

## Wessex Water Services Ltd Response to Ofwat's PR19 Draft Determination – August 2019

**Representation reference:** Cost Assessment C13

**Representation title:** Enhanced leakage reduction

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### Summary of issue

Ofwat have disallowed all enhancement expenditure needed to achieve a step change in leakage, based on its assertion that the base plus cost allowances are sufficient to deliver a 15% reduction in leakage. Our conclusion is that it is unreasonable to expect the allowances from the DD base plus cost models to fund a level of leakage performance that is better than level of performance achieved on average across the industry over the historical data period used for the base cost modelling.

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### Change requested

We request that Ofwat either:

- a) Accepts our cost adjustment claim and includes explicit allowances for our efficient net costs of leakage improvement over the 2020-25 period, which are £25.3m, or
  - b) if it includes no explicit allowance, recognise that this infers an implicit efficiency challenge to Wessex Water of around 1.35% per year on the wholesale totex allowance, which should not be double-counted alongside Ofwat's overall ongoing efficiency improvement assumption (which was 1.5% per year in the DD).
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### Rationale (including any new evidence)

Our rationale for a change is summarised as follows:

1. It is simply unreasonable to expect the allowances from the DD base (plus) cost models to fund a level of leakage performance that is better than level of performance achieved on average across the industry over the historical data period used for the base cost modelling, *at least without assuming further efficiency improvements*.
2. On the evidence available, and taking account of both of the main measures of leakage performance used, our current level of leakage performance (and forecast position for 2019/20) is better than the industry average leakage performance in 2017/18 and better than the industry average leakage performance over the historical period.
3. Following from point (1) and (2), none of our efficient net costs of improving leakage performance in the period to 2024/25 and meeting the leakage performance commitment is funded "implicitly" through the base cost allowances.

4. A decision not to explicitly fund £25m of leakage performance improvement costs would correspond to an additional efficiency challenge of around 1.35% per year (based on DD totex). We do not consider that Ofwat has any evidence or rationale for imposing aggregate efficiency challenges for wholesale water in excess of 2.8% per year (in addition to the base cost models upper quartile challenge). Ofwat should either provide explicit funding for these costs or adjust its efficiency challenges to remove double counting.

We elaborate on each of these points below, including new evidence. Our previous submissions on leakage included Cost adjustment claim WSX04 at September 2018 and Using water efficiently: Response to the IAP in April 2019.

#### 1. The level of leakage performance funded through base plus cost models

Ofwat's DD retains the broad position from the IAP that its base cost allowances fund levels of service in the 2020-25 period that go well beyond existing industry service levels (e.g. Ofwat contend that they fund the 2024-25 upper quartile performance).

We have not identified an evidential basis for Ofwat's position. Ofwat has not provided any evidence or reason to consider that, for leakage performance, forecast 2024-25 upper quartile leakage performance is achievable from the base cost allowances derived from historical expenditure data – *without further efficiency improvements*.

As a preliminary point, we cannot begin to understand how Ofwat could reasonably take the view that allowances based on the predicted values from econometric models estimated on historical data over the 2011/12 to 2017/18 period can fund a level of leakage performance that is well in excess of that achieved over that historical period.

Wessex Water, Anglian Water and Northumbrian Water commissioned a paper by Reckon which considered implicit allowances in the context of the IAP approach to enhancement operating expenditure – included as Appendix C11.1. This report considered what levels of service quality and performance might be implicitly funded through base cost models in cases where these models do not include explanatory variables to capture service quality or performance differences between companies.

