

# **New Appointments and Variations (NAVs)**

## **Bulk Charging Arrangements for 2023-24**

**January 2023**

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## Version Control

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# 1. New Appointee bulk supply pricing

**This document explains the updates we have made to our NAV bulk charging arrangements from those we had in place for 2022–23.**

**In this section we explain how we set our charges for the provision of bulk supplies and bulk discharges for New Appointees and Variations (NAVs) against the charging guidelines and the principles of applying a ‘wholesale minus’ approach as referenced by Ofwat.**

The New Appointments and Variations (NAVs) regime in England and Wales supports new entrants into the wholesale water and sewerage sector and also allows incumbent water and/or sewerage companies to expand into other geographic areas.

To operate within the incumbent’s region a NAV company may require a bulk supply of water and/or sewerage services from the incumbent water and/or sewerage company.

- A bulk supply is the supply of clean water services from an incumbent appointed company to a NAV company.
- A bulk discharge is the supply of sewerage services from an incumbent appointed company to a NAV company.

The incumbent will levy bulk charges for such services, and these charges will form part of the bulk supply and/or discharge agreements in place between the parties.

Critically, the bulk charges have a significant bearing on the future margin the NAV is able to achieve in relation to financing and maintaining their network on a site or across multiple sites. It is the expectation for NAVs to operate their local networks within the incumbents’ network area for a long period.

In January 2021, Ofwat published its guidance on setting bulk charges for NAVs<sup>1</sup>.

We have produced this document and the associated [Yorkshire Water NAV bulk supply charging tool for 2023–24](#) in line with the Ofwat guidance in order to provide NAVs with the charges information they need and detail how our charges for the

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<sup>1</sup> Bulk charges for new appointees – guidance on our approach and expectations, Jan 2021

provision of water and sewerage services in bulk are fair and facilitate efficient NAV market entry in the Yorkshire region.

Central to Ofwat's guidance is the application of a **wholesale-minus approach**. This approach starts with the incumbents' wholesale tariff(s) for the relevant new site and then deducts the avoided costs that the incumbent no longer incurs where the NAV owns and maintains the new site network instead (the local network).

We continue to use the general wholesale-minus construct to set bulk supply prices and determine the avoided costs discount based on the present value of the average costs we would incur operating and maintaining such a local network over the lifetime of the assets.

We do not consider the expenditures of constructing the local networks as an avoided cost in relation to our bulk supply prices, as we would receive revenues for this from the developer. We expect the NAV will similarly receive such revenues as recovery for its costs of constructing the local network it subsequently adopts and operates.

## 1.1. Working towards best practice

During 2021 and 2022 Ofwat has led an industry working group, the Bulk Charging Working Group (BCWG) looking at how charges for the bulk supply of services to NAVs are set by incumbents and seeking inputs from them along with the NAVs in the market on ways to improve transparency and identify good practice. The BCWG has looked at a range of areas such as consistency in the coverage of cost types to be considered in the wholesale minus approach, the basis for the wholesale tariff starting point, and also transparency in how information on charges, both how they are set and what they are, is effectively shared with NAVs.

In this publication and those accompanying it, we provide a detailed explanation of how our charges for bulk services are set, explain the changes we have made from our charges methodology for 2022-23, and provide worked examples to help NAVs understand the approach in detail.

In addition we explain the level of bill changes across some typical example NAV appointed sites and potential gross margin achievable. Published in parallel to this document is a **checklist of cost categories** that the BCWG identified as having the potential for being in some way avoided by the incumbent where NAVs adopt new networks in the incumbents' place.

This avoided cost checklist details whether Yorkshire Water does include this cost type within the avoided cost stage of our charges methodology or if not the rationale for it not being relevant to the setting of bulk charges.

Further to fulfilling the information and publications good practice recommended by the BCWG, we can advise that our bulk charges for 2023-24 represent the first stage in our journey to reform and simplify how we set and apply charges for bulk services to NAVs operating within the Yorkshire region towards a 'menu-based' approach. The BCWG produced a paper in August 2021<sup>2</sup> that outlined how the relevant starting point tariff could be set and some principles for setting bulk tariffs. These principles are:

1. Bulk tariffs should be simple, clear, and not onerous to calculate / apply.
2. Tariffs should be structured using a menu-based approach.
3. Bespoke tariffs should be the exception.

Presently our charges continue to be bespoke on a site-by-site basis, rather than 'off the peg' and set against a menu of selections. We will work to these principles as we develop our bulk charges methodology further and engage with NAVs and other stakeholders to help inform our future tariff structures and customer information.

## 1.2. Water efficiency incentives in bulk tariffs

The Water Industry Act 1991 includes a duty on every water undertaker or water supply licensee to promote the efficient use of water by their customers. However, the current regulatory framework set by Ofwat does not include any direct incentivisation for NAVs for improving per capita consumption in their appointed areas.

In September 2022, Ofwat published a short report outlining a review it had undertaken on the incentives and support incumbent water companies were providing to developers in encourage the building of more water efficient homes.<sup>3</sup>

Within that report, Ofwat highlights the potential role NAVs as alternative water monopolies could play in supporting more water efficient homes and ongoing

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<sup>2</sup> BCWG Workstream 1 - Setting the relevant starting point and overall tariff approach

<sup>3</sup> Water companies' environmental incentives to support more water efficient new homes, 7 Sept 2022

water efficient practices with end customers. Ofwat notes that how incumbents set their charges for the bulk supply of water has the potential to create some unwanted disincentives on NAVs to encourage or invest in water efficiency from their customers.

*Ofwat states “if the charges are structured such that the new appointee can earn greater returns if its customers use more water, it could provide a perverse incentive for the new appointee to avoid encouraging its customers to conserve water.”*

One approach that could be available to foster improved practices and greater investment from NAVs into encouraging better water usage from their customers is to remove any disincentives in the charging of bulk water supplies between the upstream and downstream monopolies.

Ofwat’s report goes on to summarise an example of a charging structure that removes this disincentive from bulk charges through the use of a two-part tariff arrangement. Part one is a volumetric tariff for recovering the wholesale value of the water supplied by the incumbent to the NAV, and part two is a fixed discount value, or credit, applied on a per property connected basis as a means to provide for the ‘avoided cost’ element of the wholesale-minus approach to setting bulk charges for NAVs.

