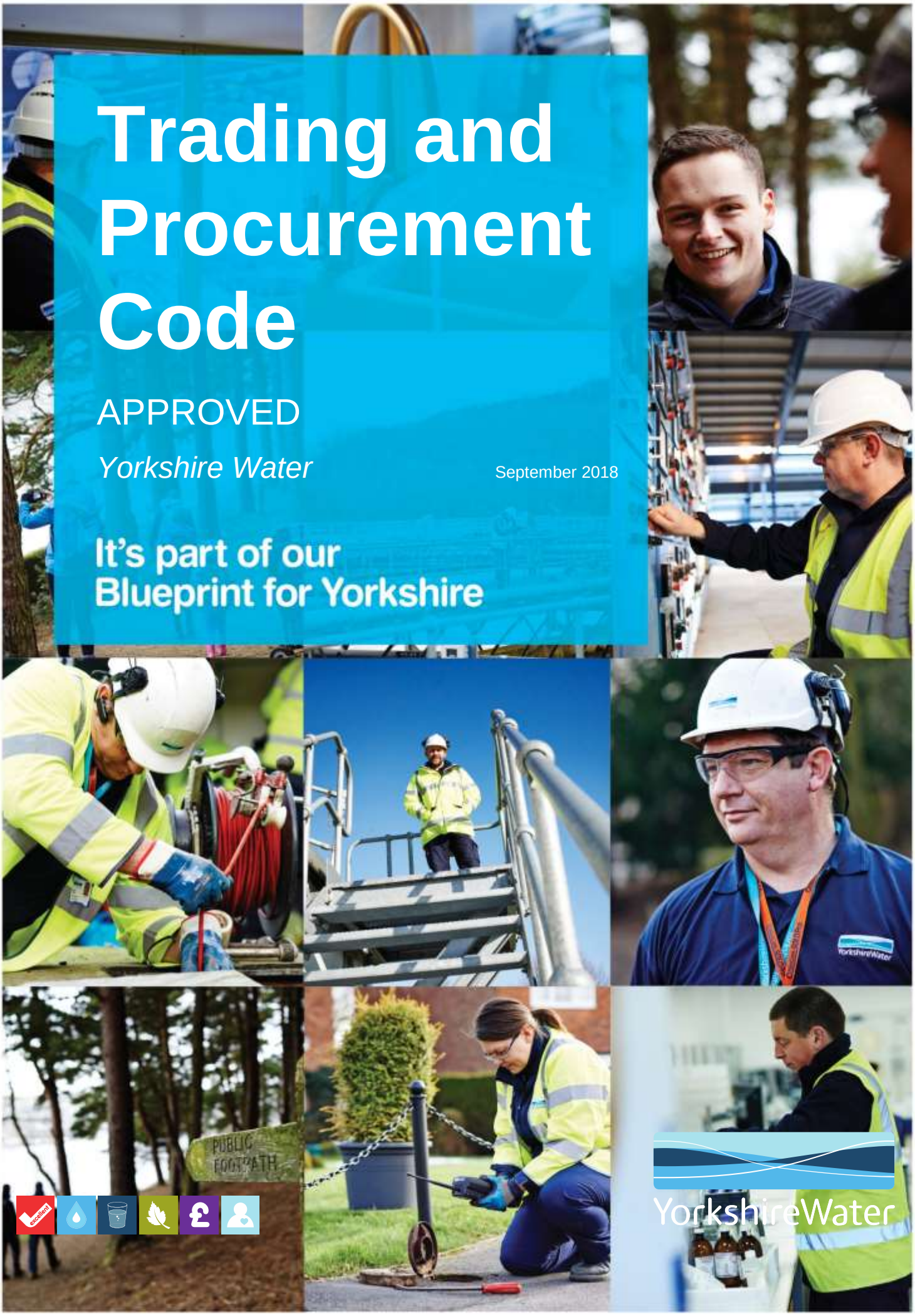
Trading and Procurement Code

APPROVED

Yorkshire Water

September 2018

It's part of our Blueprint for Yorkshire



1 Introduction

1.1 Trading and Procurement Code

This is Yorkshire Water's Trading and Procurement Code. It defines the policies, principles and requirements that will be applied when third parties enter a water trading agreement with Yorkshire Water.

