Metering policy

Metering policy

Policy no. POL099

Purpose

Thames Water is responsible for providing metering services within our supply area to enable demand to be measured, which facilitates billing and leakage detection. These services include installation, accuracy testing, data capture, fault and repair, replacement and disposal. We provide these services for our household and non-household customers.

Metering is at the heart of our government approved plan to reduce demand for water and provide fairer billing. Therefore, it is our policy to meter all non-household properties wherever feasible and practical, and we are also working to meter all household properties in our area.

Since April 2017, all non-household customers have been able to choose their water retailer for customer related activities. To allow this to happen, the government has developed a set of binding processes (or codes) for water companies to follow when providing services that include metering. We are committed to conducting our metering activities in accordance with the Wholesale Contract/ Wholesale–Retail Code. As a wholesaler we have a responsibility for providing metering services within our supply area which include installation, accuracy testing, data capture, fault and repair, replacement and disposal. All charges for non-household metering work are set out in our Wholesale Tariff Document and reflect the various requirements of the Water Industry Act 1991 ("the Act") and any other laws or regulations.

Scope

This policy is in place to ensure that all our meters are installed and maintained to the correct standards. It also sets out how metering allows customers to be charged fairly for their water usage. It sets out the commitments we will make to our customers and retailers for the way in which we implement our metering services.

For the avoidance of doubt, this policy applies to all household and non-household customers within our supply area.

This policy applies to all our revenue metering programmes which include:

- progressive metering programme – our smart meter rollout across the Thames Water region.
- optant metering – household customers that opt to be metered (outside of our progressive metering programme).
- proactive meter replacements – replacement of meters due to age or other need such as our smart meter rollout.
- reactive meter replacements – replacement of faulty or broken meters.
- new connections.

- revenue bulk metering.
- change of occupier (household).

Key principles – describing our approach

Our metering programmes are driven by our commitment to fairer and accurate billing, as well as conserving water resources. We will achieve this through:

- proactive customer engagement
- consistent high quality of meter installation
- robust fixed asset data capture
- new metering technology
- enhanced systems and processes for data management

a. Meter installation

Only contractors or developers that we have approved are permitted to install our meters.

When installing a meter, new installations must comply with our standard approach for the installation of permanently sited water meters in our supply area used for billing purposes and non-revenue bulk meters.

Standard installations include:

- internal installation of:
  - concentric meters of size Q3 2.5 m3/hr in a meter manifold.
  - in-line meters up to Q3 of 6.3 m3/hr where a stop valve is required before and after the meter and a drain valve immediately after the meter.
  - in-line meters over Q3 of 6.3 m3/hr where a stop valve is required before and after the meter.
- external installation of:
  - concentric meters of Q3 2.5 m3/hr that are fitted in a boundary box or multi-box.
  - in-line meters of greater than Q3 2.5 m3/hr that are fitted in a meter chamber.

Wherever feasible and practical, we will install a meter at individual premises. For new and converted properties a meter should be installed. Where it is impractical to install a meter, this situation should be agreed with Thames Water Wholesale in advance.

All newly installed meters that are used to calculate the consumption of an individual property will be reasonably accessible to the customer and should not require the permission of a third party to gain access.

