UUWR_44

PR24 Draft Determination: UUW Representation

Area of representation: Cost and PCD - Leakage

August 2024

This document outlines our representation in response to Ofwat's draft determination related to the enhancement case for leakage and mains renewal.

Reference to draft determination documents:
‘PR24 draft determinations: Expenditure allowances’ pages 30-37 and pages 99-102
‘PR24-DD-W-Leakage.xlsx’
‘Base-PCDs.xlsx’
‘PR24 draft determinations: United Utilities - Outcomes appendix’
‘PR24-DD-PCM_Repairs-to-burst-mains.xlsx’

United Utilities

Water for the North West

1. Key points

- **Broad support for Ofwat's approach:** We broadly support Ofwat's approach to determining enhancement allowances for leakage and mains renewal.
- **Water supply interruptions and mains renewal:** We request further consideration of our proposal to extend the duration threshold for water supply interruptions associated with planned works from 3 hours to 8 hours.
- **Price control deliverable (PCD) related to base expenditure:** We do not support Ofwat's approach of applying a PCD to mains renewal from base expenditure.
- **Price control deliverable (PCD) related to leakage enhancement:** We support Ofwat's approach of applying a PCD to mains renewal related to leakage enhancement expenditure.
- **Price control deliverable (PCD):** We request that Ofwat reviews our price control deliverable (PCD) related to leakage and mains renewal, so as not to include (and hence duplicate) mains renewal related to our Erosion and Vyrnwy enhancement cases.

2. UUW's PR24 proposal

Our leakage enhancement will deliver leakage reductions to help secure longer term water resources resilience. The focus is on water infrastructure renewal as the "best value" solution to deliver leakage reductions that can be maintained to achieve our ambition to halve leakage levels by 2050.

The leakage enhancement will target and deliver renewal of 641km of water mains, as well as delivering network optimisation, to reduce leakage by 36.6 Ml/d in AMP8. The "best value" leakage reduction options have been selected via our Water Resources Management Plan 2024 (WRMP24) decision making framework.

Table 1: UUW Business Plan leakage enhancement expenditure

	AMP8 Capex inc TI (£m)	AMP8 Opex (£m)	AMP8 Totex (£m)
Pre RPE and Frontier Shift	148.070	-	148.070
Post RPE and Frontier Shift	144.297	-	144.297

Source: UUW October 2023 Business Plan, UUW61, Enhancement Case 7: Leakage (page 37)

Table 1 above shows the total expenditure, inclusive of accelerated programme and transitional investment, on both a pre-efficiency (i.e. pre frontier shift and real price effects basis, consistent with the cost data tables), and a post efficiency and RPE basis (i.e. consistent with the value we propose to be recovered from price controls).

We proposed that the duration threshold for supply interruptions associated with planned works related to our leakage enhancement case would be extended to 8 hours. This allows the programme to be delivered using innovative methods providing cost and time efficiencies for the programme.

3. Draft determination position

Ofwat has allowed £150.045m Totex for leakage and mains renewal.

Our proposal to extend the duration threshold for supply interruptions associated with planned works from 3 hours to 8 hours does not appear to have been considered.

Ofwat have proposed a price control deliverable (PCD) relating to base and enhancement expenditure related to leakage and mains renewal. The key elements of this are shown in Figure 1 below.

Figure 1: Key elements related to the price control deliverable (PCD) for leakage and mains renewal

Non-delivery PCD payment	Unit	Payment rate
Base wholesale water model funded renewals	£/m	283.24
Enhancement leakage renewals	£/m	283.24

Time incentives PCD rate	Unit	Under-performance	Out-performance
Base wholesale water model funded renewals	£/m	10.37	2.59
Enhancement leakage renewals	£/m	10.37	2.59

PCD outputs (cumulative)	Unit	2023-24	2024-25	2025-26	2026-27	2027-28	2028-29	2029-30
Base wholesale water model funded renewals	km			131.01	262.61	394.90	527.79	661.29
Enhancement leakage renewals	km			53.15	106.31	159.46	212.62	265.77
Total	km			184.16	368.92	554.36	740.41	927.06

Source: Ofwat's Base-PCDs.xlsx

4. Issues and implications

4.1 Mains renewal unit rate

We broadly support Ofwat's methodology for calculating the unit rate for mains renewal. We consider the median to be a satisfactory measure due to the high variability in submitted unit rates between companies.