A new market for water resources is developing in England, and we are committed to playing our part in its success. We know that we must ensure that our customers get excellent value for money, and one of the ways to do this is to use markets to provide us with innovative solutions to the issues that we face. In the water resources market, this could include using markets to develop new resources or imports of water, as one of the solutions in areas where demand exceeds supply. Markets may also be able to offer us supplies of water that provide us – and hence our customers – with better value for money than our current resources.

At Price Review 14 (PR14), Ofwat, the Water Services Regulation Authority, introduced a system of incentives to encourage appointed water companies to enter trading agreements with third parties where there is a sustainable benefit. Appendix 5 of Ofwat's final methodology for Price Review 19 (PR19) confirmed that the incentive system would continue into AMP7. If a water company wants to obtain such an incentive, it must submit a trading and procurement code to Ofwat for approval. A water company must be able to demonstrate it has complied with its approved code to obtain a financial incentive. The latest guidance and minimum requirements for the codes is provided in *Trading and procurement codes- guidance on requirements and principles, Ofwat, May 2018.*

In line with Ofwat requirements, this code is intended to provide confidence that any trades that we conduct in accordance with this code – and for which we may seek incentive rewards – will deliver net benefits in an efficient manner.

Nothing in this Trading and Procurement Code precludes any obligations that Yorkshire Water has under competition law or other relevant legislation.

1.2 Links to Bid Assessment Framework

Alongside the Trading and Procurement Code, Yorkshire Water is publishing its Bid Assessment

Framework. The Bid Assessment Framework is a new requirement that has been defined by Ofwat in Appendix 8 of its final methodology for PR19[1]. The purpose of our Bid Assessment Framework is to demonstrate our clear commitment to the key procurement principles of transparency, equal treatment, non-discrimination and proportionality in relation to third party bids for water resources, demand management and leakage services.

As both the Trading and Procurement Code and Bid Assessment Framework are relevant to third parties who may wish to offer water resource trades to Yorkshire Water, we recommend that any such potential supplier should familiarise themselves with both documents. Section 3 of this Trading and Procurement Code shows how the principles that are enshrined in this Code are aligned to principles included in our Bid Assessment Framework.

It should be noted that although the Bid Assessment Framework applies to water resources, leakage and water efficiency, the Trading and Procurement Code relates only to water resources trading.

1.3 Links to Access Code

This Code should also be read alongside our Access Code, which is available on our website. Our Access Code defines how agreements for the use of, and supply from, our system will be made, to ensure compliance with competition arrangements under Water Supply Licensing provisions.

[1] See https://www.ofwat.gov.uk/publication/delivering-water-2020-final-methodology-2019-price-review-appendix-8-company-bid-assessment-framework-principles/

2 Water Resources in Yorkshire

2.1 Water Resources planning

Under the Water Industry Act 1991, all water companies have a statutory requirement to prepare and maintain a Water Resource Management Plan (WRMP). The WRMP sets out how we will ensure that supply will meet demand in the long term, covering a minimum period of 25 years. The plans are reviewed and republished every five years, so that new data and policies can be incorporated into forecasts.

Our WRMP incorporates future pressures on supply driven by climate change risks and the need to protect the environment. It also includes future changes to demand due to changes in population, housing, water use, metering trends and the economy. Once we have forecast future supply and demand, we use our WRMP to define investment that is required to reduce demand or increase supply so that we can ensure that water resources remain secure in the long term.

Water trading is one possible option that can help us to meet a supply-demand deficit. We will consider the costs and benefits of third party trades to import water when determining a solution to any deficit. We also have potential to export water to other water companies or third parties, which we may choose to do to provide local support to other companies, or as part of larger and more strategic national water transfers.

Our current plan, WRMP19, forecasts supply and demand from 2020 to 2045 and can be viewed on our website at yorkshirewater.com/resources.

