



**ACS. CMET2
SAFETY ASSESSMENT CRITERIA
INITIAL & RE-ASSESSMENT
EMERGENCY SERVICE PROVIDER AND
GAS METER INSTALLER
DIAPHRAGM, RD AND TURBINE METER
INSTALLATIONS
NATURAL GAS**

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| CMET2 | INITIAL & RE-ASSESSMENT |
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Introduction

Tests gas safety competence to install, commission, service, maintain and exchange non-domestic diaphragm, RD, USM and turbine meter installations.

Candidates successfully completing CMET2 may also install, commission and service MP regulators that would fall within the scope of REGT2

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

Primary meter installations incorporating diaphragm, rotary displacement, ultrasonic or turbine meters with and without by-pass at a pressure not exceeding 7 bar and not in the scope of IGEM/GM/6 Edition 2 (covered by CMET1).

Pre-requisites

COCN1 or CMA1 or CESP1 or COCNPI1LS
+ ICPN1 + TPCP1 + CMET1 or QCF or S/NVQ.

Exclusions

Gas load assessment; measurement, installation and use of volume conversion systems and energy computation of gas meter readings to reference conditions; electrical or electronic connections to meters; construction or installation of meter boxes, compartments or housing; installation or replacement of ECVs, service valves or their operation; hydrostatic testing; meter removal from site and subsequent disposal; testing by OFGEM and theft of gas. Certification in this assessment does not of itself confer approval as an 'AMI' registered gas meter installer.

References

- MIs.
- **HSL56**
- IGEM/GM/8 Edition 2 parts 1-5
- IGEM/UP/2 Edition 3
- IGE/UP/1
- IGEM/GM/7B
- **GIUSP.**

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

The References (REF) where indicated are only a guide to where the criteria can be resourced and therefore the REF may not be exhaustive.

Abbreviations

AC. Assessment centre

CB. Certification Body

ECV. Emergency control valve

GT. Gas transporter

I. Initial

MIP. Maximum incidental pressure

MOP. Maximum operating pressure

MIs. Manufacturer's/manufacturers' instructions

OP. Operating pressure

Ref. Reference

SSV. Slam-shut valve

STP. Strength test pressure.

