

# Appendix 3.4.B – Third party report on calculation of incentive rates

Wessex Water

September 2018

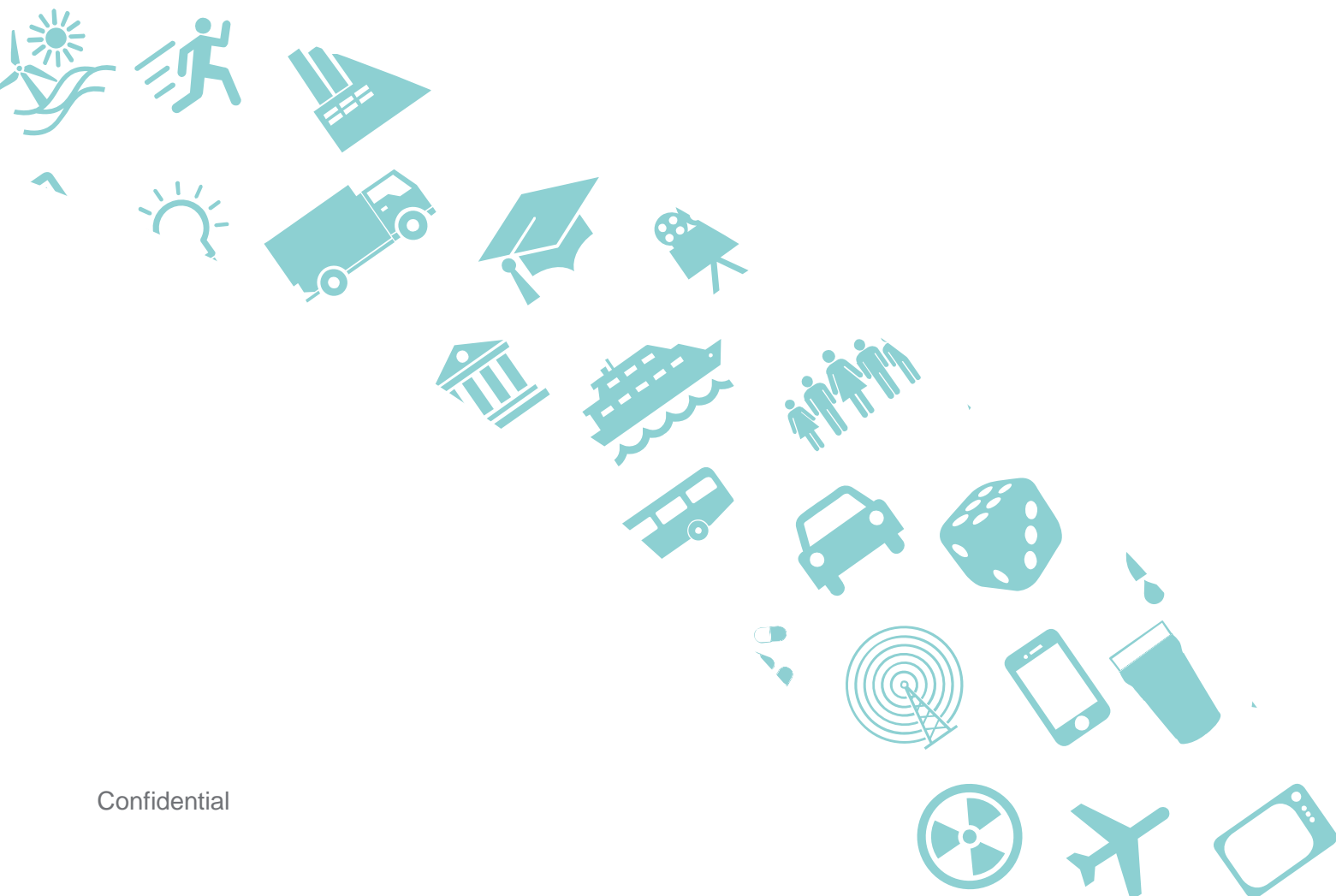
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# APPROACH TO SETTING OUTCOME DELIVERY INCENTIVES

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## Assurance review for Wessex Water

August 2018





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# EXECUTIVE SUMMARY

Wessex Water is in the process of finalising its package of performance commitments (PCs) and outcome delivery incentives (ODIs) ahead of PR19. It has commissioned Frontier Economics to carry out a review of its approach to setting ODIs.

Our review has covered the following two areas:

Wessex's approach to setting standard incentives; and

Wessex's approach to setting enhanced incentives.

We have followed an iterative process. We first reviewed Wessex's draft package of ODIs and provided feedback based on our understanding of Ofwat's guidance. Wessex then made amendments based on our feedback, and we then produced this report to assure its final package.

The scope of this project was to focus specifically on Wessex's approach to setting ODIs. This draws upon various inputs such as estimates of incremental cost and incremental benefits for various measures. However, for the purposes of this review, we have taken these inputs as a given, and instead have focussed on the principles of how they have been used in setting the incentive rates. Also, reviewing PCs, P10s and P90s for individual measures was also outside the scope of this particular project.

We provide a high level summary of our review below, which we expand upon in more detail in the report.

## Wessex's approach to setting standard incentives

We have evaluated Wessex's package of standard incentives against a check-list of points based on our understanding of Ofwat's guidance:

**ODI type:** As a default, ODIs should be financial as opposed to reputational only.

Wessex has four 'reputational only' incentives – out of 39 measures in total.

Two of these were actually proposed by Ofwat to be reputational (the two common measures on resilience). We consider this to be reasonable.

We believe that the other two instances are also reasonable.

Gap sites: Wessex believes that financial incentives could distort incentives, which could lead to unintended consequences and give scope for regulatory 'gaming'.

Delivering for customers in vulnerable circumstances / accessible communications: Wessex has noted that this is an existing measure which is currently reputational only, and the PC (which is to be complaint with independent standards from the British Standards Institution) has been achieved in each year of AMP6. The PC for AMP7 is to maintain this level of performance (which amounts to the maximum level achievable). Wessex believes that it does not need further incentivising to continue achieving the PC. Given that Wessex has met the PC in each year of AMP6 so far, and that the reputational impact of not meeting a PC relating to vulnerability could be especially damaging, we believe that this approach is not unreasonable.

