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Appendix 3.9

WINEP COST ADJUSTMENT MECHANISM

March 2019

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WINEP COST ADJUSTMENT MECHANISM

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Introduction

This appendix sets out a proposed cost adjustment mechanism to be applied in the event of discrepancies in scale between the assumed environmental programme at the time of the Final Determination (FD) in December 2019 and the confirmed programme in 2021.

This document describes:

- The requirements and guidelines that drive the need for this approach;
- The principles and assumptions applied in the calculation of the proposed unit costs and the proposed adjustment mechanism. This will include consideration of:
    - What we will do if the scheme is no longer required (this applies to all Green and Amber schemes);
    - What we will do if the Amber schemes deliver more or less outputs;
- The governance and assurance of the proposed mechanism.

WINEP Enhancement - guidelines and requirements for cost adjustment

A large portion of enhancement expenditure is driven by environmental requirements. These requirements are set out in the final release of the 'Water Industry National Environment Programme' (WINEP).

The WINEP, formerly known as the National Environment Programme (NEP), is a national investment programme for all water only and water and wastewater companies. It includes investigations, monitoring, options appraisals and schemes to drive improvements, prevent deterioration and protect the water environment. These commitments form part of each water company's Asset Management Plan (AMP) and form a set of regulatory obligations which must be delivered.

The Environment Agency (EA) has adopted an iterative approach to development of the WINEP for PR19. There have been three releases:

- WINEP1 in March 2017 focused largely on water resources actions to inform draft Water Resource Management Plans and included only some wastewater schemes;
- WINEP2 in September 2017 provided an updated position on the environmental measures to include in PR19 plans;
- WINEP3 published in March 2018 was the final update and includes a comprehensive list of schemes to be included in company business plans.

The timeline differences between the PR19 planning and the third cycle river basin management planning for the Water Framework Directive (WFD) introduce an ongoing level of uncertainty. This means that despite the iterative approach, some requirements will remain uncertain when we submit our business plan in September 2018, and when Ofwat makes their final determination in December 2019. The provisional ministerial sign off date for the 2021 river basin management plans is December 2021. There is therefore a need to continue with a 'managing uncertainty' approach that evolves based on the lessons learnt from that adopted in PR14.

The EA applied a traffic light system (Red, Amber, Green) during development of the WINEP. The system reflects the different levels of certainty associated with the development of measures, economic appraisal and ministerial decisions, with Green being most certain.

At NWL, we recognise our role in meeting water quality objectives for rivers and coastal waters, but we aim to ensure that our customers' money is spent on well-justified cost-beneficial schemes that will deliver real improvements to water quality and ecology. To achieve this, we have worked very closely with our local and national EA River Basin Management Service representatives, through smaller technical specialist areas and sharing of knowledge from work undertaken with other external groups and stakeholders, to agree the obligations included in the PR19 WINEP.

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In the PR19 Final Methodology, Ofwat identified in Section 9.4.3 that the anticipated (uncertain) programme will be funded, as long as companies propose an appropriate cost adjustment mechanism to account for any potential discrepancy between the scale of the assumed and confirmed programmes. Companies will be required to link expenditure for unconfirmed requirements to a unit cost, which may relate directly to an outcome. **Ofwat will use the unit cost to make an adjustment at the end of the control period**, based on the volume of work that was eventually confirmed as required and delivered by the company.

Principles and assumptions

WINEP development – improved level of certainty

There were 728 lines in the NW WINEP2 published in September 2017. These were classed as 309 Green, 14 Amber, 399 Red, 5 Purple and one uncategorised. As a result of our work with the EA, this uncertainty was significantly reduced by WINEP3 (March 2018), with 581 Green and 69 Amber categories remaining out of a total 650 lines in the NW WINEP3 (only 10.6% uncertain).

WINEP3 does include schemes which will not have to be undertaken in AMP7 (39 Red and Purple level of certainty in NW's WINEP3). These have been included for information in a separate tab in the WINEP3 file. The EA have stated they only expect to see cost allowances in company business plans for Green and Amber measures in WINEP3. NWL has not included Red schemes in the plan.

Ofwat state that they expect companies to link expenditure for unconfirmed (Amber) schemes to a 'unit cost'. As indicated, the number of Amber schemes amount to only 10.6% of the total number of WINEP obligations. This does however account for approximately 70% of the total capital expenditure, mainly as a result of two uncertain drivers including the UWWTD flow driver (UIMP5), and WFD 'improvement' schemes. The former is uncertain as a result of changing EA guidance, whilst the latter is due to the fact that ultimate ministerial decision on the third river basin management plan obligations will not be made until 2021. This is summarised in Tables 1(a) and 1(b) below:

Table 1(a): Proportion of WINEP covered by cost adjustment mechanism with unit cost (unconfirmed Amber schemes)

Item	No. of lines (scheme names) in WINEP (Northumbrian Water and Essex and Suffolk Water)		Included in cost adjustment with unit cost	
	No. lines	% of total lines	Totex (£m)	(% of Totex – approx.)
WINEP Total	699 (650 NW & 49 ESW)	100%	190	100%
Green	628 (581 NW & 47 ESW)	90%	62	30%
Amber	71 (69 NW & 2 ESW)	10%	128	70%

Table1(b): WINEP Water quality and water resources split for Amber schemes

	Capex	Opex	Number of WINEP lines
Total Water Quality (WQ) North	£129.7M	£0.0M	56 lines
Total Water Resources (WR) North and South	£2.1M	£0.0M	15 lines
Total Amber (North and South)	£131.8M	£0.0M	71 lines

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NWL has established that we will treat **all WINEP Ambers** as if they were 'Green' i.e. we are committed to deliver all of the Amber and Green schemes and investigations unless better, more efficient delivery mechanisms can be identified to deliver the same environmental objective by alternative means. Any alternative proposals (such as delivery via catchment partnership projects) would need to be approved by the EA and logged via a formal change protocol procedure.

