UUWR_87

PR24 Draft Determination: Enhancement Case

PR24 Draft Determination: Eccles – Enhancement case

August 2024

This document sets out the service enhancement expenditure and activity that we will undertake through AMP8 and supports our draft determination response documents, UUWR_75 and UUWR_77.

United Utilities

Water for the North West

Contents

Enhancement submission

Title:	UUWR_87_Eccles WwTW
Price Control:	Ww Network
Enhancement headline: *One or two sentences summarising the headlines*	This document sets out an enhancement case of £21.408m totex to allow UUW to deliver the additional upgrades at Eccles WwTW required to satisfy the new environmental drivers introduced in the latest iteration of the WINEP (5th July 2024).
Enhancement expenditure (FY23 prices)	See table below
This case aligns to :	UUWR_77_WINEP Expenditure relating to this case can be found in data tables: CWW3.64-66 and CWW19.
PCD	Price control deliverables applicable to this enhancement case: • Phosphorus removal Note: The wider elements of the Eccles WwTW AMP8 WINEP enhancement included within the Oct 23 business plan submission are also covered by our propose sanitary parameters PCD.

Eccles WwTW	AMP8 Capex inc TI (£m)	AMP8 Opex (£m)	AMP8 Totex (£m)
Pre RPE and Frontier Shift	21.408	0	21.408
Post RPE and Frontier Shift	21.080	0	21.080

The table above shows the total expenditure 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). All numbers referenced hereafter in this enhancement case are on a pre-efficiency and RPE basis.

1. Enhancement case summary

Gate	Summary	Location reference
Need for enhancement investment	• In the latest iteration of the AMP8 WINEP, issued on the 5 July 2024, the Environment Agency introduced new WFD_NDLS_CHEM2, EnvAct_IMP1 and WFD_IMPm drivers for Eccles WwTW following ongoing discussions with United Utilities regarding an appropriate point of discharge. • The new drivers stipulate a TAL for P of 0.25 mg/l and new, more stringent, permitted values for nonyphenol and cypermethrin by 31st March 2030. In addition, Eccles WwTW was assigned a new driver to achieve 0.1 mg/l P by 31st December 2032. • UUW must therefore introduce an enhanced tertiary solids removals process. Without the investment outlined in this case, we will not meet the required final effluent standards prior to discharge to the environment.	Section 3
Best option for customers	• UUW undertook a robust optioneering process, considering solutions across the generic high level solution hierarchy, in order to ensure that the solution selected at the site represented the best option for customers. • As a result of the particularly stringent iron permit at Eccles WwTW (2.75 mg/l), it was determined that the required P TAL cannot be achieved by chemical dosing solutions alone. Therefore, we must introduce an enhanced tertiary solids treatment process at the site. • As we have sight of future drivers, we consider that this option also provides a no regrets, scalable solution which is consistent with the additional works that will be required to achieve the AMP9 0.1mg/l P driver and supports us in achieving what would otherwise be an extremely challenging AMP9 regulatory date.	Section 4
Cost efficiency	• The site has several site-specific factors, not least the constrained site footprint and the immediate proximity of the Manchester Ship Canal, the M60 motorway and the high-level Barton Bridge, that make a modelled assessment inappropriate. • We therefore undertook a bottom-up site-specific assessment to estimate the solution costs. We have a high certainty in our proposed totex of £21.408 million, supported by the appointment of Jacobs as our Strategic Solution Partner in February 2024. We have been working with their global experts, enabling us to leverage an efficiency of c.£18 million in our solution for Eccles.	Section 5
Customer protection	• Whilst Ofwat removed Eccles WwTW from the sanitary parameters PCD at draft determinations, due to its proposed inclusion within the gated process, we are representing that Eccles WwTW should be removed from this process (see UUWR_11_Gated mechanism) and therefore consider that the corresponding PCD should be reinitiated. Indeed, the conclusion of discussions with the Environment Agency in March 2024 (formalised in the WINEP 5 July 2024), with the agreement to include the 0.25mg/l P TAL limits in AMP8 and 0.1 mg/l P in AMP9, provide UUW with scope certainty and support our representations for Eccles to be removed from the gated process.	Section 6