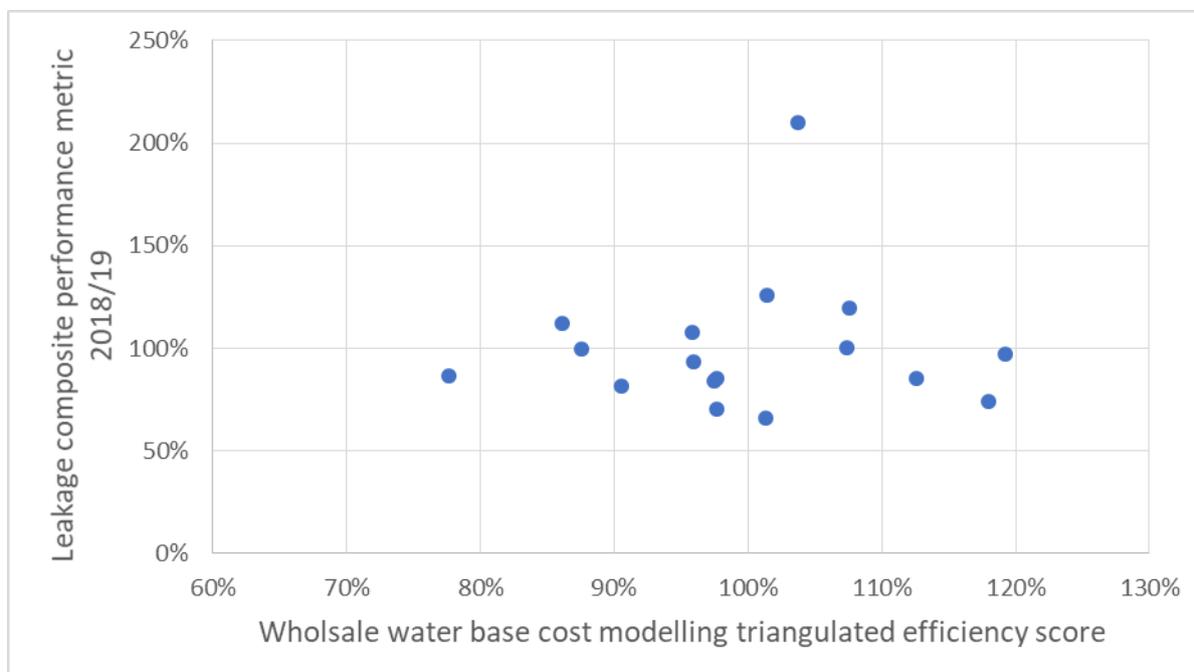
Reckon's position in their report was that, in the absence of explanatory variables capturing service quality or performance differences, the average level of quality achieved across the industry, over the historical data period used for the base cost modelling, provides a reasonable starting point for the level of quality that is implicitly funded through base cost allowances. This view reflects Reckon's understanding and analysis of the properties of base cost econometric models, drawing on many years of experience in water industry cost benchmarking. In addition, Reckon's paper included simulation analysis that further supported this position.

We have considered this issue further in the specific case of leakage, drawing on issues highlighted in Reckon's paper and further analysis and review.

Reckon's paper identified some special circumstances in which the level of performance that is funded implicitly through the base cost allowances might be greater than the historical industry average level of performance. These are:

- Where underlying relationships mean that the relatively efficient companies in terms of cost efficiency are also those which perform relatively well in terms of service quality (e.g. leakage performance). If so, we may expect better-than average performance from an upper quartile level of cost efficiency.
- An exceptional case, where operating expenditure incurred historically in the industry provides long-term or permanent benefits to leakage performance (e.g. so that spending the same amount again in the future would lead to further improvements in performance beyond historical levels). This case is exceptional in the sense that expenditure that achieves long-term benefits would normally be treated as capital expenditure rather than operating expenditure.

The evidence available on leakage does not support the first point. The chart below provides a comparison of companies' wholesale water efficiency score (post triangulation) from the DD base (plus) models against a composite leakage performance metric (we explain the calculation of that metric further in section 2 below). There is no evidence that better performance in terms of Ofwat's estimated base cost efficiency goes hand in hand with better performance on leakage. Indeed, the average leakage performance in 2018/19 of the top five companies in terms of Ofwat's estimated base cost efficiency is worse than the average leakage performance of the bottom five companies.



We have considered the second point and cannot think of a reason why there would be a significant amount of operating expenditure in the past data that provides long-term benefits to the leakage position.

Overall, we have identified no grounds to expect the level of leakage performance funded through the base plus cost models to be *higher* than the historical industry average level of performance.

Furthermore, there are reasons to consider that the level of leakage performance funded through the base plus models may be *lower* than the historical industry average level of performance.

Our view is that a substantial amount of the improvements in leakage performance seen across the water industry historically have been achieved through capital enhancement expenditure (e.g. leakage reductions achieved for SDB reasons for companies operating in water-stressed areas or with significant deficits). This expenditure would not be included either in Ofwat's IAP base models or its DD base plus models. As such, there seems a strong argument that the level of leakage performance that is funded through the base cost allowances is below the historical industry average in the case of companies such as us that have not benefitted from the same degree of past capital enhancement expenditure to reduce leakage as other companies. In the past, companies with supply-demand deficits in their Water Resources Management Plans would have had low Economic Levels of Leakage (ELL) and this would have driven those companies to include leakage related SDB improvements in their plans which were then funded as SDB enhancement expenditure based on a unit cost model.

