WSX-C07 Enhancement costs – leakage and smart metering

Response to Ofwat's PR24 draft determination

Wessex Water
YTL GROUP

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Representation reference: WSX-C07

Representation title: Enhancement costs – leakage and smart metering

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1. Leakage

1.1. Summary

Whilst we have accepted the QAA requirement to demonstrate greater stretch on our leakage reduction performance commitment and propose to do so within the original costs set out in our business plan, we do not accept the unit cost model for leakage reduction for the reasons set out below.

1.1.1. Summary of cost model

Ofwat has used a cost benchmarking approach to allocate a common unit cost for 'other' leakage reduction (excluding leakage reduction from CSPL and mains replacement) derived from just two years of APR data.

The derived unit cost of £1.11m/Ml/d is over three times lower than the median proposed in companies' business plans (£3.62, Ofwat refer to this as £1.65 but this calculation is inclusive of companies with no stated costs) and almost half the unit rate used in the PR19 model (£2.03m/Ml/d for upper quartile companies, although we note this did include mains replacement).

1.1.2. Summary of issues with cost model

The model uses only two of six years APR data collected, with 2019/20 and 2021/22 being selected as the weather was 'less extreme'. Within the two years selected, where companies' leakage increases in these years values are excluded from the calculation. This results in a unit rate that represents a significant departure from reality.

Adverse weather, such as prolonged dry periods or freeze/thaw events, has a profound impact on companies' ability to reduce leakage and a significant impact on associated costs. The frequency of such adverse weather events is increasing linked to climate change, with the associated challenges and cost implication being ignored in the modelling. Using data provided in the model, the median of companies' unit cost for leakage in AMP7 is £3.8m/Ml/d, this is still excluding negative values where leakage has increased over the period.

The model also does not account for the leakage performance position of each company at the start of the AMP; the scale of leakage reduction proposed to be delivered over the AMP; and the split of leakage reduction activities proposed by companies.

1.1.3. Summary of changes to improve the cost model

We propose that the cost model is revised to address the issues raised above.

1.1.4. Why this would lead to better outcomes for customers

Leakage reduction is the cornerstone of our holistic demand management strategy which aims to deliver the best outcomes for our customers and the environment. Our customer research carried out for PR24 indicates customers care about leakage reduction. We cannot sustain leakage reduction and deliver long term regulatory targets with such an unrealistic unit cost allocation that does not take into consideration the numerous factors affecting companies' costs in this area. The future of leakage is different to the past, having such a low unit cost to deliver increasingly challenging activities is unrealistic and will likely stifle the significant innovation required across the industry to meet ambitious long-term targets.

Table 1 – Summary of changes requested

Data table line	Draft Determination allowance (£m)	Our requested allowance (£m)	Difference (£m)
CW3.49	£2.13	£22.60	£20.47

1.2. Ofwat's approach to setting allowances

1.2.1. Fit of Ofwat's chosen model

Ofwat has chosen two years 2019-20 and 2021-22 when weather was 'less extreme' to include in their cost model and excluded any data from these years where companies' leakage increased but costs were still incurred (24% of data points are excluded for this reason).

In Ofwat's cost model for the whole of AMP7 so far (see Table 2), 41% of annual leakage reduction data points are negative values (leakage increased) and 35% of companies have negative average unit costs over the AMP due to a net increase in leakage. Although we appreciate the challenge in incorporating negative data into a cost model for leakage reduction, disregarding this data when it makes up such a large proportion of recent history skews the resultant unit cost far from the realty companies are experiencing. Still excluding negative average unit cost data, using data from all years of AMP7 so far gives a median unit cost of £3.8m/Ml/d and an average unit cost of £6m/Ml/d. Using the total leakage reduction expenditure and leakage reduction across this period for all companies, including negative leakage reduction data points, gives an industry average unit rate of £9.1m/Ml/d.

