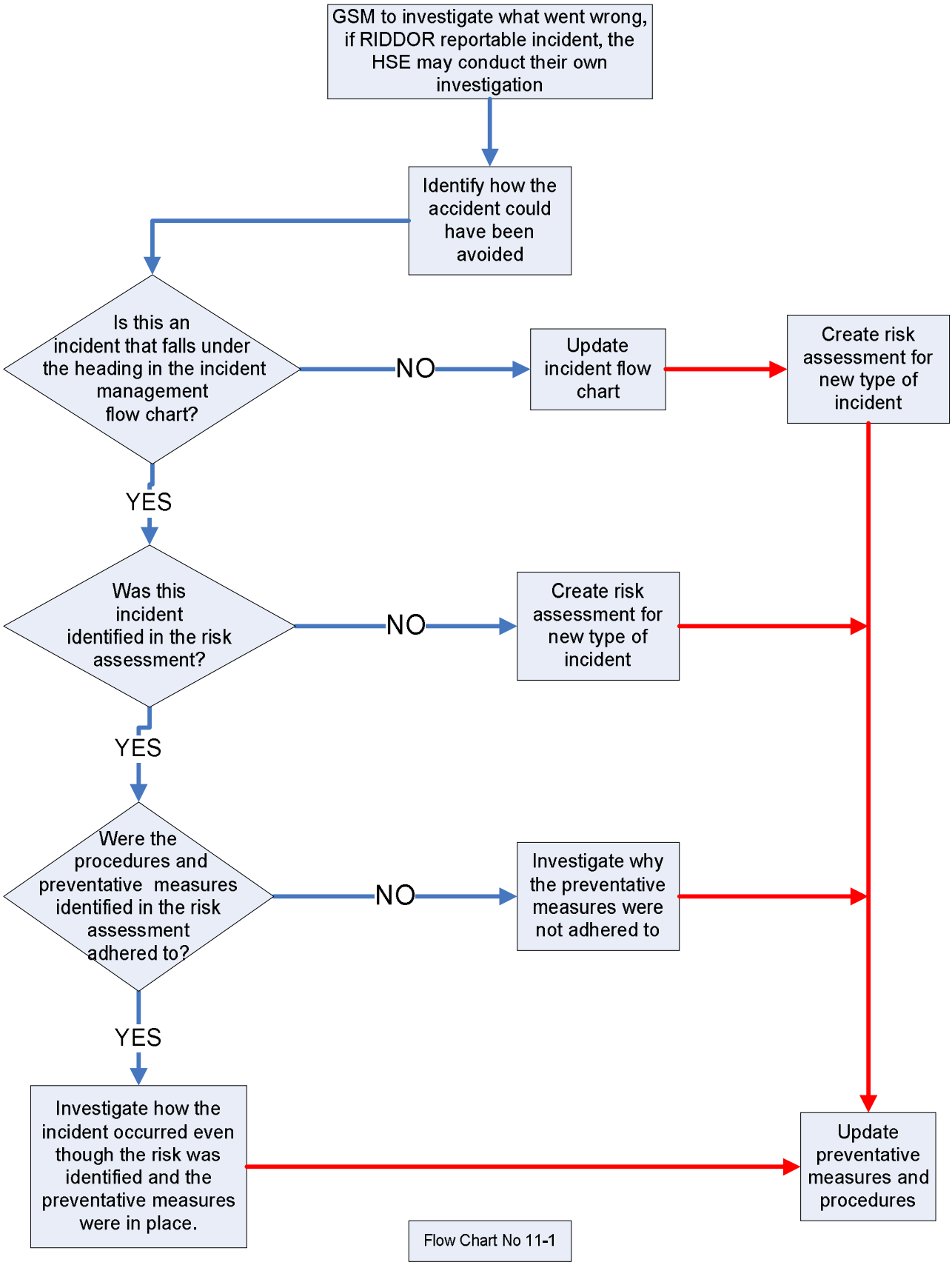


Flow Chart 9-1

Part 3: Managing Safety	
Paragraph 10: External Communication.	
Paragraph 10	***Particulars to demonstrate that the duty holder has established adequate arrangements for passing and receiving information relevant to health and safety to and from other persons who have duties under these regulations.***
Communication with Other Duty Holders	*(enter name of EGDN)* is the only other duty holder connected to the Site Name Network.
	Information passes between the RP (Gas) and the Network Emergency Co-ordinator at *(enter name of EGDN)*.
	Clear communication between the RP (Gas) and the Network Emergency Co-ordinator at *(enter name of EGDN)* is required. Including a process through which information can be passed. This includes RAs, preventative measures & lessons learnt. This is demonstrated throughout Part 3 & Part 5.
Communication with Others	Refer to Parts 5 of this document to see arrangements with consumers and the procedure in the event of a leak or a supply failure.

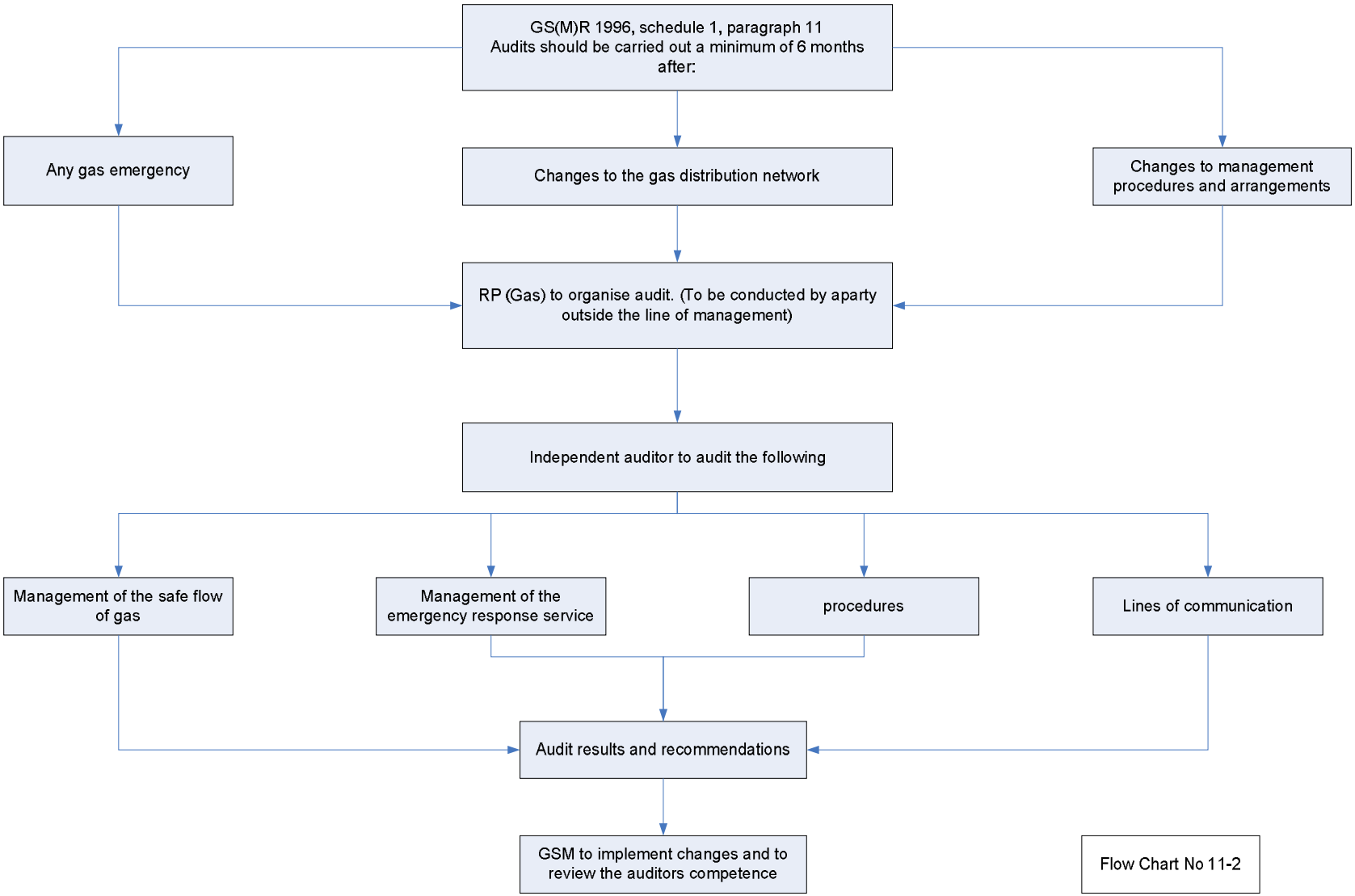
Part 3: Managing Safety		
Paragraph 11: Audits.		
Paragraph	**11**	***Particulars to demonstrate that the duty holder has established adequate arrangements for audit and the making of any necessary reports.***
Internal Audits		the GSM will conduct internal audits of the management system, paying close attention to the implementation of procedures and processes set out **Flow Chart 11_1.** See Annex G for details
External Audits		Capita Gas Registration and Ancillary Services Limited *(Gas Safe Register)* currently review management strategies and how the gas service is being managed. However this audit is not a regular scheduled activity. EUSR for gas safety standards for gas distribution networks. Independent audits by competent individuals must be carried out on a regular basis, especially after a change to the organisation. Refer to **Flow Chart 11_2.** The performance standards for audit and reviews must be set by the GSM.
Audit Standards		The latest gas safety standards as set by Gas Safe Register. Gas safety standards set out by EUSR for gas distribution networks.
What should be Audited		• Management system dealing with the safe management of the flow of gas • Management system dealing with the emergency response service. • Audits of the internal auditors will be carried out by Defence Infrastructure Organisation ODC E&C SME Gas. •
Feedback		The results of the Audit should feedback so that corrective action plans are developed.

PART 3, PARA 11: Internal Investigation, After a Gas Related Incident



Flow Chart No 11-1

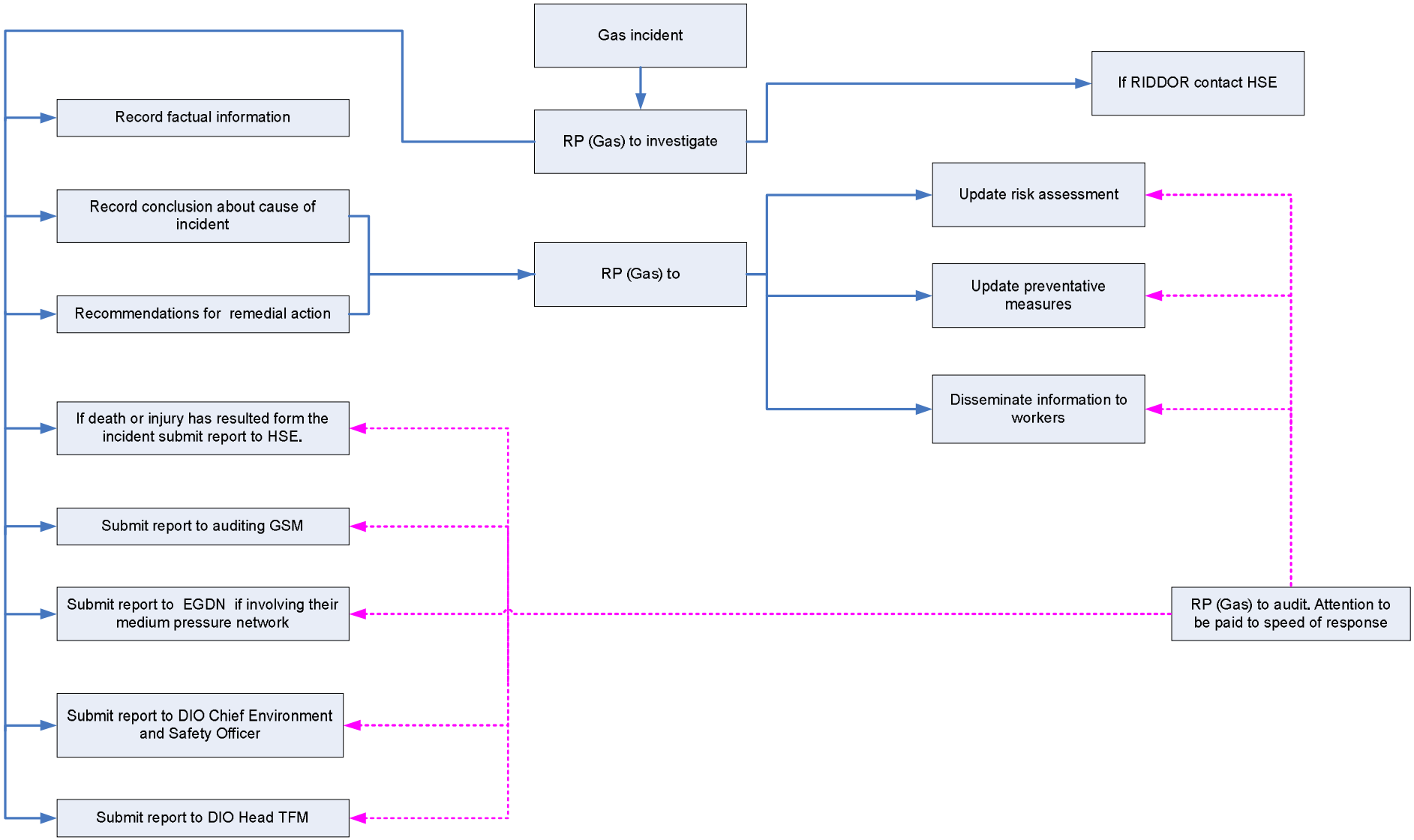
PART 3 (Para11) External Audits.



Flow Chart No 11-2

Part 3: Managing Safety		
Paragraph 14: Incident Investigation.		
Paragraph	**14**	***Particulars to demonstrate that the duty holder has established adequate arrangements to enable him to comply with paragraphs (12, 13, 15 & 16) of regulation 7, for co-ordinating the investigations he causes to be carried out pursuant to that regulation with other investigations carried out pursuant thereto, and for participating in such other investigations.***
What is a Incident		An incident, in the context of natural gas, is one that poses harm to persons or premises on any scale. For example a gas leak is classed as a incident as is a supply failure.
Dealing with a Incident		Refer to **Flow Chart 14_1** for guidance.
Authorised Investigators		• In the event of an explosion the emergency services will conduct an investigation. (The procedures governing the emergency services investigation do not form part of the gas safety management plan). • *(enter name of EGDN)* has the authority to conduct an investigation in to the cause of a gas incident. • The GSM, will investigate any incident on site, and ensure that all preventative measures were undertaken, and all rules and procedures followed. The GSM will take any lessons learnt and pass them to the RP (Gas) to update the gas safety plan. Refer to **Flow Chart 14_1.** • Competent person/organisation appointed by MOD to conduct a forensic investigation following a gas incident See Annex B for details of other external authorise with the powers to undertake investigations in relation to Gas incidents
Incident Location		• The Investigating GSM must look into incidents resulting in fires & explosions as a result of escaping gas, downstream of the emergency control. • The Investigating GSM must look into incidents upstream of the emergency control valve which have, or could have, resulted in a fire or explosion.
Investigations		The investigating officer should: • Record factual information. • Record Conclusions & Recommendations. • Submit report to HSE under regulations contained within RIDDOR, if there are injuries or deaths resulting from a gas incident. • Submit report to *(enter name of EGDN)* if medium pressure line was involved.
Competence		The Investigating GSM, must have sufficient & relevant training to conduct the investigation, records of these must be submitted with any report produced.
Co-operation		Any incidents that the Investigator deems critical AND those that have an impact on the Gas Supplier (CO emission related incidents) should be notified to the Gas Supplier as well as the HSE.
Lessons Learnt		Once the investigating officer has recorded, investigated and submitted the conclusions and recommendations, the information should be forwarded to the RP (Gas) to ensure that the recommendations are carried out and any remedial action is taken. Refer to **Flow Chart 14_1.**
		The RP (Gas) must update the gas safety plan according to the findings and disseminated the new information throughout the organisation.
		The whole process, from investigation (by GSM) through to remedial action (by RP (Gas)) must be audited. Refer to **Flow Chart 14_1.**

PART 3 PARA 14: Investigating an Incident



Flow Chart No 14-1

Part 4: Managing Supply

Contents of Part 4: Managing Supply.

Part 4	Para	Heading	Paragraph Excerpts from Schedule 1 of GS(M)R 1996
Managing Supply	**12**	Co-operation	Particulars of the arrangements the duty holder has established to enable him to comply with regulation 6 (co-operation) including (except where he is the network emergency co-ordinator) particulars of the arrangements he has established to ensure that any directions given to him by the network emergency co-ordinator are followed. Supply pressure from the EGDN could vary between medium (up to 2 bar), intermediate (2 bar to 7 bar) or high pressure (above 7 bar).
	15	Gas Characteri-stics	Particulars to demonstrate that the other duty holder has established adequate arrangements to ensure that all gas he conveys complies with regulation 8. The composition of the gas entering the MOD networks is identical to that supplied from the EGDN network. This gas is therefore subject to EGDN Policy and Systems and MOD relies on the fact that gas transported in the EGDN network is already compliant.
	16	Minimising Risk of Supply Emergency .	Particulars to demonstrate that the duty holder has established adequate arrangements to minimise the risk of a supply emergency
	17	Supply Pressure	Particulars to demonstrate that the duty holder has established adequate arrangements to ensure that the gas he conveys will be at an adequate pressure when it leaves the part of the network used by him.

Introduction to Part 4: Managing Supply

About Part 4:	This section deals with the co-operation between parties and what steps are taken to minimise the risk of gas supply emergency.

Part 4: Managing Supply		
Paragraph 12: Co-operation.		
Paragraph	**12**	***Particulars of the arrangements the duty holder has established to enable him to comply with regulation 6 (co-operation) including (except where he is the network emergency co-ordinator) particulars of the arrangements he has established to ensure that any directions given to him by the network emergency co-ordinator are followed.***
Other Parties		*The other parties are: (enter name of EGDN) (Gas transporter), Onsite emergency services (First responders), Customer (The onsite consumers of gas).*
Co-operation with *(enter name of EGDN)*:		Supply pressure from the EGDN could vary between medium (up to 2 bar), intermediate (2 bar to 7 bar) or high pressure (above 7 bar).The following are items that must be considered:
General Arrangements		The arrangements with *(enter name of EGDN)* for day to day events are set out in Part 3, Para 4b of this document
Local & National Supply Emergencies		The arrangements with *(enter name of EGDN)* for supply emergency events are set out in Part 5, Para 18 of this document
Gas leaks within the boundary of the site		The establishment has a responsibility to report to *(enter name of EGDN)* leaks that are within the boundary of the site, that are connected to the National Grid medium pressure network
Gas leaks outside, but close to, the boundary of the site		The establishment has a responsibility to report to *(enter name of EGDN)* leaks that are close to the boundary of the site, but not within the base grounds
New Installations		The RP (Gas) is required to ensure that suitable and sufficient network records following changes to the network following modifications. (Changes in this case refer to changes to the pipe layout where a significant amount of pipework is removed/added). Refer to Flow Chart 04b_5
Extent of Control over (enter name of EGDN)		*The* RP (Gas) *has no control over the (enter name of EGDN) onsite operatives. However there will be security control exerted over (enter name of EGDN).*
Sharing Information		The RP (Gas) must take the opportunity to provide *(enter name of EGDN)* with information relating to the procedures and processes contained within this document. Refer to Part 5 for all procedures
Development of New Procedures		The CO/HoE (utilising the service of the GSM) must take the opportunity to update and create new procedures in conjunction with *(enter name of EGDN).*
Training and emergency exercise		The CO/HoE (utilising the service of theGSM) must take the opportunity to organise training exercises in conjunction with *(enter name of EGDN).*
Dealing with (enter name of EGDN) Requests		The CO/HoE (utilising the service of the RP (Gas)) has standing orders to comply with *(enter name of EGDN)* requests as and when they are made, however there are no arrangements currently set out to ensure that the requests are processed.
Risk presented by interface with (enter name of EGDN)		The Risk Assessment for interface with *(enter name of EGDN)* are set out in Part 3, Para 5 of this document
Controlling other parties		The RP (Gas) in conjunction with Customer Services must ensure that the customers are appraised of any supply cuts, and ensure that the consumers do not use the supply while work is ongoing. The RP (Gas) has no control over the Emergency Services. **Refer to Part 5, Para 13&18**
Co-operation with Emergency Services:		The following are items that must be considered:
General Arrangements		The Emergency services onsite comprise of …….... These groups are trained and run by the ……..., and are used as first responders for any incident
Local & National Supply Emergencies		The arrangements with the Emergency Services for gas supply emergencies can be found in **Part 5, Para 18**
Gas leaks within the boundary of the site		The arrangements with the Emergency Services for gas leaks can be found in **Part 5, Para 13**

Co-operation with Emergency Services: (continued)	
Gas leaks outside, but close to, the boundary of the site	The arrangements with the Emergency Services for gas leaks can be found in **Part 5, Para 13**
Extent of Control over Emergency Services	The RP (Gas) has no control over the Emergency Services. The Emergency Sevices are the first responders onsite and contact RP (Gas) when gas is detected. The RP (Gas) can only advise on procedure.
Training and emergency exercise	The RP (Gas) should endeavour to organise training exercises in conjunction with *(enter name of EGDN)*.
Risk presented by interface with the ES	The Risk Assessment for interface with (enter name of EGDN) are set out in Part 3, Para 5 of this document
Co-operation with Customers:	The following are items that must be considered:
General Arrangements	The customer is dependent on the duty holder to supply gas, and as an interruptible consumer may be given notice of supply cuts through the MMO Customer Services
Local & National Supply Emergencies	The arrangements with customer in the event of a supply emergency are set out in **Part 5, Para 18** of this document. If the customer is going to have the supply interrupted, notice must be given (through customer services)
Gas leaks within the boundary of the site	If the gas leak causes supply interruption, the customer must be notified (through customer services)
Gas leaks outside, but close to, the boundary of the site	If the gas leak causes supply interruption, the customer must be notified (through customer services)
New Installations	If the new installation causes supply interruption, the customer must be notified (through customer services)
Extent of Control over Customer	The RP (Gas) can temporarily cut the supply to the customer, in the event of a gas leak or supply emergency.
Sharing Information	All information must be processed through the Customer services department.
Risk presented by interface with Customer	The Risk Assessment for interface with the customer are set out in **Part 3, Para 5** of this document

Part 4: Managing Supply		
Paragraph 15: Gas Characteristics.		
Paragraph	**15**	***Particulars to demonstrate that the other duty holder has established adequate arrangements to ensure that all gas he conveys complies with regulation 8.***
Source of Gas *(Insert name of EGDN)*		The composition of the gas entering the MOD networks is identical to that supplied from the EGDN network. This gas is therefore subject to EGDN Policy and Systems and MOD relies on the fact that gas transported in the EGDN network is already compliant.
Suitable Pressure for Appliances		The provision of a suitable pressure requires: • The control of the pressure in the MOD network. • An appropriately designed and installed meter installation. • Appropriately designed distribution and installation pipework. • That persons undertaking the work are competent. • The exchange of information between parties who have a shared duty. • The meter regulator is appropriately set. • The technical standards applicable to the MOD networks are discussed in Section 4.
Network Contamination		Gas is filtered as it enters the MOD network from EGDN. Any network contamination issues would most likely be reported to the {insert name of MMO } Helpdesk as a gas equipment fault (see Section 13.3) and action would be taken by the MMO to investigate and rectify the situation. The {insert name of MMO }safe control of operations system ensures that the risk of air contamination into the network following work activities is minimised

Part 4: Managing Supply		
Paragraph 16: Minimising Risk of Supply Emergency.		
Paragraph	**16**	***Particulars to demonstrate that the duty holder has established adequate arrangements to minimise the risk of a supply emergency.***
		In the event that the supply pressure drops below the demand, (enter name of EGDN) have a responsibility to notify the site. The site will then implement the supply emergency management plan as set out in this document Part 5, Part 18.
		The RP (Gas) is to form a communication link between (enter name of EGDN) and the site, in order that potential pressure losses can be communicated.
Increase / Decrease in Usage		The CO/HoE (through his RP (Gas)) has a responsibility to inform the gas transporter of increase/decreases in usage onsite. Each of the items below indicate situations where the supply usage can change. Gas consumption is monitored and recorded. (see Part 2 paragraph 3 of this GSMP)
Gas Leak		Any gas leak that has the potential to impact on supply pressure would need to be a severe leak on the medium pressure line. This will be dealt with by *(enter name of EGDN)* as set out in Part 5, Para 13.
Personnel Change		Being a MOD Establishment the potential for personnel numbers to change significantly is high. Any significant change (either an increase or decrease) in establishment population should be notified to the gas transporter.
Changes to Gas Network		The RP (Gas) is required to ensure that suitable and sufficient network records following changes to the network following modifications. (Changes in this case refer to changes to the pipe layout where a significant amount of pipework is removed/added). Refer to Flow Chart 04b_5, any changes to the medium pressure line, must be authorised by *(enter name of EGDN).*
Changes to Plant		The RP (Gas) is required to ensure that suitable and sufficient records following any significant changes to the onsite plant (fuelled by gas) will be recorded following modifications. Refer to Flow Chart 04b_5
Site Network Analysis		The appropriateness of the site Network Analysis will be reviewed annually to take into account any changes in on-site demand.

