WORSHIPFUL COMPANY OF WATER CONSERVATORS
RESPONSE TO THE OFWAT CONSULTATION ON RETURN ON RCV CALCULATIONS IN THE PR24 FINANCIAL MODEL

Prologue

1 This submission to Ofwat has been produced by the Worshipful Company of Water Conservators in response to the consultation by Ofwat on regulatory capital value (RCV) calculations in the financial model for the 2024 price review (PR24). An external review of the PR24 financial model suggests that our current approach over-remunerates companies. This could have a material impact on revenues, and we are therefore consulting with interested parties on whether we should change the calculation approach in the PR24 financial model and, if so, which new approach we should adopt. https://www.ofwat.gov.uk/consultations/

2 The Worshipful Company of Water Conservators (WCWC), is the City of London Livery Company, focussed on the long-term health of our water resources and the broader environment. Our members include senior professionals from water, environmental and related industries and regulators, along with others who share our passion for water and the environment. Our experience and knowledge ranges from the complexities of environmental sciences, through the application of engineering to deliver the goals identified by those sciences, and the subsequent management of the assets created. The Company's purpose is ***Promoting a diverse and sustainable environment***

3 To avoid confusion between the use of the term Company and water companies, the acronym WCWC is used.

Introduction

4 The WCWC is very much aware of the drive to increase investment in the delivery of water services to meet environmental aspirations as expressed in the Government's Integrated Plan for Water (https://deframedia.blog.gov.uk/2023/04/05/the-integrated-plan-for-water). This Plan comes at a time when the delivery of water services has become controversial and the issues of investor and customer trust are at the fore. And the WCWC is pursuing the issue of financeability in its programme of providing opportunities to share wisdom and experience on these matters. There is the challenge that water prices are going to rise in response to this programme and the price setting methodology has to strike a balance of fairness to customers and investors. A crucial part of that process is the use of regulatory capital value of the water businesses.

5 For many of the readers of this submission, it may be helpful to explain this concept in more detail this concept. There is a plethora of explanations on the internet, but a simple statement is, as follows: https://www.eca-uk.com/2021/10/12/a-regulatory-puzzle-inflation-rab-and-wacc. The RCV (or RAB, Regulatory Asset Base) is an important part of many regulatory regimes around the world. It is the regulator's record of the net value of a company's fixed assets, from which the depreciation and return on capital components of allowed revenues are calculated. It usually differs from the accounting net book value of the company, which incorporates revaluations and accelerated depreciation allowed under tax rules. By keeping its own record of assets (the RCV), the regulator can ensure that tariffs only compensate the company for assets it has paid for, and that compensation is spread over the useful life of assets in a manner that is "fair" to consumers. The different approaches (if applied correctly) are equivalent in Net Present Value (NPV) terms over the long-term, but a nominal RCV tends to

bring forward cashflows and therefore raises tariffs in the short term. Appendix 1 gives a longer explanation of Ofwat's use of RCV.

6 The WCWC notes the work done by CubeLynx for Ofwat, which proposes changes to the allowed return on RCV calculations within the PR24 financial model. It states that its' current approach in the PR24 financial model is to calculate the return on RCV by multiplying the real wholesale weighted average cost of capital (WACC) by the average RCV balance during the year. An external review of the financial model identified that this formula is not an algebraically consistent approach to calculating the return on RCV. The challenge made to our current approach is that it is not net present value (NPV) neutral. The key driver of the NPV issue is that return on RCV and run-off payments are received during the year, rather than at the end of the financial year. Analysis suggests that its current approach results in extra revenue equivalent to circa 11 bps (0.11%) on the return on regulated equity. It therefore believes that there is a clear case for changing its current approach. There are two approaches to dealing with this issue: adjusting the WACC or amending the return on RCV calculation. Ofwat proposes amending the return on RCV calculation as it is more transparent and addresses the issue in a clearer way. More details are given in Appendix 2.