Under the above tariff structure, should volumes of water consumed, and/or wastewater discharged by the NAVs customers vary significantly from what was expected by the NAV at the time of its application for bulk services, the level of avoided costs discounting provided by the incumbent to the NAV remains stable (subject to future changes to the underlying drivers of avoided costs). The NAV’s customers would benefit from acting on the NAVs investments in the promotion of water efficiency through having lower water bills and the NAV is provided with a stable margin value on the bulk wholesale charges it faces for the appointed site.

We consider this approach has advantages over our current approach of building our site-specific avoided costs into a bespoke bulk supply price applied solely through a volumetric based charge.

In the following sections of this document we outline how for the 2023-24 period we will move to a new methodology for setting bulk charges that addresses the concern highlighted by Ofwat, whilst still following the wholesale-minus approach.

## 2. Our charging arrangements

Over the following sections we present our charging arrangements based on the 'wholesale-minus' approach including the treatment of avoided on site costs and other allowances updated for 2023-24.

**Yorkshire Water is changing how it sets bulk charges for the 2023/24 period from being set solely as a volumetric tariff to one that has a volumetric component and a fixed per property component – a two-part tariff.**

We will also transition existing bulk supply arrangements for current NAV appointed sites within our incumbent region over to this new charging approach for 2023-24.

This change is the first stage in our journey to reform and simplify how we set and apply charges for bulk services to NAVs operating within the Yorkshire region towards a 'menu-based' approach.

In our charging approach we calculate the present value of the wholesale charges that we would apply if serving the customers on the site (i.e. our wholesale volumetric tariffs and any fixed charges), and then deduct the value of the costs that we have avoided by the NAV serving the site instead of Yorkshire Water.

We exclude the initial costs to construct the onsite network (mains, sewers, meters, and other network assets) as we recover these costs directly from the developer up front and assume the NAV does likewise prior to adoption. Similarly, any costs to reinforce our upstream or downstream networks to manage growth from new developments are excluded from the setting of bulk supply charges (we explain these additional charges later in this document). Such costs do not get recovered through our wholesale tariffs to end customers and are not relevant with setting wholesale tariffs for provision of bulk services.

We also exclude the revenues and costs we would collect and incur for the provision of retail services to the end customers as these are already allowed for in the tariffs NAVs can charge its customers. This includes the costs we would otherwise incur for the management of bad debt that are within the retail allowed revenues.



To set the present value of our future operating costs we discount these cashflows based on an assumed NAV return on capital.

## 2.1. Tariff structure

Our new bulk charges tariff structure is shown in Figure 2. with the tariff output for the NAV site being in two parts.

- Part 1 is the **volumetric tariff** that will be applied to water usage values (from the boundary meter or other meter data as relevant),
- Part 2 is applied as a **fixed charge** (typically negative) for each property connected at the NAV site. It is important to consider when the site is in its build phase this charge element will apply to those properties connected at that point and not the future completed site property count. Only when the site has been completed and all properties are connected will the fixed discount element apply in full.
- Both parts 1 and 2 are specific to the characteristics of the site as advised by the NAV when it applies for a bulk supply and/or discharge agreement and seeks prices.

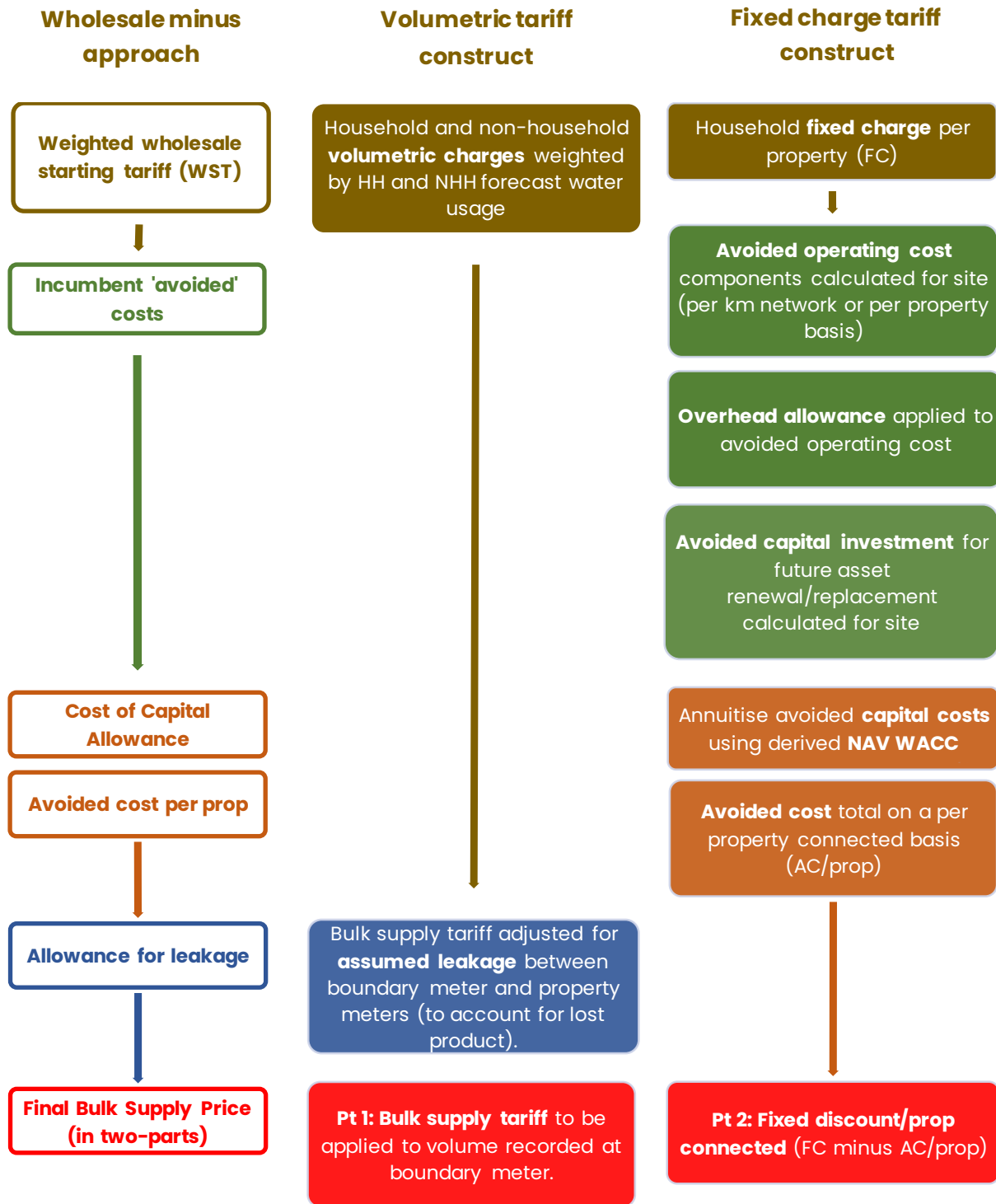
We recognise this two-part tariff is more complex than our volumetric-only approach for 2022/23 and before. To apply the new approach in practice we will use meter readings from the boundary meter to bill the volumetric component of the tariff and use the latest information from the NAV on connected properties at the relevant site for the per property component. We will bill NAVs on a monthly frequency under the two-part bulk tariff approach.

