



MCS Company Scheme Criteria for:

Unvented Hot Water Criteria

DRAFT Consultation Document

This document shows the Competence Criteria required to be met by a company undertaking the type of work detailed above.



These competencies have been identified from the current Qualifications Credit Units (QCF) devolved from the National Occupational Standards (NOS) to cover the range of work in the scope identified on the front page.

Anybody holding:

1. An approved Unvented Hot Water certificate of competence

Is likely to have met with all of the criteria presented within this document.

An Experienced Workers Route (EWR) will cover all the competencies outlined if taken in support of a EWR covering the same detail as titled on this document.

A full list of Qualifications that have been deemed to have met this criteria can be found at <http://www.microgenerationcertification.org/> along with access to EWR providers.

Please note anybody who has achieved the assessment without holding the correct mandatory Pre-requisites are likely to have to demonstrate further compliance against this company criteria.

Criteria Presentation

The criteria shown below in the following tables has been purposely presented in one of five categories:

1. Health and Safety – HS
2. Technical Skills – TS
3. Soft Skills – SS
4. Other – OT
5. Additional Information - AD

Where any box is blank these are intentionally blank.

By presenting the criteria within this format, it allows evidence to be collated for the Experienced Workers Route (EWR) options of evidencing compliance with the criteria.



Health and Safety Skills			
No.	Objective	No.	Criteria
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Technical Skills			
No.	Objective	No.	Criteria
1	Understand the types and configurations of vented/unvented hot water systems including the design installation requirements	1	Explain types of domestic hot water supply systems
		2	Centralised systems
		3	Unvented hot water systems
		4	Open vented hot water systems
		5	Localised systems
		6	Unvented point of use heaters
		7	Instantaneous heaters
		8	Describe types of unvented/vented hot water systems
		9	Indirect storage systems (include water jacketed tube heaters)
		10	Direct storage systems
		11	Electrically heated
		12	Gas or oil fired
		13	Small point of use (under sink)
		14	Bulk Storage heaters (combination tank)
		15	Solar Thermal hot water systems
		16	Combination boilers
		17	Identify hot water system pipework layout features including systems with secondary circulation
		18	Direct and indirect vented and unvented
		19	Direct and indirect cylinders
		20	Solar Thermal
		21	Thermal stores
		22	Combination boilers
		23	Secondary circulation
		24	Location of pump and type
		25	Automated timing devices
		26	Methods of balancing systems
		27	State the recommended design temperatures within hot water systems
		28	Hot water storage vessels
		29	Hot water delivery
		30	Secondary return



		31	Point of use
		32	Instantaneous heaters
		33	Storage system
		34	Fixed bath
		35	Basin
		36	Blending valve installations
		37	Identify the layout requirements, location and safety features for unvented/vented hot water systems
		38	Expansion and temperature relief pipework
		39	Vent pipes
2	Know the types and operation of specialist components used in hot water systems	1	State methods of preventing stored water from exceeding 100 ^o C
		2	State the minimum number of independent safety devices required to prevent overheating in unvented hot water systems
		3	State the expansion rate of water when converted to steam
		4	Explain the working principle of functional devices in unvented hot water systems
		5	Line strainer
		6	Pressure reducing valve
		7	Check valves
		8	Expansion device (vessel or integral to cylinder)
		9	Tundish
		10	Composite valve
3	Understand the design requirements for hot water systems	1	Identify factors affecting the selection of hot water systems for domestic use
		2	Explain how to minimise bacterial growth in hot water systems
		3	State the criteria for selecting hot water system and component types
		4	Occupiers needs or usage (Max usage of water per person per day)
		5	Building layout and features
		6	Suitability of system
		7	Water efficiency
		8	Environmental impact
		9	Energy efficiency
		10	State which regulation applies to the installation of unvented hot water systems of more than 45KW and a capacity of 500 litres
		11	State which documents should be used when designing domestic hot water systems



4	Know the installation and safety features of hot water systems and components	1	State the effects of unbalanced supply pressures in hot water systems
		2	State the take off point on a cold water supply to maintain a balanced hot and cold water supply
		3	State the additional safety components where multiple heat sources exist
		4	Identify the positioning and fixing requirements of components used in unvented hot water systems
		5	Control thermostat
		6	Overheat thermostat
		7	Temperature relief valve
		8	Line strainer
		9	Pressure reducing valve
		10	Check valves
		11	Expansion device
		12	Expansion relief valve
		13	Composite valves
		14	Tundish arrangements
		15	State the installation, fixing and sizing requirements for safety relief pipework
		16	Discharge D1
		17	Discharge D2
		18	Tundish
		19	Multiple discharge pipe arrangements from safety devices
		20	Termination
5	Know the requirements for the installation of cold water components associated with hot water systems	1	Describe the installation and siting requirements of cold water cisterns
		2	Describe the requirements for positioning a cold water pipe in relation to sources of heat
6	Be able to diagnose faults in hot water systems and components	1	Carry out diagnosis of hot water systems installation and component faults
		2	Thermostats
		3	Expansion and pressure vessels
		4	Temperature relief
		5	Expansion relief
		6	Discharge pipework
		7	Confirm the correct operation of system components and safety valves
		8	Thermostats
		9	Expansion and pressure vessels
		10	Temperature relief
		11	Expansion relief
		12	Discharge pipework



		13	Confirm the actions required to rectify the diagnosed faults
7	Know the commissioning requirements of hot water systems and components in accordance with design specifications	1	State the checks to be carried out during a visual inspection
		2	Describe the commissioning procedure for an unvented hot water system
		3	Describe the procedure for carrying out a soundness test on a hot water system
		4	Metallic systems
		5	Plastic pipework systems
		6	Describe the flushing procedure after completion of a soundness test
8	Be able to carry out the commissioning of hot water systems	7	Carry out the commissioning of a hot water system
9	Be able to confirm that unvented hot water systems have been serviced in accordance with manufacturer's instructions	8	Demonstrate service procedures on an unvented hot water storage system

Soft Skills

No.	Objective	No.	Criteria
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Other

No.	Objective	No.	Criteria
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Additional Guidance

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