Part 4: Managing Supply		
Paragraph 17: Supply Pressure.		
Paragraph	**17**	***Particulars to demonstrate that the duty holder has established adequate arrangements to ensure that the gas he conveys will be at an adequate pressure when it leaves the part of the network used by him.***

Part 5: Managing Emergencies

Contents of Part 5: Managing Emergencies.

Part 5	Para	Heading	Paragraph Excerpts from Schedule 1 of GS(M)R 1996
Managing Emergencies	**13a**	Gas Leaks	Particulars of the arrangements - The duty holder and any emergency service provider appointed by him have established to enable him or the provider, as the case may be, to comply with regulation 7(4) to (6).
	13b	Service Providers	Particulars of the arrangements - The duty holder has established to appoint emergency service providers.
	18	Supply Emergency	Particulars to demonstrate that the duty holder has established adequate arrangements for dealing with supply emergencies or other incidents which could endanger persons.
	19	Non Conforming Gas	Where the duty holder is the only person conveying gas in a network, particulars to demonstrate that he has established adequate arrangements to decide when and for how long gas not conforming with the requirements of regulation 8(1) should be conveyed in the network pursuant to regulation 8(4).
	20	Discontinue Supply	Without prejudice to paragraph 18 above, particulars of the procedures that the duty holder has established to discontinue safely, supply to consumers, when it is known there is insufficient gas to satisfy demand.
	21	Re-establish Supply	Particulars of the procedures that the duty holder has established to restore safely the gas supply to consumers, following an interruption in supply.

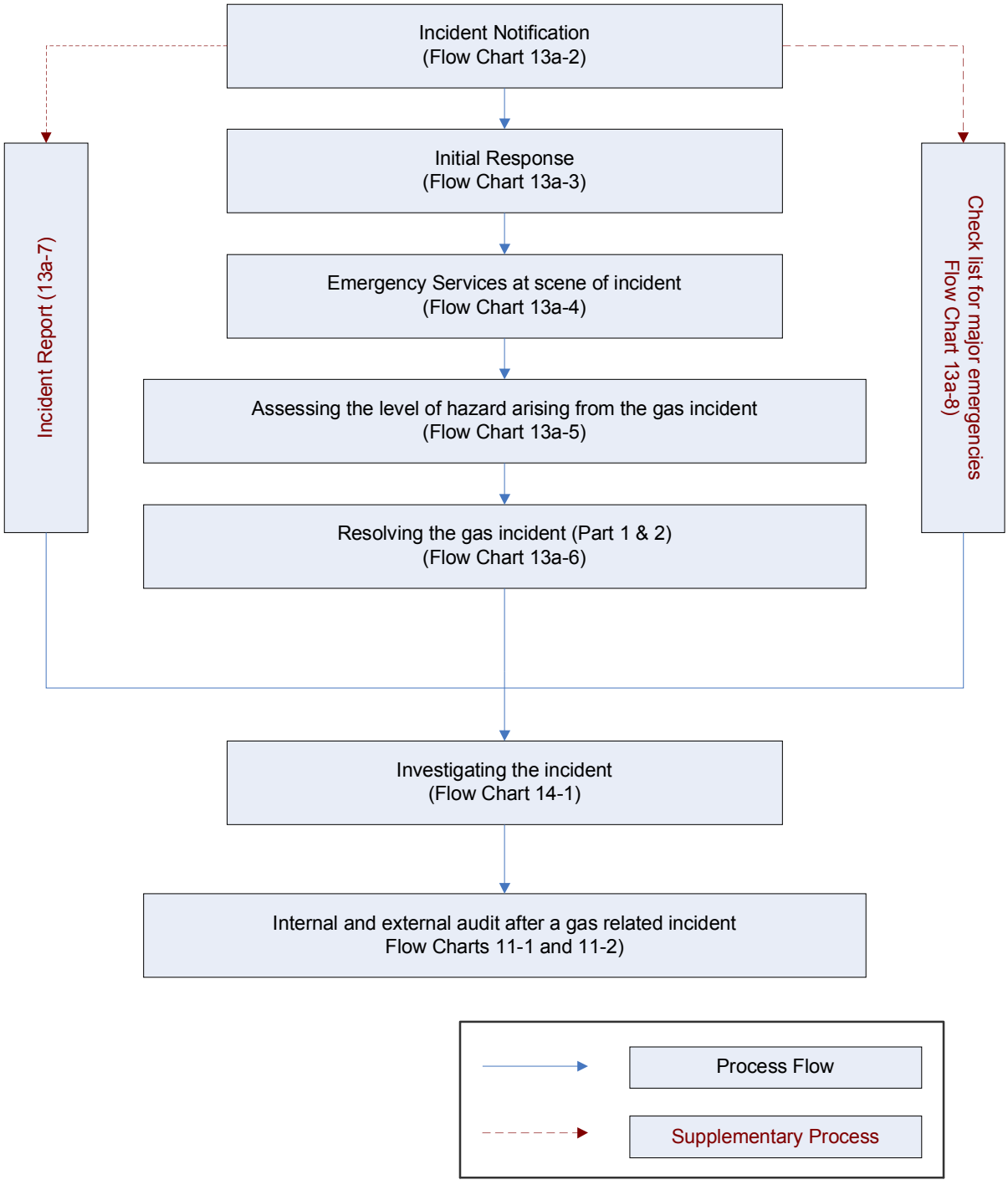
Introduction to Part 5: Managing Emergencies

About Part 5:	This section highlights the emergency procedures to be followed in the event of a gas related incident.
	This section highlights the emergency procedures to be followed in the event of a gas supply emergency.
	For information regarding Carbon Monoxide related emergencies please see relevant section in GSMP Section A

Part 5: Managing Emergencies		
Paragraph13a: Gas Leaks.		
Paragraph	**13a**	***Particulars of the arrangements - The duty holder and any Emergency Service provider appointed by him have established to enable him or the provider, as the case may be, to comply with regulation 7(4) to (6).***
Parties that respond to gas incidents		• In the event of a gas leak the first point of contact are the onsite Emergency Services, who will co-ordinate (if necessary) the management of the incident. • Once the notification of a gas leak is received the RP (Gas) for the site must be notified. The RP (Gas) will provide assistance to the Emergency Services, and send notification to other involved parties. • The gas transporter (*enter name of EGDN*) must be notified if the leak is connected to any medium pressure gas pipe. In the event of a gas leak the RP (Gas) will use the National Emergency Helpline to contact (*enter name of EGDN*). • The GSM / H&S Advisor must contact the HSE in the event of injury or death to persons due to a gas related incident. (RIDDOR).
Response Time		Response times should be within 1 hour to 95% of uncontrolled gas escapes, and within 2 hours to controlled gas escapes.
24-Hour Response		There is a 24 Hour Response system in place, by all on scene responders.
Managing a Gas Related Incident		The following sections and the corresponding Flow Charts make up the Gas Leak Emergency Plan. Refer to **Flow Chart 13a_1** for main overview, and **13a_2 to 13a_8** for all procedures and documents making up the Gas Emergency Management Plan.
Managing Incident Calls		As mentioned above the initial call will (in most likelihood) be to the Base Fire Department. Refer to **Flow Chart 13a_2** and **Flow Chart 13a_3.**
Emergency Services Procedures		The Emergency Services (Fire & Police) are provided by the *insert details*, and have their own procedures for gas incidents. They will be the first responders to the scene of the incident and ensure that evacuations and other precautionary actions are taken. **Flow Chart 13a_4.**
Gas Safety Management Procedure		The Emergency Services must assess the level of danger the gas incident poses as set out in Flow Chart 13a_5. The RP (Gas) must liaise between the *(enter name of EGDN)*/Onsite Gas Operatives and the ES and work towards resolving the incident.
Resolving Gas Leaks		Resolution of incident to be as set out in **Flow Chart 13a_6**. Any gas leak must be stopped or made safe within a maximum of 12 hours of it being reported.
Arrangements for access by gas transporter		If the leak is on the medium pressure line, (enter name of EGDN) have the right to access 24 hours a day. However as this is a high security zone, gaining access can be difficult, and the RP (Gas) may have to co-ordinate with the security department.
Information communication (to & from (enter name of EGDN))		Refer to Part 3, Para 4b for communication between (*enter name of EGDN*) and the site and Part 3, Para 11 for how the process is Audited.
Internal Support		In the event that the gas leak is from the low pressure system, the onsite operatives can be utilised to resolve the issue. Refer to **Flow Chart 13a_6.**
Discontinue & Reinstate		Refer to **Flow Chart 13a_6.**
Minimising supply discontinuation		Refer to **Part 5 Para 18.**
Managing Incidents to supply reinstatement		Refer to **Part 5 Para 18.**
Other Factors		Other factors that will impact on the sites ability to deal with a gas incident are as follows.
Risk Assessments		After an incident has been resolved the Risk Assessments should be updated, and subsequently Audited. Refer to **Part 3, Para 5.**
Training		Arrangements for training staff to handle emergency calls and dispatching response units are carried out by the *insert name of provider*. Training for onsite gas operatives is shown in **Part 3, Para 7.**

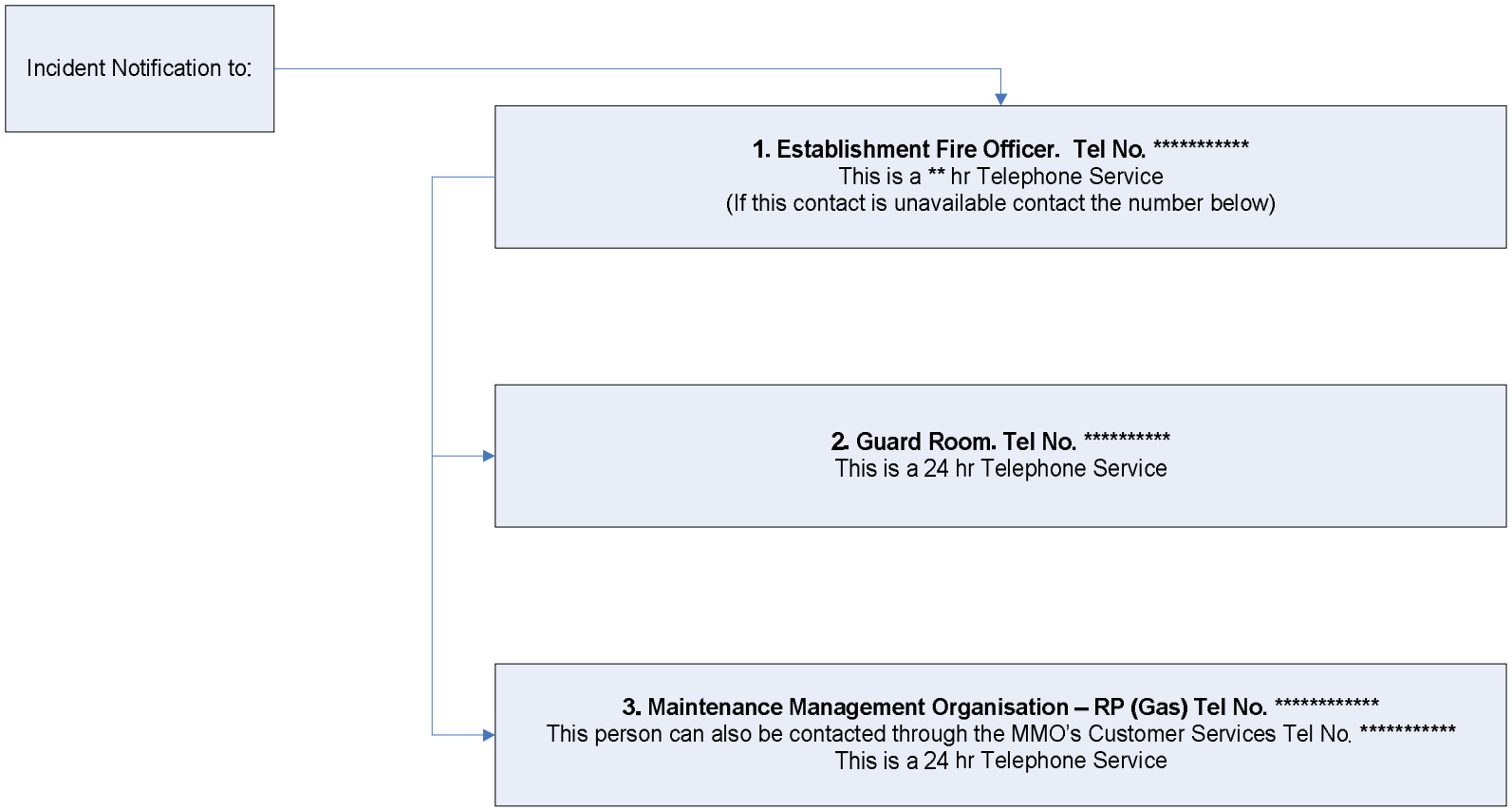
Other Factors (continued)	
Competence	Refer to **Part 3, Para 7.**
Adequate Staff & Equipment	*There are* currently provisions for adequate staff (and equipment) to provide a (properly trained) 24 hour response to a major gas emergency and to deal with that emergency within the allotted 12 hours.
Communication with Consumers	All communications with consumers will occur through the customer services department.
Emergency service providers	These are detailed in the Safety Case 13.1.1
Arrangements for emergency shelter & supply	The provision for emergency shelter and supply are covered in the site emergency and disaster plans
Staff Shortage	In the event that any of the in house parties have insufficient staff to manage the incident, local area emergency services and suitably trained gas operatives are to be brought in.
Loss of Communication	In the event that communications are unavailable, the site can provide *radios/public address system.*
Carbon Monoxide incidents	The arrangements for dealing with the spillage of combustion products are similar to those described for gas escapes as they are an integral part og the EGDN emergence response process.

PART 5, PARA 13a: Gas Leak Emergency Management (Overview).



Flow Chart No 13a-1

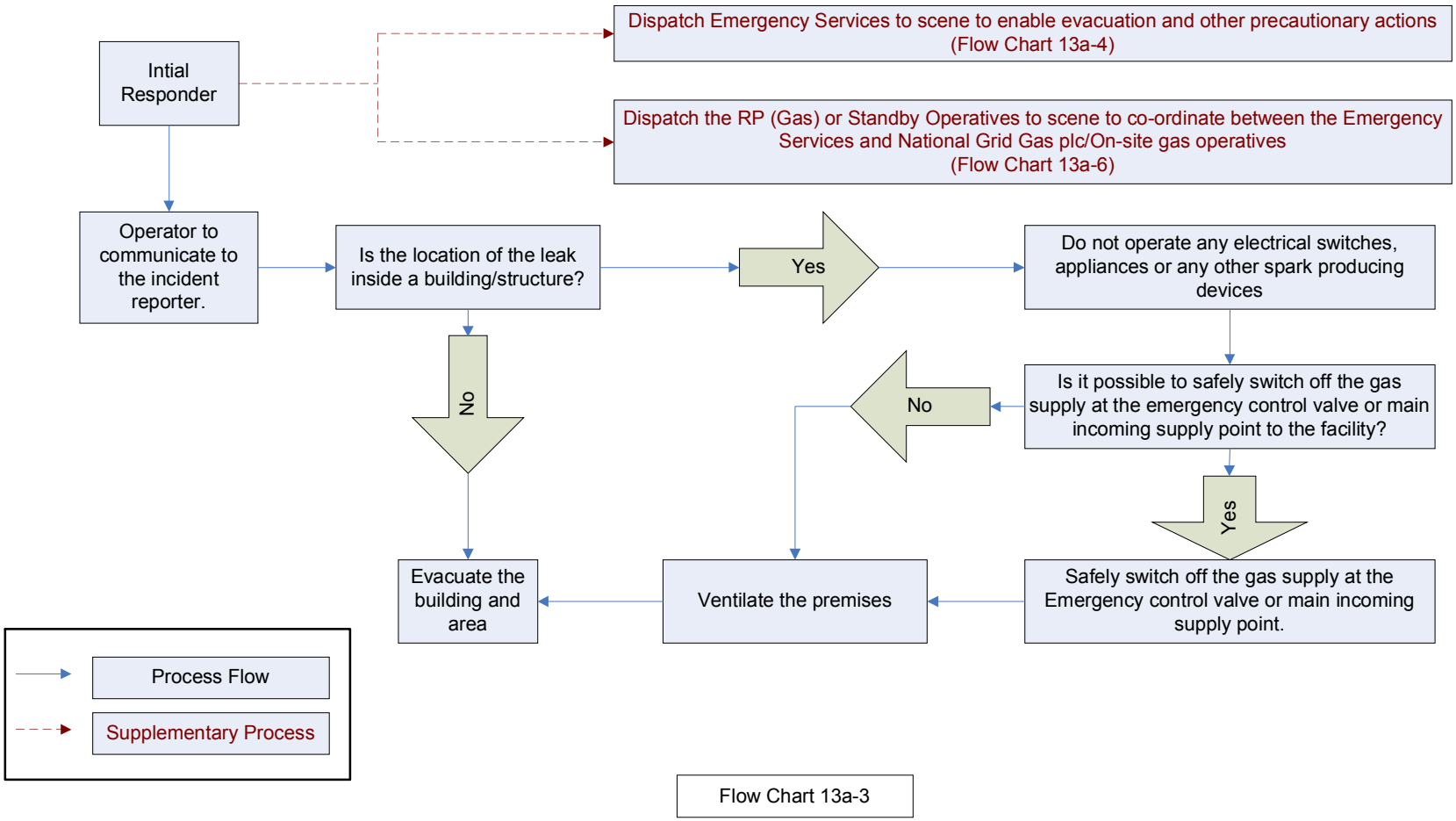
PART 5, PARA 13a: Gas leak emergency management (Incident Notification)



Flow Chart 13a-2

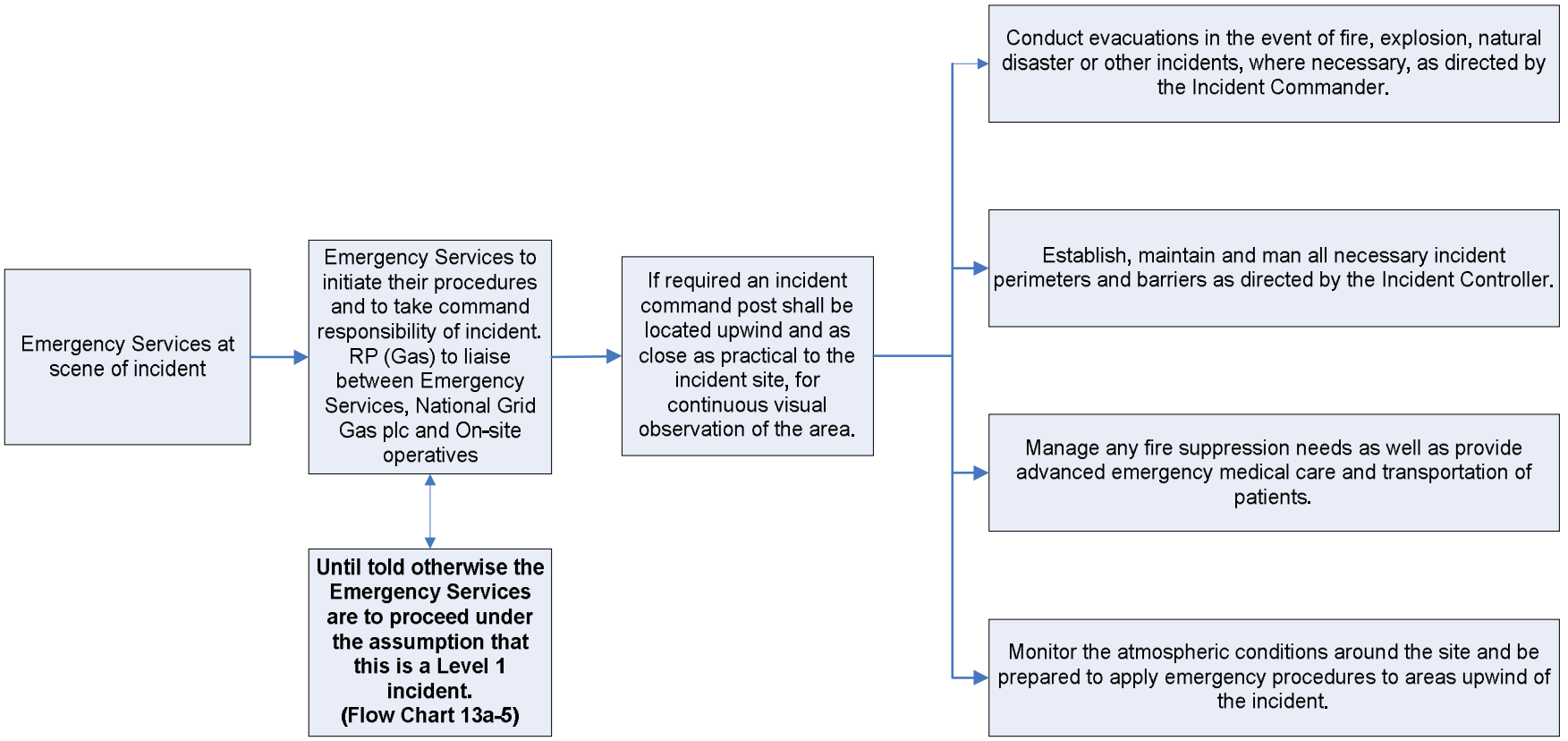
PART 5, PARA 13a: Gas leak emergency management (Initial Response)

The instructions below must be passed to the reporter of any gas leak within a facility (domestic or industrial) EVERY TIME a leak is reported. Following the below set procedure enables compliance with statutory regulations and safe working practices.