It should be noted that there may be infrequent circumstances where this two-part tariff approach could result in a credit to the NAV where the volumetric related charge is smaller than the net avoided cost charge – for example, where some properties on a site during the build phase have been connected but are not fully occupied and the legitimate water demand via the bulk supply is very low. Please note we will limit our invoices for bulk supplies in these circumstances at zero.

We require the NAV to provide regular updates on the counts of connected properties during the site build phases. Where such information was not made available in a timely manner, Yorkshire Water would estimate the number of connected properties based upon an assumed build and connection rate and by cross-checking with water demand to the site.

Both the volumetric and per connected property parts of the tariff would be reviewed annually and would be expected to be revised as underlying wholesale tariffs move and our avoided costs change over time.

**Fig 2. Site specific two-part tariff – summary of approach**



## 2.2. Wholesale starting tariff

We calculate the wholesale tariff 'starting point' for the setting of bulk charges through a 'weighted' approach based on the mix of properties (household and non-household) to be built and served at the site and their relative forecast water consumption. This method remains consistent with Ofwat's latest guidance.

We no longer will incorporate our wholesale household fixed (per property) charge component into the volumetric charge. The fixed charge element is used in combination with the calculation of avoided costs on a per property basis.

In this way the weighted average starting point tariff presented for a site for 2023-24 will be typically lower than it would have been in 2022-23, as it excludes the contribution of the fixed charge component of our wholesale charges.

We have updated our charging tool with the Yorkshire Water wholesale charges (fixed and volumetric) for the financial year 2023-24. Our wholesale household measured water tariffs for 2023-24 are 7.9% higher than for 2022-23. For wastewater the increase is around 5.6%.

The bulk supply charging tool we make available to NAVs (see section 3) continues to require some basic information from the NAV in respect of the number of household and non-household premises planned for the site, the total length of the on-site networks, and the expected annual household and non-household water demand and/or wastewater discharge. The formula for the **weighted wholesale tariff** is shown in **Figure 2.1**.

We assume all household and non-household properties at the site will be **metered** and therefore we use wholesale tariffs for metered properties in our charging tool.

Where the new development site to be adopted by the NAV sits within the defined geographical area for **York Waterworks**, then the starting point will be derived from our published York Waterworks wholesale tariffs (water services only). Our charging tool allows the NAV to select the site as being within the York Waterworks area. Within the tool we provide details of the local parishes which make up the historical York Waterworks territory. Should you be unsure whether the site is within this territory, please contact Yorkshire Water with full details of the site address and plot locations and we can advise accordingly.

Figure 2.1. Calculating the weighted wholesale tariff starting point.

**Weighted Wholesale Starting Tariff**

$$= \frac{N_{HH}C_{HH}Tariff_{HH} + N_{NHH}C_{NHH}Tariff_{NHH}}{N_{HH}C_{HH} + N_{NHH}C_{NHH}}$$

*N<sub>HH</sub>, N<sub>NHH</sub>: number of HH and NHH on site*

*C<sub>HH</sub>, C<sub>NHH</sub>: HH and NHH annual demand (m<sup>3</sup>)*

*Tariff<sub>HH</sub>, Tariff<sub>NHH</sub>: HH and NHH 'wholesale' volumetric tariffs*

*The 'wholesale' fixed tariff is not used in creating the weighted wholesale starting tariff but is applied to the 'net avoided cost' component of the two – part tariff on a per property basis.*

The formula is used to calculate the weighted starting tariff for both water and wastewater services. For wastewater, we apply a standard 95% 'return to sewer' rate to the household and non-household annual water demand as a default.

If the NAV has reason to request a site-specific return to sewer rate, for example it knows a non-household property at the site will be involved in water being consumed in a production process that is not ultimately going to foul wastewater, then it should contact Yorkshire Water. We would require a NAV to evidence such site or property characteristics and justify a deviation from our standard 95% value and we would be happy to talk with you about the particular circumstances in advance of finalising a bulk discharge tariff for inclusion in the discharge agreement.

In the unusual case that premises on the site will not be individually metered, we request the NAV contacts Yorkshire Water to seek further advice – for example, where a **common billing agreement** is proposed for the NAVs customers<sup>4</sup>.

Finally a factor is applied to the wholesale starting volumetric tariff (from part 2.1.1) to account for the expected **loss of water through leakage** on the NAVs network between the boundary meter (measuring volumes for the whole site) and the meters at the on-site premises (measuring volumes at individual premises).

We would determine the level of this allowance using our historical leakage performance data from our more modern DMAs, as we explain further in part 2.6.

The leakage allowance is applied to both water and sewerage bulk volumetric tariffs, where relevant.

Where we do not use meter read data from a bulk meter at the NAV site boundary, but instead use the reads from meters at end customers premises, no leakage allowance is applicable.

