



**Scottish
Water**
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Sprinkler systems for residential and domestic occupancies

A policy guide

Introduction

Combined with the protection already achieved by appropriate building design and the installation of smoke and/or fire detectors, automatic fire sprinkler systems have a valuable role to play in the protection of both life and property from fire and in the reduction of environmental damage such fires can cause.

The purpose of this document is to provide information on Scottish Water's (SW's) approved policy, vision and commitments to supporting the installation of fire sprinkler systems in residential or domestic premises. This policy will require that installers carry out installations in accordance with The Water Supply (Water Fittings) (Scotland) Byelaws 2014 (the Byelaws) and be in accordance with our terms and conditions of supply.

The document provides guidance for developers, Licensed Providers, sprinkler installers and customers who wish to install fire sprinkler systems in new or existing residential or domestic occupancies.

This document will be reviewed every five years, or as necessary as a result of changes to legislation, centrally issued guidance or applicable standards.

SW reserves the right to alter this policy as and when necessary.

For further information on this policy, please contact our Byelaws team:

byelaws@scottishwater.co.uk

Definition

Residential and domestic occupancies as in *BS 9251:2014- Fire sprinkler systems for domestic and residential occupancies - Code of practice* i.e. – Dwellings, residential care facilities, houses in multiple occupancy, hostels and the like.

Note

This policy and information note may also apply to other occupancies such as shops, schools, offices and other facilities, subject to the requirements of *BS 9251:2014 and BS EN 12845 2004+A2:2009 - Fixed fire fighting systems - Automatic sprinkler systems - Design, installation and maintenance*.

General

Scottish Water (SW) cannot guarantee any set flow and pressure above those set out in our Service Standards. Currently these are a minimum flow of 10 litres per minute at a pressure of 1 bar static head.

We recommend that only professional, experienced fire sprinkler system designers and installers are used and where proposed fire sprinkler systems will rely solely on a direct connection to our network, water supply requirements are verified against available network flows and pressures prior to installation.

It should be noted that a constant supply of water from SW's network cannot be guaranteed and that interruptions to supply may occur at any time. In addition, available flows and pressures may change from time to time dependent upon the operational requirements of SW.

Should changes in water pressure occur in our network, or in the event that any planned or unplanned interruptions affect continuity of supply, SW will not be held liable for any failure of a fire sprinkler system or for the consequences of not installing storage based systems.

Developers, via their Licensed Providers (LP's), designers and installers of any proposed residential and/or domestic fire sprinklers system should contact SW at an early stage to discuss proposed installations and water supply arrangements. This will ensure early agreement on supply arrangements, avoid the need for post-installation alterations, and prevent delays in bringing fire sprinkler systems into operation.

Fire sprinkler system design & maintenance

Residential and domestic fire sprinkler systems should be designed and installed in compliance with the following:

- The Water Supply (Water Fittings) (Scotland) Byelaws 2014;
- BS 9251:2014 - Sprinkler systems for residential and domestic occupancies – Code of practice;
- Guidelines for the supply of water to fire sprinkler systems
- Any other relevant standard or specification.

It is the responsibility of both the designer and installer of a residential and domestic fire sprinkler system to design and install the system in accordance with current standards and specifications.

They should install all necessary backflow prevention devices, stop valves and fittings as indicated in relevant standards and as required by the Byelaws.

It is the owner/occupier's responsibility to adequately maintain and service the whole fire sprinkler system in accordance with the designer/installer's recommendations.

Water meters

Where a metered supply is requested or required for residential and other domestic properties, a water meter will be installed on the residential and domestic part of the supply with the fire sprinkler part of the supply being taken off before the water meter.

Where the configuration of the supply does not allow for this, i.e. in retrofit situations, the water meter will be installed on the whole supply and SW may make allowances for situations where water is used for testing of fire sprinkler systems or fire fighting purposes.

Acceptable means of supply arrangement

As a baseline, residential and domestic fire sprinkler systems should be fed from water storage with appropriate pumps and controls.