2.2 Yorkshire Water Supply Area

Yorkshire Water provides water and wastewater services to 5 million domestic and 125,000 business customers. We manage the collection, treatment and distribution of water in Yorkshire, supplying around 1.26 billion litres of drinking water each day. At the same time, we collect and treat approximately one billion litres of waste water before putting it safely back into the environment. To do this we operate and maintain over 50 water treatment works, more than 700 sewage treatment works, 120 reservoirs and 62,000 miles of water and sewerage pipework.

The Yorkshire Water region is bound in the west and north by the hills of the Pennines and the North York Moors respectively. The southern and eastern parts of the region are generally more

low lying. Average rainfall in the Yorkshire region is around 820mm per annum. The highest annual average rainfall is recorded in areas of the Pennines at around 1200mm per annum, whilst the east of the region averages less than half this volume of rainfall each year.

The urban areas of West and South Yorkshire that we serve are principally supplied from reservoirs in the Pennines, located across the Don, Aire, Wharfe, Calder, Nidd and Colne valleys. We operate over 100 impounding reservoirs, of which two are major pumped storage reservoirs. The total storage capacity of all the supply reservoirs is 160,410 mega litres (Ml). As well as operating reservoirs to provide potable water to our customers we also manage releases to provide compensation flows to downstream rivers to help maintain adequate flow for the environment.

In the eastern and northern parts of the region, our major water sources are boreholes and river abstractions, chiefly from the rivers of the North York Moors and the Yorkshire Wolds.

For water resource planning purposes, the Yorkshire region is divided into two water resource zones, the Grid Surface Water Zone (Grid SWZ) and the East Surface Water Zone (East SWZ), shown in Figure 1. Each zone represents a group of customers who receive the same level of service from either groundwater and/or surface water sources.

The Grid SWZ covers the majority of our region, including over 99% of our supply area. It is a large conjunctive use zone and, although not all resources within the zone can be shared, some of the major resources can be moved and used to support supplies in different areas. Due to the interconnected grid, the risk of supply failure is the same throughout the zone.

The much smaller East SWZ covers the catchment of the River Esk, including Whitby and part of the North York Moors National Park. The East SWZ is not connected to the grid system or the Grid SWZ.

The Yorkshire Region borders four other appointed water companies, Northumbrian Water, United Utilities, Severn Trent Water and Anglian Water. We have an agreement with Severn Trent Water to abstract 21,550Ml per year from the Derwent Valley reservoirs in Derbyshire, used to supply part of Sheffield. We also have an agreement with Anglian Water to export up to 0.3Mld/ of treated water. Both of these transfers are within our Grid SWZ.

Figure.1 Water resource zones

2.3 Water supply situation

Our WRMP forecasts supply and demand components to calculate a supply-demand balance for each year of the WRMP planning period. If supply is less than demand a deficit is forecast and a solution required to close the gap.

Demand in our East SWZ is met by a river abstraction with support from spring supplies. Our WRMP19 forecasts that the East SWZ will have surplus supply throughout the planning period. This zone is robust to future supply/demand risks as the water available for use (12.16Ml/d) is significantly greater than annual average demand. Our forecasts show that supply will not reduce over the 25 years and dry year annual average demand will increase only slightly, from 5.97Ml/d in 2020 to 6.23Ml/d in 2045. During peak demand periods demand can be significantly greater at 8 to 9Ml/d but still below the water available.

Our Grid SWZ has a conjunctive use system, shown in Figure 2, that takes water from river (30%), groundwater (25%) and reservoir (45%) sources. We manage our grid system and its available resources throughout the year to ensure the zone is robust to droughts and short-term supply risks. During the winter period, when rainfall is generally higher and rivers in full flow, we make

more use of our river supply sources to ensure reservoir stocks are retained for use over the summer months when river flow is low. Our current resource situation provides us with a level of service whereby there is a very low risk (1 in 500 years) of our customers experiencing rota cuts.

