New Appointments and Variation (NAVs)

Our Policy - 2020/21

Wessex Water

Wessex Water
YTL GROUP

Contents

1. Introduction

This document sets out Wessex Water's policy approach for companies seeking to provide water and wastewater services in our area of appointment. This can be companies seeking a new appointment or existing companies seeking to vary their existing license (NAVs) to serve new developments.

The policy provides a framework to ensure all NAVs are treated consistently and in line with the legal and regulatory requirements. We are committed to meeting the aims of Competition Law and our license obligations (i.e. prevention of undue discrimination, undue preference and the misuse of information) including Condition E1.

If you have any comments or observations in relation to this Guidance please contact Ruth Jefferson, our General Counsel ruth.jefferson@wessexwater.co.uk

1.1 Supporting our Customers throughout the Process

All NAV enquiries should be directed to Wessex Water's Wholesale Service Desk.

Wholesale Service Desk

Wessex Water,

Claverton Down,

Bath BA2 7WW

Telephone: 0330 123 1122 (Monday to Friday, 7.30am to 6pm)

Email: wholesaleservicedesk@wessexwater.co.uk

2. Our Approach

This Guidance sets out the work required and key criteria that need to be considered during connection and application stages of a prospective NAV award. It may be the case that work streams will run in parallel e.g. site status and pre-planning report. The document therefore should be interpreted as a suite of tasks rather than a linear flow of work.

Wessex Water is committed to responding to requests from NAVs within the timeframes set out in schedule 1 of this document. They are comparable with service levels offered to Developers seeking requisition or self-lay options and current best practice guidelines.

There will, be instances where it is not feasible to provide the information required within the timeframes stipulated e.g. where more complex network modelling is required or where there are dependencies on third parties such as Network Rail and the Highways Agency.

Where we are unable to meet the timeframes set out in schedule 1, we will provide a full explanation of the reasons why we will be unable to do so and what we believe to be the achievable timescale.

Ofwat guidance on the NAV market can be found on their website or by following the attached link:

https://www.ofwat.gov.uk/regulated-companies/markets/nav-market/nav-publications/

3. Our Commitment

We are committed to delivering a high level of service to all NAVs and their customers.

We aim to:

- ensure NAV's are treated fairly and that any confidential information is handled appropriately to avoid any undue preference being shown.
- there is segregation between teams delivering services on behalf of the NAV and those who may be delivering services directly to the Developer.
- we provide a dedicated account manager to each NAV to assist both the connection and application stages of the enquiry.
- we work to industry service standards or where applicable, internal performance standards designed to provide industry leading levels of service.

Wessex Water encourages early engagement in order to address any issues that may arise during the planning/construction process.

Andy Pymer

Managing Director

4. Definitions

The following terms will have the meanings set out below wherever used throughout this Guidance:

Term	Definition
Bulk agreements	Bulk supply agreements and bulk discharge agreements.
Bulk charges	The charges for bulk services, i.e. bulk supplies and bulk discharges.
Bulk discharge	Supply of wastewater from one wastewater company to another.
Bulk discharge agreement	A contract setting out the terms and conditions for bulk discharges.
Bulk services	Bulk supplies and bulk discharges.
Bulk supply	Supply of water from one water company to another.
Bulk supply agreement	A contract setting out the terms and conditions for bulk supply.
DWI	The Drinking Water Inspectorate, responsible for regulating public water supplies in England and Wales. The DWI is responsible for assessing the quality of drinking water, taking enforcement action if standards are not being met, and taking appropriate action when water is unfit for human consumption.
End-customers	Household retail customers and business retail customers.
NAV (New Appointment or Variation)	A water company that (either directly or indirectly) has replaced, or will replace, one or more incumbent water companies in relation to specific sites and for whom we do not currently set individual price controls. Although a NAV can operate its own treatment facilities, a NAV normally obtains a bulk supply of water from, and/or agrees a bulk discharge of wastewater to, an incumbent water company.
OFWAT	Water Industry Regulator for England and Wales
WIA91:	Water Industry Act 1991

5. Site Eligibility

In order for a customer to apply to serve a new development site, the following criterion must be met:

- an area does not contain any premises that receive services from an appointed water or sewerage company (it is 'unserved');
- a customer uses (or is likely to use) at least 50 million litres of water a year (in England) or 250 million litres of water a year (in Wales) at each of its premises and wants to change its supplier (a 'large user'); or
- the existing appointed company agrees to transfer part of its area to a different company (a transfer by 'consent').