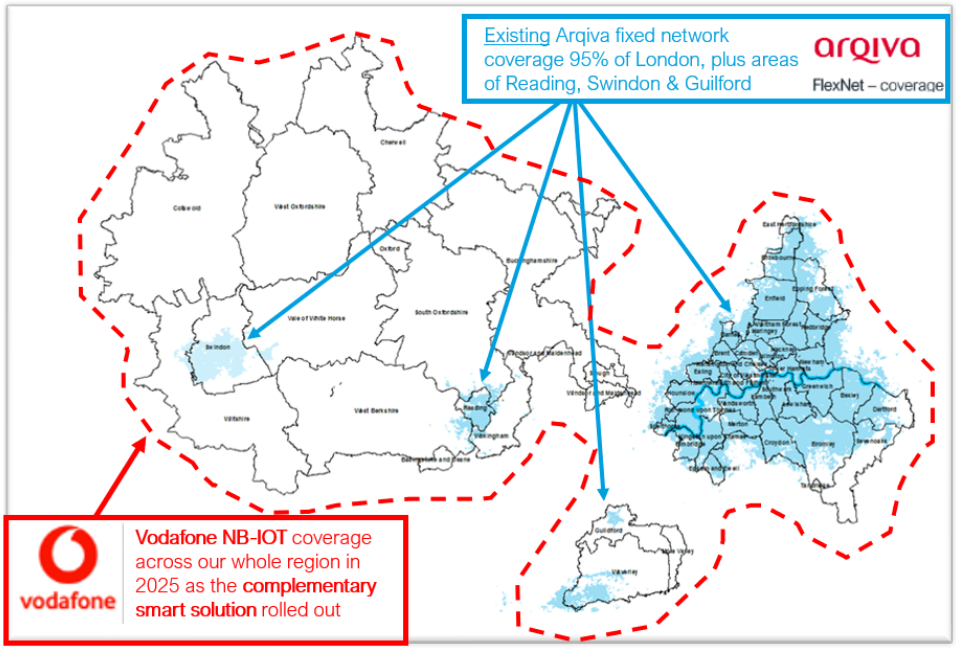
There are no charges for ‘standard’ installations, but there are charges for ‘non-standard’ as set out in our Wholesale Tariff Document.

b. Meter and LCE installation and commissioning

We are modernising the way we manage water supplies by implementing smart metering. This includes installing meters as defined in our Meter Menu

Starting in 2025 we will have a dual smart network consisting of an Arqiva fixed smart network covering 95% of London, and parts of the Thames Valley including Reading, Swindon and Guildford. This is then complemented in 2025 onwards by a new Vodafone NB-IoT network, and new meter suppliers (Honeywell Elster & Sensus) alongside existing Arqiva solution, to provide a smart enabled network coverage across the whole Thames Water region (see figure 1 below)

Figure 1: Thames Water Smart Network Coverage 2025 onwards:



Our smart enabled meters will be in Advanced Metering Infrastructure (AMI) mode when Local Communication Equipment (LCE) and/or a smart network communication system is available after installation. When in AMI mode, the meter will automatically transfer hourly meter reading across our smart network and this data will be used to provide accurate and timely bills, as well as monitoring our water network.

If a meter cannot connect to the network, it will either be set in Automatic Meter Reading (AMR) mode or will be available to be manually read. All our meters remain capable of being read manually.

We improved our smart metering services through our technology refresh during 2022, which brought greater resilience, choice of meters and technology, and faster flow of data. These improvements included:

- Head End Refresh: to get same day reads from our smart meters
- Meter Agnostic Smart Point (MASP): enable a greater choice of meters, including pulse enabled smart AMI meters where required.

We will continue to implement additional improvements and technology.

For household customers we will always fit a smart enabled meter. Where these meters are fitted in an area covered by our smart network we will provide household customers with information through our online account management. Where the meter is not connected to our smart network it will continue to be possible to read the new meter in AMR mode or manually.
For non-household properties within our smart network, we will aim to fit a smart enabled meter for new installations and replacements. Our standard smart enabled meters don't have a pulse output and if a non-household retailer or third party requires data from the meter, we can provide the hourly or 15-minute data through our digital data service with a one-off set up charge (see our latest Wholesale Tariff Document under our charges page). If logging equipment is still required, then we can discuss options on a case-by-case basis aligning to the MOSL logger to smart process. Existing pulse meters will gradually be replaced as part of our reactive and proactive programme, but there may be some exceptions, and our installation policy will follow these principles:

Table 1: Non-household meter installations principles

	A. Non-household properties within our smart network	B. Non-household properties outside of our smart network
B1 – New Installation B3 – Meter Accuracy Testing B5 – Repair or Replacement B7 - Change of meter (Size/Model/Location) D2 – Changing Meters (Wholesaler Requests)	Smart AMI meter installed. If a customer would like to log their meter, please refer to QSP18 - Data logger to smart water meter switching process published by MOSL for further guidance. There may be an additional charge for a pulse enabled smart meter if applicable.	Smart AMR meter installed. If a customer would like to log their meter, please refer to QSP18 - Data logger to smart water meter switching process published by MOSL for further guidance. There may be an additional charge for a pulse enabled smart meter if applicable.
Additional information	a) Pulse enabled smart meters are currently available in sizes 50mm, 80mm and 100mm only, but other options may be available for other sizes. b) Charges for pulse enabled smart meters may apply when o A meter is not currently logged o If a pulse enabled meter is requested and no logger or output device is fitted within 6 months of the request to exchange the meter Where you are requesting a change of meter type (B7 – Change of meter (Size/Model/Location) to enable you to attach a logger or obtain smart meter data through our digital data service you will not be charged for the meter if it is due for proactive replacement within the next 6 months or is 15 or more years old. Please refer to 'Section F: Meter Sizing' in this document for further information.	