We acknowledge that due to Thames being an extreme outlier, they should be excluded from the dataset when calculating efficient unit costs. The inclusion of Thames could set the unit rate too high for all other companies. We also recognise that using the mean may still be deemed too high due to the inclusion of Southern, who are a relative outlier. This would result in most companies having a lower submitted unit rate than what the model allows, which is likely unacceptable.

Using the median allows companies to target mains renewals according to better value investments. If an upper quartile rate was used, this would be too punitive, and could result in companies choosing to solely target simple renewals, rather than those which are best value.

We do, however, implore Ofwat to further consider our proposal to extend the duration threshold for water supply interruptions associated with planned works from 3 hours to 8 hours. We have spoken to customers in the North West to get their views on "planned interruptions". Customers told us they were supportive of longer duration planned supply interruptions[1] if the additional time allowed for greater innovation and reduced general disruption (e.g. traffic disruption).

4.2 Mains renewal activity across base and enhancement

We consider that our business plan submission had a well-developed split of expenditure for mains renewals between base and enhancement. Our mains renewal plan was developed in conjunction with other key areas of base expenditure, meaning our view of cost was holistic and considered from a best value perspective across the business. It also aligned with our resilience and asset health strategy, which prioritises spending by replacing assets or cohorts of assets at the point at which they represent the best value solution to a service risk.

Ofwat asserts that base expenditure allowances implicitly fund 0.3% per annum of mains renewal. We do not agree. Base expenditure funds companies to maintain service levels to customers, but it does not fund any

[1] InSites Consulting on behalf of United Utilities, October 2022 unitedutilities.com/corporate/about-us/our-future-plans/listening-to-our-customers/insight-and-research-library#serviceresponse

specific activity. Indeed, this is a fundamental part of Totex and outcomes regime, that companies have flexibility in how investment is made in order to deliver services to customers . Elsewhere Ofwat has claimed that the success of the Totex and outcomes regime justifies future assumptions on efficiency. It is contradictory for Ofwat to claim the flexibility benefits within the Totex and outcomes regime, which encourages innovation and efficiency, whilst at the same time restricting that flexibility by hypothecating activity (such as mains renewal from base expenditure) to companies.

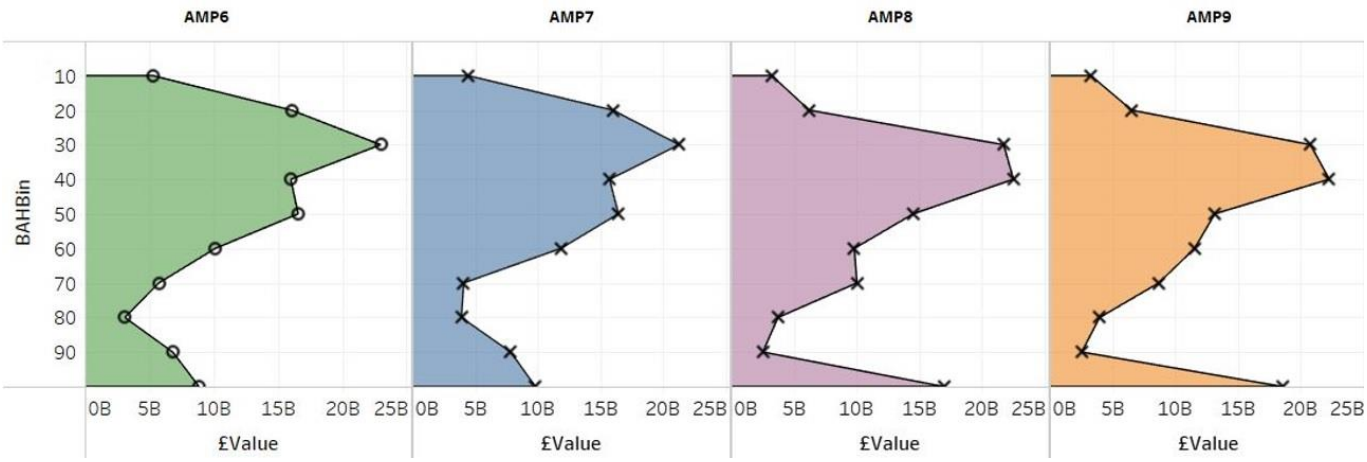
Ofwat also erroneously states that companies may have substituted “long term” investment in mains renewal for “short term” measures such as pressure management. We do not agree with this characterisation. A company that has achieved an improvement in leakage from, for examples, pressure management would then have to maintain that operating practice (at the cost of ongoing additional Opex) to perpetuity, else it would lose the beneficial impact on leakage. As such, any substituted activity is not “short term” as Ofwat claims.