Cost adjustment mechanism – unit cost

An appropriate cost adjustment mechanism will be proposed (in accordance with Section 9.4.3 of the Ofwat methodology) in order to ensure our customers are not paying for schemes and outcomes that have not been delivered.

It is Ofwat's expectation that companies should link expenditure for unconfirmed requirements to a unit cost which must relate to a readily quantifiable measure. This may or may not be a specific performance commitment (PC).

NWL's environmental outcome that is most directly impacted by delivery of the WINEP plan is:

'We help to improve the quality of river and coastal waters for the benefit of people, the environment and wildlife'.

This includes the following PC for river and coastal water quality:

Discharge compliance – which has a PC of 99% compliance at water treatment works and sewage treatment works.

Although the introduction of new permits through WINEP directly impacts on this outcome and PC, we do not see this as a useful unit against which a cost adjustment could be made.

We have reviewed all Amber schemes within WINEP to identify an appropriate 'unit cost'.

WINEP comprises a range of schemes and investigations. **There is no single unit cost that could be applied across the whole of WINEP**. For example, in the case of schemes with a wastewater treatment improvement driver (e.g. WFD_IMPg, U_IMP5), a unit cost could be expressed in terms of cost per population equivalent (£/PE) served by enhanced STW etc. We would also propose that a cost adjustment based on population equivalent would need to be banded into population ranges, as the £/PE will be significantly higher for smaller sized treatment works than large.

This unit cost mechanism would not however be applicable to schemes where the obligation is not directly impacted by the population served. For example, an alternative unit cost for volume related schemes would be £/m^3 volume (.e.g. UIMP6 – storm tank capacity).

Table 2(a) provides a summary of the principles and assumptions made in establishing an appropriate unit cost for the different elements of the wastewater WINEP water quality drivers (North). Although some thought has been given to all WINEP elements, only Amber schemes have a proposed unit cost adjustment mechanism.

Table 2(b) provides additional detail for the wastewater WINEP water quality drivers (North), providing costs for each Amber scheme. These are grouped as EA drivers, and cross-referenced to the lines in table WWS2 to which these costs have been allocated.

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Table 5 (page 11) also provides a summary on the individual lines from the water WINEP (water resources North and South) indicating where cost adjustment is proposed, Unit costs are only proposed for Amber schemes. Each Amber scheme is also cross referenced to the lines in table WS2 to which these costs have been allocated.

The principle adopted relates specifically to what the uncertainty is attributed to. It may be linked to:

- The lack of data – additional data may become available as a result of a staged approach to delivering the obligation;
- Lack of clarity of the scope – it may be that the EA have not been able to provide sufficient clarity at the time of WINEP publication;
- Potential for policy change – Ministerial decisions may be pending and may result in a change in policy (for example, WFD decisions regarding measures for the third river basin management cycle will not be made until 2021). This may result in a final decision on affordability being made that will result in the improvements no longer being supported. The majority of our WFD wastewater improvement schemes also have a WFD 'no deterioration' driver. These would need to be delivered regardless as they are not linked to affordability. Although we have presented a cost adjustment mechanism for this, NWL does not expect this change to be likely and propose to deliver all Amber schemes associated with this uncertainty.

Table 2(a): Wastewater enhancement – cost adjustment mechanisms principles

Line ref	WWS2 Wholesale wastewater enhancement expenditure by purpose	Directive	EA Drivers	Costing basis	Number of WINEP commitments and WINEP of Certainty	Number of WINEP commitments and level of Certainty	Cost adjustment mechanism - comments	Unit Cost	Monetary value (Capex £M)
					Green	Amber	Where is the Uncertainty? - awaiting additional data ? Clarity of scope? Delivery may be via an alternative mitigation measure? (e.g. CaBA), change in EA Policy still possible?		
9	WINEP / NEP ~ Schemes to increase flow to full treatment	UWWTD and Bathing Water Directive	UIMP5	Additional capacity for primary, filters and secondary settlement (units sized per population increase)	4	12	More detailed assesment of flow may identify more or less sites that are non compliant - plus estimated flow increase may be incorrect - propose adjustment via unit cost curves per PE	Cost (£) per PE (unit cost specific to PE Band)	37
10	WINEP / NEP ~ Storage schemes at STWs to increase storm tank capacity		UIMP6	Additional storm tank capacity (Volume per head) - cost per head	2	7	May identify more or less sites that are non compliant - estimated volume may be incorrect	Cost (£) per m3 increase	0.95
12	WINEP / NEP ~ Chemicals removal schemes	WFD Chemicals	CHEMIMP/ND and NDLS	Additional tertiary treatment unit	6	2	Source identification and control may mean end of pipe treatment not required or treatment capacity optimised	Cost (£) per PE (unit cost site specific as limited number of sites)	7.1
17	WINEP / NEP ~ Nutrients (N removal)	WFD Nutrients	WFD IMPg Ammonia and WFD ND Ammonia	Additional NSAF and DBF solids removal - cost curves per PE basis	2	1	No cost adjustment required for the 2 No det drivers only therefore must do. One site is Improvement only. May be removed based on affordability assessment, but probably unlikely.	Cost (£) per PE (unit cost specific to PE Band)	95.7
18	WINEP / NEP ~ Nutrients (P removal at activated sludge STWs)		WFD IMPg m and p for phosphorus	Additional on-line monitoring and control - one site only	0	1	No cost adjustment required - low monetary value	Cost (£) per PE (unit cost specific to PE Band)	
19	WINEP / NEP ~ Nutrients (P removal at filter bed STWs)		WFD IMPg m and p for phosphorus	Additional primary, and secondary settlement, additional monitoring and control, additional sludge storage, Chemical dosing and tertiary solids removal	1	25	Process unit removal if No det. driver only (e.g. no tertiary solids removal) - Unit cost adjustent for whole process removal	Either reduced scope if No deterioration driver only - adjustment mechanism = full scope cost minus reduced scope cost, OR Cost (£) per PE (unit cost specific to PE Band) if appropriate.	