Flow Chart 13a-3

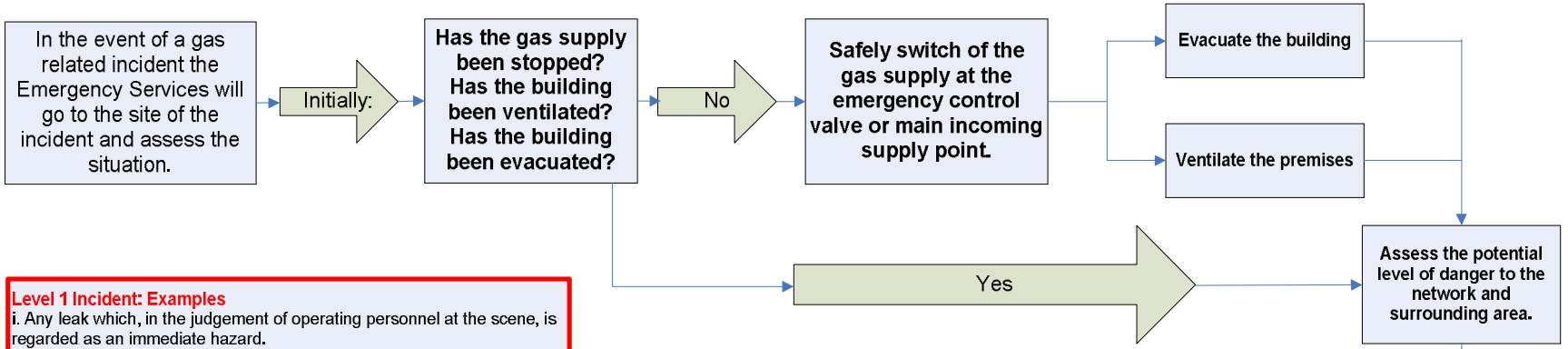
PART 5, PARA 13a: Gas leak emergency management (Emergency Services at scene of incident)



Flow Chart 13a-4

PART 5, PARA 13a: Gas leak emergency management (Assessing the level of hazard arising from the gas incident)

The instructions below must be passed to the reporter of any gas leak within a facility (domestic or industrial) EVERY TIME a leak is reported.
Following the below set procedure enables compliance with statutory regulations and safe working practices.



Level 1 Incident: Examples
i. Any leak which, in the judgement of operating personnel at the scene, is regarded as an immediate hazard.
ii. Escaping gas that has ignited.
iii. Any indication of gas that has migrated into or under a building or into a tunnel.
iv. Any indication of gas at the outside wall of a building.
v. Any leak that can be seen, heard or felt, and which is in a location that may endanger the general public or property.

Level 2 Incident: Examples:
i. Leaks requiring action ahead of ground freezing or other adverse changes in venting conditions. Any leak which, under frozen or other adverse soil conditions, would likely migrate to the outside wall of a building.
ii. Any leak under a sidewalk in a wall-to-wall paved area that does not qualify as a Level 1 leak.
iii. Any leak which, in the judgement of operating personnel at the scene, is of sufficient magnitude to justify scheduled repair.

Level 3 Incident: Examples:
i. Any reading under a street in areas without wall-to-wall paving where it is unlikely the gas could migrate to the outside wall of a building.

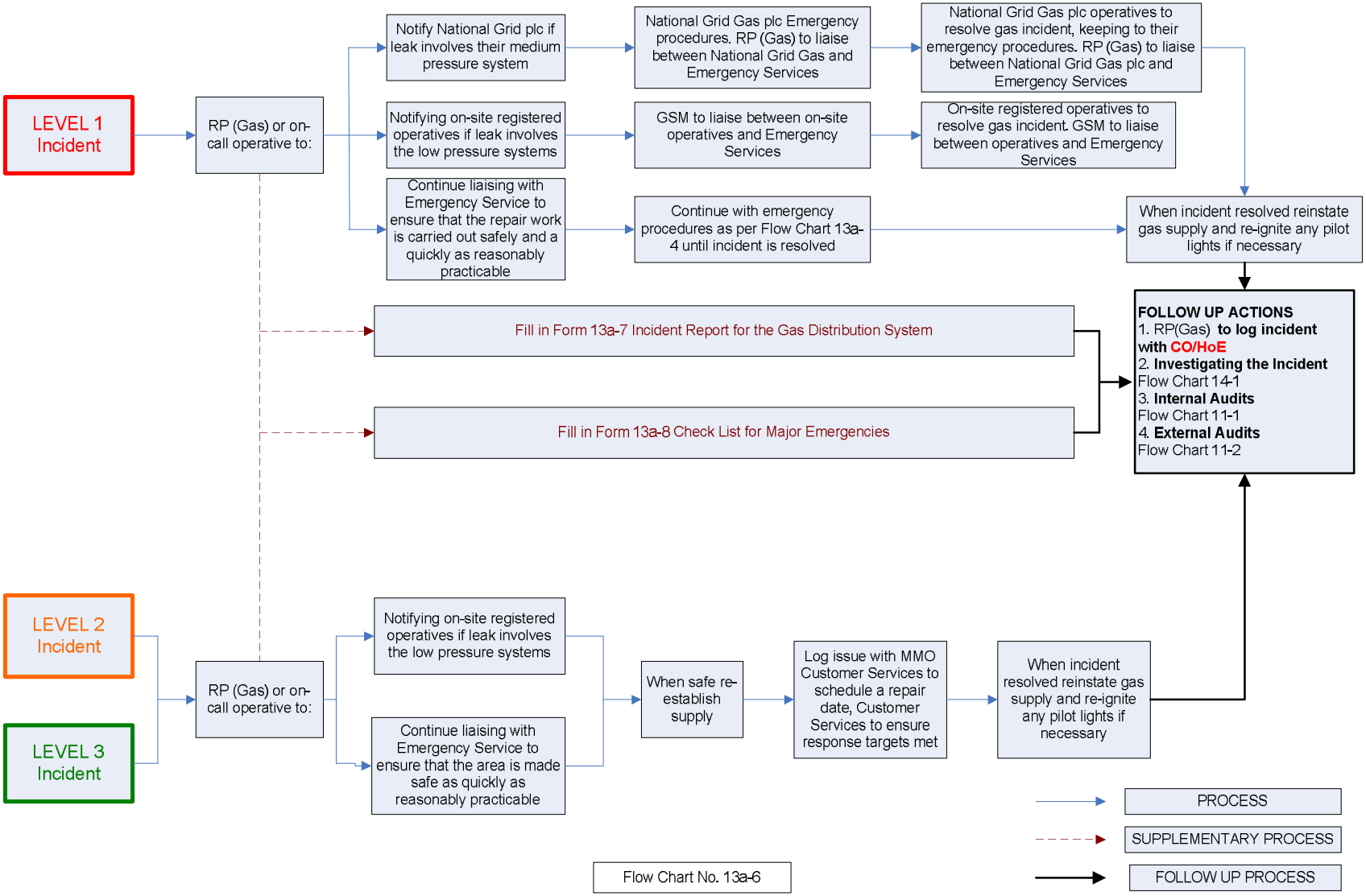
LEVEL 1 Incident: A leak that represents an existing or probable hazard to persons or property. Requires immediate repair or continuous action until the condition is no longer hazardous. Medium pressure leaks will automatically be deemed Level 1 incidents).
See Flow Chart 13a-6 for continuation.

Level 2 Incidents: A leak that is recognised as being non-hazardous at the time of detection, but needs scheduled repair based on probable future hazard.
See Flow Chart 13a-6 for continuation.

LEVEL 3 Incident: A leak that is recognised as being non-hazardous at the time of detection and can be reasonably expected to remain non-hazardous.
See Flow Chart 13a-6 for continuation

Flow Chart 13a-5

PART 5, PARA 13a: Gas leak emergency management (Resolving the gas incident)



Part 5: Managing Emergencies

Form13a-7: Incident Report – Gas Distribution System.

Date of Report	

PART 1 – GENERAL REPORT INFORMATION

1a	Operator's 5 digit identification no.	5	Elapse time until area was made safe
	No.		hrs min.
1b	Name of Operator	6	Time when first responder reached the incident site
	.		
1c	Department	7a	Estimated pressure at point & time of incident
	.		(PSIG)
2	Location of incident *t*	7b	Maximum allowable operating pressure
	.		(PSIG)
3	Time and Date of Incident	7c	Approximately how much Gas Escaped
	hrs min.		(PSIG)

Reason for Reporting

□ Fatality.		No. of persons	
□ Injury requiring inpatient hospitalisation		No. of persons	
□ Property damage/loss	Estimated cost	£	
□ Operator Judgement/Emergency Action			
□ Supplementary Report			

7d Any other technical detail of note?

.

PART 2 – APPARENT CAUSE

□ Corrosion (Go to Part A)	□ Damage by Outside Forces (Go to Part B)	□ Construction/Operating Error (Go to Part C)	□ Accidentally caused by operator (Go to Part D)
□ Other *(Specify)*			

PART 3 – NARRATIVE DESCRIPTION OF FACTORSCONTRIBUTING TO THE INCIDENT (ATTACH ADDITIONAL SHEETS IF NECESSARY)

PART 4 – ORIGIN OF THE INCIDENT

1	Part of System Where Incident Occurred	3.	Material Involved
□ Main	□ Meter Set Assembly	□ Cast Iron	□ Polyethylene Plastic
□ Service Line	□ Other	□ Steel	□ Other Plastics
2	Component That Failled	3.	Material Involved
□ Body of Pipe	Regulator/Meter	NPS (Nominal Pipe Size) mm	
□ Valve	□ Joint (type)	Wall Thickness mm	
□ Fitting	□ Weld (specify girth, longitudinal, fillet	4	Specification
□ Drip/Riser		Manufacturer	
□ Other (specify)		Year of manufacture	
		Date installed	

PART 5 – ENVIRONMENT(Area of Incident)					
□ Within/Under Building			□ Above Ground		
□ Under Pavement			□ Under Ground or Under Water		
□ Other (specify)					
PART 6 – PREPARER AND AUTHORISED SIGNATURE					
(type or print) Preparer's Name & Title			Telephone No.		
Authorised Signature & Date			Telephone No.		
PART A – CORROSION					
1	Where did the corrosion occur	2	Visual Description	3	Cause
□ Internally		□ Localised Pitting		□ Galvanic	
□ Externally		□ General Corrosion		□ Other (specify)	
□ Other (specify)		□ Other (specify)			
4	Pipe Coating Information				
□ Bare			□ Coated		
5	Was corroded part of pipeline considered to be under cathodic protection prior to discovering incident?				
□ Yes	Date protection installed			□ No	
6	Additional Information				
PART B – DAMAGED BY OUTSIDE FORCES					
1	Primary Cause of Incident				
□ Damage resulted from action of operator or his/her agent			□ Damage resulted from action by outside party/third party		
□ Damage by Subsidence			□ Damage by Landslide/Washout		
□ Damage by Frost			□ Damage by lightning or fire		
□ Damage by Other (specify)					
2	Locating information (for damage resulting from action of outside party/third party)				
a	Did operator get prior notification that equipment would be used in the area	□ Yes	Date received		
		□ No			
b	Was pipeline location marked either as a result of notification or by markers already in place	□ Yes	□ Permanent Marker	□ Temporary Stakes	
		□ Other (specify)		□ No	
c	Does Statute or other ordinance require outside parties to determine whether underground facility(ies) exist?			□ Yes	
				□ No	
3	Additional Information				

PART C – CONSTRUCTION DEFECTS		
1	Cause	□ Poor workmanship during construction
		□ Operating procedures inappropriate
		□ Error in operating procedure application
		□ Physical damage during construction
		□ Other (specify)
2	Additional Information	

PART D – OTHER
Brief Description

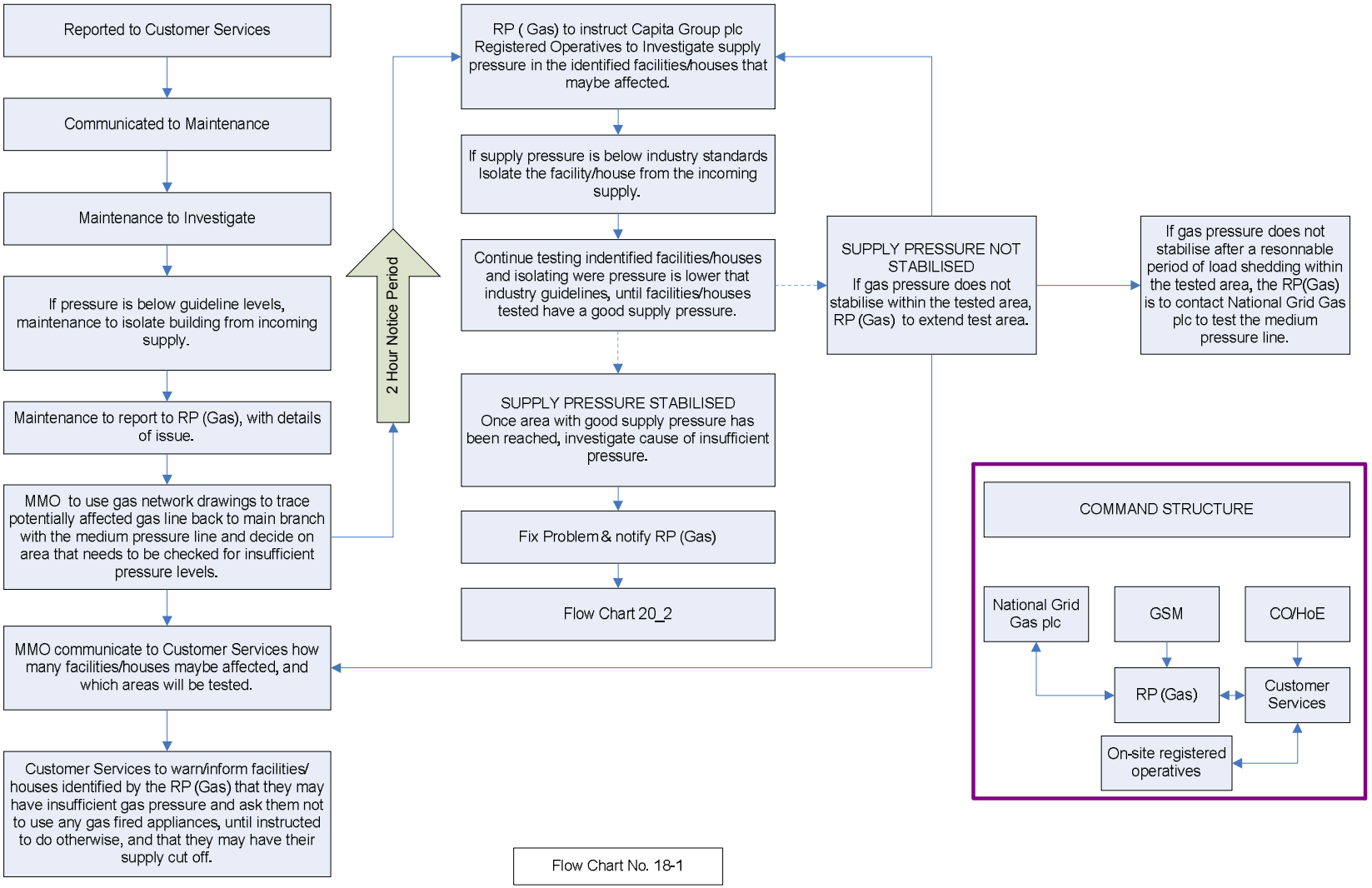
PART E – NOTES	
1	**On completion, this form must be stored in a separate folder, where all gas related incident paper work is held**.

Part 5: Managing Emergencies		
Paragraph 13a: Gas Leaks.		
Form 13a-8 – Check List for Major Emergencies *(To be used by the Responsible Person (Gas) during the initial response period of a Gas Emergency)*		
☐	1	Has the Fire Brigade been called to the scene?
☐	2	Have the occupants been evacuated to a designated area and the area containing the incident been secured?
☐	3	Has the Police Service been called to the scene?
☐	4	Have repair personnel been called to the scene?
☐	5	Have Customer Services been notified and have the details of the areas with supply stoppages been passed along?
☐	6	Has the GSM been notified.
☐	7	If medium pressure network is involved has communication with (enter name of EGDN) been established?
☐	8	If required, has outside help been requested (External Fire/Police Services).
☐	9	Have the Emergency Medical Services (999) been notified?
☐	10	Has the leak been shut off or brought under control?
☐	11	Have emergency valves or proper valves to shut down or reroute the gas been identified and located?
☐	12	If an area has been cut off from a supply of gas, has the individual building been cut off?
☐	13	Is the situation under control and has the possibility of recurrence been eliminated?
☐	14	Has the surrounding area, including adjacent buildings and cross streets, been probed for the possibility of further leakage?
☐	15	Has a proper tag been placed on meter?
☐	16	Has a written report been made to the HSE?
☐	17	Has a written report been made to (enter name of EGDN)?
☐		
☐		

Part 5: Managing Emergencies		
Paragraph13b: Service Providers.		
Paragraph	**13b**	***Particulars of the arrangements the duty holder has established to appoint emergency service providers***
Emergency Service Providers		

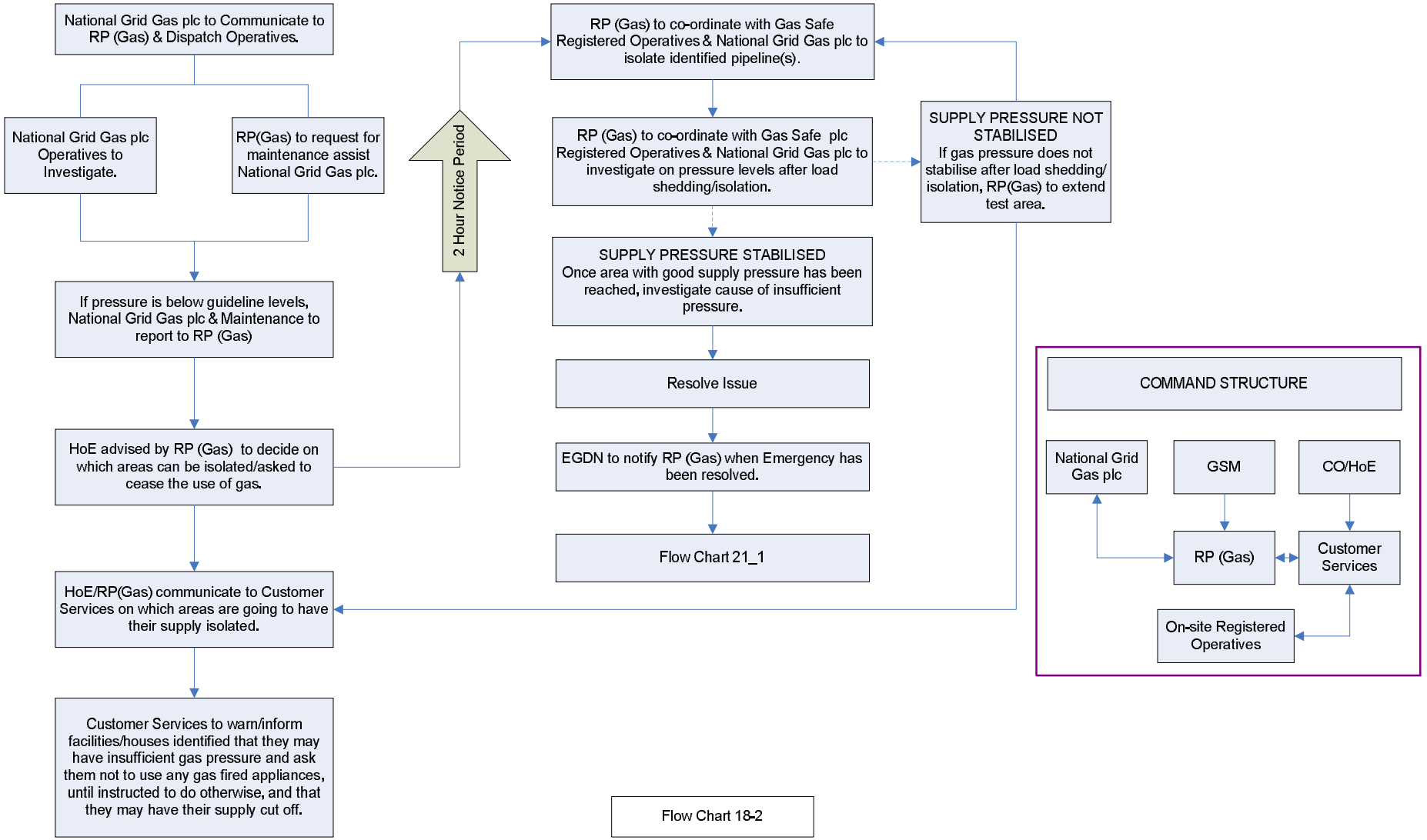
Part 5: Managing Emergencies		
Paragraph18: Supply Emergency.		
Paragraph	**18**	***Particulars to demonstrate that the duty holder has established adequate arrangements for dealing with supply emergencies or other incidents which could endanger persons***
Emergency Types		a) Where there is insufficient gas in a part or parts, of the network, and no constraints on the ability to move gas to the affected area, if it is available. This is classed as a **Network Supply Emergency** and as such *(enter name of EGDN),* as the gas transporter, must co-ordinate with the site MOD Authority to co-ordinate efforts in minimising the effects of the supply shortage. b) Where sufficient gas is available within the network as a whole but a constraint means that it is not physically possible to move gas into the area where a supply emergency is developing. This is classed as a **Local Supply Emergency** and can be dealt with locally. *(EGDN assistance may be required if their medium pressure line is involved).*
Examples of MOD Gas Network emergencies		• Major damage to any part of the MOD MP or LP systems resulting in a reduction in maximum operating pressure or shutdown of one or more distribution mains. • Plant malfunction e.g. valve failure. • Water ingress into one or more distribution mains. • Demand for gas exceeding the supply criteria in a system or part of a system. • Unplanned unavailability of distribution mains. • Human error.
Identifying Risks		Refer to **Part 3, Para 4** for risk assessments and preventative actions that deal with supply related issues.
Local Supply Emergency		If at any point on any premises on site if the supply of gas is not of a sufficient pressure the procedure in **Flow Chart 18_1** should be put into action.
Governing Standards		Industry Standards: BS 1179, BS5588, BS 6173:1990, BS 640:1985, BS 6891:1988, BS 8313: 1989. . IGE/GM/8- Non-Domestic Meter Installations. Flow rate exceeding 6 m^3h^{-1} and Inlet Pressure Not Exceeding 38 bar. Parts 1 to 5.
Command Structure		In the event of supply emergency the RP (Gas) or nominated MOD Representative is the co-ordinating officer, refer to **Flow Chart 18_1** for further information.
		The command structure and the procedure will be disseminated to staff and other key employees through quarterly safety briefings.
Training Exercises		The RP (Gas) is to co-ordinate training exercises for supply emergencies.
Network Supply Emergency		If at any point (enter name of EGDN) inform the RP (Gas) of a potential Network Supply Emergency the procedure in **Flow Chart 18_2** should be put into action.
Governing Standards		Industry Standards: IGE/GM/8- Non-Domestic Meter Installations. Flow rate exceeding 6 m^3h^{-1} and Inlet Pressure Not Exceeding 38 bar. Parts 1 to 5.BS 1179, BS5588, BS 6173:1990, BS 640:1985, BS 6891:1988, BS 8313: 1989.
Command Structure		In the event of supply emergency the RP (Gas) is the co-ordinating officer. Refer to **Flow Chart 18_2** for further information.
		The command structure and the procedure will be disseminated to staff and other key employees through quarterly safety briefings.
Training Exercises		The RP (Gas) is to co-ordinate training exercises for supply emergencies. There are currently no scheduled training activities. GSM to action.
EDGN supply to site		Description of the EGDN supply to the site should include e.g. number of governor supply points and operational parameters e.g. supply pressures to the MOD network.

