

Annex A – Yorkshire Water’s response to selected aspects of Ofwat’s submissions of 16 June

Issue	Ofwat’s position	YWS’s position
<u>Ofwat: Cross cutting issues – response to companies’ 27 May submissions to the CMA</u>		
<i>Cost efficiency</i>		
<i>Application of frontier shift to enhancement costs</i>	[para 2.14] Yorkshire Water (YWS) did not apply a net frontier shift adjustment to enhancement costs (including WINEP and metering costs), so it was reasonable for Ofwat selectively to do so.	Whether or not YWS applied a frontier shift assumption is irrelevant as it does not form the benchmark under Ofwat’s approach. See YWS’s Response to Ofwat’s Reply (Response) – Response/Annex 11/5.4.4. The key issue is the frontier shift assumptions of the benchmark companies. Ofwat has previously stated that only the frontier shift assumptions of the benchmark companies are relevant: Ofwat Reply-005/3.93.
	[para 2.21] None of the four companies which are WINEP-cost efficient applied a net frontier shift challenge to their forward-looking costs, so there is no evidence that Ofwat’s net frontier shift challenge double counts efficiency gains.	This point has already been addressed in the parties’ previous submissions: <ul style="list-style-type: none"> ● YWS: Statement of Case (SoC) – SoC/201 and Annex 9; Response/3.46.1-2 ● Ofwat: Ofwat Reply-005/3.93; Ofwat Reply-006/7.67-7.72 Specifically, as above, it is relevant to check whether the benchmark companies have applied a frontier shift challenge. Whether YWS did so is irrelevant.
<i>YWS has requested an uncertainty mechanism for its £150m Industrial Emissions Directive (IED) compliance costs</i>	[para 2.36] These costs seem high. It is important that YWS be incentivised to incur costs efficiently so any uncertainty mechanism should have a conservative allowance for costs and a high sharing factor for customers.	Ofwat’s suggestion that YWS’s estimate “seems high” has no evidential basis. As explained in Response/Annex 20, there were three key considerations behind YWS’s cost estimate: <ul style="list-style-type: none"> ● YWS’s efficient IED costs of £150m were derived from a bottom-up assessment using YWS’s unit cost database, which contains its historic outturn costs. YWS then applied an upfront efficiency reduction of 25%. ● There remains uncertainty around the cost of compliance with IED. The cost is likely to be highly site specific and will depend on a variety of factors such as the age of sludge assets. The cost

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		<p>requirements for each site will be finalised once detailed consideration has been given to each site as part of the permitting process.</p> <ul style="list-style-type: none"> • YWS are in the process of applying for a permit under IED for assets in Hull and this experience reinforces the view that compliance costs are likely to be far higher than the EA estimate. <p>As to the operation of the uncertainty mechanism, this should be based on the best available central-case estimate of costs. Moreover, it should be borne in mind that Ofwat has already imposed a very high sharing factor within the general totex sharing mechanism, with sharing factors for customers of the order of 65% due to the well documented flaws in Ofwat's assessment of efficient costs.</p>
<u>Covid-19</u>		
<p><i>Impacts of Covid-19</i></p>	<p>[para 4.2] The vast majority of the potential impacts raised by the disputing companies can be addressed via existing PR19 mechanisms.</p>	<p>Ofwat has described section 4 of the cross-cutting issues paper as containing new evidence on applicable reconciliation adjustment, yet all of the comments appear to relate to a letter sent to all water company CEOs as long ago as mid-March. Moreover, YWS would be concerned if Ofwat had already decided how it will respond to what remains an extremely uncertain and rapidly changing situation, with multiple factors that are wholly outside the control of companies. Ofwat goes on to state (in para 4.14) that softening or removing performance commitments risks unnecessarily distorting or removing incentives which benefit customers. But there is no mention of the need to ensure that incentives designed for a world without Covid-19 or its impacts and limitations, do not distort the costs and achievability of targets, to the extent that they:</p> <ul style="list-style-type: none"> • Become economically irrational with the efficient costs of achievement far outweighing customer benefits delivered. • Do not account for the necessary restrictions in activity that water companies have had to comply with meaning that some activities have been fully paused or significantly reduced. <p>In any event, YWS disagrees with Ofwat's assertion that existing mechanisms address this situation:</p>

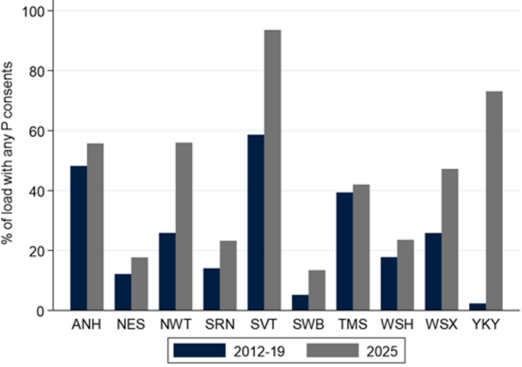
Issue	Ofwat's position	YWS's position
		<p>The relevant mechanisms available to Ofwat to deal with in-AMP incidents are as follows:</p> <ul style="list-style-type: none"> ● <i>Interim determination (IDOK) apparatus.</i> This is designed to deal with <i>cost</i> shocks – whereas the early evidence already points to the principal impacts of Covid-19 being on <i>revenue</i> recovery, specific performance commitments (especially those regarding aspects of customer behaviour) and financial ODIs (especially where subject to annual in-period assessment), thus rendering the IDOK mechanism unsuitable in these circumstances. In addition, the specific consequences of the hiatus in the non-residential retail market and the solutions required from wholesale companies will need to be dealt with. This is not provided for in the IDOK apparatus. ● <i>In-period assessment of ODIs.</i> There is no precedent for in-period assessments to deal with new circumstances. Indeed, one of the principles that Ofwat has followed in PR14 is that all companies should adhere to the agreed ODIs. Moreover, at the time of writing, Ofwat has yet to provide any insight on the method that Ofwat will require to assess the in-period ODIs for PR19, far less any new process to deal with Covid-19 impacts. <p>As previously advised, YWS will provide an update to the CMA in late-July of its best available view regarding the scale of Covid-19 impacts, and the evidence available. While YWS will endeavour to provide as much clarity as possible, its strong expectation is that there will remain important elements where the impacts remain uncrystallised or subject to a major degree of uncertainty. In these circumstances, rather than speculating on outcomes, YWS considers it will be more effective for the CMA to limit its thinking on Covid-19 to a small number of guiding principles, such as the following:</p> <ul style="list-style-type: none"> ● Clear recognition that the redeterminations have not included any recognition of Covid-19 effects – and hence these remain to be dealt with by Ofwat in their entirety using suitable new mechanisms. ● Clear recognition that when Ofwat considers Covid-19 effects, the disputing companies should be treated in line with all other companies in light of the fact that this will not be considered by the CMA.

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		<ul style="list-style-type: none"> Any relevant “lessons learnt” from the redeterminations around incentive mechanisms and the balance of risks faced by companies – applicable to either Ofwat or companies – should be reflected in Ofwat’s approach to Covid-19 impacts to achieve the best outcomes for all stakeholders.
<p><u>Ofwat: Response to Yorkshire Water’s 27 May submission to the CMA</u></p>		
<p><i>The resilience impact of the final determination</i></p>		
<p><i>The resilience impacts of the final determination alleged by YWS</i></p>	<p>[para 2.4] Ofwat does not believe that it is necessary or prudent for YWS to defer capital maintenance under the final determination (FD). The cost allowance in the FD allows YWS to maintain its assets and resilience, undertake its required enhancement programme and meet its Performance Commitments.</p>	<p>YWS’s position is set out in SoC/285 et seq.</p> <p>It is noteworthy that the deferral of capital maintenance necessitated by the FD was explained in the SoC, meaning that Ofwat had ample opportunity to address this in its second-round submissions.</p>
	<p>[para 2.5] The readiness with which YWS is prepared to deprioritise capital maintenance, and its belief that it can do so because it won’t face immediate underperformance payments as a consequence, shows that its outcomes package is insufficiently challenging.</p>	<p>This misses the point. YWS is not suggesting that the deferral of capital maintenance will result in poorer performance during AMP7, such that underperformance payments would be necessary. The point is that YWS can maintain its performance levels during AMP7 using opex solutions that are cheaper in the short-term but have higher whole-life costs, which is detrimental to customers.</p>

