UUWR_42

PR24 Draft Determination: UUW Representation

Area of representation: Cost and PCD - Wastewater supply and demand

August 2024

This document outlines UUW response to the DD for the growth enhancement case

Reference to draft determination documents -,PR24-draft-determinations-Price-control-deliverables-appendix, sec 4.4.1, p55-6; PR24-draft-determinations-Expenditure-allowances-Growth at STWs , section 3.8, p 124-6; Wastewater scheme level PCDs, Growth at STWs tab NWT

United Utilities

Water for the North West

1. Key points

- **The funding allowance for growth has been determined by a standalone model using four variables:** At a programme level this might yield reasonable results, however, it is inappropriate to apply this on a scheme-by-scheme basis. We note Ofwat's cost models only use ammonia permit dummy as a proxy for effluent quality We consider that this is an overly narrow approach that fails to capture other relevant aspects of treatment complexity We set out evidence that companies need to have flexibility in delivery of a growth programme in order to manage uncertainties across the AMP period. Customers and stakeholders expect companies to be responsive to changing needs and to invest in capacity in the locations where investment is needed. For companies to deliver on this expectation this will likely involve swapping specific schemes in or out of the programme, or modifying them, even whilst delivering the expected Population Equivalent outcome overall.
- **PCD methodology impacts on flexibility and generates a high level of financial uncertainty for companies:** The PCD proposes to track performance against this measure at scheme level, and across multiple deliverables rather than focusing on the primary outcome of increased PE treatment capacity. Due to the number of assumptions made on future permit limits and how population growth forecasts can change due to exogenous factors, the associated solutions and schemes delivered are likely to change from those forecast It is important to recognise the difficulty in accurately forecasting growth. Total growth, the rate of growth, phasing of growth, location can all be impacted to a great degree by exogenous factors and are highly likely to change across the 5-year business cycle. Assumptions have been made on future permit limits, and phasing of growth but there is inherent uncertainty companies need to manage in order to invest at the right time and to the best scope.
- **We believe Ofwat should adopt a simpler, but effective approach to measuring delivery, based on the approach embedded in our AMP7 Performance Commitment PR19UU-CO6-WWN:** This approach is based on the primary output of this investment, which is additional PE capacity. An end of AMP reconciliation model based on so many variables will generate financial uncertainty and therefore risk that PCD allowances could be clawed back after projects have been delivered. The PCD should be simplified to help manage this uncertainty, and again managing at a programme level would allow companies to better manage and mitigate this risk whilst still delivering the increased treatment capacity they have committed to.
- **An adjustment has been made to the allowance based on performance and expenditure for delivery of growth programmes in AMP6 and AMP7:** UUW recognises the principle behind this, but UUW's position is that a negative adjustment should be made only in those cases where there is clear evidence that underspending has resulted in demonstrable wastewater capacity shortages For AMP7, UUW committed to delivering 75,113PE and are on track to deliver137,285 PE. Therefore, it appears unreasonable to penalise UUW for "under delivery" even if the PE delivered has been delivered more efficiently.

2. UUW's PR24 proposal

Water companies have a statutory obligation under the WIA91 to invest to accommodate growth to maintain compliance with environmental discharge permit. As such, UUW proposed growth schemes at 12 locations based on our risk assessment process, discussed in detail in UUW65 Enhancement case 16, section 4. 3.These schemes were at locations where we have confidence that growth will occur and where we need to invest to be able to maintain permit compliance. Further information and scheme detail was also provided in response to OFW-OBQ-UUW 044.

Where schemes have both WINEP and growth drivers the project estimates were reviewed and any net increase in the solution costs that is due to Supply Demand growth is allocated to the Supply Demand enhancement line - we have identified one solution cost and allocated that cost appropriately between the two drivers (i.e. we have

not included costs for two separate solutions). For further information, please see query response OFW-OBQ-UUW-107.

All sites are routinely subjected to an assessment of performance against dry weather flow (DWF) permit conditions and those proposed for investment comply with existing permit conditions. We acknowledge funding for growth is not to address existing compliance issues, but to add additional capacity to accommodate growth forecast in the next AMP.