Figure 2: Grid SWZ conjunctive use system

Our WRMP19 long term forecast identifies a risk that climate change will reduce average rainfall, leading to more frequent and more severe dry periods. This will impact on our future supply availability as there will be reduced volumes of water available through our river, groundwater and reservoir resources. This creates a risk that the Grid SWZ supply-demand balance will fall into deficit if we do not invest in additional supply or demand reduction.

As well as the impacts of climate change, water companies' future supply availability can be reduced due to a need to increase environmental protection. Under the Water Framework Directive (WFD) requirements the Environment Agency may impose sustainability reductions, that reduce a water company's permitted abstraction rights, in order to reduce the risk of abstraction adversely impacting the environment.

The WFD is being delivered through the Water Industry National Environment Programme (WINEP). For WRMP19 the Environment Agency aims to meet the WFD requirement for "no deterioration" through its Sustainable Catchments approach. This can lead to sustainability

reductions being imposed on licenced abstractors taking water from catchments classified as “over licensed”. Over licensed catchments are those where the current abstraction rates are not detrimental to the environment but licence holders are not taking the total volume their licences permit. If licence holders were to take their full permitted volumes the environment could be damaged.

Several Yorkshire Water abstraction licences have been included in WINEP and we have worked with the Environment Agency to identify those that could adversely impact on the environment if we took our full permitted volume. The East SWZ WRMP19 supply-demand balance is not impacted by the Sustainable Catchments approach. The approach did identify a need for sustainability reductions of 1.5Ml/d from 2024 onwards in the Grid SWZ for WRMP19, with a risk of additional reductions in WRMP24 following further investigations.

Without intervention, our WRMP19 forecasts the Grid SWZ will be in deficit in 2035/36 by 6.49Ml/d, increasing year on year to 33.97Ml/d by 2044/45. The deficit is primarily due to the effects of climate change on supply. However, known sustainability reductions, together with population growth, exacerbate the risks.

To remove the risk of deficit, our preference is to make better use of the water we have available, rather than increasing abstraction or making large investments in new assets. This will provide a more sustainable water supply by spreading the same resources over a larger customer base, and will help protect the environment by reducing our average daily abstraction.

Our chosen solution to close the deficit in WRMP19 is to reduce demand through increased leakage detection and repair activity. Our WRMP19 presents measures to reduce our annual leakage by 40% by 2025. This will reduce the daily average volume of water we take from the environment and treat before supplying to our customers. It will require new and innovative leakage detection measures and will reduce our current annual leakage target by 112Ml/d from 287Ml/d to 175Ml/d by 2025/26 and will meet the WRMP19 deficit. We will also invest in two borehole sources to increase our resilience to future outage risks. The additional leakage reduction activity will reduce the daily average demand for water and therefore the total volume of water we abstract each day will reduce.

2.4 Water trading

Many water companies already trade resources with other water companies. These are relatively

large volumes and are usually referred to as bulk transfers. Yorkshire Water is one of those companies that already trades with others:

- We have a bulk transfer agreement with Severn Trent Water to receive around 50 Ml/d of untreated water.
- We also export to Anglian Water 0.3Ml/d of treated water to the Anglian region.

Water trading is one of the feasible options that we consider in our WRMP options appraisal to meet a supply-demand deficit. This includes considering new bulk import agreements with other appointed water companies. We also have capacity to provide exports to other water companies where these are required.

We have discussed both imports and exports with our neighbouring water companies as a part of the WRMP19 process. This resulted in feasible options for import agreements with Northumbrian Water and United Utilities, although they were not part of our solution to the WRMP19 Grid SWZ deficit. Potential export agreements with United Utilities and Severn Trent Water were also identified.

In addition to trading with other water companies, we will consider entering into agreements with private abstraction licence holders willing to trade licensed volumes. Discussions were held with the Canal and Rivers Trust and the Coal Authority during the WRMP19 pre-consultation phase. The discussions did not create feasible options for WRMP19 but we will review the potential in future planning cycles.

We aim to increase third party trading discussions for WRMP24 through publication of markets information on our website and, depending on water resource requirements, proactively seeking trades in specified areas where a need is identified. This Trading and Procurement Code and our Bid Assessment Framework will provide transparency on the process.