There is also no evidence that the 0.3% per annum of mains renewals carried out on average between 2011-12 and 2022-23 is an efficient level of activity in AMP8. This number reflects a finite time period between 2011-12 and 2022-23. As we have discussed in depth, asset replacement is cyclical and ‘lumpy’ in nature. Assets built at the same time with similar design lives will tend to require major refurbishment or replacement at the same time, resulting in investment peaks and troughs per asset type. Asset cycles will vary by company due to this. It is therefore unreasonable to expect historical mains renewals over such a short period to accurately reflect an efficient level of activity in AMP8.

The multiple waves of asset refurbishment and replacement generally enables us to smooth out our total asset health spend in each AMP and over the long term, protecting customers from frequent 'peaky' investment and allowing us to target capital expenditure to deliver the most cost beneficial interventions within anticipated asset lifecycles.

Our significant investment after privatisation in mains renewal and the associated long life of that investment has subsequently enabled funds to be more cost beneficially spent on securing enhanced levels of resilience via other means. Figure 2 below is an example of the overall life expectancy profile of our asset base under a potential investment scenario developed in our planning for AMP8. It shows the impact of the investment since privatisation as a bulge of young and middle-aged assets progressing down the charts from top to bottom. The vertical axis indicates the proportion of the nominal asset life consumed, the horizontal axis indicates the current replacement value of the asset base modelled in each decile.

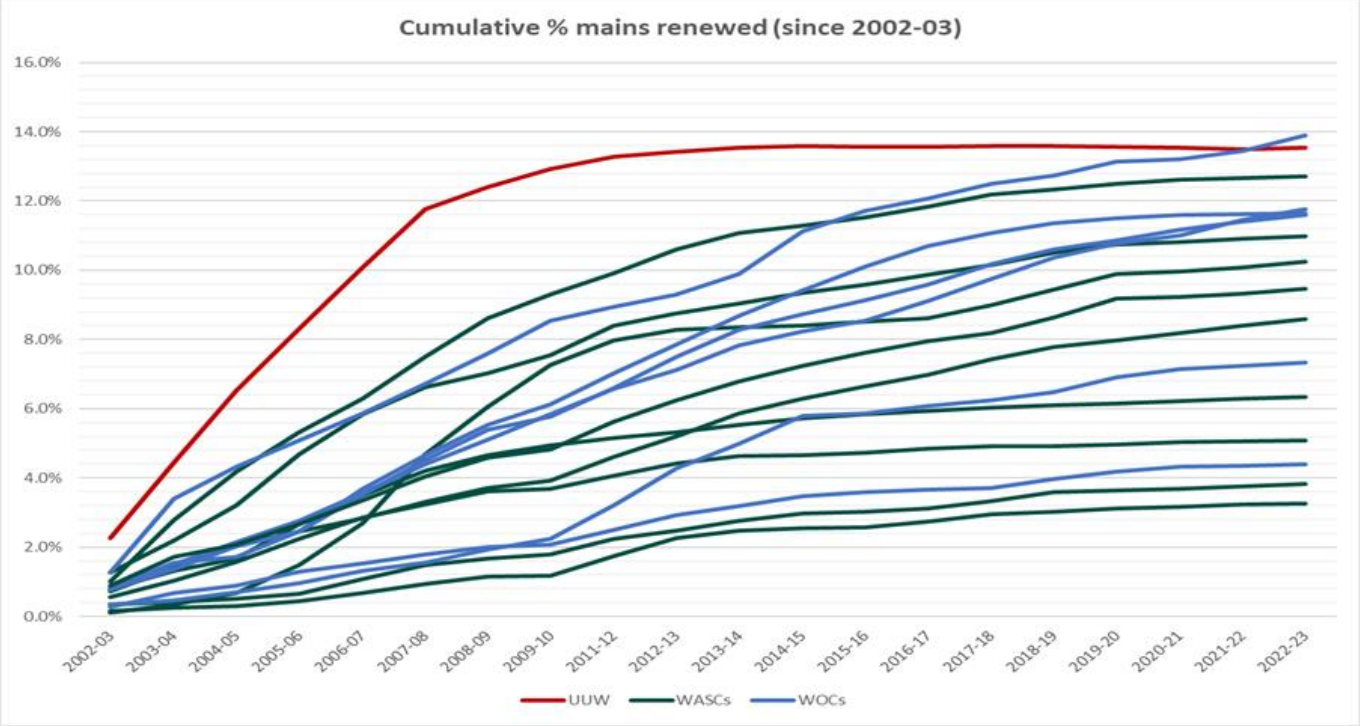
Figure 2: Base Asset Health profiles showing the progression of the asset base through life expectancy under a potential investment scenario