**Caps, collars and deadbands:** As a default, there should be no caps or collars applied to ODIs, nor should there be deadbands.

Wessex has no caps or collars. This is in line with the guidance.

It has added deadbands for five measures.

For three measure, it has added deadbands where there is uncertainty with respect to future performance and where historical performance has been volatile (CRI, ERI and PCC);

For treatment works compliance, it has added a deadband because the PC is very stretching and implies industry leading performance. The deadband still represents a strong level of performance with respect to the rest of the industry; and

For sewer flooding resilience risk, it has added a deadband to avoid 'double penalties' (sewer flooding resilience risk overlaps with internal and external sewer flooding incidents).

We believe that Wessex's approach in these instances is not unreasonable.

**Timing:** As a default, financial incentives should be in-period, as opposed to be being evaluated and settled end of AMP:

All of Wessex's financial incentives are in-period. This is in line with Ofwat's guidance.

**Revenue or RCV:** As a default, financial incentives should be in the form of an adjustment to revenue rather than a RCV adjustment:

For one measure 'Reduce frequent spilling overflows', Wessex is proposing a hybrid approach. This issue has arisen because the underlying investments have long asset lifetimes, and there could be an issue with ensuring cost recovery beyond AMP7. Wessex is proposing that the incentive is structured as a standard revenue adjustment during AMP7. However, beyond AMP7, it is proposing that the outstanding costs which would not have been recovered during AMP7 are then recovered in the form of an RCV-adjustment. We believe that Wessex's approach is reasonable and ensures that it will fully recover its costs. If it did not, it would have little incentive to make these investments, and Wessex has evidence to show that customers value them above and beyond the cost.

**Formulas:** As a default, Ofwat has been clear that companies should use its formulas to set incentive rates:

For most measures, Wessex is applying the standard formulas. However, it has identified a framework for dealing with instances where it needs to deviate from the standard formulas:

Negative underperformance rates: Ofwat's underperformance payment formula will result in a negative rate if the incremental cost is twice as large as the incremental benefit. In these instances, Wessex has decided to set the underperformance rate equal to the outperformance rate. We consider this approach to be pragmatic, and it delivers an outcome consistent with Ofwat's underlying principles.

No sharing ratios: Ofwat includes a 'p' factor in the incentive formulas. This is the cost sharing rate in the totex sharing mechanism. However, it would not be appropriate for Wessex to include the 'p' factor for three retail measures, and its managing uncertainty measure. This is because the retail business does not have a sharing mechanism, and applying 'p' would therefore not fully compensate customers in the event of underperformance, or Wessex in the event of outperformance. And similarly for the managing uncertainty measure, the funding for these schemes sits

outside of Wessex's regular cost allowance, and only returning a proportion of the cost of undelivered schemes would not be appropriate. We agree with Wessex's approach.

Missing inputs: For some measures, Wessex is missing one of incremental benefit or incremental cost. This may arise if it is difficult to engage with customers on certain measures, or if it is difficult / not possible to isolate costs. In these instances, Wessex cannot populate Ofwat's standard formulas and some judgement is required. To deal with these instances, Wessex has laid out a clear framework which it applies consistently across all affected measures. We consider Wessex's approach to be reasonable and it appropriately protects customers and keeps incentives in check.

Other: There are a few instances where Wessex has applied some 'other' approach – e.g. for its existing scheme-specific measure from PR14, relating to sewers in Trym, it includes an extra penalty if it delays the delivery date of the project. We believe these 'other' approaches produce sensible outcomes.

### Wessex's approach to setting enhanced incentives

Wessex is proposing to include enhanced incentives for all financial common measures – even those which are 'penalty only' in nature. This is to demonstrate its commitment to those common measures which Ofwat has identified as being most important to customers. We understand that Ofwat has not provided any guidance with respect to how companies should choose to which measures they add enhanced incentives. Therefore, we consider Wessex's approach to be reasonable and ensures that they have very strong incentives to avoid poor performance on these measures and to strive for frontier-shifting performance.

With respect to the other parameters required for setting enhanced incentives:

Enhanced 'multipliers': Wessex is proposing that the enhanced incentive unit rates should be 4.3 times greater than the standard incentive unit rates, and this is applied to both enhanced outperformance and enhanced underperformance. This number is based on an analysis of the number of customers in England and Wales relative to the number of customers in Wessex's own region (and also the corresponding multipliers for other companies). This is described in more detail in the rest of the report. We believe that this approach captures the spirit of enhanced incentives rates whereby a frontier-shifting performance sets a new benchmark for excellent performance and benefits all customer in the country in the medium run.

Enhanced 'thresholds':

Enhanced outperformance threshold: Ofwat commented that the enhanced outperformance threshold should be set at the level of the current best performer "(or preferably higher)". Wessex has selected the level of the current best performer for all applicable measures. Therefore, we note that this is in line with the Ofwat's guidance, albeit at the more conservative end.

Enhanced underperformance threshold: Ofwat commented that the enhanced underperformance threshold should be set "at least at the current lower quartile company performance". Wessex has selected the level of the current lower quartile. Therefore, again, we note that this is in line with Ofwat's guidance, albeit at the more conservative end. However, we would also note that Wessex has added enhanced incentives for all financial common measures including those where it does not perform



relatively well. For these measures, Wessex has very strong incentives to ensure that it never goes below the current lower quartile.

# 1. INTRODUCTION

Wessex Water is in the process of finalising its package of performance commitments (PCs) and outcome delivery incentives (ODIs) ahead of PR19. It has commissioned Frontier Economics to carry out a review of its approach to setting ODIs.

Our review has covered the following two areas:

Wessex's approach to setting standard incentives; and

Wessex's approach to setting enhanced incentives.

This report is structured around these two areas. In each section, we first summarise Ofwat's guidance on the topic, and we then present our views on Wessex's approach and the extent to which we believe it satisfies Ofwat's guidance.