The need for additional resources in the future will continue to be identified by WRMPs. In addition to this we would consider any trade that had potential to make existing operations more cost efficient and / or sustainable, provided they were consistent with the water resource planning process.

Trades could be permanent sales of licensed volumes, where a one-off payment is made to the donor and the recipient then holds the licence with the Environment Agency. Alternatively, trades could be temporary, whereby an abstractor continues to hold the licence with the Environment

Agency and enters into an agreement with a third party to use the licence for a defined period. Permanent or temporary trades could be for the whole licence volume or part of a licence volume.

Trades can be water transfers. A water transfer trade is a defined volume of water that the donor must provide to the recipient but there is no exchange of abstraction rights. This water can be raw (untreated) or potable (treated). This type of trade between two water companies is often referred to as a bulk transfer. Non- potable trades could be for waste water, such as final effluent or mine water discharge.

Water trading could also be a collaboration of many abstractors whereby existing resources are "pooled" and "shared" to meet all licence holder resource requirements or all abstractors invest in a new shared resource. All types of trading agreements could be constrained by defined conditions such as river flow levels or reservoir controls.

2.5 Statutory and regulatory requirements

Following privatisation in 1989, water companies have been regulated by the Water Services Regulation Authority (Ofwat); the Drinking Water Inspectorate (DWI); the Environment Agency (EA); Department for Environment, Food and Rural Affairs (Defra) and the Health & Safety Executive (HSE).

Our regulators impose standards and obligations that all water companies must meet to protect the environment, customers and ensure economic efficiency. Water company statutory duties are imposed by UK and European legislation, including the Water Industry Act 1991 (as amended by the Water Act 2003 and Water Act 2014), the Competition Act 1998 and the European Habitats Directive and Water Framework Directive.

Before entering into trade agreements, we would need to ensure compliance with statutory obligations. The Environment Agency is responsible for issuing abstraction permits and any licence trading agreements would require approval from the Environment Agency. We would not consider any new trading agreements that were at risk of increasing sustainable abstractions.

3 Principles to be adopted

The Ofwat May 2018 guidance sets out principles that all companies wishing to claim incentives would need to adhere to. The purpose of these principles is to provide confidence to third parties that Yorkshire Water is willing to trade water resources, provided the trade supports economically and environmentally rational flows, and that such trades will deliver net benefits efficiently. This section of our Trading and Procurement Code confirms that Yorkshire Water will adopt all the relevant principles, as defined below. It also shows how the principles within our Trading and Procurement Code align to those that are to be published in our Bid Assessment Framework.

3.1 Mandatory requirements for incentive payment qualification

In accordance with Ofwat's requirements, any trades that are to be considered for incentive payments must meet the following mandatory requirements:

- The trade must be agreed – i.e. have a signed contract in place – in July 2013 or later. Exports and imports agreed before July 2013 are not eligible.
- Incentives can only be claimed at the end of a Price Control period. For incentives to be claimed at PR19, the import or export must have been operating between April 2015 and March 2020. For new imports or exports operating between April 2020 and March 2025, the incentive can be claimed at PR24.
- The trade must be between unrelated parties. Trades cannot be eligible for incentives if they are between companies that are in the same group as each other. Yorkshire Water would not qualify for an incentive for trading with any other company in the Kelda Group.

3.2 General principles

Yorkshire Water will consider new trades as both an importer and an exporter. Any new water trades that Yorkshire Water enters under the terms of this Code, will be fully compliant with all 12 general principles defined by the Ofwat May 2018 guidance. Our approach to the principles is outlined below