5.1 Site status review

Under section 7 read with section 36(3) of the WIA91, a site is unserved if none of the premises in the proposed appointment area are:

- Supplied with water by means of a connection with a distribution main of the existing water company (in the case of an application to supply water); or
- Drained by means of a public sewer or lateral drain of the existing sewerage company (in the case of an application to discharge sewage)

Ofwat guidance states that where appropriate the Customer should obtain a report from an independent professional adviser that verifies the unserved status of the site. Otherwise, if the status of a site is not in dispute, it may be sufficient for a Customer to provide Ofwat with factual details of the site, accompanied by a signed letter from the existing appointee confirming its view that the site is unserved.

Where an independent report is deemed necessary, the Customer and/or their independent professional adviser is asked to produce a coloured map clearly showing the boundary of the site and if known, the existence of any of the following:

- existing water infrastructure;
- existing foul sewerage infrastructure; and
- existing surface water drainage infrastructure.

To assist in this process, the Wholesale Service Desk will provide on request (at no charge) two unmarked copies of the map covering the proposed development area (A1/AO) and/or an electronic copy in a common file format.

5.2 Site status review and Independent Site Status Reports

Where an independent site status report is required, Wessex Water will meet with the NAV and/or its independent professional advisor and provide information relating to any water, sewage or surface water drainage assets on site as required by Ofwat guidance.

Meeting and information requests should be made via the Wholesale Service Desk. If the request is made directly by the independent professional advisor, the advisor will need to provide Wessex Water with a letter of authority from the NAV to confirm that Wessex Water can share the information.

Where a NAV asks Wessex Water for confirmation of a site status, this will be carried out either as a desk top study or if required by a survey of the site to identify potential connections that may have been omitted from Wessex Water's mapping tools e.g. animal water troughs.

Where Wessex Water identifies live connections, these will be communicated to the NAV or their independent adviser within 21 days and any resultant action agreed. Live connections will either be omitted from the application areas or the NAV will be required to provide evidence to show that this connection will be permanently removed before the appointment/variation is made.

Strict rules surround the disconnection of existing properties and Wessex Water will need to be satisfied that the Customer has complied with Ofwat guidance before agreeing the unserved status of the site.

Ofwat's reporting process requires that a draft report relating to the unserved status of the application site is circulated to the existing appointee prior to it being submitted to Ofwat in support of its application.

The Wholesale Service Desk aims to provide a written response to the draft report within 5 business days. If Wessex Water is satisfied as to the unserved status of the proposed site, a signed letter will be provided to the NAV confirming the site's eligibility.

Where Wessex Water disagrees with the report's findings, the reasons why the site is considered to be served will be set out within the response. If a draft report is not provided to Wessex Water prior to an application, Ofwat will share the site status report when the application is submitted. As this can cause a delay, it is preferable that the NAV shares the draft site status report once it is available.

6. Bulk Service Application

6.1 Planning advice and New Development guidance

The Wholesale Service Desk is the point of contact for NAV for advice and guidance services. We will:

- assess the impact of the proposed development;
- advise whether the local network can support the proposal;
- whether off-site water mains and/or sewers will need to be provided; and
- whether there is any apparatus located within the land the Customer may wish to develop and the requirements for these apparatuses.

Please refer to our Planning and New Development Guidance document and Application form available on our website.

The Planning advice will be carried out alongside the Site status review with the Wholesale Service Centre providing a written response within 28 days of receipt of a complete application. The advice provided will be valid for a period of 12 months from the date of issue and will help to inform the response to the planning application for the development.

6.2 Information Requirements

Application forms can be downloaded from our website and submitted by e-mail to wholesaleservicedesk@wessexwater.co.uk. In order to ensure that Wessex water can provide a NAV with comprehensive advice about the site, the information requested on the forms should be submitted with all enquiries.

6.3 The Likely Future Assessment

Where the NAV requires a bulk supply, sections 40 and 110A of the WIA91 (water and sewerage bulk supplies) requires undertakers to consider the impact that such a supply will have on the incumbents ability to deliver services to both its existing and likely future Customers. We will undertake a 'likely future assessment' to evaluate the impact the Customers' site will have on the water demand management and/or sewerage catchment. This process will establish whether the proposed application would:

- Pose a risk to Wessex Water's ability to provide existing water and/or sewerage services;
- Be detrimental to the connection offered to development sites with extant planning consent; or
- Incur costs that would not have been incurred if the NAV site had not occurred.