We have followed an iterative process. We first reviewed Wessex's draft package of ODIs and provided feedback based on our understanding of Ofwat's guidance. Wessex then made amendments based on our, and we then produced this report to assure its final package.

The scope of this project was to focus specifically on Wessex's approach to setting ODIs. This draws upon various inputs such as estimates of incremental cost and incremental benefits for various measures. However, for the purposes of this review, we have taken these inputs as a given, and instead have focussed on the principles of how they have been used in setting the incentive rates. Also, reviewing PCs, P10s and P90s for individual measures was also outside the scope of this particular project.

## 2. WESSEX'S APPROACH TO SETTING STANDARD INCENTIVES

### a. Introduction

In this section, we describe our review of Wessex's approach to setting standard incentives.

### b. Summary of Ofwat's guidance

In this subsection, we provide a high level summary of our understanding of Ofwat's guidance on setting standard incentives. This is based on our review of Ofwat's draft and final methodology statements:

**ODI type:** As a default, ODIs should be financial as opposed to reputational only;

**Caps, collars and deadbands:** As a default, there should be no caps or collars applied to ODIs, nor should there be deadbands – albeit Ofwat did suggest that companies could propose deadbands in the particular case of the Compliance Risk Index (CRI);

**Timing:** As a default, financial incentives should be in-period, as opposed to being evaluated and settled at the end of the AMP;

**Revenue or RCV:** As a default, financial incentives should be in the form of an adjustment to revenue rather than a RCV adjustment; and

**Formulas:** As a default, Ofwat has been clear that companies should use the following formulas to set incentive rates<sup>1</sup>:

**Figure 1 Ofwat formula for ODI payments**

Underperformance payment	• Incremental customer valuation – [incremental cost * p]
Outperformance payment	• Incremental customer valuation * [1-p]

However, as a general point, Ofwat has also commented that 'companies can deviate from the default if they provide good reasons supported by evidence'.

In the next subsection we evaluate Wessex's approach against this check list.

### c. Our review of Wessex's approach

We have reviewed Wessex's approach focussing on the extent to which it follows the guidance set out in the previous subsection. We discuss each point in turn.

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<sup>1</sup> In the formulas, 'p' is the cost sharing rate in the totex sharing mechanism. Ofwat's guidance is that companies should assume this to be 50%, unless there is a good reason to use an alternative figure.

## i. ODI type

As a default, ODIs should be financial as opposed to reputational only. Wessex has 39 measures. Of these measures, four are reputational only:

Risk of severe restrictions in a drought;

Risk of sewer flooding in a storm;

Gap sites; and

Delivering for customers in vulnerable circumstances / accessible communications.

These measures are described below.

### Risk of severe restrictions in a drought and Risk of sewer flooding in a storm

These are two of Ofwat's 14 common performance commitments. While the default is that ODIs should be financial, Ofwat did itself suggest that for these measures it may not be appropriate to have financial ODIs:

*“We are, however, cautious about requiring companies to have financial ODIs... because they are at relatively early stages of development and so lack historical and comparative performance data. Companies should only propose financial ODIs related to these two common performance commitments if they reflect the particular resilience challenges facing them, are supported by evidence and by their customers and do not involve ODI outperformance payments that overlap with funding received through the cost allowances.”<sup>2</sup>*

Wessex agrees that these measures are at a relatively early stage of development and are also cautious about attaching financial incentives to them. For this reason, it has made them reputational only. We believe that this approach is reasonable.

### Gap sites

Ofwat requires companies to include a performance commitment related to gap sites. Wessex's measure is defined as 'the number of properties newly billed over the year that were connected to our water supply and/or sewerage systems more than two financial years previously'.

Wessex believes that this measure should be reputational only because its incentives may be misaligned if it were to gain a reward or a penalty for reporting properties that were not connected to its system. This is because:

If Wessex gains a reward it would have an incentive to not report newly connected properties within 2 years of connecting them. Gaining a reward for not accurately reporting data does not seem appropriate; and

If Wessex gains a penalty it would be disincentivised from reporting any gap sites as it would be financially worse off from the effort to find such sites.

We believe that Wessex's approach is therefore reasonable given the concern around creating perverse incentives.

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<sup>2</sup> Delivering Water 2020: Our final methodology for the 2019 price review. Page 48

## Delivering for customers in vulnerable circumstances / accessible communications

This is an existing measure which was included at PR14. It relates to Wessex achieving British Standard Compliance for “inclusive service provision – identifying and responding to consumer vulnerability” (BS 18477). It is a binary performance commitment – i.e. Wessex will meet the PC if it achieves the accreditation, and it will not meet the PC if it fails to achieve it. The measure is currently reputational only during AMP6, and Wessex has met the PC in each year of AMP6 so far. Wessex proposes to continue with the same PC and a reputational only ODI on the grounds that this is a continuation of the existing ODI, which it believes is sufficient. Given the available evidence, we believe that this reasonable. Also, not meeting a PC related to vulnerability could carry significant reputational damage.

### ii. Caps, collars and deadbands

In setting the ODIs for individual measures, companies can in principle propose caps, collars and deadbands:

A cap imposes a level where performance better than this level does not result in any additional out-performance payments.

A collar imposes a level where performance worse than this level does not result in any additional under-performance payments.

A deadband introduces a range around the performance commitment level where within that range no outperformance or underperformance payments are earned.

Ofwat has discouraged companies from including caps, collars and deadbands on the grounds that individual caps and collars reduce the incentives for companies to improve their performance near, at and beyond the cap and collar. And similarly, it argues that deadbands remove the incentive for companies to improve their performance once they already lie within the deadband. However, Ofwat did cite CRI as a case where there is a rationale for including a deadband.

Wessex has followed Ofwat’s guidance and not included any caps or collars. It has however proposed deadbands for the following measures:

CRI;

Treatment works compliance;

Events Risk Index (ERI);

Per capita consumption (PCC); and

Sewer flooding resilience risk.

These are discussed below.

### CRI

Ofwat recognises that a deadband may be appropriate for CRI.