PART 5, PARA 18: Local Supply Emergency.



Flow Chart No. 18-1

PART 5, PARA 18: Local Supply Emergency.

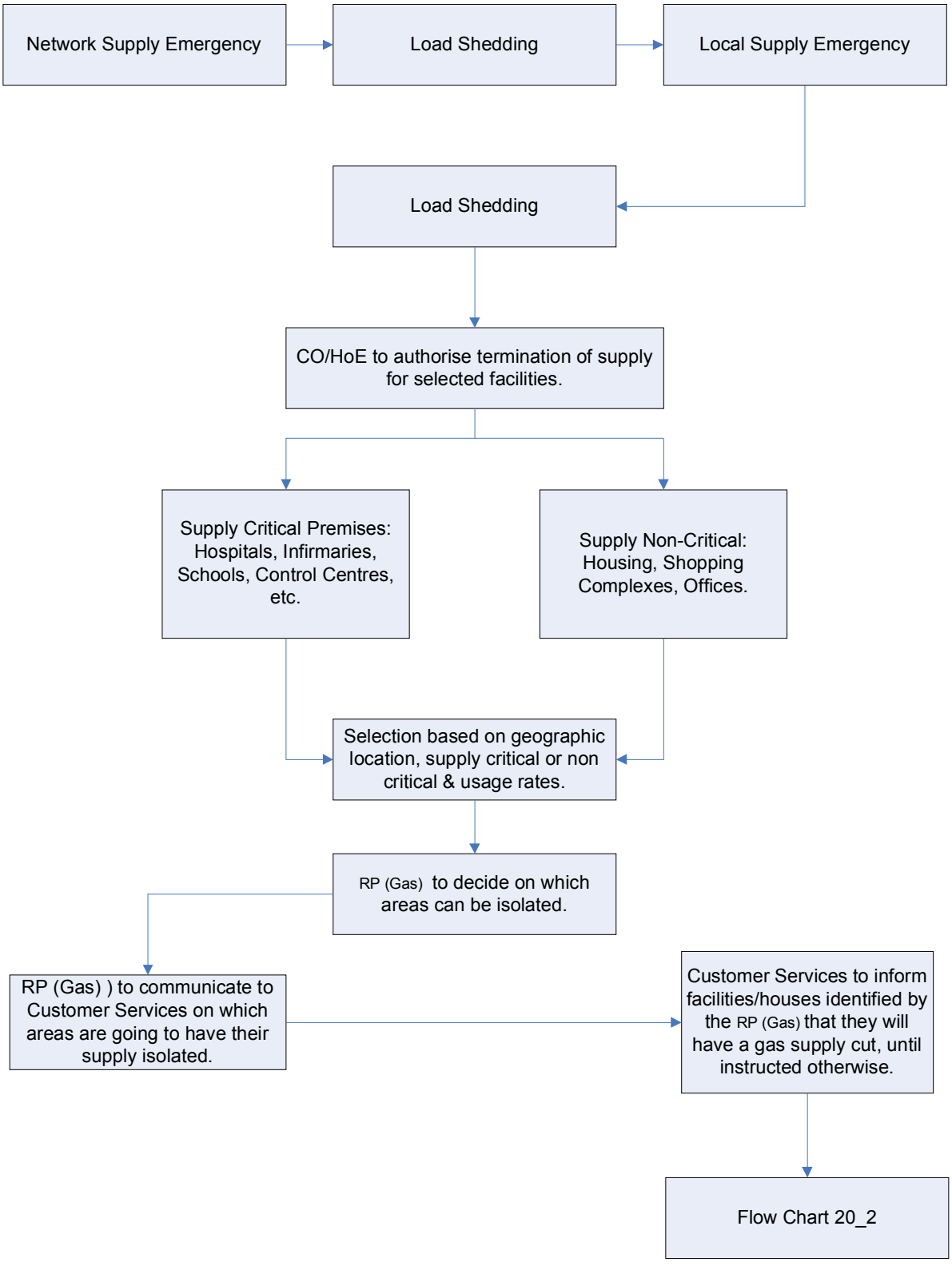


Flow Chart 18-2

Part 5: Managing Emergencies		
Paragraph 19:.Non-conforming Gas.		
Paragraph	**19**	***Where the duty holder is the only person conveying gas in a network, particulars to demonstrate that he has established adequate arrangements to decide when and for how long gas not conforming with the requirements of regulation 8(1) should be conveyed in the network pursuant to regulation 8(4).***
Other types of Gas		MOD is not the only conveyor of gas in the network. The provision of GS(M)R Schedule 1 Paragraph 19 therefore does not apply

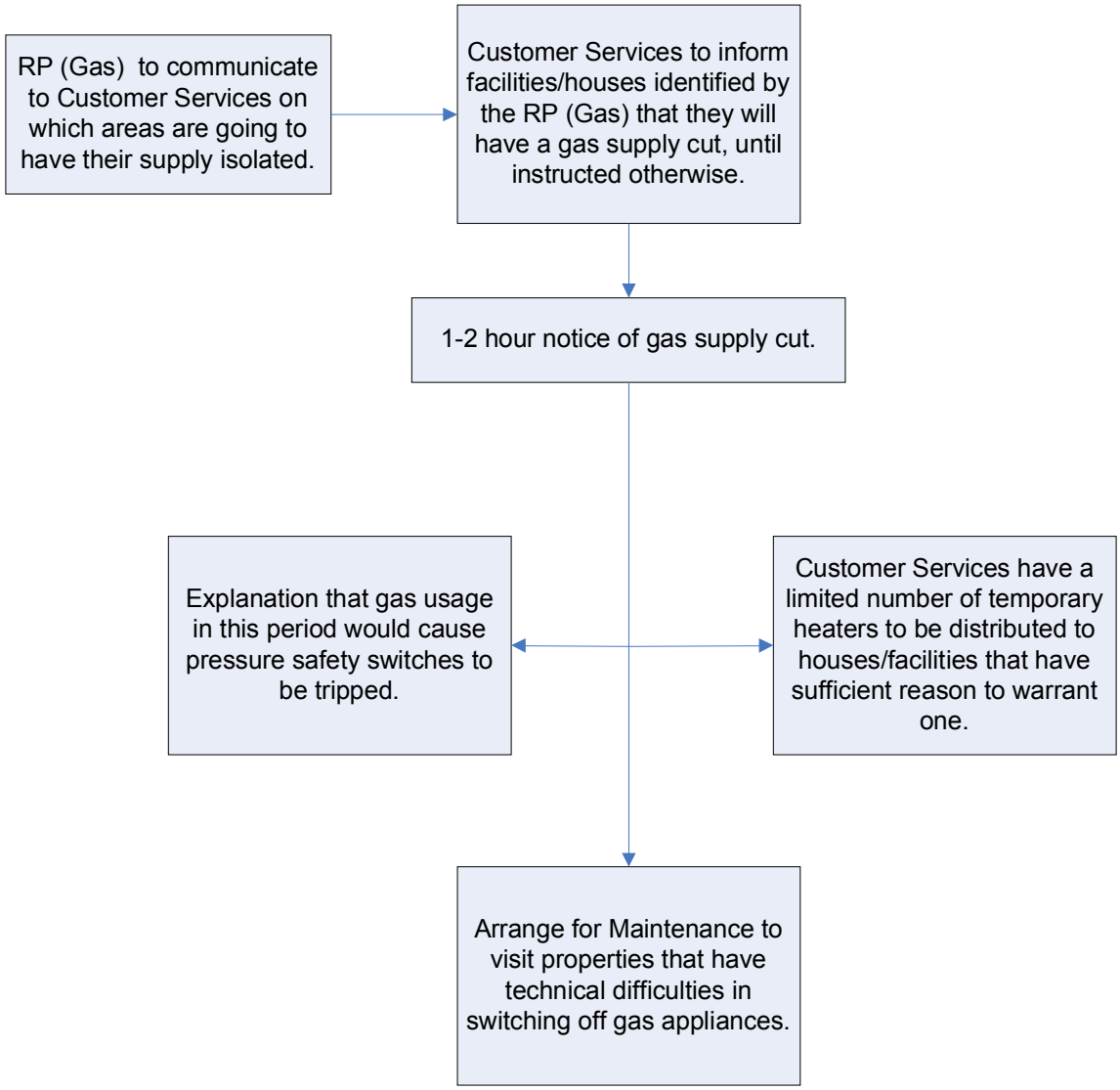
Part 5: Managing Emergencies	
Paragraph 21: Discontinuing Supply.	
Paragraph 21	***Without prejudice to paragraph 18 above, particulars of the procedures that the duty holder has established to discontinue safely, supply to consumers, when it is known there is insufficient gas to satisfy demand.***
Sequence of Disconnection	Refer to **Flow Chart 20-2** for further information.
High Priority Customers	As per **Part 2, Para 2** Supply Critical facilities should be the last to be isolated, **Refer to Flow Chart 20_1** for more information.
Supply Cut Notice	Consumers must be given a 1-2 hour notice period.
Compliance	The site is populated by service personnel, MOD employees and other forces dependent persons, non compliance with any request made by customer services will be addressed through the Employees Line Management/Command Structure.

PART 5, PARA 20: Interrupting Supply to Customers (1)



Flow Chart No. 20-1

PART 5, PARA 20: Interrupting Supply to Customers (2)

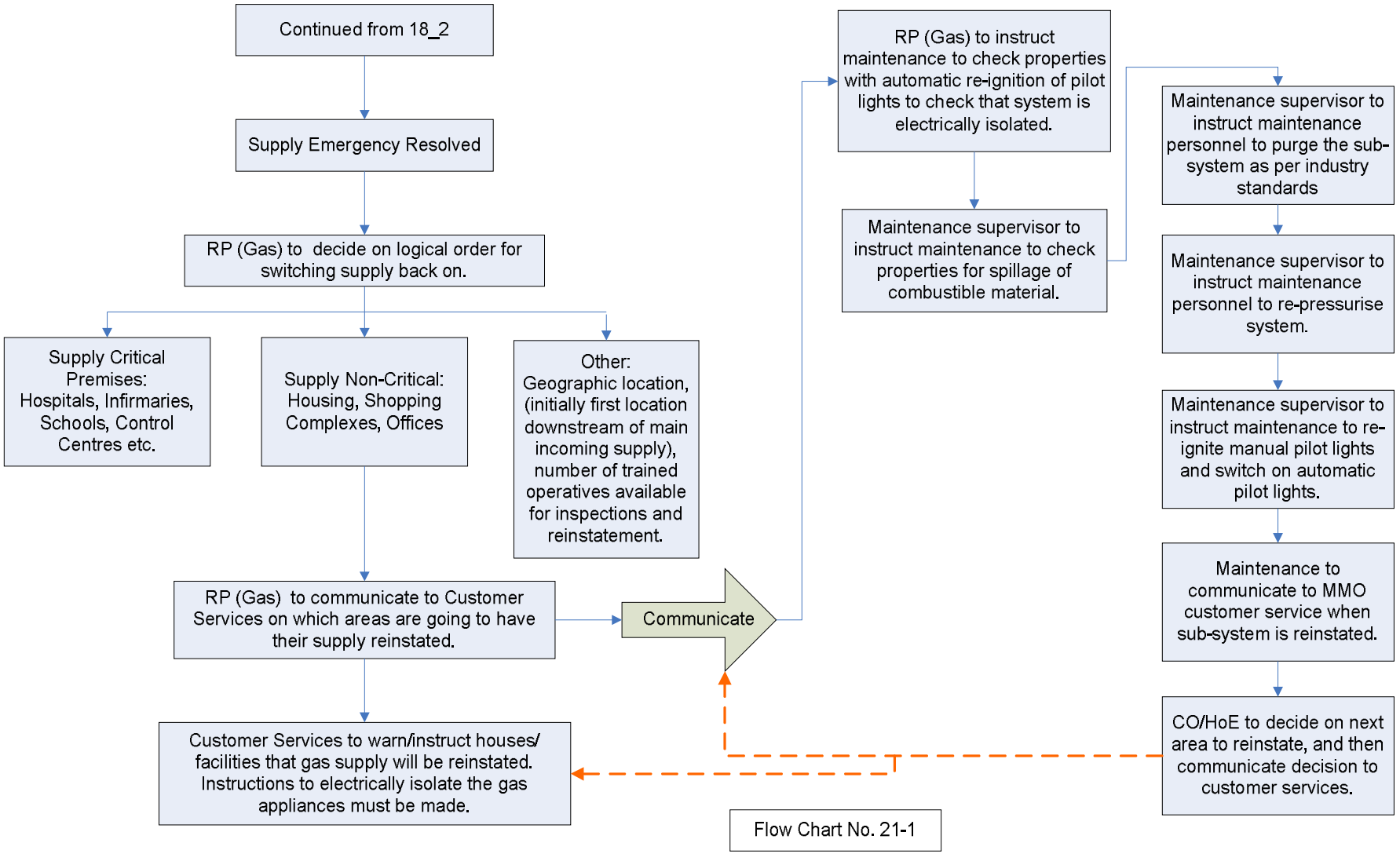


Flow Chart No. 20-2

Part 5: Managing Emergencies	
Paragraph 21: Re-establish Supply.	
Paragraph 21	***Particulars of the procedures that the duty holder has established to restore safely the gas supply to consumers, following an interruption in supply.***
System restoration	Refer to **Flow Chart 21_1** for further information The restoration process will be carried out in line with EGDN and MMO procedures and conducted in line with the "Protocol for Restoration of Gas Supplies[2]". The EGDN responsible manager will have appropriate procedures in place, documented in EGDN/PR/E/3, for effective release of appropriate notification to all gas consumers

[2] EGDN/PM/E/2

PART 5, PARA 21: Upon Resolution of Supply Emergency



Flow Chart No. 21-1

Part 3: Managing Safety		
Paragraph 5: Risk Assessment.		
Risk Assessment 01	**Any gas leak considered hazardous to persons or property (Under medium and/or low pressure conditions)**	**Date: xx/xx/xx**
Risk	Any leak at any pressure can be quantified as a hazard. The higher the pressure and/or depending on the location of the leak the risk to the surrounding area varies	
	Depending on the severity of the leak, other hazards such as explosions, fires, supply failures, pollution and associated financial implications could arise	
	Depending on how quickly & thoroughly the gas leak is dealt with the resulting hazards from the incident will vary.	
Caused By	Damage to pipelines from digging	
	Failure of control equipment	
	Damage caused by general construction	
	Corrosion of pipelines	
	Failure of mechanical joints and seals	
	Deterioration or rupture of pipeline	
	Poor communication between involved parties can exacerbate the problem	
	Length of response time by first responders	
Hazards Resulting from Risk	Damage to pipelines caused by uncontrolled escaping gas	
	Risk of causing a supply emergency	
	Damage to persons & property	
	Risk of Explosions & Fire	
	Pollution of environment	
	Purging maybe required after corrective action	
Current Preventative Methods	Permits to Dig	
	Planned Preventative Maintenance	
	Type & Quality control of materials used in gas network	
	Strict adherence to emergency procedures in the event of an emergency	
	Isolation via emergency stops	
	Installation of gas network to industry standards	
Further Required Preventative Methods	Pressure monitoring	
	More accurate gas network layout drawings	
	Use of the gas safety management plan	
	Training of all involved parties	
	Training and simulated gas emergency drills	
Audits	In the event of a hazardous occurrence this RA must be audited, and updated	

Part 3: Managing Safety		
Paragraph 5: Risk Assessment.		
Risk Assessment 02	**Fire or explosion near to, or directly involving, a pipeline or gas facility**	**Date: xx/xx/xx**
Risk	Any fire or explosion directly involving a gas pipeline or facility could cause a major incident.	
	Any fire or explosion near to a gas pipeline or facility may cause personal injury and or damage to property.	
Caused By	Undetected trapped gas	
	Unresolved gas leaks	
	Failure of control equipment, pipelines, seals, joints etc	
	Damage to gas pipelines through digging and/or general construction	
	Incorrect initial procedure when dealing with a gas leak	
	Inadequate action by first responder	
Hazards Resulting from Risk	Fire and/or explosions causing death and/or injury to general populous	
	Damage and/or destruction of surrounding properties	
	Damage to gas pipelines, gas control centres & other gas related equipment	
	Disruption of gas supply	
	Secondary Explosions & Fire resulting from inaction	
Current Preventative Methods	Scheduled Maintenance	
	Designed for purpose	
	Permits to Dig	
	Strict adherence to emergency procedures, including ventilating and evacuating area	
Further Required Preventative Methods	Pressure monitoring	
	Use of the gas safety management plan	
	Training and simulated gas emergency drills	
Audits	In the event of a hazardous occurrence this RA must be audited, and updated	

Part 3: Managing Safety		
Paragraph 5: Risk Assessment.		
Risk Assessment 03	**A failure of operation of pipeline/plant onsite, or immediately downstream of site, that is maintained by the EGDN**	**Date: xx/xx/xx**
Risk	Any incident directly involving the medium pressure pipelines onsite can only be dealt with by *insert name of EGDN.* In the event of a leak the response time by *insert name of EGDN* has an impact on the severity of the incident	
	The level of cooperation and communication between EGDN and the onsite parties has an impact on the eventual severity of the incident	
Caused By	Poor response time by *insert name of EGDN*	
	Poor communication between onsite parties and *insert name of EGDN*	
	Poor coordination of onsite parties and *insert name of EGDN*	
	Poor communication of procedures	
	Lack of supply resulting in drop in supply pressure, resulting in site wide gas supply failure	
Hazards Resulting from Risk	Disruption of gas supply to whole site	
	Re-commissioning & purging after corrective action	
	Re-ignition of non automatic ignition systems	
	Long down time due to above hazards	
Current Preventative Methods	General communication between site and *insert name of EGDN*	
Further Required Preventative Methods	Communication of site procedures to *insert name of EGDN*	
	Understanding *insert name of EGDN* procedures	
	Training and simulated gas emergency drills	
	Training for quicker response time	
	Pressure monitoring	
	Planning for load shedding (reduces the risk of site wide gas failure)	
	Fitting automatic ignition systems as standard	
	Use of the gas safety management plan	
Audits	In the event of a hazardous occurrence this RA must be audited, and updated	

Part 3: Managing Safety		
Paragraph 5: Risk Assessment.		
Risk Assessment 04	**A failure of operation of pipeline/plant onsite that is maintained by site services**	**Date: xx/xx/xx**
Risk	Any incident directly involving the low/*medium* pressure pipelines onsite can be dealt with by the onsite gas operatives. In the event of a leak the response time by the onsite operatives has an impact on the severity of the incident	
	The level of cooperation and communication between onsite parties such as emergency services and gas operatives has an impact on the eventual severity of the incident	
Caused By	Poor response time by site services	
	Poor communication between onsite parties	
	Poor coordination of onsite parties	
	Poor communication of procedures	
Hazards Resulting from Risk	Disruption of gas supply to whole site	
	Re-commissioning & purging after corrective action	
	Re-ignition of non automatic ignition systems	
	Long down time due to above hazards	
Current Preventative Methods	Scheduled Maintenance	
	Designed for purpose	
	Permits to Dig	
	Strict adherence to emergency procedures	
Further Required Preventative Methods	Pressure monitoring	
	Use of the gas safety management plan	
	Training and simulated gas emergency drills	
	Training for quicker response time	
	Planning for load shedding (reduces the risk of site wide gas failure)	
	Fitting automatic ignition systems as standard	
Audits	In the event of a hazardous occurrence this RA must be audited, and updated	

Part 3: Managing Safety		
Paragraph 5: Risk Assessment.		
Risk Assessment 05	**Failure of safety critical equipment**	**Date: xx/xx/xx**
Risk	Failure of safety critical equipment can have a severe impact on the safety of the gas network.	
Caused By	Lack of/or poor maintenance	
	Incorrect use of equipment	
	Ageing equipment	
Hazards Resulting from Risk	Lack of control over gas network, resulting in a gas incident	
	Lack of control over gas network during a gas incident	
Current Preventative Methods	Scheduled Maintenance	
	Designed for purpose	
	Regular operational training	
Further Required Preventative Methods	Pressure monitoring	
	Further training of gas operatives	
	Replacing old equipment where required	
Audits	In the event of a hazardous occurrence this RA must be audited, and updated	

Part 3: Managing Safety		
Paragraph 5: Risk Assessment.		
Risk Assessment 06	**Under-pressure in the gas system**	**Date: xx/xx/xx**
Risk	If at any point the pressure in a gas network drops below a certain level, gas safety regulators will stop the flow of gas. These regulators are fitted to gas appliances and in some instances will also be downstream of the gas meter into individual houses. There is also a regulator on the main intake to the site.	
	If the pressure in a gas network, leading into a house or facility, drops below a certain level a gas safety regulator will terminate the flow of gas. This will cause the pilot lights to be extinguished. On this site, due to the multitude of buildings and houses, it may take up to 3 days to re-ignite all the systems.	
Caused By	Gas leaks	
	Poor gas network management	
	Failure of Compressors	
	Inadequate supply of gas in the system	
	Failure of pressure control system	
Hazards Resulting from Risk	Loss of gas supply	
	Gas safety regulators being tripped (requires manually resetting on older models)	
	Long recovery period	
	Potential for air in the gas network	
Current Preventative Methods	Scheduled Maintenance	
	Designed for purpose	
Further Required Preventative Methods	Pressure monitoring	
	Regular training of gas operatives	
	Replacing old equipment where required	
	Fitting automatic ignition systems as standard	
	Replacing manual gas safety regulators with automatic cut-outs	
Audits	In the event of a hazardous occurrence this RA must be audited, and updated	

Part 3: Managing Safety		
Paragraph 5: Risk Assessment.		
Risk Assessment 07	**Over-pressure in the gas system**	**Date: xx/xx/xx**
Risk	If at any point the pressure in a gas network climbs above a certain level, gas safety regulators will stop the flow of gas. These regulators are fitted to gas appliances and in some instances will also be downstream of the gas meter into individual houses. There is also a regulator on the main intake to the site	
	f the pressure in a gas network, leading into a house or facility, climbs above a certain level a gas safety regulator will terminate the flow of gas. This will cause the pilot lights to be extinguished. On this site, due to the multitude of buildings and houses, it may take up to 3 days to re-ignite all the systems.	
Caused By	Failure of pressure control system	
	Incorrect pipe/valve sizing	
	Blockages in system	
	Poor gas network management	
Hazards Resulting from Risk	Rupture of gas pipes due to high pressure related	
	Damage to valves and other control equipment	
	Damage to seals and joints	
	Loss of gas supply	
Current Preventative Methods	Scheduled Maintenance	
	Designed for purpose	
Further Required Preventative Methods	Pressure monitoring	
	Regular training of gas operatives	
	Use of the gas safety management plan	
Audits	In the event of a hazardous occurrence this RA must be audited, and updated	