Principle 1: Non-discriminatory procurement	We will ensure that procurement of third party supplies of water will be carried out fairly and on a non-discriminatory basis. Procurement will be completed in compliance with EU Treaty Principles ensuring equal, transparent and non-discriminatory treatment. This aligns with our Bid Assessment Framework, which will demonstrate how we will ensure that all bids for water resource imports will be evaluated in line with pre-defined objective criteria, and consistent with both our in-house procurement approach and the evaluation methodologies used for assessing our own in-house water resource options.
Principle 2: Economic purchasing by importers	We will ensure that any contract for the provision of water resources will prioritise the most economical sources available, ensuring that the proposal also meets the required standards for long term sustainability, including environmental impact, water quality, quantity and reliability, which will be set out in the needs specification section of our Bid Assessment Framework.
Principle 3: Use of competitive processes by importers	A competitive tendering process will be utilised where it is feasible to do so. A full overview of the compliant in-house procurement approach and evaluation methodologies will be available within the Bid Assessment Framework.
Principle 4: Contract lengths	We will seek to agree trades with a reasonable contract duration that meets the needs of both parties. The duration will be determined by case-specific factors and our obligations to provide our customers with a secure and sustainable water supply. We will ensure that contract start and end dates will not be set so as to create artificial benefit from trading incentives. Arrangements will be made in consideration of the framework set in the Ofwat's Negotiation Bulk Supplies publication.
Principle 5: Transparency	Procurement processes, evaluation and communication will be completed in compliance with EU Treaty Principles ensuring equal,

	transparent and non-discriminatory treatment. We will ensure all potential bidders are provided with the same information and the process is open and transparent. We will set out our needs, through our Water Resources Management Plan, our regulatory Water Resources Market Information (available on our website at https://www.yorkshirewater.com/resources#ls5), the needs specification in our Bid Assessment Framework and the use of Notices. We will publish additional information to enhance understanding of the regulatory Water Resources Market Information and help third parties to understand our needs. Our Bid Assessment Framework will detail how we will evaluate bids transparently, objectively and fairly against pre-defined criteria to procure water resources that fit our needs specification. Communication regarding procurement outcomes and award decisions will be completed in line with an OJEU process We will periodically audit our compliance with this Code, at intervals appropriate to the level of trading interest that we receive, and we will make the results of those audits available to Ofwat when requested to do so. We will ensure the Code is regularly reviewed and amended in accordance with regulatory requirements and our water resources position.
Principle 6: Link to Water Resources Management Plan (importers and exporters)	We will assess third party import options against the criteria we use to determine option feasibility in our Water Resources Management Plan. Feasible third-party import options will be costed and subject to environmental assessments using the same approach as all in-house options. The selection of options will be dependent on ability to meet the need specification defined in our Bid Assessment Framework and determined by our Water Resource Management Plan options appraisal process. As well as cost and sustainability of options, this takes into account both regulatory and customer preferences and Yorkshire Water's performance commitments,

	long term goals and objectives. Costs and feasibility for implementing exports will also be assessed using the Water Resource Management Plan process. Any options we consider for exporting water will be dependent on our ability to provide security of supply for our own customers.
Principle 7: Rational economic and environmental flows (importers and exporters)	All import trades will be subject to the same economic rational as the alternative in - house options. We will select the best value options in terms of whole life cost, environmental impacts and sustainability over the long term, which includes consideration of customer and regulatory preferences. Our Water Resource Management Plan options appraisal monetises environmental costs where appropriate and each feasible option is subject to a Strategic Environmental Assessment (SEA), a Habitats Regulations Assessment and Water Framework Directive compliance assessment. The SEA will evaluate the potential environmental effects of all feasible options, including water trades, and where applicable identify mitigation measures. Further Appropriate Assessments will be carried out where an option is screened to show a potential Likely Significant Effect on an environmentally sensitive site (SSSI, SACs SPA). We consult our environmental regulators on the environmental impacts of options before selecting a solution and we will not select any options that compromise our legal obligations to protect the environment, including the need to achieve good ecological status or potential under the Water Framework Directive. We will ensure we have the correct approvals for any trades, such as pre-approval by the Environment Agency for any trading of abstraction licence permissions. We will ensure any trades we consider for exporting resources are economically beneficial to our customers. Feasible exports will be subject to the same environmental assessment processes as