Table 2 – Data from Ofwat's leakage cost model, tab Lkg APRExpenditure and Benefits (costs adjusted to 22-23 prices)

	Reduce expenditure				Reduction in leakage						
	2019-20	2020-21	2021-22	2022-23	2019-20	2020-21	2021-22	2022-23	total cost	total reduction	Average unit cost
Company	£m	£m	£m	£m	Ml/d	Ml/d	Ml/d	Ml/d	£m	Ml/d	£m/Ml/d
ANH	8.8	13.6	31.9	20.4	8.9	0.0	9.0	-9.2	74.8	8.6	8.7
HDD	0.0	0.3	0.1	12.9	2.5	-1.9	0.8	-0.4	13.3	1.0	13.8
NES	0.0	0.0	4.4	2.4	2.4	-8.0	16.3	15.3	6.9	26.0	0.3
NWT	24.8	13.3	14.9	8.0	9.9	21.4	10.8	-9.1	61.0	33.0	1.9
SRN	2.6	2.0	2.0	1.8	7.8	-4.4	1.6	-11.7	8.5	-6.7	-1.3
SVE	19.4	18.8	4.2	12.9	19.8	-6.9	-30.0	25.8	55.3	8.8	6.3
SWB	4.0	7.8	9.4	4.1	-2.7	-29.7	45.4	-21.6	25.4	-8.6	-3.0
TMS	77.1	37.8	66.6	72.2	95.6	5.2	-4.2	-25.8	253.7	70.7	3.6
WSH	2.7	3.2	3.1	4.0	1.6	4.3	6.2	-95.8	13.0	-83.7	-0.2
WSX	13.7	12.8	10.8	8.3	5.0	-3.7	1.7	-7.9	45.6	-4.8	-9.5
YKY	52.0	5.8	9.4	28.7	19.0	-19.1	6.7	0.3	95.9	7.0	13.7
AFW	23.4	18.6	31.4	8.7	34.0	-9.3	17.2	3.6	82.1	45.4	1.8
BRL	1.8	1.4	1.8	3.4	4.5	1.7	-0.1	-3.8	8.3	2.2	3.8
PRT	0.9	0.9	0.7	0.3	4.5	0.0	-3.4	-5.3	2.7	-4.1	-0.7
SES	0.0	4.9	3.7	3.7	0.2	-1.1	3.9	-1.7	12.3	1.3	9.2
SEW	0.6	2.9	2.4	7.7	0.5	-6.3	4.0	-13.4	13.6	-15.1	-0.9
SSC	1.1	1.7	3.6	6.4	2.1	3.7	-2.0	1.2	12.8	5.0	2.6

1.2.2. Additional factors not considered

Ofwat have not accounted for companies proposed PR24 unit costs for leakage reduction in their cost model. The correct median unit cost proposed by companies in PR24 business plans for 'other' leakage activities (excludes mains replacement and CSPL) excluding companies where no associated costs are stated, is £3.62m / Ml/d.

Table 3 – PR24 business plan other leakage costs – all companies

Company	Benefit	Other Leakage Enhancement Requested	Other Leakage Requested unit cost
Units	Ml/d	£m	£m / Ml/d
ANH	3.720	8.068	2.169
HDD	0.000	0.000	0.000
NES	2.770	12.396	4.475
NWT	0.000	0.000	0.000
SRN	10.020	41.020	4.094
SVE	0.000	0.000	0.000
SWB	12.920	48.484	3.753
TMS	0.000	0.000	0.000
WSH	1.321	0.735	0.556
WSX	1.920	22.245	11.586
YKY	14.210	23.491	1.653
AFW	0.000	0.000	0.000
BRL	1.680	6.082	3.620
PRT	0.000	0.000	0.000
SES	3.000	10.459	3.486
SEW	8.140	43.053	5.289
SSC	2.716	3.095	1.140
		Median exc. 0s	3.620
		Median inc. 0s	1.653

Ofwat have not considered companies' current or forecast leakage performance in terms of levels of leakage normalised to DI, properties, or mains length. Ofwat set out forecast 2030 leakage normalised to DI, mains length and population served in Table 24 in *PR24 draft determinations: Expenditure allowance,* but don't utilise this information in their cost model. The table below compares companies' levels of leakage and highlights the variance between companies. It is unrealistic of Ofwat to consider that companies with such different levels of leakage could reduce leakage further for the same unit cost when the level of effort and innovation required to do so is likely equally variable.