Part 3: Managing Safety		
Paragraph 5: Risk Assessment.		
Risk Assessment 08	**Failure in system during load shedding**	**Date: xx/xx/xx**
Risk	In the event of a gas supply emergency, load shedding can be used to stabilise the pressure in the system. However, if a section is isolated and the consumers on that branch use their gas supply the pressure in that branch will drop below acceptable levels and the pressure safety regulators will trip	
Caused By	Insufficient communication between onsite parties and the end user	
	Insufficient means of monitoring pressure	
Hazards Resulting from Risk	Loss of gas supply	
	Gas safety regulators being tripped (requires manually resetting on older models)	
	Long recovery period	
	Potential for air in the gas network	
Current Preventative Methods		
Further Required Preventative Methods	Better communication	
	Pressure monitoring	
	Use of the gas safety management plan	
	Fitting automatic ignition systems as standard	
	Replacing manual gas safety regulators with automatic cut-outs	
Audits	In the event of a hazardous occurrence this RA must be audited, and updated	

Part 3: Managing Safety		
Paragraph 5: Risk Assessment.		
Risk Assessment 09	**General changes to the gas network**	**Date: xx/xx/xx**
Risk	If during the design phase the sizing of the system is under/over sized, it could result in under/over pressure scenarios.	
	If during the installation of a gas network, the work is not carried out to the relevant British Standards and if the work is not undertaken by operatives trained and skilled to the same British Standards, failure may take place.	
Caused By	Incorrect pipe sizing at design phase	
	Underestimating impact on overall site gas supply	
	Incorrect installation of plant and pipelines	
	Under qualified gas operatives used for gas works	
Hazards Resulting from Risk	Damage to pipelines and gas network plant and equipment	
	Risk of causing a supply emergency	
	Damage to persons & property	
	Risk of Explosions & Fire	
Current Preventative Methods	Using trained individuals to carry out work to the gas network	
	Checking credentials of design authority for gas network redesign	
Further Required Preventative Methods	Monitoring competence of gas network operatives	
	Use of the Gas Safety Management Plan	
	Further checking/commissioning of completed works	
Audits	In the event of a hazardous occurrence this RA must be audited, and updated	

Part 3: Managing Safety		
Paragraph 5: Risk Assessment.		
Risk Assessment 10	**Failure through PPM, general operation of the gas network plant/equipment and safety inspections**	**Date: xx/xx/xx**
Risk	Inadequate action during maintenance can cause failure in the system	
	If safety inspections are not carried out regularly, the system may be vulnerable to failure	
	The day to day operation of the system is vital to the overall performance of the gas network. If the day to day operation is not undertaken to industry standards, the gas network could be vulnerable to failure	
Caused By	Gas plant & pipelines are not sufficiently maintained	
	Scheduled activities do not take place.	
	Operatives are insufficiently trained	
	Inadequate co-ordination of operation	
	Inadequate communication between onsite parties	
	Inadequate planning of scheduled activities	
	Inadequate inspection and testing of equipment	
Hazards Resulting from Risk	Damage to pipelines and gas network plant and equipment	
	Risk of causing a supply emergency	
	Damage to persons & property	
	Risk of Explosions & Fire	
Current Preventative Methods	Monitored and maintained	
	Using trained individuals to carry out work to the gas network	
	Following PPM schedules to carry out works	
	Awareness Training, drills and exercise	
	Using qualified operatives	
Further Required Preventative Methods	Monitoring competence of gas network operatives	
	Checking credentials of design authority for gas network redesign	
	Employ better lines of communication between parties	
	Compliance with the Gas Safety Management Plan	
Audits	In the event of a hazardous occurrence this RA must be audited, and updated	

Part 3: Managing Safety		
Paragraph 5: Risk Assessment.		
Risk Assessment 11	**Emergency Shutdowns**	**Date: xx/xx/xx**
Risk	Emergency shutdowns can be used in the event of a gas incident which warrants the gas network or part thereof to be shut down. If this process fails, it can have a severe impact on the resolution of the incident	
Caused By	Failure of emergency shutdown valves	
	Ageing emergency shutdown valves	
	Lack of sufficient facilities for segregated shutdowns	
Hazards Resulting from Risk	Escalating hazard cause by existing emergency	
	Damage to pipelines and gas network plant and equipment	
	Risk of causing a supply emergency	
	Long down time	
Current Preventative Methods		
Further Required Preventative Methods	Use of the Gas Safety Management Plan	
	Providing strategically placed emergency shutoff valves	
	Scheduled PPM	
	Checking credentials of design authority for gas network redesign	
	Replacing old equipment where required	
Audits	In the event of a hazardous occurrence this RA must be audited, and updated	

Part 3: Managing Safety		
Paragraph 5: Risk Assessment.		
Risk Assessment 12	**Interface with Gas Transporter**	**Date: xx/xx/xx**
Risk	If interfaces between the site team and the gas transporter are not managed carefully, the fallout from gas incidents can become more pronounced	
Caused By	Poor response time by EGDN	
	Poor communication between onsite parties and EGDN	
	Poor coordination of onsite parties and EGDN	
	Poor communication of procedures	
Hazards Resulting from Risk	Damage to pipelines	
	Resultant hazards from any gas incident can escalate	
	Risk of causing a supply emergency	
	Damage to persons & property	
	Risk of Explosions & Fire	
Current Preventative Methods		
Further Required Preventative Methods	Communication of site procedures to EGDN	
	Understanding EGDN procedures	
	Training and simulated gas emergency drills	
	Regular communication through fixed procedures	
Audits	In the event of a hazardous occurrence this RA must be audited, and updated	

Part 3: Managing Safety		
Paragraph 5: Risk Assessment.		
Risk Assessment 13	**Interface with Customer**	**Date: xx/xx/xx**
Risk	If communication between the site team and the end user are not carefully established, the fallout from gas shortages could result in the system having to be purged and the pilot lights re-ignited. On a large site such as this, it could take up to three days to re-ignite all pilot lights.	
Caused By	Poor communication	
	Lack of understanding	
	No method of checking on gas usage	
Hazards Resulting from Risk	Risk of causing a supply emergency	
	Loss of pressure in system	
	Long recovery period	
	Potential for air in the gas network	
Current Preventative Methods		
Further Required Preventative Methods	Pressure monitoring system	
	Use of the Gas Safety Management Plan	
Audits	In the event of a hazardous occurrence this RA must be audited, and updated	

Part 3: Managing Safety		
Paragraph 5: Risk Assessment.		
Risk Assessment 14	**Interface with Emergency Services**	**Date: xx/xx/xx**
Risk	The first responder has a duty to minimise the risk to the surrounding area upon arrival. If the gas incident is within a enclosed area, isolating the system is the correct course of action. However in a open, well ventilated area, isolating the system may not be necessary, and could cause secondary hazards	
Caused By	Poor communication	
	Lack of understanding	
Hazards Resulting from Risk	Risk of causing a supply emergency	
	Causing the need to purge systems	
	Long downtime of gas network	
Current Preventative Methods		
Further Required Preventative Methods	Providing training to the Emergency Services, so that they will be able to better tackle gas incidents	
Audits	In the event of a hazardous occurrence this RA must be audited, and updated	

Part 3: Managing Safety		
Paragraph 5: Risk Assessment.		
Risk Assessment 15	**Natural Disasters, civil disturbances, other unforeseeable events**	**Date: xx/xx/xx**
Risk	The risk of unforeseeable events causing gas related incidents cannot be planned for. However it is possible to minimise the impact of the resulting hazards	
Caused By	Explosions	
	Ground tremors	
	Gas pipe sabotage	
Hazards Resulting from Risk	Damage to pipelines caused by uncontrolled escaping gas	
	Risk of causing a supply emergency	
	Damage to persons & property	
	Risk of Explosions & Fire	
	Pollution of environment	
	Purging maybe required after corrective action	
Current Preventative Methods	High security levels	
Further Required Preventative Methods	Use of the Gas Safety Management Plan	
Audits	In the event of a hazardous occurrence this RA must be audited, and updated	

Inspections and Investigations by External Authorities

The Pipeline Safety Regulations (PSR)
Gas Safety Management Regulations (GSMR)
Gas Safety (Installation and Use) Regulations 1998 (GS(I&U)R)

When the GSMR and the PSR introduced, gas safety enforcement was in the interests of clarity split between HSE-FOD and HSE-HID. The deliberate decision was taken to provide a definite cut-off point between these two sets of regulations and the GS(IU)R,. This point was set as the outlet of the first emergency control intended for consumers' use, as defined in GSIUR (see definition of 'pipe' in GSMR reg.2 (1), and definition of 'pipeline for supplying gas to premises' in PSR reg.3 (4)).

Both the GSMR and the PSR extend up to, and include, this emergency control, and although the GS(IU)R contains provisions related to emergency controls, these controls are not included in the definition of 'gas fittings' in GS(IU)R, (reg.2(1)).

Under the following legislation the identified Authorities have a statutory duty to undertake investigations into gas incidents including those on the Defence Estate

Regulation	Area of Responsibility	Enforcing Authority
The Pipeline Safety Regulations	Upstream of and including the emergency control valve (ECV)	Health and Safety Executive's (HSE) Hazardous Installations Directorate (HSE-HID)[3].
Gas Safety Management Regulations	Upstream of and including the emergency control valve (ECV)	HSE - HID
Gas Safety (Installation and Use) Regulations 1998 (GS(I&U)R)	Downstream of the emergency control valve (ECV)	HSE Field Operations Directorate (HSE-FOD)

The Gas Safety (Rights of Entry) Regulations 1996 (GS(RoE)R) confer rights of entry upon "public gas transporters" and "relevant authorities" to enter premises for the purpose of preventing gas escapes, the examination and disconnection of "gas fittings" and other related purposes

All carbon monoxide incidents resulting from the use of faulty gas appliances are dealt with by HSE-FOD inspectors under GS(IU)R. (see Annex G for information on Carbon Monoxide)

Though carbon monoxide incidents (CO) are for HSE-FOD inspectors to investigate, the GSMR places gas suppliers (essentially those who bill consumers for their gas) under a duty to arrange for investigations to be carried out by competent persons (whether by themselves, or through others that they have contracted to act on their behalf) into all such incidents that are notifiable under RIDDOR reg.6(1) (GSMR reg.7(14));

In determining which part of the HSE investigates gas fires or explosions; the key issue is to establish the source of the leak. If it was from the main or service outside the premises (i.e. upstream of the ECV) which has tracked into the house and subsequently ignited, then the investigation should be with HSE-HID. However, if the source is anywhere downstream of the ECV

[3] The exceptions to this are incidents of third party damage to pipelines. In most cases, this stems from the activities of other utilities, agricultural or construction works. As these activities are generally looked after by HSE-FOD (including the Construction Division), it has been agreed that although local HSE-FOD and HSE-HID inspectors should liaise on any third-party interference damage incidents, in general, FOD inspectors will take the lead in investigating such incidents. HSE-HID specialist pipelines inspectors will provide technical support to HSE-FOD where necessary.

(e.g. from a pipework joint within the premises) the investigation should be carried out by HSE-FOD.

In reality, it may not be immediately possible to determine the source of the leak, it has therefore been agreed by the HSE that HSE-FOD inspectors[4] will normally deal with all initial reports of fires or explosions. However, should it become clear that the source of the escape was upstream of the ECV; the investigation will be passed to HSE-HID.

In most domestic premises there will be only one emergency control valve, normally situated immediately alongside the consumer's meter. However, in the case of multiple occupancy accommodation (i.e. blocks of flats) or commercial/industrial sites there may be several such controls, for use by individual consumers. In such situations, it is the first emergency control for the premises/site for consumers to isolate the gas supply to the premises or site as a whole, in case of emergency, that determines the divide between GS(IU)R and GSMR/PSR, and the enforcement responsibilities of HSE-FOD and HSE-HID inspectors.

The Gas Safe Register has a team of inspectors who monitor that gas work is being undertaken competently and safely. They deal with reactive complaints, undertake planned inspections and handle ad hoc requests. The Gas Safe Register inspectors work closely with the regulators such as HSE.

[4] FOD inspectors are generally responsible for enforcing gas safety matters downstream from the emergency control of consumers' meters (covered by the Gas Safety (Installation and Use) Regulations 1998 (GSIUR)), whereas HID inspectors are responsible for enforcing those matters upstream of these emergency controls, related to the safe transmission and distribution of gas at high, medium, and low pressure, (covered by both the Gas Safety (management) Regulations 1996 (GSMR) and the Pipeline Safety Regulations 1996 (PSR)).

DIO AND MMO H&S POLICY AND ORGANISATION AND ARRANGEMENTS FOR THE MANAGEMENT OF GAS NETWORKS

Copy of the H&S policy statements of the DIO and MMO

CHIEF EXECUTIVE DEFENCE INFRASTRUCTURE ORGANISATION'S SAFETY, HEALTH, AND ENVIRONMENTAL PROTECTION ORGANISATION & ARRANGEMENTS STATEMENT (Part A)

INTRODUCTION

1. Overall responsibility for safety[5], health and environmental protection (SHEP) within the Ministry of Defence rests with the Secretary of State for Defence (SofS) as detailed within his "Health, Safety and EP in Defence" Policy Statement and Joint Service Publication (JSP)815.

2. MOD wide S&EP performance targets are defined in the Defence Plan: that is to minimise work-related fatalities, injuries, ill-health and effects on the environment (no statistically significant increase in fatalities over a rolling 12 month period; reduction of [accident incidence] rate of major injuries from previous year; and reduction in number of significant environmental incidents); and to attain and maintain Level 4 against MOD Safety & EP Sub-Strategy Goals[6] by Mar 14.

3. The SofS delegates responsibility for ensuring effective management arrangements are in place to achieve his expectations to the Permanent Under Secretary (PUS) who in turn delegates authority for the discharge of responsibilities and conduct of activities to individual TLB Holders and TFA Chief Executives within their respective areas of responsibility.

4. The PUS ensures TLB/TFA compliance with the above through the Holding to Account Process and the Annual S&EP Assurance Reports made to the Director Defence Safety and Environment Authority.

REQUIREMENT

5. As Chief Executive (CE) of the Defence Infrastructure Organisation (DIO) and TLB Holder, I am responsible for all SHEP matters within DIO; both occupational and in the delivery of infrastructure and infrastructure related services. In accordance with the SofS Policy Statement this O&A Statement sets out my SHEP objectives, the organisation and arrangements to be implemented across DIO and reflects the personal importance I attach to:

    a. the health, safety and general well-being of all DIO employees, contractors and those who may be affected by our work activities (e.g. site users; members of the public, etc),
    b. the protection of the environment,
    c. achieving and maintaining compliance with S&EP legislation, MOD policy and Defence targets in the UK and overseas, and
    d. the provision of assurance to SofS that those areas of MOD infrastructure and estate utilised by Visiting Forces are being appropriately managed in line with established host nation principles.

OBJECTIVES AND GENERAL DUTIES

6. Although ultimate responsibility for SHEP management rests with me, responsibility for associated duties is cascaded down through my Executive Committee members, who I will hold accountable, and through them to the manager or individual responsible for the activity. It is therefore essential that managers and their teams work closely together in the implementation of robust SHEP Management Systems, that each and everyone takes a personal responsibility in ensuring that all SHEP risks are kept to as low as is reasonable practicable.

7. This approach is in accordance with MOD Policy and general SHEP organisation and arrangements for ensuring compliance with the Health and Safety at Work, etc Act and Environmental Legislation as described in JSP's 375 and 418 respectively.

[5] Safety includes fire safety, equipment safety, material safety and occupational health
[6] Goals 1 to 5: A Learning Organisation; Leadership and Culture; Competence; Hazards and Risks; Compliance with Legislation and MOD Regulations.

8. I require all staff to be fully aware of their responsibilities in the implementation of the following objectives within their day-to-day activities and areas of responsibility;

   a. Leading by example and demonstrating a commitment to health, safety (H&S) and Environmental Protection (EP) excellence by the promotion of a positive culture toward safety and protection of the environment;
   b. Ensure that all SHEP risks resulting from our occupation or activity, including organisational change, are:
      i) Fully assessed, justified and regularly reviewed to ensure underlying assumptions are robustly tested and revised where necessary;
      ii) Kept as low as is reasonably practicable;
      iii) Allocated resources as an integral part of any planning or decision making process;
      iv) Escalated up the chain of command prior to the implementation of controls where higher authority to accept or deviate is required;
   c. All staff and those we engage are suitably informed of the hazards, risks and control measures affecting their work and are suitably qualified and experienced (SQEP) and competent to discharge their duties effectively and safely;
   d. So far as is reasonably practicable, all staff are provided with safe workplaces, safe systems of work, safe equipment and safe working environment;
   e. Conduct our activities in a way that ensures that risks to our staff, the environment and others that may be affected by our activities, are assessed and controlled proportionately with the specific aim to minimise work-related accidents, ill-health and prevent pollution;
   f. The requirements of all applicable MOD Regulation and United Kingdom legislation are complied with, along with any additional requirements from international treaties and protocols governing DIO's overseas activities and those of Visiting Forces utilising MOD infrastructure and estate. When overseas we will apply UK standards where reasonably practicable, and in addition comply with relevant host nations' standards that exceed UK requirements;
   g. Implement the MOD Safety and EP Sub-strategy and related Strategic Objectives within the Defence Infrastructure Command Plan so as to meet SofS expectations and continually improve our SHEP management systems and performance;
   h. Encourage the open and honest reporting of all staff/contractor accidents, incidents and near misses and investigate these to the required level to ensure all causes are understood, lessons are identified and promulgated and remedial actions taken;
   i. To have in place processes and management systems that provide for effective monitoring and reporting of SHEP performance and continuous improvement;
   j. All employees of DIO and its Industry Partners are encouraged to contribute to a positive culture of health, safety and environmental protection and consulted upon on matters that may affect their health, safety or welfare.

The arrangements for DIO and how it organises itself to achieve its SHEP management objectives are set out in Part B of this O&A Statement

Andrew Manley
Chief Executive
Defence Infrastructure Organisation
17 June 2013

CHIEF EXECUTIVE DEFENCE INFRASTRUCTURE ORGANISATION'S SAFETY, HEALTH, AND ENVIRONMENTAL PROTECTION ORGANISATION & ARRANGEMENTS STATEMENT (Part B)

MOD DUTY HOLDER CONSTRUCT (RISKS TO LIFE)

1. In addition to the general duties in "Part A" of the O&A statement, the sections which follow set out how DIO organises itself to achieve its SHEP management objectives and where specific responsibilities are assigned ensuring there is an effective governance framework for all staff and contractor activities.

2. References to the "Duty Holder Construct" refer to a MOD-wide governance regime that compliments normal delegation of duties to ensure that critical safety requirements (e.g. risks to life) are organised by those directly affected by the implications of failure, e.g. those persons who carry personal and legal responsibility and accountability for mitigating and making judgements on safety risks within the TLB defined area of responsibility.

3. DIO has defined Duty Holder appointments and Duty Holder facing roles at various levels of the organisation. Both Duty Holder responsibilities and Duty Holder facing roles are defined in the relevant sections below.

CHIEF EXECUTIVE

4. By appointment as Chief Executive, TLB Holder and Senior Duty Holder under the MOD "Duty Holder Construct", I am personally responsible, and accountable to PUS, for ensuring the following for all activities in, and the capabilities provided by, DIO:

    a. As **Senior Duty Holder**, I am responsible for ensuring an effective end-to-end safety management system is resourced, implemented and appropriately managed across the TLB.
    b. That resources are adequate to conduct activities safely and without harm to the environment;
    c. That effective SHEP management arrangements are implemented and maintained;
    d. That personnel under my control are suitably qualified, trained and equipped;
    e. That risks outside my level of control, authority or competence are escalated to PUS prior to implementation of any process or activity;
    f. Any organisational change is properly assessed and demonstrated not to be detrimental to SHEP before being implemented, and that implementation is suitably managed and communicated.

5. I am responsible for final approval of SHEP key performance indicators within the DICP and Annual SHEP Assurance Report to Director Defence Safety & Environment Authority (DDSEA) and the DIO Audit Committee. I will ensure that the SofS is notified in writing of any fatality which is potentially safety-related as soon as possible.

6. As required by the MOD construct, I have appointed the Chief Operating Officer (COO) and Head Programme and Project Delivery as the Operating Duty Holders for the operational aspects of DIOs business.

CHIEF OPERATING OFFICER

7. By appointment as Chief Operating Officer and Operating Duty Holder under the MOD Duty Holder construct, COO is personally responsible, and accountable to me (CE DIO), for all Service Delivery aspects of the business. This will be facilitated through his chairmanship of the Operational Committee (OCIB). He will ensure the following within his area of responsibility:

    a. As **Operating Duty Holder**, be responsible and accountable to the Senior Duty Holder for ensuring that the TLB delivers a fit-for purpose[7] estate and services. Also that our Industry Partners have appropriate Health and Safety arrangements in place to minimise Risk to Life from activities under their control;
    b. Resources are adequate to conduct activities safely and without harm to the environment;
    c. That effective SHEP management arrangements are implemented and maintained;
    d. That personnel under his control are suitably qualified, trained and equipped;

[7] Fit for purpose means legally compliant and safe when used for its intended purpose

e. Risks outside his level of control, authority or competence are escalated to me (CE DIO) prior to implementation;
f. Any organisational change within his Area of Responsibility is properly assessed and demonstrated not to be detrimental to SHEP before being implemented, and that implementation is suitably managed and communicated;
g. DIO Heads of Establishments are appointed for all establishments under our control (including the raining estate).
h. Suitable and sufficient competent persons are provided to support the safe delivery and use of the training estate in accordance with JSP 375 and JSP 403 requirements.
i. That Area Managers act in a Duty Holder facing capacity to Heads of Establishment (as Delivery Duty Holders) for service delivery aspects under their control.

8. COO will also appoint (with a letter of authority) Head of Service Delivery Training as a **Delivery Duty Holder** (DDH) who will be responsible for:

a. Ensuring that suitable and sufficient arrangements and competent personnel are provided for the delivery of the Safe Place to Train on the ranges and training areas in the UK and overseas that DIO is responsible for, in accordance with JSP 375 and JSP 403.
b. Providing the Head of Establishment responsibilities across the Ops Training portfolio;
c. Managing the Risk to Life activities involved in the delivery of explosive storage and safety across the Ops Training portfolio.

9. In addition to the DDH duties, Head of Service Delivery Training will act in a Duty Holder facing capacity for training issues. Noting that range licencing is carried out by Support Command in accordance with JSP 403, Head of Service Delivery Training is to undertake the Intelligent Client role and functional lead for all other aspects of the Safe Place to Train for MOD training areas and ranges, that DIO is responsible for. MOD range and training area users retain responsibility (as activity Duty Holders) for safe practice - the control and conduct of training activities. They are responsible for ensuring that the Safe Place is used in accordance with the relevant standing orders and use instructions.

10. Under internal arrangements, COO will in addition:

a. Implement and operate MOD JSP 375 Volume 3 (Safety Rules and Procedures (SRPs) within all Service Delivery areas;
b. Ensure that an ISO 14001 based or appropriate EMS is operated on sites where DIO is Head of Establishment;
c. Ensure industry partners operate an ISO 14001 based or equivalent EMS.