	WRMP options. We will agree responsibility for the environmental assessments and any resulting actions with third parties in consultation with our environmental regulators.
Principle 8: No artificial ending of trades (importers and exporters)	To qualify for Ofwat's trading incentives, a trade must have been agreed no earlier than July 2013 and be operating between April 2015 and March 2025. We will only enter into new or terminate existing trading agreements where there is a benefit to our own or a third party's water resources. Start and end date of trading agreements will be determined by the receiving company's needs and the donor company's ability to supply the trade, not by incentive arrangements.
Principle 9: Correct assessment of costs (exporters)	When assessing any proposed trades, we will ensure that the costs of the trading arrangement have been fully and accurately estimated. Costing of export schemes will receive the same consideration as the resource options in our Water Resource Management Plan. We will ensure recovery of the costs for supplying the export to the recipient company and, if required, the cost of replacing any traded resource with an alternative supply over the length of the agreement. We will seek to minimise costs through utilising existing assets where feasible.
Principle 10: Appropriate allocation of incentives between relevant controls	Water trading incentives will be calculated and allocated in accordance with Appendix 5 of Ofwat's final methodology for PR19[2]. Incentives will be allocated to the relevant price control segment, which is likely to be water resources or network plus, based on the type of trade. Trades could involve the transfer of raw water from the donor company's raw water distribution system / raw water storage asset to the recipient company's raw water distribution system / raw water storage asset (Types 1 and 2 in Appendix 5 of Ofwat's methodology), or transfer of potable water

[2] https://www.ofwat.gov.uk/publication/delivering-water-2020-final-methodology-2019-price-review-appendix-5-water-resources-control/

	from the donor company's network plus water assets to the recipient company's (Type 3 in Appendix 5 of Ofwat's methodology). If trades cover more than one control unit, we will ensure consistency with our Accounting Separation methodology.
Principle 11: Consistency with the Yorkshire Water Bid Assessment Framework	Our Bid Assessment Framework is being developed for our PR19 Business Plan submission in September 2018. The Bid Assessment Framework will set out our processes for assessing third party bids and provide further assurance bids will be assessed fairly. We will ensure it is consistent with this Trading and Procurement Code and that both documents are aligned when any updates are made.
Principle 12: Evidence of assurance process	Trades resulting from our Water Resources Management Plan, will be subject to the assurance process for the plan. Each component of our Water Resources Management Plan, including cost assessment and options selection, is reviewed by an independent auditor. The plan is then approved by senior management and presented to our customer forum before receiving final approval from the Yorkshire Water board. If a trade is considered outside the Water Resources Management Plan, then we will apply the same assurance processes to our decision making as we do for the WRMP. We have no new trading agreements in place for claiming incentives at PR19. If a trading agreement is arranged and we apply to claim incentives for PR24 we will submit an audit of compliance report to Ofwat demonstrating the trade meets the requirements and principles set out by this Trading and Procurement Code and Ofwat's guidance.

Glossary

Abstraction The process of taking water from any source, either temporarily or permanently. This water can be used for irrigation, industry, recreation, flood control or treatment to produce drinking water.

AMP A Five-year Asset Management Plan period. AMP6 runs from 2015 to 2020. **AMP7** runs from 2025 to 2030.

Bid Assessment Framework

Defra The Department for Environment, Food and Rural Affairs, is a ministerial department, supported by 35 agencies and public bodies who work to improve the environment and safeguard animal and plant health.

Environment Agency The main environmental regulator and leading public body for protecting and improving the environment in England

Groundwater is the water located beneath the earth's surface in soil pore spaces and in the fractures of rock formations

Levels of service Return periods for temporary use bans, droughts orders and permits and rota cuts

Over-licensed catchments Catchments where existing licences, if used to their full allocation, could cause unacceptable environmental damage at low flows

PR The Price Review process that all water companies go through every five years, which sets, in agreement with regulators, companies' five-year investment plans (Asset Management Plans, AMPs).

PR14 The Price Review process that was completed in 2014, and which set companies' five-year business plans for AMP6, 2015 – 2020.

PR19 The Price Review process that will be completed in 2019, and which will set companies' five-year business plans for AMP7, 2020 – 2025.

PR24 The Price Review process that will be completed in 2024, and which will set companies' five-year business plans for AMP8, 2025 – 2030.

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