

## Install and maintain domestic gas space heating appliances

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### Overview

This standard covers installing and maintaining domestic gas space heating appliances. The appliance could be fires, wall or space heaters. This work must be in accordance with the current versions of the appropriate industry standards and regulations; the specification; industry recognised working practices; the working environment and the natural environment.

To meet this standard you will be able to:

- plan and prepare the work using job specifications, instructions and any tools, equipment and materials required
- plan the installation and maintenance of these appliances
- install, disconnect, de-commission, commission and maintain these appliances
- communicate with all customers and members of the public

You will be expected to work with minimal supervision, taking personal responsibility for your own actions and for the quality and accuracy of the work the work carried out. This standard is suitable for a craftsperson or technician working independently in the gas energy supply sector.

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## Performance criteria

## You must be able to:

**Plan and prepare work activities for installing and maintaining domestic gas fires and heaters**

1. communicate with the property occupier and other people who will be affected by the work throughout the process
2. carry out a site specific risk assessment of the work, identifying hazards and the required control measures
3. survey the work site for any pre-installation damage or defects to existing building features and record it
4. protect the work site and the building fabric against possible damage being caused during the de-commissioning, installation and maintenance process
5. check and confirm all materials, tools and equipment necessary for the decommissioning, installation, maintenance and commissioning process are available as required and are fit for purpose
6. check and confirm that the proposed siting of the appliance meets the manufacturers' and industry standards' requirements for location, siting and clearances
7. check and confirm that the gas and electricity supply, the provision of ventilation and chimney meet the manufacturers and industry standards, where appropriate
8. carry out all necessary checks and tests to confirm the gas supply, electricity supply and the chimney system meet the manufacturers' and industry requirements for the installation
9. check and confirm that the proposed siting of the appliance meets the manufacturers' and industry standards' requirements for location, siting and clearances
10. check existing installation for any unsafe appliances and system components and apply the gas industry unsafe situations procedures, where appropriate

**De-commission gas fires and wall heaters**

11. check that conditions within the gas and electricity systems will permit safe de-commissioning
12. select and use the correct tools and equipment for de-commissioning, installation, maintenance and commissioning activities
13. use designated safe isolation methods, tests, and procedures to decommission gas and electricity systems and components
14. take precautionary actions to ensure that temporarily de-commissioned appliances, systems, or components do not present a safety hazard
15. remove and disconnect appliances, gas components and electricity system, where appropriate

**Install, exchange, remove and maintain gas fires and heaters**

16. carry out installation and maintenance processes minimising damage to customer property and building features
17. remove existing gas and electricity system components as required by the

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installation and maintenance activities

18. fabricate gas and electricity system components as required by the installation, where appropriate
19. carry out maintenance process in accordance with manufacturers specification and industry standards
20. position the appliance and confirm it meets the location, siting and clearances required by manufacturers and industry standards
21. confirm the ventilation for new, replacement or existing appliances and systems meets industry standards
22. ensure existing gas systems are clean and free of debris
23. fix and connect gas and electricity system components to the appliance
24. use tightness, electrical testing and purging procedures to confirm the integrity of the installed or reconnected system and appliance
25. use industry standard checks and testing procedures to confirm the integrity of the installed or existing chimney system and appliance flue seals
26. take precautionary actions to prevent the unauthorised use of un-commissioned gas appliances, gas systems, electrical systems and components by isolation procedures and use of warning notices

### **Pre-commission and Commission gas fires and heaters**

27. confirm the complete appliance installation or maintenance complies with manufacturers and industry standards
28. check that conditions within the gas and electricity systems will permit safe commissioning
29. check and confirm the gas system and appliance operating pressures and heat input meet industry standards
30. check the combustion performance visually and by flue gas analysis as required
31. test chimney performance and reconfirm it performs according to manufacturers and industry standards, where required
32. confirm that the ventilation requirements meet industry standards for the installation
33. check and confirm the operation of the gas appliance, the gas system, and components to ensure they function safely and operate in accordance with manufacturers' instructions
34. check and confirm the electrical system and components function safely and operate in accordance with the manufacturers' instructions
35. explain to the property occupier the correct operation of the gas system and appliance providing them with a copy of relevant literature

### **Use and communicate data and information to carry out decommissioning, installation and commissioning work**

36. liaise with the property occupier and other people who will be affected by the work during the planning, de-commissioning, installation, maintenance and commissioning processes to minimise disturbance to the job
37. use relevant documents, industry standards and information from manufacturers' instructions for the appliance to ensure the work is done to the specification
38. report **information** on the work to the relevant persons

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- 39. check that the customer is satisfied with the finished job
- 40. record and complete all **documentation** in line with industry standards
- 41. deal with **problems** safely and efficiently, referring matters which cannot be rectified to the appropriate person

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### Knowledge and understanding

#### You need to know and understand:

##### **General**

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. how to maintain safe working and environmental practices throughout the duration of the work minimising the risks to self and others