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	[para 2.6] YWS's suggested approach of stretching asset lives puts it at risk of breaching its statutory duty to produce wholesome drinking water.	YWS takes compliance with its statutory obligations extremely seriously and there is no chance that the operational measures that it would choose to adopt to operate within the confines of the FD could lead to their being breached.
	[para 2.7] It is not acceptable for YWS to ask its future customers to pay for its poor performance and delayed capital maintenance.	The premise that YWS has performed poorly to the detriment of its assets is false, as set out in SoC/26-27 and Response/2.6.1-2, 2.7.1-10. The reasons why deferred capital maintenance in AMP7 results from the FD are covered extensively in YWS's submissions.
	[para 2.9] The ARUP report shows that YWS has not been maintaining its key assets and services. It is possible that this caused the adverse consequences YWS now faces.	Ofwat appears to be seeking to divert attention from the material resilience harm to YWS that would result from the FD – as demonstrated by the ARUP report – by further unfounded insinuations about YWS's approach to asset maintenance. These allegations have been conclusively refuted in YWS's previous submissions (as noted above).
	[para 2.11] YWS has not evidenced its assessment of the impact on services of varying rates of investment, nor how it derived the allegedly necessary opex interventions and how they will deliver outcomes that capital solutions will not, nor consideration of how innovation and efficiencies may help it deliver outcomes within the constraints of the FD.	<ul style="list-style-type: none"> ● <i>Impact on services of varying rates of investment.</i> YWS has undertaken extensive modelling through its data science team to forecast the performance impact of a range of different interventions. The suite of interventions that delivers the greatest benefit in the shortest timescale within the bounds of the FD has been selected. This selection takes account of available FD totex allowances, the service stretch, and rate of improvement required by the FD. ● <i>How were opex interventions derived and why will this deliver outcomes that capital solutions will not?</i> The opex solutions have been applied to areas where significant service stretch is required and where the rate of service shift is significant. Fast, operational response is the only way to achieve the significant service improvement and avoid significant penalty from underperformance. YWS's experience of delivering the AMP6 UQ programme for leakage, internal sewer flooding and

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	Swapping opex for capex is presented as the only solution.	<p>pollution has shown that operational response is the most effective way of driving improvement in short timescales. For example, increasing the amount of proactive sewer network jetting is likely to reduce the incidences of internal sewer flooding more quickly than a capex funded sewer rehabilitation programme would.</p> <ul style="list-style-type: none"> ● <i>How will innovation and efficiencies help deliver outcomes within the constraints of the FD?</i> As part of the process described in the first bullet above, innovative approaches and technology were assessed and included in the delivery plan where this would improve performance or deliver efficiency. For example, the adoption of acoustic and satellite technologies is forecast to improve efficiency gains in Active Leakage Control, reducing leakage by an additional 10ML/d by 2025. ● <i>Swapping opex for capex is presented as the only solution.</i> Other options were considered as discussed above, but opex interventions are required to deliver the rate of improvement which is required by the FD.
<u>Costs</u>		
<i>Flood resilience in Hull</i>	[paras 3.3 – 3.5] The Dieter Helm paper does not support YWS's plan to provide additional flood resilience in Hull.	<p>YWS was disappointed to read Ofwat's characterisation of the Dieter Helm paper as being relevant for PR24 considerations but not for the existing plan to provide additional flooding resilience in Hull. YWS was also perplexed at the suggestion that the company has undertaken little planning or not provided evidence to support its case. The unique challenges of Hull & Haltemprice have been a major focus for all members of the new partnership for several years and YWS has provided extensive evidence on this in its original Business Plan submission and subsequent dialogue.</p> <p>YWS's view is that the root cause of the issues here is revealed in the final sentence of Ofwat's remarks. Ofwat appears belatedly to accept the importance of the issues in Hull and that we are seeking to take a unique approach through partnership working. However, Ofwat has been unable to assess the scope and costs through any bottom-up approach. So it would appear that the observations in the Helm paper about Ofwat's constrained way of thinking are entirely accurate.</p>

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	[para 3.4] YWS provided only indicative costing for blue-green as opposed to grey infrastructure. YWS did not provide a full cost-breakdown nor details of particular investment proposals.	<p>This point has already been addressed by the parties:</p> <ul style="list-style-type: none"> ● YWS: SoC/307 et seq. and Response/3.60.1-8. ● Ofwat: Ofwat Reply-005/3.103-3.107.
<p><i>Nb. The responses below in relation to YWS's WINEP programme should be read in conjunction with YWS's response to the CMA's RFI006.</i></p>		
<p><i>YWS's argument that the cost drivers in Ofwat's wastewater models do not fully capture sewage treatment complexity (by omitting phosphorous consents)</i></p>	<p>[para 3.8] The phosphorous consent variable is zero for the period of Ofwat's model input data, making it a difficult variable to use.</p>	<p>This is why YWS create a composite variable to include in the model. See:</p> <ul style="list-style-type: none"> ● Response/Annex 11/p.16-17. ● SoC/Exhibit 045/4.1.1 and footnote 40.
	<p>[para 3.9] The first-time imposition of a phosphorus consent would potentially cause a step change in operation and capital maintenance costs. This would not be caused by the move to a more stringent phosphorous consent.</p>	<p>YWS and Ofwat agree that the first-time imposition of a P-consent is a key driver of costs.</p> <p>However, Ofwat has understated the impact of this on YWS in AMP7 in its latest submissions. In Figure 3.2 of its YWS-specific paper, Ofwat compares the average percentage of sewage load treated at sewage treatment works with a phosphorous consent during the periods (i) 2011-2019 and (ii) 2020-2025. Ofwat argues that YWS is not impacted to an equivalent level as Severn Trent Water (which has the highest average in the latter period) because YWS's average for the latter period is not as high. However, Ofwat's analysis does not reflect the fact that most of YWS's AMP7 treatment works do not come online until the final year of AMP7. When one compares the percentage load with a P-consent for 2025, YWS is shown to be comparable with Severn Trent Water and has the largest increase in the industry (see the figure below). It follows that YWS can expect to see a significant increase in operational and capital maintenance costs during AMP7.</p>