*“We recognise that CRI is a new measure and intended to be a more demanding metric of water quality compliance than its predecessor.”*

*Companies can take this into account when proposing any penalty deadbands.”<sup>3</sup>*

Wessex understands that there will be further changes to the Drinking Water Directive, the impact of which will not be known until 2021 or later. It believes that these changes will tighten the standards further without any corresponding funding to deliver improvements. In order to reflect this situation, Wessex has set an underperformance deadband equal to the upper quartile based on the average of each company’s (WaCS and WOSC excluding small companies) performance in 2016 and 2017.

Given that Ofwat has specifically cited CRI as an example of a measure where a deadband may be appropriate, we believe that Wessex’s approach is reasonable.

### Treatment works compliance

This is one of Ofwat’s common measures. Wessex’s PC is to achieve 99.6% compliance (amounting to one failure per year) for the first four years of AMP7, and then 100% for the final year. This goes beyond the current and historical UQ. It is proposing an underperformance deadband for this measure at the level which is graded as ‘green’ in the EA’s EPA. It argues that because it is industry leading, and is targeting the maximum level achievable (on a common measure), it would not be appropriate if it incurred underperformance payments for performing at a level which can still be considered stretching, as it is the highest rating given by the EA.

We believe that Wessex’s approach is reasonable.

### ERI

Wessex has included both an outperformance and an underperformance deadband. These are set the 2017 industry UQ and the 2017 industry average respectively.

It argues that this is because there are uncertainties around this new measure and there is likely to be volatility in performance. Also, ERI is not a common measure, meaning that in principle Wessex does not need to include it as a measure. However, ERI relates to drinking water quality, which was categorised as the number one outcome for Wessex’s customers. Therefore, Wessex can be seen to be going beyond the minimum expectation of just including CRI. Wessex believes that it would be unreasonable for it to receive underperformance payments while other companies (including those that may not have even proposed ERI) may have never achieved that level of performance. Given the uncertainties associated with ERI, we consider this approach to not be unreasonable.

### PCC

Wessex has set both an outperformance and an underperformance deadband for PCC. It argues that this is because the main drivers of PCC (weather and population growth) are outside of its control. There has been volatility in performance across the industry in recent years. For example, based on data from Discover Water, the industry UQ increased in 2015-16 on the previous year, and then again in 2016-17. Therefore, the deadbands are designed to give some protection against volatility to both Wessex and its customers. It has modelled

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<sup>3</sup> Appendix 2: Delivering outcomes for customers. Page 61.

this uncertainty on the three-year average and the deadbands have been set at the 25th and 75th percentile.

We believe that this is not unreasonable.

### Sewer flooding resilience risk

Sewer flooding resilience risk is Wessex's bespoke measure for wastewater resilience. It introduced the measure at PR14 and included a deadband within 20% of the PC to deal with uncertainty around the new measure, and to deal with severe weather. At PR14, it also committed to reducing the deadband to 10% for PR19 as the measure grew in maturity. It also commented that there is a risk of 'double penalties' because there is overlap with internal and external sewer flooding.

We believe that this approach is not unreasonable.

### iii. Timing

As a default, financial incentives should be in-period, as opposed to being evaluated and settled at the end of the AMP. All of Wessex's financial ODIs are in-period, meaning that it is following Ofwat's guidance.

### iv. Revenue or RCV

All of Wessex's financial incentives take the form of revenue adjustments. However, for one measure – Reduce frequent spilling overflows (non-WINEP) – Wessex is implementing more of a hybrid approach.

#### Reduce frequent spilling overflows (non-WINEP)

Wessex is planning on introducing a new measure at PR19 on reducing frequent spilling overflows (FSOs) (those not included in the NEP). This is based on the fact that there was very strong customer support (as demonstrated through relatively high WTP values). Wessex has identified a number of potential schemes, which are predominantly capex-based, involving assets with long lifetimes. Wessex has therefore considered how it can structure the ODI to ensure that it recovers the cost of these investments. The ODI would be 'outperformance only' such that Wessex only receives a reward per scheme delivered.

With respect to the outperformance incentive rate, the default approach (discussed in more detail in the next section) would be to set the rate equal to 50% of the customer valuation. This would recover the *annualised* cost of the schemes, but cumulatively it would not recover the full cost of the schemes even if Wessex were to receive outperformance payments in each year of AMP7 (i.e. the total cost is greater than 5x the annualised cost).

There are different ways to overcome this.

One option would be to ensure that Wessex continues to receive outperformance payments beyond AMP7, such that it eventually does recover the full cost of the schemes. And given that customers would continue to enjoy the benefit of the schemes beyond AMP7 this could be appropriate in terms of receiving outperformance payments over time in line with how the benefits are enjoyed by customers. However, this approach could be risky for Wessex. Receiving outperformance payments in AMP8 for investments made in AMP7 may not appear sufficiently stretching (at least superficially – i.e. the PC would need to be below

the actual level). And there would be a risk that Ofwat or Wessex's own customer challenge group could push for a more stretching target in AMP8 such that Wessex would not fully recover the cost of those previous investments – even though there is a strong appetite and willingness to pay from its customers to reduce FSOs.

An alternative approach would be to set the outperformance payment at a higher level such that Wessex would recover the full cost of the investments during AMP7, such that there is no issue with cost recovery beyond AMP7. However, this would imply a reward rate greater than the annual WTP values, and it may not be appropriate for customers today to pay more than their WTP for benefits which are also enjoyed by customers in the future.

Another option – which is Wessex proposed approach – is to structure the ODI as an in-period incentive during AMP7 (in line with the default approach) such that it recovers annualised costs each year during AMP7 and then to also include an end of AMP7 RCV-adjustment such that it recovers the outstanding costs beyond AMP7.

Ofwat has commented that it is generally against the use of RCV-adjustment-based rewards, “by default”:

*“End-of-period ODIs linked to revenue, rather than the RCV, to bring outperformance and underperformance payments closer in time to the performance that generated them and strengthen the incentive for companies to fulfil their service commitments to customers. Our decision is that end-of-period ODIs, by default, should be linked to revenue unless companies can justify, and provide strong evidence, why this should not be the case.”<sup>4</sup>*

However, in this particular case, we believe that such an approach is justifiable. This is because:

The annual benefits (WTP) of the schemes are greater than the annualised costs – so ultimately these schemes are cost beneficial;

Wessex should / would only carry out the investments if it is able to fully recover its cost and not just the annualised costs during AMP7;

We believe it would not be appropriate to recover all of the cost during AMP7; and

The default approach to in-period ODIs would not give Wessex certainty that it would recover the full cost beyond AMP7.