Additional Logger Information	Where we've been notified that a meter has been logged via CMOS or the logger owner, and we've incorrectly replaced it with a digital meter, we can replace the digital meter with a pulse enabled digital meter or we'll offer the Digital Data Service where applicable without charge. If the logging equipment is lost or broken, please contact us directly providing evidence. Where we've contacted a logger owner, and we've had no response and completed the exchange, we'll always try to leave the data logger equipment in the chamber with the meter. However, this isn't always possible, so where a data logger was present and it's no longer there, please contact us directly to arrange for collection of the data logger equipment.

Throughout our meter replacement programme there are multiple opportunities for retailers and their customers to request a pulse enabled meter if a logger is present or will need to be fitted. We set out below the process for proactive and reactive meter replacements as these differ in their specific application:

Proactive metering (D2 in Table 1 above)

- For logging queries, we're aligned to the QSP18 - Data logger to smart water meter switching process document published by MOSL.
- At the start of each year, we aim to supply you with a list of meters and SPIDs that we'll attempt to carry out a proactive exchange for in the upcoming financial year (April to April). Alongside this list, we'll request details on any logging requirements and customer contact details.
- Following this, we'll notify each retailer via the Bilateral hub providing at least 22 business days' notice of our intention to replace a meter. Where the meter has a logger attached or there is a requirement for a logger in the future, the retailer or customer can advise us of this via the Bilateral hub.
- To install the meter, we would then either write to the customer to make an appointment, notifying the retailer of the date and time if booked, or visit the site unappointed:
    - If we write to the customer, the letter includes a request for customers to call us to make an appointment. Current and future logging needs will be discussed during the call.
    - If unappointed, we will replace the meter with a digital meter unless a logger is already in place or we were requested not to proceed by the customer whilst on site.
    - If we find a logger in situ that we weren't aware of, then we'll abort the job and record any logger owners contact details where available. We'll contact the owner of the data logger requesting a response within 10 business days. If no response is received, we'll proceed to exchange the meter, leaving the logger in the chamber where possible. Where this is not possible, we will leave it with the customer on site or hold it at a local depot for three months.

Reactive metering (B1, B3, B5 & B7 in Table 1 above)

- We expect the retailer to confirm with their customer their current/future logging needs and for this to be highlighted when a retailer raises a meter replacement using a standard 'B01' Market Form. There is a mandatory question on the form to select Y/N if a meter is logged. There is also a free text field in which the retailers can request a non-standard meter from our meter menu.
- All reactive replacements that have been triggered by the wholesaler are first checked against CMOS and retailer logger lists, plus an additional email is sent to the retailer (who is asked to respond within 15 business days) to confirm the customer's logging and meter requirements. If we don't hear back from the retailer, we would then install a meter as per the metering policy.

- To install the meter, we would either write to the customer to make an appointment (and copy the retailer), or visit the site unappointed:
    - If an appointment is sought, letters are issued to request customers to call us to make an appointment. Current and future logging needs are discussed with customers on the phone (this should confirm information provided to us in advance by the retailer as explained above).
    - If unappointed, we would replace the meter with a digital meter unless a logger was already in place, or the customer advised otherwise whilst on site.
    - If we find a logger in situ that we weren't aware of, then we'll abort the job and record the logger owners contact details where available. We'll contact the owner of the data logger requesting a response within 10 business days. If there is no response, then we'll proceed to exchange the meter, leaving the logger in the chamber where possible. Where this is not possible, we will leave it with the customer on site or hold it at a local depot for three months.

c. Meter location

The following hierarchy of meter locations must be adhered to:

1. external fit by screw in or inline fitting into existing boundary box
2. external installation in the public highway
3. external installation on private property
4. internally in a common service area (flats or commercial units only)
5. internally within the customer's property

As an alternative to the stated hierarchy, we may install an internal meter when requested by 'sensitive[1]' customers with specific requirements or where requested by their retailer on their behalf in compliance with our Customer Guarantee Scheme (CGS).

