

Policy Position Statement

Water Supply Pipes

Purpose

Water supply pipes are the pipes which carry drinking water from the boundary of a property into the property itself. They are important in light of the need to reduce leakage and concerns over lead in drinking water supplies, yet their ownership and responsibility is often confused. This Policy Position Statement reviews the current situation with regard to ownership of water supply pipes in the UK.

CIWEM considers that:

1. There needs to be a holistic approach linked to supply pipe leakage reduction, customer meter location and lead pipe replacement.
2. Leakage from customer-owned water supply pipes averages 45 litres per household per day for unmetered and internally metered households, but only 19 litres per household per day for households metered at the property boundary linei. Many customers are unaware of their responsibility for them and to fix the relatively small numbers of leaks which occur on them each year.
3. Locating all water meters at the householder property boundary line would enable all significant leaks on the supply pipe, to be identified whenever the meter is read, and save around 26 litres per household per day irrespective of supply pipe ownershipii.
4. If water companies also adopted supply pipes there may be further scope for leakage reduction and lead pipe replacement.
5. Whilst the initial cost benefit analysis of water company adoption would be around £4 per property per year onto consumers' water billsiii, this is offset by the fact that the property owner would no longer need to pay for any repairs, maintenance or insurance for their water supply pipe (estimated at around £35 per property per year).
6. Findings by UKWIRiv show that the benefits of supply pipe adoption would also include: allowing the economic level of leakage calculations to include supply pipe replacement as a demand-side intervention; the development of supply pipe serviceability criteria; improved opportunities for innovation and operational performance and improved customer relations in the longer term.
7. Improved data (including the lengths age and condition of water supply pipes) is essential so the water industry can formulate a robust view on water supply pipes for leakage management whether companies adopt or not.
8. CIWEM continues to support water companies offering free or subsidised repairs or replacements to householders' water supply pipes and the development of alternatives

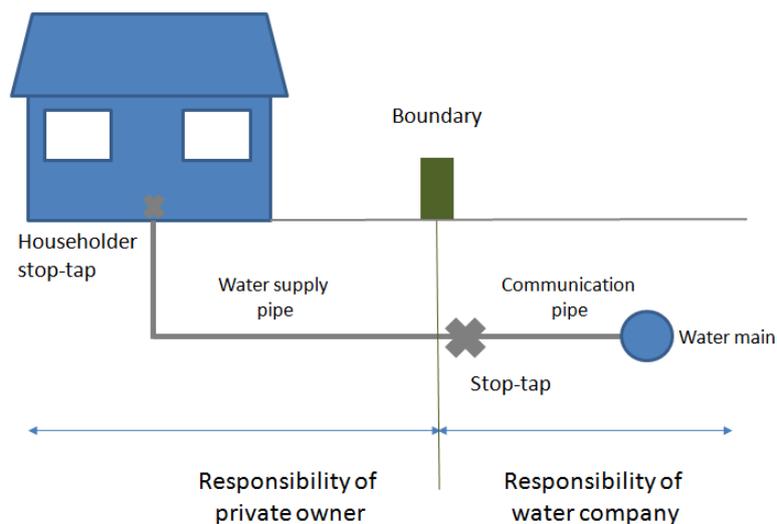
to replacement of lead pipe including in situ lining of the service pipe and water supply pipe.

CIWEM is the leading independent Chartered professional body for water and environmental professionals, promoting excellence within the sector.

Context

The ownership of water supply pipes has been the subject of some discussion recently, particularly in the light of the adoption of private sewers in 2011, the need to reduce leakage and concerns over lead in drinking water supplies.

There is often confusion over who is responsible for the different sections of the pipe in between the water main and the customer's property. In general, responsibility for the pipes that supply drinking water to a property is shared between property owners and water companies (see below). However CIWEM stresses that it is important to contact the local water company for interpretation of individual circumstances as these may differ from the responsibilities described in this PPS.



Definitions

Water mains: these large water company pipes distribute water around the network. They are often, but not always, laid under roads.