Therefore, we believe that these factors point towards an RCV-adjustment being a justifiable approach in this instance.

## V. Formulas

Ofwat has been clear that incentive unit rates should be based on the following formulas:

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<sup>4</sup> Delivering Water 2020: Our final methodology for the 2019 price review. Page 61



**Figure 2 Ofwat formula for ODI payments**

Underperformance payment	• Incremental customer valuation – [incremental cost * p]
Outperformance payment	• Incremental customer valuation * [1-p]

While this is Ofwat’s preferred approach, in some instances companies may need to deviate from it. Wessex has identified the following situations where deviations may be appropriate:

The standard approach may result in **negative underperformance rates**;

For some measures it may not be appropriate to use the **sharing ratio**;

For some measures, Wessex may be **missing inputs** to populate the standard formulas, such that a more pragmatic approach is required; and

**Other** – some measure may require their own special treatment.

We talk through these points in turn.

### Negative underperformance rates

It follows from the mechanics of the underperformance payment formula that the rate could be negative. This would be the case if the incremental benefit is less than 50% of the incremental cost. Clearly, it would not be appropriate to have a negative rate – i.e. Wessex would effectively earn a reward for each unit of underperformance. Therefore, some pragmatic approach is required.

There are different ways to overcome this issue. This includes:

#### 3. Adjust customer valuations:

Mechanically, Wessex could increase the customer valuation to the point where the rate becomes positive. However, this does not feel credible. Ultimately, the underlying issue is on the cost side. And in principle, a robustly triangulated customer valuation figure should not be adjusted.

Adjust incremental cost:

If Wessex’s incremental cost estimate is very high, it could be because it is inefficient, and needs to catch up relative to the rest of the industry. Therefore, Wessex could explicitly adjust its costs such that it produces a more acceptable penalty rate. However, there is no one way to do this, and ultimately it may still not overcome the issue. For example, reducing costs by say 25% based on a robust efficiency study may still result in a negative rate.

Apply symmetric rates:

Another approach could be to set the underperformance rate equal to the outperformance rate. This approach is simple and pragmatic and delivers an acceptable outcome. It also implicitly captures the point above – i.e. it would imply an adjustment to incremental cost because it implies that the incremental cost is equal to the incremental benefit at the PC – i.e. that the PC is set at the CBA level.

In instances where this happens, Wessex has opted for Option 3 – to apply symmetric rates. We believe that this approach is reasonable, because it avoids having a negative rate, and

also gives customers protection. This is because in the event of underperformance, the company would return 50% of the cost through the totex sharing ratio (which by definition in this instance is greater than the customer valuation), and then an additional underperformance payment equal to half of the customer valuation.

## No sharing ratios

Wessex is not applying the sharing ratio for two types of measures:

Managing uncertainty – This measure is designed to safeguard customers against Wessex not delivering the schemes agreed in the WINEP. It will be an underperformance payment only ODI where the ‘penalty’ rate is equal to the average cost of the schemes but not multiplied by the sharing ratio. This is the funding for the WINEP sits outside Wessex’s main cost allowance and is therefore not subject to the totex sharing mechanism. Therefore, what Wessex does not spend in relation to this measure, it will give back to its customers in full. Applying the sharing ratio (which Ofwat has commented should be assumed at 50%) would imply Wessex would only return half the costs.

Retail measures – Wessex has three measures which to relate to its retail business. Given that the totex sharing ratio is not applied to the retail business, it would not be appropriate to apply it in the incentive formulas. Otherwise Wessex would only return half of the costs. These measures are:

Number of customers on the Priority Services Register

Application for assistance received by the independent advice sector/third parties

Total bill reduction to customers on social tariffs per 10,000 properties

We believe that Wessex’s approach is reasonable. In general, the purpose of the ‘p’ sharing ratio in the formulas is designed to avoid a situation where companies are either over-penalised or over-rewarded given the overlap with the totex sharing mechanism. However, in these instances, such an approach is not required.

## Missing inputs

Incremental benefits and incremental costs are an input into the incentive formulas. However, in some instances, it may not be possible to produce robust estimates. For example, it may be difficult for customers to engage with technical measures, including index types measures such as CRI, and it may also be difficult to produce an accurate estimate of incremental cost. Therefore, in these instances some deviation from the standard formulas is required. Wessex has laid out a clear approach to deal with these instances, and has applied it to all measures affected consistently. This is summarised below:

**Figure 3 Wessex’s approach to dealing with missing inputs**

		Underperformance rate	Outperformance rate
Figure 1:	IB only	IB x 50%	IB x 50%
Figure 2:	IC only	IC x 50% x 1.2	IC x 50%

**3** Notes: IB = incremental benefits; IC = incremental costs.

We describe the approach in more detail below.

**Where Wessex only has estimates of the incremental benefit and not cost**

In these instances, the approach to the outperformance rate remains unchanged – i.e. incremental benefit x 50%. However, for the underperformance rate, an estimate of incremental cost is missing. To deal with this, Wessex has decided to set the rate equal to the outperformance rate.

In the absence of any other information, we believe that this approach is not unreasonable. It implies symmetrical rates, and is also consistent with the approach taken when the standard underperformance formula results in a negative rate. It also implicitly assumes that the marginal cost is equal to the marginal benefit. In the event of underperformance the customer would receive half of the (unobservable) incremental cost through the main sharing mechanism, and an additional 50% of the incremental benefit.

***Where Wessex only has estimates of the incremental cost and not benefit***

For the outperformance payment, Wessex is missing the input on incremental benefits. It has therefore decided to set the rate equal to 50% of the marginal cost. This means that for every unit of outperformance, Wessex would fully recover its costs – i.e. 50% through the totex sharing mechanism and an additional 50% through the incentive rate.