HEAD PROGRAMME AND PROJECT DELIVERY

11. By appointment as Head Programme and Project Delivery and Operating Duty Holder under the MOD Duty Holder construct, Hd PPD is personally responsible, and accountable to me (CE DIO), for Programme and Project Delivery aspects of the business. He will ensure the following within his area of responsibility:

a. As **Operating Duty Holder**, be responsible and accountable to the Senior Duty Holder for ensuring that activities carried out by our Industry Partners have appropriate Health and Safety arrangements in place to minimise Risk to Life from activities under their control.
b. Resources are adequate to conduct activities safely and without harm to the environment;
c. That effective SHEP management arrangements are implemented and maintained;
d. That personnel under his control are suitably qualified, trained and equipped;
e. Risks outside his level of control, authority or competence are escalated to me (CE DIO) prior to implementation;
f. Any organisational change within his Area of Responsibility is properly assessed and demonstrated not to be detrimental to SHEP before being implemented, and that implementation is suitably managed and communicated;
g. DIO Heads of Establishments are appointed for sites in disposal where required by the assessment process.
h. That Project Managers act in a Duty Holder facing capacity to Heads of Establishment (as Delivery Duty Holders) for projects under their control.

HEAD OPERATIONS DEVELOPMENT AND COHERENCE (ODC)

12. By appointment as Hd ODC is personally responsible and accountable to me (CE DIO), for the Operations Development and Coherence aspects of the business. His responsibilities as a member of the Executive Committee (ECIB) are detailed under the ECIB Section.

13. In addition he is nominated as **Duty Holder facing for pan Departmental strategic programmes** and as such is responsible for providing support to the relevant activity Duty Holder. He will ensure the following within ODC:

    a. The Engineering and Construction lead is responsible for:
        i) The appointment of suitable and sufficient Senior Authorising Authorities, and deputies, necessary to compile, maintain and oversee the effectiveness and applicability of JSP 375 Vol 3 governing DIO/infrastructure significant risk activities.
        ii) Resourcing of formal requests to support SHEP policy development and provide functional subject area advice on SHEP related activities
        iii) Ensuring H&S advisors are appointed for each operational/delivery area

    b. The Co-ordinating Senior Authorising Authority (CSAA)/H&S coordinating Lead is responsible for:
        i) Maintaining the "common requirements" elements of JSP375 Vol 3 and ensuring coordination and cooperation across the SAA's and their deputies;
        ii) Championing the development, continual improvement and maintenance of JSP 375 Vol. 3;
        iii) Providing specialist advice and support on safe systems across DIO;
        iv) Notifying the DIO Chief Safety Advisor (CSA) of any significant failure to discharge the duty imposed by JSP 375 Vol. 3, on any part of the defence estate;
        v) Championing the improvement and development of a collaborative working culture and continued professional development of the SAA/AE community;
        vi) Advising the Engineering & Construction Lead on SAA appointments;
        vii) Reviewing results of monitoring and audit reports by the SAA, Coordinating Authorised Engineer and AE communities and reporting to the appropriate authority any deficiencies found;
        viii) Acting as custodian for JSP375 Vol 3 on behalf of Director DSEA and ensuring its applicability, currency and upkeep;
        ix) Liaising with OGD, the HSE and non-government organisations.

    c. Senior Authorising Authorities are the focal point for the management and implementation of the chapter JSP 375 Vol 3 applicable to their specialism. Their responsibilities include: technical audits; assessment of Authorising Engineers; audit of systems; review of legislation and acting as competent person overseeing related incident investigations.

    d. Health and Safety Advisors are responsible for:
        i) the provision of professional Health and Safety advice to Service Delivery and Programme and Project Delivery
        ii) Undertaking assurance activities to populate the DIO Risk Profile and provide assurance through the Duty Holder construct.
        iii) Undertaking Accident/incident investigation reporting & recording
        iv) Supporting policy development in line with agreed programmes

HEAD SECRETARIAT

14. Head of Secretariat (Hd Sec) will undertake the role of DIO Safety and Environment Champion and is accountable to me for the development, maintenance and promulgation of corporate SHEP policies, instructions, guidance and processes. Other duties include:

    a. Advise the ECIB on effective safety and environment objectives, standards, measures, and performance indicators including the safety elements of MOD Safety and EP Sub Strategy.
    b. Provide independent assurance and report performance to the ECIB that Health and Safety and Environmental legislation, codes of practice, and MOD/DIO policies are being fully complied with.
    c. Appoint the Chief Safety Advisor (CSA DIO)
    d. Provide policy direction on all SHEP disciplines across DIO and developing and maintaining consistent systems of policies, instructions and guidance.
    e. Coordinate the production of the TLB Annual SHEP Assurance Report to the ECIB in line with the Holding to Account, DIO AC and Director DSEA reporting requirements.

HEALTH AND SAFETY ASSURANCE

15. The Principal Safety Advisor will provide a H&S "Head of Profession" focus within DIO and be responsible for the following in support of my SHEP management responsibilities:

    a. Provision of independent professional advice and oversight of H&S processes on behalf of SDH and ODH's, and other TLB's and internal/external regulatory authorities;
    b. Provision of independent audit and verification of DIO H&S processes to SDH and ODH's, and other TLB's and internal/external regulatory authorities;
    c. Undertake high-level stakeholder engagement with internal and external regulatory bodies;
    d. Policy development and delivery for the infrastructure domain in consultation with or on behalf of Director DSEA;
    e. Delivery of the H&S elements of DIO's input into the Defence Infrastructure Command Plan; Holding to Account Process and TLB SHEP Annual Assurance Report to Director DSEA and the DIO Audit Committee;
    f. Represent CE DIO at MOD Regulator SHEP Stakeholder Committees.

16. The Coordinating Safety Assurance Officer will support the Principal Safety Advisor with responsibility for the following:

    a. Liaison and functional linkage with the DIO H&S Advisor network embedded in Head ODC (Engineering and Construction);
    b. Liaison with Head ODC, the Engineering and Construction team, Senior Authorising Authorities and technical/specialist safety community (engineering and significant risk areas);
    c. Coordination of assurance on infrastructure technical and operational worthiness;
    d. Provision of assurance of H&S competency standards and continuing professional development;
    e. Support to ensure coherence across infrastructure functions and domains.

17. The Chief Safety Advisor (CSA) is responsible for development and maintenance of DIO H&S policies, instructions, targets, guidance and working practices (including safe systems of work). The CSA will:

    a. Provide professional H&S advice to Principal Safety Advisor, CE DIO, ECIB[8]/OCIB[9], DIO Change Programmes, DIO staff, and professional guidance to the DIO Safety Advisor community in a timely manner;
    b. Provide necessary assurance that the organisation is discharging its H&S obligations;
    c. Advise on the H&S elements of the MOD S&EP Sub-Strategy, Holding to Account Process and Annual Assurance Reports;
    d. Undertake formulation, implementation and maintenance of TLB H&S policies, instructions and guidance – including assessing the implications of any new legislation or policy affecting DIO activities;
    e. Be the focus for H&S within the organisation and interface with internal/external regulators; H&S forums and other organisations possessing specialist knowledge beneficial to the overall H&S policy of DIO;
    f. Undertake investigations into serious accidents, incidents and near misses with H&S implications;
    g. Be the assurance authority for DIO and contractor compliance with relevant legislation and MOD/DIO policy.
    h. Co-ordinate, analyse and corporately report SHEP accidents or incidents in accordance with MOD policy;
    i. Represent DIO to DSEA and lead on DIO SHEP audit and assurance;
    j. Be the focal point for safe systems for other government departments, the Health & Safety Executive and other Non–Government Organisations;
    k. Be the focal point for DIO Health and Safety matters for MOD & other government departments e.g. Joint Liaison Committee.

ENVIRONMENTAL PROTECTION ASSURANCE

18. SAPT Deputy Head Policy will provide an EP focus and be responsible for the following in support of my SHEP management responsibilities:

[8] ECIB – Executive Committee of the Defence Infrastructure board
[9] OCIB – Operational Committee of the Defence Infrastructure Board

a. Co-ordination of independent professional advice and oversight of EP processes on behalf of myself SDH and ODH's, and other TLB's and internal/external regulatory authorities;
b. Provision of independent audit and verification of DIO EP processes to SDH and ODH's, and other TLB's and internal/external regulatory authorities;
c. Undertake high-level stakeholder engagement with internal and external regulatory bodies;
d. Policy development and delivery for the infrastructure domain in consultation with or on behalf of Director DSEA;
e. Delivery of the EP elements of DIO's input into the Defence Infrastructure Command Plan; Holding to Account Process and TLB SHEP Annual Assurance Report to Director DSEA and the DIO Audit Committee;
f. Represent CE DIO at MOD Regulator SHEP Stakeholder Committees.

19. SAPT AD Environmental Compliance is DIO's EP practitioner, responsible for development and maintenance of DIO EP policies, instructions, targets, guidance and working practices. AD EnvCompl will:

a. Provide the focal point for EP advice to CE DIO, ECIB/OCIB, DIO staff, and professional guidance to the DIO EP advisor community in a timely manner;
b. Provide necessary assurance that the organisation is discharging its EP obligations;
c. Act as an advisor on the EP elements of the MOD S&EP Sub-Strategy, Holding to Account Process and Annual Assurance Reports;
d. Undertake formulation, implementation and maintenance of TLB EP policies, instructions and guidance – including assessing the implications of any new legislation or policy affecting DIO activities;
e. Be a focus for EP within the organisation and interface with internal/external regulators; EP forums and other organisations possessing specialist knowledge beneficial to the overall EP policy of DIO;
f. Undertake investigations into serious incidents and near misses with EP implications;
g. Be the assurance authority for DIO and contractor compliance with relevant legislation and MOD/DIO policy.
h. Co-ordinate, analyse and corporately report EP accidents or incidents in accordance with MOD policy;
i. Be the focal point for EP for other government departments;
j. Be the focal point for DIO EP matters for MOD & other government departments e.g. Joint Liaison Committee.

MEMBERS OF THE EXECUTIVE COMMITTEE OF THE DEFENCE INFRASTRUCTURE BOARD (ECIB)

20. The ECIB is the "decision-making" body within DIO constituted to assist me in the exercise of my responsibilities as TLB Holder, Senior Duty Holder and Accounting Officer. As such, members are both collectively accountable to me for the implementation of SHEP policy across the organisation as well as individually for performance within their respective business areas.

21. In addition to my objectives, ECIB members are to undertake the following within their respective business areas. and take due cognisance of corporate policies, targets and affected stakeholder requirements:

a. Ensure resources are adequate to conduct activities safely and without harm to the environment;
b. Ensure that effective SHEP management arrangements are implemented, maintained and communicated;
c. Ensure that personnel under your control are suitably qualified, trained and equipped;
d. Ensure that managers at every level receive appropriate training and have at their disposal adequate resources to meet the organisations statutory and departmental obligations;
e. Take responsibility for the safety and environmental implications resulting from any business decisions they make;
f. As part of business as usual, promote and lead by example on SHEP and create a culture were everybody understands and delivers their contribution to protecting people and the environment;
g. Ensure this statement and all DIO and MOD SHEP policy and guidance are brought to the attention of their staff and others, including industry partners, who might be affected by them;
h. Document how SHEP hazards/risks are to be systematically and pro-actively identified and controlled, and ensure that processes are in place so that hazards and risks resulting from DIO activities are communicated and controlled;

i. Risks or concerns outside their level of control, authority or competence are escalated to me, or the relevant ODH where these are safety critical or present a risk to life, prior to the implementation of any process or activity;
j. Any change in directorate organisation or arrangements is properly assessed and demonstrated not to be detrimental to SHEP before being implemented, and that implementation is suitably managed and communicated;
k. Where required develop and implement an EMS and make appointments as appropriate;
l. Monitor and report staff and contractors' compliance with legislation and MOD/DIO policy;
m. Ensure that staff and contractor accidents, incidents and near misses are reported/notified and investigated in accordance with MOD/DIO Policy, RIDDOR[10], and contractual requirements;
n. Have regular liaison with DIO's contractors regarding their safety arrangements;
o. Set any underlying directorate SHEP objectives and targets and allocate adequate resources to deliver them;
p. Involve, and encourage staff participation at all levels, and foster and promote a positive SHEP culture;
q. Report performance against objectives including performance of contractors' health safety and environmental management systems as necessary;
r. Appoint a SHEP focal point for each DIO occupied area or building.
s. Nominate functional leads to represent CE DIO at MOD Regulator SHEP Stakeholder Committees.

HEADS SERVICE DELIVERY OVERSEAS; UK; TRAINING AND ACCOMMODATION; HEAD GUARDING AND HEAD NGEC/HESTIA

22. The responsibilities listed for ECIB members above equally apply to Heads in the "Operations" group and Head NGEC/HESTIA but they are directly accountable to COO for all aspects of SHEP performance and risk escalation within their respective business areas.

23. In addition Head SD UK will monitor and report on Visiting Forces' observance of host nation statutory requirements and MOD /DIO policy requirements in respect of the MOD infrastructure and estate they utilise.

DIO DEPUTY HEADS OF SERVICE DELIVERY; GUARDING; NGEC/HESTIA AND PROGRAMME AND PROJECT DELIVERY

24. The Deputy Head is the DIO officer in charge of DIO's projects/activities and is accountable to the respective Head for specific operations or activities on the defence estate primarily at the point where they interface with the estate users. Deputy Heads shall:

    a. Make effective arrangements to ensure that prior notification of all contract work is given to the CO/HofE (or their nominated representative) to allow for the provision of suitable and sufficient information, instruction and arrangements necessary to enable statutory obligations to be met and contractual operations to be performed safely, without risks to health, safety and/or environment;
    b. Put in place suitable SHEP management systems and procedures for all contracts placed on his or her behalf to establish that the appointed contractors and their sub-contractors are competent and able to perform their tasks safely and consider impact upon the environment. Monitor that they operate within a safe system of work, and where specified, MOD Policy;
    c. Require JSP375 Volume 3 to be implemented by their staff, contractors and their subcontractors where they apply;
    d. Prior to work commencing on site, require their contractors, in combination with CO/HoE, to receive an up to date SHEP briefing relevant to the contracted undertaking;
    e. Ensure that effective local SHEP management arrangements are implemented in accordance with DIO policy;
    f. Ensure that SHEP information that is obtained by their contract, which is relevant to the Site or persons on or off the site, is made available to the CO/HoE for use in imparting information to others;
    g. Co-operate with the CO/HoE to enable them to discharge their duties with regard to the operation of the establishments Environmental Management System;
    h. Provide all CO/HoE, with contact details relevant to their project in relation to the CO/HoE's specific site, and agree with each the areas of accountability for health and safety on the site;

[10] RIDDOR – Reporting of Injuries, Diseases and Dangerous Occurrences Regulations

i. Co-operate with the CO/HoE by, where appropriate, supplying representation at the SHEP Committee.
j. Deputy Head USF shall in addition, develop bespoke systems & processes in conjunction with USVF and CESO RAF to be able to provide an assurance that the MOD infrastructure & estate is being developed, managed & maintained to standards at least as protective as those required under established host nation principles.

ALL EMPLOYEES

25. All employees are to:

a. Take all reasonable care for the health, safety and welfare of themselves and others who may be affected by their acts and omissions;
b. Co-operate with line management on all SHEP matters and not to intentionally or recklessly interfere with or misuse anything provided in the interests of health, safety or welfare and the environment;
c. Make themselves familiar with, and conform to, DIO and MOD policy and guidance on SHEP and any specific procedures, safety rules and systems of work applicable to their normal working environment at all times. Where they identify shortfalls in, or cannot comply with these, they must inform their line manager at the first available opportunity;
d. Report all work-related health, safety and environmental accidents, incidents and near misses to their line manager and DIO Incident Notification Cell in accordance with internal instructions - whether or not persons are injured;
e. Report to the appropriate line manager as a matter of urgency any actual or potential hazards arising out of faults in fabric, services, equipment, fittings or the omissions of other parties;
f. Undertake all SHEP training as required.

AGENCY STAFF AND SECONDEES

26. All temporary staff including agency staff and those on secondment from other organisations are to be treated as DIO employees and afforded the same duty of care.

LINE MANAGERS

27. In addition to their duties as employees, Line Managers are required to:

a. Ensure all hazards in their areas of responsibility, or the activities undertaken by staff for which they are responsible, have been identified; risk assessed and that the control measures identified are effectively implemented and complied with;
b. Review safety and environmental risk assessments for which they are responsible in line with mandated frequencies or when there is a reason to believe it may no longer be valid (e.g. in light of an incident or change in equipment, personal or process);
c. Seek advice from their local DIO H&S Advisor/ Environmental Protection Adviser where SHEP judgements are outside their competency/knowledge base;
d. Ensure that all staff/persons under their control understand and comply with the DIO SHEP policies, including any local or host establishment safety/EP management arrangements, in order that work activities do not present risks to environment, or health and safety to employees, visitors or members of the public;
e. Monitor the effectiveness of the SHEP Policy and advise management on progress or problems that cannot be effectively remedied;
f. Ensure that all personnel under their control are conversant with and accept their responsibilities for SHEP, and that they have suitable information, instruction, training and equipment to carry out those responsibilities;
g. Clearly define systems of work, associated training and instructions and ensure that they are known and understood and implemented;
h. Ensure that all their staff have undertaken all necessary mandatory training;
i. Report and investigate all SHEP accidents, incidents and near miss events in accordance with JSP375 Volume 2 375 & DIO policy.

VISITORS & CONTRACTORS

28. DIO hosts/escorts of visitors or contractors are responsible for meeting MOD requirements under JSP375 Vol 2 Leaflet 34 and thus ensure the reciprocal exchange of SHEP information and the effective

control, communication, coordination and cooperation of adjacent activities to allow each employer to fulfil is SHEP obligations.

29. DIO persons engaging contractors or other third party workers, tenants, etc are responsible for ensuring that those they intend to engage are competent and that they monitor their work sufficiently to ensure the work is conducted to the agreed standards.

30. A robust risk management methodology is to be applied when selecting a contractor and when a contractor is carrying out work on behalf of the DIO.

31. It is to be made clear to visiting workers, contractors etc that they will be expected to:

    a. Co-operate with DIO in the implementation of its procedures for the Control of Contractors;
    b. Nominate an employee to act as a SHEP Co-ordinator during the period of the contract;
    c. Ensure all their employees or supply chain work in a safe manner avoiding placing themselves or others at unnecessary risk, and that they use appropriate safety equipment, barriers and protective clothing;
    d. Act immediately to rectify any unsafe working method or condition and report all SHEP accidents, incidents, damage or near misses that affected, or had the potential to affect, MOD personnel, plant, equipment or liability.

MEASURING SHEP PERFORMANCE

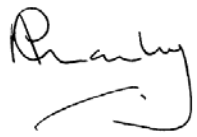
32. An overarching DIO assurance programme (which includes contractor performance) will be maintained by the Principal Safety Advisor which will establish SHEP performance and provide a basis for improvement or targeting of resource.

33. DIO SHEP Management Systems will be audited by CESO (or his representative) and DSEA – Corporate Performance and Assurance (CPA)

34. DIO will implement a host nation assurance (Stewardship) monitoring process at USF divisional level in respect of the MOD infrastructure and estate utilised by the United States Visiting Force, reporting quarterly to the directorate level management board against the 'safe and legal estate' criteria.

AUTHORISATION AND REVIEW

35. This Statement will be kept under annual review and re-issued where necessary to take account of legislative, Departmental or other policy changes. Enquiries in relation to this document should be forwarded to the DIO Principal Safety Advisor (DIOSec-PrincipalSafetyAdvsr@mod.uk or 0121 311 2113).



Andrew Manley
Chief Executive
Defence Infrastructure Organisation
17 June 2013

Annex D

ESTABLISHMENT LAYOUT AND SCHEMATIC DIAGRAM OF GAS DISTRIBUTION NETWORK

Schematic diagrams of individual networks both medium and low pressure clearly identifying location of the interface between EGDN & MOD networks

GENERAL DESCRIPTION OF THE MMO OPERATIONS

The following section provides a summary description of the operation for each gas network in terms of;
a. the purpose of the pipeline network;
b. pressure at which the pipeline is designed to operate and the supply pressure from SGN;
c. total length of the different types of pipeline that make up the network;
d. volumes of gas likely to be conveyed;
e. capacity constraints of pipeline networks.

Network Description	Address	Number of Properties	Capacity Constraints on System

Table 2.1

Under the MOD contract MMO operates the gas supply systems located at {establishment name},. The gas network is used to transport gas from the EGDN supply system via Individual System Exit Points (ISEP) to the consumers emergency control valve. EGDN supply the MOD gas networks from an Intermediate Pressure (IP) system via boundary governor/meter installations, the locations of which are shown in relevant section of the GSMP Part B. Gas pressure in the MOD systems varies across the network as follows

MOD Supply System	**Operating Pressure Range**	**Supply Pressure from EGDN Network**
Medium Pressure (MP) Distribution System	Between 75 mbarg and up to 2 barg	

A description of the plant and premises used to transport the gas within the networks is given in Section 3 of this Safety Case.

MOD Establishments' Distribution Networks

The MOD establishments gas distribution system consists of approximately {insert} kilometres of distribution pipelines as detailed in Table 2.2 below. Gas is transported to around {insert number } consumers.

MOD Distribution Network	**Length of MP Distribution System Pipelines (km)**	**Length of LP Distribution System Pipelines (km)**	**Total Length of Pipeline (km)**
establishment X	9.4	Nil	9.4

Table 2.2 – Length of Pipework in MOD Establishments Distribution Network

A mixture of building types and usage are supplied. The principal categories for buildings using gas are:

- Hangers (heated storage)
- Offices
- Barracks
- Mess buildings (restaurants)

These networks are owned by MOD and operated and maintained by MMO.

{Establisment Name}

The network consists of a single system which supplies some xxx consumers. The layout of the network is shown in APPENDIX xx. The pipework in the network is designed to operate at MP, with operating pressures not exceeding 2 barg. The likely volumes of gas conveyed in the network are given in Table 2.3.

The network capacity constraints are determined by the governor and bulk meter installation at the EGDN supply interface (see APPENDIX B) details of which are also given in Table 2.3.