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<sup>4</sup> In such cases the weighted wholesale tariff starting point may be impacted as well as the assessment of avoided costs.

## 2.3. On-site costs avoided – ongoing opex and capex

We have retained our approach to determining the on-site costs avoided by Yorkshire Water as we used last year. We prioritise a **bottom-up approach** to assessing avoided costs, looking at the type and level of costs typical to newer parts of our networks. Where we are unable to do this, we assess costs by normalising our cost data across the whole of our region or operations (top-down).

Where we can we use the average of the last three financial years information to 2021-22 to set these costs, in order to remove any volatility in expenditures that may be experienced in a single year.

Avoided costs are made up of:

- Ongoing **operating expenditures** to service and maintain the on-site water and/or wastewater networks, plus relevant **overheads and corporate costs**.
- **Capital expenditures** for future replacement and renewal of assets over time, based on expected asset lives. This includes replacement of meters and chambers, mains and associated fixtures, sewers, etc. The capital costs include a **return on capital** the future forecast expenditures for the replacement of on-site assets as these are assumed to be accrued to the NAVs asset base. Our assessment of capital expenditures also includes an element of overhead costs covering activities at our corporate centre.

Our determination of avoided costs depends on the site-specific factors - property numbers and the length of the local network mains and/or sewers. To capture these site cost differences we use two rates. First, a cost per metre (£/m) is estimated based on our average costs and other source data and second, a metre (of water mains or sewers) per property (m/prop) as advised by the NAV for its specific site. These two rates are combined to provide the final **cost per property rate** (£/property) which we use in our wholesale-minus calculation.

$$\text{Cost per property per year} \left( \frac{\pounds}{\text{prop yr}} \right) = \frac{YW(\pounds)}{YW(\text{metre})} * \frac{NAV(\text{metre})}{NAV(\text{property})}$$

The avoided cost per property is then deducted from the wholesale household fixed per property charge to create a **'net' per property avoided cost charge**.

Outlined below are the key avoided cost components that we build into our bulk supply charging approach and are covered in the charging tool.

### *2.3.1. Scientific services – sampling and testing costs*

The costs incurred by Yorkshire Water for the collection of regulatory water samples, analysis, monitoring and reporting each year is avoided where a NAV is appointed to a site. Based on our latest source cost information and the total number of connected properties in our region reported in our APR for 2021–22, we have estimated the discount for scientific services on a £/property/year basis.

Although our water quality sampling costs do not in practice change linearly in line with the number of new properties connected to our network, we understand the Drinking Water Inspectorate (DWI) places sampling requirements on new NAV sites in a way that may place such costs on the NAV operations. Therefore, we continue to include an avoided cost for sampling into our charging tool.

### *2.3.2. Water and sewerage operational costs*

For our water network, we apply flushing as the predominant pipe cleaning method. The cleaning technique is employed on the distribution network rather than trunk main network. For our sewer network, operational costs cover activities such as jetting and CCTV surveys. Based on updated cost data and the total length of our networks reported in our APR for 2021–22, we have estimated the discount for water and sewerage operations on a £/property/year basis.

It should be noted that costs associated with Highways Drainage are recovered within our wholesale wastewater volumetric charges. However, as we do not avoid any unique costs related to highways drainage where a NAV adopts a local wastewater network, we have made no additional discount to our charges to NAVs for the provision of bulk wastewater services. The avoided costs are within the costs we have assessed for operating our wastewater networks in general.



### *2.3.3. Leakage management costs*

Active and reactive leakage management expenditure is the average cost for detecting and repairing leakage across our network. We have used updated source data to 2021-22 and have estimated the average leakage management costs to set a discount on a £/property/year basis.

## 2.4. On-site costs avoided – long-run avoidable costs

Ofwat's bulk charges for NAVs guidance ask companies to:

*"... consider the level, timing and profile of all costs incurred over the lifetime of the asset, including through the estimation of an equivalent average annuity. The incumbent's historical costs could be a reasonable and practical proxy for estimating ongoing maintenance costs."*

For the calculation of the long-run avoidable costs for future asset replacement and renewals we use the equivalent (annual) annuity (EAA). This approach presents the net present value of a series of future potentially uneven costs as a series of equal annual costs over the lifetime of the investment.

Our approach to estimate the EAA has remained the same as last year, but we have updated input cost information with 2021-22 data and increased the degree of bottom-up cost examination we employ. This approach is used to estimate external meter and meter chamber replacement costs, water and sewerage street furniture replacement costs, mains/sewers renewal costs, and communication pipes and stop taps replacement costs.

The calculation considers the relative lives of the assets above and the application a NAV specific cost of capital (NAV WACC).

We have maintained the **NAVWACC** for 2023-24 at the level we used for 2022-23. The NAV WACC value we will use in our bulk supply charging tool to estimate the long-run avoidable costs as an annuity for the current year is 4.16%.

Following the conclusion of our PR19 Final Determination (FD) appeal to the CMA, the PR19 FD WACC for Yorkshire Water has been used to set the NAV WACC. We continue to use Ofwat's earlier guidance to incumbents on setting of bulk charges for NAVs (from May 2018) as the basis for setting an appropriate NAV WACC.

We made the following adjustments to our PR19 FD WACC, to determine the NAV rate of return, which are consistent with the adjustments made by Ofwat to the PR14 incumbent WACC in its 2018 bulk charges guidance:

- Notional gearing of 50%
- An uplift to the asset beta of 15bp
- A tax rate of 10%

Table 2.1. Assessment of a NAV WACC (cost of capital)

WACC Analysis (CPIH)	PR19 Final Determination (post CMA appeal)	AMP7 Derived
	YW Wholesale	NAV
<b>Total equity market return</b>	6.81%	6.81%
<b>Real risk-free rate</b>	-1.34%	-1.34%
<b>Equity market risk premium</b>	8.16%	8.16%
<b>Notional gearing</b>	60.00%	50.00%
<b>Asset beta</b>	0.33	0.48
<b>Debt beta</b>	0.075	0.075
<b>Equity beta</b>	0.71	0.89
	0.25%	0.25%
<b>Cost of equity</b>	<b>4.73%</b>	<b>6.13%</b>
<b>Ratio embedded: new debt</b>	83.00%	83.00%
<b>Cost of new debt</b>	0.19%	0.19%
<b>Cost of embedded debt</b>	2.47%	2.47%
<b>Allowance for fees</b>	0.10%	0.10%
<b>Cost of debt</b>	2.18%	2.18%
<b>WACC</b>	<b>3.20%</b>	<b>4.16%</b>

## 2.5. Business overhead

We have moved away from our historical approach on setting an allowance for indirect costs and relevant corporate overheads. To date we have used the level of overheads allocated to our Household Retail business as a proxy for the overheads of a NAV organisation. We are now more targeted and evidential and set an avoided cost allocation in proportion to the level of overhead costs Yorkshire Water incurs compared to our direct operating costs for our Water Network Plus and Wastewater Network Plus revenue controls.

