- There is revised guidance on what are reasonable provisions when installing gas and oil fired central heating boilers. From the 1st April 2005, where you install a new or replacement boiler, this generally must be a condensing boiler.
- For boiler installations in existing dwellings Appendix G has been added, which sets out the procedure for determining for the purposes of L1, where due to practical considerations / restrictions it would be reasonable to install a non-condensing boiler.

Raising Performance Standards for Central Heating Boilers.

For mains **natural gas / LPG and oil** boilers you are required to have a minimum SEDBUK (Seasonal Efficiency of Domestic Boilers in the UK) rating of **88%.**

Assessing the Case for a Non-Condensing Boiler – exceptional circumstances.

If your installer advises you that it would be unreasonable or too costly to install a condensing boiler in your home, your installer must complete a **declaration form** for you to keep with the certificate. **Gas Safe Register** approved installers will issue these forms from 1st April 2005.

You (the householder) must receive and retain these forms, as they will be necessary for any house sale process and will be required to prove Building Regulation compliance.

The assessment should be carried out in accordance with the ***Guide to the Condensing Boiler Installation Assessment Procedure for Dwellings*** (see link below).

Please Note – where it is established that exceptional circumstances exist, which would allow a lower minimum SEDBUK rating**.**

Do I have to make an Building Regulation application to install my new boiler?

You must employ a **Gas Safe Register** approved installer to undertake this work on gas boilers / appliances. By using a 'Gas Safe registered installer' you do not have to make a Building Regulation application.

For oil boiler installations you should employ an OFTEC (Oil Firing Technical Association) registered installer. If you use a non-OFTEC member you will have to make a Building Regulation application.

Your **Gas Safe or OFTEC** registered installers must also be capable of installing condensing boilers. You are also advised to check this with your proposed installer and check their credentials with the registration organisations. Generally, installers should hold a Certificate in Energy Efficiency for Domestic Heating or an equivalent qualification.

In all other cases a Building Regulation application has to be made.

IMPORTANT NOTE - If there is notifiable electrical works to be undertaken as part of the boiler installation and your plumber or electrician is not registered with the Government's Electrical Competent Persons Scheme a Building Regulation application will be required for the electrical works. Refer to our Leaflet 20 for further guidance.

Completion Certificate.

Ensure you receive your Building Regulation Compliance Certificate from your Gas Safe or OFTEC registered installer on completion of the works. You are advised to keep the certificate safe as you will require them to sell your property.

Useful Links and Advisory Leaflets.

1. Approved Document L: Conservation of Fuel and Power.
   http://www.planningportal.gov.uk/england/professionals/buildingregs/technicalguidance/bcapproveddocumentslist/
2. Guide to the Condensing Boiler Installation Assessment Procedure for Dwellings.
   http://www.planningportal.gov.uk/uploads/br/BR_PDF_PTL_CONDBOILER.pdf
3. Gas and oil central-heating boilers – Advice to householders.
   http://www.planningportal.gov.uk/uploads/br/BR_PDF_PTL_GASHEATADVICE.pdf
4. HETAS Ltd – Heating Equipment Testing and Approval Scheme) – www.hetas.co.uk
5. Gas Safe Register – www.GasSafeRegister.co.uk
6. Energy Savings Trust – www.est.org.uk - provided details of boiler ratings.

GAS FIRED WET CENTRALHEATING SYSTEMS.

TABLE 1- MIN PROVISIONS FOR BOILER EFFICIENCY, SYSTEM CIRCULATION, SYSTEM PREPARATION & COMMISSIONING.