Table 2 (b): Wastewater enhancement schemes – individual driver line costs and WWS2 reference

Functio	Water Company	Scheme Name/Name of Investigation/Site Name/License name	WINEP Driver Code (Primary)	WINEP Level of Certainty? (P= Purple, R=Red, A=Amber, G=Green	Capex	Capex (Driver total)	WWS2 Line ref	Opex	Opex (Driver total	WWS2 Line ref.
WQ	Northumbrian Water	Redcar Coatham bathing water ambition investigation	BW_INV4	Amber	£54,596.00			£0.00		
WQ	Northumbrian Water	Redcar Granville bathing water ambition investigation	BW_INV4	Amber	£109,192.00			£0.00		
WQ	Northumbrian Water	Redcar Lifeboat Station bathing water ambition investigation	BW_INV4	Amber	£109,192.00			£0.00		
WQ	Northumbrian Water	Redcar Stray bathing water ambition investigation	BW_INV4	Amber	£54,596.00			£0.00		
WQ	Northumbrian Water	Saltburn bathing water ambition investigation	BW_INV4	Amber	£109,192.00		Line A16 (one of	£0.00		
WQ	Northumbrian Water	Seaham Hall Beach bathing water ambition investigation	BW_INV4	Amber	£109,192.00		a number of	£0.00		
WQ	Northumbrian Water	Seaton Carew Centre bathing water ambition investigation	BW_INV4	Amber	£54,596.00		drivers allocated	£0.00		
WQ	Northumbrian Water	Seaton Carew North bathing water ambition investigation	BW_INV4	Amber	£54,596.00		to this WWS2	£0.00		
WQ	Northumbrian Water	Spittal bathing water ambition investigation	BW_INV4	Amber	£109,192.00		line, total	£0.00		
WQ	Northumbrian Water	Tynemouth Cullercoats bathing water ambition investigation	BW_INV4	Amber	£109,192.00	£873,536.00	£8.17M)	£0.00	£0.00	Line B63
WQ	Northumbrian Water	Aldbrough STW	U_IMP5	Amber	£2,002,500.12			£0.00		
WQ	Northumbrian Water	Bishopton STW	U_IMP5	Amber	£1,888,880.24			£0.00		
WQ	Northumbrian Water	Chester-le-Street STW	U_IMP5	Amber	£5,010,963.48			£0.00		
WQ	Northumbrian Water	Crookhall STW	U_IMP5	Amber	£2,168,101.33			£0.00		
WQ	Northumbrian Water	Eppleby STW	U_IMP5	Amber	£1,931,938.02			£0.00		
WQ	Northumbrian Water	Felton STW	U_IMP5	Amber	£2,076,248.90			£0.00		
WQ	Northumbrian Water	Great Broughton STW	U_IMP5	Amber	£1,961,217.22			£0.00		
WQ	Northumbrian Water	Haggerston Castle STW	U_IMP5	Amber	£1,930,135.39			£0.00		
WQ	Northumbrian Water	Longnewton STW	U_IMP5	Amber	£919,854.85			£0.00		
WQ	Northumbrian Water	Low Wadsworth STW	U_IMP5	Amber	£3,392,908.56		Line A9 (total	£0.00		
WQ	Northumbrian Water	Rothbury STW	U_IMP5	Amber	£2,081,757.74		£37M, of which	£0.00		
WQ	Northumbrian Water	Wark STW	U_IMP5	Amber	£1,933,898.62	£27,298,404.45	£27M is amber)	£0.00	£0.00	Line B56
WQ	Northumbrian Water	Bellingham STW	U_IMP6	Amber	£99,998.43			£0.00		
WQ	Northumbrian Water	Cassop STW	U_IMP6	Amber	£70,675.74			£0.00		
WQ	Northumbrian Water	Greatham STW	U_IMP6	Amber	£115,053.73			£0.00		
WQ	Northumbrian Water	Melsonby STW	U_IMP6	Amber	£85,209.22			£0.00		
WQ	Northumbrian Water	Pittington STW	U_IMP6	Amber	£118,037.73	£488,974.85	Line A10	£0.00	£0.00	Line B57
WQ	Northumbrian Water	Hustledown STW (CIP2 T1)	WFD_IMP_CHEM	Amber	£5,684,000.00			£0.00		
WQ	Northumbrian Water	Hustledown STW (CIP2 T1)	WFD_IMP_CHEM	Amber	£0.00	£5,684,000.00	Line A12	£0.00	£0.00	Line B59
WQ	Northumbrian Water	Aldin Grange	WFD_IMPg	Amber	£3,943,617.99			£0.00		
WQ	Northumbrian Water	Bishop Middleham	WFD_IMPg	Amber	£2,391,482.38			£0.00		
WQ	Northumbrian Water	Carlton Redmarshall	WFD_IMPg	Amber	£4,019,177.53			£0.00		
WQ	Northumbrian Water	Chilton Lane	WFD_IMPg	Amber	£4,071,238.60			£0.00		
WQ	Northumbrian Water	Fishburn	WFD_IMPg	Amber	£3,032,456.50			£0.00		
WQ	Northumbrian Water	Kelloe	WFD_IMPg	Amber	£2,737,009.96			£0.00		
WQ	Northumbrian Water	Kirklevington STW	WFD_IMPg	Amber	£3,914,054.43			£0.00		
WQ	Northumbrian Water	Longnewton	WFD_IMPg	Amber	£3,860,858.20			£0.00		
WQ	Northumbrian Water	Pittington	WFD_IMPg	Amber	£3,844,905.03			£0.00		
WQ	Northumbrian Water	Plawsworth	WFD_IMPg	Amber	£3,905,804.12			£0.00		
WQ	Northumbrian Water	Sedgeletch	WFD_IMPg	Amber	£5,889,849.42			£0.00		
WQ	Northumbrian Water	Slaley - in combination effect with De Vere Hotel	WFD_IMPg	Amber	£2,277,583.09			£0.00		
WQ	Northumbrian Water	Witton Gilbert	WFD_IMPg	Amber	£3,437,466.60			£0.00		
WQ	Northumbrian Water	Bowburn	WFD_IMPm	Amber	£0.00			£0.00		
WQ	Northumbrian Water	Browney	WFD_IMPm	Amber	£176,717.16			£0.00		
WQ	Northumbrian Water	Esh Winning	WFD_IMPm	Amber	£0.00			£0.00		
WQ	Northumbrian Water	Knitsley	WFD_IMPm	Amber	£4,569,666.09			£0.00		
WQ	Northumbrian Water	Lanchester	WFD_IMPm	Amber	£5,458,331.25			£0.00		
WQ	Northumbrian Water	New Moors	WFD_IMPm	Amber	£4,481,169.68			£0.00		
WQ	Northumbrian Water	Pity Me	WFD_IMPm	Amber	£5,040,923.58			£0.00		
WQ	Northumbrian Water	Sacriston	WFD_IMPm	Amber	£5,049,677.38			£0.00		
WQ	Northumbrian Water	Sedgefield	WFD_IMPm	Amber	£4,497,116.04			£0.00		
WQ	Northumbrian Water	Sherburn	WFD_IMPm	Amber	£4,226,012.46			£0.00		
WQ	Northumbrian Water	Teeside Airport	WFD_IMPm	Amber	£4,900,504.81			£0.00		
WQ	Northumbrian Water	Trimdon	WFD_IMPm	Amber	£5,381,521.67			£0.00		
WQ	Northumbrian Water	Crookhall	WFD_IMPp	Amber	£1,747,993.52		Line A18/19/20	£0.00		Line B65/66/67
WQ	Northumbrian Water	Dipton	WFD_IMPp	Amber	£2,476,194.74	£95,331,332.24	(all amber)	£0.00	£0.00	(all amber)