3. Draft determination position

Ofwat has developed a standalone econometric model based on four variables to assess funding for growth schemes at wastewater treatment works. This differs from previous business plans where an allowance for growth was included in the base expenditure allowance.[1] These variables are:

- Expected change in PE within AMP8;
- Expected process capacity added expressed in PE;
- Expected change in DWF m3/day permit; and,
- Expected ammonia mg/l permit limit.

A penalty for non-delivery of growth schemes and underspend of allowance in AMP6 and AMP7 has been applied to the modelled funding allowance.

Based on information provided in response to queries and OFW-OBQ-UUW- 044 and OFW-OBQ-UUW-107, Ofwat has excluded any schemes that appear not to justify expenditure for growth.

A PCD (PCDWW27) has been allocated to this measure, on a scheme-by-scheme basis and based on the variables used within the model referenced above. Ofwat states that it recognises the need for flexibility, and scheme substitution will be allowed if certain criteria can be met, subject to third party assurance.
The aggregate PCD adjustment will be capped at zero in recognition of the policy that PCDs should not be used to fund additional growth at wastewater treatment works within the business plan period.
For UUW, this approach has resulted in a pre-adjustment allowance of £101.24 m versus a funding request of £140 35m, see OFW-OBQ-UUW-044with no funding given for the proposed scheme at Clitheroe.

4. Issues and implications

4.1 Population and growth forecasting

At the outset, it is important to recognise the difficulty in accurately forecasting growth. Whilst companies use a number of datasets to try and forecast as accurately as possible, taking into account variables such as the number of houses built, ONS data and local authority housing plans, the factors which can impact on these projections are several fold.

Announcements of government investment in a specific area likely to result in significant economic growth, and a resulting increased demand for housing in cannot be foreseen. In the North West, for example, the previous government announced £200 m of investment in the Barrow area.[2] This will see an expansion in the largest employer in the area and associated increase in workforce and an expected influx of demand for housing in the area. The local authority is now reassessing its 15 year plan. We know this will impact the water and wastewater network, but this is still to be quantified in terms of volumes and locations but may result in investment for

[1] PR24-draft-determinations-Expenditure-allowances-to-upload.pdf (ofwat.gov.uk)

[2] Westmorland and Furness Council welcomes £200 million Barrow investment announcement | Westmorland and Furness Council

growth being needed within the next 5 year period. At the current time we don't have enough information to add this into the AMP8 programme, but there may be a requirement to do so.

The recent change in government was quickly followed by an announcement that housing targets are to be increased, with 1.5 million new homes being built over the next Parliament.[3] A planning consultation has already been issued, suggesting a significant increase in housing requirements in the North West, something we will assess once further information becomes available. UUW believe these very recent examples illustrate the difficulty in accurately forecasting growth, and whilst the cost assessment model used is a reasonable method of allocating funding, tracking deliverables to the extent proposed in the PCD builds too much financial risk and uncertainty into a programme already subject to a high degree of uncertainty due to external factors.

4.2 Cost assessment model

We agree that using a standalone model to determine funding for growth at wastewater treatment works is an improved approach to that used in previous business plan periods. We broadly consider the model Ofwat has developed to be an acceptable mechanism to determine funding for growth at a programme level, but it has limitations. At a programme level, we have reviewed the proposed costs presented in the draft determination and believe we can deliver the programme submitted for the modelled costs indicated by solution optimisation for those sites where this is possible. Revised costs are shown per scheme in data table ADD19.

The cost drivers used in the cost assessment models don't represent all factors that contribute to individual scheme costs. We note that Ofwat's cost models only use ammonia permit dummy as a proxy for effluent quality. We consider that this is an overly narrow approach that fails to capture other relevant aspects of treatment complexity.

The table below shows the percentage difference between submitted costs versus costs allowed for each scheme.