Gate	Summary	Location reference
	• Furthermore, we propose that due to the acceleration of the phosphorus driver for this site, the phosphorus removal PCD should be updated to reflect the new requirements. • In this way, the delivery of the wider scheme at Eccles WwTW will be covered by two PCDs, providing ample customer protection.	
Price Control Deliverable	• Phosphorus removal Note: The wider elements of the Eccles WwTW AMP8 WINEP enhancement included within the Oct 23 business plan submission are also covered by our propose sanitary parameters PCD.	Section 6

2. Introduction

2.1.1 This document sets out an enhancement case of £21.408m totex to enable UUW to deliver the additional upgrades at Eccles WwTW required to satisfy the new environmental drivers introduced in the latest iteration of the WINEP (5th July 2024).

2.1.2 This enhancement case covers those additional drivers for Eccles WwTW which have been included in the WINEP since our initial business plan submission in October 2023. Details of other changes to the WINEP are summarised in UUWR_77_WINEP.

2.1.3 The development of the WINEP has been informed by the key regulatory guidance including; the WINEP methodology, WINEP options development guidance, WINEP options assessment guidance, WINEP driver and supporting guidance. Our approach reflects the specific context within which we operate in the North West of England.

2.1.4 Whilst the drivers for BOD and ammonia for Eccles WwTW were included in the AMP8 WINEP, with a solution cost of £177 million, discussions were ongoing with the Environment Agency and have now concluded with agreement for additional quality requirements to be accelerated into AMP8 as part of our long-term adaptive plan for improving water quality in the Manchester Ship Canal. Specifically, since submission in October 2023, we have since secured agreement to retain our existing discharge point for the adaptive plan which has introduced new AMP8 drivers.

2.1.5 This agreement has introduced additional requirements under the WFD_IMPm, EnvAct_IMP1 and WFD_IMP_CHEM drivers which have been reflected in the latest iteration of the WINEP issued on 5th July 2024. These requirements include a technically achievable limit (TAL) for phosphorus (P) of 0.25 mg/l, as well as permitted values for nonylphenol and cypermethrin with regulatory dates of 31/03/30 assigned. Additionally, Eccles WwTW has also been allocated an AMP9 driver to achieve 0.1mg/l P by 31st December 2032. Table 1 highlights the drivers included at the time of business plan submission in October 2023 and the new drivers that have since been confirmed in the latest WINEP.

Table 1: Summary of the existing permit and future quality drivers for Eccles WwTW, including the additional drivers identified in the WINEP post business plan submission.

	Existing permit	AMP8 requirements 31st March 2027	AMP8 requirement 31st March 2030	Additional AMP8 requirements **post October 2023 submission** 31st March 2030	AMP9 31st December 2032
BOD mg/l 95%ile	20		6		
Ammonia mg/l 95%ile	8		1		
Phosphorus mg/l annual average	1.1			0.25	0.1
Cypermethrin ug/l 99%ile		0.0019205		0.000186 (0.000562 UTL)	
Nonylphenol ug/l 99%ile		1.5		0.82 (4.3 UTL)	
Iron mg/l 95%ile	2.75				

Source: WINEP 5 July 2024

2.1.6 The site's existing trickling filters cannot meet these stringent standards for any of the determinands and as such, we must introduce tertiary solids removal into the treatment process, in addition to the new biological P removal activated sludge process already proposed in our October 2023 business plan. We investigated means of meeting the required standards without the addition of tertiary treatment and/or retaining the existing trickling filter beds, however, this was not technically feasible. Critically, the site has a particularly tight iron permit (2.75 mg/l) and therefore the required P TAL cannot be achieved by chemical dosing solutions alone. Further, as the site will be subject to a driver to achieve 0.1 mg/l P in early AMP9, we applied adaptive planning principles to ensure that we deliver a no regrets integrated solution capable thereby avoiding abortive costs in AMP9.