Service pipes: this a general name for the pipes leading between the mains and the property, normally consisting of the communication pipe and the water supply pipe.

Communication pipes: these pipes carry water between the water mains and the boundary of private property. If a company stop-tap has been fitted, this will normally mark the division between pipework that is the responsibility of the company and the pipework that is the responsibility of the property owner. Not all properties will have their own stop-tap in the

footpath but where one has been fitted, this is normally the responsibility of the water company to maintain.

Water supply pipes: these pipes carry water from company pipework into the property. Supply pipes run from the boundary of the property (where there may be a company stop-tap) up to the first water fitting or stop-tap inside the property.

Key issues

Responsibility for water mains, communication pipes and water supply pipes

In the UK, water companies are responsible for the large pipes in the ground which carry water from around the network to the customers. These large pipes are known as water mains.

In the majority of situations, water companies are also responsible for the pipes between the water main and the boundary of a customer's property. The section of pipe between the main and the property boundary is known as the communication pipe. Most properties have an underground stop-tap at the boundary of the property which indicates the division of responsibilities between the water company and the property owner. Where a company stop-tap has been fitted, this is the responsibility of the water company to maintain. Stop-taps along the length of the supply pipe, and any water fittings, are the property owner's responsibility to maintain. Householders should contact their water company if the stop-tap cannot be located. It is important to know the location of the internal stop-tap to minimize the damage from a leak within a property in an emergency.

The section of pipe taking water from the company's stop-tap into the house belongs to the householder or property owner. This is known as the water supply pipe. It is the property owner's responsibility to keep the supply pipe in good order. Sometimes responsibility for supply pipes is shared between properties. The owner of the property is responsible for the supply pipe from the boundary of the public highway all the way into their home, even if this crosses other privately or publicly owned property before entering the customer's property. In most cases, the boundary of the public highway where the water company's responsibility ends is also the boundary of the customer's own property.

Unless the rental agreement states differently, the water supply pipe is the landlord's responsibility in rented properties.

The usual responsibility for different types of water pipes is shown in the table below. However, there may be special cases in some areas, and residents should contact their water company, and consult the deeds to your property to find out more for their particular situation.

| Type of pipe | Laid under | Responsibility for pipe |
|--|---|--|
| Water mains | Highway | Water company |
| | Property owner's land | Water company |
| | Land owned by someone else | Water company |
| Communication pipe | Highway | Water company |
| Supply pipe serving a single property | Highway | Water company |
| | Property owner's land | Private owner |
| | Land owned by someone else | Private owner |
| Shared supply pipe serving more than one property | Highway | Water company |
| | Land owned by any of the property owners served by the pipe | Joint responsibility of all property owners served by pipe |
| | Land owned by someone else | Joint responsibility of all property owners served by pipe |

Installation and responsibilities

The majority of mains and are still laid by water companies, however the Water Act 2003 introduced the option of self-lay, where developers could lay water pipes before handing them over to water companies. As a result, adoption agreements were introduced for water mains and water service pipes with a similar adoption process to sewers. This is why it is important to contact the local water company to understand the particular situation.

The majority of water supply pipes are laid by builders and should be protected during installation and during the building process.

The Water Supply (Water Fittings) Regulations 1999 and Scottish Water Byelaws 2004 are national requirements which regulate the design, installation, composition and maintenance of water fixtures and fittings. Water systems and fittings in premises that are, or will be, connected to the public water supply system must comply with the Regulations. These regulations are designed to protect consumers and the environment from poor water quality, unnecessary waste, misuse, and the contamination of wholesome water supplies. In certain circumstances customers are required to notify their local water company before commencing any plumbing work. The Water Regulations Advisory Scheme (WRAS) has published a Water Regulations Guide which explains the requirements of the Regulations in more detail.