The starting point is to assess all developments that have an extant planning permission in the same zone/catchment as the NAV application site. This will also include consideration of any active non-domestic bulk supply and trade effluent applications.

If the only site with extant planning permission is the NAV application site (and there are no active non-domestic applications) then the baseline of assessing capacity shall be the current demand on the assets. In all other cases, the NAV will be required to fund the asset reinforcement required (which is in line with the headroom assessment used for developer Customers), which will constitute:

- the existing demand (including any active non-domestic bulk supply/trade effluent applications);
- the extant planning permission demand; and
- the NAV application site

6.4 Water Efficiency Assessment

Bulk supplies to NAV's are governed be Section 40 of the WIA91 which relates to the efficient use of water resources between water undertakers. The water efficiency assessment is designed to ensure that only the water needed to support the NAV and the demands reasonably expected from the number and types of connections set out in the extant planning is reserved under any future bulk supply agreement.

Wessex Water's objective is to demonstrate the efficient use of water resources to ensure that capacity is not unjustifiably reserved in bulk supply agreements preventing customers from accessing available headroom and leading to unnecessarily investment.

We aim to work collaboratively with NAVs to ensure the supply requested represents an efficient use of water resources.

6.5 Network Hydraulic Modelling

The planning advice and new development guidance will provide an indication of whether the existing networks can accommodate the new development. However, there may be instances where the assets do not have capacity to service the site and hydraulic modelling is required to assess the available options.

It may be difficult to commit to definitive delivery deadlines, particularly for larger more complex developments. Please be advised that enough time will be required for these studies to be undertaken prior to finalising the bulk supply agreements.

There may be occasions where the site owner has already commissioned modelling work and the study has either been undertaken in part or full. Where this is the case, Wessex Water will ask the NAV to provide authorisation from the site owner, agreeing to the release of this work.

The following three step approach sets out how to commission work to confirm the point of connection and/or discharge and the estimated cost of any network reinforcement required. The schedule of charges is set out in Appendix 2 and 3.

Step 1 is the modelling estimate, which will identify the scope and time required to model the impact of the NAV on the water and/or sewerage networks. The Wholesale Service Desk aims to respond to applications within 5 business days. Due to the complexity of wastewater hydraulic modelling,

Step 2 following confirmation from the Nav that they wish to proceed , WESSEX WATER will undertake a modelling study and publish a hydraulic modelling report. This will set out the impact the bulk supply will have on the network and whether a point of connection/discharge can be offered without investment in WESSEX WATER's treatment assets or network. Where investment is required, it will detail the assets requiring investment and whether new mains and sewers will be required to communicate from the boundary of the Customer's site to a suitable connection point on WESSEX WATER's network. A high-level estimate of the cost will be incorporated into the report and the results of the model will be valid for 6 months.

Step 3 is the engineering design. If the Customer decides to proceed, the final step will be to commission a detailed engineering solution for the connection. When an application is submitted for engineering design, the Wholesale Service Desk aims to respond within 5 business days to either confirm that the required information has been received to undertake the design or to ask for further information if required. Once it is confirmed that the application is complete, the Wholesale Service Desk aims to provide a response within 28 days. Where we believe that the work required to make a formal bulk supply offer exceeds this timeframe WESSEX WATER will inform the applicant in writing as soon as practical that our response will exceed the 28 day target, the reasons that have warranted the delay and an estimate of when the information will be available. A copy of this correspondence will forwarded to Ofwat.

6.6 Risk Assessments

To enable a Customer to submit its risk assessment to the DWI, any risk assessment information required should be requested via the Wholesale Service Desk. The Wholesale Service Desk aims to return the information to Customers within 15 business days of receiving the request. This can be applied for at any time and will run in conjunction with other Steps in the Application Process.

7. Connecting Infrastructure

Wessex Water will model network solutions in support of the NAV application and will consider requests to undertake the capital works required to construct the communicating water main or sewer to the designated connection point on a case by case basis (because Wessex Water may not have the statutory powers to carry out this work).

