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## Overview

This standard is about installing and removing gas meters and regulators in domestic settings. This could be for new installations, exchanging or replacing existing gas meters and regulators or for removing obsolete ones. Meters can be:

- primary or secondary
- credit, prepayment diaphragm or ultrasonic
- from 2.5 to 16.0m<sup>3</sup>/hr
- low pressure up to 75mbar or medium pressure from 75mbar to 2bar (4bar in Northern Ireland).

This standard covers all aspects of installing, exchanging, replacing and removing gas meters and regulators including the disconnection, de-commissioning and commissioning that is involved. It can apply to any type of fuel gas or combinations of fuel gas including, but not restricted to, natural gas, LPG, blended or 100% hydrogen.

This standard should be used in conjunction with:

- EUSDSG4 Prepare to work on gas systems or appliances in domestic settings; and
- EUSDSG14 Carry out gas tightness testing and check system safety in small settings

This standard is for gas engineers who work in domestic settings and for emergency first responders.

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## Performance criteria

### *You must be able to:*

1. Make sure all required pre-work checks have been carried out prior to starting installation or removal activities
2. Check existing installation for any unsafe appliances and system components and apply gas industry unsafe situations procedures when required
3. Make sure installation plans take account of whether gas meters and regulators are primary or secondary meter installations
4. Make sure the siting of the emergency control valve (ECV) and meter inlet valve (MIV) is accessible, correctly labelled and that they operate correctly
5. Confirm that the siting of meter housing and proximity distances of meter boxes and vent-discharges can be achieved and meets the manufacturers' and industry standards' requirements for location, siting and clearances
6. Identify and make appropriate plans to deal with any effects the siting of the existing gas supply and its proximity to other services may have on installation requirements
7. Check that conditions within gas and earthing systems will permit safe de-commissioning and re-commissioning
8. Select and use the correct tools, test equipment and other equipment for all aspects of the work
9. Use designated safe isolation methods, tests, fittings and procedures to de-commission gas and earthing systems and components
10. Take precautionary actions to ensure that temporarily de-commissioned appliances, systems, or components are labelled and do not present a safety hazard
11. Minimise damage to customer property and building features throughout all stages of work
12. Disconnect and remove any gas meters, regulators, gas systems and components, and earthing system components in current use in line with installation plans
13. Mark any live gas pipes with a notice to indicate they contain gas
14. Carry out a visual check of new gas meters and regulators for any damage, that seals are intact, that all packaging is removed and that gas ways are clear
15. Fabricate and assemble gas meter and regulator system components in line with installation requirements
16. Position gas meters and regulators and confirm they meet location, siting and clearances required by manufacturers' and industry standards' specification
17. Confirm that the provision of ventilation meets the gas meter and regulator manufacturers' and industry standards' requirements for the installation and system
18. Ensure existing gas systems are clean and free of debris
19. Fix and connect gas and earthing system components to gas meter

- and regulator installations in line with installation requirements
20. Use appropriate test equipment, and procedures to confirm the integrity of installed gas meters, regulators and gas systems
  21. Complete meter labelling to required industry standards
  22. Check and confirm the gas system operating pressures meet industry standards
  23. Carry out full visual inspections to identify signs of spillage, evidence of poor combustion and the general condition of gas meters and regulators before completing work
  24. Confirm meter installation and operation complies with manufacturers' specifications, industry standards, safety schemes and regulations
  25. Check earth bonding is present when required by industry standards
  26. Complete all relevant documentation and paperwork in line with industry standards
  27. Instruct property occupiers on the correct operation of gas systems, valves and components and provide them with their copy of any literature
  28. Resolve problems within own area of responsibility and competence in accordance with approved procedures
  29. Advise of any delays to the work, unresolved problems, unsafe situations and required remedial actions to those who require the information
  30. Use designated safe isolation procedures and warning notices to prevent unauthorised use of un-commissioned gas meters and regulators, gas appliances, gas systems and components
  31. Complete and attach emergency notices on or near meters or at ECVs if remote from primary meters

## Knowledge and understanding

### *You need to know and understand:*

1. Regulations and guidance governing health and safety in the workplace, environmental protection and the use of risk assessments including safe access, working at heights and substances hazardous to health
2. Legislation covering your general responsibilities for your own safety and that of others
3. The limits of your own autonomy and responsibility
4. Gas industry unsafe situations procedures and how to isolate unsafe gas appliances, gas systems and components
5. Potential hazards that could arise from all de-commissioning, installation and commissioning activities and checks to be carried out before work takes place
6. Required pre-work checks including operating pressures and volumes
7. How to access and interpret normative documents, guidance documents, manufacturers' instructions, industry standards, safety schemes and regulations
8. Industry standard practices for new installations, exchanging, replacing existing gas meters and regulators or for removing obsolete ones
9. Industry practices, work standards and safety precautions for location, siting, clearance and fixing of:
  - a) gas meters, regulators, components, emergency control valves (ECV's) and meter inlet valves (MIV's)
  - b) gas meters as primary or secondary installations with low or medium pressure, with or without meter housings
10. Safe isolation methods, tests, and procedures for temporary and permanent de-commissioning of gas meters, regulators, gas systems, all components and earthing systems including use of temporary continuity bonds, non-contact voltage detectors, voltage indicators, proving units, multimeters
11. Measures to prevent un-commissioned and de-commissioned gas meters, regulators, gas systems and components being brought into operation
12. Industry standards' ventilation requirements for gas meters and regulators
13. How to measure and record installation and site details for prefabrication
14. How to confirm that services and systems requirements are adequate for installation, extending the system or adding components of new gas meter, regulator and components on both low and medium pressures
15. The procedures and work methods for connecting to input services including gas, earthing systems and ventilation

16. Methods of working which protect building décor, customer property and existing systems and components
17. Safe processes and procedures for applying tightness testing and checking safety of appliances, gas systems and components to ensure safe functioning
18. The tools, test equipment, other equipment, materials and components required for the gas meter and regulator system de-commission, installation and commission and how to secure and store them
19. The competence required to adjust regulators and who is permitted to do so
20. How to identify gas meter installations that incorporate non-return valves and the manufacturers' and industry standards' installation requirements
21. Procedures for checking the correct and safe function, operation and performance of domestic gas meters, regulators and components for both low pressure and medium pressure including visual inspection
22. The procedures for making adjustments to meter regulators
23. How to safely collect and dispose of system contents that may be hazardous to health or the environments
24. The steps to take when problems arise with gas meters, regulators, gas systems and components including defects that cannot be restored to full performance, not meeting design requirements, incorrect system operating pressures or mbar range, non compliance of earthing systems and components
25. Job management structures and methods of reporting and recording job progress or problems delaying progress
26. How to complete all installation and commissioning documentation and records to be left with the property including benchmarks, landlord/home owner gas safety records, meter details, meter labels, emergency notices, ECV labels, medium pressure labels
27. System handover procedures and how to demonstrate the operation of gas systems, valves and components to end users

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<b>Developed by</b>	Energy & Utility Skills
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<b>Version Number</b>	3
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<b>Date Approved</b>	01 Jan 2022
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<b>Indicative Review Date</b>	01 Jan 2025
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<b>Validity</b>	Current
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<b>Status</b>	Original
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<b>Originating Organisation</b>	Energy & Utility Skills
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<b>Original URN</b>	EUSDSG3.12
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<b>Relevant Occupations</b>	Domestic Gas Engineers, Emergency First Responders
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<b>Suite</b>	Downstream Domestic Gas Installation and Maintenance
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<b>Keywords</b>	install, installation, gas, meters, regulators, (2.5 to 16.0m)
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