The installation of water supply pipes needs to comply with the requirements of the Water Supply (Water Fittings) Regulations and the Scottish Water Byelaws. The final connection to the communication pipe (to the external stop-valve at the property boundary) will be made by contractors working for the water company, once they are satisfied that the supply pipe installation is correct. There are two ways in which the installation can be carried out. Firstly a contractor can inform the water company that a new supply pipe is to be installed. After the pipe is installed an inspector from the Water Company will inspect the installation, and if satisfied, will authorise the connection of the pipe. The alternative is for a Water Regulations

Approved Contactor Person (commonly referred to as an ACP) to undertake the supply pipe installation (without the requirement for inspection) and upon receipt of a certificate of completion from the contractor, the water company will make the connection. Currently there are a number of ACP schemes, with different criteria, and water companies have individual requirements and the situation is not always clear. However the launch of the WaterSafe Installer Scheme in 2012 should provide a streamlined and more straightforward approach to the assessment, approval and installation of water supply pipes.

Water meters, as well as stop-taps, are the responsibility of the water companies. The majority of meters are located in one of three locations: at the boundary of the property, on the outside wall or near the first tap in the property.

Private water supplies are regulated by local authorities under the Private Water Supplies Regulations 2009. In general terms, a private water supply is any water supply which is not provided by a water company. Private water supplies include water from a well, borehole or spring and water supplied by a water supplier which is then further distributed by another person called a private distribution network (e.g. campsites and industrial estates). The ownership of the water supply pipes will need to be established on an individual basis. The Private Water Supply Regulations 2009 introduced new monitoring duties and require the local authority to carry out a risk assessment on specific areas of the water supply. This risk assessment looks at the source of the supply and the surrounding area to see if contamination is possible. It also involves checks of the storage tanks, any treatment systems and the water supply pipes themselves.

In recent years, water companies have been strongly urged to reduce leakage and a number have opted for subsidised supply pipe repair schemes without having legal responsibility for the ownership and maintenance of such pipes. CIWEM supports water companies offering free leak repairs or subsidies to fix leaks on householders' water supply pipes. Water UK (who represent all major UK water suppliers) state that around 30% of leakage is estimated to arise from customer-owned water supply pipes.

Adoption of supply pipes by water companies

Strategic Direction Statements (SDS) describe water companies' aspirations for the next 25 years. In their SDS, and as a long term objective, some water companies state very strongly and clearly that they want to adopt customers' water supply pipes. The water companies suggest that this would reduce leakage and speed up lead pipe replacement.

However, at present, none of the water companies are seeking to adopt water supply pipes within the next five years. The Government are currently consulting on plans for supply pipe adoption.

In 2009, the UK water industry research body, UKWIR, which facilitates collaborative research for UK water operators, conducted research to estimate the cost of adopting water supply pipes. Their research concluded:

If water supply pipes were to be adopted, then unconditional, automatic and overnight transfer would be the best option.

Data on supply pipes was not readily available, which was not surprising given that water companies do not own such assets.

Initial cost benefit analysis suggested that the cost to water companies of adoption would be around £4 per property a year which would be applied to consumers' water bills (offset by the fact that the property owner would no longer need to pay for any repairs, maintenance or insurance for their water supply pipe)

Other benefits of the adoption of water supply pipes would include:

- ◆ a more holistic approach to leakage and asset management
- ◆ adoption will allow the economic level of leakage calculations to include supply pipe replacement as a demand-side intervention
- ◆ the development of supply pipe serviceability criteria
- ◆ improved opportunities for innovation and operational performance
- ◆ improved customer relations in the longer term.

CIWEM concurs with the authors of the UKWIR report that improved data (including the lengths age and condition of water supply pipes) is essential so the water industry can formulate a robust view on water supply pipes. Even if adoption of water supply pipes does not take place in the near future, this information would be useful, especially in the management of leakage.

Influence of meter location on detection of leakage from supply pipes

OFWAT data shows average supply pipe losses on internally metered or unmetered households as 45 litres/household/day, over twice that of households metered at the property boundary (19 litres/household/day)^{ix}. Clearly, the presence of water meters at the property boundary significantly reduces average supply pipe leakage within the data, compared to the almost negligible reduction from meters in the house. Meters at the property boundary also help to quantify leak flow rates, and identify whether a leaking underground supply pipe needs to be repaired or replaced.