Only one suitably sized connection to the premises, serving both domestic and fire fighting requirements, will be made available. Backflow prevention to the agreed level of risk must also be provided (Fluid Category 2, 4 or 5). Dual connections to our network are not permitted, e.g. one serving the household domestic supply plus another serving the sprinkler system specifically.

Where residential and domestic fire sprinkler systems are designed to have alternative sources of supply, such as mains supply and rainwater harvesting systems, these are only permitted where the supply to the system is taken via a cistern or tank containing an appropriate air gap.

Design/layout drawings must be submitted with all notifications and supply applications. Requests to have booster pumps connected directly to our network will be considered on a site-by-site basis. Where approved they must be Byelaw compliant and will be subject to strict terms and conditions on their set-up and on-going operation and maintenance.

The maximum permissible communication pipe size for a single house or dwelling is 32mm diameter, as per the latest edition of Scottish Water's technical manual "Water for Scotland". It should be noted that under our Service Standards we aim to provide water at a minimum pressure of 1 bar (1 metre static head) at the property boundary and are unable to guarantee any pressure over and above this level. For operational reasons we must retain flexibility in the manner in which we operate our network and, as a result, flow and pressure may fluctuate where operational needs dictate.

Connection diameters permitted for residential and domestic occupancies may vary and will be determined by our Customer Connections team through the normal application process.

Note

Plumbing systems must be designed taking supply pipe diameters and available flows and pressures into account - i.e. a five bedroom house with cloak room, family bathroom, three ensuite's, utility room etc. would be given a maximum 32mm diameter connection, Therefore the internal plumbing system must be designed to ensure all fittings can be adequately supplied during peak demand periods.

Residential and domestic fire sprinkler systems should be designed with the same constraints in mind, and in line with the wider demands of the property.

Notification

Water Byelaw compliance

Byelaw 5 of the Water Supply (Water Fittings) (Scotland) Byelaws 2014 requires that the installation of residential and domestic fire sprinkler systems in both new and existing properties be notified to our Water Byelaws team.

Notification is particularly important where it is proposed that the system will incorporate a pump or booster (connected directly or indirectly to a supply pipe) capable of drawing more than 12 litres per minute.

Notification should be sent to our Byelaws Team at byelaws@scottishwater.co.uk

The notification must include full drawings (showing pipe runs) and a water fittings schedule. Installation of residential and domestic fire sprinkler systems should not commence without the consent of SW. Consent may be subject to conditions but it will not be withheld unreasonably. If no notice is given by SW within ten working days of receipt of the notification then consent is deemed to have been granted for the residential and domestic fire sprinkler system. However, this does not alter the responsibility of the installer to comply with Water Byelaw requirements for the residential and domestic fire sprinkler system.

Application for supply (new)

If you require a new or upgraded water connection to the public supply for domestic and fire sprinkler system use, application forms for Scottish Water Customer Connections team can be found on our web-site www.scottishwater.co.uk under the sections Business Customers>>Connections. You can download our Water Connection form for completion.

These forms must be completed with as much information as possible. Mandatory fields are denoted throughout the form together with information on why this information is required and how it can be obtained.

Please note the following points:

- All forms should be completed fully with the required information otherwise your application may be delayed. Where a domestic sprinkler system is required, this should be clearly outlined within the form, and manufacturing specifications and additional schematic drawings confirming the layout of the internal supplies should be provided. This information is additional to the site location plan and will be used to assist with the initial assessment and subsequent Byelaws inspection.
- Please ensure any fixtures and fittings used within the proposed fire sprinkler system conform to the appropriate Byelaws requirements.
- Once the form has been completed it can be submitted to our business team via the contact routes noted on the forms.
- You will receive an initial acknowledgement letter from our team and the technical assessment will be completed within 28 calendar days, provided the application has been fully completed and all associated documentation has been supplied.

Should you require on-site support or guidance during the construction of your domestic dwelling, particularly in relation to internal Byelaws or the installation of your supply pipe and other fittings, you can request a site visit from our inspectors at any time. We require 5 days' notice for a site visit request. Further support can be obtained by contacting our Connections Business Team. Contact details and address are contained within the application forms.