Table 4 – Normalised levels of leakage - all companies

	2022-23 (actual)			2029-30 (PR24 forecast)		
Company	**% of DI**	**l/prop/d**	**m3/km/d**	**% of DI**	**l/prop/d**	**m3/km/d**
SES Water	13%	77	6.5	12%	59	5
Bristol Water	14%	71	5.7	11%	51	4.2
Northumbrian Water	15%	84	6.6	14%	73	5.8
Anglian Water	16%	80	4.7	13%	63	3.7
Affinity Water	16%	98	8.9	16%	77	7.3
South West Bournemouth	17%	103	6	14%	69	4.4
Portsmouth Water	18%	99	9.5	13%	58	5.9
South East Water	19%	105	6.8	14%	68	4.5
South Staffordshire Water	19%	105	9	16%	76	6.7
Severn Trent Water	21%	111	8.7	16%	75	5.9
Southern Water	21%	102	8.4	13%	58	4.6
Wessex Water	21%	112	5.9	18%	88	4.7
Yorkshire Water	22%	119	8.8	19%	91	6.8
Hafren Dyfrdwy	23%	134	5.4	22%	113	4.7
United Utilities	23%	123	9.9	20%	91	7.5
Thames Water	24%	154	19.4	17%	91	12.7
Dwr Cymru	29%	172	9.1	23%	113	6.1

Ofwat's draft determination sets out a new requirement for trunk main leakage reporting where the use of the 'BABE approach should be phased out by PR29' and an expectation that companies demonstrate progress towards this in their annual reporting. This is a new requirement that will involve significant investment in trunk main metering, both replacing existing meters and installing new meters. Installing meters on trunk mains is an expensive activity due to the nature of the work (large diameter mains, mitigation of supply interruptions etc.). Furthermore, the deliverability of such a large-scale metering programme alongside existing AMP8 commitments would have to be carefully considered.

In the seven weeks since the publication of Ofwat's draft determination we have not had sufficient time to suitably forecast the level of expenditure required to achieve this new requirement but expect it will incur some tens of millions of pounds of targeted investment and could definitely not be funded through leakage reduction cost allocations. We would be happy to work with Ofwat over the coming months to ensure it is accurately reflected in final determinations. If that is not possible, we propose it is subject to our broader uncertainty mechanism (see WSX-M07).

1.2.3. Reliability of data sources

The APR data used in Ofwat's cost model (tab Lkg APRExpenditure and Benefits) for years 2017/18 to 2019/20 is non-compliant with the current method of leakage reporting. Companies have restated calculated leakage based on the current method of reporting back to 2017/18 in APR submissions and PR24 OUT tables so it seems inconsistent that Ofwat have used a mix of figures from both reporting methods in their model.

1.2.4. Conclusion

Although we disagree with the allocation of an industry wide unit cost for leakage reduction, based on AMP7 APR data and unit costs companies have forecast in their business plans, we believe a more appropriate industry wide unit cost allocation for leakage reduction 'other' would be between £3.6 m/Ml/d and £3.8m/Ml/d. We would also propose this is further adjusted on a company specific basis to account for companies' current levels of leakage,

providing an uplift to companies with lower levels of normalised leakage to account for the increased challenge in reducing leakage further.

1.3. Required adjustment to cost allowance

We request that Ofwat adjusts our cost allowance for leakage improvements delivering benefits in 2025-2030 to the level we proposed in our business plan. Further to this, we request that Ofwat work with companies to ensure costs associated with the new requirement for trunk main flow balancing are reflected in final determinations.

1.4. Rationale

We are accepting Ofwat's challenge to increase leakage reduction performance as set out in the QAA assessment of our business plan. We will endeavour to deliver this additional stretch from the costs proposed in our original business plan submission.