7.1 Discount

Wessex Water may apply a discount against the capital and financing costs for work required to reinforce its existing water/sewerage networks and treatment works. The value of the discount will be calculated based on the bulk supply / discharge revenues reasonably forecasted for the site. Where the revenue forecast differs to the information underpinning the site (for example the extant planning consent or the sites progress), Wessex Water reserves the right to adjust the value of the discount by adjusting the bulk supply / discharge revenue forecast. The commercial arrangements for the reinforcement works must be agreed and be in place before any works are undertaken.

7.2 Infrastructure Charges

The Customer will be expected to collect the relevant infrastructure charges arising in relation to each of the new properties on their application site. Infrastructure charges are payable to the new appointee when the supply is made available – that is, when the first-time connection is made.

7.3 Bulk Service Metering

Wessex Water may install bulk meters at supply points on the boundary of the NAV site to be used for charging and wider network management.

8. Bulk Supply Pricing

8.1 Bulk Charges

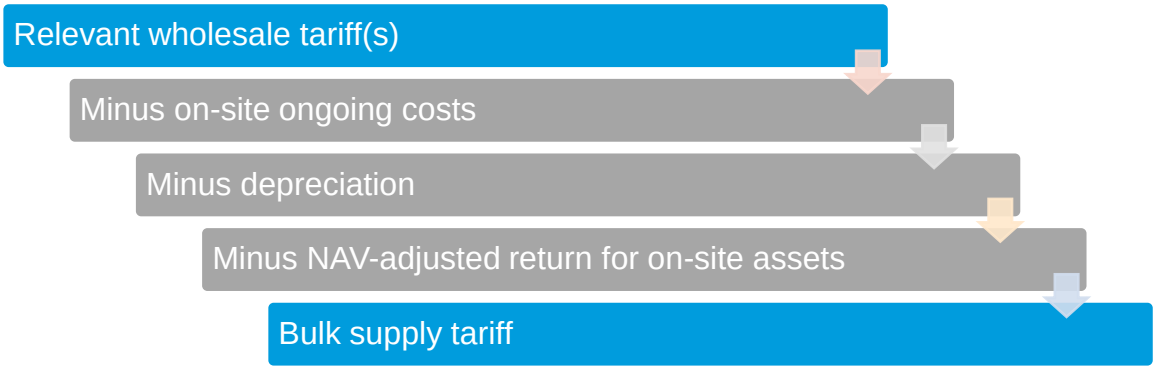
The price and non-price terms for the bulk service agreement will be provided with the connection charges following the engineering design. The offer will be based on the information available at the time of the request and may be subject to change.

8.2 How will the charges be set?

Ofwat proposes to use a “wholesale minus” approach to setting bulk supply and discharge tariffs, meaning that each NAV appointment will use a bespoke calculation to set the tariff, dependent on the number and type of properties served and the volumes they consume and/or discharge. Figure 1 below sets out the building blocks for the calculation. We start with the relevant wholesale tariff(s) and deduct costs that we would not incur if a NAV supplied the new development instead of us. The “minus” element comprises three components:

- the avoided on-site operational costs and the avoided costs of future capital replacement (on-site ongoing costs),
- the avoided depreciation, and
- a NAV-specific weighted average cost of capital (WACC) for the on-site assets (NAV adjusted return).

Figure 1 Components of the wholesale-minus approach



8.3 An overview of the calculation

We set out in detail the approach we have taken to calculate the tariffs in section 3, but the core elements are explained below. The schedule of tariffs at the end of this document set out our charges.

First, the relevant wholesale tariffs will be used to calculate a weighted average fixed and volumetric charge, based on the expected number of properties and consumption on the site. An allowance for leakage of 5.5% is applied to the consumption forecasts as part of this calculation.

The following elements will then be deducted from the weighted average charge:

- A value for the entirety of avoided on-site costs, including operating, maintaining and monitoring the assets, and replacing the assets over time.
- Any depreciation of the assets we would recover from our wider customer base.
- A value for the return on the on-site assets, reflecting the higher WACC for NAVs.

We provide a summary table of the avoided costs in Table 1 below.