Issue	Ofwat's position	YWS's position																																	
		 <table border="1"> <caption>% of load with any P consents</caption> <thead> <tr> <th>Site</th> <th>2012-19 (%)</th> <th>2025 (%)</th> </tr> </thead> <tbody> <tr> <td>ANH</td> <td>48</td> <td>55</td> </tr> <tr> <td>NES</td> <td>12</td> <td>18</td> </tr> <tr> <td>NWT</td> <td>25</td> <td>55</td> </tr> <tr> <td>SRN</td> <td>15</td> <td>25</td> </tr> <tr> <td>SVT</td> <td>58</td> <td>92</td> </tr> <tr> <td>SWB</td> <td>5</td> <td>15</td> </tr> <tr> <td>TMS</td> <td>40</td> <td>42</td> </tr> <tr> <td>WSH</td> <td>18</td> <td>25</td> </tr> <tr> <td>WSX</td> <td>25</td> <td>48</td> </tr> <tr> <td>YKY</td> <td>2</td> <td>72</td> </tr> </tbody> </table> <p>YWS disagrees that the stringency of consents is not an important cost driver. When P-removal at any consent level is controlled for in Oxera's wastewater models, the coefficient is negative (which is counterintuitive). When P-removal at consents below 0.5 mg/l is controlled for, the coefficient is positive and significant. This is high-level statistical evidence that Ofwat's assertion is incorrect i.e. the tightness of consents does have an impact on base costs.</p> <p>To understand the engineering impact of a more stringent consent, YWS has considered a treatment installation for both a 2mg/l and 0.5mg/l P-consent. The first point of note is that with an average influent value for phosphorous between 6 – 8mg/l (using 7mg/l as an average for this example) achieving 2mg/l implies a 71% reduction and achieving 0.5mg/l implies a 93% reduction. The increase in reduction resulting from the more stringent consent level is significant.</p> <p>Achieving a 2mg/l consent would normally require the installation of a single dosing point, which creates additional sludge to be removed from the process and disposed of. Achieving a 0.5mg/l consent would also require the following, all of which entail additional base capex:</p> <ul style="list-style-type: none"> ● Secondary dosing installation. 	Site	2012-19 (%)	2025 (%)	ANH	48	55	NES	12	18	NWT	25	55	SRN	15	25	SVT	58	92	SWB	5	15	TMS	40	42	WSH	18	25	WSX	25	48	YKY	2	72
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		<ul style="list-style-type: none"> ● Tertiary solids capture unit e.g. Sand filter ● Interstage pumping. ● Return liquor pumping. ● Increased chemical usage. ● Increased sludge volumes to be removed and disposed. ● Increased power usage due to additional pumping installations (this may require new power lines to site).
	<p>[para 3.10] Ofwat allowed the cost of installing and running new processes to meet new and tightened phosphorous consents. It is not clear what additional base costs will be driven by sites with low phosphorous consents.</p>	<p>Ofwat has assessed P-removal enhancement costs on a totex basis. As such, the enhancement capex to install new technology and the opex costs associated with running the technology are assessed in its enhancement models (to the extent that its P-removal models are appropriate). However, Ofwat does not account for the base capex associated with P-removal.</p> <p>It is correct that the majority of YWS's AMP7 P-removal totex is considered under enhancement modelling and that Ofwat's omission of a phosphorous treatment complexity driver from its botex models has a more limited impact on YWS. Nonetheless, the significant rise in load under tightened P-consents towards the end of AMP7 is still expected to incur an increase in base capex. Moreover, it is prudent to flag this omission now to ensure that the significant Full Year Effect of YWS's P-removal programme it is taken into account in Ofwat's AMP8 botex modelling and therefore ensure that YWS's future base maintenance is not underfunded.</p>
	<p>[para 3.11] Any adjustment along the lines proposed by YWS would result Severn Trent Water receiving the most additional funding. Severn Trent is the most efficient company on wastewater.</p>	<p>YWS is expecting to see the largest increase in P-consents during AMP7: starting from the lowest point of all WaSCs, YWS will reach a level second only to Severn Trent Water (which has the highest number). YWS should therefore also receive significant additional funding.</p>

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	<p>This implies that either YWS would not receive any additional base funding in this regard or any additional base costs associated with lower phosphorous consents are already reflected in Ofwat's cost allowance.</p>	<p>Whether or not YWS would receive any additional base funding should be tested via models that capture P-removal cost drivers. Ofwat has not done this. Instead, it has simply made an assertion with insufficient supporting evidence that YWS would not receive any additional base costs.</p> <p>Finally, Ofwat asserts that any additional base costs associated with lower P-consents may already be reflected in its cost allowance. Such an assertion, if extended to all cost drivers, would result in no adjustments for any company characteristics that are not appropriately represented in its cost models. YWS's modelling shows that Ofwat's statement is incorrect.</p>
<p><i>Impact of the Urban Wastewater Treatment Directive (UWWTD) on P-removal costs</i></p>	<p>[para 3.13] YWS's use of 'length of river improved' as a unit-cost measure is inappropriate to compare obligations under the UWWTD with those under the Water Framework Directive, because unlike the former the latter does not aim to improve river water quality towards 'good ecological status'. The UWWTD simply imposes limits on the concentration of phosphorous in effluents from sewage treatment works.</p>	<p>Oxera's analysis uses 'population equivalent served' as cost drivers and not 'length of river improved' (LORI). Therefore, Ofwat's criticisms that LORI is not an appropriate unit does not apply to any of Oxera's analysis and therefore is not YWS's position.</p> <p>For the avoidance of doubt, LORI was used in YWS's PR19 submission, 'Appendix 8g: PR19 WINEP technical appendix', see table 3.6 and 3.8. Moreover, the difference in unit costs between WFD and UWWTD based on LORI was cited as supporting evidence in Response/Annex 11/Section 5.1. However, Oxera's conclusions are not dependent on this, as stated above.</p>
	<p>[para 3.14] Ofwat's alternative unit-cost analysis (using Northumbrian Water's approach) shows that YWS's UWWTD schemes have a lower unit cost than the WFD schemes.</p>	<p>Ofwat's analysis is not informative of the UWWTD/ WFD cost differential because it focuses only on YWS. This is because YWS has not been able to deploy catchment solutions in its schemes, and therefore, its WFD and UWWTD schemes use very similar solutions.</p> <p>However, other companies have been able extensively to use catchment solutions (see below). Thus, only comparisons across the industry (as found in Oxera's models) can capture the UWWTD/WFD cost differential. Despite this, Ofwat has not engaged at all with Oxera's analysis.</p>

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		See: Response/Annex 11/Section 5.4.2 for further details on Oxera's modelling approach.
	[para 3.17] Catchment solutions are not always available and more often than not WFD schemes are delivered using the same solution as UWWTD schemes.	<p>While cheaper catchment solutions are not always available, where they are available, they can lead to reductions in the unit-cost allowance on Ofwat's econometric models. For example, YWS identified in its DD representations that Ofwat's models could be very sensitive to the inclusion of catchment solutions. In particular YWS showed that the inclusion in Ofwat's models of United Utilities solution at Davyhulme (a treatment works with population equivalent over one million), which was over twenty times cheaper than the alternative, materially changed the results. United Utilities is the third ranked company in WINEP at the FD. Failing to capture their advantageous cost factors leads to an excessively stringent benchmark.</p> <p>See SoC/Exhibit 045/3.2.1.</p>
	[para 3.17] Other than closing three sewage treatment works, YWS has not evidenced planned catchment solutions for its 32 non-UWWTD schemes in AMP7.	<p>In 2018 YWS did not meet the qualifying criteria imposed by the EA to deliver catchment solutions, so the Business Plan reflected this position. YWS has subsequently received agreement from the EA that YWS may deploy catchment solutions at 8 WFD-only sites but the delivery date for these schemes extends beyond AMP7.</p> <p>In any case, the point is that it is wrong to benchmark YWS's costs against those of companies that can employ such solutions at a greater proportion of their sites (because those companies lack the same proportion of UWWTD drivers) or whose catchment solutions have a significant effect on Ofwat's cost models (e.g. United Utilities solution at Davyhulme – see above). Further details on this point are set out in YWS's response to the CMA's RFI006.</p>
	[para 3.18] A large proportion of YWS's proposed costs for P-removal have a similar unit cost to those proposed in PR14. YWS expects to underspend its AMP6 allowance for the national	YWS's WINEP over AMP7 is much greater in scale and sophistication compared to AMP6, representing a step change in obligations and outcomes. Despite this, YWS has proposed a similar unit cost. Therefore, it does not logically follow that any underspending on WINEP in AMP6 means that greater efficiencies can be expected over AMP7. YWS does not consider that this provides a basis to conclude that Ofwat's PR19 allowance for YWS is appropriate.

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	environment programme. Ofwat's PR19 allowance for P-removal was therefore appropriate.	
<u>Data on common Performance Commitments</u>		
<i>Internal sewer flooding</i>	<p>[para 4.5] Anglian Water's and United Utilities' non-compliance was with reporting elements used to classify incidents caused by severe weather, which is excluded from the internal sewer flooding incidents reporting.</p> <p>[para 4.6] Without those elements reporting compliance is good.</p>	<p>The general point to the data used for the common Performance Commitments, as explained at Response/4.2.11 and previously at SoC/159(b), the methodology did not sufficiently take into account company-specific factors. The data used was not reliable enough to be used in the rigid way that Ofwat used it for its UQ targets.</p> <p>Specifically to internal sewer flooding: the FD definition does include severe weather events, so YWS was correct to include this in the reporting elements described in the Response. Please see PR19 YWS FD – Outcomes performance commitment appendix, p.26: “<i>The measure is calculated as the number of internal sewer flooding incidents normalised per 10,000 sewer connections including sewer flooding due to severe weather events.</i>”</p>
<u>Asset health</u>		
<i>Asset health framework and application</i>	[paras 4.13 and 4.14] Ofwat has a robust and appropriate framework for asset health, which was extensively consulted on and accepted by the sector.	The fact that the majority of companies did not disagree with Ofwat's draft methodology framework (in YWS's case, it was supportive of the inclusion of certain asset health Performance Commitments) does not mean that Ofwat's application of the framework is appropriate. Notwithstanding the clear flaws in Ofwat's framework, Ofwat could have applied it in a way that did not impose asset health Performance Commitments that were stretching beyond what was reasonably achievable.
	[para 4.21] Ofwat incentivises asset health because it is worried about short termism by the companies.	Ofwat fails to demonstrate short-termism by YWS (see the company's consistently stable asset health scores from Ofwat noted at SoC/26). Ofwat does not address why it has set YWS a Performance Commitment for unplanned outage, which, as noted in Response/Annex 04/pp.15 and 19, has little impact on the company's