In the absence of any other information, we believe that this approach is not unreasonable. It protects customers in that Wessex would not carry out any investments unless it is less than or equal to the predefined incremental cost.

For the outperformance payment, Wessex is similarly missing the input on incremental benefits. It has therefore decided to set the rate equal to 50% of the incremental cost multiplied by 1.2. The purpose of the 1.2 multiplier is to ensure that Wessex has an additional incentive to meet the PC above simple cost recovery – i.e. if the underperformance rate was equal to only 50% of incremental cost, Wessex could technically be indifferent between meeting the PC or not – albeit there are reputational impacts from not meeting a PC. Therefore, the x1.2 provides an extra incentive.

We believe that this approach is reasonable. There is also some precedent for this approach in Ofwat's methodology statement with respect to the Abstraction Incentive Mechanism (AIM). This is shown in the extract below under Ofwat's third preference.

**Figure 4** Ofwat referred to a multiplier of x1.2 in the context of AIM (see the ‘Third preference’ below)

Preference	Approach	Description
First	The environmental value of abstraction reduction, relative to baseline abstraction.	The incentive would be calculated based on an assessment of the value of the environmental gains (including any biodiversity or natural capital gains) delivered by the revised abstraction policy.
Second	Customer willingness to pay for abstraction reduction, relative to baseline abstraction.	The incentive would be calculated based on customers' willingness to pay for the environmental improvement delivered by the AIM.
Third	Short-run marginal cost to use an alternative source (or a multiple of this cost).	The incentive would be calculated by the difference in operating cost between the AIM source and the cost of alternative sources. These costs will generally reflect marginal operating costs, but may include other cost differences.  A multiple of the difference in operating costs (e.g. 1.2) could be used to provide an incentive beyond cost recovery. Alternatively, a multiplier of less than 1 could be used to only part-fund the additional financial cost of reducing abstraction at the AIM site.

Source: *Delivering Water 2020: Our methodology for the 2019 price review Appendix 2: Delivering outcomes for customers. Table 6*

The approach would ensure that Wessex faces more powerful incentives beyond simple cost recovery. If Wessex did not apply the multiplier, it could appear to be indifferent about whether it incurs underperformance payments or not. However, we would note that Wessex would still face reputational damage through not meeting its PCs.

## Other

There are examples where some ‘other’ approach is required. This covers:

Scheme specific measures (Trym);

Greenhouse gas emissions; and

ERI.

These are described below.

### ***Scheme specific measures (Trym)***

Wessex has an existing measure from PR14 ‘North Bristol Sewer Scheme - Trym catchment’. The measure is scheme specific and relates to delivering a project on sewers in Trym. The works are still ongoing and are on track.

Wessex has also included a penalty for delay equal to around £1 million per year of delay. This is designed to ensure that Wessex keeps on track with the delivery of the project.

While this deviates from the standard approach, we consider this approach to be in the interest of customers, and would avoid a situation where Wessex may benefit in cash flow terms from stalling the delivery of the project, which would be to the detriment of customers.

### ***Greenhouse gas emissions***

Wessex has set the underperformance rate equal to 50% of the short-term traded carbon value, as per guidance from the Department for Business, Energy & Industrial Strategy.<sup>5</sup>

In its methodology statement, Ofwat comments that:

*“Companies can also include other marginal benefits in the incremental benefits part of the formula, such as benefits to the environment, biodiversity and natural capital that are not captured in the other methods for customer valuations and which are appropriate to add to it.”<sup>6</sup>*

In light of the guidance above, and the fact that the cost of carbon is designed to be a holistic view on the cost of carbon, we consider this approach to be reasonable.

### **ERI**

Wessex has identified that the most important outcome for its customers relates to drinking water quality. CRI is a common measure for drinking water quality but there is no scope for companies to earn outperformance payments.

Therefore, Wessex has decided to include ERI as another measure on drinking water quality and to include the possibility to earn outperformance payments.

Wessex recognises that it is challenging to engage with customers on willingness to pay for technical index-type measures like ERI. Therefore, it has decided to adopt a more top down approach. In particular, it has compared the potential RoRE range upsides under the P90 scenarios for each of its outcomes, and has sought to make sure that the upside for the drinking water quality outcome is equal to largest upside of any other outcome, where the difference is allocated to ERI.

Wessex identified its outcome relating to the environment as the outcome with the largest potential upside. It therefore decided to add scope for outperformance payments to ERI such that the overall upside for the drinking water quality outcome is equal to the upside for the environment outcome. For the downside, it has set outperformance payments for ERI such that the downside for drinking water quality is also in line with the downside for the environment.

This approach deviates from Ofwat’s guidance. However, the overall outcome does not appear unreasonable in that if Wessex were to perform excellently on all measures – with P90 levels of performance across the board – the total payoff for the drinking water quality outcome (which is the number one outcome for customers) would be the joint largest. This would be consistent with customer’s preferences. With respect to the downside, including ERI as a measure, which is optional, increases Wessex’s overall downside, and CRI already provides strong incentives to avoid poor performance on drinking water quality – Wessex has also added scope for enhanced underperformance payments to CRI.

We consider that this approach is not unreasonable.

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<sup>5</sup> Department for Business, Energy & Industrial Strategy: UPDATED SHORT-TERM TRADED CARBON VALUES. Used for UK Public Policy Appraisal. January 2018

<sup>6</sup> Delivering Water 2020: Our methodology for the 2019 price review Appendix 2: Delivering outcomes for customers. Page 91.

## 4. WESSEX'S APPROACH TO SETTING ENHANCED INCENTIVES

### a. Introduction

In this section, we describe our review of Wessex's approach to setting enhanced incentives.