2.1.7 The addition of the 0.25 mg/l P driver in the 5 July 2024 iteration of the WINEP therefore necessitates the introduction of additional treatment processes beyond those included in the WINEP at the time of business plan submission (October 23). This document therefore sets out an enhancement case for £21.408m totex to allow UUW to deliver the additional drivers included at Eccles WwTW in the latest AMP8 WINEP issued on the 5 July 2024. Whilst the new drivers are expressed in tighter permit limits, the conclusion of ongoing discussions with the Environment Agency provide UUW with absolutely clarity on the holistic solution required at Eccles WwTW, allowing us to estimate costs with a high degree of certainty. Additionally, the proposed solution to meet these drivers, namely tertiary solids removal with a chemical trim, is a well-established process and we have high certainty in its deliverability. We consider that due to the clarity of need, scope, cost and deliverability that it is inappropriate for Ofwat to subject this scheme, and the wider sanitary solution at Eccles WwTW, to the gated process, presenting unnecessary barriers to delivering to the regulatory date. We set out our representations for removal of Eccles WwTW from the proposed inclusion in the gated process in UUWR_11_Gated Mechanism.

3. Need for enhancement investment

3.1.1 This section details the new statutory environmental drivers that have resulted in the need for additional investment at Eccles WwTW, beyond that outlined in our October 2023 business plan submission.

3.2 Environmental requirements

3.2.1 In the latest iteration of the AMP8 WINEP, issued on the 5th July 2024, the Environment Agency introduced new WFD_NDLS_CHEM2, EnvAct_IMP1 and WFD_IMPm drivers for Eccles WwTW following ongoing discussions with United Utilities regarding an appropriate point of discharge for the adaptive plan. The new drivers stipulate a TAL for P of 0.25 mg/l and new, more stringent, permitted values for nonyphenol and cypermethrin by 31st March 2030. In addition, Eccles WwTW was assigned a new driver to achieve 0.1 mg/l P by 31st December 2032. Such permits represent a step change in permit limits (Table 1) beyond the capabilities of existing treatment processes and those proposed in the £177 million enhancement case we submitted in our October 23 to address new limit for sanitary determinants, namely ammonia (NH_3) and biological oxygen demand (BOD). Indeed, because of these changes, Eccles WwTW will become the most tightly permitted site within UUW's operating region.

3.2.2 Therefore, to meet our statutory requirements specified within the WINEP and deliver upon our long-term adaptive plan for improving water quality in the Manchester Ship Canal, we must introduce new treatment processes at Eccles WwTW. Our proposed solution will commission a new tertiary solids removal process to attain the stipulated standards without compromising compliance with our especially tight iron permit of 2.75 mg/l. Without this investment, we will not meet the required final effluent standards prior to discharge to the environment.

3.3 Scale and timing of investment

3.3.1 The proposed investment is aligned with our adaptive plan. In our October 2023 submission, we had already anticipated the future tightening of the phosphorus permit to 0.25mg/l from the Environment Act in AMP9. As discussed in our representation for our phosphorus programme (UUWR_33_Phosphorus removal), when a new suspended growth (e.g. ASP) secondary treatment process is part of solution for sanitary drivers, the best value sustainable solution is to deliver biological phosphorus removal at the same time where there are phosphorus drivers. We therefore developed an adaptive plan to deliver biological phosphorus removal as part of the AMP8 solution in anticipation of the future driver, therefore ensuring no abortive investment for AMP9.

3.3.2 However, the acceleration of the attainment of a TAL of 0.25 mg/l into AMP8 has necessitated the introduction of an additional treatment process, namely tertiary solids removal with a chemical dosing trim. We therefore now have a high certainty of the need to deploy enhanced tertiary solids treatment in AMP8. Further, looking ahead to AMP9, we are certain of a permit limit of 0.1 mg/l P that will be required to be achieved by 31st December 2032. This option therefore provides a no regrets solution for the AMP9 0.1mg/l P driver and allows us to achieve what would otherwise be an extremely challenging AMP9 regulatory date. Whilst the acceleration of the 0.25 mg/l P driver into AMP8 has necessitated the introduction of additional treatment processes, the proposed solution is well-established. Therefore, the proposed inclusion of this scheme within the gated process would cause avoidable delays to the investment programme and result in significant risk to the attainment of the regulatory dates.