Source: UUW October 2023 Business Plan, UUW07, Chapter 7: Resilience and asset health (page 20)

If Ofwat is using historical mains renewals to determine what future levels of activity should look like, it should consider a more appropriate time frame that aligns with asset lives. Figure 3 below shows how, when considered over the longer-term, our cumulative mains renewal rates exceed most other companies.

Figure 3: Cumulative % mains renewed (since 2002-03)



Source: UUW analysis using June Return data from the historic performance area of Ofwat's website and data from Annual Performance Reports

Under the current methodology, there is a risk Ofwat is 'locking in' an inefficient level of maintenance activity with a PCD applied to base. If this percentage is too high, there is a risk companies are driven to spend more money than they should in this area through base, at the expense of other better value solutions.

4.3 Mains renewal and best value

As per our response to PR24 query ref OFW-OBQ-UUW-095 and as detailed in our main PR24 submission Chapter 7 Resilience and Asset Health for the North West (document UUW07), our strategy is to maintain a multi-layered approach to resilience, reducing potential single points of failure at an organisational, system and asset level.

Our approach is focused on delivering best value interventions, and has not simply been focused on improving reliability through asset renewal/replacement, but also securing efficient levels of redundancy, resistance and importantly response and recovery capabilities.

Examples of this improvement are investments in the Integrated Control Centre (ICC) and alternative supply vehicles (ASVs). Our ICC is fundamental to how we respond and recover in the event of an incident. These teams provide a full informed view of how the water, wastewater and bioresources functions are performing, in real time. Incidents can be responded to in a timely and coordinated way, collaborating effectively with our partners to use an approach that prioritises our resources and minimises the impact to customers and the environment. This provides us with much improved situational awareness, helping us to anticipate problems and rapidly respond bringing the right resources to bear quickly and efficiently.

Our fleet of ASVs, positioned at strategic locations across the region, are capable of transporting and injecting potable water into the network. A total of 47 tankers make up the fleet of various sizes to suit the mix of urban and rural areas of our region. The ASVs have a combined capacity of over 1.2 million litres of potable water. This provides a cost-effective method of mitigating service failures across the region, rather than more capital intensive, localised solutions.

These investments allow performance to be enhanced, while asset health data capture is improved to support the targeting of future asset replacement; evidenced in our continued performance improvement. These alternative

actions are also not "short term" as claimed by Ofwat, as they need to be maintained in the longer term, at an ongoing higher base expenditure, in order to maintain the resulting improvements to service and resilience.

If a PCD is introduced for base expenditure, this would direct expenditure to specific areas, even if our options assessments informed us money would be more efficiently spent elsewhere. We consider that a PCD for mains renewal would be contrary to our resilience and asset health strategy, as it would not align with prioritising best value solutions.

