



**ACS.CCLP1 EP
SAFETY ASSESSMENT CRITERIA
INITIAL & RE-ASSESSMENT
DOMESTIC.LPG
EXTERNAL PIPEWORK
(RE-ASSESSMENT INCLUDES VESLP1
RE-ASSESSMENT)**

CCLP1 EP**INITIAL & RE-ASSESSMENT****Introduction**

This stand-alone Limited Scope Assessment covers the competencies required for the installation of external pipework for LPG supplies from storage vessel to emergency isolation valve at point of entry to premises.

Tests gas safety competence in core domestic LPG external pipework.

Comprises:

1. Gas safety legislation and Standards
2. Gas emergency actions and procedures
- 3(b). Supply pressures; operation and positioning of emergency isolation, flow controls and valves
- 3(c). Vessel location, safety and sizing
5. Installation of pipework and fittings
6. Tightness testing and purging (only required for Candidates undertaking VESLP1)
8. Unsafe situations, use of emergency notices and warning labels.

CBs may adopt Competence and Criteria numbering different to that used in this document.

CB documentation may adopt wording for criteria different to that used in this document, provided the meaning is unaffected.

Range

All LPG fittings used for external pipework.

Pre-requisites***Initial.***

In accordance with the requirements of ACS Entry Routes & Changeover Requirements (Guidance Note 8)

Re-assessment. CCLP1 EP + VESLP1.

Exclusions

Service pipework from second stage regulator to dwellings in multi-occupancy buildings.

References and normative documents

MIs.

All relevant documents as listed in the Legislative, Normative & Informative Document List (LINDL), inc.:

- HSL56
- GIUSP.

ACS.SMB. 003.ACRND identifies Normative Documents that should be held by ACs.

Abbreviations

AC. Assessment Centre
 CB. Certification Body
 DSEAR. Dangerous Substances and Explosive Atmospheres Regulations
 ECV. Emergency control valve
 I. Initial
 IP. Intermediate pressure
 LDF. Leak detection fluid
 LP. Low pressure
 MIs. Manufacturer's/manufacturers' instructions
 OP. Operating pressure
 OPSO. Over-pressure safety cut-off
 R. Re-assessment
 Ref. Reference
 UPSO. Under pressure safety cut-off.

1. Gas safety legislation and Standards

KNOWLEDGE AND UNDERSTANDING		REF	I	R
1.	HSL56:			
(i)	Reg.2 General interpretation and application 2(1) to 2(5)		✓	
(ii)	Reg.3 Qualification and supervision 3(1),(2),(3),& (6)		✓	
(iii)	Reg.4 Duty on employer		✓	
(iv)	Reg.5 Materials and workmanship 5(1) to (3)		✓	
(v)	Reg.6 General safety precautions 6(1) to (9)		✓	
(vi)	Reg.7 Protection against damage 7(1) to (3)		✓	
(vii)	Reg.8 Existing gas fittings 8(1) to (3)		✓	

2. Gas emergency actions and procedures

KNOWLEDGE AND UNDERSTANDING		REF	I	R
Priorities of actions and responsibilities:				
1.	dealing with gas leakage with fire and safety/fire precautions for vessels		✓	
2.	dealing with gas leakage without fire:			
(i)	specific gravity and its effect in relation to air e.g. search techniques		✓	
(ii)	preventing/reducing dangerous concentrations of gas in atmosphere and at low level		✓	
3.	advice to occupants		✓	
4.	HSL56: Reg.9 Emergency controls (5)		✓	

3(b) Supply pressures; operation and positioning of emergency isolation, flow controls and valves

KNOWLEDGE AND UNDERSTANDING		REF	I	R
1.	recognition of supply pressures from vessels:			
(i)	HP stage		✓	✓
(ii)	MP stage		✓	✓
(iii)	LP stage		✓	✓
2.	operation and positioning of vessel fittings:			
(i)	pressure relief valve,		✓	✓
(ii)	vapour service shut-off valve		✓	✓
3.	types and sizing of gas regulators		✓	
4.	operation and positioning of emergency isolation valves		✓	✓
5.	operation and positioning of automatic changeover valves		✓	
6.	operation and positioning of first and second stage regulators		✓	✓
7.	causes of over pressure conditions		✓	
7a	Automatic Shut off Controls and Safety devices		✓	✓
7b	Service pipework downstream & subject to 1 ST stage pressure		✓	✓
7c	Under pressure protection		✓	✓
7d	Identify reasons for nuisance shut off of OPSO		✓	✓
8.	operation, positioning and visible indicators (where applicable) of OPSOs		✓	✓
9.	procedures when OPSO has operated		✓	✓

