NAV CHARGES

for 2019/20

FOR YOU. FOR LIFE.

Wessex Water

YTL GROUP

Executive summary

This document sets out our approach to setting charges for New Appointments and Variations (NAVs) for 2019/20. This document is available on our website, but we are happy to provide you with a copy of this document on request.

Our charges are set out in the Schedule of Tariffs towards the end of this document. We set out the background, scope and contact details in section 1. We provide a summary of our approach in section 2 and provide further detailed information in section 3.

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

To request a copy of this document, please either:

Email: wholesale@wessexwater.co.uk

Telephone: 01225 524 375

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

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1. Introduction

1.1 Our business

We supply water and sewerage services to more than 2.8 million customers in an area covering around 10,000 km^2.

Figure 1 Our business

1.2 Background to NAV charges

Ofwat has issued new guidance for setting bulk charges to NAVs, which it plans to translate into charging rules in the future. Ofwat has indicated that it expects companies to start complying with the new guidance as soon as possible. We will backdate our application of these new charges to the date of Ofwat's guidance (8th May 2018) alongside a transition period to 1st April 2019 should the charges be unbeneficial to any NAV.

1.3 Scope of this document

This document sets out the calculations that will be used to fix charges for providing bulk supply or discharge services to NAVs. Charges for water, sewerage and trade effluent primary and non-primary charges to residential and commercial premises, and services to developers are all fixed under separate charges schemes.

This document set out our charges for the 2019/20 charging year (from 1 April 2019 until 31 March 2020).

1.4 Our contact details

Our contact details are as follows.

Email: wholesale@wessexwater.co.uk

Telephone: 01225 524 375

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

1.5 Complaints and 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

1.6 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

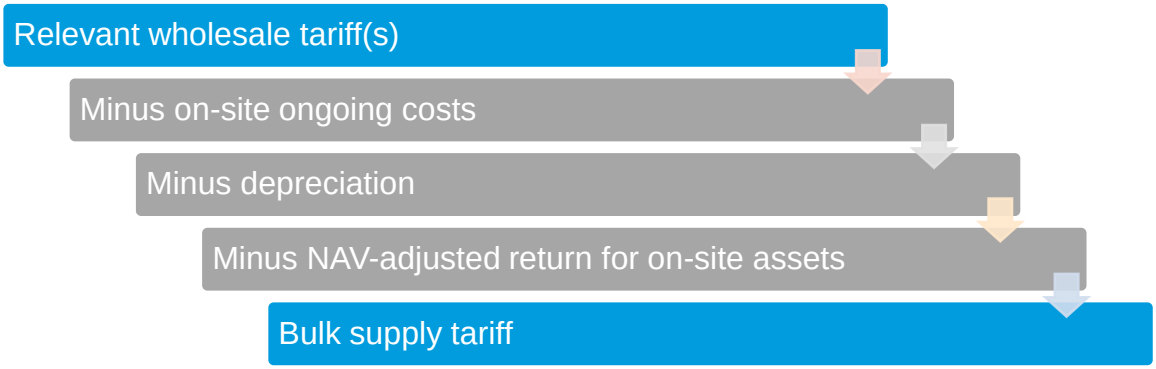
2. Summary of our approach

2.1 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 from the relevant wholesale tariff(s) and deduct costs that we would not incur if a NAV supplied the new development instead. The "minus" element comprises of three components:

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

Figure 1 Components of the wholesale-minus approach



2.2 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 sets 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 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.
- If we are requisitioned to provide the works, a value for the avoided depreciation from the assets that would have been added to our RCV.
- 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	Sewerage
Avoided operational costs	0.1806	0.0421
Avoided depreciation	0.0067	0.0058*
Avoided return on assets	0.1600	0.1426
Total	**0.3473**	**0.1905**

** this element will only apply when we are requisitioned to lay a new sewer*

We will follow the same process for calculating wastewater NAV tariffs, with adjustments for foul only or foul and surface water, as well as an appropriate return to sewer rate calculated from the water volume supplied (if no set discharge volume is agreed). Consistent with Ofwat's prior guidance, we do not propose to charge for highway drainage from the site.

In the majority of cases, where sewerage networks are adopted rather than provided by means of a requisition notice, the sewerage discount for NAVs will not include the depreciation element. Where, as an exception to the norm, it appears that a sewerage requisition notice would in fact have been served on us had any of the legacy NAVs not been appointed, additional site-specific deductions for depreciation costs that we would have incurred will be made.

For sewerage services, we will only deduct the element that represents the depreciation on the on-site investment that would have accrued to our RCV for:

- new NAVs that requisition us to lay new sewers
- all legacy NAVs

We have also created a spreadsheet, provided in conjunction with this document, to allow potential NAVs to easily assess the likely charges they will incur.

We will update all of the elements of the calculation each year to reflect up the most up to date information. These will include, but are not limited to:

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

We note that the charges set in this document may vary by site and circumstance.