We proceed on the basis that the level of leakage performance funded from the base plus models is *no greater* than the average leakage performance across the industry over the historical data period.

## 2. Our current level of leakage performance relative the historical industry average

For the purposes of our DD response we have carried out fresh analysis of how our leakage levels compare with the historical performance across the industry over the period covered by the dataset.

We have developed a simple composite metric of leakage performance that captures the two main metrics used for comparative purposes: leakage per property and leakage per km of mains. Our composite metric is calculated as follows:

1. We normalise each company's leakage per property by dividing it by the average leakage per property across companies.
2. We normalise each company's leakage per km of mains dividing it by the average leakage per km of mains across companies.
3. We take the average of the normalized figures in (1) and (2) as our composite metric.

The lower the composite metric the better is the relative performance in terms of leakage. An industry-average performer would have a metric of 1.

This metric adopts an unweighted average across the two metrics. From our work so far in this area, we have not identified any grounds to justify an alternative and more complex weighting.

Based on this analysis, we find that:

- Using the most recent leakage data for 2018/19 our leakage performance metric is 0.93, indicating we are significantly better than the industry average in terms of leakage performance.
- Using data over the historical period 2011/12 to 2017/18, our leakage performance metric is also significantly better than the industry average.

Both of these comparisons are relevant. The first uses the most recent data which should be more consistent across companies. Furthermore since leakage performance across the industry has generally improved over time, this is also evidence that our current performance is better than historical industry average performance. The second covers the historical data period used for the econometric modelling of base costs, albeit on data that may be less consistent.

Furthermore, our forecast 2019/20 leakage, and hence our starting position for the 2020-25 price control period is better than the historical industry average performance using either the 2018/19 data or the data for 2011/12 to 2017/18.

### (3) Assessment of whether any of the costs of our leakage enhancements are covered by the base cost allowances

On the basis of the points made at (1) above, we consider that the level of leakage performance funded from the base plus models is no greater than the average leakage performance across the industry over the historical data period.

Our forecast starting position at 1 April 2020 is significantly better leakage performance than the industry average, and our business plan is to make substantial further improvements in leakage performance (a 15% reduction) between then and 31 March 2025.

It follows that none of the performance improvement we plan to make over the 2020-25 period is funded through the allowances from the base plus models (in the absence of further efficiency improvements).

Our efficient costs of achieving our leakage improvement plans and performance commitments are £25.3m and these costs are not funded through the base plus models.

Further information on the efficiency of this figure is summarised below.

Our original business plan submission *Supporting document 5.2 - Using water more efficiently* detailed our approach to assessing the cost effectiveness of a number of different leakage reduction options as summarised below.

**Table 4-2: Leakage options considered**

Option	Description	AIC (p/m3)
ALC1	Innovation and optimisation of existing Active Leakage Control	-9
ALC3	ALC Optimisation through better data	71
ALC2a	Increased Active Leakage Control activity (2MI/d)	96
AM2	Better DMAs	96
PM1	Pressure management optimisation	107
ALC2b	Increased Active Leakage Control activity (5MI/d)	146
AM1a	Leakage driven asset renewal (2MI/d)	186
AM1b	Leakage driven asset renewal (4MI/d)	210
AM1c	Leakage driven asset renewal (9MI/d)	272
AM3	Near real time monitoring and decision support	280

Which then defined the lowest whole life solution to achieve the 15% as shown below.

**Table 4-3: Mix of schemes to achieve 15% reduction in leakage**

Option	Cumulative Yield MI/d	Cumulative Capex £m	Cumulative Opex £m/yr
ALC1	1	0	0
ALC3	3	1.8	0.30
ALC2a	5	3.6	0.59
AM2	7	9.3	0.94
PM1	9	17.9	1.51
ALC2b	10.5	19.8	1.83

As can be seen innovation and optimisation of existing Active Leakage Control (ALC) activities play an important part of our solution, together with better district metering and pressure management, but the 6.5 MI/d (62%) out of the total 10.5 MI/d reduction is through increased ALC.

As mentioned in our cost adjustment claim we have made an adjustment to deduct the cost saved by reduced production volumes (e.g. lower chemicals costs) and therefore the value of £25.3m is a net cost.