These overhead cost allowances are applied to the operating costs assessed as being avoided to operate and maintain the local network. We believe this improvement more closely reflects the asset ownership aspects of the NAVs business, with the full 'retail revenues' being collected by the NAV to cover retail services it delivers (including again an allocation for overheads associated with a retail business).

## 2.6. Leakage allowance (bulk metered site)

Where water supplied to the NAV site is measured at the boundary by a bulk meter, we need to account for the difference in the billed volume at the bulk meter compared to the billable volume at the premise's meters in aggregate (the volume applicable to wholesale tariffs) due to leakage losses.

The difference is evaluated as a percentage discount and applied to the starting volumetric tariff in the tool to reflect the volumes recorded at the premises meters that the NAV will use for billing its customers.

For 2023-24 bulk charging, we have allowed for a leakage volume as a driver based on the length of the on-site water network. We apply this automatically within the bulk supply charging tool to both water and wastewater tariffs as a percentage reduction to the bulk volumetric tariff part. This does not impact the ongoing and long-run avoided costs that are captured in the fixed charge tariff part.

We continue to cap the leakage loss percentage we apply at a maximum of 8%. We have assessed leakage losses on more modern DMAs (up to 20 years in age) in our region. We will continue to track our leakage performance and model future leakage to reflect a fair level of leakage attributable to modern metered networks and new-build features.

The leakage allowance is applied to both water and sewerage bulk tariffs, where relevant. Where we do not use meter read data from a bulk meter at the NAV site boundary, but instead use the reads from meters at end customers premises, no leakage allowance % discount is applicable<sup>5</sup>.

## 2.7. Additional non-operational costs

In response to improving our approach to identify and allocate relevant allowances for avoided overhead and corporate centre costs, we have removed the historical allowance for a NAVs bidding costs. We had previously said we expected to review this non-operational cost allowance we made for 2023/24. The modest allowance (set at a maximum of £1.50 per property connected) attempted to recognise that NAVs may have commercial bidding costs that are different to the costs that we incur as an incumbent through new connections activities working with developers. As we do not know specifically how NAVs incur and recover their costs from

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<sup>5</sup> The exclusion of a leakage allowance adjustment may also apply where premises on site are not individually metered – we would need to assess this in consultation with the NAV.

developers for the formulation of their commercial bids, we have removed this cost allowance from our 2023/24 charges.

## 2.8. Local Authority Rates

We make no explicit avoidable cost adjustment from our bulk supply charges in relation to local authority rates, as we do not envisage the initial on-site network assets to be accrued to the NAVs asset base. However, should a NAV within our region face rates payable related to a specific development we would be willing to work with them to consider a mechanism to recognise this cost where necessary and subject to evidence.

## 2.9. Sewer pumping stations

Our bulk supply charges tool does not currently give a specific discount for sites where a NAV may have a sewer pumping station. The treatment of the incumbents avoided costs associated with sewer pumping stations (SPS) at NAV sites will continue to be determined outside our core NAV bulk pricing model.

We do model these avoided operational and maintenance costs separately on behalf of NAVs when they enquire about the additional features of their wastewater on-site networks. Our SPS modelling has been revised to incorporate an up-to-date view of avoided energy costs for pumping as these costs have increased substantially. NAVs should continue to make enquires to Yorkshire Water at the earliest opportunity should it know the details of a planned SPS at its site. We will look to improve transparency of SPS avoided costs during 2023-24

## 2.10. Competition Act

Given our Competition Act duties, we have considered how we can comply with the regulatory guidance and charging principles. Namely, that the minus from the wholesale starting point should vary according to local avoided costs for the specific site, but that incumbents should make bulk supply tariff information readily available to NAVs.

In atypical cases we would look to adapt our bulk supply charging arrangements to the specific unique circumstances. We recognise that where a NAVs solution will deliver capabilities further upstream than we see in a typical development, we may consider incorporating bespoke elements into any final bulk supply pricing arrangement.

We have tested our bulk supply charging approach and charging tool against a range of reference points, including our Wholesale large user tariffs and a long run financial appraisal to ensure we avoid margin squeeze.

## 2.11. VAT chargeable

All charges are subject to the addition of any Value Added Tax chargeable.

### 3. Our NAV bulk supply charging tool

**In this section we set out details of our NAV bulk supply charging tool, including the key changes made for the 2023-24 charging year. The bulk supply charging tool enables NAVs to effectively 'self-serve' charging information without the need for a prior request to Yorkshire Water for bulk pricing information.**

Through the provision of our bulk supply charging tool for NAVs for 2023-24, we are providing a method that caters for the key characteristics of each NAV development site. For example, by recognising the avoided cost differentials by the length of water main per property for the site, the NAV can use the tool to determine the bulk supply tariff appropriate to the property density of the network on the site.

Such variability is also used to determine expected long-term site leakage levels which influence the applicable tariff where a boundary meter is used for billing bulk supplies.

The key determining drivers in our pricing tool remain as:

- The **mix of property types** in the development and their relative **water usage demands** and **wastewater discharges**, as this determines the weighted wholesale tariff starting point;
- The **length of water mains** and **communication pipes** for the development site; and,
- The **length of sewer network** for the development site.