3.4 Customer Support

3.4.1 Customer research indicates that protecting the environment is a key priority for customers in the North West. Research for the DWMP identified that 76% of customers said, ‘protecting lakes, rivers, reservoirs,

fish and other aquatic plants and wildlife is really important to me'[1]. Additionally, across our 6-monthly 'state of the nation' surveys, preventing pollution to the environment consistently ranks in the top 3 priorities for customers[2].

3.4.2 UUW holds a library of customer insights for projects we have delivered within AMP7. Each insight and research project has used an appropriate method to capture a variety of customer and stakeholder opinions, ensuring a representative view of the diverse customer base across the North West. This insight has been incorporated into the options development and selection process undertaken. Further information can be found in the UUW's WINEP approach to WINEP development and our insight and research library.

3.5 Management Control

3.5.1 The new enhancement needs included within the WINEP are outside of management control and driven by new statutory requirements. As these new requirements have arisen as a result of new statutory environmental drivers, the resultant expenditure required is unequivocally enhancement expenditure. Our base expenditure will be used to maintain compliance with our existing permits, however, the introduction of additional requirements to the WINEP has driven a clear step change in the permit limits that must be attained in AMP8 (Table 1).

[1] https://www.unitedutilities.com/globalassets/z_corporate-site/about-us-pdfs/p -dwmp-final-acceptability-testing/dwmp-final-plan-acceptability-testing-report.pdf, page 16

[2] PowerPoint Presentation (unitedutilities.com), page 25

4. Best option for customers

4.1 Options development

4.1.1 Options to address PR24 requirements passed through a series of stages before the agreed solution was confirmed, from an initial 'un-constrained' list of options through to confirmation of the defined and estimated scope associated with a preferred solution.

4.1.2 Within the options development process, unconstrained options were identified against a list of generic high level solutions (GHLS) categories. If unconstrained options were deemed viable then additional screening was carried out to identify 'constrained' options, with further screening taking place to refine the feasible solutions and determine those to be progressed to detailed scope development and estimating. In developing feasible options the engineering teams always consider which solution will represent the best value to customers.

4.2 Options selection

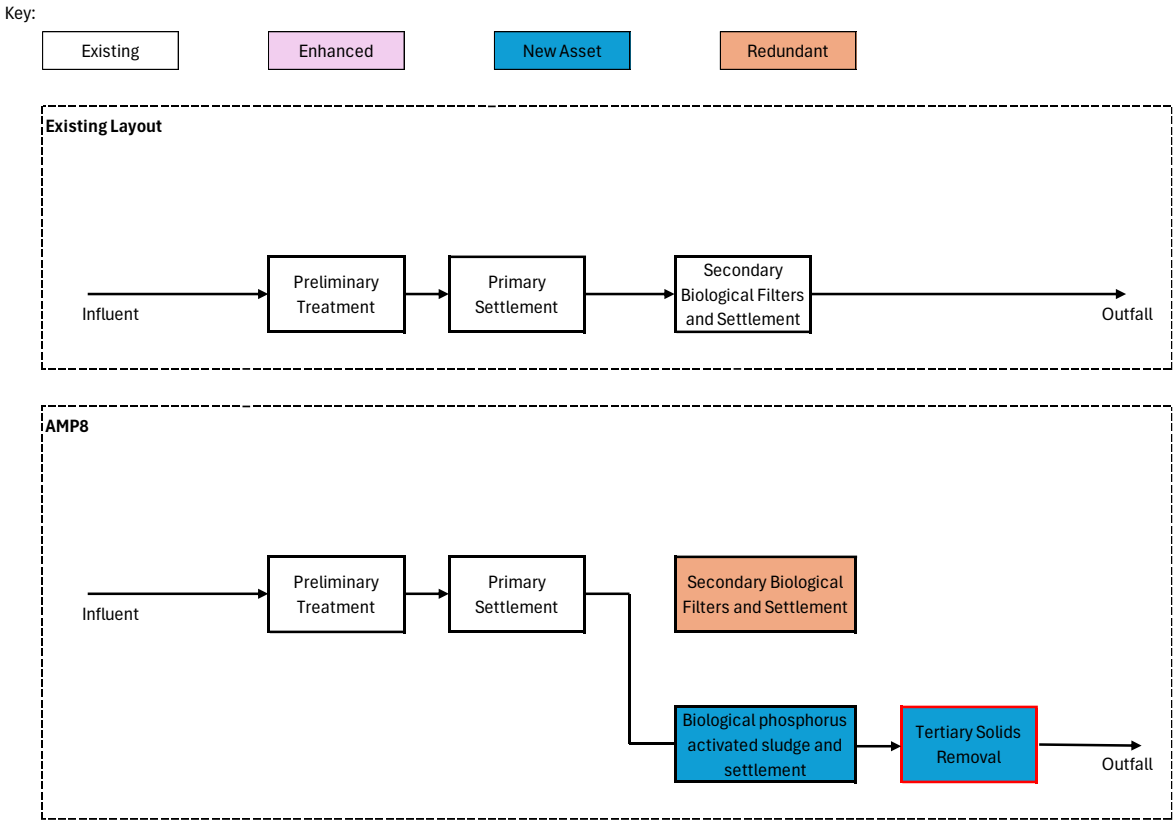
4.2.1 For Eccles WwTW, we carried out an options appraisals process which looked at a do nothing, enhancement of existing assets and new build solutions. The do nothing and enhance existing assets approaches were not feasible as the site's existing processes, even with additional optimisation, are incapable of meeting the revised P and cypermethrin permits. Indeed, the permits will make Eccles WwTW the most tightly permitted site within United Utilities and therefore the need for construction of additional assets is unavoidable.