10.	causes of under pressure conditions		✓	
11.	operation, positioning and visible indicators of UPSOs		✓	✓
12.	re-setting UPSOs		✓	✓
13.	operation and positioning of limited relief valve		✓	✓
14.	advice to consumer on re-setting UPSO		✓	
15.	HSL56: Reg.14 Regulators 14(2) to (7)		✓	
16.	over pressure protection		✓	✓
16a.	min. and max. acceptable outlet pressures for new installations		✓	✓
16b.	lock-up pressure parameters for regulators		✓	✓
17.	max. and preferred pressures for LPG Networks and service pipework		✓	✓
18.	design of pressure regulating installations		✓	✓
19.	over-pressure and under-pressure protection on LPG networks		✓	✓

3(c) Vessel location, safety and sizing

KNOWLEDGE AND UNDERSTANDING		REF	I	R
1.	types		✓	✓
2.	sizes		✓	✓
3.	marking of common vessels commercially available for single supply		✓	✓
4.	recommended off-take to match appliance demand		✓	✓
5.	safety and security for single/multiple supplies, vessels and controls		✓	✓
6.	installation		✓	✓
7.	location		✓	✓
8.	areas where vessels are not to be located		✓	✓
9.	protection		✓	✓
10.	general construction		✓	✓
11.	general requirements of DSEAR		✓	✓
12.	accessibility and layout		✓	✓
13.	record keeping		✓	✓
14.	Examples of LPG specific Unsafe Situations related to Vessels i.e. Table 1 clauses 12 & 13		✓	✓

5. Installation of pipework and fittings.

Range of pipe sizes: copper/steel 6 mm to 28 mm

PERFORMANCE CRITERIA		REF	I	R
1.	join threaded pipe joints using appropriate fittings, methods and agents		✓	
2.	join copper or stainless steel pipe using appropriate compression fittings, methods and agents		✓	
3.	use temporary continuity bond correctly		✓	
4.	check work carried out is gas tight		✓	
5.	purge pipework of air (K&U for re-assessment)		✓	✓
6.	identify external gas installation pipework safety defects (K&U for re-assessment)		✓	✓
KNOWLEDGE AND UNDERSTANDING		REF	I	R
1.	copper pipe and fittings standards. Suitability and use		✓	
2.	galvanised steel pipe and fittings standards. Suitability and use		✓	
3.	pipe sizing to appliance requirements – inc. theoretical exercise		✓	✓
4.	jointing agents for copper, stainless and galvanised steel pipework		✓	
5.	pipe supports; clips, and fixing copper, stainless and mild steel pipework		✓	
6.	sleeving pipework through walls/floors		✓	
7.	external surface mounted installation pipework		✓	
8.	restrictions on use of union, compression and capillary fittings		✓	
9.	main equipotential bonding		✓	
10.	siting and installation of gas controls and isolation valves		✓	
11.	ducts purposely designed to contain gas pipes		✓	
12.	min. depth pipework to be buried below ground		✓	
12a.	dealing with existing buried pipework		✓	✓
12b.	precautions for pipework crossing water courses.		✓	✓
12c.	precautions for pipework crossing above ground.		✓	✓
12d.	Awareness of Liquid Gas UK User Information Sheet 014		✓	✓
13.	HSL56:		✓	
(i)	Reg.10 Equipotential bonding		✓	
(ii)	Reg.18 Safe use of pipes 18 (1) and (2)		✓	
(iii)	Reg.19 Enclosed pipes 19 (1) to (3) & (5) and (6)		✓	

(iv)	Reg.22 Testing and purging of pipes 22 (1) to (3)		✓	✓
14.	proximity of network pipework to dwellings		✓	✓
15.	line diagram for network pipework		✓	✓
16.	labelling external LPG pipework outlets		✓	✓
17.	PE pipe and fittings are complete, fit and suitable for use			✓
18.	dismantling and inspecting compression joint			✓
19.	cutting PE squarely and de-burring			✓
20.	fitting tube liner			✓
21.	re-assembling compression joint using appropriate thread sealant			✓
22.	selecting correct material is selected for protecting PE pipe above ground			✓
23.	re-connecting gas supply			✓
24.	existing installation pipework to be installed to current Codes of Practice, British Standards and HSL56			✓
(i)	ensuring work carried out is gas tight (tightness testing and purging of installation pipework can be assessed at this point) and any protective coating applied (supplementary OQ on pipework protection)			✓
(ii)	checking gas safety controls for correct and safe operation			✓
25.	The protection of stainless-steel semi rigid pipe from corrosive products i.e. meter connections from flux		✓	✓
26.	Restrictions for making and sealing holes into meter boxes		✓	✓
27.	Purpose and suitability in using a non-contact voltage tester		✓	✓