Summary

7 The WCWC suggests that:

- The proposed changes are needed, but with the caveat that the impact could be very substantial. Ofwat should consider at least moving to be in line with other Utility regulators in order to avoid the potential criticism that it is too soft on water companies; the WCWC urge caution before going further.
- How far it should go in terms of algebraic correctness is a more difficult question, but the WCWC suggests that should certainly seek to address the problem through the RCV which is specific to individual companies rather than make changes to the WACC.
- It will be vital to understand that these changes may become too severe and adversely affect the ability to raise finance and therefore the decision must be guided to a pragmatic solution by financial experts.
- Whilst examining discounting techniques it would be helpful if Ofwat extends its review to clarify that TOTEX calculations must include discounting at the WACC; there is great confusion over this at the WCWC can report that it is aware that many company employees and consultants believe that it is the total lifetime cost with no discounting.
- The opportunity is taken to increase the financial discipline surrounding capital projects arising from flaws which are now apparent in the original model. Namely a situation where all costs pass through into the RCV.
- The RCV calculation is adjusted for projects which fail to deliver required outputs or have large cost overruns.
- That from the reactions to the Plan there is wide spread acceptance that the future of water management, as set out in the Plan, will need a great deal more investment and new ways of working. This will open the opportunities of new ways of financing capital and operational programmes and a consultation paper on mechanisms envisaged would be very helpful.

The detailed response

8 In responding to the consultation the WCWC also raises other issues concerned with discounting techniques and RCV calculations which, it suggests, need to be addressed if Ofwat and the Water Companies are to avoid future media criticism.

9 The WCWC notes that Ofwat is currently out of step with other regulators in its approach to RCV, furthermore, the current Ofwat approach is overgenerous to the Water Companies, and it suggests that this is, itself, a situation which needs to be addressed urgently to avoid further media criticism.

10 There are two approaches put forward and the WCWC suggests that whatever solution is adopted it must be technically robust, whilst at the same time it must be capable of being presented in a manner which can be understood by both Water Company employees and a hostile media.

11 It is hard to argue against the algebraic correctness of adopting discounting, but can it be explained in a way that will put it beyond criticism? Simply aligning with the practice of other Utility regulators does appear to offer a safe, if oversimplified way forward. There is a need to avoid over precision in these calculations which at the end of the day are the multiplication of a very large number by a much smaller number.

12 The WCWC has attempted its own calculations, which suggests that the proposed changes will cost the companies around £92million per annum in lost revenue, which will be unwelcome at a time when Companies need to meet huge increases in capital expenditure. This is market sensitive and needs to be spelled out unequivocally.

13 Overall, a pragmatic way forward is required, and the WCWC suggest that it should be left to the experts on regulatory finance to define the detail, but the WCWC would be concerned if the outcome is going to undermine the financing of the sector.

14 It would be opportune for Ofwat to also be quite explicit about the use of discounting in other calculations, particularly 'totex' where large numbers of water company staff, consultants and contractors all believe that 'totex' is total capital and lifelong operating costs with no discounting applied.

15 There remain other flaws with the existing model, which the WCWC suggests need to be addressed in order to introduce some much-needed financial discipline into the provision of infrastructure. This will not require new legislation, rather the application of accounting norms and the requirement to control expenditure.

16 The current approach of multiplying the WACC by the RCV is an attempt to replicate a competitive market and determine what returns are to be paid. The WCWC suggests that this does not address either over expenditure, or shortfall in performance of the new infrastructure. By way of analogy if a hotel chain undertakes construction of a new hotel, it will calculate the maximum cost it can afford based on letting rates in the area. If construction costs increase by 30% it will not be able to increase its room rates to compensate, so it must control construction costs. Similarly, if a manufacturer of widgets installs new machinery to double the production rate, he will not be able to manufacture enough widgets to cover his costs if the throughput of the machine is only 70% of what was promised. The current Ofwat model, which was

introduced at privatisation, fails to recognise either the cost variance or the volume variance, which was not appreciated 30+ years ago.

17 It is suggested that these two separate elements need to be addressed:

- **Cost Variance** – it is now commonplace for infrastructure projects to have contingencies of 30%. The normal explanation for this is "unexpected ground conditions" but that is actually quite unusual, site investigation techniques have made huge strides over the last 40 years. The main reason for cost increases is changes to the initial specification by the Employer and his representatives. Many of the changes are optional, and do little to enhance the project, but may lead to significant extra cost for delays incurred. They are often made by relatively inexperienced staff. These cost increases can be avoided by Clients exercising stricter financial discipline, and curbing the enthusiasm of staff to issue Change/Variation Orders.