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		ability to deliver services now or in the future due to its water grid network configuration, where water can be re-routed to customers via alternative mains in the event of an unplanned outage at a water treatment works.
	[paras 4.22 – 4.25] Ofwat was clear that it expected improvements in asset health.	YWS proposed improvements to asset health performance commitments and YWS does not disagree that improving asset health can support improving customer facing outcomes. However, as discussed at Response/Annex 04/p.15, Ofwat's approach fails to make any connection between the asset health levels and customer facing outcomes (such as leakage and water supply interruptions). Consistent with the disconnect between costs and outcomes, Ofwat has set asset health Performance Commitments completely separately from the customer-facing outcomes it wishes YWS to achieve.
	[paras 4.30 – 4.34] Cross-industry comparisons are a valid source of information against which to assess companies' proposed asset health outcome delivery incentive rates.	<p>Ofwat supports its position with points it has previously made in relation to ODIs more generally – that companies may have an incentive to understate ODI rates, and that cross-industry comparisons are only one of a number of checks (for example, see SoC/Exhibit 037/pp. 83, 97, 110 and 112 and Ofwat Reply-005/4.99 respectively). Ofwat also suggests that its cross-industry comparison may address a bias if some companies have not accurately estimated the forward-looking efficient marginal cost. However, Ofwat does not explain why averaging across companies would resolve this issue, or why its approach would be robust to variation in efficient marginal costs across companies.</p> <p>Contrary to Ofwat's suggestion, Ofwat's calculation of YWS's incentive rates for YWS's four common asset health Performance Commitments was based entirely on industry comparisons (i.e. the industry average and upper bound). As discussed at Response/Annex 04/p.19, YWS does not consider this a valid approach.</p>
	[para 4.35] Ofwat did not ignore where companies proposed asset health rates based on customer research.	Ofwat has misunderstood the argument being made. To the extent Ofwat has proposed asset health rates based on customer research, this is inappropriate because customer research is a poor source of evidence for non-customer facing outcomes such as asset health. See Response/Annex 04/p.19.

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	[para 4.36] Ofwat is considering the potential for evolution of the framework for resilience and asset health as it moves towards PR24.	YWS welcomes Ofwat's continued improvement of the price control framework in terms of resilience and asset health. However, statements of intent for PR24 are not relevant to the FD at PR19, save to the extent that they underscore that Ofwat is already aware of the flaws in its approach to asset health at PR19. Furthermore, including this information alongside Ofwat's critique of YWS's position adds nothing to the analysis of the current situation.
<i>Sewer flooding and cellars</i>		
<i>Cellars as the reason for poor performance</i>	[paras 4.40 – 4.42] The MORI and census data does not satisfy Ofwat's "high evidential bar" regarding the prevalence of cellars in its region.	As explained at length in Response/Section 4.41 and Annex 06, both sources of reputable and nationally comparable data provided show a significantly higher proportion of cellared properties in Yorkshire than other areas of the country. It is unclear exactly what evidence Ofwat seeks, therefore, to meet its "high evidential bar".
	[paras 4.43 and 4.44] The analysis on page 8 of Annex 6 of the Response does not adjust other companies' performance and the analysis in relation to relative performance has not been conducted on the common PR19 definition of the measure. This raises concerns about the validity of the analysis.	The purpose of this analysis was to demonstrate the importance of the cellar issue to the observed levels of performance for YWS by hypothesising what would happen if YWS had an average proportion of cellars. The analysis shows the proportional change for YWS and there is no evidence to show that this would change under the common PR19 definition. The presentation made clear that YWS was not attempting to adjust the observed performance of other companies, so Ofwat's critique is irrelevant. The analysis described at Response/4.40.5 as 'crude' is a separate analysis.
	[para 4.44] We also consider that the company needs to provide the underlying source data, detail of the adjustments	The adjustments for house building referred to in Response/Annex 06/Table P9 were based on ONS data for new property building. ¹

¹ Please see <https://www.ons.gov.uk/peoplepopulationandcommunity/populationandmigration/populationestimates/datasets/lowersuperoutputareamidyearpopulationestimates>.

Issue	Ofwat's position	YWS's position
	<p>made to account for house building and the calculation steps it has used for us to be able to replicate its calculation.</p>	
	<p>[para 4.45] The company's own business plan suggests that the impact of cellars has varied over time.</p>	<p>YWS assumes that Ofwat is referring to Figure 15h at SoC Exhibit 066-001/p.155. This figure shows internal sewer flooding over all types of weather events, including and excluding cellar flooding. As can be seen from the chart, in each year a large majority of internal sewer flooding incidents has occurred in properties with cellars. The proportion of internal sewer flooding in properties with cellars remains broadly correlated with the overall number of incidents, so it is unclear on what basis Ofwat makes this claim.</p>
	<p>[para 4.45] YWS's Business Plan suggests that when the impact of cellars is removed, the company's performance is still some of the worst in the sector.</p>	<p>Ofwat is repeating (incorrect) arguments from its previous submissions (see Ofwat Reply-005/4.34 and 4.43) and the reference provided here does not provide any evidence for Ofwat's statement. Please see Response/Annex 6/p.8, where it is demonstrated that if YWS had an average proportion of cellared properties in its region it would be a mid-pack performer.</p>
<p><i>Justification of costs and appropriateness of solutions</i></p>	<p>[para 4.46] Solutions appear to be a blanket roll-out at every property with a cellar rather than a prioritised or risk-based assessment of which properties need solutions.</p>	<p>This is a baseless assertion that is incorrect. YWS's business processes take a risk-based approach to the prioritisation of investment for internal sewer flooding, based on both observed and modelled data. YWS undertakes detailed feasibility assessments prior to any resolution activities being undertaken in order to ensure ongoing validation regarding type of intervention and timescales.</p> <p>Ofwat has misunderstood the point that YWS made at Response/Annex 06/p.1. YWS stated that "to drive the degree of performance improvement sought, the solution has to be implemented in some 260,000 properties". This was to demonstrate that in order to achieve the level of service required in the FD (and therefore to receive no penalties in AMP7), this level of intervention (at the very least) would be necessary. In reality, as explained in Response/4.44.2, YWS's prudent risk-based approach is most likely to lead to a £35m penalty.</p>

Issue	Ofwat's position	YWS's position
	<p>[para 4.47] The new evidence provided by YWS states that where “the property elevation is higher than the upstream manhole elevation, for modelling purposes, an internal flooding is not considered possible”. The company does not appear to have factored the fact that, by its own admission, in these scenarios, the cellar will not flood into its estimates of the number of non-return valves required.</p>	<p>As stated above, YWS undertakes risk-analysis of its investment on internal sewer flooding interventions. The number of non-return valves required is calculated by whether a property has a direct connection to the sewer. If there is a direct connection to a sewer, then there is a risk of internal sewer flooding. The level of the upstream manhole is irrelevant to this analysis.</p> <p>The diagram at Response/Annex 06/p.5 demonstrates why cellared properties are at higher risk of internal sewer flooding: the property elevation is likely to be lower than the upstream manhole elevation. If the property elevation is above the upstream manhole elevation then external sewer flooding and not internal sewer flooding is more likely to occur.</p>
	<p>[para 4.48] YWS has not adequately evidenced how an increase in the cost allowance relates to its proposed levels of activity and the glidepath for performance improvements.</p> <p>[para 4.49] In order for Ofwat to make an additional cost allowance, it would expect a detailed cost breakdown for each type of cellared property, and a full options appraisal to demonstrate that the company has considered all options in light of the new evidence. It is not clear why fitting individual non-return valves is the optimal solution rather than, say,</p>	<p>YWS has never stated that fitting of non-return valves is the optimal solution in all instances. As explained in Response/Annex 06, a range of solutions will be utilised. Specifically in relation to non-return valves, please see Response/Annex 06/p.11, where YWS estimated that installation would be suitable in approximately 20% of cases. The fitting of non-return valves is just one element of the suite of solutions proposed by YWS.</p> <p>The disconnection of surface water from the network referenced by Ofwat is often not the optimal solution, especially to achieve a rapid change in performance. It requires time for modelling and partnership working to agree where the ‘removed’ water can be displaced to, without creating a different flooding issue elsewhere. This is not always possible in urban areas in any case, and certainly is not possible given the immediacy of the performance levels required by Ofwat. Again, this is part of the suite of solutions proposed by YWS.</p> <p>As explained at Response/12.1.44 et seq., YWS’s proposed remedy for internal sewer flooding is not additional costs, rather more time in which to achieve its Performance Commitment (i.e. the current FD targets would be achieved after two AMPs rather than one).</p>