6. Tightness testing (only required for Candidates undertaking VESLP1)

PERFORMANCE CRITERIA		REF	I	R
1.	test new service pipework (OP > 37 mbar propane /28 mbar butane) with air or inert gas. BS 5482 -1 Test A3.2			
(i)	close ECV at point of entry to dwelling			✓
(ii)	isolate LPG supply side; plug or cap open ends			✓
(iii)	assemble and zero pressure gauge (or bourdon gauge) and connect to service pipework via inline testing tee			✓
(iv)	raise pressure system to 1.5 times OP and close pressurising source			✓
(v)	allow 5 minutes stabilisation and record gauge reading			✓
(vi)	test pipework for further 15 minutes			✓
(vii)	observe reading. No discernible pressure drop allowed from pressure recorded at (v)			✓
(viii)	if pressure has fallen, test each joint with LDF to locate leakage			✓
(ix)	repair leak and repeat test from (iv) to (viii)			✓
2.	test new service pipework (OP = 37 mbar propane /28 mbar butane) with air or inert gas			
(i)	disconnect/positively isolate gas appliances. Close ECV at point of entry to dwelling			✓
(ii)	isolate LPG supply; plug or cap open ends			✓
(iii)	assemble and zero pressure gauge. Connect to pipework via inline testing tee			✓
(iv)	raise pressure in system to 45 mbar. Close pressurising source			✓
(v)	allow 5 minutes stabilisation and record gauge reading			✓
(vi)	test pipework for a further 2 minutes			✓
(vii)	observe reading. No discernible pressure drop allowed from pressure recorded at (v)			✓
(viii)	if pressure has fallen, test each joint with LDF to locate leakage			✓
(ix)	repair leak and repeat test from (iv) to (viii). Purge pipework			✓
3.	test let-by on service pipework			
(i)	close ECV at point of entry to dwelling			✓
(ii)	close supply control valve			✓
(iii)	assemble and zero pressure gauge. Connect to service pipework via inline testing tee			✓
(iv)	open supply control valve gradually until regulator locks up			✓
(v)	close supply control valve			✓
(vi)	release pressure slowly through test tee to open air by a safe means until pressure reads approx. 5 mbar for LP or 100 mbar for IP			✓
(vii)	reset UPSO if one is installed downstream of supply control valve			✓
(viii)	allow 5 minutes stabilisation and record gauge reading			✓
(ix)	test pipework for a further 2 minutes			✓
(x)	take reading. No discernible pressure rise allowed from that in (viii)			✓
(xi)	reset UPSO after 2 minutes and prior to recording second gauge reading, if			✓

procedure in (vii) has been applied			
4. test LP service pipework from bulk tank outlet to ECV at dwelling with LPG:			
(i) close ECV at point of entry to dwelling and close supply control valve			✓
(ii) assemble and zero pressure gauge. Connect to pipework via inline testing tee			✓
(iii) open supply control valve gradually until regulator locks up			✓
(iv) close supply control valve			✓
(v) release pressure slowly through test tee to open air by a safe means until pressure reads 30 mbar			✓
(vi) allow 5 minutes stabilisation and record gauge reading			✓
(vii) test pipework for further 2 minutes			✓
(viii) take reading. No discernible pressure drop allowed from that in (vi)			✓
(ix) if a drop occurs, re-pressurise system, test all joints with LDF, repair source of leak, repeat test (i) – (viii)			✓
(x) test joints in pipe between final stage regulator at premises and ECV at lock up pressure, with LDF or a suitable gas detector			✓
(xi) remove test tee, re-establish gas supply, check joints in short HP section upstream of regulator (disturbed during test) with LDF or a suitable gas detector			✓
(xii) purge pipework to open air and commission			✓
KNOWLEDGE AND UNDERSTANDING	REF	I	R
1. purging external above and below ground pipework of diameter ≤ 32 mm			✓
2. pressure to which let-by test is lowered for IP pipework			✓
3. pressure to which tightness testing pressure is lowered for IP pipework			✓
4. tightness testing time after stabilisation for IP pipework			✓
5. types of pressure gauge for testing IP pipes			✓
6. use of electronic pressure gauge (calibration)			✓
7. locating escapes			✓

8. Unsafe situations, use of emergency notices and warning labels

PERFORMANCE CRITERIA	REF	I	R
1. identify unsafe situations as ID & AR		✓	✓
2. identify and label defective installation(s)		✓	✓
3.			
KNOWLEDGE AND UNDERSTANDING	REF	I	R
1. explain dealing with ID		✓	✓
2. explain dealing with AR		✓	✓
2a explain dealing with AR installations/appliances when turning off does not remove the risk		✓	✓
3 explain dealing with situations that do not meet current standards but are not unsafe		✓	✓
3.			
(i)			
(ii)			
4. clearly identify correct notices and labels to be used:			
(i)			
(ii) warning notice forms		✓	✓
(iii) advisory notices		✓	✓
5. situations reportable under RIDDOR. Explain reporting to HSE		✓	✓
6. GIUSP:			
(i)			
(ii) overall scope		✓	✓