  The WCWC suggests it would be ill advised for any regulator to get involved in risk allocation and contract terms that a water company has with its suppliers, nor is it necessary. The regulator simply requires to see the accepted tender figure net of all contingencies, and then apply a maximum overspend figure (perhaps 5%?).

  Thereafter, any figure above this would be excluded from the RCV. Effectively the contractor would receive payment from the water company but the shareholders would receive no return on the overspend.

- **Volume Variance -** the term is loosely applied and would cover failure to achieve the desired quality standards as well as shortfall in required volume of output. If for example a drinking water plant failed to deliver the required volume, the regulator would apply a linear reduction in RCV, as a temporary measure until rectification (at the Water Company's expense) provided the required improvement in output. If the improvement could not be achieved the reduction in RCV would become permanent. The approach to quality would be similar if the water (or treated sewage) failed to meet the required standard the project would remain outside the RCV until such time as shortcomings were rectified.

18 Appendix 3 contains a hypothetical example to illustrate the application of these proposals.

19 The WCWC suggests that the regulator should publish annual figures of monies removed because of overspend and a separate list of monies "temporarily" removed because of volume or quality failures. The purpose of these lists is to ensure that shareholders are aware of failure to control cost and quality and will bring pressure on water companies to improve financial discipline.

20 The drive to increase investment and to find new operating solutions will inevitably result in financial and technical innovation and the WCWC compliments Ofwat on its current approach with the Innovation Fund. But Appendix 4 contains an example of innovation giving rise to substantial expenditure without delivering any perceivable benefit to the investment project.

21 The WCWC suggests that the approach to RCV needs to be flexible and nimble to reflect changing circumstances without compromising the clarity of a defined model and that from the

reactions to the Plan there is wide spread acceptance that the future of water management, as set out in the Plan, will need a great deal more investment and new ways of working. This will open the opportunities of new ways of financing capital and operational programmes and a consultation paper on mechanisms envisaged would be very helpful.

22 The WCWC suggests that whilst innovation should not be discouraged it should be emphasised that it must deliver a benefit that reflects the extra cost incurred, otherwise it should be deducted from the RCV.

Appendices

Appendix 1 An explanation by Ofwat of its current use of RCV

We have set price limits at price reviews in accordance with our duties under the Water Industry Act 1991 (WIA91). One of our primary duties is "to secure that companies are able (in particular by securing reasonable returns on their capital) to finance the proper carrying out of their functions".

There is no definition of 'capital' in the WIA91. The current replacement cost (modern equivalent asset or MEA) valuation of the companies' assets at privatisation was about £224 billion (in today's prices). The proceeds from privatisation of the water and sewerage companies were £9 billion (in today's prices).

The RCV starts with a direct measure of the value placed on each company's capital and debt by the financial markets following privatisation. This initial RCV is calculated as the average of the market value of each water and sewerage company for the first 200 days for which the shares were listed, plus the total value of debt at privatisation. A proxy for the initial market value was used for the water only companies that were not privatised in 1989 (and hence no market information was available). This initial value was taken as the opening value of the RCV for 1990.

This initial value is rolled forward each year. The RCV is recalculated annually in outturn prices. The closing value from the previous year is adjusted by the movement in RPI. This adjusted figure gives the opening value for the year.

Capital expenditure to enhance and maintain the network, which is assumed in setting price limits, is added to the RCV. Any capital grants or contributions towards the cost of the new assets are deducted. Current cost depreciation (based on the MEA value of the assets), which is assumed in setting price limits, is deducted from the RCV each year.

Expenditure in any one year to maintain and replace infrastructure assets (infrastructure renewals expenditure or IRE) is not directly added to the RCV, but compared with the infrastructure renewals charge (IRC). The balance, the infrastructure renewals accrual or prepayment, is added to or deducted from the RCV each year. This reflects the extent to which more (or less) money has been spent on maintaining the infrastructure asset base than assumed in price limits, thus increasing (or decreasing) the value of the capital base to be remunerated.