	Capex			Opex	
Total WQ North	£129,676,247.54			£0.00	56 lines
Total WR North and South	£2,070,130.32			£0.00	15lines
Total Amber	£131,746,377.86			£0.00	71 lines

Cost adjustment – mechanism

We propose the following two scenarios:

1. Where the scheme is no longer required. This applies to all Green and Amber schemes. We would propose to simply return the 2020-25 funding at the end of the 2020-25 period in a net present value (NPV) neutral way (a full breakdown of costs against each WINEP deliverable is available).

2. Where the Amber schemes deliver more or less outputs. We would propose making an adjustment to funding to reflect the change in outputs (based on unit cost). This would be at the end of the 2020-25 period in a net present value neutral way (ref. unit cost proposed below).

In both cases, there may need to be some initial spend prior to the decision not to invest such as a feasibility study, modelling, or sampling programme. This initial spend would need to be accounted for in the adjustment.

In order to minimise abortive spend we will continue to work closely with the EA to ensure that any changes to regulatory requirements are managed and communicated in as timely a way as possible.

When scheduling implementation of our WINEP programme, we will fully consider the relative degree of certainty of each candidate whilst balancing this where necessary against deliverability and supply chain constraints.

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We note the following approach linked to the area of uncertainty and the reason for the cost adjustment requirement:

- **The lack of data – additional data may become available as a result of a staged approach to delivering the obligation.** In this case it may be agreed with the EA that the original scheme is no longer required in full. This would be agreed via change protocol.
- **Lack of clarity of the scope – it may be that the EA have not been able to provide sufficient clarity at the time of WINEP publication.** The EA continue to collect additional data to support their river basin management planning process. This process is not aligned with the Ofwat business planning periodic reviews. Measures specifications detailing the obligations have been developed post publication of WINEP3 and submission of the draft business plan. It may be that additional information is made available, either locally or nationally, during this process that changes the scope of the WINEP obligation. This would need to be agreed with the EA via change protocol, but may be after some initial spend undertaken by NWG in order to meet the scheduled WINEP delivery date.
- **Potential for Policy change – Ministerial decisions may be pending and may result in a change in policy (for example, WFD decisions regarding measures for the 3rd river basin management cycle will not be made until 2021. This may result in a final decision on affordability being made that will result in the improvements no longer being supported.** The overall national WFD programme is very challenging for the supply chain. In order to meet the delivery dates, we will need to schedule an efficient delivery programme evenly over the 5 year period rather than deliver everything towards the back end, in order to meet the WINEP delivery date of December 2024. This may mean that some investment has already been made prior to ministerial decisions. The majority of our WFD wastewater improvement schemes also have a WFD No deterioration driver. These would need to be delivered regardless as they are not linked to affordability. Although, we have presented a cost adjustment mechanism for this, NW does not expect this change to be likely and propose to deliver all Amber schemes associated with this uncertainty.

The mechanism will take the following into account:

- The basis of any cost adjustment would be the FD allowed cost per WINEP deliverable;
- If a deliverable is required and delivered on time there is no adjustment required;
- If a deliverable is not required it would be removed from the FD allowed cost, generating a lower FD adjusted allowed cost;
- If the outcome is changed the allowed cost of that deliverable would be a value calculated based on a unit cost. The FD adjusted allowed costs would change accordingly, higher or lower;
- If the outcome is delivered late, the NPV of the difference in the FD allowed cash flows between the original timing and the actual timing will be calculated and an adjustment made at the end of the period;
- If a more efficient delivery mechanism can be identified, to deliver the same environmental objective (outcome) by alternative means (such as delivery by catchment partnership projects), this would need to be approved by the EA (via change protocol), but would not initiate cost adjustment;
- At the end of the period an adjustment would be made based on the difference between the FD adjusted allowed cost compared with the FD allowed cost, and an adjustment made on an NPV neutral basis;
- Unit cost adjustments have not been proposed for the certain (Green) schemes in WINEP. This is considered to be beyond the scope identified in the Ofwat PR19 Final Methodology. In the event that the outcome of such schemes is changed, as a result of EA or Defra policy changes, a unit cost would need to be agreed based on the change. It is not possible to pre-empt what these changes may be, so a unit cost cannot be proposed at this stage.