4.4 Price control deliverable (PCD) design

Application of mains renewal PCD to base allowance

We strongly disagree with a PCD relating to base modelled allowances for mains renewal.

The purpose of PCDs is to return money to customers for specific funded investments, in the event that companies fail to deliver. First of all, this means that PCDs should only apply to enhancements, as these are subject to specific customer funding. Base expenditure is a "block" of allowed cost in order to maintain all of the company's services to customers. As such, no specific activity is "funded" by base expenditure. This is also a fundamental component of the Totex and outcomes regime, that companies have the flexibility and incentives to innovate to deliver services efficiently. Ofwat's proposed PCD reduces that flexibility, and hence reduces opportunities for innovation and efficiency.

We have concerns that imposing a PCD in this area will effectively direct where we spend part of our base allowance. We believe that companies should retain flexibility to determine how best to invest base allowances, retaining the ability and accountability to adapt and flex investment as and when region specific demands emerge.

In this case, a base PCD poses a significant risk to our flexibility to determine the most effective solution to water network issues considering additional monitoring, pressure management and optimisation. The primary issue is the constraint to solution development and the potential to stifle innovation.

Our key issues are as follows:

(1) Technological advancements and industry innovation means mains renewals can potentially be displaced by cheaper options;

(2) There may be better value investment options to improve resilience;

(3) A base PCD poses a significant risk to our flexibility to determine the most effective solution to water network issues considering additional monitoring, pressure management and optimisation;

(4) Constraint to solution development and the potential to stifle innovation; and

(5) Lack of evidence that our PCD target for performance is an efficient level of activity.

Price control deliverables applied to base expenditure are akin to an outputs framework. During AMP6 and AMP7, we have operated in a Totex and outcomes framework – from "Innovation and efficiency gains from the totex and outcomes framework" (KPMG LLP and Aqua Consultants LTD for Ofwat, June 2018):

"The overall results from the analysis of totex performance assessment suggest that the range of annual incremental gains due to totex and outcomes that might be expected during the second totex control period, subject to certain important assumptions, could be between 0.0% and 1.2% per annum, or between 0.0% and 3.7% on a total average basis over the price control."

"The evidence reviewed in this study suggests that the introduction of the totex and outcomes framework allows companies to unlock further innovation and efficiency gains."

It is highly likely that a base PCD will lead to reduced innovation and efficiency gains.

Erosion and Vyrnwy enhancements included in mains renewal PCD

The PCD applies to the total proposed mains renewal of 927.8km. However, the length of mains renewal presented in PR24 table CW6 also included the mains renewal related to our Erosion and Vyrnwy enhancement cases (as shown in Table 2) – these should not be included within the scope of a PCD for leakage.