Issue	Ofwat's position	YWS's position
	<p>disconnecting surface water from the network. We do not consider the company has provided sufficient evidence in this respect.</p>	
	<p>[para 4.50] YWS has not considered its costs in the context of the implicit allowance it receives through the base model.</p>	<p>YWS has made its position on the costs/outcomes disconnect throughout the SoC and Response. YWS does not believe that base funding is sufficient to achieve the required service shift.</p>
<p><i>Water supply interruptions ODI rate</i></p>		
<p><i>ODI rate</i></p>	<p>[paras 4.51 – 4.54] Ofwat was not 'selective' in excluding a datapoint from YWS's incentive rate triangulation.</p>	<p>Ofwat restates its concern with one of the datapoints in YWS's incentive rate triangulation – a point YWS addressed in Response/4.19.2. In addition, Ofwat fails to acknowledge that it was selective precisely because it did not remove other datapoints from YWS's triangulation that would be subject to the same Ofwat criticism – as noted in Response/4.19.3. If Ofwat had been consistent in its approach, the resulting incentive rate would be much lower.</p>
<p><i>Mains repairs</i></p>		
<p><i>Weather / mains repairs evidence</i></p>	<p>[para 4.58] 2015-16 was a warm winter, but companies did not provide evidence to demonstrate the type of impact on their region or which years it might have impacted mains repairs performance.</p>	<p>YWS demonstrated in Response/Annex 05/p.9 at Figure 2 that (i) winter 2015-16 was warm and (ii) as a result YWS undertook fewer total mains repairs jobs. The reasons for this are explored in the report (i.e. mains repairs figures are less impacted by the problems caused by colder winters discussed in the report). The years that are affected are also specifically mentioned in Figures 2 and 3 of the report.</p>
<p><i>Sewer Collapses</i></p>		

Issue	Ofwat's position	YWS's position
<i>Reporting methodology</i>	[para 4.62] YWS did not state that the revised March 2019 definition impacted its Performance Commitment level, but rather that it did not have sufficient time to understand the impact.	This is just semantics: if YWS did not have time to understand the impact of the definition change, it necessarily could not state at that time what that impact was.
	[para 4.63] Ofwat acknowledged that the change in definition in March 2019 would make it difficult to conduct meaningful comparative analysis. It therefore did not use historical data to provide a projection of a “good” performance level of sewer collapses as we did with mains repairs. Instead it used the forecast median level to set the “good” level. Ofwat based company interventions on each company’s own historical performance and not on industry comparative levels.	This comes back to YWS’s position, demonstrated in SoC/135 et seq., that required improvements in service should be funded through base maintenance (regardless of whether the forecast median or historical data was used).
<i>Overall stretch across costs and outcomes</i>		
<i>EI’s report on the costs-outcomes disconnect – cross-cutting comments</i>	[paras 5.4, 5.7 – 5.13 and 5.20] The methods “rest on an incorrect assumption that expenditure is driven entirely by the absolute level of performance, not improvements in performance”.	<p>Ofwat is wrong to argue that the assumption is incorrect and to conclude that the analyses are flawed for this reason.</p> <p>Ofwat’s argument and conclusion would only be correct if:</p> <ul style="list-style-type: none"> ● first, any historic performance improvements were driven entirely by one-off costs that do not need to be incurred again in order to maintain that level of performance; and

Issue	Ofwat's position	YWS's position
		<ul style="list-style-type: none"> ● second, the next increase in performance is no more costly than the previous increase. <p>But neither position withstands scrutiny – the situation is more complex than Ofwat suggests.</p> <p>In relation to the first point, historic performance improvements are not driven entirely by one-off costs.</p> <ul style="list-style-type: none"> ● The line between a “one-off” and “ongoing” costs is not as clear cut as Ofwat suggests. Following Ofwat’s example, even if a company had replaced an old pipe in the current period, it may be necessary for it to incur a similar “one-off” cost to replace a different old pipe in the next period in order to maintain its level of performance. ● To the extent that some costs are for practical purposes “one-off”, all companies, including YWS, deliver performance improvements by incurring a combination of one-off and on-going costs. For example, YWS’s Internal Sewer Flooding Case Study (Response/Annex 06) highlights the use of short-term interventions such as jetting, as well as longer-term options such as installing non-return valves or network sensors. <p>In relation to the second point, it is more costly for companies to improve performance as their performance levels increase. The primary reason for this is that companies are required to tackle issues in increasingly challenging and complex operating environments. Again, YWS’s Internal Sewer Flooding Case Study (Response/06) highlights this: it is more challenging, complex and therefore costly to prevent internal sewer flooding in back-to-back properties than in other properties due to the more restrictive access conditions they present.</p> <p>For these reasons, the assumption in the EI report is a sensible and legitimate one to make.</p> <p>Finally, to the extent that it is relevant, Ofwat’s approach to setting performance commitment levels is subject to exactly the same criticism. In relation to supply interruptions, pollution incidents and internal sewer flooding, Ofwat has taken no account of the differences in historical spend between companies.</p>

Issue	Ofwat's position	YWS's position
	<p>[paras 5.10 – 5.12] Ofwat's PR19 cost baselines “<i>effectively provide an allowance for companies to improve performance further in future periods</i>”.</p>	<p>Ofwat is wrong to suggest that if previous improvements in performance were funded by historical base costs, Ofwat's allowances fund the performance levels it has set for AMP7.</p> <p>There are two relevant issues here: <i>whether</i> Ofwat has implicitly allowed for improving performance and <i>whether the size</i> of any allowance is sufficient to fund the performance levels YWS is expected to meet.</p> <ul style="list-style-type: none"> ● In relation to the first issue and following from the discussion above, YWS notes that Ofwat has not provided estimates of either the value of the one-off costs that its cost benchmark companies incurred in the previous period to improve performance nor the extent to which similar one-off costs would / would not need to be incurred again to maintain their performance. Therefore, although YWS accepts that it is possible that some allowance is made for improving performance, Ofwat has not provided any evidence one way or another to estimate its size. ● In relation to the second issue, as outlined extensively in YWS's previous submissions, there is nothing in the calculation of Ofwat's AMP7 performance commitment levels that mean they would be consistent with historically achieved improvements. Specifically, Ofwat's forecast UQ (including the adjusted target for supply interruptions) and the 15% leakage reduction target are not consistent with the improvements that the cost benchmark companies achieved in the cost assessment period. <p>Furthermore, Ofwat is wrong to pick isolated examples to support its position, instead of systematically considering the performance of all of the cost benchmark firms across all three of the UQ performance commitments and leakage, as EI has done. Indeed, the example Ofwat has chosen clearly highlights why this is.</p> <ul style="list-style-type: none"> ● While it is correct that Severn Trent improved its performance in internal sewer flooding by 1.1 incidents between 2014-15 and 2018-19, Severn Trent is only one of the companies that influenced Ofwat's cost allowances. Another one of Ofwat's cost benchmark companies – Wessex Water – improved its performance by 0.5 incidents during the same time period – half of the improvement achieved by Severn Trent.