Delivery of WINEP obligations will be logged by the EA using a 'tracking' spreadsheet. This will be used to confirm sign off of delivered obligations, and to confirm that the outputs are satisfied or that change protocol is accepted if the output is changed. It will be used for annual reporting purposes as part of the Environmental Performance Assessment (EPA). This will need to logged and conveyed to Ofwat, and then as indicated, the FD adjusted allowed costs would change accordingly, higher or lower. Delayed or non-delivery of WINEP schemes will be managed via this mechanism. If the change cannot be agreed with the EA, it would be recorded as a failure to comply with the obligation, and would subsequently impact on our EPA scoring. It may also lead to permit non-compliance which may contribute to a penalty against our discharge compliance PC.

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Unit costs proposed (for Scenario 2)

Where the Amber schemes deliver more or less outputs, we propose making adjustment to the funding at the end of the 2020-25 period using the following unit costs on a driver specific basis (Table 3 and 4). The cost curves from which the band costs have been obtained are appended and could be used to provide a more accurate value than use of the table bandings. The table bandings are based on the average unit cost for the given population range.

Table 3: Schemes that fall under the drivers UWWTD UIMP5, and WFD Improvements:

£/PE				
Band	**PE Range**	**UIMP5**	**WFD IMP**	**WFD ND (All)**
1	<=250	£7,622.95	£12,387.57	£9,207.44
2	250-500	£5,431.39	£8,461.76	£6,064.08
3	500-2,000	£1,985.11	£2,728.69	£1,754.69
4	2,000-10,000	£534.89	£624.58	£348.76
5	10,000-25,000	£218.59	£228.35	£115.79
6	>25,000	£162.23	£163.30	£80.19

Note: Where WFD Improvement schemes are not supported by the EA in their third river basin management plan, but the site still has a 'no deterioration' driver, some investment will still be required. We would prefer to proceed with the same level of investment and environmental improvement, but if the full level of investment is not supported by Ofwat, we will invest sufficient to meet the 'no deterioration' obligation. Adjustment would then be made as the difference between the two solutions.

Figures 1 and 2 (appended) illustrate the cost curves from which the band costs have been obtained and could be used to provide a more accurate value than use of the table bandings. Figures 5 and 6 illustrate the cost curves from which the band costs for WFD 'no deterioration' drivers have been obtained (separated out to account for the wide variance for 'no deterioration' (All) as a result of including or excluding tertiary treatment to meet the standard).

Table 4: Schemes that fall under the driver UWWTD UIMP6, and network storage (such as UIMP4 and BWND):

£/m^3			
Band	**m^3 Ranges**	**UIMP6**	**Network Storage**
1	<=1,000		£1,633.43
2	>1,000 & <=3000		£929.69
3	>3000		£601.96
All	All	£3,306.12	

Figures 3 and 4 (appended) illustrate the cost curves from which the band costs for storage have been obtained and could be used to provide a more accurate value than use of the table bandings.

Water enhancement schemes designated as Amber in WINEP3 have lower monetary value than the wastewater Amber schemes. These are largely where investigations will be undertaken prior to options appraisal. This may mean that mitigation measures are no longer required, or that the measure differs from

that assumed in the business plan estimate. Table 5 provides comment on the individual lines from WINEP to indicate where cost adjustment may be possible on a line by line basis.

Table 5: Water enhancement schemes – individual driver line cost adjustment proposed