For new connections to large blocks of flats it is our policy to fit single internal meters for each flat and fit a bulk meter at the point of supply. Where it is impractical to install a meter at the individual flats, this situation should be agreed with Thames Water Wholesale in advance. For more details, please refer to the Water Meter Installation Policy for Property Developers, on the Developer Services website.

For existing properties where the supply connects to multiple properties, Thames Water may choose to install a bulk meter for demand monitoring purposes. In this case, the consumption will not be used for billing purposes.

d. Charging arrangements

Where it is practical and feasible it is Thames Water policy to charge all individual properties in relation to the water consumption at that property. Water consumption will be measured from a water meter installed on the water supply connection at that property. Properties that do not have a meter will be charged for their consumption based on an unmetered tariff.

[1] any customer who is vulnerable for the purposes of the Security and Emergency Measures Direction, i.e. any customer for Premises occupied by:(i) the sick; (ii) the elderly; (iii) the disabled; or (iv) other vulnerable sections of the population; and/or which is (v) a hospital; or (vi) a school

For existing properties where it is impractical to install a meter we will charge the customer or retailer on the basis of a Business Assessed (for non-household properties) or Assessed Household Charge (for household properties).

For new connections where:

- all the properties in a block of flats are impractical to meter it will be the responsibility of the developer to organise a common billing arrangement. It is the responsibility of the developer to provide details of the management agent before completion of the development.
- we discover newly converted properties that have not made provision for meters to be installed we will either:
  - seek to recover infrastructure charges to allow us to install meters; or,
  - survey the property for appropriate meter installations and if they do not exist, request the developer to fit them
- It is impractical to fit a meter; we will charge on the basis of a Notional Value (for non-household properties) or Assessed Household Charge (for household properties)

e. Impractical meter installation

Properties falling outside of the above meter locations, or properties that are prohibitively expensive, or that lead to a health and safety risk to provide an installation, are generally considered to be impractical.

Also, it is our policy not to meter existing properties under the following circumstances where:

- more than two water meters per supply are required to calculate the consumption.
- it is unreasonably expensive to do so which is defined as where the total cost exceeds a 50% uplift on the standard cost.
- the installation would create an unacceptable health and safety risk.
- there is a communal hot water supply.

f. Meter sizing

All meters must be correctly sized, according to their application and the meter metrology. Meters must accurately (please refer to section H of this policy) record the amount of water delivered to a property to enable effective leakage detection and fair billing. Any potential downsize could lead to issues with pressure and flow.

Meter right sizing will apply for:

- new connections
- new installations
- meter replacement
- customer or retailer requests for a different size meter

Where properties have firefighting facilities or a sprinkler system, we'll only physically downsize the meter and any required pipework that doesn't supply any firefighting facilities or sprinkler systems. The meter must be appropriately sized to allow for required firefighting flows or fitted after the take-off for the fire supply.

If a customer or retailer wishes to request a change to the size of a meter, it must be supported by appropriate evidence. To identify the right size of meter, you'll need to identify the peak flow rate. There are 3 methods to work this out;

1. Fixtures and fittings (loading units);
2. Total Consumption; and/or
3. Data logging

Methods 1 and 2 require a large safety factor as it is difficult to estimate peak flow based on meter reading data or fixtures and fittings data.

This is a chargeable service as defined in our Wholesale Tariff Document.

Please note that it is our policy to physically change the meter to the relevant agreed size for all new installations or meter replacements to ensure appropriate meter accuracy. We do not allow notional downsizing of a meter unless the pipe is oversized solely for the purposes of providing water for firefighting purposes.

g. Meter relocation

Existing meters shall not be relocated as part of any replacement or maintenance activity except in the following circumstances:

- the meter location is such that to carry out maintenance represents a health and safety issue; or,
- the chamber is in a state of disrepair and is hazardous.