Table 1: Modelled costs versus submitted costs for UUW

Scheme name	Submitted costs (£m)	Allowance pre adjustment (£m)	Percentage difference
Barton WwTW	32.73	13.40	-41.94%
Calveley WwTW	1.41	3.56	+152.48%
Calverhall North WwTW	1.94	3.52	+81.4%
Carlisle South WwTW	36.18	29.85	-17.5%
Cockerham WwTW	6.34	5.06	-20.19%
High Bentham WwTW	5.54	3.41	-38.5%
Kirkbride WwTW	5.58	3.59	-35.66%
Melling WwTW	12.16	7.17	-41.04%
Sandbach WwTW	6.39	8.56	+33.96%
Warrington South WwTW	19.20	16.38	-34.56%
Whalley WwTW	8.16	6.73	-17.52%

Source: Submitted costs Table 5 UUW65, Enhancement case 16; Allowance pre adjustment Wastewater scheme level PCDs, Growth – NWT tab

As can be seen, this clearly illustrates how different modelled costs are with a high degree of variability for all schemes within the proposed programme.

4.2.1 Project specific costs outside of costs assessment model

One example of a factor not included within the model is land purchase. In the programme proposed for AMP8, UUW believe we need to purchase land for the schemes at Carlisle and Cockerham and will need temporary site accommodation at Kirkbride. The scheme at Cockerham also requires diversion of both inlet and outlet pipework.

[3] Housing targets increased to get Britain building again - GOV.UK (www.gov.uk)

The percentage increase in growth is also a factor. Within the UUW programme the scheme at Barton is seeing the highest percentage of growth at 153 % increase in population compared to the 2021 baseline. This is a scheme where the modelled allowance is significantly lower than the UUW cost estimate, £13.40 m v £ 32.73 m

4.2.2 Population Equivalent Figures

The PE forecast figures used to complete table PE figures in table ADD17 as requested in the guidance match those figures used in table CWW7a. As discussed in our response to query OFW-OBQ-UUW-044. The resident population data set used for CWW7a is a **Trend based** projection. This aligns with the approach used for APR reporting of wastewater treatment works loads and is consistent with the methodology used for reporting sewage loads in the forecasts which were developed and submitted at PR19.

The figures that make up the basis of the growth enhancement case are based on a more detailed review of local authority planning data for these locations. This information is shown in Table 5 *Defined supply and demand schemes* and included in documentUUW65, enhancement case 16 of the UUW October 2023 submission. We use Edge Analytics to support forecasting of the number of connected properties and population. There is a range of population forecasts using scenarios based on historic data, (rate of housing completions, ONS rate of growth) or planning information from Local Authorities (housing needs and planning requirements). A regional view is given with numbers allocated to wastewater treatment works drainage area every five years, with updates of the current population issued annually. The way in which visitor numbers are allocated to individual treatment works means these are sometimes reported to more than one decimal place. Thus the trend based growth forecast shown in table ADD19 may differ from a plan based viewed of growth at these sites across the AMP. In the limited time available we have not been able to test the model proposed to fully understand how this might change the allowance given.

It should be noted the overall difference between a trend-based forecast and a plan-based forecast across the region is minor. The total growth between 22/23 and 29/30 on a trend basis is 4.10% and on Plan basis is 4.05%. (Reference Query OFW-OBQ-UUW-005). Whilst the overall impact at a regional level is minor, the individual impact at a scheme level can be much more significant.

4.2.3 Future permit limits

The permit limits shown in data table ADD19 are our current assumptions based on modelling and review. For schemes in the WINEP programme there is a much higher degree of certainty of future permit limits as the EA determines these and companies deliver to these requirements. For growth schemes, particularly those where we have no WINEP drivers, the process to determine future permits is longer and the outcome more uncertain. A pre application submitted to the EA for consideration takes six months to assess, potentially longer for a new treatment works. The EA will provide indicative permit limits once it has assessed this pre application, but these are only finalised once the formal application has been made and assessed and permit issued. Assumptions have been made at company level as to future permit limits for the sites in the proposed and there is a high likelihood some will change. This serves to add further uncertainty which can only be managed at a programme level.

For those schemes where the eventual permit limits turn out to be tighter than forecast, the proposed approach appears to assume that the additional resulting costs are absorbed, given that additional funding will not be provided via the PCD mechanism. We consider that Ofwat should permit such risks to be managed at an overall programme level.