Roles and responsibilities

Scottish Water's roles and responsibilities are as follows

- Respond to Byelaw notifications within 10 working days of receipt.
- Respond to formal applications detailing connection charges within our levels of service as outlined in our New Supply Application process.
- Carry out Byelaw Inspections and final connections in line with our New Supply application process provided that the application is completed correctly.
- Where appropriate or required, undertake a planned inspection of the installation to ensure compliance with the Byelaws.
- Choose to undertake an additional Byelaws inspection where the sprinkler system has been installed and self-certified by a nationally recognised Water Industry approved contractor in accordance with the terms and conditions of the appropriate scheme.
- Provide a new communication pipe and connection within our levels of service after the required charges have been paid and appropriate evidence of compliance with Byelaws has been confirmed.
- Review this policy as and when required to ensure compliance with legislation.

Designer/Installer/Customer roles and responsibilities are as follows

- Notify our Water Byelaws Team of the proposed installation by emailing the byelaws team byelaws@scottishwater.co.uk
- When there is a requirement to install a new communication pipe for a domestic sprinkler system, submit a completed "supply application form" giving details of the proposed supply arrangements, drawings and the fittings schedule.
- For new connections ensure a single point of connection to the water main for both the fire sprinkler system and the domestic water supply system.
- Request a replacement communication pipe (non-standard application) if the existing domestic communication pipe is not fit for purpose. The costs of replacing the communication pipe will be at the applicant's expense.
- If required replace/upgrade the supply pipe in line with the Byelaws and our terms and conditions of supply prior to a connection being made.

- Where it is proposed to use the existing supply and where the connections will be made within the boundaries of premises, a Byelaw 5 notification form in accordance with the Byelaws must be submitted to the Byelaws team byelaws@scottishwater.co.uk
- Ensure all water fittings relating to the fire sprinkler system including backflow prevention devices and valves remain within the property boundary and are installed so that they can be appropriately maintained, serviced and replaced.
- Pay all connection charges prior to SW undertaking any work.
- Ensure all the water fittings that are installed and used comply with the Byelaws.
- Rectify any non-compliant water fittings identified following inspections within the agreed timescale.
- Ensure the occupier is aware of their responsibilities regarding maintenance and testing of the fire sprinkler system.
- Ensure the fire sprinkler system is designed, installed, maintained and used in accordance with "*BS 9251 (2014) - Sprinkler systems for residential and domestic occupancies*", and all other appropriate regulatory and nationally recognised standards or guidelines
- Notify Scottish water 10 days in advance of any testing of fire sprinkler systems fed from a supply pipe exceeding 32mm diameter

Relevant documents

The Water Supply (Water Fittings) (Scotland) Byelaws 2014 – available free from SW web site
www.scottishwater.co.uk/byelaws

Water for Scotland

<http://wfs.wrcplc.co.uk>

Guidelines for the supply of water to fire sprinkler systems, available to view at Water UK

www.water.org.uk/publications

BS 9251 - Fire sprinkler systems for domestic and residential occupancies – Code of practice –

Available to buy at BSI, 389 Chiswick High Road, London, W4 4AL

EN 12845 - Fixed fire fighting systems - Automatic sprinkler systems -

Design, installation and maintenance – Available to buy at BSI, 389 Chiswick High Road, London, W4 4AL

Further information on residential and domestic fire sprinkler systems and installers can be obtained by contacting: -

BAFSA (British Automatic Fire Sprinkler Association)

Richmond House

Broad Street

Ely

CB7 4AH

Tel: 01353 659187 Fax: 01353 666619

Email: info@bafsa.org.uk

www.bafsa.org.uk

The Fire Sprinkler Association

Mill House

Mill Lane

Reading

Berkshire

RG7 4JX

Tel: 0118 971 2322 Fax: 0118 971 3015

Email: info@firesprinklers.org.uk

www.firesprinklers.org.uk