Where a retailer requests the relocation of a meter, this would need to be approved by us, and if approved, it will be treated as a chargeable service as defined in our Wholesale Tariff Document.

h. Meter accuracy and testing

There are two reasons why we would undertake a meter accuracy test:

1) where a customer is concerned about the accuracy of their bill
2) where we would like to better understand the performance of our asset base

When carrying out a meter accuracy test, it is our policy to remove the meter and send it to a UKAS certified test house. A new meter will be fitted at the same time.

An accuracy test shall not be conducted if one has been completed in the preceding three months.

For operational performance the meter will be considered to be working correctly if the accuracy is within the following bands as defined by ISO 4064:2014:

- For 'lower range' flow rates the accuracy level is + / - 6%.
- For 'upper range' flow rates the accuracy level is + / - 2.5%.

The meter will be tested at flow rates which are required by law to determine whether a meter has passed the operational accuracy requirements. We may also specify additional test points to help determine meter accuracy.

Meter accuracy and testing on request of a customer or retailer is a chargeable service but only if the meter is found to be accurate. This is defined in our Wholesale Tariff Document.

We proactively test a sample of our meters on an annual basis so that we can understand and monitor their performance. We use this information to guide our proactive replacement programme.

i. Meter maintenance & replacement

It is our policy to replace any of our meters that have stopped recording completely, are visibly damaged, or that we deem to be faulty. This applies to all associated meter assets, pits, lids and boundary boxes. Such issues may be brought to our attention by customers, retailers or through our own day-to-day activities.

We do not consider the asset to be faulty if the meter is readable and the asset is safe to read.

We expect competent meter readers to adhere to the Meter Reading Standards – Market Guidance Document published by MOSL.

For further guidance on what would be accepted as a defective asset, please refer to the Meter Chamber Debris & Cover Guidance published by MOSL.

Where a meter is not capable of being read remotely and is in a location that is unsafe to read, a risk assessment shall be submitted to us clearly identifying the risk and proposed mitigation for review along with photographic evidence. In the event the risk is unacceptable the meter will be relocated

or exchanged for a meter that can be read remotely.

There will be no additional charge to customers / retailers for such replacement services unless

- the existing asset has been damaged by the customer's or retailer activities. In this instance, the customer / retailer will be liable for the cost of replacement.
- we determine that the meter can be read remotely or is in a safe location. In this instance you will be charged for an abortive visit

Charges can be found in our Wholesale Tariff Document.

From time to time, we may implement programmes of meter replacement. Under these circumstances there will be no additional charge to customers / retailers for the meter replacement services. Outside of these activities, retailers are allowed to request replacement services for an existing meter. These are chargeable services as defined in our Wholesale Tariff Document.

j. Defective meter investigation and rectification

It is our policy to replace any of our meters that have stopped recording completely, are visibly damaged, or that we deem to be faulty. Defective meters may be brought to our attention by way of:

- customers / retailers telling us of a fault
- our own data capture information
- our own operatives / contractors in the field

Faults can include the following categories:

- physically damaged and broken meters
- total mechanical / electrical failure
- meter leaking
- theft of meter and/or meter chamber and boundary box lids
- incorrect installation including lids that cannot be closed completely

For further guidance on what would be accepted as a defective asset, please refer to the Meter Chamber Debris & Cover Guidance published by MOSL.

An enquiry can be raised for the issue to be rectified, if after reasonable effort has been made to remove the debris and the meter cannot be read remotely or the debris is preventing the operation of the outside stop valve. We will repair or replace any defective meter under the terms of our meter replacement policy (Policy I). In such circumstances it will not be possible to undertake a meter accuracy test.

k. Customer damage to meter

The customer shall be liable for any damage to a meter fitted at the customer premises. When a customer moves into a premises they shall report any damage to a meter within 14 business days of move in. The customer shall not be liable for any damage to a meter identified during this period.