4.3 PCD design

UUW agree that a PCD should apply to the growth enhancement programme. It is appropriate that customers should be refunded if the additional sewage treatment capacity they have paid is not delivered. The PCD proposed by Ofwat for this programme covers a number of deliverables in addition to the primary outcome, proposing to track delivery against all of the cost drivers used to determine the funding allowance, and at scheme level apply a non-delivery PCD payment if any of the forecast permit changes become less onerous.

This appears to be a move away from the outcomes-based approach advocated by Ofwat in the PR24 methodology and leads to a high level of uncertainty for companies to manage with an end of AMP reconciliation

proposed that will potentially see customers being refunded even when increased treatment capacity has been delivered.

As discussed above, and as shown by the difference in funding allowed for each scheme versus funding requested the model on a scheme-by-scheme basis has limitations.

The sections below consider each of the cost drivers in turn.

Absolute change over the 2025-30 period:

This is the driver companies use to determine whether a scheme should be included with the AMP8 programme, where there is high confidence the growth will occur and investment needed by the end of the AMP to maintain permit compliance. Expanding on points made in section 4.1 above on factors that can impact growth forecasting if a scheme has a trade effluent input, loads received can be impacted and reduced if a trader closes or has a downturn in production that companies cannot always foresee. This could result in growth being less than forecast, but this change could happen after the scheme has been designed, contract let and construction underway or competed. The overall increased capacity committed to for a particular scheme could therefore be delivered, but companies could still see a PCD penalty in this scenario. It would not seem appropriate to refund customers when the outcome has been delivered. As discussed above, the forecasts used in CWW7a are trend based, whereas for each scheme during design phase a detailed review would be carried out of the latest local authority 15 years plans, trade effluent contributions and any visitor impact changes. These figures are highly likely to be different in every case than those forecast.

Process capacity added

This is the outcome to be delivered, and which will have a direct impact on costs. This we believe is the **primary outcome** and key measure to monitor delivery for this programme. Growth schemes are investment for the long term not just one AMP and so this is the outcome that should be measured and tracked . Any change in scope that reduces or increases the design PE would impact on this figure. We accept Ofwat's position that an end of AMP reconciliation will not result in any increase allowance but is capped at the allowance total determined by the model. This is the measure used to track delivery of the bespoke AMP7 performance commitment 'Protecting the environment form the impact of growth and new development'

Change in permit DWF and ammonia permit

As discussed above, we have made several assumptions in data table ADD19 in relation to future permit conditions. Changes to the population forecasts will impact on changes required to DWF permits, and in turn on ammonia and other end of pipe permit conditions. Scheme solutions and costs will potentially change as a result, including determining whether a scheme does need to be delivered within AMP8 or can be deferred. The proposal to monitor and include all of these factors within a PCD mechanism adds a high level of uncertainty into allowances on a scheme-by-scheme basis. Uncertainties such as these are better managed at a programme level. Businesses will have to absorb any differences between forecast limits and actual limits whilst Ofwat will seek to recover allowances where these are less onerous. This appears to require companies to operate within a reasonably tight performance range and carry a level of risk that is unreasonable, potentially leading to suboptimal outcomes.

Link to performance commitment

Customer investment is also protected by the fact that UUW believes there is a direct link to the discharge permit compliance common performance commitment. Failure by companies to invest at wastewater treatment works to accommodate growth in the catchment will result in a much-increased risk of failing permit limits, attracting the associated penalty associated with that performance commitment.

We recognise the close link between investment to accommodate growth and this performance commitment and have reflected this in data table OUT3.14 although Ofwat appears not recognise this connection. Ofwat has proposed to remove the deadband for the discharge permit compliance measure, previously set at 99.0 percent. The ODI penalty only rate for UUW is four times that applied in AMP7. In addition, discharge permit compliance is a gateway measure to achieve four-star EPA status - set at 99.0 percent - in the EA EPA methodology. Compliance

with DWF permit limits is to be included within the EPA methodology from 2026. These additional factors are strong incentives for companies to deliver a growth programme in line with that proposed, even without a multi deliverable PCD model.

Risk assessment

The limited time available has not allowed a full assessment of the implications of changing the cost drivers within the model to be carried out, but we believe the model proposed will significantly increase uncertainty and risk for companies.