Accepting Ofwat's allocated cost allowance for leakage reduction would significantly impact our forecast performance. Leakage reduction forecasts carry inherent risks related to the impacts of adverse weather conditions. Having such a low unit cost allocation for leakage reduction in AMP8 would leave us even more exposed to these risks where our whole allocation could be utilised to recover from one bad weather year.

Ofwat's proposed base cost allowance implies a 36% cut to our capital maintenance expenditure for our supply activities covered by the Water Network + price control. This includes costs for maintaining leakage at current levels. We have set out in our separate representation WSX-C01 why we consider that this level of capital maintenance is insufficient to allow us to maintain the health of our assets, and the level of performance associated with stable asset health. We note, as part of our response we have revised our supply capital maintenance expenditure and are now proposing to profile some of this investment into AMP9, and consequently the base costs in our revised plan are reduced.

The combined effect of significant enhancement and base cost cuts to our leakage programme leave us highly exposed to underperformance on targets throughout the AMP, not only resulting in substantial financial penalties but eroding our reputation and customer trust.

Leakage reduction is key to our demand management strategy which aims to address the supply demand balance deficit forecast from 2035 in our WRMP24, protect the environment and ensure we can provide a sustainable supply of water to our customers over the long term. Without adequate funding we cannot deliver on these vital commitments.

2. Smart metering

2.1. Summary

Smart metering is a new programme for Wessex Water and we have yet to appoint a delivery partner, hence there remains some uncertainty around our own internal cost models. Since submitting our business plan we have challenged ourselves to consider where we may be able to drive further efficiencies in our costs. This has included consideration of the cost proposed by companies, as well as refinement of forecast proportions of different installation job types.

On this basis, we believe we can accept the stretch on cost efficiency resulting from Ofwat's enhancement allocation. However, we have concerns regarding the metering cost adjustment claim; taking this into account, Ofwat's draft determination proposal represents a ~30% reduction to our overall smart metering allowance. To this end, we have set-out a challenge to the industry wide cost adjustment claim related to smart metering in WSX-C20.- Cost adjustment claims.

While we accept Ofwat's reallocation of costs related to like-for-like meter replacement from enhancement to base as this is more in-line with other companies' proposals on cost allocations, we disagree with the reallocation of a proportion of smart meter infrastructure costs that Ofwat have apportioned to like for like meter replacements. We believe all smart meter infrastructure costs should remain in enhancement. For Wessex these costs relate specifically to our meter data management system and IT system development costs required to store, manage and utilise smart meter data which is a key to our ability to gain additional value from smart meters compared to basic meters. Therefore, there is no overlap with what is funded in base currently. We propose this cost should be allocated to meter upgrades as every meter replacement is associated with a meter upgrade and the total apportioned smart meter infrastructure cost for that meter should sit within enhancement.

In light of this, we request that Ofwat increases our *enhancement* cost allowance for smart metering from £34.7 million to £38.4 million, to reflect the full allocation of smart meter infrastructure costs to enhancement.

Table 5 – Summary of change requested: smart metering

Data table line	Draft Determination allowance (£m)	Our requested allowance (£m)	Difference (£m)
CW3.90 (AMP8) + CW3.89 (23/24 & 24/25)	£34.7	£38.4	£3.7

This is our requested change to Ofwat's enhancement allowance. For avoidance of doubt, we do not consider the base cost uplift related to smart metering reflects the efficient costs required to carry out our smart metering rollout programme in full, including meter replacements. We are seeking a separate adjustment to Ofwat's proposed base cost allowance to, among other things, ensure we can deliver our smart metering programme.

2.2. Response to Ofwat's queries relating to smart metering costs

2.2.1. Meter replacement unit cost

Queries

The median unit cost was calculated using base costs associated with meter upgrades (ie all costs of upgrading meters excluding technology upgrade costs that are assessed as enhancement). We set the unit cost at the median to align with the enhancement assessment. In response to our draft determinations, we welcome views on whether

we should align the benchmark with the upper quartile catch-up efficiency benchmark applied to modelled base costs at final determinations.

