

Water supply to domestic fire sprinkler systems

Summary

- Water UK supports the provision of a water supply for fire fighting and in particular to well designed domestic fire sprinkler systems.
- Water UK will engage with the interested parties to agree standards, good practice, guidelines and frameworks for the water supplier, the system designer and installer, the system user and the system maintainer.

Introduction

Water UK recognises the vital role that fire sprinkler systems have in controlling fires in commercial and domestic properties and the benefits that they have in terms of preventing loss of life and minimising property damage. In addition, a fire controlled by a sprinkler will generally have a much lower demand on the water network than one controlled by water taken from a fire hydrant thus reducing the risk of quality or supply problems to other network users. Although the number of systems installed in domestic properties has been low, the scope for the proliferation of domestic fire sprinklers is high. In Wales fire suppression sprinklers are now enshrined in legislation for all new properties.

Role of water companies

The primary purpose of water companies is to supply wholesome water. They operate in accordance with regulations and perform to established levels of service. Fire sprinkler systems should be installed with consideration given to these regulations and levels of service noting that local conditions or requirements may mean the preferred design option is not available.

Network variation

There is wide variation in the pressure of water supplies and the available flow at any point of connection within the water distribution system. These variations are both spatial and temporal. Water companies will advise designers of sprinkler systems of the probable envelope of flow and pressure at or near the proposed point of connection.

The design of the sprinkler system from the point of connection is the responsibility of the supplier of the sprinkler system. All sprinkler systems must comply with the terms and conditions for connection of the relevant water

company and the appropriate fittings regulations (Water Supply (Water Fittings) Regulations 1999 (England and Wales) or Water Byelaws 2004 (Scotland), Water Supply (Water Fittings) Regulations (Northern Ireland) 2009).

Metering

The metering of flows specifically to identify the volume water used for fire fighting is not required as there are no charges for water taken for this purpose. However in recent years the water industry has developed wider policies for domestic metering, particularly in areas of water stress, which may mean that individual water companies will require all supplies to be metered.

Installation of an appropriate water meter should not impinge on the ability of a sprinkler system to operate and we support the ongoing research investigating a solution that will allow a meter arrangement to be developed that meets the needs of water companies and of sprinkler systems.

Sprinkler systems should be developed to meet the specific conditions at the property and the water network supplying it and should be determined locally. Designers are encouraged to engage with their local water company at the earliest opportunity in the design process so that local factors can be taken into consideration. These factors, if accounted for at design stage, can be overcome to ensure that, when required, a sprinkler system functions. Addressing these later in the process will inevitably be more complex and time consuming. Water companies will commit to inform the occupier of premises notified to have a sprinkler system installed of any material, permanent changes to the network status.

Legal status

Legally fire sprinkler systems are classified as non-domestic water rather than fire fighting water. This means that supplies for fire sprinklers must be notified to the water company as being additional to the normal domestic water supply. Water UK has supported the proposal to change the legislation to give water for fire sprinklers the same legal status as water taken from fire hydrants.

We appreciate that legislative changes take time and that measures should be in place to ensure that this does not prohibit the ongoing installation of sprinklers. The water industry is committed to a voluntary approach of working with installers within the framework set by the 2004 Guidelines.

2004 Guidelines

In 2004 the water industry, in conjunction with a number of stakeholders, produced a document providing guidelines for designers, installers and water companies on the supply of water to these systems¹. Whilst the 2004 Guidelines has been a useful document for the past 8 years it is recognised that it is in need of review and revision. Both directly and through its representative bodies the water industry will continue to be involved in the working groups and committees established to ensure guidance is appropriate and up to date, that disputes are resolved and the good practice is shared.

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¹ <http://www.water.org.uk/home/policy/positions/fire-sprinklers?s1=fire>