##### *\*De-commissioning, installing, maintenance and commissioning domestic gas space heating appliances \**

3. how to carry out a risk assessment, identify hazards and assess risks for the work to be carried out
4. the organisations reporting lines, authorisation roles and responsibilities
5. how to access and work safely at heights or in confined spaces
6. the tools and equipment required for working safely at heights, in confined spaces, de-commissioning, installation and maintenance activities
7. the methods of working which protect the building décor, customer property and existing systems and components
8. how to safely use, secure and store tools, equipment, materials and components to minimise loss or wastage
9. the potential hazards that could arise from all de-commissioning, installation, maintenance and commissioning activities and the checks to be carried out before work takes place
10. the steps to take where materials, components, tools and equipment are not be available at the site to commence the activity
11. how and where to access and interpret the required information to ensure the work is done to the specification and industry standards
12. how to measure and record installation, maintenance and site details for prefabrication purposes
13. how to confirm that the gas supply, electric supply, chimney system and ventilation requirements are adequate for installation, existing or extending the system
14. safe isolation methods, tests, and procedures to de-commission gas and electricity systems or components
15. the procedures for temporary and permanent de-commissioning of appliances and systems including use of temporary continuity bonds
16. the precautions and measures to ensure that de-commissioned appliances or systems do not prove a safety hazard
17. the need to liaise with others whose procedures or routines may be affected by the suspension of the gas appliance and gas system operation
18. the points in the de-commissioning, installation, maintenance and commissioning process where co-operation and liaison with other trades and property occupier may be required
19. the industry practices and work standards for fabricating and installing domestic gas fires, wall heaters, gas systems and components to comply with the manufacturers' specification, industry standards, Gas Safety (Installation & Use) Regulations,

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### Standards and Building Regulations

20. the positioning and fixing requirements for domestic gas fires, wall heaters, gas systems and components to comply with the manufacturers' specification, industry standards, Gas Safety (Installation & Use) Regulations, Standards and Building Regulations
21. the procedures and work methods for connecting to input services including; gas, electric, ventilation and chimney systems
22. the procedures and work methods of connecting domestic gas fires, wall heaters and components to both new and existing gas, electric, ventilation and chimney systems
23. the process and procedures, equipment and legislative requirements for applying tightness testing and purging to appliances, gas systems and components
24. the process and procedures, equipment and legislative requirements for applying electrical tests to appliances, systems and components to ensure safe functioning e.g. preliminary electrical safety checks
25. the routines and sequences for commissioning or re-commissioning domestic gas fires, wall heaters, gas systems and components in accordance with manufacturers' specification and industry standards
26. the procedures for checking the correct operation and performance of domestic gas fires, wall heaters, gas systems and components and checking against the design specification
27. the procedures for checking the correct operation and performance of domestic gas fires, wall heaters, gas systems and components to ensure safe functioning
28. the procedures for checking and confirming the gas system operating pressures
29. the procedures for checking and confirming the appliance operating pressure and the heat input
30. the tests, checks and use of flue gas analysers which confirm the suitability of the gas combustion performance
31. the tests and checks to confirm the integrity, suitability and performance of the chimney system
32. the tests and checks to confirm the suitability and performance of the ventilation system
33. how to complete all installation, maintenance and commissioning documentation and records to be left with the property occupier
34. measure to prevent de and un-commissioned appliances and systems being brought into operation
35. the system handover procedures, confirming the end user can operate the appliances and components
36. the extent of your own responsibility and whom you should report to if you have a problem that you cannot resolve
37. how to handle and dispose of hazardous and non-hazardous waste materials
38. how to isolate unsafe gas appliances, gas systems and components and apply the gas industry unsafe situations procedure

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### Scope/range

report **information** on the work to the relevant persons

- delays in the work to any persons who are affected by the delay
- delays in the work schedules to the job supervisor
- unsafe situations and actions required to remedy those situations

record and complete all **documentation** in line with industry standards

- safe commissioning of gas appliances, systems and components
- gas appliance and system de-commissioning records
- details of installation and exchange appliance to gas network notification scheme

deal with **\*\*problems\*\*** safely and efficiently

- when there are deficiencies in gas and electric input services
- where pre-commissioning checks and tests reveal gas appliance, gas system or component defects
- when gas appliances, gas systems and components being commissioned do not meet design requirements
- when the gas appliance, the gas system or component cannot be restored to full performance

## Glossary

**Fir\*es\*** refers to Outset Gas Fires, Inset Live Fuel Effect Gas Fires, Decorative Fuel Effect Gas Appliances, Flueless, Cassette Fires, Direct Flue Fires, Heating Stoves, Fanned Draught Flue Appliances, and Condensing Gas Fires. These will include Open, Room Sealed, and Fanned Draught Chimneys

**Wall Heaters** refers to Room-Sealed and Flueless Convector Heaters.

**Work Site** refers to the area where the work will take place and all areas affected by the works

## Links to other NOS

**EUSDSG06** Design domestic gas systems for the installation of appliances or components



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Originating Organisation	Energy and Utility Skills
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Suite	Domestic Natural Gas, Installation and Maintenance, Down Stream Gas
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