For final determinations, we will also consider alternative approaches to calculating the unit cost of replacement. For example, using the meter replacement expenditure data reported by companies in their annual performance reports. We welcome views on this and any alternative approaches.

Response

We consider Ofwat's median unit cost allocation for meter replacements is broadly appropriate. As set out in in WSX-C02, we consider the available evidence from PR19 demonstrates there are significant risks to basing efficiency challenges on upper quartile forecasts, as these have proven to be less reliable than others. In light of this, we consider a median efficiency challenge better balances the benefits of incentivising efficiency against the risk of excessive disallowance of costs.

However, we recognise companies have different challenges associated with meter replacements depending on their split of internal and external installs and the age of existing assets (likelihood meter boxes requiring replacement). We also recognise there may be a requirement to provide different unit costs for meter replacements for residential and business customers, as meters for business customers are more likely to be larger more expensive meters and there can be additional complexities around replacement of business meters which incur additional costs (for example a requirement to arrange appointments for meter replacement outside of normal working hours if the water supply is critical to business operations during the day).

2.2.2. New meter installation and upgrade unit costs

Question 9.1) Do you agree with our approach to assessing new meter installation and meter upgrade costs?

Response - new meter installation cost

Ofwat have assessed new meter installation costs based on associated forecast costs in company business plans, with an apportionment of smart meter infrastructure costs added. Costs were adjusted using a log regression model to account for the scale of meter roll-out proposed and further standardised such that the total industry cost allowance matched the total assumed allowance for upgrades requested in business plans. Ofwat have discounted explanatory variables such as population density and existing meter penetration, stating these resulted in counterintuitive and non-statistically significant adjustments.

Although we accept Ofwat's approach to assessing new meter installation costs, we recognise that the model could have considered additional cost drivers such as proportion of different install types forecast by companies. For example, the proportion of external meter installations requiring meter pit dig-outs and the proportion of internal meter installations requiring access arrangements to be agreed with the customer can both have a material impact on average unit cost and are likely to be variable across companies. Ofwat have also not distinguished between costs of new meter installation for residential and business customers, although this is likely to make up a relatively small proportion of total new installs in most cases.

Response – meter upgrade cost

Ofwat have assessed meter upgrade costs based on companies own apportionment of costs associated with meter upgrades gathered from an industry wide post business plan submission query response – the remainder of costs companies allocated to enhancement associated with replacing basic or AMR meters like for like was then re-allocated to base. An apportionment of smart meter infrastructure costs was then added to upgrade costs to calculate a company proposed unit cost before costs were adjusted using a log regression model to account for the scale of meter roll-out proposed and further standardised such that the total industry cost allowance didn't exceed the total assumed allowance for upgrades requested in business plans.

Although this has resulted in a 30% reduction in associated cost allocation for us, we accept this methodology as it resulted in companies receiving a relatively similar unit rate allocation with some minor variance based on scale of smart meter roll-out programmes. The cost to upgrade a basic or AMR meter to a smart meter should be similar across companies.

Question 9.2) Do you agree with our decision to assess smart infrastructure costs within the meter installation and meter upgrades models?

Response

We recognise the difficulty in assessing smart meter infrastructure costs separately from smart meter installation costs due to the variability in companies approaches to allocating associated costs. In future price review planning periods, it would be useful if Ofwat provided more specific guidance on what costs should be allocated into each data table line such that costs are more comparable across companies and smart meter infrastructure costs could be modelled separately from installation costs.

Whilst we agree that smart meter infrastructure costs are likely to be driven by scale of meter roll-out, population density and geography of each region is likely to be a material factor when assessing efficiency of communication network infrastructure. We're also aware companies may have different financial models for smart meter infrastructure, with some proposing as-a-service models funded primarily from operational expenditure on a per meter per year basis and others funding larger proportions through upfront capital expenditure. Ofwat's cost modelling therefore is unlikely to consistently account for the whole life cost of smart meter infrastructure associated with each meter.