For the period 1990-95, the net additions to the RCV were based on the assumptions made by the Secretaries of State in setting price limits for the period immediately following

privatisation. For all years from 1995 onwards, the movements in RCVs are based on the assumptions we make in setting price limits.

The assumptions about net new expenditure that we made at the 2009 price review (PR09) for each company are set out in appendix 1. They are split between:

- capital expenditure;
- infrastructure renewals expenditure and the infrastructure renewals charge;
- grants and contributions; and
- current cost depreciation.

The table provided showed updates of the RCVs for our determinations in 2009 and 2014 and changes in inflation. These tables, including the industry totals, do not include the RCV for Bazalgette Tunnel Limited (Tideway).

Appendix 2 Arithmetical detail of the proposed change

The proposed approach would use the formulae for real returns below:

$$\text{Allowed return} = \text{WACC} \times \frac{(\text{RCV closing} \times f + \text{RCV opening} \times (1 - f))}{1 + (f \times \text{WACC})}$$

$$f = \frac{(1+\text{WACC})^{0.5} - 1}{\text{WACC}}$$

Ofgem, the CAA and the Utility Regulator for Northern Ireland (UREGNI) all adjust or have adjusted the closing balance in return on regulated asset calculations to reflect mid-year cashflows. If adopted, our proposed approach will mean that we will also adjust our return on regulated asset calculations to reflect mid-year cashflows. Our proposed approach is more complex than that used by other regulators, but we believe that the precision in PV terms that the formulae deliver justifies the additional calculation complexity. Consultation on return on RCV calculations in the PR24 financial model

Appendix 3 A hypothetical advanced Water Treatment plant is put forward by the

WCWC to illustrate the shortcomings of the current approach:

- The plant was designed to produce 150million litres per day at a capital cost of £200million. By the time it was commissioned the cost had risen to £250 million. There had been negligible construction industry inflation and the extra costs arose through Variation Orders issued by the Client body or their advisors.
- During a period of sustained high demand, it was revealed that the maximum output was only100 million litres per day. So, the plant produced 67% of planned output but at a cost that was 25% above the tendered figure. The Water Company received a return through the inclusion in the RCV of the actual cost.
- Further investigation revealed that that the plant was incapable of treating any water, without undergoing major modification in order for it to be brought back into operation. Meanwhile the return on a failed investment continued.

Applying the proposed new rules to this example would lead to the following situation:

- Original cost £200 million
- Maximum inclusion in RCV 105% =£210 million
- Failure in output 33% therefore reduction in max RCV = £70 million until output rectified.
- Plant incapable of treating water to required output standards RCV = 0 until rectified

In no case would the cost of rectification pass into the RCV. The water company is faced with two choices:

- Undertake the rectification work at the shareholders' expense
- Or abandon the plant and write it out of the Balance Sheet and the RCV

Appendix 4 A further hypothetical example is put forward by the WCWC which seeks to highlight the financial profligacy which can result from uncontrolled capital expenditure.

A Water Company announced the successful completion of an innovation project undertaken and funded as part of a major scheme. One of the specialist tunnelling contractors had developed a new design of tunnel lining at a cost of £10 million which would protect tunnels adopting the lining and from discharges of petrochemicals should a road tanker rupture. Above sewers discharging into the new tunnel. Unfortunately, the development programme was too long for any of the new tunnel segments to be used on the scheme that funded the development, but the new design would be available for future use (by the contractor on other schemes).

It is hard to see how any of this expenditure can find its way onto the Balance Sheet of the Water Company (unless they have some share in the IPR). It certainly should not pass into the RCV to be funded by charges on the water company customers. The actual initial justification for the new design is questionable; how many such accidents have occurred in the last 25 years? What damage if any resulted? It had clearly always been possible to construct the project without this innovation. What benefit has flowed to water company customers from this expenditure?

It is suggested that dubious innovation of this nature should be exposed and carried by the shareholders, who can make their own judgement about its' true worth.