Table 2: Length of mains renewal from UUW Business Plan

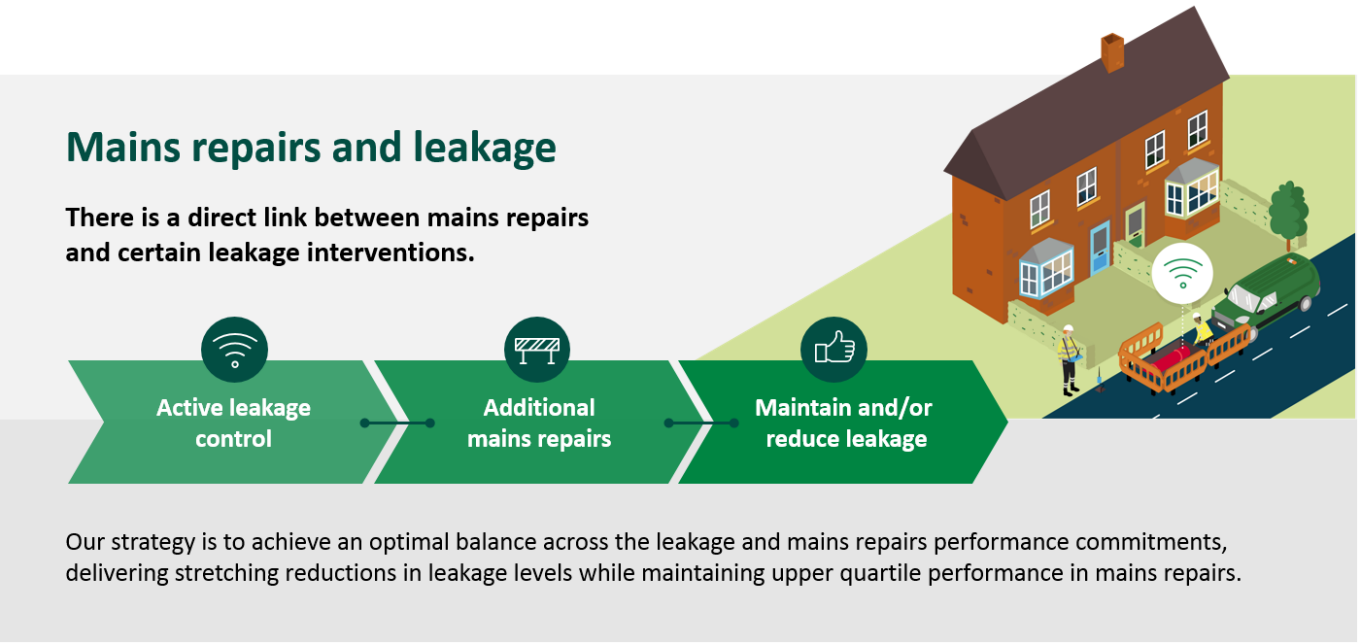
Length of mains renewal (km)	2025-26	2026-27	2027-28	2028-29	2029-30	AMP8
Base plus leakage enhancement case	112.30	180.96	164.79	178.93	224.24	861.22
Erosion enhancement case	0.20	0.20	0.20	0.20	0.20	1.00
Vyrnwy enhancement case	21.87	21.87	21.87	0.00	0.00	65.60
Total	**134.37**	**203.03**	**186.85**	**179.13**	**224.44**	**927.82**

Source: UUW October 2023 Business Plan, UUW93, UUW PR24 data tables (with additional detail)

4.5 Leakage and mains repairs

We would like to reiterate that, as shown in Figure 4 below, repairing mains leaks proactively found via active leakage control (ALC) is a core intervention to maintain and/or reduce leakage levels. Although, we acknowledge that there are other interventions to reduce leakage levels that do not impacts mains repairs (e.g. mains renewal).

Figure 4: Mains repairs and leakage



Source: UUW October 2023 Business Plan, UUW05, Chapter 5: Delivering great service (page 5)

For the 2019 price review, Atkins assured our draft determination response on mains repairs and concluded that:

"It is reasonable to assume that the number of proactive mains repairs undertaken by the company will increase as a result of implementation of an enhanced active leakage control regimen to deliver a step change in leakage reduction."

The conclusions from "The impact of reductions in leakage levels on reported and detected leak repair frequencies" (UKWIR, 2018/19) were that:

"There is no clear evidence of an offsetting of increased detected leaks by fewer reported leaks as leakage is reduced. As a result the total number of leak repairs would be expected to increase. The implication is that there are very few leaks that grow from being detectable to being reported at leakage levels currently observed in the UK."

"There is likely to be a small increase in the mains asset health measure used in England & Wales if leakage is reduced through ALC."

5. Approach for final determination

We propose that Ofwat retains the approach to determining enhancement allowances for leakage used for draft determination at final determination – targeted mains renewal being the best value solution to reducing leakage without leading to increases in mains repairs.

We implore Ofwat to further consider our proposal to extend the duration threshold for water supply interruptions associated with planned works from 3 hours to 8 hours – additional time allows for greater innovation and reduced general disruption (e.g. traffic disruption).

We request that Ofwat changes the approach to setting price control deliverables (PCDs) related to leakage and mains renewal, so as to not constrain base expenditure to mains renewal.

We request that Ofwat reviews our price control deliverable (PCD) related to leakage and mains renewal, so as not to include mains renewal related to our Erosion and Vyrnwy enhancement cases – these should not be included within the scope of a PCD for leakage and mains renewal.