Table 1 Summary of avoided costs

Charge element	Water (£ per m³)	Wastewater (£ per m³)
Avoided operating costs	0.2064	0.0505
Avoided depreciation[1]	0.0040	0.0031
Avoided tax/adjusted return	0.1266	0.0977
Total NAV discount	0.3370	0.1513

[1]*If applicable.*

We will follow the same process for calculating wastewater NAV tariffs, with adjustments for foul water, surface water drainage and highway drainage, as well as an appropriate return to sewer rate calculated from the water volume supplied (if no set discharge volume is agreed).

We have also created a calculation spreadsheet, which will allow potential NAVs to easily assess the likely charges they will incur.

We update all elements of the calculation each year to reflect the most up to date information. This includes, but is not limited to:

- the relevant wholesale tariffs;
- the most recent cost information;
- the cost of capital allowed by Ofwat; and
- new information on leakage.

8.4 Timetable for annual update of tariffs

The base wholesale tariffs form part of the “end-bill” charge to all customers. The tariffs contained in this document will be updated annually in line with the timetable set out by Ofwat in the wholesale charging rules:

Table 1 – Annual Timetable for updating tariffs and charges Month	**Activity**
July	Scope of changes - any proposed changes to the structure or level of the tariffs will be discussed in principle with NAVs.
October	Indicative bulk supply tariffs will be published alongside the indicative wholesale tariff document published for retailers to eligible sites; NAVs will be consulted on the impact of any changes proposed.

November / December	Tariffs will be finalised and approved by the Board. NAVs will be consulted regarding on the impact of any changes arising. Agree forecasts for connections and consumption with NAVs in line with bulk supply agreements.
January	Bulk supply tariffs for the following year will be published alongside the wholesale tariff document. Bulk supply charges sent to NAVs.

9. Bulk Service Agreements

A bulk service agreement should be in place before Ofwat will award a NAV. Wessex Water standard bulk service agreements for water and/or wastewater service are available on our website.

Bulk agreement negotiations can be commenced during the pre-planning phase and will be concluded during the public consultation stage, following the application being submitted to Ofwat.

Bulk service offers will be conditional on both parties having agreed contract terms and the application being successful. Wessex Water will provide a letter of support to the NAV where appropriate and will furnish Ofwat with any details required as part of their consideration of the NAV application.

10. Submission of the NAV application to Ofwat

Once the NAV application has been submitted to Ofwat, a Section 8(2) Notice must be sent to key stakeholders including the existing appointee of the relevant site within 14 calendar days. The notice should be sent to the registered address set out below:

Ruth Jefferson

General Council

Wessex Water

Claverton Down,

Bath

BA2 7WW

It is requested that a copy of the notice also be sent by email to wholesaleservicedesk@wessexwater.co.uk.

11. Post-Award

11.1 Transition

Once Ofwat have confirmed the award of the inset to the NAV, Wessex Water will support the new appointee via a named point of contact within the Wholesale Service Team.

Transition arrangements will be agreed to ensure:

- Bulk service contracts are enacted;
- Physical connections to Wessex Water's networks are facilitated;
- Billing arrangements are established.

Controls established to maintain confidentiality between Developer Services and the Wholesale Service Desk during the application process will be relaxed, reflecting the transition of the new appointee from a competitor to a Customer (Ofwat's 'Competitor Principle'). It facilitates the use of appropriately skilled and knowledgeable resources with development industry backgrounds to support the new appointee when connecting to Wessex Water's network.

11.2 Contract Management

On-going support including billing, collection of charges and meter reading will be provided via the Wholesale Service Desk. Tailored contract management services may also be made available to Customers on request.

12. Complaints

12.1 Disputes relating to standards of services

If you feel we have not met the standards of service you would expect, you can contact us in one of two ways.

Email: wholesale@wessexwater.co.uk

Write to: Managing Director
Wessex Water
Claverton Down
Bath, BA2 7WW

Complaints to Ofwat

You may want to complain to Ofwat about the service or charges you have received from us, or if you feel that we are in breach of the Water Industry Act 1991 or the Competition Act 1998. Ofwat's address is given below.

Ofwat
Centre City Tower
7 Hill Street
Birmingham, B5 4UA

Annex A. Application Process

The table below outlines the stages of the application process. It may be the case that work streams will run in parallel e.g. eligibility and pre-planning report. The table should be interpreted as a suite of tasks rather than a linear flow of work, the extent of the overlap largely reliant on the instruction received by the Customer.