Function	Water Co.	Unique ID	Scheme Name/Name of Investigation/Site Name/License name	Driver Code (Primary)	Measure Type	Completion Date	Level of Certainty? (P= Purple, R=Red, A=Amber,	Cost Estimate (£)	Cost Adjustment Mechanism: In Scope	Cost Adjustment Unit Rate	Comment	Ofwat Table ref
WR	ESW	7ES200010	Eel measures at Ormesby Broad	EE_IMP	Eel Screen	31/03/2025	Amber	£0.00	Y	£9,200/scheme	The EA has indicated that it will accepted "soft start" pumps as the solution which will be delivered as part of an existing AMP6 pump upgrade. This scheme should be covered by the cost adjustment mechanism as the EA has still to formally confirm acceptance of the solution and in case the pump upgrade does not go ahead as currently planned. The unit cost will be £19,200/scheme.	WS2-A2
WR	ESW	7ES100130	LANGHAM A, B, C & E	WFD_IMP_WRHMWB	Sustainability Change	31/03/2024	Amber	£55,000.00	Y	£55,000 per scheme	This scheme is amber as the detailed scope has yet to be agreed with the EA. Following discussions with the EA, we have made an allowance for in-river channel measures to mitigate against low flow impact due to PWS abstraction (ESW, AWS, Affinity). This scheme should be covered by the cost adjustment mechanism in case this in-river channel measures are not suitable mitigation measures. The unit cost is £55,000 per scheme.	WS2-A2
WR	NW	7NW10005	Barrasford raw water pumping station - Rede to Gunnerton Burn, Barrasford to S Tyne, Watersmeet to Tidal Limit - Eels Regs and MM3	EE_IMP	Eel Screen	22/12/2024	Amber	£1,070,943.00	Y	£1,070,943 / intake screen	The eel screen cost is an estimates based on the cost of the AMP6 Lumley eel screens. The scheme is amber as EA guidance is that we do not actually have to install the screens until we next upgrade the pumping station. We currently intend to install the screens in AMP7. However, the scheme should be subject to the Cost Adjustment Mechanism in case NWL chooses to delay screen installation until a future upgrade. The unit cost is £1,070,943 / intake screen.	WS2-A18
WR	NW	7NW100011	Harthope burn catchwater - Water supply asset - MM1 and MM7	WFD_IMP_WRHMWB	Fish Passage	22/12/2024	Amber	176,554	Y	£176,544/ fish pass	The fish pass structure cost is an estimate based on the cost of the Wellhope Burn fish pass. This is an amber scheme and so should be subject to the Cost Adjustment Mechanism. If the scheme is not required, the unit cost is £176,544/ fish pass	WS2-A18
WR	NW	7NW100012	Wear Pipe crossing St Johns Chapel -fish passage MM1	WFD_IMP_WRHMWB	Fish Passage	22/12/2024	Amber	176,554	Y	£176,544/ fish pass	The fish pass structure cost is an estimate based on the cost of the Wellhope Burn fish pass. This is an amber scheme and so should be subject to the Cost Adjustment Mechanism. If the scheme is not required, the unit cost is £176,544/ fish pass	WS2-A18
WR	NW	7NW100013	Ireshope - Wham pasture MM1. MM7 Burnhope res supply	WFD_IMP_WRHMWB	Fish Passage	22/12/2024	Amber	176,554	Y	£176,544/ fish pass	The fish pass structure cost is an estimate based on the cost of the Wellhope Burn fish pass. This is an amber scheme and so should be subject to the Cost Adjustment Mechanism. If the scheme is not required, the unit cost is £176,544/ fish pass	WS2-A18
WR	NW	7NW100014	Ireshope Burn - Greenwell Crags - MM1, MM7 Burnhope res supply	WFD_IMP_WRHMWB	Fish Passage	22/12/2024	Amber	176,554	Y	£176,544/ fish pass	The fish pass structure cost is an estimate based on the cost of the Wellhope Burn fish pass. This is an amber scheme and so should be subject to the Cost Adjustment Mechanism. If the scheme is not required, the unit cost is £176,544/ fish pass	WS2-A18
WR	NW	7NW10006	Pont - channel d/s of sluice - MM6 and MM7	WFD_IMP_WRHMWB	Sustainability Change	22/12/2024	Amber	£149,800.00	Y	Not known	The amount of channel restoration has yet to be defined and will be confirmed / agreed with the EA following an initial AMP7 survey. Consequently, the actual cost could change up or down and so the scheme should be covered by the cost adjustment mechanism. At this stage, it is not possible to confirm a unit cost.	WS2-A18
WR	NW	7NW10009	Burnhope Burn catchwater to River Derwent MM1 and MM2 , MM5, MM7	WFD_IMP_WRHMWB	Sustainability Change	22/12/2024	Amber	£243,915.32	Y	£160,503 / fish pass	The scheme comprises an allowance for pre- and post-implementation monitoring plus £160,503K for fish pass construction costs. This is an amber scheme and so should be subject to the Cost Adjustment Mechanism. If the scheme is not required, the unit cost is £160,503 / fish pass	WS2-A18
WR	NW	7NW10088	BLACK BURN catchwater, feeds into Burnhope Burn d/s of Catchwater . 100% take. MM5, MM7	WFD_IMP_WRHMWB	Sustainability Change	22/12/2024	Amber	£133,412.00	Y	£50,000/ fish pass	The scheme comprises an allowance for pre- and post-implementation monitoring plus £50K for fish pass construction costs. This is an amber scheme and so should be subject to the Cost Adjustment Mechanism. If the scheme is not required, the unit cost is £50,000/ fish pass	WS2-A18
WR	NW	7NW100001	Balder - d/s Hury Resvoir dam wall - - continue AMP 6 adaptive management trial putting seasonality to compensation release then implement end of AMP 7 - MM5, MM2, MM7 and MM8	WFD_IMP_WRHMWB	Adaptive Management	22/12/2024	Amber	£83,412.00	Y	£41,706/survey	This scheme is about changing the flows of reservoir releases. There is no capital cost associated with physically changing the flows. Therefore the scheme cost is environmental monitoring which will continue through out the AMP. The level of certainty in terms of spend is high. However, as the scheme is an amber scheme, for completeness, we propose that it should be subject to the cost adjustment mechanism. In the event more or less surveys are required, we propose a unit cost of £41,706/survey.	WS2-A18
WR	NW	7NW100002	Lune - Grassholme Res Dam wall - continue AMP 6 adaptive management trial putting seasonality to compensation release then implement end of AMP 7 - MM5, MM2, MM7 amd MM8	WFD_IMP_WRHMWB	Adaptive Management	22/12/2024	Amber	£83,412.00	Y	£41,706/survey	This scheme is about changing the flows of reservoir releases. There is no capital cost associated with physically changing the flows. Therefore the scheme cost is environmental monitoring which will continue through out the AMP. The level of certainty in terms of spend is high. However, as the scheme is an amber scheme, for completeness, we propose that it should be subject to the cost adjustment mechanism. In the event more or less surveys are required, we propose a unit cost of £41,706/survey.	WS2-A18
WR	NW	7NW100003	Waskerley Res - d/s dam wall - implement outcomes of Adaptive Management trials for end of AMP 7 - MM5, plus MM1, MM2, MM4, MM8	WFD_IMP_WRHMWB	Adaptive Management	22/12/2024	Amber	£83,412.00	Y	£41,706/survey	This scheme is about changing the flows of reservoir releases. There is no capital cost associated with physically changing the flows. Therefore the scheme cost is environmental monitoring which will continue through out the AMP. The level of certainty in terms of spend is high. However, as the scheme is an amber scheme, for completeness, we propose that it should be subject to the cost adjustment mechanism. In the event more or less surveys are required, we propose a unit cost of £41,706/survey.	WS2-A18
WR	NW	7NW100016	River Derwent - implement outcomes of Adaptive Management trials for end of AMP 7 - MM5	WFD_IMP_WRHMWB	Adaptive Management	22/12/2024	Amber	£83,412.00	Y	£41,706/survey	This scheme is about changing the flows of reservoir releases. There is no capital cost associated with physically changing the flows. Therefore the scheme cost is environmental monitoring which will continue through out the AMP. The level of certainty in terms of spend is high. However, as the scheme is an amber scheme, for completeness, we propose that it should be subject to the cost adjustment mechanism. In the event more or less surveys are required, we propose a unit cost of £41,706/survey.	WS2-A18
WR	NW	7NW100017	Smiddy Shaw and Hisehope reservoirs Surface Water Transfer , MM5, MM7 and MM8	WFD_IMP_WRHMWB	Investigation and Options Appraisal	22/12/2024	Amber	£83,412.00	Y	£41,706/survey	This scheme is an investigation. The level of certainty in terms of spend is high. However, as the scheme is an amber scheme, for completeness, we propose that it should be subject to the cost adjustment mechanism. In the event that more than two surveys are required, we propose a unit cost of £41,706/survey.	WS2-A18
							Total	£2,070,130.32				