4.2.2 Our October 2023 business plan solution already included a new biological P activated sludge process, as, when a new suspended growth (e.g. ASP) secondary treatment process is part of solution for sanitary drivers, the best value sustainable solution is to deliver biological phosphorus removal at the same time where there are future phosphorus drivers (see UUWR_11.2_Appendix – Eccles WwTW). By incorporating bio-P ASP into the AMP8 requirements we were therefore able to design a no regrets solution and avoid abortive costs in AMP9. However, with the acceleration of the 0.25 mg/l P driver into the AMP8 WINEP post-submission, and the future tightening to the permit to 0.1 mg/l in early AMP9, the proposed bio-P process alone will not be able to achieve the required standards.

4.2.3 One option explored for achieving such tight P limits was the installation of additional ferric dosing equipment. However, Eccles WwTW has an especially tight iron permit (2.75mg/l against a typical permit of 4 mg/l) which would make it difficult to achieve tight phosphorus drivers utilising a full chemical dosing solution, whilst remaining compliant with our iron permit. Therefore, we identified that the best available technology (BAT), to achieve the 0.25 mg/l P driver whilst maintaining compliance with the existing iron permit, is to introduce an enhanced tertiary solids removal alongside a chemical trim. This solution provides a no regrets solution for the AMP9 0.1mg/l P driver and support us to achieve what would otherwise be an extremely challenging AMP9 regulatory date.

4.2.4 Figure 1 shows the existing treatment process at Eccles WwTW, alongside the proposed upgrades required to meet the AMP8 WINEP requirements. The tertiary solids removal process, outlined in red, represents the stage for which funding is being requested via this enhancement case.

Figure 1: The existing treatment process at Eccles WwTW and the proposed upgrades necessary to meet the AMP8 WINEP requirements. The tertiary solids removal, highlighted in red, forms the expenditure request for this enhancement case.



4.3 Innovation

4.3.1 Throughout AMP7 United Utilities has undertaken rapid learning from the deployment of AMP6 innovation (such as that demonstrated with Nereda and Typhon) and has developed a new Technology Approval Process. This process identifies opportunities for innovative technologies and nature-based solutions. It provides a methodical approach to due diligence, innovation risk identification and mitigation planning. The approved technologies and solutions include:

- those we have identified directly
- those suggested by our construction partners
- those identified by other WaSCs but not yet progressed by United Utilities in AMP7 i.e. I-PHYC Algal bioreactors
- global innovation insights such as that secured through our engineering service provider Jacobs and other consultants such as Stantec.

4.3.2 Our Technology Approval Process has allowed us to progress technologies into approval without the need to trial, for example the Mobile Organic Biofilm technology approved and now in detailed design and construction for our Macclesfield AMP7 scheme. This approach highlights our credentials as a fast adopter of new technology but with deeper awareness of the innovation risks that need to be managed.