Damage includes physical damage to the meter body, register and ancillary equipment connected to the meter so that it causes water leakage from the meter and installation or that it impairs or prevents the meter from correctly registering consumption. Under these circumstances, the charge to replace a damaged meter will be in accordance with our Wholesale Tariff Document.

l. Reinstatement

All reinstatement shall be carried out and conform to the requirements in:

- New Roads and Street Works Act 1991.
- Traffic Signs Manual Chapter 8.
- BS 7533-3:2005+A1:2009 Pavements constructed with clay, natural stone or concrete pavers. Code of practice for laying precast concrete paving blocks and clay pavers for flexible pavements.
- BS 7533-4:2006 Pavements constructed with clay, natural stone or concrete pavers. Code of practice for the construction of pavements of precast concrete flags or natural stone slabs.
- BS 7533-7:2010 Pavements constructed with clay, natural stone or concrete pavers. Code of practice for the construction of pavements of natural stone paving units and cobbles, and rigid construction with concrete block paving.
- Specification for the Reinstatement of Openings in Highways (SROH).
- The HAUC specification.

m. Meter menu

Only pulse and digital meters that comply with the specifications set out in our meter menu may be used. These meters are listed in our meter menu which is available on our website.

Thames Water will not adopt newly installed meters that are outside of this list. Meters

must have equivalent certification to BS EN ISO 4064:2014 class 2.

In accordance with meter regulations, meters with a size designation Qn will not be brought into service after 30 October 2016.

We regularly review our meter menu and may amend it to include new types of meters as they become available.

n. Meter survey

Each property to be metered shall be surveyed to:

1) determine whether it is technically feasible to meter.
2) determine the most appropriate meter installation type.
3) obtain the required details pertaining to the property.

For properties that are already served by a meter we will provide verification of meter details on request by the retailer.

o. Meter asset data capture

Digital meters connected to our smart network in AMI mode, send automatic reads through a secure wireless network. For full details on how we collect, use and protect this data please see our smart metering data protection page or our company privacy policy.

p. Supply proving

Supplies shall be proved when installing a new meter to establish a direct relationship between the meter and the premises to be billed on the basis of that meter. For meter replacements no proof shall be required unless specifically requested by the customer / retailer. For new connections the proof will be against the property address and not the plot number.

We will provide verification of supply arrangements for currently metered properties if requested by the customer / retailer. This may be a chargeable service as set out in our Wholesale Tariff Document.

q. Appointments

Please note that appointments are not usually made for emergency callouts as this could cause delays in dealing with the problem.

From time to time, we may need to make unannounced visits to customer premises to deal with specific metering related requirements.

Non household customers

Where we need to make an appointment to carry out a site visit, we'll attempt to make contact with the non-household customer on three separate occasions, using the contact details provided by the retailer where consent to contact has been given. We may also visit on an unappointed basis and obtain contact information from the site itself. On each of the three separate occasions, we'll try by telephone as well as by email or letter.

If we are unable to make contact, we'll notify the retailer asking for alternative contact details. If we don't receive a response within 15 business days the job will be closed.

If the customer isn't present for an appointment, then we will leave a card confirming we've visited, which asks the customer to contact us to arrange a further appointment. We'll also notify the retailer that the customer wasn't present for their appointment. Please note, this carries a charge as per the Wholesale Tariff Document.

r. Reschedules and cancellations

For more information on rescheduling and cancellations, please refer to our Wholesale Tariff Document.

s. Capture of meter reads

We do not offer a meter read service. We'll provide one monthly read for each meter connected to our smart network, where data is available. These will be entered as wholesaler reads into CMOS. We do not charge for the provision of these reads.

We also offer a second set of readings each month. Should you wish to obtain the second set please email digitaldataservices@thameswater.co.uk.

Regardless of meter type, location or additional equipment, you should always be able to visit the site and visually take a reading from a Thames Water meter.

Other options are also available:

- for digital meters installed in our smart network, you can ask us to provide meter data through our digital meter data service. Charges apply. Details of these services can be found in our Wholesale Service Offering and our Wholesale Tariff Document.
- for digital meters installed outside our smart network, you can read the meter in AMR mode.
- for analogue meters, where the meter is compatible, you can attach your own reading equipment.

Further information can be found in our Getting data from Thames Water meters guidance on our website.

t. Logger / splitter installation

If a logger is fitted on a Thames Water non-household meter, then it is the obligation of the retailer or third party to update CMOS. This data will then be used as a check before we replace any meter. If a logger is no longer required or removed, then the retailer or third party shall notify us so that CMOS can be updated.

Where there is already a logger attached to the meter you can fit a splitter that will allow you to install your own logger next to it, at your cost.

Please note, where a retailer or third party fits logging equipment and our own logging equipment stops working then we will rectify it and charge the retailer/third party.