| PERFORMANCE CRITERIA | REF | I | R |
|--|---|----------|----------|
| 0. complete pre-installation checks to include: | IGEM/GM/8 Part 3 10.1 & 10.2 | | |
| (i) Identify / check service pressure | Relevant to Practical provision | ✓ | |
| (ii) check suitability of location and identify hazardous areas classification | IGEM/GM/8 Part 3 6.4 | ✓ | ✓ |
| (iii) check ventilation and position of vents | Relevant to Practical provision | ✓ | |
| (iv) check system controls and determine operating pressure of load | Relevant to Practical provision | ✓ | ✓ |
| (v) obtain authorization of GT and sealing requirements | IGEM/GM/8 Part 1 Section 6 & IGEM/GM/8 Part 3 5.4 | ✓ | |
| (vi) determine zoning distances surrounding installation fittings and components | Relevant to Practical provision | ✓ | ✓ |
| 1a Safe working procedures : | IGEM/GM/8 Part 3 4.3 | ✓ | ✓ |
| 1. check ECV operates correctly | Observation | ✓ | |
| 2. check meter and installation components are fit for use and purpose (pressure breaks, rating, adequate supports, termination of creep relief) | Relevant to Practical provision | ✓ | ✓ |
| 3. isolate gas supply prior to work | Observation | ✓ | ✓ |
| 4. remove blind flange from ECV (on a new installation) | Observation | ✓ | |
| 5. assemble/install straight length of meter inlet/outlet connection, valve, regulator, safety devices, impulse lines, filter | Relevant to Practical provision & IGEM/GM/8 Part 3 Section 12 | ✓ | |
| 6. position turbine meter correctly | Relevant to Practical provision | ✓ | |
| 7. assemble and install outlet pipework and MOV | Relevant to Practical provision | ✓ | |
| 8. install test/purge points | 16.2 | ✓ | |
| 9. adequately support pipework | IGEM/GM/8 Part 1 Section 15 | ✓ | |
| 10. install, level and support turbine meter | Relevant to Practical provision | ✓ | |
| 11. lubricate turbine meter to MIs | Relevant to Practical provision | ✓ | ✓ |
| 12. test for tightness and purge meter installation of air | IGEM/GM/8 Part 3 Section 14 & 16 | ✓ | ✓ |
| 13. commission meter installation (IGE/GM/8 Parts 3 Section 18) | Relevant to Practical provision | | |
| (i) check all components function to MIs | 18.1 | ✓ | ✓ |
| (ii) set and test safety system control pressures prior to regulator | Relevant to Practical provision | ✓ | ✓ |
| (iii) check regulator is operating in full control prior to opening outlet valves | Relevant to Practical provision | ✓ | ✓ |
| (iv) check set points of regulators under flow conditions (simulation can be used) | Relevant to Practical provision | ✓ | ✓ |
| (v) check all components function to MIs & remove a commissioning strainer (OQ) | IGEM/GM/8 Part 3 Section 18 | ✓ | ✓ |
| 14. set points – metering pressure (twin stream installation, IGE/GM/8 Part 1) | Relevant to Practical provision | | |
| (i) set active regulator at determined set point | Relevant to Practical provision | ✓ | ✓ |
| (ii) set monitor regulator at determined set point | Relevant to Practical provision | ✓ | ✓ |
| (iii) set SSV above relief valve set pressure (take into account accuracy of relief valve and SSV to ensure relief valve is not restricted) | Relevant to Practical provision | ✓ | ✓ |
| (iv) check SSV set point plus accuracy group tolerance (MIP) does not exceed STP of downstream system | Relevant to Practical provision | ✓ | ✓ |
| (v) consider control accuracy at meter when accuracy classes for regulators were selected | Relevant to Practical provision | ✓ | ✓ |
| (vi) Functional and operational checks of slam shut and creep relief components | IGEM/GM/8 Part 4 5.3 | | ✓ |
| 15. apply labelling | Relevant to Practical provision | ✓ | |
| KNOWLEDGE AND UNDERSTANDING | REF | I | R |
| 1. the need for documentation , commissioning reports ,request for information from GT and meter designer | IGEM/GM/8 Part 1 4.3.3 | ✓ | ✓ |
| 1a Meter types and selection options | IGEM/GM/8 Part 1 Section 12 & Appendix13 diagram | ✓ | ✓ |
| 2. gas flow, straight length pipe work in the vicinity of the meter | 7.6.3 -7.6.3.4 & Table 2 | ✓ | |
| 3. positioning of impulse line take offs | Section14 | ✓ | |
| 4. requirements and sizing of impulse take off lines | Section 16 | ✓ | |
| 5. labelling | 18.7 | ✓ | |
| 6. Identify cross correct and incorrect use of main equipotential bonding | IGEM/GM/8 Part 1 18.1.8 | ✓ | |

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| 7. | routine maintenance of meters | IGEM/GM/8 Part 4 5.4 -5.5.4 | ✓ | |
| 8. | Gas cleaning including filtration for all types of meter of MOP \leq 7 bar | Section 8 | ✓ | |
| 9. | determining routine maintenance of filters and strainers | IGEM/GM/8 Part 4 Section 5.2 | ✓ | |
| 9a | operational and functional checks of filter, slam shut and creep relief components whilst maintaining a positive pressure | IGEM/GM/8 Part 4 Section 5 | ✓ | |
| 10. | recognition of meter faults | IGEM/GM/8 Part 1 3.11.4 | ✓ | ✓ |
| 11. | safety requirements for removal of meters | IGEM/GM/8 Part 4 Section7 | ✓ | ✓ |
| 12. | hydrostatic testing needed and the precautions required | IGEM/GM/8 Part 1 Section 17 | ✓ | ✓ |
| 13. | routine maintenance of relief valves and pressure protection devices | IGEM/GM/8 Part 4 5.3 | ✓ | |
| 14. | determining OP of appliances | IGEM/GM/8 Part 1 appendix 3 | ✓ | |
| 15. | GT network standards operating conditions | IGEM/GM/8 Part 1 appendix 5 | ✓ | ✓ |
| 16. | determine Meter /Regulator capacity & application is sufficient for connected load | IGEM/GM/8 Part 1 5.4 & Appendix 11 | ✓ | ✓ |
| 17. | Regulators and Safety device protection protocol | IGEM/GM/8 Part 1 7.6 & Fig 2 | ✓ | ✓ |
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