In the cost adjustment claim (WSX04) we also explained how we had ensured that our costs were competitive, through tendering of logger equipment etc.

#### 4. Change requested

Ofwat's draft determination does not provide any funding for our efficient costs of our planned reductions to leakage.

If these costs are not explicitly funded through totex allowance in the final determinations, this represents the imposition by Ofwat of an additional *implicit efficiency challenge*, further to the other more explicit efficiency challenges that Ofwat is proposing in its draft determinations (e.g. the upper quartile adjustments to base cost allowances and the 1.5% annual ongoing efficiency improvement factor).

Our calculations indicate that, for us, a decision not to explicitly fund £25m of leakage performance improvement costs would correspond to an additional efficiency challenge of around 1.35% per year (based on DD totex).

We do not consider that Ofwat has any evidence or rationale for imposing aggregate efficiency challenges for wholesale water in excess of 2.8% per year (in addition to the base cost models upper quartile challenge).

This analysis is particularly relevant in the context of Ofwat's statement in the DD cost assessment appendix that: "*Overall we consider that the combined effect of ongoing frontier shift efficiency and the impact of the totex and outcomes framework remains as an all-in figure of 1.5% per year.*" If the all-in figure is 1.5% per year, then this should include the 1.35% leakage figure meaning that Ofwat should only apply the remaining 0.15% per year. To assume both the 1.5% and the 1.35% improvements can be achieved in conjunction amounts to **double counting**.

We request that Ofwat either:

- a) includes explicit cost allowances for our efficient leakage enhancement costs, which amount to £25.3m as part of its final determination; or
- b) if it includes no explicit allowance, recognises that this infers an implicit efficiency challenge to Wessex Water of around 1.35% per year on the wholesale totex allowance, which should not be double-counted alongside Ofwat's overall ongoing efficiency improvement assumption (which was 1.5% per year in DD, and so the residual amount to apply after taking account of the leakage challenge would be 0.15% per year).

We note that adopting this approach for Wessex Water does not mean that corresponding allowances need to be given to all other companies. For instance, some companies' current leakage performance levels are substantially worse than the historical industry average performance and so part of their costs of leakage improvements may be funded through the base cost allowances.

## Appendices

As mentioned above, we have commissioned a study by Reckon, jointly with other companies, on a proposed approach to implicit allowances relating to enhancement operating expenditure. This is included in full as Appendix C11.1.

In summary, the paper sets out the concept of enhancement operating expenditure, uses simulation analysis to illustrate how implicit allowances relate to that expenditure with an explanation of how they can be categorised, and sets out options for how Ofwat might deal with the concept in its determinations.

Also we previously commissioned a study by Reckon, jointly with other companies, on a proposed approach to enhancement operating expenditure. This was included in full in our IAP response as Appendix 13.

In summary, the previous paper sets out policy issues associated with enhancement opex, deficiencies in the way Ofwat's IAP dealt with that opex and potential remedies. Whilst some of those have been adopted by Ofwat to some extent in the draft determinations, there remains a significant issue regarding the performance levels covered by base allowances and those achievable with enhancement opex.

Reckon go on to explain how they “do not see any general case for thinking that the implicit allowances from the historical models of base costs cover the costs of delivering performance levels beyond the industry-average levels of performance (assuming no explanatory variables for the relevant aspects of performance are included in the models).”

Further, “in the absence of evidence and analysis that relates directly to a given aspect of service quality or environmental performance, we propose that the implicit allowances for base costs should be understood as funding a level of quality/performance that is the industry-average over the historical period covered by the data used for the modelling. We feel that this is the natural assumption in the absence of further evidence, given the statistical properties of the models and the allowances derived from them.”

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### **Why the change is in customers' interests**

Customers are protected through a direct relationship with the common performance commitment for leakage.

If we were to delay, cancel or reduce the expenditure associated with our cost adjustment claim for leakage, we would not be able to meet the target, and customer would not realise the benefits to security of supply and to the environment of reduced demand.

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**Links to relevant evidence already provided or elsewhere in the representation document****Already provided**

PR19 business plan submission in September 2018

- Supporting document 5.2 - Using water more efficiently
- Appendix 3.1.A Performance commitment detail

Response to Initial Assessment of Plans March 2019

- Appendix 3 - Updated Performance Commitment detail document

**New**

Appendix C11.1 Third party report – Reckon. Covering a discussion on implicit allowances relating to enhancement operating expenditure.