Issue	Ofwat's position	YWS's position
		<p>It follows that Ofwat's conclusion "<i>Given that our cost baselines included the cost of improving by far more than 0.4, we consider that Yorkshire Water had sufficient funding...</i>" appears to be unduly driven by the performance improvement achieved by one company in relation to one performance commitment, not all of the cost benchmark companies in relation to all of the UQ and leakage performance commitments.</p>
	<p>[paras 5.15, 5.16 and 5.18] EI's work "avoids" the complexities associated with modelling the relationship between costs and outcomes with an "oversimplified and biased" model.</p>	<p>Ofwat is correct that the relationship between cost and outcomes is complex, but it is wrong to suggest that EI's work avoids the complexities. Instead, the purpose of EI's work is to highlight two alternative methods that could be used to examine the impact that outcomes have on costs. Ofwat's own approach avoids the complexities by omitting outcomes from its cost benchmarking altogether.</p> <p>Ofwat is also correct to argue that EI's work is a simplification – all modelling involves simplification – but it is wrong to suggest that it is an over-simplification and the methods/models or results should be dismissed as a consequence without further testing and consideration.</p> <ul style="list-style-type: none"> ● First, it is necessary to test whether more complex alternative methods/models are more robust and yield different results. Ofwat has reached a conclusion without testing this. ● Second, in the absence of testing alternative methods/models, it is necessary to consider whether the results are likely to be biased by the simplification and, if so, whether they are likely to bias the results upwards or downwards (i.e. result in an underfunding estimate that is too high or too low). Ofwat has reached its conclusion without considering this. <p>Notwithstanding the above points, both YWS and EI recognise that all methods have different strengths and weaknesses. Therefore, YWS considers that it is likely to be appropriate for the CMA to consider the evidence base in the round and not rely exclusively on the results of one method. For this reason, YWS has submitted a wide range of evidence which it considers relevant to this issue, including Oxera's econometric analysis and company estimates. To date, Ofwat has criticised and rejected every piece of evidence submitted by YWS, but has still failed to develop its own estimates of what is funded.</p>

Issue	Ofwat's position	YWS's position
<p><i>EI's report on the costs-outcomes disconnect – method specific comments</i></p>	<p>[para 5.13] Various points of detail on EI's bottom-up methodology.</p>	<p>In relation to each point:</p> <ul style="list-style-type: none"> ● <i>No account of technological progress, productivity gains or similar.</i> Ofwat's framework already accounts for technological progress and productivity gains through its application of a frontier shift to cost allowances. ● <i>Use of historical average rather than the 2020 starting position.</i> This is an extension of Ofwat's main point that has been addressed above. ● <i>Averaging across the three/four cost benchmark companies.</i> YWS considers this is a justified approach given the variance in results. ● <i>Use of company marginal cost data.</i> This is the data used by companies to propose incentive rates, although YWS acknowledges Ofwat made a number of interventions (both increases and decreases to incentive rates). The above noted averaging reduces the effect of any one marginal cost. ● <i>No account of YWS's enhancement allowances or cost adjustments.</i> This is a small consideration given the scale of the issue. The Hull and Haltemprice cost adjustment claim that Ofwat gives as an example is the only additional allowance that may be directly relevant. Furthermore, this criticism is at odds with Ofwat's position that previous improvements in performance were funded by base cost allowances (i.e. previous performance could have been funded by enhancement expenditure).
	<p>[paras 5.16 and 5.17] Various points of detail on EI's top down methodology.</p>	<p>An overarching comment is that the EI report clearly states that the DEA analysis is preliminary, subject to refinement and the results can be sensitive to the specific modelling choices made. Therefore, to the extent that CMA concludes that: (a) there is a cost-service disconnect; (b) that it is appropriate to take account of service levels using benchmarking methods; and (c) that the DEA benchmarking method specifically is useful, YWS and EI recognise that further analysis is likely to be required and do not purport otherwise.</p> <p>This further analysis could involve testing the sensitivity of the results to alternative assumptions or modelling choices, including but not limited to those cited by Ofwat i.e.:</p>

Issue	Ofwat's position	YWS's position
		<ul style="list-style-type: none"> ● The inclusion of exogenous cost drivers; ● Assuming constant rather than variable returns to scale; and ● Pooling the data rather than running separate annual models. <p>However, these should be seen as modelling choices rather than a choice being a modelling flaw.</p> <p>For example:</p> <ul style="list-style-type: none"> ● Ofwat questions the variable returns to scale choice (VRS). However, Ofwat's own cost benchmarking in recent price controls has assumed both VRS (PR14) and constant returns to scale CRS (PR19). Ofwat's decision to switch assumptions at PR19 was not motivated by it identifying an evidence base that strongly undermines its original VRS assumption, but rather practical considerations regarding what is possible and desirable to capture within econometric (not DEA) modelling. As noted above, further work could consider both VRS and CRS assumptions. <p>Similarly, Ofwat questions the decision to run annual models, rather than a pooled model on the basis that the decision results in a very small sample size. The results presented in the EI paper results do not rely on one year alone, but rather averages across them and so this criticism somewhat misrepresents the analysis. As noted above, further work could consider pooling the data.</p>
	<p>[para 5.19] The inappropriate design choices are demonstrated by counterintuitive results.</p>	<p>The fact that the DEA model places multiple firms at the frontier does not in itself invalidate the results for YWS – DEA can place multiple firms at the frontier. Also, the presence of “surprising” firms at the frontier (such as Thames Water) does not in itself invalidate the results for YWS either. Rather, both results indicate the benefit of further exploration and sensitivity testing of the type noted above and anticipated in the EI report.</p>

Issue	Ofwat's position	YWS's position
<u>Europe Economics: Response to Some Key Points on Real Price Effects (RPEs) and Frontier Shift</u>		
<i>Frontier Shift</i>	[p.6] Water sector productivity growth is not necessarily the same as productivity growth in the sectors that contractors come from.	<p>Europe Economics makes three arguments: (i) water companies have a choice as to whether or not they outsource work and, if the competitive sector is performing poorly, water companies can bring the activity in house; (ii) the efficiency of outsourced work depends not only on the efficiency of the contractors, but also the efficiency of the scope, procuring and management process; and (iii) productivity growth in the construction of water networks or treatment plants may be higher than productivity growth in the construction sector as a whole.</p> <p>First, when Europe Economics uses the phrase 'poorly performing sector' it is perhaps suggesting that there was some feasible, higher rate of productivity growth that was possible for the sector to achieve, but the sector failed to do so (perhaps due to inefficiency). This is a misrepresentation of the analysis. Based on Europe Economics' own assumptions of perfect competition, the productivity growth achieved in these comparator sectors is the most that was achievable (representing best practice). Therefore, it is misleading to say that sector performed poorly and that there could be efficiency gains from bringing the activity in house.</p> <p>Second, Europe Economics presents no evidence to suggest that the water industry's tendering/procurement procedure is inefficient.</p> <p>Finally, Europe Economics presents no evidence to support its view that productivity growth in the construction of water networks or treatment plants is higher than the construction sector as a whole. While productivity growth in water-related construction projects may differ with productivity growth in the construction sector as a whole, any a priori view on their growth rates (whether one is higher or lower) should be supported by robust evidence.</p> <p>Also see:</p> <ul style="list-style-type: none"> ● Response/3.68.1-3.68.3 and Response/Annex 11/Section 4.2; and