4.3.3 To develop our PR24 submission we have incorporated the technologies that have now secured 'approved' status in our Process Decision Support Tool which was used to identify innovation opportunities by driver and site details. Where these innovation opportunities present the best value solutions they have been selected to be taken forward as the preferred solution. For storm overflows, we have maximised the amount of SuDS solutions put forward as the preferred option, and we continue to seek opportunities to deliver more value for customers.

4.3.4 When assessing this, if the value of these novel solutions cannot be determined with sufficient certainty, they have been identified as an opportunity for UUW to pursue in the period between submission and delivery. Alongside this we will continue to review those innovations / solutions not yet approved but relevant to AMP8 drivers, and progress these through our Technology Approval Process.

4.3.5 UUW is also leading a trial in this area through the Ofwat Innovation Fund. The Mainstreaming Nature-Based Solutions programme[3] seeks to bring together multi-sectoral expertise and leadership to collaboratively create and test new solutions to surface water management. This is being delivered through real-life case studies to facilitate and enable the transition of nature-based solutions into business as usual, to deliver greater value for customers, society and the environment. This will enable the exploration of lower cost options for nature-based solutions to deliver wider environmental outcomes and include customers in decision making which we can feed into our AMP8 plans.

4.3.6 We believe this sets UUW in good standing to understand the key opportunities that innovation can deliver within our PR24 submission and enables further efficiency driven by our innovation programme.

[3] https://waterinnovation.challenges.org/winners/mainstreaming-nature-based-solutions/

5. Cost efficiency

5.1.1 This section sets out how we have calculated the value of this enhancement case, how we have challenged our assumptions to develop efficient costs and how these have been benchmarked and assured.

5.2 Approach to cost build

5.2.1 To develop robust and efficient costs we have used an estimating approach based on data collected over a number of AMPs (AMP3 to AMP7) updated to reflect present market conditions under which we and the UK water industry are operating. We have partnered with Mott Macdonald who provide us and other UK water and sewerage companies with an estimating service, which allows them to provide a benchmarked approach to our PR24 capital cost estimates.

5.2.2 Our Investment Programme Estimating System (referred to as the PR24 Estimating Database / IPES) is an in-house estimating tool which is used to provide costs for the Price Review and scheme development. The system is a robust repository for data from previous AMP periods, which sits alongside estimated data, to allow us to develop project and programme estimating.

5.2.3 Costs for Eccles WwTW have been developed using a bottom-up approach using site specific information. A breakdown of the split of the £21.408 million totex between the construction of the enhanced tertiary solids removal, chemical trim and pumping requirements is outlined in Table 2. The site has several site-specific factors, not least the constrained site footprint and the immediate proximity of the M60 and the high-level Barton Bridge, factors that we consider would not be well represented in a modelled assessment. Further information regarding the site-specific constructability challenges faced at Eccles WwTW are outlined in UUWR_11.2_Appendix – Eccles WwTW. Whilst there are site specific challenges, early recognition of these constraints and engagement with our Strategic Solutions Partner, Jacobs, has allowed us to plan for and manage these site-specific challenges. We therefore have high certainty in the costs associated with these site-specific requirements and are confident in the deliverability of the scheme.

Table 2: The split of the costs for the additional £21.408m totex associated with this enhancement case between tertiary solids removal, chemical trim and pumping requirements

Area	Comment	Proportion of Cost, %
Tertiary solids removal	Rapid gravity filter including backwash system	60.0
Chemical trim	Chemical dosing for trim including flocculation tank	27.1
Pumping	Pumping stations, including civil structures	12.9

5.3 Cost efficiency

5.3.1 Following the development of the solutions to meet the original AMP8 drivers ahead of our October 2023 business plan submission, we internally challenged ourselves to ensure we were submitting efficient solutions. In the case of Eccles WwTW, we had originally included a tertiary solids removal process to ensure robust delivery of the 6 mg/l BOD driver, however, this was subsequently removed and sludge handling equipment rationalised, to generate a circa £39 million efficiency for the Eccles scheme.