### b. Summary of Ofwat's guidance

For PR19, Ofwat is allowing companies to introduce 'enhanced' incentives for a selection of common measures. The purpose of enhanced incentives is to encourage industry leading companies to continue to shift the frontier to set new benchmarks for excellent performance:

*"We want to encourage companies to improve performance beyond the best level currently achieved by any company to deliver benefits for all customers over the long term. This is likely to involve innovation and risk-taking by companies as they seek to significantly improve their performance."<sup>7</sup>*

Ofwat recognises that for enhanced incentives to truly encourage industry leading companies to outperform even further, they will likely have to be larger than the standard incentives. But it rationalises this by arguing that while enhanced incentive rates may go beyond the valuation of the company's own customers, they will lead to benefits to all customers across England and Wales in the long run:

*"Calculating outperformance and underperformance payments based purely on customer valuations does not take into account the wider benefits that customers would obtain from the kind of significant shifts in performance that would set a new benchmark for industry performance. We are therefore encouraging companies to propose higher outperformance payments for very high levels of performance against the common performance commitments – high enough, that is, to shift the industry frontier. We can then set new improved performance levels in future price controls to benefit the customers of all companies."<sup>8</sup>*

Where companies propose enhanced outperformance incentives they also need to add enhanced underperformance incentives. This is to provide balance and to protect customers against companies taking unreasonable risks to achieve enhanced outperformance and then falling short and ending up with very poor performance.

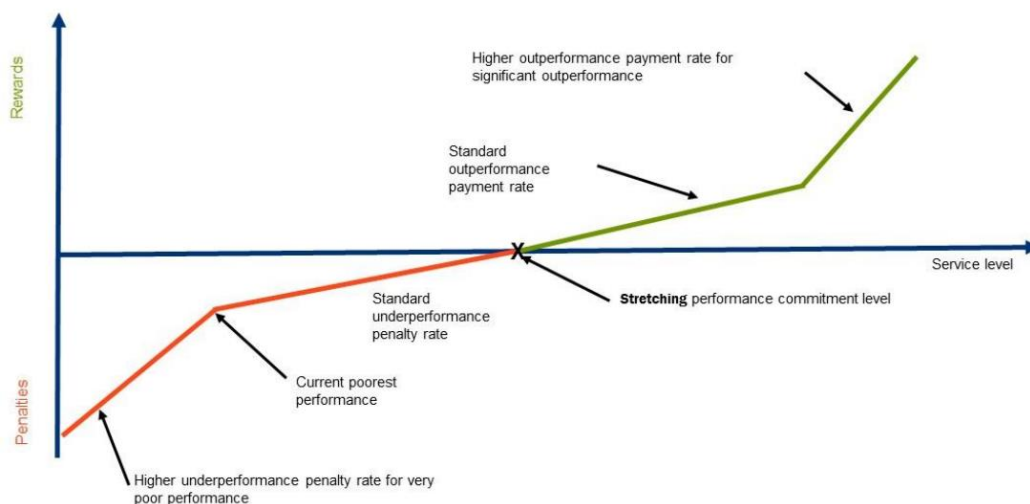
Ofwat summarised the approach with the illustration below:

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<sup>7</sup> Delivering Water 2020: Our final methodology for the 2019 price review. Page 62

<sup>8</sup> Delivering Water 2020: Our final methodology for the 2019 price review. Page 62

**Figure 5 Ofwat’s illustration of enhanced incentives**



Source: *Delivering Water 2020: Our final methodology for the 2019 price review. Figure 4.2 Enhanced outperformance payments and underperformance penalties at PR19*

This means that companies intending to propose enhanced incentives will need to propose:

Enhanced ‘multipliers’ – i.e. precisely how enhanced the enhanced rates should be relative to the standard rates (e.g. whether they should be twice as large as the standard rates or ten times as large); and

Enhanced ‘thresholds’ – i.e. the performance levels beyond which enhanced outperformance payments would be earned, and the performance levels below which enhanced underperformance payments would be incurred.

Ofwat has only provided limited guidance on how companies should set these parameters, instead preferring that companies propose their own ideas:

“Our approach provides companies with guidance for, but does not prescribe, where the thresholds and the level of the enhanced incentive rates should be set”.<sup>9</sup>

It has provided some guidance with respect to the thresholds:

*“The threshold for the enhanced outperformance payments should be set at the performance level of the current leading company, or preferably higher (for example, including a forecast improvement in addition to that performance level).”*

*“We expect that enhanced underperformance penalties would apply at least at the current lower quartile company performance. A company that performs worse than the enhanced underperformance penalty threshold and incurs enhanced underperformance penalties will be required to*

<sup>9</sup> Delivering Water 2020: Our methodology for the 2019 price review. Appendix 2: Delivering outcomes for customers. Page 86

*submit an action plan to its CCGs, setting out the reasons for its poor performance and how it will improve its performance.”<sup>10</sup>*

## C. Our review of Wessex’s approach

In this subsection we review the approach proposed by Wessex. This is split into two parts:

The enhanced ‘multipliers’; and

The enhanced ‘thresholds’.

These are discussed in turn below.

### i. Enhanced multipliers

Wessex argues that because a frontier-shifting performance would benefit all customers in the country in the medium run by providing a new benchmark for excellent performance, the multiplier should be linked to the total number of customers in the country:

Water: Wessex serves 2.4% of water customers in England and Wales. Or in other words, if it had a frontier-shifting performance it would benefit around 40 times more customers than its own customer base.

Wastewater: Wessex serves 5% of wastewater customers. Or in other words, a frontier-shifting performance would benefit around 20 times more customers than its own customer base.

Wessex recognises that these multipliers would imply very large enhanced rates, which it believes would not be appropriate. However, it recognises that these multipliers would be an upper bound in any case:

Discount rates: A frontier-shifting performance may only benefit other customers in the medium run. For example, if Wessex shifts the frontier, then other companies may only be able to improve their performance a few years down the line, and future benefits should be discounted.

Knowledge diffusion: “Receiving the enhanced outperformance payments will depend on whether the company has a credible plan for sharing its approach with the sector”. There could be technical reasons that mean that some companies cannot replicate the approach.

Benefit sharing: As a general point, outperformances and benefits are often shared with customers. For example, 50% is the default sharing ratio for totex outperformance. This aspect of sharing is already captured in the standard incentive rates. Therefore multiplying the standard rate by a factor would still retain the sharing ratio. However, there is a general argument that if there is a further benefit to be made by the company, this should be shared in some way with customers.