Further information can be found in our Getting data from Thames Water meters guidance on our website.

u. Provision of metering consumption data services

It is our policy to provide consumption data to customers where available on request.

We offer digital meter data provided from digital meters inside our smart network. This is a chargeable service as defined in our Wholesale Tariff Document.

Further information can be found in our Guidance on Getting Data from Thames Water Meters on our website.

v. Contribution offer

Other than the standard costs of meter installation, as defined in our Wholesale Tariff Document, it is not our policy to make a contribution offer towards the costs of supplementary works to install a meter at a property that has been assessed as impractical.

w. Powers of entry

We may use our powers of entry to install, maintain, replace or read meters and Retailers may be charged as defined in our Wholesale Tariff Document.

Performance and management

This policy will be reviewed annually and any changes to the policy will be signed off by the Thames Water Retail Director.

Compliance with this policy will be monitored through

- compliance audits and/or
- monitoring of complaints and customer feedback through customer experience satisfaction surveys etc and/or
- monitoring of service levels

Responsibilities

- Thames Water employees, contractors, developers and self-lay providers must comply with this policy
- The Head of Wholesale Services is responsible for the review and monitoring of compliance with this policy

Contacting us

For questions, comments or feedback relating to this policy, you can contact us.

If you have any concern about any issues relating to our metering performance or management arrangements, you can contact the policy sponsor.

For concerns regarding dishonest or unethical behaviour, please contact us on any of the following:

If you are an employee of Thames Water, you can also speak with your Line Manager.

Useful references

- BS EN ISO 4064:2014, Water Meters for Cold Potable Water & Hot Water - Part 1 Metrological & Technical Requirements
- Getting data from Thames Water meters guidance
- Retailer Wholesaler Group Meter Reading Standards
- Retailer Wholesaler Group Data Logging Good Practice Guide
- Wholesale Contract/Wholesale – Retail Code
- Wholesale Service Offering
- Wholesale Tariff Document
- Thames Water Privacy Policy

Definitions

Analogue Meter (pulse enabled)	Mechanical meter with an analogue register and some form of communication capability or pulse output for logging.
Analogue Meter (not pulse enabled)	Mechanical meter with an analogue register but no communication capability or pulse output for logging.
Automatic Meter Reading meters (AMR)	The automatic meter reading technology mobile system, used either in walk-by or drive-by mode, for automatically collecting consumption, diagnostic, and status data from digital water meters and transferring that data to a central data base for billing, trouble shooting and analysing.
Advanced Metering Infrastructure (AMI) mode	see 'Digital Meters in Advanced Metering Infrastructure (AMI) mode' below
Bulk meter	Bulk meters may be revenue or non-revenue meters.
Consumption/usage data	The amount of water used as recorded by the meter during a defined period.
CMOS	The Central Market Operating System, which is the core IT system for the non- household market
Digital Meters in Advanced Metering Infrastructure (AMI) mode	Advanced Metering Infrastructure (AMI) consists of a system of digital meters, two way communications (smart network), and data management systems implemented to enable metering and other information exchange between utility companies and their customers.
Eyeball reading	A visual reading of the meter and recording using a paper or handheld system.

Logger	Recording device installed at a customer site to enable collection of water usage data.
Local Communication Equipment (LCE)	Two-way communication hardware also referred to as a communication smart-point. It is wirelessly installed adjacent to the meter and enables transfer of data from the meter to our systems utilising smart network infrastructure.
Meter menu	Table that provides a list of meters that will be installed in the TWUL area, which are compatible with the smart network system, comply with the Measuring Instruments Directive (2004/22/EC) and must have equivalent certification to BS EN ISO 4064:2014 class 2.
Meter reading data	The physical recording on the meter during a defined period.
Metering service delivery documents	These are a suite of documents that define all of the relevant services related to metering and in order to be compliant with the Wholesale Contract/Wholesale – Retail Code.
Narrowband IoT (NB-IoT)	A wireless communication standard specifically designed for Internet of Things. This is a low powered wide area network for efficient communication over a cellular network.
Non-revenue bulk meter	Meter on the supply to a multi occupancy building that measures the water supplied to the whole building to understand consumption in the whole building, including communal use, leakage etc. Individual premises within the building may have individual meters on which they are billed.