Network Description	**Address**	**Gas Usage**	**Gas Volume Likely to be Conveyed (std m^3/hr)**	**Capacity Constraints on System (std m^3/hr)**
Establishment MP		Hangers Offices Barracks Mess Buildings	1640	Bulk Gas Meter 3960

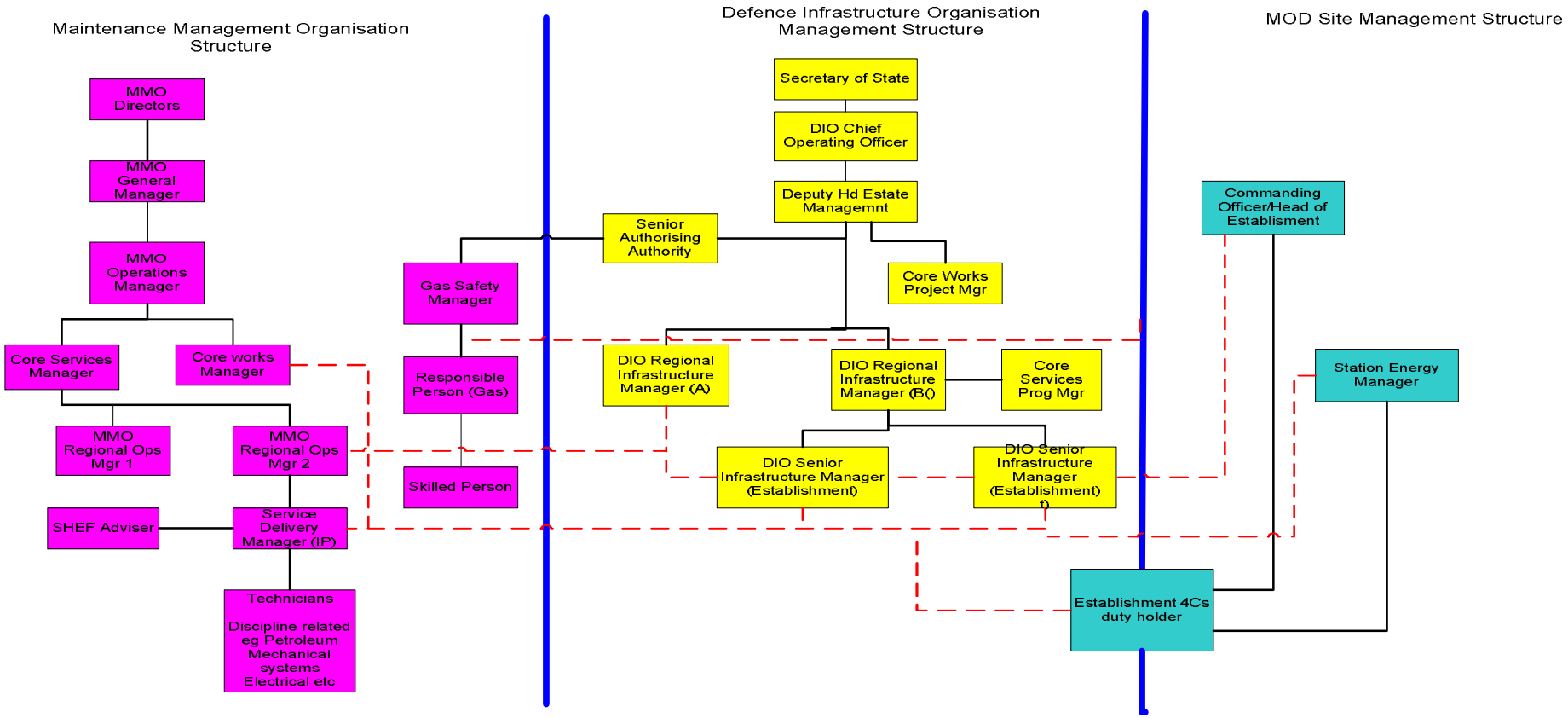
Table 2.3 – Typical Quantities of Gas Likely to be Conveyed in the Network Forecast 1 in 20 Peak Day Firm Demand

There are no interruptible consumers on the gas network.

ORGANISATION CHART SHOWING LINES OF COMMUNICATION BETWEEN ESTABLISHMENT, DIO & MMO

Line management → Typical communications between organisations →

GSMR RELATED MOD/DE/MMO HEALTH & SAFETY ORGANISATIONAL CHART EXTRACT



ROLES AND RESPONSIBILITIES

Organisational Hierarchy

The Chief Environmental and Safety Officer (CESO) DIO: provides the necessary link and focal point with the DSEA and provides the route for assurance up to the DESC and is the custodian of the Gas Safety Case and the associated Gas Safety Management Plan Sections A & B

The Operations, Development & Coherence, Engineering & Construction, Subject Matter Expert (Gas)(ODC-E&C SME (Gas)): who sits within DIO Engineering & Construction, provides the necessary specialist input to compile and maintain the Gas Safety Case and Gas Safety Management Plan (GSMP) template

The Maintenance Management Organisation (MMO): is the organisation responsible for planning, organising and managing the operation, maintenance and repair of equipment and may include the design and construction of new works. The MMO will discharge this duty by appointing a Gas Safety Manager (GSM) and Responsible Persons (RPs(Gas)). The MMO may be a Contractor, DIO or Military.

Gas Safety Manager (GSM); is a person who has been deemed competent by the ODC E&C SME (Gas), and appointed by the MMO to oversee the application and provide the necessary assurances of adequate implementation of the Gas Safety Case and Management Plan. The GSM community provide the primary audit function within the Safety Management System along with high level implementation of the rules and procedures and assessment of competence across an estate delivery area.

An RP(Gas) is a person who has been deemed competent by the GSM and appointed by the MMO to undertake the practical implementation of the GSMP for the gas networks within a defined area of appointment. The RPs(Gas) implement the GSMP at site level and are responsible for the control of activities through the issue of Safety Documentation as appropriate.

The Registration Body: 'Gas Safe Register'[11] is appointed by the Health & Safety Executive to operate a mandatory registration scheme for competent businesses which carry out gas work

Roles and Duties

This encompasses all those who are involved in the execution, supervision, management and monitoring of work on gas systems.

Commanding Officer/Head of Establishment: In order to have an effective GSMP, the CO/HoE is to ensure:

- clear lines of responsibility are established for the plan's management and implementation;

[11] Gas Safe Register is run by Capita Gas Registration and Ancillary Services Limited

- detailed risk assessments of the gas network are to include schematic plans of the system;
- competent contractors/persons are engaged to undertake work on the system (registered with the 'Gas Safety register');
- a maintenance regime is maintained to monitor/implement control measures,
- adequate records are maintained.

ODC E&C SME (Gas) will:

- be the focal point for the management & implementation of the Gas Safety Case and the associated Gas Safety Management Plan Sections A & B
- provide the necessary assurance that the Gas Safety Case and the associated Gas Safety Management Plan Sections A & B are being implemented.
- be the Adjudicator and/or Arbitrator in issues concerning their implementation

and as part of this role be required to:

- maintain professional competence.
- undertake suitability assessments of GSMs as appropriate.
- undertake a review of a GSM's implementation of the audit process.
- maintain a register of GSMs for whom they have approved for appointment.
- ensure that all GSMs are made aware of any information or notices relevant to their networks/areas as soon as is reasonably practicable, and ensure that they receive copies together with any appropriate advice to prevent danger.
- ensure any amendments to GSC & GSMPs are brought to the attention of and are understood by all GSMs.
- undertake incident/accident investigations as may be required.

Gas Safety Manager (GSM)

The GSM provides the necessary assurances that MOD Gas Safety Case and Gas Safety Management Plans are being appropriately implemented at site level through the GSM Audits undertaken and the Assessment of Competence of the Responsible Person (Gas). With regard to the management of work on gas systems, the GSM will be required to:

- confirm that a sufficient number of Responsible Persons (Gas) (RP(Gas)) are appointed with specific responsibility for the management of work on gas systems .
- define in writing, using drawings and diagrams as appropriate, the exact extent of the networks and installations for which the RP(Gas) is responsible, keeping appropriate records.
- ensure that all points of demarcation and operational interface with other Authorities are clearly identified and recorded.
- maintain a register of all RPs(Gas) approved by the GSM and subsequently appointed.
- review the competence, performance and documentation of each RP(Gas) and recommend relevant RP(Gas) technical and procedural training as and when required.
- ensure that the RPs(Gas) is made aware of any information or notices relevant to their networks/areas as soon as is reasonably practicable, and ensure that they receive copies together with any appropriate advice to prevent danger.
- ensure any amendments to JSPs, GSC & GSMP are brought to the attention of and are understood by the RP(Gas).

- notify the ODC E&C SME (Gas) of any known information or notices issued by a manufacturer, supplier or other third party applicable to equipment, networks having significant risk within the areas of the appointment.
- formalise operational restrictions on equipment or areas that may arise out of specific equipment defects or arising from maintenance and as may be notified by RPs(Gas).
- investigate, all significant gas incidents reported accordance with the GSC & GSMP.

Responsible Person (Gas) (RP(Gas))

The RP(Gas) is the individual responsible for the practical implementation of the GSMP for the networks, installations and locations for which they have been appointed. The RP (Gas) is required to:

- ensure that, where a company is employed to work on gas systems, the individuals concerned are registered with the Registration Body and have a certificate of competence appropriate to the type of work and system to be worked upon;
- maintain, for each geographical area, a database of sites on which gas systems are maintained or operated;
- ensure that, for each geographical area, a database of competent staff (Approved Gas Fitters) is maintained;
- ensure that a schematic drawing detailing the pipe work installation in each building is maintained and available to all Approved Gas Fitters;
- ensure that a register of every gas appliance and flue is maintained and available to all Approved Gas Fitters
- undertake six monthly checks of the system, documents & records operated and maintained by the Gas Supervisors.

The Employer of an Approved Gas Fitter will:

- obtain and maintain Corporate Registration from the Registration Body;
- ensure that, where directly employed staff are engaged on work on gas systems, the individuals are trained to the appropriate standards and registered with the Registration Body and have a certificate of competence appropriate to the type of work and system to be worked upon;
- ensure that, where a sub-contractor is employed to work on gas systems, the individuals concerned are registered with the Registration Body and have a certificate of competence appropriate to the type of work and system to be worked upon;
- maintain records of training of individuals assessed as competent and any assessments carried out by the Registration Body;
- ensure that records of employment, training and assessment of ‘competent persons’ are available to the Authorising Engineer and Responsible Person (Gas) for audit purposes;
- ensure that any modifications to installed pipe work are communicated to the Responsible Person (Gas) including the provision of an updated schematic drawing for the installation;
- ensure that the Responsible Person (Gas) is informed of the installation or removal from a site of any gas appliance and/or flue;
- undertake routine checks (in line with the requirements of Gas Safe Register) of all employees and contractors employed on gas works.

Every company employed to carry out work on gas systems, appliances or ancillary equipment on the MOD Estate is to have suitable and sufficient management procedures in place to discharge the duty of the Employer under the regulations.

Approved Gas Fitters will:

- carry out work in a competent manner in accordance with industry best practice;
- co-operate with management in the adoption of safe systems of work as dictated by both this and other MOD Safety Rules & Procedures;
- advise management of any work situation which could result in either serious or immediate danger to health and safety.

COMPETENCE, TRAINING & APPOINTMENT

Suitability Criteria

ODC E&C SME (Gas) will:

- be an employee of DIO.
- have attained a degree in the designated specialism or other relevant subject.
- hold current registration at Chartered level by an appropriate engineering accrediting body.
- possess good communication and interpersonal skills.
- have relevant experience of construction works and facilities maintenance
- be conversant with current Health and Safety legislation and regulations.
- be proficient in undertaking assessment and audit of personnel and processes.

GSMs are to:

- be registered as a Chartered Engineer, Incorporated Engineer or Professional Health and Safety Practitioner with experience in the appropriate discipline.
  be in a position to demonstrate how they have met the requirements of the appropriate tuition and training relevant to the GSM and RP(Gas) roles
- be familiar with the different types of equipment and networks at locations within their areas of appointment on the MOD estate.
  be an employee of the MMO, a consultant engineer engaged by the MMO, a MOD employee, or a member of the armed forces.
  be able to confirm their competency and suitability for the role by demonstrating an appropriate understanding of the tasks involved

RP(Gas) is to:

- be an employee of the MMO, be directly contracted to the MMO, an MOD employee, or a member of the armed forces.
- have an adequate knowledge of GSC, GSMP and industry standards and of those regulations which are applicable to the equipment and networks at locations for which they are to be appointed.
- have successfully completed the appropriate tuition, training and equipment familiarity

Training Requirements

Training forms one of the key elements of competence of an individual to undertake a specific task. Each key role will need some form of training to ensure they are competent to undertake their role. The level of training will depend on the role to be undertaken and the prior knowledge and qualifications of the individual.

Prior to being appointed as either an GSM or an RP(Gas) formal training is required to be undertaken, the GSM must ensure that the course meets the needs of both themselves and the individual RP(Gas).

GSM Refresher Training

The requirement for refresher training is to be determined by the GSM utilising the decision tree at figure 3.1 and in conjunction with the individual GSM. Once the GSM has been issued a licence by the ODC E&C SME (Gas) then the GSM must ensure that they maintain their competency for undertaking the role.

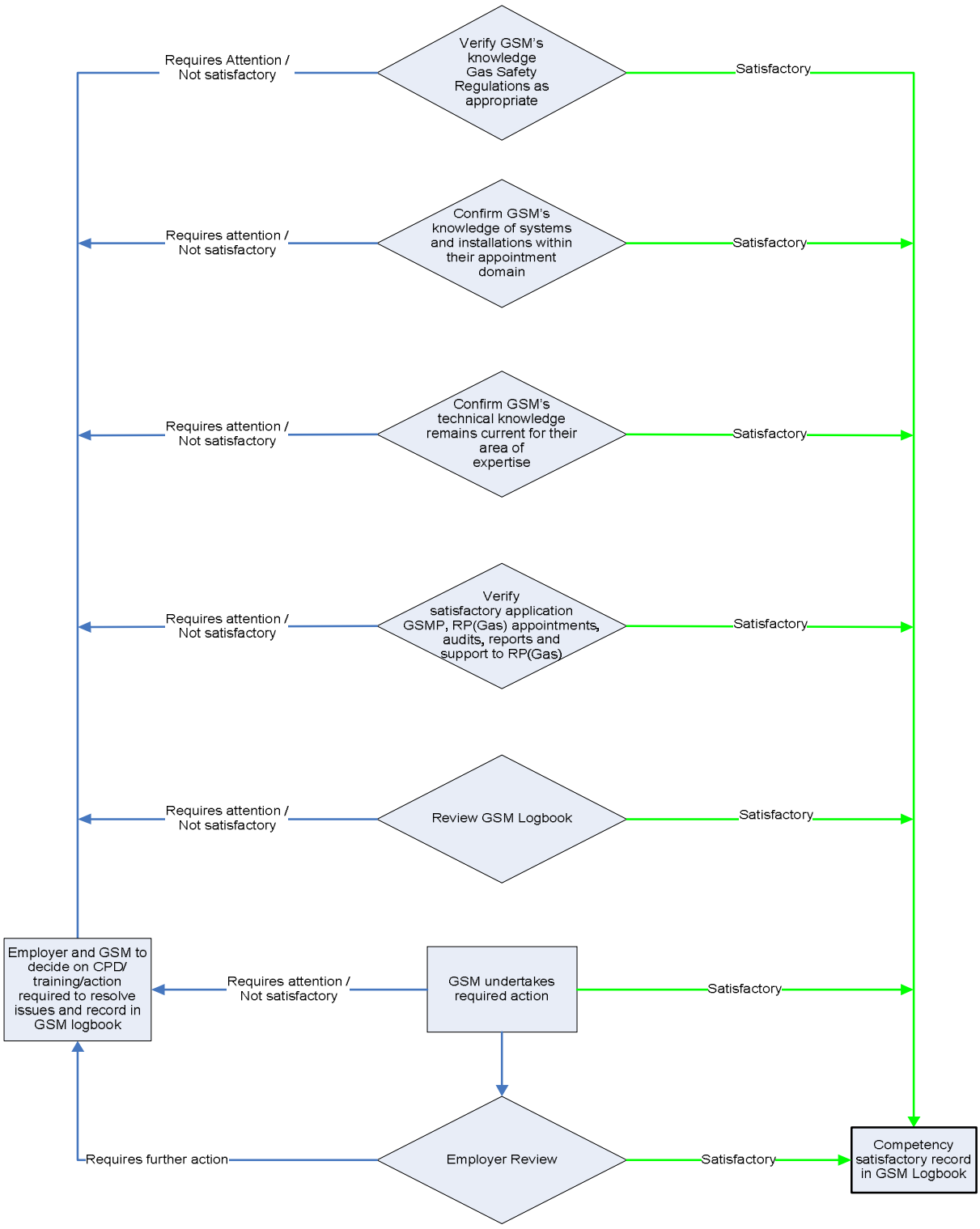


Figure 3.1 – Gas Safety Manager - Refresher Training Decision Process

RP(GAS) Refresher Training

The refresher training requirements for the RP(Gas) should be determined on a risk based approach and will be specific to the individual RP(Gas) needs. This assessment should be undertaken by the GSM during the annual audit and the output should be documented within the RP(Gas) logbook. The decision making framework in figure 3.2 below should be used to decide on what refresher training is applicable.

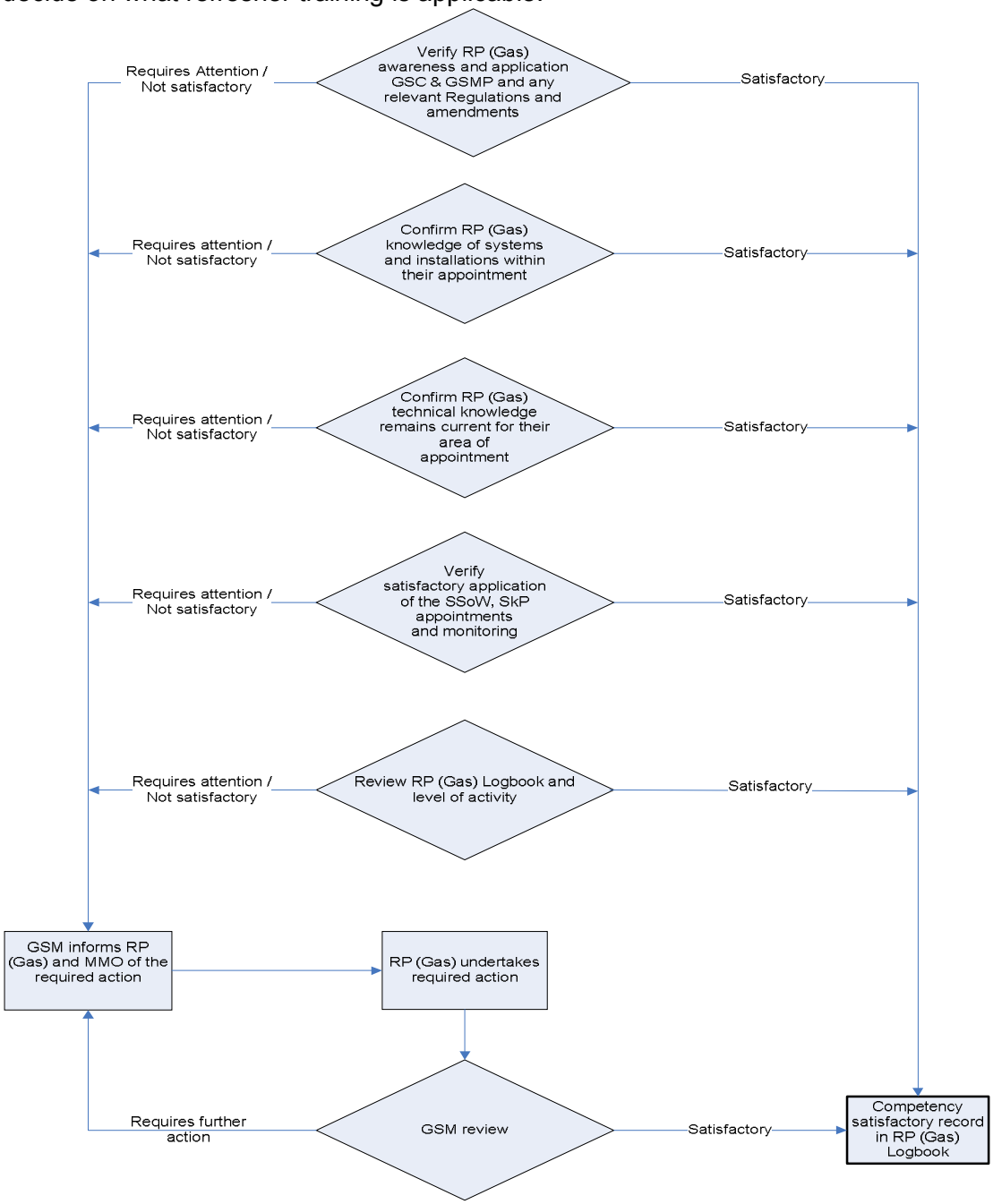


Figure 3.2 – Responsible Person (Gas) Refresher Training Decision Process

The format of refresher training will be at the discretion of the MMO and GSM. The following delivery methods are considered suitable dependant on the requirements of the individual RP(Gas):

- one-to-one mentoring between GSM and RP(Gas) – recorded in GSM & RP(GAS) logbook.

- completion of scenario/technical exercise set by GSM - recorded in GSM & RP(Gas) logbook.
- RP(Gas) Workshop delivered by GSMs as appropriate and duly certificated.
- refresher training delivered by MMO to meet the training outcomes and duly certificated.
- training course delivered by a suitable external training organisation.

Site/Network Familiarity

Dependant on the role to be undertaken the requirements for site or network familiarity will differ.

For a RP(Gas) there is a requirement for both site and network familiarity. They must be familiar with the networks for which they are to provide authorising activities and this must include their interaction with the sites for which they are appointed. They must be familiar with the site processes and procedures and with the specific arrangement of the networks such that the implications of any works for which the RP(Gas) will undertake/oversee are fully understood prior to any operations/isolations taking place.

Where an RP(Gas) covers a number of sites they must be able to demonstrate their familiarity with each of these sites and associated networks to the satisfaction of the GSM. Records of site familiarisation visits must be kept within the RP(Gas) Logbook.

Site/Network Familiarity

ODC E&C SME (Gas)

The assessment of competence for the ODC E&C SME (Gas) will be undertaken as part of the recruitment selection into the posts for which these roles are an integral part. As such a suitable 'expert' may be required to be part of the interview panel in accordance with the MOD Policy Rules and Guidance for Selection Interviewing.

GSM

The employer of a GSM has, in the first instance, a responsibility to ensure that any individual he employs with a view to becoming a GSM is suitably qualified and experienced in accordance with the suitability criteria defined elsewhere within this document. In order that the MOD has the necessary assurance that these individuals are competent prior to them being appointed as a GSM they will be subject to an assessment by the ODC E&C SME (Gas) .

- This assessment for GSMs will be a structured assessment interview concentrating on the five key elements of competence[12] and will be undertaken at a suitable location such that the prospective GSM can demonstrate their competence with respect to the networks for which they are seeking appointment.
- On successful completion of this assessment the prospective GSM will be "approved" to undertake GSM duties on the defence estate.
- Maintenance of competence to ensure ongoing suitability for the GSM role is the responsibility of the employer and it is their responsibility to ensure that suitable

[12] Skills, Knowledge, Attitude, Training and Experience.

procedures are developed within their organisation to enable this. (these procedures will be subject to DIO audit).

The ODC E&C SME (Gas) may cancel the "approval" at any time based on the findings of a DIO Review or Inspection. The reasons for the withdrawal must be defined in writing and copied to the MMO. The ODC E&C SME (Gas) will then determine the subsequent actions required. The ODC E&C SME (Gas) will notify the relevant areas within MOD of;

- the withdrawal and any subsequent impact this may have within a delivery mechanism.

RP(GAS)

- RP(Gas) is to be assessed by the relevant GSM prior to them being appointed for RP(Gas) duties.
- This initial assessment for RP(Gas)s will be a structured interview assessment concentrating on the five key elements of competence and will be undertaken at a suitable location such that the prospective RP(Gas) can demonstrate their knowledge with respect to the networks for which they are seeking appointment.
- Where the GSM deems the RP(Gas) competent at the initial assessment the GSM will issue a Letter of Approval so that the prospective RP(GAS) can be given an appointment to operate on site. Where during an initial assessment the GSM considers that the prospective RP(GAS) is not yet fully competent, he will issue an action plan to cover the deficiencies.
- Once appointed RP(Gas)s are to be assessed annually as part of the Annual GSM Audit and the findings are to be documented within the GSM audit report
- A GSM can remove the Letter of Approval of an RP(Gas) and recommend the withdrawal of the appointment at any time based on the findings of an GSM Audit or 'ad-hoc' inspection.