Key Process	Process Description	Target
Site Status	A written confirmation of the site status will be issued within a period of 21 days commencing on the day after receipt of the enquiry. This SLA will run in parallel to subsequent metrics. NB. Report on per application not per plot basis.	21 Days
Acknowledgement of bulk supply application	A written acknowledgement of the bulk water/discharge application will be issued within a period of 5 days commencing on the day after receipt of the application confirming either that the application is complete or, if not, requesting the missing information and/or any required payment.	5 Days
Bulk Supply Offer Connection/Discharge	A bulk water supply offer will be issued to the NAV within a period of 28 days commencing on either i) on the day after receipt of the full application, or ii) in an incomplete application and/or no payment has been received with the application, on the day after the required information and payment has been received. An application is full when all of the published NAV requirement information has been received. As part of the written terms, the incumbent will provide the following information as a minimum: Proposed Development - Confirmation of bulk service requirement including build rate, peak flow rate, etc. Services - Confirmation of services and available capacity. Connection - Details of permanent point of connection and connection costs. Details of temporary arrangements, such as temporary capacity constraints, temporary points of connection and indicative information on any reinforcement work required.	28 Days

	Commercial terms and conditions - Applicable infrastructure charges, bulk charges and link to standard bulk agreements. If existing appointees believe the work needed to meet the network information timeframe will exceed 28 days, they must inform the applicant and Ofwat as early in the process as is possible with reasons for believing the timeframe may not be met.	
Bulk Supply Agreement	A standard bulk water/discharge supply agreement will be issued to the NAV within a period of 28 days commencing on either i) on the day after written acceptance from the NAV of the bulk service offer, or ii) on the day after agreement of non-standard terms.	28 Days
Acknowledgement of Signed Agreement	A written acknowledgement will be issued to the NAV within a period of 5 days commencing on the day after receipt of the signed bulk supply agreement.	5 Days
Water Main Laying Schemes	A NAV may ask the Incumbent to construct and commission the water main between the NAV site boundary and the Incumbents PoC as agreed in the Bulk Agreement. This work will be completed either (i) within a period of 90 days commencing on the relevant day, or (ii) no later than on the date agreed with the NAV. Any agreement must be confirmed in writing with the applicant by letter or email. The construction and commissioning of the new water main is completed when the new water main is under pressure from the company's network. The relevant day is when an undertaking under S44 of the Water Industry Act 1991 signed by the NAV and a valid security have been received. Where the site has multiple bulk connections, this service level is applied separately in respect of each individual bulk connection on a development site. The target period may be extended by agreement with the NAV.	90 Days

Sewer Schemes	The construction and commissioning of the sewer will be completed either (i) within a period of 180 days commencing on the relevant day, or (ii) no later than on the date agreed with the developer. Any agreement must be confirmed in writing with the applicant by letter or email. The construction and commissioning of the new sewer is completed when the new sewer is effectively connected to the company's network. The relevant day is when an undertaking under S98 of the Water Industry Act 1991 signed by the NAV and a valid security have been received. Where the site has multiple bulk discharge connections, this service level is applied separately in respect of each individual bulk connection on a development site. The target period may be extended by agreement with the NAV.	180 Days
Testing of Supplies	Where the NAV is responsible for the construction of the off-site main between the NAV site boundary and the incumbent's PoC as agreed in the Bulk Agreement. The incumbent will provide a source of supply for pressure and bacteriological testing within either (i) 28 days commencing on the day after receipt of request or (ii) such longer period as may be agreed with the NAV where there are engineering difficulties/requirement for offsite reinforcement/schedule 13 Water Industry Act 1991 constraints or where the NAV requests an extended period.	28 Days
Commissioning	Provide a permanent supply connection within 14 days following written confirmation from the NAV of satisfactory pressure and bacteriological testing of the NAV mains.	14 Days

Annex B. Bulk Supply Charging Methodology

This appendix sets out Wessex Water's approach to setting charges for New Appointments and Variations (NAVs) for 2020/21. A full version of our Charges document is available on our website, but we are happy to provide you with a copy on request.

In conjunction with this appendix, we also provide a calculation spreadsheet to allow potential NAVs to easily assess the likely charges they will incur.