These factors point towards lower multipliers being more appropriate. However, Wessex believes that it is not possible to quantify these factors in a robust way because it would depend on many unverifiable and unobservable inputs.

Another consideration is that an approach based on the logic above would lead to different multipliers for each company. Smaller companies would have large multipliers and larger

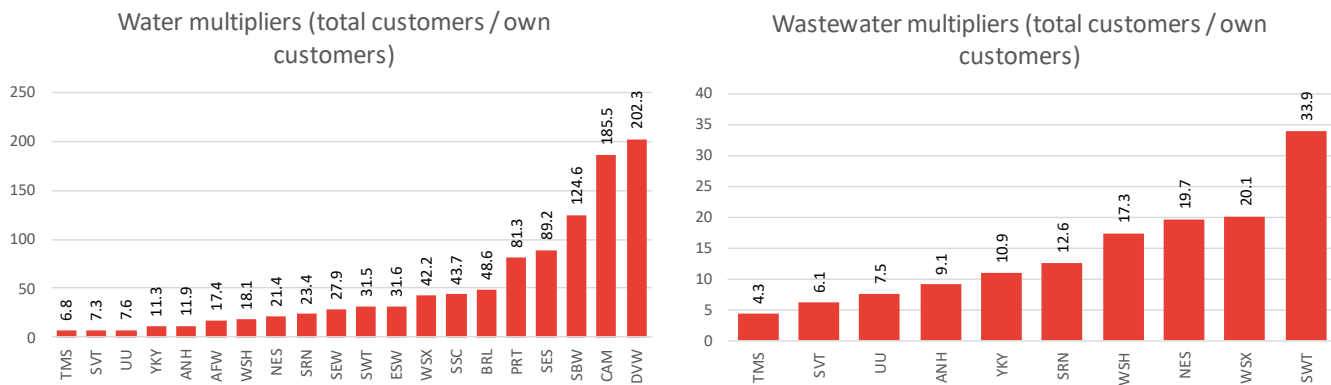
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<sup>10</sup> Delivering Water 2020: Our methodology for the 2019 price review. Appendix 2: Delivering outcomes for customers. p85



companies would have smaller multipliers, and this may not be appropriate. Ofwat's guidance implies that companies will receive the same cost of capital and should face broadly similar RoRE ranges. This would suggest that the enhanced rates (expressed as a % of RoRE or £ per customer) should be broadly similar for different companies. If all companies should face similar risks and rewards around enhanced rates, then it may be appropriate to consider the multiplier of the largest company, otherwise other companies will face more risk and reward. And in principle, the multiplier for the largest company should also be sufficient to incentivise all companies:

**Figure 6 'Multipliers' for each company**



Source: Frontier analysis based on data from Discover Water

This would imply a multiplier of 6.8 for water and 4.3 for wastewater. However, Wessex notes that applying different rates to different measures could distort incentives, and therefore applying one single multiplier in the range of 4.3 to 6.8 may be more appropriate. Applying judgement, Wessex has opted for the more conservative end of the range and opted for a multiplier of 4.3.

It proposes to apply this as a multiplier to the standard rates, and apply it to both outperformance and underperformance.

We consider Wessex's approach to be reasonable because it captures the spirit of the regulation in that enhanced outperformance rates should be linked to the number of customers in other regions. We agree that using its own 'multipliers' of 42 for water and 20 for wastewater could imply significant changes to its customers' bills. Selecting the multipliers for the largest company is therefore conservative and it can be considered reasonable that all companies should face similar multipliers to avoid a situation where different companies have different multipliers simply due to differences in size.

## ii. Enhanced thresholds

Wessex is proposing to include enhanced incentives for all financial common measures – even those which are penalty only in nature. This is to demonstrate its commitment to those common measures which Ofwat has identified as being most important to customers.

Wessex has applied a consistent approach to all applicable common measures:

Enhanced outperformance thresholds: These are set at the level of the industry leading performance based on a 3 year average (or a 2 year average for two measures where there is only 2 years of data from Ofwat's shadow reporting). Wessex has commented that the use of a 3 year average is in line with Ofwat's approach to setting the UQ at PR14.

Enhanced underperformance thresholds: These are set at the level of the lower quartile (LQ) performance (3 year average, or 2 year average for two measures where there is only 2 years of comparable historical data). There are two exceptions:

Mains bursts and sewer collapses. For these measures, Wessex believes that it is not appropriate to consider benchmarking because companies have historically tended to just perform below their reference levels and have had limited incentive to improve beyond this level. Therefore, the lower quartile may be relatively meaningless in isolation. It has therefore set the enhanced underperformance threshold at its serviceability / reference level for both mains burst and sewer collapses.

The table below summarises the thresholds.

**Figure 7 Thresholds for enhanced incentives**

		<b>Threshold for enhanced underperformance</b>	<b>Threshold for enhanced outperformance</b>
Figure 3:	Water supply interruptions	LQ	Frontier performer
Figure 4:	Compliance risk index (CRI)	LQ	N/A - Penalty only
Figure 5:	Volume of water used per person	LQ	Frontier performer
Figure 6:	Wastewater pollution incidents - Category 1-3	LQ	Frontier performer
Figure 7:	Water mains bursts	Serviceability level	N/A - Penalty only
Figure 8:	Treatment works compliance	LQ	N/A - Penalty only
Figure 9:	Volume of water leaked	LQ	Frontier performer
Figure 10:	Customer sewer flooding (internal)	LQ	Frontier performer
Figure 11:	Sewer collapses	Serviceability level	N/A - Penalty only

Ofwat commented that the threshold for enhanced underperformance should be set “at least” at the level of the current LQ. Therefore, Wessex’s proposal to set the threshold at the LQ meets Ofwat’s guidance, albeit at the more conservative end. However, we would note that Wessex is proposing to include enhanced underperformance incentives for all applicable common measures, even those where it believes that performing at the LQ is not that unlikely. This will ensure that Wessex has a very strong incentive to never go below the current LQ.

For the outperformance threshold, we note that Wessex is setting them at the level of the industry leader. Again, this meets Ofwat’s guidance, albeit at the more conservative end.