A significant component of average supply pipe leakage is generated by long-running larger leaks on a small percentage of unmetered underground supply pipes. OFWAT statistics show that fewer than 0.5% of households each year receive free or subsidised repairs or replacements as part of existing Water Company policies to reduce customer leakage.

Locating meters near the property boundary line allows any significant leaks on the supply pipe to be identified whenever the meter is read. Some meters are specifically designed to pick up such leaks by identifying when there is a continuous flow of at least (say) 10 litres per hour every hour for 24 hours, every day. Even such a small leak will generate over 80m³ leakage in a year, adding £250 onto a customer's annual bill for water and sewerage charges (at £3/m³ for water and sewerage).

Households with meters at the property boundary line therefore have a financial incentive to call their water company when they have a higher than expected bill, leading to an investigation of the complaint. It is more likely that leaks on unmetered or internally metered supply pipes will run for longer than leaks on supply pipes with meters at the property boundary, even with economic active leakage control policies.

CIWEM considers that existing average supply pipe leakage could be substantially reduced by simply ensuring that customer meters are located at the property boundary line, rather than inside (or on the outside wall of) buildings, irrespective of the ownership of supply pipes.

Lead water supply pipes

Before 1970, many of these water pipes, including communication pipes and water supply pipes, were made from lead. Although lead pipes have not been permitted for this purpose for four decades, in older properties it remains possible that part, or all, of the underground service pipe connecting the water main in the street to or kitchen tap may be made from lead.

Water companies are legally required to replace their communication pipe if all of the following criteria are met:

- test results show the level of lead in the drinking water to be above the drinking water standard of 10 µg/l (the UK limit for lead in drinking water);
- the owner agrees to replace all lead pipes for which they are responsible;
- the owner requests the replacement of the communication pipe in writing.

Another means of reducing the impact of lead from water supply pipes on the quality of drinking water include relining the pipes in situ with a thin layer of a lining material such as epoxy resin. This can be more cost effective than replacing the water supply pipe. CIWEM supports the development of alternatives to replacement of lead pipe including in situ lining of the service pipe and water supply pipe.

Insurance

Water companies repair thousands of leaks every year but often recommend an insurance policy as many repairs do not come within the scope of the free service. A water company may promote insurance with advertising leaflets and websites, but the insurance policy is not provided by the water company itself but by a third party. There is no obligation to take out insurance to cover repairs to water supply pipes, and household buildings insurance policy may provide similar cover. Insurance costs vary but are often quoted at around £35 per property per year.

In addition, sufficient cover may be provided by the water company's policy on household supply pipe repairs and replacements. Generally the main difference is that insurance policies provide cover in an emergency situation, whereas water company repairs may take some time to be carried out.

Restrictions are needed because it would be unfair on the water company's customers to be asked to underwrite an open-ended commitment to carry out any and every repair free of charge to a small percentage of supply pipes each year whilst water supply pipes remain the responsibility of the customers.

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Note: CIWEM Policy Position Statements (PPS) represents the Institution's views on issues at a particular point in time. It is accepted that situations change as research provides new evidence. It should be understood, therefore, that CIWEM PPS's are under constant review, that previously held views may alter

and lead to revised PPS's. PPSs are produced as a consensus report and do not represent the view of individual members of CIWEM.

References

- i OFWAT. 2006 . Security of supply, leakage and water efficiency. ISBN 1 904655 32 7
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- iii UKWIR Issues Regarding the Potential Adoption of Supply Pipes: Costs, Customer Service and Regulatory Impacts: <http://www.ukwir.org.uk/ukwirlibrary/92956>
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- v Information based on:
<http://www.ofwat.gov.uk/consumerissues/rightsresponsibilities/supplypipes/>
- vi statistics taken from Water UK: <http://www.water.org.uk/home/resources-and-links/waterfacts/resources>
- vii Consumer Council for Water: <http://www.ccwater.org.uk/server.php?show=ConWebDoc.1797>
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