Appointment

The following key positions defined within this document require formal appointments (in writing) to enable them to undertake that role. These formal appointments are required to be accepted by the individual to ensure that they understand their role and the responsibilities associated with the undertaking of that role.

The ODC E&C SME (Gas) is to be appointed in writing by the Hd of E&C

The GSMs are to be appointed in writing by the MMO for which they are delivering the GSM role. The GSM appointment process is shown in figure 3.3.

The RP(Gas)s are to be appointed in writing by the MMO following issue of a Letter of Approval by the GSM. The RP(Gas) appointment process is shown in figure 3.4.

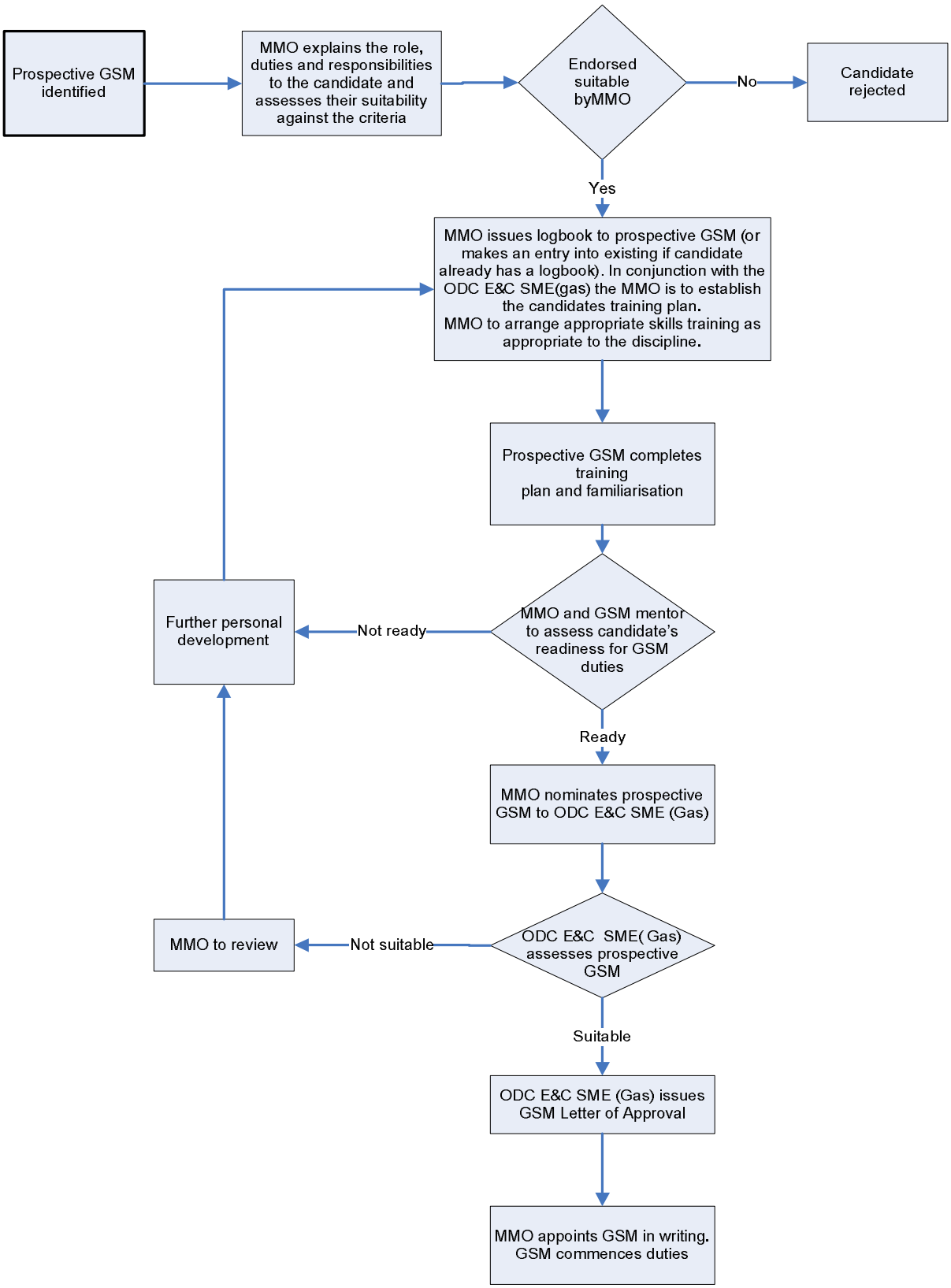


Figure 3.3 – Gas Safety Manager - Training and appointment Process Map

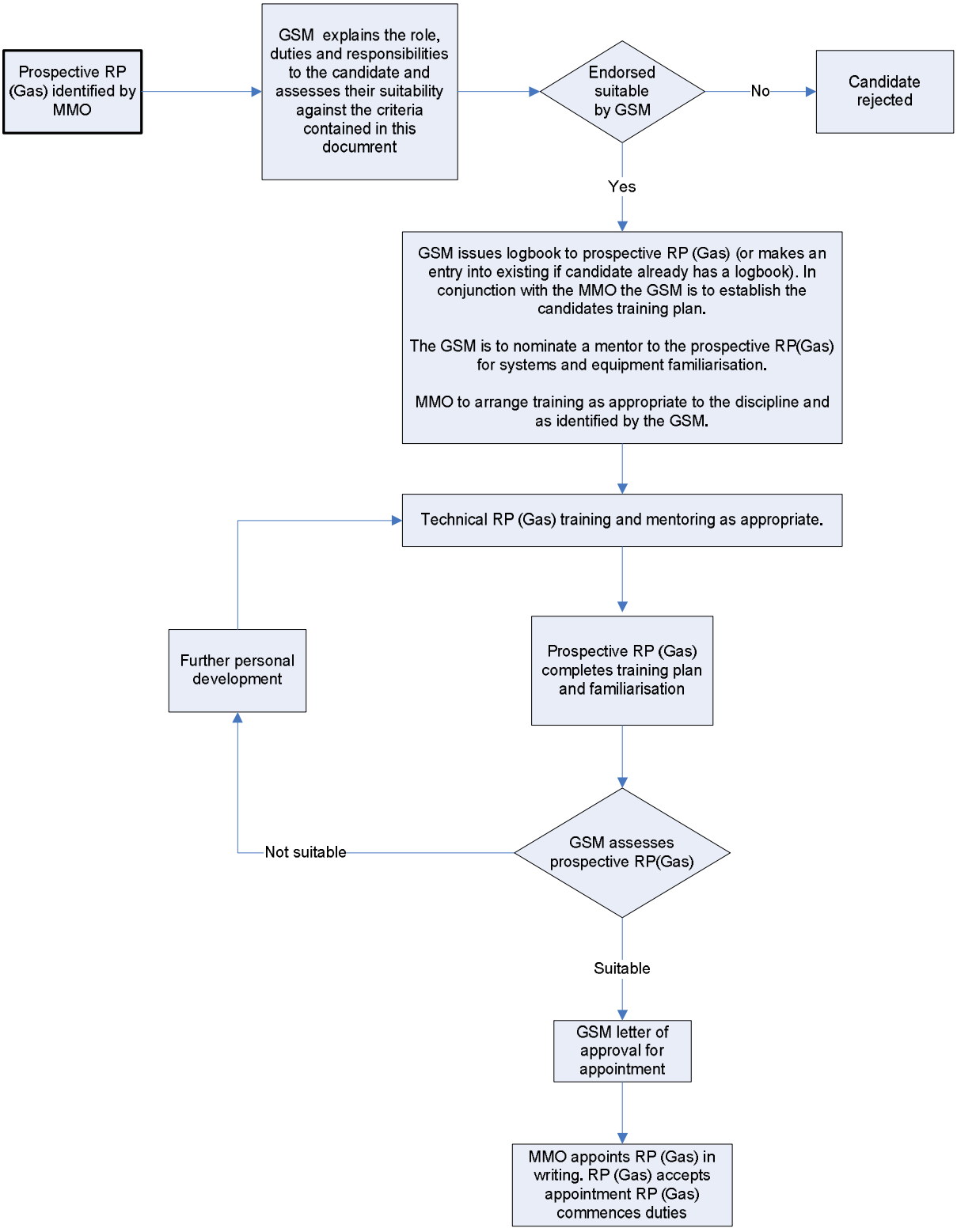


Figure 3.4 – Responsible Person training and appointment Process Map

COOPERATION AND COMMUNICATION

Key Interfaces

There are a number of key positions on an establishment or within a particular area that are required to interface with the requirements and implementation of GSMP.

Allocation of Responsibilities and Demarcation Agreements

Where there is a division of responsibilities within the MOD or between the MOD and others, the RP(Gas) is, on matters relevant to the RP(Gas)s duties, to cooperate and coordinate with the other party (or parties) as necessary to prevent danger.

Where MOD does not have control of the risk, i.e. where the work/project is clearly ring fenced by a defined boundary, the contractors are to comply with all relevant statutory instruments and are responsible for ensuring the safety of all persons within the defined and contracted boundary of the works and are responsible for managing the associated risks that may arise. The contractor is to operate a documented safe system of work in line with industry best practice. In exercising its duty of care, MOD must cooperate with the contractors in the coordination of activities.

Where a Contractor is responsible for part of a facility or an installation which may not be ring fenced by a defined boundary, the MOD through the appropriate authorities or Project Manager, is to liaise with the existing MMO in establishing temporary demarcation points. These are to be formally agreed in writing and supported with detailed plans or drawings. Copies of demarcations agreements with drawings showing demarcation points are to be sent to the RP(GAS) for retention within the appropriate document registers.

Where a clear operational and maintenance responsibility exists, detailed by either scope of contract, supply agreement or within a project responsibility document and where identification of any shared equipment or access is clear and unambiguous there will be no requirement for any additional agreements to be put in place. A copy of the appropriate documentation referred to above is to be annotated by the appropriate GSM and held in each network document register.

Where clarification concerning ownership and/or operation or where controlled access to equipment or areas is required, then the appropriate ‘authority’ should supply this in writing (copies of any correspondence being retained in document registers) and as required fit signage and/or labelling together with unique authority locks to the appropriate equipment or access to areas.

The GSM is to advise and agree on the arrangements and documentation for the demarcation of responsibilities and is to assist in the liaison with the third party’s responsible person or authority. Where a separate demarcation document is to be drawn up then the nominated responsible person for each side of the demarcation is to sign and date the agreement. A copy of the signed demarcation agreement is to be held by each authority.

Each demarcation of responsibility is to be precisely detailed on appropriate plans, operational diagrams, schematic drawings and where appropriate mimic diagrams. In all cases, the line of demarcation is to define a working area which can be completely isolated from the rest of the site, with defined points of isolation.

Where work is to be undertaken across a point of demarcation which involves equipment, networks or locations having significant risk, all parties are to liaise with the appropriate RP(Gas)s to plan the activity prior to commencement of the work. There must be an agreed

written procedure for the work which is to result in the issue of appropriate documentation. This may involve the issue of documentation relevant to a safe system of work across a network boundary.

Temporary project demarcation agreements are to define the transfer of responsibility and operational procedures and are to include:

a. required controls to hand over and accept back networks.

b. changes that are likely to occur during the temporary transfer.

The demarcation needs to provide the necessary framework for ensuring that all controls and checks are in place to transfer and accept responsibilities.

Construction Works

On completion of the project, where MOD is to accept responsibility for a new network/facility and before hand over to the MMO for maintenance responsibilities, the GSM is to liaise with the CDM Client or Project Manager as appropriate to support the following process:

- the GSM is to check that the Health and Safety File holds sufficient information to enable operation and maintenance to be safely undertaken.

- having visited the site of the new works, the GSM is to comment on compliance with the following:

    i. suitability of arrangements for access/egress and space to enable maintenance and operation to be safely undertaken.
    ii. the installation is of an acceptable standard and statutorily compliant.
    iii. the equipment is suitable and fit for its intended purpose.
    iv. design philosophies have been applied to the entire facility or installation during the work.
    v. new installation does not compromise the integrity of the existing facilities or installation.

Sufficient time and resources are to be allowed before acceptance of the works by MOD to allow the RP(Gas)s to become familiar with the new facility and associated hazards.

PLANNING & IMPLEMENTING

Risk Assessment

The Management of Health and Safety at Work Regulations require all employers (and self-employed persons) to assess risks to workers and any others who may be affected by their undertaking. Their application within the MOD sites is detailed in JSP 375 Volume 2 Leaflet 23 and Leaflet 39. Guidance is also provided within the publication 'Successful Health and Safety Management – HSG65' and 'Five Steps to Risk Assessment' published by the Health and Safety Executive.

The purpose of a Risk Assessment (RA) is to identify hazards, the persons affected and the degree of risk and to consider suitable means of controlling or eliminating the risk and recording how the control measures are to be implemented.

The MMO is responsible for ensuring that adequate specific RAs, Method Statements (MSs) and other related safety documents are in place before undertaking tasks.

Depending on the tasks to be undertaken or the hazard identified, additional RAs and MSs may be required from persons with the relevant specialist experience.

The RP(Gas)'s responsibilities include maintaining written copies of the RAs, MSs and Safety Programmes (SPs) reviewed.

The MMO and RP(Gas) must ensure that there is a formal means of communicating the results of the RA and contents of the MS to persons involved in, or affected by, the work.

Where RAs are produced by persons other than the RP(Gas) they are to be reviewed by the RP(Gas). The same should apply to any MS or SP.

Copies of any RA and MS are to be kept with the relevant safety document.

Document Centre

The Document Centre is to comprise lockable drawers or cabinets. For a site, location or geographical area, as determined by the GSM, a Document Centre is required for keeping:

a. Site Operating Record.
b. Safety Documents Register.
c. Equipment Register.
d. safety documents.
e. site drawings.
f. other standard forms.

These documents are required to support the management of activities associated with GSC & GSMP and are, and will remain, the property of the MOD.

The following information is also to be maintained within the Document Centre. This information will be provided by, and remain the property of, the MMO:

- access to approved Codes of Practice applicable to all activities associated with GSC & GSMP.
- access to the current GSC & GSMP.
- copies of safety documentation relating to activities associated with GSC & GSMP, collated on a discipline basis.

- copies of GSM reports for all activities associated with GSC & GSMP,.

Operational Restrictions

DIO issued Operational Restrictions are contained within Safety Alerts (SAs). SAs can be accessed from the following link:
http://www.mod.uk/DefenceInternet/MicroSite/DIO/OurPublications/HealthandSafety/

Historically Operational Restrictions were found either in Policy Instructions (PI's) or Technical Bulletins (TB's). These can be accessed via the following link:
http://www.mod.uk/DefenceInternet/MicroSite//DIO/OurPublications/TechnicalDocuments/

On receipt of an Operational Restriction, the RP(Gas) is to:

- acknowledge the receipt to the GSM, indicating whether applicable to the site.
- record the receipt in the Operating Record.
- where applicable, place a copy, signed by each relevant RP(Gas) appointed for the network or installation, in the Documents Register.
- where the equipment or network to which the Operational Restriction relates forms part of the appointed networks or installations, the RP(Gas) is to:
    - withdraw any Standing Instructions permitting operation of the equipment. Revised Standing Instructions, incorporating any Operational Restrictions, may be issued if practicable.
    - disseminate any information as appropriate for action.
    - annotate any relevant diagram with a warning of the Operational Restriction and, where considered necessary, fix a notice to the equipment or location warning of the Operational Restriction.
    - report satisfactory completion of any remedial work to the GSM.
- The completion of any inspections and remedial work arising from the Operational Restriction is to be noted in the Operating Record.
- The RP(Gas) is to ensure that copies of any inspection reports and details of any remedial work undertaken are:
    - placed in the Documents Register.
    - forwarded to the GSM, who may be required to forward copies to the issuing authority.

- The termination of an Operational Restriction is to be noted in the Operating Record.

- On termination:
    - the copy of the Operational Restriction held in the Documents Register is to be overwritten with the word "CANCELLED" followed by the date of cancellation, countersigned by each of the RP(Gas)s and retained in the Document Register.
    - any Standing Instructions which incorporate the conditions of the Operational Restriction are to be withdrawn and replaced by new Standing Instructions.

- Any one receiving or discovering an Operational Restriction is to advise the RP(Gas). Unless the Operational Restriction has already been advised and copied to the GSM, the RP(Gas) is to forward a copy to the GSM.

- Any GSM receiving or discovering an Operational Restriction without any indication of it having been advised to DIO is to forward a copy as soon as is practicable to the appropriate ODC E&C SME (Gas) at DIO.

ASSURANCE

Defence Safety Environment Authority (DSEA)

Audits will be conducted by, or on behalf of, MOD DSEA at intervals determined by them and will include, but are not limited to:

a. DIO's monitoring and auditing processes.

b. Site audits and policy implementation.

CESO DIO Audit

Audits will be conducted by, or on behalf of, CESO DIO at intervals determined on a risk based approach to ensure that DIO's Health and Safety governance structures, processes and procedures are suitable and sufficient and are being applied.

Audits are to identify areas of potential risk and any non compliance. Items to be covered are, but not limited to:

a. competence.
b. ODC E&C SME (Gas) Review of GSMs including their assessments of GSMs.
c. GSM Audits received and reviewed.
d. ODC E&C SME (Gas) Inspections.
e. GSC & GSMP maintenance and improvement.
f. processes and planning.

ODC E&C SME (GAS) Audit

Audits will be conducted annually by the ODC E&C SME (Gas) to provide assurance that the necessary processes to support the assurance model are in place and effective. These audits will focus on the GSMs. Items to be covered are, but not limited to:

a. audit programmes.
b. RP(Gas) coverage.
c. GSM coverage and deputy arrangements.
d. GSM competence and development.
e. management and control of training.

The output of the ODC E&C SME (Gas) Audit will be recorded on a standard audit format which will also provide data for the population of the Assurance Dashboard.

The ODC E&C SME (Gas) audit report will be circulated to the GSM no later than 28 days after the completion of the audit. Should significant issues be identified the ODC E&C SME (Gas) may raise these within the estate delivery area.

GSM Audit

The purpose of the GSM audit is to provide assurance of the competence of the RP(Gas)s and the application of GSC & GSMP.

In order that coverage is identified and maintained the GSM is to provide to the ODC E&C SME (GAS) an audit programme detailing the locations and networks, for which an audit report will be produced and a statement to confirm that all networks within the scope of the delivery area are encompassed.

An audit report is to be produced, at least annually, for each principal location in accordance with the agreed CAE audit programme. Where the audit outcome deems it necessary the GSM is to increase the frequency of audit to maintain assurance.

Scope – The audit will include the people, documentation together with a representative sample of the networks,and installations and equipment. The method to achieve this is a combination of:

a. Office based element – This inspection is to go into sufficient detail in order that the GSM can provide the necessary assurance of compliance with the GSC & GSMP.

b. Physical inspection element – This inspection is undertaken with the primary purpose of verifying the RP(GAS) is operating in compliance with the GSC & GSMP. This may give rise to secondary 'Duty of Care' observations.

i. Primary Purpose – Is to verify:
   1) RP(GAS) familiarity.
   2) RP(GAS) competence.

ii. Secondary Purpose – Is to maintain GSM familiarity but, may give rise to "Duty of care" observations such as:
   1) safety related issues.
   2) statutory compliance.

Where "Duty of Care" observations are identified they should be recorded in the audit report.

GSM Audit Report

a. The audit report is to
- record and demonstrate compliance with GSC & GSMP.
- include both qualitative and quantitative assessment of compliance.
-

The use of a RAG system (Red, Amber, or Green) is to be applied to all qualitative and quantitative outcomes in the report.

Qualitative

a. This is an assessment by the GSM based on the findings of the audit and their professional opinion and is to answer the following two questions:

i. Is the network safe to continue?
ii. Is the RP (Gas) safe to continue?

This assessment is based on the competence of the RP(GAS) (their knowledge, experience, training and level of activity) and their application of and compliance with the requirements of the Gas Safety Case and associated Gsa Safety Management Plans.

The resulting answer to each question is either:

Safe to continue;

Safe to continue subject to caveats, or;

Unsafe to continue.

b. Where the outcome is other than safe to continue, the assessment is to be supported by a summary of the significant issues which resulted in the outcome and any caveats or interim control measures put in place.

Quantitative

a. All elements reported on in the audit are to be subject to a quantitative assessment, the key areas are covered below, the definitive areas are identified in the audit report template:

Responsible Person (Gas)
This section of the report is to cover the RP(GAS) appointed for the site(s) and is to include, but not be limited to:

1) training.
2) resources.
3) logbook.
4) competency.
5) site & equipment familiarity.

In addition a table is to be produced for each RP(GAS) identifying the scope of the appointment, level of training and level of activity on the site(s).

i. Safety Documentation
This section of the report is to cover the documentation held or produced in support of compliance with the JSP and is to include, but not be limited to:

1) risk assessments.
2) method statements.
3) client approvals.
4) safety documentation.
5) operating records.
6) document registers.
7) demarcation agreements.
8) safety alerts & operational restrictions.
9) dangerous incidents / conditions / occurrences / practices, injuries and diseases.

ii. Designated Personnel

iii. This section of the report is to cover those personnel involved in the management and application of the JSP. It is to cover the Approved Gas Fitters appointed for the site(s) and any site based personnel who have delegated responsibility for the management of or compliance with the GSC & GSMP and is to include, but not be limited to:

.

- Safety Equipment
- :Site, Networks, Installations & Equipment Documentation
- Site, Networks, Installations & Equipment Inspection

b. The quantitative assessment provides a compliance ‘score’ against the requirements of GSC & GSMP and will be used for benchmarking.

Action Plan

a. The report is to include two action plans:

i. actions relating to compliance with GSC & GSMP, which are to be assigned to the MMO.

ii. actions relating to the infrastructure or site records, which are to be assigned to the SIM or appropriate establishment authority.

b. The Action Plans are to include actions required as an outcome from the current audit, and actions not closed out from the previous audit report. The actions raised are to be SMART[13] and assigned to an individual or role, who has the resource, ability and authority to discharge the action.

Distribution

On completion of an audit, the GSM is to complete a report of the findings. The report shall be submitted electronically to ODC E&C SME no later than 28 days after the completion of the audit.

GSM Review

a. Where the GSM deems it appropriate they are to carry out an interim review of a site or Authorised Person. This can be either a desk exercise or a site visit, it is to include, but not be limited to a review of:

i. the current action plan.
ii. the level of familiarity & training of a Responsible Person (Gas) .

b. The requirement to carryout a review is to be considered where:

i. monitoring identifies deficiencies in the application or implementation of GSMP
ii. an incident, unsafe act, unsafe condition has occurred.
iii. an audit identifies it as necessary.

c. Where a review identifies significant findings then it is to be documented and the MMO notified. In addition where the GSM considers it appropriate the ODC E&C SME (Gas) is to be notified of any findings.

[13] Specific, Measurable, Attainable, Realistic, Timebound.