3. Detailed explanation of our approach

3.1 The relevant starting point

The relevant starting point is the appropriate wholesale tariffs that reflect the NAV's end customers on a particular site, in order to 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 and apply from 1st April. The key charges for 2019/20 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)	2.1329	2.1769
Measured sewerage		
Fixed charge – excluding surface water (£ per annum)	0	0
Fixed charge – including surface water drainage (£ per annum)	21	21
Volumetric charge (£ per m^3)	1.7316	1.7603

Each bulk supply or discharge tariff will therefore be set with reference to the expected number of each of the above customer types and consumption on a given site. We will require detailed information from an applicant in advance 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.

For sewerage the fixed charge will be the sum of the customers' surface water drainage charges. Consistent with Ofwat's guidance in this area, we propose to not charge for highway drainage from the site. We have therefore excluded highway drainage from our wholesale charges. Where the site does not discharge surface water into our network we will abate the surface water drainage elements of our wholesale charges.

We have also created a spreadsheet, provided in conjunction with this document, to allow potential NAVs to easily assess the likely charges they will incur.

3.2 Taking account of leakage

We will make a downward adjustment to the volume recorded at the bulk meter to account for the on-site leakage that impacts the effective price at the end customers' meters.

The 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.

We will therefore apply a reduction to the billed volume at the bulk supply meter of 5.5% to account for on-site leakage.

3.3 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
- In-year renewal 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 2019/20, we have therefore used cost information from 2015/16 to 2017/18. These costs are inflated to a 2019/20 price base using the Retail Price Index.

We then used asset data, asset values and expert engineering judgement 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	0.07
Communication pipes	0.06
Meters and meter boxes	0.05
Total avoided operational cost	**0.18**
Sewerage	
Local sewer network	0.03
Lateral drains	0.01
Total avoided operational cost	**0.04**

We will therefore provide discounts of £0.18 per m^3 for the avoided operational costs of water and £0.04 per m^3 for sewerage.

3.4 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 provide a 15% income offset to requisition charges, so the developer pays 85% of the construction value. The net value is then added to our RCV and depreciated over time.

We will therefore only incur an avoided cost of depreciation if we lay the new mains on a site. If we are not requisitioned to lay new mains on a site there is no impact on the RCV and therefore there is no depreciation.

We have calculated the avoided cost of depreciation in the same way as we have for the avoided operational costs. We have used depreciation for 2015/16 to 2017/18 and rebased using RPI to a 2019/20 price base. We have then split the depreciation into different network components using the overall asset value to calculate the depreciation applicable to the local network. The final step was to divide by total billed consumption.

The resulting overall depreciation values are £0.04 for water and £0.04 for sewerage. As discussed above, if we were to lay the new assets, only 15% of the asset value would be added to our RCV and depreciated over time: therefore, the depreciation values are required to be multiplied by 15%. The final depreciation values are therefore £0.01 for both water and sewerage.

3.5 The avoided return for on-site assets

We have applied the NAV-specific WACC of 4.74% as set out in Ofwat's guidance. 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	0.15
Tax etc.	0.01
Total avoided cost	**0.16**
Sewerage	
Return	0.12
Tax etc.	0.02
Total avoided cost	**0.14**

Schedule of tariffs

NAV Avoided Costs

Avoided cost activity	Water	Sewerage
Avoided operating costs	£0.1806	£0.0421
Avoided depreciation*	£0.0067	£0.0058
Avoided tax/adjusted return	£0.1600	£0.1426
Total NAV discount	£0.3473	£0.1905

** Only avoided if Wessex Water are requisitioned to lay the on-site sewers*

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)	2.1329	2.1769	2.1769	2.1769	2.1769	2.0447	2.0447
Volume Charge >20,000m3 ≤100,000m3 (£ per m3)			1.7840				1.6762
Volume Charge >100,000 ≤150,000m3 (£ per m3)				1.2762			
Volume Charge >150,000m3 (£ per m3)					1.0413		
Decreasing Block Volume Threshold (m3 per annum)	-	-	20,000	100,000	150,000	-	20,000

Sewerage Wholesale Tariffs

Drainage arrangements	Domestic		Business	
	SWD	No SWD	SWD	No SWD
Drainage charge meter size <25mm	21	0	21	0
Drainage charge meter size ≥25mm <30mm	107	0	107	0
Drainage charge meter size ≥30mm <40mm	175	0	175	0
Drainage charge meter size ≥40mm <50mm	240	0	240	0
Drainage charge meter size ≥50mm <65mm	440	0	440	0
Drainage charge meter size ≥65mm <80mm	640	0	640	0
Drainage charge meter size ≥80mm <100mm	1,125	0	1,125	0
Drainage charge meter size ≥100mm <125mm	1,950	0	1,950	0
Drainage charge meter size ≥125mm <150mm	2,650	0	2,650	0
Drainage charge meter size ≥150mm <200mm	4,000	0	4,000	0
Drainage charge meter size ≥200mm	5,300	0	5,300	0
Drainage charge where annual water use is >20 Ml and <162 Ml	1,325	0	1,325	0
Drainage charge where annual water use is >162 Ml and <342 Ml	3,325	0	3,325	0
Drainage charge where annual water use is >342 Ml	5,300	0	5,300	0
Volume Charge (£ per m3)	1.7316	1.7316	1.7603	1.7603

Appendix A Glossary and defined terms

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 waste water from one sewerage 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.
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 waste water to, an incumbent water company.