Issue	Ofwat's position	YWS's position
		<ul style="list-style-type: none"> • SoC/Annex 08/pp.3-4.
	<p>[p.12] Oxera has misinterpreted the academic papers Europe Economics used to quantify the potential impact of embodied technical change.</p>	<p>Oxera's argument is not that quality effects should be ignored. However, if such adjustments are deemed necessary, they should be informed by robust economic analysis, not by combining results of US-focused studies that considered different sectors and time periods from at least 40 years ago.</p> <p>Also see: Response/Annex 11/p.42.</p>
	<p>[p.14] Oxera is misguided in claiming that its position on embodied technical shift is intuitive.</p>	<p>To isolate the potential effects of embodied technical change, quality effects should be explicitly considered both on the input and output side. If this is done consistently, as demonstrated in Hulten (1992), the effect of embodied technical change will be moderated by changes in the quality-adjusted output growth rate. Note that the growth accounting methodology adopted by EU KLEMS does not allow for the estimation of embodied technical change, as the quality-related adjustments are directly incorporated in the inputs and outputs of the model (and thus not separately considered).</p> <p>Also see: Response/Annex 11/pp. 41 and 43.</p>
	<p>[p.14] Applying an uplift for embodied technical shift does not imply that respected organisations have underestimated TFP growth.</p>	<p>The growth accounting methodology used by EU KLEMS and other reputable organisations aims at estimating disembodied technical change for two main reasons. First, so that all other sources of output growth can be incorporated into the growth accounting formulation as best as possible. Secondly, and more importantly, to be consistent in the treatment of quality effects, incorporating them in both sides (input and output) of the growth accounting equation. As noted above, Europe Economics appears to argue that quality can be included in the input side without any adjustment to the output side.</p> <p>Also see: Response/Annex 11/Section 4.3.</p>
<p><i>RPEs</i></p>	<p>[p.17] The Covid-19 crisis is likely to reduce input power prices, regardless of any link with world oil prices.</p>	<p>Ofwat has not made this point with reference to productivity yet has itself acknowledge that RPEs and productivity are linked. Equally, the Bank of England suggests that COVID-19 will reduce productivity growth in the coming years.</p>

Issue	Ofwat's position	YWS's position
		Also see: Response/Annex 11/pp.42; Reply-006/4.62; and Bank of England, "Monetary Policy Report", May 2020, p.7-10, available at: https://www.bankofengland.co.uk/-/media/boe/files/monetary-policy-report/2020/may/monetary-policy-report-may-2020.pdf .
	[p.19] The Covid-19 crisis is likely to reduce input prices for chemicals.	See response immediately above.
<u>Ofwat: Risk and return – response to common issues in companies' 27 May submissions to the CMA</u>		
<i>Market to asset ratios (MAR)</i>		
<i>Recalculation using April-May data v. February data</i>	[para 3.5] Ofwat disagrees with YWS's decision to revise EE's calculations using the April-May data instead of the February data, arguing that those data are unrepresentative due to Covid-19 related volatility.	SVT's and UU's share prices hit a short-lived, temporary peak in February 2020. It is not possible to draw the inference that Ofwat wants the CMA to read from such a narrow and unrepresentative snapshot of data.
<i>Cost of Equity</i>		
<i>Equity beta: de-levering and re-levering /</i>	[paras 3.15-3.17, Table 3.2] Ofwat's estimate of notional equity beta was derived by applying the approach of de-levering raw equity beta using the	YWS's position on the de-levering / re-levering issues that the CMA identified in the NATS provisional findings is set out on pages 6-7 of YWS's response to the CMA's NATS PFs Response (<i>YWS NATS PFs Response</i>), which has also already been submitted for consideration in the PR19 redetermination. ² YWS

² The YWS NATS PFs Response was submitted to the CMA for consideration in the PR19 redetermination on 16 April 2020 and is available [here](#). The YWS NATS PFs Response was also annexed to YWS's Response at Annex 10.

Issue	Ofwat's position	YWS's position
<i>alternative approaches</i>	enterprise value gearing of listed comparators and re-levering using notional gearing of 60%. The CMA in its provisional decision for its redetermination of NERL RP3 (<i>NATS PFs</i>) identifies that this approach results in a cost of capital which is strictly increasing with gearing, in spite of widely-recognised evidence to the contrary. Ofwat concludes that its PR19 approach gives the highest notional equity beta compared to alternatives.	noted that the root cause of the counter-intuitive relationship that the CMA identifies is the CMA's selection of a very low value for the risk-free rate.
<i>TMR</i>	[para 3.18] Ofwat's view is that a CPIH-deflated 6.5% point estimate remains reasonable when taking account of the latest year of returns data in the round.	YWS has addressed this point and noted its concerns in the YWS NATS PFs Response/pp.1-3.
<i>RFR</i>	[para 3.22] Forward inflation curve is "breakeven inflation" – it is only a reliable guide to RPI inflation expectation in absence of liquidity and inflation risk premia. As both premia have been shown to reflect RPI-linked and nominal gilts in a "time-varying way", Ofwat considers this complicates like-for-like comparison to any long-term inflation assumption.	See YWS NATS PFs Response/pp.3-6. It is highly improbable that inflation-risk premia and liquidity premia explain the shape of the forward inflation curve. As per the YWS NATS PFs Response, YWS's position remains that the CMA should consider possible distortions in the gilt market before reading across from gilt yields to the risk-free rate.

Issue	Ofwat's position	YWS's position
<u>Cost of Debt – Embedded Debt</u>		
<i>Company specific factors</i>	<p>[para 3.26] Ofwat states that its past price determinations have estimated embedded debt allowances through ex-post benchmarking and did not conduct instrument-level efficiency reviews – therefore companies' statements that their issuance is ex-ante efficient is only the company's own opinion and of questionable reliability.</p> <p>[para 3.26] Independent review of such company claims is in theory possible but too intrusive and time-consuming. Allowances set on such basis would be damaging to the efficiency incentives implied by Ofwat's current regulatory approach.</p>	<p>YWS's conclusion that its past debt issuances have been efficient is based on a detailed technical review of YWS's interest costs to the iBoxx rates at the time of issue, conducted by Centrus (see Response/Annex 7). It is therefore inaccurate to describe the conclusions drawn from this report as "<i>the company's own opinion and of questionable reliability</i>".</p> <p>Furthermore, if Ofwat decides that reviewing such conclusions is too intrusive and time-consuming, then this means that they are not well-placed to dismiss – and, in particular, criticise – the conclusions drawn from this comprehensive analysis.</p>
	<p>[para 3.27] Ofwat notes that companies argue that its approach unfairly penalises reasonable company-specific variation in investment profiles which led to issuance in periods of relatively higher market Cost of Debt. In response, Ofwat argues that projected underperformance relative to PR19 allowance can mostly be</p>	<p>This point has already been addressed by the parties. See:</p> <ul style="list-style-type: none"> ● SoC/229-232; ● Ofwat Reply-008/2.11-2.18; and ● Response/Sections 2.4, 2.18 and 7.5.1-7.5.12.

Issue	Ofwat's position	YWS's position
	<p>attributed to non-operational financing decisions (usually relating to upstreaming of dividends and/or funds in the form of inter-company loans).</p>	
<p><i>Centrus Report</i></p>	<p>[para 3.28] YWS issued an “atypically high” amount of debt in 2009 primarily used to carry out its financial restructuring and implementing its whole business securitisation structure, resulting in shift in issuance profile.</p> <p>[para 3.29] Had a more notional structure been maintained or a more gradual issuance profile been adopted, YWS would have been less exposed to differences between Ofwat’s allowed notional cost of debt and its actual debt financing costs.</p> <p>[para 3.35] The cost challenge faced by AW, BW and YWS on embedded debt is predominantly a function of non-operational financing decisions.</p>	<p>This point has already been addressed by the parties. See:</p> <ul style="list-style-type: none"> ● Ofwat Reply-008/2.30; and ● Response/7.5.1-7.5.12 and Annex 7 – Centrus Report. <p>As Ofwat has noted in para 3.36, financing decisions are companies’ own to make. Contrary to this position, Ofwat has continued to focus on legitimate financing decisions which took place over a decade ago. As set out in YWS’s submissions, YWS considers it inappropriate for Ofwat to use the benefit of hindsight to criticise these financing decisions that were made efficiently at the time of issue.</p> <p>Notwithstanding the above, YWS notes that its gearing in both 2008/09 and 2009/10 was c.65% i.e. close to Ofwat’s notional level. On this basis, it is not appropriate for Ofwat to present alternative figures recalculated on the basis that this debt raising should be reallocated across all of the other 14 years, significantly after the debt issuances in question. Furthermore, as outlined at Response/2.4.9, the financial restructuring was well understood by Ofwat at the time.</p>
<p><i>Trailing average period for embedded debt</i></p>	<p>[para 3.39] Ofwat considers that it is more accurate to describe its approach as remunerating historical debt of up to 20 years tenor at issuance and considers <i>the</i></p>	<p>This is misleading. The period spanned by Ofwat's FD approach to making allowance for the embedded debt held by companies as at 1 April 2020 is only 15 years (by deliberate design).</p>

