EUSSM014

Install and commission gas metering installations and regulators

Overview

This standard is about preparing, installing and commissioning low or medium pressure gas metering installations and regulators up to 6.0m3/hour, in accordance with approved procedures and practices.

To meet this standard you will demonstrate you can:
• plan and prepare the work area and confirming that it is in a safe condition to carry out the intended installation
• use job specifications, instructions and any tools, equipment and materials required
• determine procedures for installing and exchanging gas meters and regulators on low or medium pressure gas systems
• de-commission gas meters and regulators on low and medium pressure gas systems to industry standards
• install, exchange and remove gas meters and regulators on low or medium pressure gas systems to industry standards
• pre-commission and commission gas meters and regulators on low or medium pressure gas systems
• communicate with all customers and members of the public
• take personal responsibility for your own actions and for the quality and accuracy of the work carried out.

This standard is suitable for a craftsperson or technician working in the energy supply and use sector who has to install and commission gas metering installations and regulators.

Performance criteria

You must be able to:

1. use organisational systems and available information to identify the location of the metering work and job details
2. communicate the planned work activity to all affected parties in accordance with organisational policies and procedures
3. compare the customer's job requirements with statutory and industry requirements and identify any conflicting issues
4. survey the work site and consult site diagrams as necessary for any key structural features that could affect the installation and record them
5. check that the proposed siting of the gas meter, meter housing, ventilation and regulator meets manufacturers' and industry standards for location, siting and clearance
6. confirm the availability of input services and that the gas supply, any existing electricity earthing system and provision of ventilation meets the manufacturers' and industry standards' requirements for the installation
7. obtain confirmation from the property occupier before the job starts to ensure that they agree the planned work
8. carry out a site-specific risk assessment of the work, identifying hazards and the required control measures
9. carry out a pre-use inspection of the tools and equipment to be used, checking condition and service information in accordance with organisational procedures
10. select, inspect and wear relevant personal protective equipment for completing work activities in line with organisational procedures
11. record meter readings and serial numbers, using available information
12. confirm the siting of the emergency control valve is accessible, labelled and operating correctly, reporting any defects to the emergency service provider
13. plan and carry out the work in accordance with relevant health, safety, environmental, industry and organisational standards throughout the installation
14. protect the work site and the building fabric against possible damage being caused during the de-commissioning and installation process
15. confirm whether the meter installation is supplied with low or medium pressure and not a higher-pressure tier.
16. check and confirm whether the gas meter and regulator are a primary or secondary meter installation

17. test for the presence of voltage at the meter installation using approved equipment
18. check existing installation for any unsafe appliances and system components, applying the gas industry unsafe situations procedures, where appropriate
19. check that conditions within the gas and earthing systems are suitable and will permit safe de-commissioning
20. use designated safe isolation methods, tests and procedures to de-commission meters, regulators, gas installation and components
21. remove and disconnect meters, regulators, gas systems and components as required in accordance with organisational procedures
22. mark any live gas pipes with a notice to indicate they contain gas
23. install the gas meter and regulator in line with the work plan, manufacturer's specifications, relevant regulations and standards
24. check the new meter or regulator for any damage, intact seals, packaging and clear gas ways
25. fix and connect gas and earthing system components to the meter or regulator installation in accordance with organisational procedures
26. carry out tightness testing and direct purging procedures to confirm the integrity of the installed meter and regulator in line with industry and organisational standards
27. complete and attach an emergency notice on or near the meter or, at the Emergency Control Valve (ECV) if remote from the primary meter
28. take precautionary steps to prevent the unauthorised use of un- commissioned gas meters or regulators, gas systems and components by use of isolation and other warning notices
29. confirm the completed installation meets and complies with the work plan and equipment specifications
30. pre-commission and commission gas meters and regulators on low or medium pressure gas systems to industry standards
31. record and complete all documentation for gas system de-commissioning, safe tightness testing and direct purging of system and components in accordance with organisational procedures
32. communicate the technical requirements of the completed work activity to all affected parties answering any technical queries
33. deal with problems safely and efficiently, referring matters which cannot be rectified to the appropriate person, including:
    33.1 deficiencies in gas and earthing input services

33.2 where pre-commissioning checks and tests reveal defects with the gas meter, regulator, gas system and components
33.3 when the gas meter, regulator, gas system and components being commissioned do not meet design requirements
33.4 when the gas meter, regulator, gas system and components cannot be restored to full performance

34. report relevant information including delay in work schedule, unsafe situations and required actions, and deficiencies in gas and earthing input service to the appropriate person
35. confirm the customer is satisfied with the job
36. store tools and equipment safely and securely, leaving the work area in a safe condition in accordance with organisational procedures

Knowledge and understanding

You need to know and understand:

1. the principles of health and safety in the workplace, environmental legislation and relevant regulations in relation to the work to be carried out
2. the organisational safety rules, policies and procedures in relation to work on or near electrical metering systems
3. the correct personal protective equipment for the work and how to select , inspect and use this
4. your organisation's procedures for presenting and introducing yourself to customers
5. the procedures for safe access and working at heights
6. the tools and equipment necessary to provide safe access to work at heights, or in confined spaces
7. how to carry out a site risk assessment, identify hazards and assess risks of the site and proposed activity
8. the methods of working which protect the building décor, customer property and existing system and components
9. the potential hazards that could arise from all de-commissioning, installation and commissioning activities and the checks to be carried out before work takes place
10. how to plan and prepare the work to be undertaken in line with industry, organisational standards and manufacturers guidelines
11. the processes and procedures to be followed for inspecting and preparing tools and equipment prior to use
12. the steps to take should materials, components, tools and equipment not be available at the site to commence the de-commissioning, installation and commissioning activity
13. how and where to access information relating to the installation and commissioning of gas metering installations and regulators
14. how to measure and record installation and site details for prefabrication purposes
15. how and the importance of identifying and recording meter readings and serial numbers
16. how to confirm that the gas and earthing supply, and ventilation requirements are adequate for installation, extending and adding components to the system
17. safe isolation methods, tests, and procedures to de-commission gas meters,

regulators, gas systems, components and earthing systems

18. the procedures for temporary and permanent de-commissioning of meters, regulators and systems including the use of continuity bonds

19. the need to liaise with others whose procedures or routines may be affected by the suspension of the gas meter, regulator, gas system and components throughout the activity

20. the types of gas meters and rating currently used in the industry

21. how to confirm the correct operating pressures and network tiers for low and medium pressure in the gas network

22. the need for, and use of, pressure regulators including factors affecting pressure loss

23. how to confirm the siting of the Emergency Control Valve is accessible, labelled and operating correctly, and why any defects are reported to the network owner for rectification

24. how to install and commission gas metering installations and regulators in line with the work plan, manufacturers specifications, relevant regulations and standards

25. identification of gas meter installations that incorporate non-return valves and the manufacturers' and industry standards' installation requirements

26. how to use pressure gauges correctly including digital and water

27. the characteristics of combustion, including:

- 27.1 complete and incomplete combustion including air and fuel requirements
- 27.2 pre and post aerated flames
- 27.3 the effects of carbon monoxide on building occupants
- 27.4 identify burner faults resulting in incomplete combustion

28. measures to prevent de-commissioned gas meters, regulators, gas systems and components being brought into operation utilising safety warning notices

29. the different types of earthing used in properties, including main and supplementary protective bonding

30. how to test for the presence of voltage at the meter installation using an approved voltage sensing device

31. the actions to be taken in case of non-compliance of the meter installation

32. the industry practices and work standards for fabricating and installing meters, regulators and components

33. the positioning and fixing requirements for domestic gas meters, regulators and components, on low pressure installations, to comply with manufacturers specification, industry standards and regulations

34. how to identify suitable and unsuitable routes within buildings for the installation of gas pipework and fittings for all of the following:
    - 34.1 types of pipe materials and fittings suitable for carrying gas
    - 34.2 jointing of materials and fittings including mechanical or non- mechanical, Corrugated Stainless Steel Tubing
    - 34.3 suitable pipe supports and fixings including methods used for a variety of walls and brick
    - 34.4 concrete, thermalite block, studded, dry lined and timber frame location of pipes, route and appearance
    - 34.5 pipework in walls, voids, ducts or shafts and under floor
    - 34.6 exterior pipework
    - 34.7 interrelation with other services
    - 34.8 corrosion protection
35. how to identify correct and incorrect service entries into buildings including damp proof course and other services in close proximity
36. the need for ventilation and paths for gas fueled appliances and their effect upon sizes
37. the routines and sequences for commissioning domestic gas meters, regulators and components in accordance with manufacturers specification and industry standards
38. the procedures for checking the correct operation and performance of domestic gas meters, regulators and components in accordance with manufacturers' instructions and industry standards
39. how to identify the different types and positions of open flue and room sealed chimney systems including:
    - 39.1 natural
    - 39.2 fanned draught
    - 39.3 rigid chimney types: brick and masonry, single and double wall, metallic and non-metallic
    - 39.4 flexible metallic liners
    - 39.5 shared (common) chimney systems
    - 39.6 SE & U Ducts
40. who to liaise with when procedures or routines are affected by the suspension of the gas supply and the importance of this
41. the gas industry and organisational unsafe situations procedure and when this applies
42. how to update, report and record information in accordance with organisational procedures
43. how to leave the work area secure and the importance of doing so
44. how to handle and dispose of hazardous and non-hazardous waste materials in line with relevant regulations

45. the extent of your own responsibility and whom you should report to if you have a problem that you cannot resolve

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