For 2023-24 we have updated our bulk supply charging tool with our revised bulk charges approach and with refreshed avoided costs. We present the charging tool on our website:

<https://www.yorkshirewater.com/developers/new-appointments-and-variations/>

We have made a small number of improvements in our charge setting which are incorporated into the NAV self-serve model. These include:

- setting a **'floor' on the site network density** that the model uses. Earlier in 2022 we engaged with a NAV client that planned to serve high density, multi-occupancy housing with relatively short foul and surface water on-site

networks. We found our modelling approach did not provide reasonable avoided costs on a per property basis that would enable the NAV to efficiently operate, even accounting for the forecast low level of avoided costs maintaining such a short wastewater network. In order to limit the pricing impact we agreed to set a notional floor to the wastewater network length per property at 4 metres/property to our tariff calculation for their site. This represents a property density of 250 properties per km of the site network. For 2023-24 following wider consultation with NAVs we make this site density 'floor' set at 4m/prop for both water and wastewater calculations.



## 4. Worked example

To illustrate our approach to setting bulk charges, we provide a **worked example**.

We consider a NAV site with **800 household properties** and **2 non-household properties**. Both bulk water and wastewater services are required by the NAV. The annual water demand has been estimated by the NAV at 130m<sup>3</sup>/yr. for each household property and 4,000m<sup>3</sup>/yr. for each non-household property. A rate of return to sewers of 95% of water demand is used to estimate the wastewater demand. We have assumed there is no connection for surface water to the site.

The total length of water mains on the example site is 6.0km and the total length of sewers is 5.5km. We would expect all such site data to be provided by the NAV ahead of Yorkshire Water confirming final tariffs into a bulk supply and/or discharge agreement.

In table 4.3. below we have shown as a comparison the equivalent Wholesale large user tariff (based on the assumed total annual demand of the site) as a comparable benchmark.

*Table 4.1. List of key NAV customer and site characteristics*

<b>NAV characteristics</b>	<b>Values</b>
Total length of mains (km)	6.0
Total length of sewers (km)	5.5
Nr of HH properties	800
Nr of NHH properties	2
Annual HH water demand (m <sup>3</sup> /yr./prop)	130
Annual NHH water demand (m <sup>3</sup> /yr./prop)	4,000
Annual HH wastewater demand (m <sup>3</sup> /yr./prop) at 95% return-to-sewer	123.5
Annual NHH wastewater demand (m <sup>3</sup> /yr./prop) at 95% return-to-sewer	3,800

Table 4.2. Wholesale charges for water and wastewater based on the NAV characteristics

2023-24 Wholesale charges	Values
<b>Water:</b>	
Fixed HH charge	£11.45 /prop pa
Volumetric HH charge	160.81 p/m <sup>3</sup>
Volumetric NHH charge (0-50MI)	158.02 p/m <sup>3</sup>
Volumetric NHH charge (>50-250MI)	100.91 p/m <sup>3</sup>
<b>Wastewater:</b>	
Fixed HH charge	£0.00 /prop pa
Volumetric HH charge	196.69 p/m <sup>3</sup>
Volumetric NHH charge (0-50MI)	188.76 p/m <sup>3</sup>
Volumetric NHH charge (>50-250MI)	152.57 p/m <sup>3</sup>

Table 4.3. Starting weighted tariff, total avoidable costs, leakage allowance and final tariffs

Name	NAV site
<b>Weighted starting water vol rate (p/m<sup>3</sup>)</b>	<b>160.61</b>
<b>Weighted starting sewerage vol rate (p/m<sup>3</sup>)</b>	<b>196.12</b>
<b>Starting water fixed charge per HH prop</b>	<b>£11.45</b>
Water avoidable costs (£/prop pa)	-£37.46
Sewerage avoidable costs (£/prop pa)	-£12.85
Leakage allowance (%)	5.1%
<b>Water bulk supply vol tariff (p/m<sup>3</sup>)</b>	<b>152.42</b>
<b>Water bulk supply fixed tariff (£/prop pa)</b>	<b>-£26.01 (or -£2.17 per month)</b>
<b>Sewerage bulk supply vol tariff (p/m<sup>3</sup>)</b>	<b>186.12</b>
<b>Sewerage bulk supply fixed tariff (£/prop pa)</b>	<b>-£12.85 (or -£1.07 per month)</b>
<b>Equiv. water bulk supply vol tariff (p/m<sup>3</sup>)</b>	134.72
<b>Equiv. sewerage bulk supply vol tariff (p/m<sup>3</sup>)</b>	176.93
Equiv. NHH LUT water (p/m <sup>3</sup> )	For 112.0MI – 126.41
Equiv. NHH LUT sewerage (p/m <sup>3</sup> )	For 106.4MI – 169.58

In table 4.4, we present how for a range of typical NAV sites our water and wastewater bulk supply and discharge tariffs have changed between 2021-22 and

2023-24. Note the underlying wholesale tariffs have increased by around 8% for water and 6% for wastewater between 2022-23 and 2023-24 charges.

Although as we continue to follow a site-by-site approach to setting bulk tariffs each example below generates a unique two-part tariff and variance between 2022-23 and 2023-24 rates, it is noteworthy that all examples show tariffs increasing from last year in excess of the underlying increase in wholesale charges.

The main drivers for this are the combination of updated bottom-up assessments of avoided costs, removal of our old bidding cost allowance (up to £1.50 per property pa), and our improved approach to the determination and application of overhead costs (indirect and corporate costs) across operating and capital costs respectively for water and wastewater.

We can assure NAVs that the change in our charging structure to a two-part tariff does not drive this annual increase in tariffs. If we had continued with a volumetric only tariff the uplift levels of each of these example sites would have been the same.

We also have added this year for transparency our high-level assessment of the potential gross margin available to NAVs under the example scenarios. This gross margin represents the space between the charges for bulk services driven by the bulk tariffs and the revenues the NAV could be expected to collect from its end customers (retail and wholesale tariff elements combined). The gross margin does not account for the ability of a NAV to out-perform the leakage allowance we have set in our bulk charge modelling.

For these example scenarios, we have assumed household water demand is 130 m<sup>3</sup>/yr/prop and commercial demand is 5000 m<sup>3</sup>/yr/prop, with a 95% return to sewer (and no surface water drainage connection).