Issue	Ofwat's position	YWS's position
	<p>20 years spanned by our final determination approach to be fairly matched with the roughly 20 year average asset life in the sector as implied by RCV run-off rates, and also the weighted average years-to-maturity of the iBoxx A/BBB (21 years)".</p>	
<u>Cost of Debt – Cost of new debt</u>		
<p><i>Outperformance wedge</i></p>	<p>[para 3.41, Table 3.3] Ofwat's analysis of nominal fixed-rate bonds (with tenor at issuance greater than 10 years) issued by water companies between FD and 3 June 2020 shows a 22bps spread against all iBoxx A/BBB instruments. Ofwat concludes that this evidence supports an outperformance wedge higher than 15bps.</p> <p>[para 3.43] Ofwat considers that a 15bps wedge is a "cautious interpretation of market evidence" and companies similar to notional firm outperform by "markedly wider margin".</p>	<p>There are a number of company specific factors that influence the rate at which a particular company can issue debt, which means that one cannot simply read across this data when assessing the rate at which the <i>notional</i> company can issue debt.</p> <p>As noted in Response/Section 7.6, YWS does not consider SVT, UU or Dwr Cymru to be similar to the notional company.</p> <p>Ofwat's analysis shows that credit rating has been critical to the level of out or underperformance achieved versus the iBoxx. As noted in SoC/233-240, Response/Section 7.4 and supported by Moody's (see Response/Exhibit 080/p.5 - "Outlook remains negative as price review leads to unprecedented number of appeals", 30 April 2020), YWS considers that a A/BBB rating for the allowed cost of new debt index is not justified and provides for a cost of new debt which is not practically attainable, and that instead Ofwat should have used a BBB only benchmark.</p>

Issue	Ofwat's position	YWS's position
		Moody's assessment of the notional ICR is 1.24 which suggests at best a Baa2 rating. ³ Data provided by Ofwat of debt issued at Baa2 rating or below shows that on average debt has been issued at a higher interest rate than the iBoxx.
<u>Financeability</u>		
<i>Credit ratings</i>	<p>[Table 4.1, para 4.5] Ofwat states that Moody's, in a number of credit opinions published since the FD, has applied a one notch upgrade to two sub-factors: (a) revenue risk, and (b) scale and complexity of capital programme and asset condition risk.</p> <p>[para 4.6] Ofwat estimates that "on average the improvements in credit score for these two sub-factors outweigh the negative impact of the reduction in their view of the stability and predictability of the regulatory environment sub-factor". Ofwat considers that this is further evidence why Ofwat should not be tied to rating agency guidance for specific financial ratios at a specific point in time.</p>	<p>YWS considers that Ofwat's statement from para 4.6 is unevidenced. Moody's rating methodology incorporates an assessment of four factors, supported by ten sub-factors, which are periodically published with scores for individual companies. These ten sub-factors are scored, reweighted and summed as a basis for Moody's rating assessment of a company together with an uplift for structural considerations.</p> <p>YWS notes that the two sub-factors referenced by Ofwat are part of the 'Business Profile' rating factor and given initial weightings representing 15% of the total for all ten sub-factors. The regulatory environment sub-factor in 'Business Profile' also has an initial 15% weighting – and this sub-factor notably was downgraded one notch by Moody's following the issue of Ofwat's Putting the Sector Back in Balance proposals in mid-2018. In contrast, financial metrics (e.g. gearing, interest cover) set out under the 'Leverage and Coverage' factor account for 40% of the total.</p> <p>Furthermore, YWS disagrees that this statement should be used as "further evidence" to support the position taken by Ofwat regarding rating agency guidance. YWS's position on Ofwat's approach to rating agencies' methodologies with respect to financeability is outlined at Response/Section 9.2, and is not specific to YWS's own capital structure, financing arrangements and credit ratings. YWS agrees that a simple test is not possible but believes strongly that a rounded view must be taken of ratings agencies assessments, in line with their individual methodologies, to reach appropriate conclusions on financeability for the notional company.</p>

³ See Response/Exhibit 080/p.5 - "Outlook remains negative as price review leads to unprecedented number of appeals", 30 April 2020.

Issue	Ofwat's position	YWS's position
		YWS also draws attention to Moody's recent water sector outlook, published in April 2020, ⁴ which showed the interest cover ratio for a notional company, with 60% gearing and interest in line with the cost of debt allowance, assessed at 1.24x. This note states clearly that Moody's does not give any benefit to accelerated revenues, in lieu of an increase in allowed returns, when calculating interest cover for a notional company.
<i>Financeability constraint</i>	[para 4.13] Ofwat does not consider that issues raised by companies on PwC's analysis of financial levers should lead to any alteration of PwC's conclusions.	Ofwat has mischaracterised YWS's critique of PwC's analysis. As detailed in the Response/Annex 1, YWS's issue was not with PwC's future cost of debt assumptions as Ofwat has suggested, but the way PwC has assumed that these will impact future ICRs. When YWS applied PwC's future WACC assumptions to Ofwat's notional ICR calculation, this clearly showed that the potential uplift in ICR in AMP8 was much less than suggested by PwC, meaning that it would not be possible to reverse the PAYG adjustments made by Ofwat at PR19.
<i>GSM and Actual Company Structures</i>		
<i>GSM</i>	[para 5.3] Ofwat considers that there is no inconsistency in Ofwat's approach between the Reference and the Reply. Additional detail in the Reply was to "provide further explanation" and "entirely consistent" with the <i>Putting the sector in balance</i> paper.	YWS has been clear throughout the PR19 redetermination that it considers the GSM lacks a logical and coherent rationale. See: <ul style="list-style-type: none"> ● SoC/246 – 259; and ● Response/Section 8.
<i>Actual structures: Benefit of</i>	[para 5.17] Ofwat considers that the securitised structures that companies such as AW have put in place are matters for	YWS has outlined its position on the benefits of securitised structures at: <ul style="list-style-type: none"> ● Response/8.2 and Response/Annex 13 - Linklaters LLP: 'Regulated Debt Platform' paper.

⁴ See Response/Exhibit 080, "Outlook remains negative as price review leads to unprecedented number of appeals", 30 April 2020.

Issue	Ofwat's position	YWS's position
<i>covenanted structures</i>	<p>each company to manage. Ofwat does not comment on the detailed terms of the covenanted financing arrangements, which are designed to transfer risk and allow companies to raise higher levels of debt for a given credit rating than would otherwise be the case. Such covenants can only provide limited assurance that all necessary protections are in place in the event of distress.</p> <p>[paras 5.18-5.19] Ofwat considers that Moody's structural uplift to credit ratings for AW and YWS should be considered along in the context of "all relevant facts":</p> <ul style="list-style-type: none"> ● The "credit uplift" granted to those with covenant structures in place has recently deteriorated suggesting that Moody's places less weight on credit enhancing features of YWS and Southern Water. ● YWS, along with Southern Water and Thames Water, have the 	<p>YWS has made clear that it accepts responsibility for managing its actual capital structure and financing arrangements. YWS sees no evidence to support Ofwat's assertions on Moody's assessment, nor is it relevant to the financeability assessment for a notionally efficient company.</p>

Issue	Ofwat's position	YWS's position
	lowest scores for the “financial policy” factor.	
<i>Actual structures: Impact of past financing choices</i>	<p>[para 5.21] Ofwat considers that AW, BW and YWS have all raised a significant proportion of debt in a short period of time that has been accompanied by step increases in gearing and/or a financial restructuring. At the time these decisions were made, it was clear to each company that its actual financing costs would not be passed through to customers.</p> <p>[para 5.22] Ofwat disagrees that it has mischaracterised YWS's actual structure and made inaccurate statements on its swap portfolio.</p>	<p>YWS has already addressed Ofwat's mischaracterisation of YWS's past financing decisions:</p> <ul style="list-style-type: none"> ● Ofwat: Reply-008/2.29-2.37. Also see Ofwat presentation, 20 May 2020. ● YWS: Response/2.18 and 7.5 and Annex 7 - Centrus report.