To request a copy of this document or the calculation spreadsheet, please either:

Email: wholesale@wessexwater.co.uk

Telephone: 01225 524 375

Write to: Head of Wholesale Services
Wessex Water
Claverton Down
Bath, BA2 7WW

Detailed explanation of our approach

The relevant starting point

Based on Ofwat's guidance, the relevant starting point for the calculation is the appropriate wholesale tariffs that reflect the NAV's end-customers on a particular site. We create an 'overall weighted average' tariff that reflects the combined wholesale charges of all the NAV's customers on that site. This means we need to account for different types of end-customer, including households and non-households, as well as different discharge arrangements.

Our wholesale charges are set out in the schedule of tariffs at the end of this document. They are also set out in our Wholesale Charges document, which is published on our website in mid-January each year with charges applying from 1 April. The key charges for 2020/21 are shown in the table below, however all our wholesale tariffs are available depending on the types of customer served by a NAV.

Table 2 Summary of wholesale charges

Charge element	Household	Non-household
Measured water		
Fixed charge meter size < 25mm (£ per annum)	4	4
Volumetric charge (£ per m^3)	1.9480	1.9998
Measured wastewater		
Fixed Surface Water drainage charge[2] (£ per annum)	21	21
Fixed Highway drainage charge (£ per annum)	21	21
Volumetric charge (£ per m^3)	1.5638	1.5944

[2]Customers eligible for the surface water drainage rebate will be not be charged for this element.

Each bulk supply or discharge tariff will therefore be set by reference to the expected number of each customer type and consumption on a particular site. We will require detailed information from an applicant to calculate the correct tariff. A final site-based fixed charge will be applied for water to recover the cost of the single bulk meter, based upon the total expected water consumption.

As with our wholesale charges, we will abate charges where premises do not discharge surface water into our network.

We have also created a calculation spreadsheet to allow potential NAVs to easily assess the likely charges they will incur.

Taking account of leakage

We will make a downward adjustment of 5.5% to the volume recorded at the bulk meter to account for any on-site leakage that might impact the effective price at the end-customers' meters.

This adjustment accounts for the long-run average volume of water that would have hypothetically leaked from the network beyond the bulk meter, had we been operating the network instead of a NAV.

To calculate the quantum of on-site leakage as a percentage of the total volume at the bulk meter, we have constructed a theoretical model using expert engineering knowledge that calculates the leakage in an area over 60 years. We created a notional local network with a demand forecast consistent with that made in our 2019 Water Resources Management Plan. Over a 60-year horizon, average consumption per domestic property reduces from 104m^3 per annum in 2020 to 93m^3 per annum in 2080.

At year zero, leakage is almost zero in the newly laid network. A deterioration function was then created which simulates the increase in leakage over time as the pipe deteriorates. This function is exponential, so over time leakage increases significantly. An intervention threshold of 50 litres per property per day (or circa 20% of billed volume) was chosen as the point at which a company would intervene to reduce leakage back to a reasonable level. As the network deteriorates, leakage increases faster and exponentially more frequent interventions are required.

The resulting 60-year average leakage is 15 litres per property per day compared to the total average bulk meter volume of 264 litres per property per day. This is calculated as 5.5% of total volume.

We recognise the potential variability of this calculation and have therefore performed sensitivity testing of all the variable parameters, trialling significantly different deterioration rates and different intervention thresholds. This analysis resulted in leakage figures of 4.5%

to 6.5%, a variation of +/- 1% compared to the average value. This gives greater confidence that the approach we have taken is reasonable and robust.

Calculation of the avoided on-site costs

This element of the 'minus' calculation is assessed with reference to the costs that we avoid because the NAV is serving the site rather than us.

It is calculated as an annuity against the ongoing costs that we would have incurred over the lifetime of the assets. It includes all operating, maintenance, monitoring and replacement costs, including but not limited to:

- Labour
- Power
- Materials and consumables
- Local authority rates
- General and support costs
- Renewals costs

We estimated these on-site ongoing costs with reference to the actual costs that we incur across our region, using the most recent three years of network data published as part of our regulatory accounts. For 2020/21, we have therefore used cost information from 2016/17 to 2018/19. These costs are inflated to a 2020/21 price base using the relevant inflation indices.

We have then used asset data, asset values and expert engineering judgment to allocate the overall network costs to the different elements of the network. These costs are then divided by the total billed consumption on our local network to result in unit costs per cubic metre.