Table 4.4. Example sites showing change in bulk supply and discharge tariffs from 2022-23 to 2023-24

	Site description	Service	HH props	NHH props	Water or wastewater network length (km)	Leakage allowance (%)	2022-23 BSP (p/m <sup>3</sup> )	2023-24 BSP vol tariff (p/m <sup>3</sup> )	2023-24 BSP fixed tariff (£/pa)	Change in BSP tariff (%)	Gross margin – Retail + Wholesale (%)
1	Small standard site	Water	200	-	3	8.0%	100.49	147.95	-44.31	+16.0%	31.9%
2	Medium standard site	Water	500	-	5	7.2%	111.15	149.23	-32.14	+13.6%	26.8%
3	Mixed site	Water	500	5	5	5.3%	120.28	151.55	-31.90	+11.9%	20.3%
4	Dual service mixed site	Water	500	5	5	5.3%	120.28	151.55	-31.90	+11.9%	20.3%
		Sewerage	500	5	4.5	5.3%	158.18	184.18	-16.70	+10.5%	8.9%
5	Medium standard site	Sewerage	500	-	4.5	N/a	165.13	196.69	-16.87	+10.8%	12.0%
6	Small standard site	Sewerage	200	-	3	N/a	157.87	196.69	-28.11	+10.2%	16.4%
7	Large high-density site	Water	2000	-	15	5.5%	118.89	151.97	-26.06	+11.9%	24.3%
8	Very small low-density site	Water	100	-	2	8.0%	90.91	147.95	-56.48	+18.8%	36.9%

## 5. Other charges

### 5.1. Surface water drainage fixed charges

Where a NAV connects the development site to our sewerage network for drainage of surface water, we will levy our standard wholesale surface water drainage fixed charges in full on a per property per annum basis but billed monthly against connected properties at that time. For non-household premises we will use the business banded charges published within our annual Wholesale Charges scheme.

This approach is consistent with our bulk supply charges for last year.

### 5.2. Bulk meter and meter reading and maintenance costs

We do not build the costs to install, operate and read bulk meters at the boundary of the NAV site into our bulk charges tool at present. These costs are recovered through our Infrastructure Charges where classified as associated with network reinforcement, or via our Wholesale tariffs from the generality of customers.

### 5.3. Site specific expenditure and cost recovery

Site specific costs associated with any contestable work the NAV instructs Yorkshire Water to carry out, plus any non-contestable works, will be charged in accordance with our New Connection Charges, as published annually.

We do not provide for Income Offsets in our New Connection Charges (and have not done so since 2018-19).

Where the NAV faces other specific costs on an individual site that are not covered by our bulk supply charging tool, we will work with the NAV to understand the asset and its maintenance requirements and consider what further costs, if any, we avoid on an ongoing basis and how this could lead to additional bulk tariff adjustments.

## 5.4. Infrastructure Charges and Environmental Incentives

Our New Connections Charges<sup>6</sup> require the NAV to pay **Infrastructure Charges** on a per property connected basis. Infrastructure Charges are set at a level to recover over time our forecast expenditure required to reinforce our networks due to growth in our region. The charges are split into three charge components – charges for water connected, foul connected, and surface water connected. These charges apply equally to NAVs, developers and self-lay providers, whomever is the lead organisation making the new connections arrangements with Yorkshire Water.

Where the NAV does not connect the properties on its site for surface water ultimately to our sewerage network (but deals with surface water itself in the locality), Yorkshire Water will not levy the surface water infrastructure charge component to the NAV.

**Environmental Incentives** for the construction of low water use housing, which come through as reductions in our Infrastructure Charges (water and foul) as detailed within our New Connections Charges, will continue to be available to NAVs as well as other market participants on an equal basis. We encourage NAVs to avail themselves of our New Connections Charges and the incentives published within these so they can have full discussions with their developer clients.

## 5.5. Meter accuracy testing

If you have doubts about the accuracy of a bulk supply meter, you can request that the meter is tested. Yorkshire Water will charge a fee which covers the cost of exchanging the meter and testing its accuracy. The fee is bespoke, and we will provide a quotation upon request.

If the results show the meter is outside its accuracy range the meter test fee and meter exchange fee will not be payable.

## 5.6. Provision of wholesale logger data

Where Yorkshire Water have logging equipment attached to a bulk supply meter, we can provide you with the data relating to the bulk supply. We will provide you with access to a platform where the data can be viewed or downloaded.

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<sup>6</sup> [www.yorkshirewater.com/developers/developer-services-charges](http://www.yorkshirewater.com/developers/developer-services-charges) Charges for 2023-24 will be published by 1 February 2023 and include revised environmental incentives.

Access will be provided for one year, after this period you will be required to re-apply should you wish to continue access to the data. There is an annual charge for this service published in our Wholesale Charges for 2023-24.

## 5.7. Provision of other information

Yorkshire Water may be able to provide, upon request and payment of the relevant fee, other data or information that the NAV may require to comply with its' reporting obligations. This includes, but is not limited to:

- Population Equivalent reports.
- Dangerous Substances reports.
- Pollution Inventory reports.

We will charge for such additional information. If you would like to discuss this service, please contact your Yorkshire Water Client Relationship Manager.

## 5.8. Trade effluent advice in relation to an Application or Direction

Yorkshire Water are required to assess a trade effluent discharge in relation to any applications made to the NAV regarding a Trade Effluent Consent or Direction as prescribed in the Water Industry Act 1991. The charge made for this is based on the volume and nature of the effluent. This can only be provided for effluents being discharged to the Yorkshire Water sewer network as part of the Bulk Discharge Agreement.

If you believe you will be discharging trade effluent into our sewer network, you should contact Yorkshire Water as soon as you become aware of this, so that we can assess the impacts and work with you on consents and the associated trade effluent charges.

Where the NAV is taking enforcement action for a breach of section 111 or trade effluent provisions of the Water Industry Act 1991, Yorkshire Water will provide the NAV with all reasonable support as requested by the NAV to support the enforcement action. The costs associated with this support are charged on incident by incident basis and include the recovery of direct and indirect costs.

If you would like to discuss trade effluent requirements, please contact your Yorkshire Water Client Relationship Manager.