5.3.2 Nevertheless, as outlined in section 3, since submission, the acceleration of the 0.25 mg/l P driver into AMP8 has re-introduced the requirement for tertiary solids removal. Following our business plan

submission in October 2023, we have continued to develop the Eccles solution through our Transitional Investment funding. We appointed Jacobs as our Strategic Solution Partner in February 2024, and since then we have been working with their global experts to leverage efficiencies in our solution for Eccles. By undertaking more detailed cost assessments and improving cost certainty, we have subsequently challenged the tertiary solids removal solution with suppliers, along with the cost, and are pleased to have identified an efficiency of £18m against the £39m initial estimate.

5.4 Comparison to Ofwat's benchmark

5.4.1 There are a number of site-specific factors that are unlikely to be reflected within Ofwat's modelled benchmark. For example, Eccles' location directly adjacent to a busy motorway bridge is unlikely to be reflected within the generality of the industry's P removal enhancement expenditure. Conversely, the AMP8 sanitary determinands project is expected to deliver some infrastructure that can be used in the delivery of the phosphorus scheme. This is likely to reduce the costs associated with the delivery of the phosphorus consent.

5.4.2 Ofwat has developed a scheme-level modelling approach for phosphorus removal expenditure. We set out our representations on its approach within '*UUWR_27_Enhancement modelling consultation*' and '*UUWR_33_Phosphorus removal*'. These representations suggested that Ofwat adapt its triangulation approach to place more weight on forward-looking costs. We assess our proposed costs for Eccles against the resulting benchmark. This is set out in Table 3. It is clear that our proposed costs for Eccles are deemed efficient by a reasonable modelled benchmark and as such, should be allowed in full.

Table 3: Assessing Eccles against the modelled benchmark

(2023-23 CPIH)	PR1	PR2	PR3	PR4	Triangulated*	Cost drivers
pe_served	0.207	0.206	0.056	0.054		118.841
consent_assumed_historical	0.219	0.203	0.217	0.228		1.100
enhanced_consent	-4.069	-0.632	-3.330	-0.815		0.250
sq_enhanced_consent	0.803	0.000	0.682	0.000		0.063
p_below_025mgl	0.000	2.089	0.000	1.238		1.000
_cons	4.881	2.403	3.841	2.288		
Modelled benchmark	**28.801**	**29.046**	**9.926**	**10.010**	**24.18**	

**We use the triangulation of 75% weight given to the average of models PR1 and PR2, with 25% given to the average of PR3 and PR4. See 'UUWR_33_Phosphorus removal' for more information.*

Source: UUW analysis

5.5 Benchmarking UUW's capital costs

5.5.1 In July 2024 United Utilities commissioned Mott MacDonald to carry out a benchmarking exercise of United Utilities major capital construction costs.

5.5.2 The benchmarking of costs between companies is a challenging task, as such costs are often commercially sensitive, and are not readily shared. The sharing of out-turn costs could affect market competition between contractors and suppliers.

5.5.3 Mott MacDonald provide engineering and capital delivery services to three UK water and waste water companies, and were able to determine the costs incurred by those companies in the delivery of their major capital programme. United Utilities costs were compared to the other two water and waste water companies (whose identity was not revealed to United Utilities, and who were referred to as "Benchmark 1" and Benchmark 2") and the outcome of this comparison was shared.

5.5.4 United Utilities provided cost breakdowns for high value construction projects, for use in the benchmarking exercise. The comparable project costs included elements such as materials, construction costs, and so on.

5.5.5 The benchmarking exercise found that all companies were most expensive for some line items, and least expensive for other line items.

5.5.6 When comparing all of the most expensive line items from across the three companies, and all of the least expensive line items (the max of maxs, and min of mins), United Utilities costs were 18% below the max of max, and 19% above the min of mins.

5.5.7 Looking at overall average costs, United Utilities was 2% above Benchmark 1 costs, and 3% below Benchmark 2 costs, with an average variance of 1%.

5.5.8 This indicates that United Utilities costs are comparable to other companies in the sector, and that we are not high cost outliers. We will continue to work with contractors and partners to secure cost efficiencies as we move into the delivery phase of the programme.

5.6 Third party assurance of our cost estimates

5.6.1 UUW put in place a robust process to identify, scope and cost all solutions proposed within our business plan. This process is set out in detail in October's main business plan submission[1] along with supporting supplementary documents[2].