APPENDIX 3.9
WINEP COST ADJUSTMENT MECHANISM

Governance and assurance

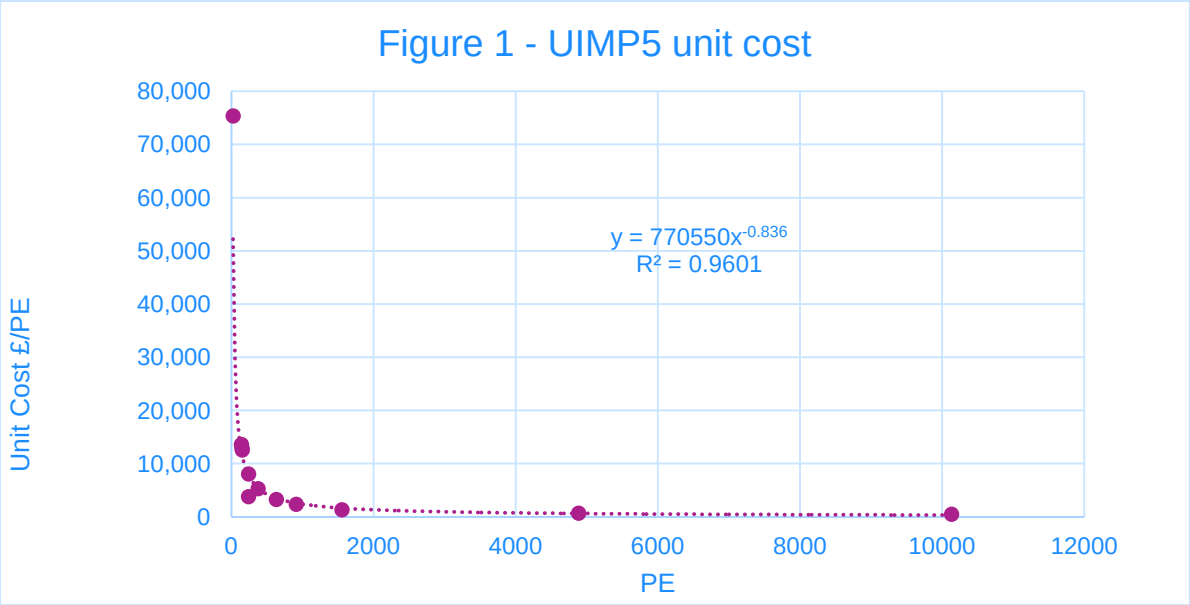
Assurance of the proposed mechanism will be provided via a third party audit process alongside audit of the WINEP cost estimates. Unit costs have been provided for all schemes of significant monetary value. It has not always been possible to provide a unit cost at anything less than the full scheme (output) cost where the monetary value is small (less than £500k).

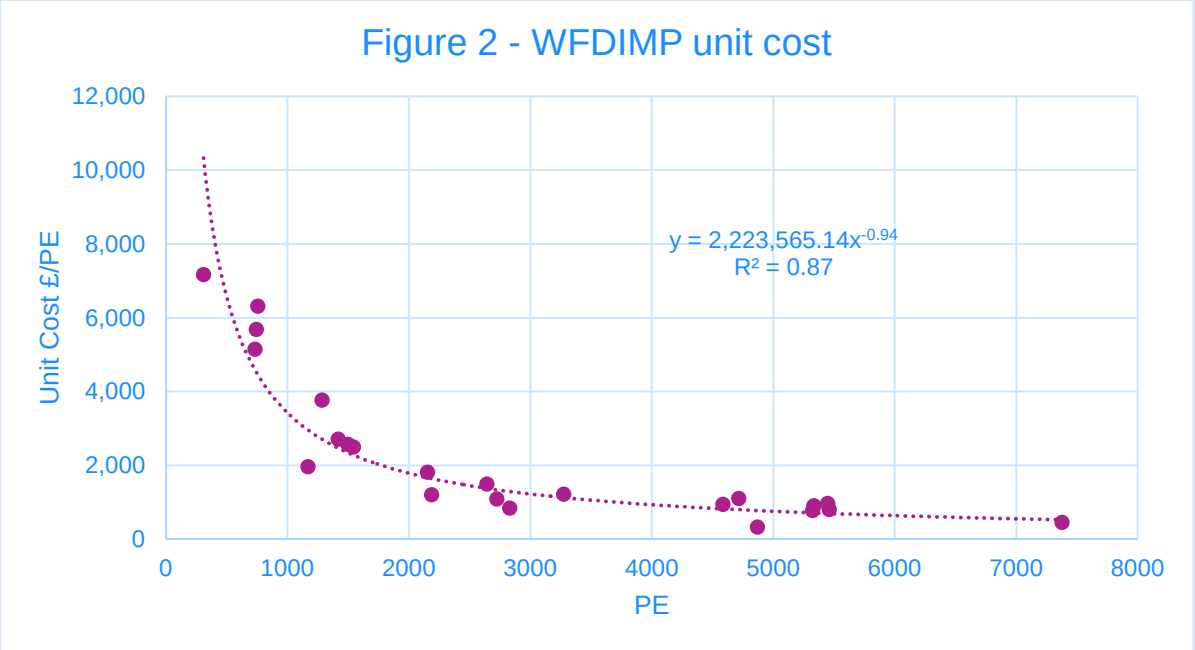
APPENDIX 3.9
WINEP COST ADJUSTMENT MECHANISM

Appendix A – Cost curves

Cost curves for unit costs per driver. The cost equations displayed on the graphs calculate the £/PE for a given PE which then needs to be multiplied by the PE to get the total cost.