	New Systems in new and existing dwellings	Replacement Systems in existing dwellings	Supplementary information
a. Min efficiency	a. SEDBUK 2005 efficiency N.L.T 90% (or N.L.T **88% as rated by SEDBUK 2009) In existing dwellings in exceptional circumstance – see additional guidance SEDBUK 2005 (or SEBUK 2009) N.L.T 78%** NOTE- for new dwellings the seasonal efficiency should be no less than that assumed in the SAP calculations for the dwellings. b. Combined heating and cooking ranges efficiency should be determined from Section 2.3 of the Building services compliance Guide.	Replacements not involving fuel switches: Seasonal efficiency to be as new system and not worse than 2% age points lower than seasonal efficiency of system being replaced. Replacements involving fuel switches e.g. gas to oil etc: Multiply boiler efficiency by the ratio of the CO2 emission factor of the fuel used in the service being replaced to that used in the new service.	Boiler SEDBUK ratings obtainable from boiler suppliers or The Boiler Efficiency Database – http://www.sedbuk.com For condensing boilers systems – system to provide low primary system return temps, preferably L.T 55 degrees. Low temp heat emitters such as underfloor heating and weather compensators provide low water temp returns.
b. System circulation	a. Space heating and domestic hot water systems primary circuits to have fully pumped circulation. b. Where boiler manufacturer recommends a bypass be installed, an automatic bypass valve should be fitted in conjunction with any requirements for a minimum pipe length specified in the manufacturer's instructions.	As for new systems. For replacement boilers – existing systems with semi-gravity circulation must be converted to fully pumped circulation.	
c. Hot Water Storage	a. Vented and unvented copper hot water storage vessels to comply with BS1566:2002 - heat loss and heat exchanger requirements and be labelled with BSi Kite marks. b. Copper hot water storage combination units to comply with BS 3198: 1981. c. Primary store systems to comply with Hot Water Heater Association Performance standards for thermal stores. d. Unvented hot water storage systems / vessels to comply with BS EN 12897 or be B.B.A certified or certified by another accredited body e. The standing loss for all hot water vessels should not exceed Q= 1.15 x (0.2+0.051V 2/3) KWh/day, where V is the volume of the cylinder. f. All hot water vessels are to be labelled indicating: type; nominal capacity; standing heat loss in kWh/day; Heat exchanger performance in kW; ***Primary stores must be well insulated***	a) As defined for new systems, but b) For replacement copper vented cylinders and combination units, the standing loss should not exceed Q= 1.28 x (0.2+0.051V 2/3) KWh/day, where V is the volume of the cylinder.	
d. System Preparation and water treatment	a. Follow boilers manufacturers preparation and treatment instructions. b. Systems to be thoroughly cleaned and flushed before connecting the new boilers / corrosion inhibitors added to Primary circuits on final fill. c. In hard water areas – feed water must be treated to reduce lime scale build up.	As defined for new systems.	
e. Commissioning	a. Follow boilers and / or hot water storage manufacturers commissioning instructions. b. Installer to provide full details of the system and it's operation to the user, including the manufacturer's user manual where provided. ***c. Copies of commissioning certificates to be provided to building control for both the gas installation and hot water and heating systems.***	As defined for new systems.	

TABLE 2- MINIMUM PROVISIONS FOR CONTROL OF GAS-FIRED CENTRAL HEATING SYSTEMS.

System Control	New Systems in new and existing dwellings	Replacement Systems in existing dwellings
Boiler Interlock.	Boiler interlock to be fitted to switch off the boiler and pump when there is no space heating or hot water demand. Use *of T.R.V's (Thermostatic Radiator Valves) alone does not provide boiler interlock*.	As defined for new systems
Space Heating zones.	**Dwellings with a total usable floor area up to 150m2 -** divide into minimum 2 space heating zones with separate independent temperature control, one of which is to be assigned to the living area. **Dwellings with a total usable floor area over 150m2** – provide at least 2 space heating zones, each having separate timing and temperature controls. **Single storey open plan dwellings in which the living area is greater than 70% of the total floor area -** sub-zoning of temperature controls is not appropriate.	As defined for new systems, except where the boiler only is to be replaced. In which case reasonable provision for a space heating system would be to control as one zone.
Water Heating Zones.	• **All dwellings to have separate hot water service zone in addition to space heating zones.** *Separate hot water service zone not required if the hot water is produced instantaneously such as with a combination boiler.*	As defined for new systems.
Time control of space and water heating.	Provide the following: **a**. Full programmer with separate timing to each circuit. **b**. 2 or more separate timers providing timing control to each circuit: or **c**. Programmable room thermostat(s) to the heating circuit(s) with separate timing of the hot water circuit. **Dwellings with a total usable floor area over 150m2 – timing of the separate space heating zones can be achieved by:** **a.** Multiple heat zone programmers; or **b**. single multi-channel programmer; or **c**. Programmable room thermostats; or **d**. Separate timers to each circuit; or e. A combination of (c) and (d) above. **Where the hot water is produced instantaneously, such as with a combination boiler, time control is only required for the space heating zones.**	As defined for new systems, except where only the hot water cylinder is being replaced in a replacement system and separate time control for the hot water circuit is not present. In this case it is acceptable to have a single timing control for both space heating and hot water.
Temperature control of space heating.	Separate temperature control of zones within the dwelling, should be provided using: a. Room thermostats or programmable room thermostats in all zones; and b. Individual radiator controls such as Thermostatic Radiator Valves (TRV's) on all radiators other than in reference rooms (with a thermostat) and bathrooms. c.	As defined for new systems, but consider fitting of TRV's to radiators
Temperature control of domestic hot water service.	Domestic hot water systems should be provided with a cylinder thermostat and a zone valve or three-port valve to control the temperature of the stored hot water. **Dwellings with a total usable floor area over 150m2 – provide more than one hot water circuit, each having separate timing and temperature controls.** This can be achieved by: a. Multiple heat zone programmers; or b. A single multi-channel programmer; or c. Separate timers to each circuit. *Use of non-electric hot water controllers does not meet this requirement. Also, in some situations, such as thermal stores, a zone valve is not appropriate: a second pump could be substituted for the zone valve.*	A thermo-mechanical cylinder thermostat should be installed as minimum requirement.

More details on control systems can be found in manufacturer's literature and on the Association of Controls Manufacturers (TACMA) website www.heatingcontrols.org.uk