5.6.2 This process was subject to third party assurance during the development of our business plan. Full details of UUW's approach to assuring our business plan was set out in our October submission[3]. As set out within this submission, a number of third party organisations were involved in providing assurance including Deloitte, PWC and Faithful & Gould.

5.6.3 UUW's Board provided assurance that the solution development process underpinning our plan was appropriate, included extensive optioneering and that resulting expenditure forecasts were robust and efficient[4].

5.6.4 The scope and associated costs set out within this enhancement case have been developed using the same process described and assured in the above documents. This enhancement case has also set out specific evidence to support the unique aspects of this particular investment proposed. As such, we consider this to represent compelling evidence that the forecasted costs set out within this case are robust and efficient.

5.6.5 Further, post business plan submission, to give us additional confidence that our cost estimates produced by Mott MacDonald were accurate, we undertook a self-assurance exercise by appointing ChandlerKBS. We asked ChandlerKBS to price up a selection of our projects, including Wigan WwTW and Salford WwTW, which have comparable drivers to Eccles, using their Cost Intelligence database (CID). ChandlerKBS are an international commercial company who have provided estimating services to a number of UK infrastructure businesses, including a number of water companies. Their CID contains data derived from their clients over 20 years including tens of thousands of cost curves and capital projects.

[1] UUW (2023) *UUW08: Delivering at efficient cost.* Available here:
https://www.unitedutilities.com/globalassets/z_corporate-site/pr24/main-documents/uuw08.pdf

[2] UUW (2023) UUW45: Our approach to best value totex. Available here:
https://www.unitedutilities.com/globalassets/z_corporate-site/pr24/supplementary-documents/uuw45.pdf

[3] UUW (2023) *UUW76: Confidence and assurance of the submission*. Available here:
https://www.unitedutilities.com/globalassets/z_corporate-site/pr24/supplementary-documents/uuw76.pdf

[4] UUW (2023) *UUW11: Board Assurance Statement*. Available here:
https://www.unitedutilities.com/globalassets/z_corporate-site/pr24/main-documents/uuw11.pdf

5.6.6 The outcome of this review was that an overall variance of 3% against the Mott MacDonald estimate shows a close level of correlation and gives us confidence in the costs we have developed for our schemes. This was backed up by the output report: “The overall ChandlerKBS estimate total for the fourteen projects is 3% lower than the UU PR24 estimates. ChandlerKBS consider the UU PR24 estimates to be comparable with our industry cost data” (ChandlerKBS 2024).

6. Customer protection

6.1 Introduction

6.1.1 It is important that customers have confidence that we will deliver the enhancement schemes that get reflected in our PR24 final determinations and they are suitably protected in the event of non-delivery, or if there are material changes to deliverables (including changes to dates), which leads to a change in cost (including changes in the timing of required expenditure). Ofwat proposes that, if companies fail to deliver or are late delivering improvements to customers, then price control deliverables (PCDs) should, where appropriate, be used to compensate customers. In our PR24 *Chapter 8 – Delivering at Efficient Cost, section 8.8.9* we have proposed an approach to PCDs that aims to provide customer protection, such that customers are fairly compensated for non-delivery (such as due to a change in regulatory requirements) or late delivery (including as a result of a change to a regulatory date), between PCDs, any related ODI underperformance payments, and cost sharing arrangements.

6.1.2 For enhancement requirements that have been added to the WINEP post submission of our PR24 plan, we propose that they should be incorporated within the relevant PCD.

6.1.3 Whilst Ofwat removed Eccles WwTW from the sanitary parameters PCD at draft determinations, due to its proposed inclusion within the gated process, we are representing that Eccles WwTW should be removed from this process (see UUWR_11_Gated mechanism) and therefore consider that the corresponding PCD should be reinstated. Furthermore, we propose that due to the acceleration of the phosphorus driver for this site, the phosphorus removal PCD should be updated to reflect the new requirements.

6.1.4 In this way, the delivery of the wider scheme at Eccles WwTW will be covered by two PCDs. Further details on this can be located in ADD17 and CWW19.

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Water for the North West