## 6. Using the bulk supply charging tool

**In this section we set out how a NAV user can seek assistance with questions they may have when using the bulk supply charging tool.**

We have published this charges document alongside our **NAV self-serve bulk supply charging tool**, which is available online for NAVs to use in developing bulk supply tariff information when bidding for development sites.

The tool applies our wholesale-minus approach using key physical attributes of the proposed network on the development site. We consider this approach gives greater cost reflectivity to bulk supply charges than would be achieved using a single averaged tariff across the region and seeks to widen the range of development opportunities open to NAVs in practice. However, as noted earlier the improvements we have made to our approach are part of a journey to move to a menu-based approach to charges, whether that be 'off-the-peg' banded tariffs or a list of site characteristic variables that combine to form a tariff for a site, we have now yet confirmed. We will be engaging with NAVs in 2023-24 to help shape this further.

The current bulk supply charging tool requires the input of a **limited number of site related data items** for water and sewerage services. These are typical attributes that we would expect a NAV to be able to provide as part of a point of connection or point of discharge enquiry.

Should a NAV have any questions about using the charging tool or anything in this charge's publication, please get in contact with Yorkshire Water in the first instance via our email:

**[Network.access@yorkshirewater.co.uk](mailto:Network.access@yorkshirewater.co.uk)**

We aim to continue to make our charges for bulk services for NAVs transparent and straightforward. We would welcome feedback on the usability of the charging tool so that we can continue to keep the provision of bulk supply charge information as easy as possible for NAV users to self-serve.



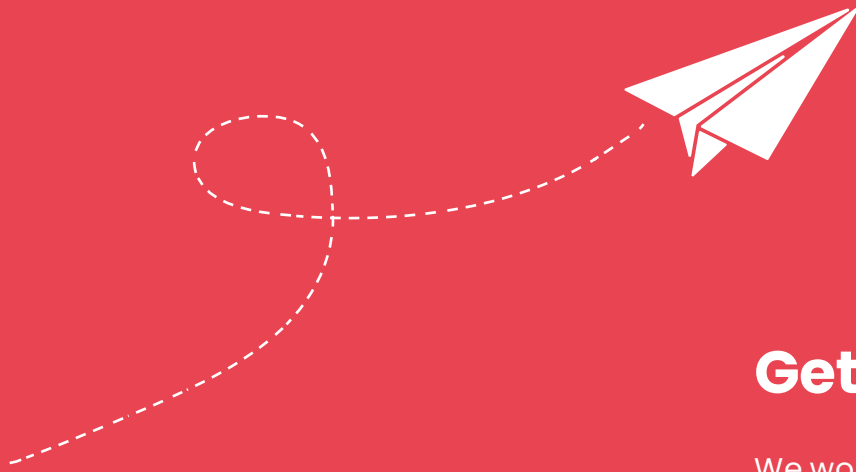
## 7. Future changes to our charges

Now we have moved to a site-specific two-part charging approach for bulk services, we are looking ahead to 2024/25 period where we plan to streamline our charge structure to aid the billing and settlement of bulk charges for both Yorkshire Water and NAVs.

We are considering moving from our site-by-site pricing approach to the adoption of either 'banded' tariffs or an itemised menu of charge comp. Each sites characteristics would be evaluated but instead of a unique tariff being the output, the site characteristics would either determine which tariff band was the best fit for the site – the closest approximation to a unique tariff or be used to select relevant charge items from the published menu. Both tariff bands a menu approach would need to cover water, water York Waterworks region, and wastewater.

In addition we expect to review how we assess losses attributable to leakage on the NAVs site between boundary meters and premise meters and also how costs are determined where material and sustainable water efficiency measures are incorporated into a NAVs network or the properties being developed and connected. We also plan to provide greater clarity on avoided costs relating to sewer pumping stations on NAV sites ideally within the 2023-24 year.

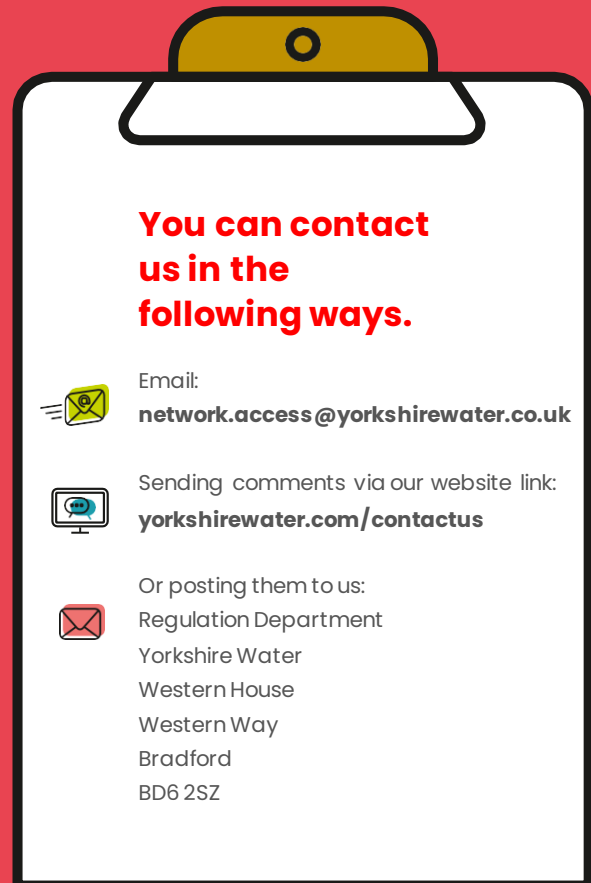
We will update our bulk supply charges tool as our Wholesale charges change annually to recover the allowed revenue as determined through the regulatory price review process. Should we need to make revisions or interventions to our charges approach due to material changes in Ofwat's guidance or the introduction of relevant charging rules we will inform NAVs in advance.



## Get in touch with us

We would welcome your comments or questions on this document and the NAV bulk supply charging tool.

Please send us your comments using the



**YORKSHIREWATER.COM**

Yorkshire Water Services Limited, Western House, Halifax Road,  
Bradford, BD6 2SZ. Registered in England and Wales No.2366682