Table 3 Summary of avoided operational costs

Cost area	Avoided cost (£ per m^3)
Water supply	
Local water mains network	0.0722
Communication pipes	0.0695
Meters, meter boxes and management	0.0646
Total avoided operational cost	0.2064
Wastewater	
Local sewer network	0.0505
Total avoided operational cost	0.0505

Calculation of the avoided depreciation

Where we are requisitioned to lay new mains on a site, the developer pays us to complete the work. Our developer charges for 2019/20 provided a 15% income offset to requisition charges, so the developer paid 85% of the construction value. The net value was added to our regulatory capital value (RCV) and depreciated over time. This year the 15% income offset has been moved to the infrastructure charge and so the developer is now paying for

100% of the construction value of a new requisition. From now on, we will see no additions to the RCV from requisitions and consequently there will be no avoided depreciation to account for.

For NAVs whose requisitions occurred on or before 31 March 2020, the rate of avoided depreciation for 2020/21 is calculated in the same manner as last year.

The avoided return for on-site assets

We have applied a NAV-specific WACC of 4.42% which is based upon Ofwat's May 2018 guidance and updated with Ofwat's policy decision on the building blocks of the cost of capital from its PR19 final determination. We have calculated the return on the value of the local network had we undertaken the development instead of the NAV. This figure has then been adjusted to represent the NAV-specific WACC.

The resulting applicable returns to the local network are shown in the table below.

Table 4 Summary of avoided return

Cost area	Avoided cost (£ per m^3)
Water supply	
Return	0.1175
Tax, etc.	0.0091
Total avoided cost	**0.1266**
Wastewater	
Return	0.0891
Tax, etc.	0.0085
Total avoided cost	**0.0977**

Annex C. Schedule of tariffs

Water wholesale tariffs

Domestic / Business	Domestic	Business					
Type of water service	Non-interruptible	Non-interruptible				Interruptible	
Customer using (m3/annum) of water service	≥0	0-19,999	20,000-161,999	162,000-341,999	≥342,000	5,000-19,999	≥20,000
Meter Charge <25mm (£ per annum)	4	4				145	
Meter Charge ≥25mm (£ per annum)	46	46				187	
Site Based Charge (£ per annum)			95	133	214		346
Volume Charge ≤20,000m3 (£ per m³)	1.9480	1.9998	1.9998	1.9998	1.9998	1.8790	1.8790
Volume Charge >20,000m3 ≤100,000m3 (£ per m³)			1.6409				1.5425
Volume Charge >100,000 ≤150,000m3 (£ per m³)				1.1772			
Volume Charge >150,000m3 (£ per m³)					0.9626		
Decreasing Block Volume Threshold (m3 per annum)	-	-	20,000	100,000	150,000	-	20,000

Wastewater wholesale tariffs

Domestic / Business	Domestic		Business	
Drainage arrangements	SWD	HWD	SWD	HWD
Drainage charge meter size <25mm	21	21	21	21
Drainage charge meter size ≥25mm <30mm	107	107	107	107
Drainage charge meter size ≥30mm <40mm	175	175	175	175
Drainage charge meter size ≥40mm <50mm	240	240	240	240
Drainage charge meter size ≥50mm <65mm	440	440	440	440
Drainage charge meter size ≥65mm <80mm	640	640	640	640
Drainage charge meter size ≥80mm <100mm	1,125	1,125	1,125	1,125
Drainage charge meter size ≥100mm <125mm	1,950	1,950	1,950	1,950
Drainage charge meter size ≥125mm <150mm	2,650	2,650	2,650	2,650
Drainage charge meter size ≥150mm <200mm	4,000	4,000	4,000	4,000
Drainage charge meter size ≥200mm	5,300	5,300	5,300	5,300
Drainage charge where water use is >20 Ml and <162 Ml	1,325	1,325	1,325	1,325
Drainage charge where water use is >162 Ml and <342 Ml	3,325	3,325	3,325	3,325
Drainage charge where water use is >342 Ml	5,300	5,300	5,300	5,300
Volume Charge ≤20,000m3 (£ per m³)	1.5638		1.5944	

NAV avoided costs (£ per m³)

Charge element	Water (£ per m³)	Wastewater (£ per m³)
Avoided operating costs	0.2064	0.0505
Avoided depreciation[1]	0.0040	0.0031
Avoided tax/adjusted return	0.1266	0.0977
Total NAV discount	0.3370	0.1513

[1] *If applicable.*