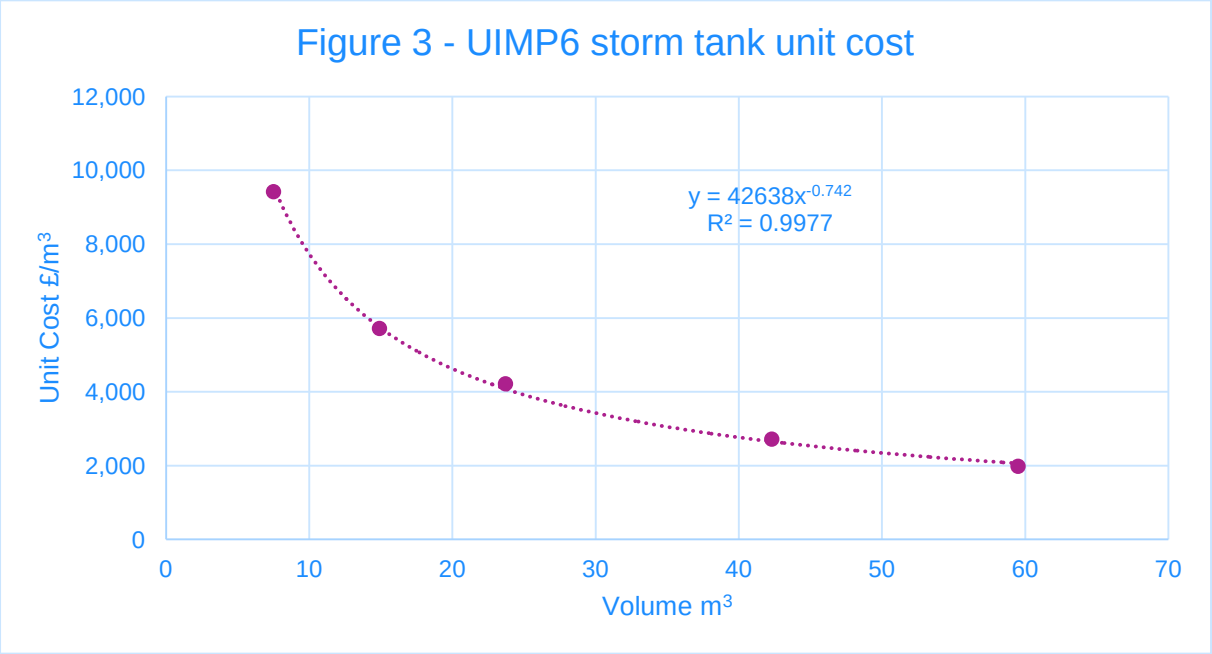
Figures 1 and 2 illustrate the cost curves from which the band costs for UIMP5 and WFDIMP schemes have been obtained.

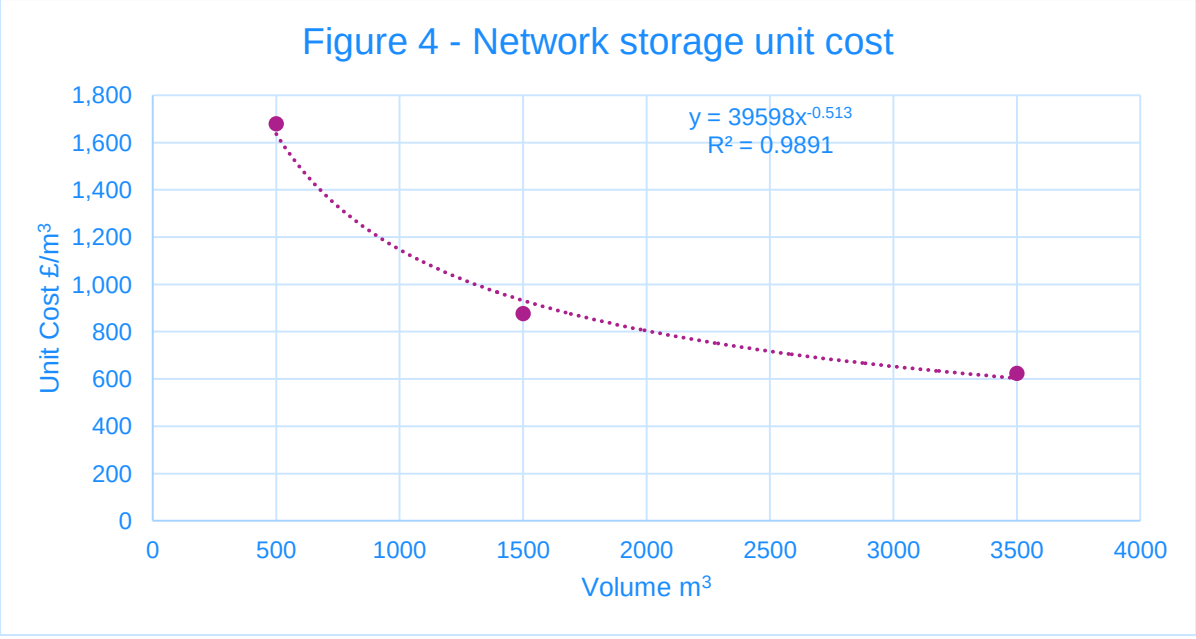




APPENDIX 3.9
WINEP COST ADJUSTMENT MECHANISM

Figures 3 and 4 illustrate the cost curves from which the band costs for storage have been obtained (for UIMP4 and BWND drivers).





Figures 5 and 6 illustrate the cost curves from which the band costs for WFD 'no deterioration' has been obtained (for 'no deterioration' drivers).