Reporting and assurance requirements

We agree that third party assurance of delivery of this programme is appropriate, including the justification for moving schemes into and removing schemes out of the programme.

Factors included in the model such as growth in AMP8, PE capacity increase to be delivered and DWF permit requirements would all be factors that would form part of this assurance and justification as to whether a scheme should proceed, be amended or removed.

This assurance requirement covers all the factors Ofwat has included within the PCD model and are a way to ensure investment made is justified, at the appropriate level and has been fully delivered and this would serve to protect customers interests and ensure the environment is protected from the impact of non-compliant wastewater discharges. Having a robust assurance process in place provides additional customer protection that funding has been spent and the outcome delivered and adds weight to a simplified PCD providing a proportionate level of customer protection.

4.4 Proposal

We propose a more simplified PCD mechanism linked to additional PE treatment capacity provided, the outcome of the programme, with a penalty per PE not delivered.

All of the factors as described above highlight the need to manage growth at a programme level. The proposed model developed doesn't cover all possible requirements – for example: if a scheme ultimately had to deliver against a tighter phosphorus permit as a result of growth, this would not be reflected in the modelled allowance. This is why it is important to allow companies more flexibility to manage delivery across the programme as a whole and to adopt an approach that recognises the overall objective (PE capacity increases) rather than focuses on a subset of specific forecast requirements at a scheme level which are potentially subject to change. We believe that Ofwat's approach should be refocussed to provide increased treatment capacity at wastewater treatment works to accommodate growth, whilst being able to comply with discharge permit conditions to protect the environment.

The uncertainty an end of AMP reconciliation would introduce, after costs having been incurred seems unnecessarily punitive; it appears to penalise companies by focussing on a subset of requirements at a scheme-by-scheme basis rather than recognising the overall requirements of the growth programme, including requirements that may have changed since the start of the AMP period.

In AMP7 UUW has a bespoke performance commitment linked to growth – "Protecting the environment from the impact of growth and new development, Reference PR19UU_ C06-WWN." In the methodology for this performance commitment Ofwat acknowledged the need for flexibility as stated in the detailed definition of this performance measure, "The population equivalent forecast may change over the course of the programme if the size of the predicted development increases or reduces. Growth from housing developments may also accelerate or slow down over the business plan period. These potential changes lead to the requirement for a flexible programme to enable reprioritisation of projects".

The outcome is measured as the additional population equivalent capacity at the wastewater treatment works reported annually, with a cumulative target and end of AMP reconciliation. This model works well and Ofwat could use this as the basis of the growth PCD for AMP8. A rate per additional PE could be determined and this more simplified outcomes based PCD model used rather than the one proposed by Ofwat. This would be simpler

to track and administer, and more similar to the sanitary WINEP programme PCD. A second option is to develop different PCD rates based on size band of treatment works and increased PE capacity delivered as economies of scale could be a factor to consider. Both options would protect customers by ensuring delivery of the outcome they have funded whilst protecting the environment.

In AMP7, the methodology has allowed us flexibility to change locations where necessary, so we have invested where needed, and deferred/abandoned those schemes where not required in the AMP. This same methodology would work for the growth PCD, albeit without the reward potential.

5. Approach for final determination

We request Ofwat amend the proposed model to incorporate a phosphorus permit dummy (<=0.5 mg/l) into the model suite. We find that this variable is statistically significant and of the correct sign. We provide more details on this in DD representation document *UUWR_27 - Enhancement modelling consultation*.

We request Ofwat reconsider the PCD design for PCDWW27to recognise this is a programme that needs to be delivered and managed at a programme level. This would reflect a simplified PCD model to reflect the variability and likelihood of changes being needed at scheme level and to better allow companies to manage the financial risk. UUW proposes to keep the outcome as increased PE capacity but simplifying the model to focus on the overall outcome. This would provide an acceptable level of flexibility in the event of changing location/scope of investment due to changing risk profile, but still provide customers with a measure that can be easily understood and tracked in terms of delivery and with a direct link to funding received.

We request Ofwat review the past under delivery adjustment. UUW's position is that a negative adjustment should be made only in those cases where there is clear evidence that underspending has resulted in demonstrable wastewater capacity shortages.