AMP7 Enhancement Scheme Assurance

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Northumbrian Water Group
B245773G

AMP 7 Enhancement Programme Independent Assurance
12/06/2025

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Executive summary

Through the PR19 business planning process, Northumbrian Water Group (NWG) was awarded funding for enhancement schemes requiring delivery in line with the scope described in the PR19 Performance Commitments document by the 31st of March 2025. NWG has commissioned Jacobs to supply third-party assurance to fulfil the Ofwat requirement of independently assessing the progress of the enhancement programmes for Water resilience (PR19NES_BES24), Wastewater resilience (PR19NES_BES27) and Howden STW Enhancement (PR19NES_BES29) at the next price review (PR24). This stipulation is set out in the *PR19 Final Determinations: Northumbrian Water - Outcomes performance commitments appendix* document sections 1.2.26, 1.2.29 and 1.2.35 respectively.

The purpose of the assurance was to review the alignment in scope, benefit and completion date regarding NWG's submitted AMP 7 enhancement cases. Each constituent scheme that makes up the three enhancement programmes were subject to review and challenge to assess the likelihood of an on-time delivery of a benefit equal to or greater than that given in *Appendix 3.2 Enhancement Business cases*.

The audits took place remotely and were all completed by the end of May 2025.

Based upon the presented method, each scheme was individually risk assessed. We conclude that:

1. 99.3% of the water resilience programme has been released for delivery.
2. 64.83% of the water resilience programme was delivered by 31st March 2025, with a further 22.24% delivered by May 2025. At time of writing this report, a further 12.23% is in line to be delivered by August 2025.
3. 92.9% of the Water Resilience programme is assessed to deliver on scope, with 3.7% (Central 3) not delivering on the proposed asset but nevertheless delivering on the outcome required, and 2.7% (Parts of TCTF) where additional clarification needs to be undertaken to demonstrate benefits of the selected resilience method.
4. 100% of the Wastewater Resilience programme was delivered by 31st March 2025.
5. Additional clarification needs to be undertaken to demonstrate the benefits of the selected resilience method for the Wastewater Resilience programme scope.
6. The Howden Resilience programme will not be delivered until 2029.
7. 100% of the Howden Resilience program is assessed to deliver on scope.

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Contents

Appendices

Tables

Figures

1. Introduction

This report holds the third-party assurance required by Ofwat to assess the progress of Water Resilience Enhancement programmes according to the requirements defined in the PR19 Final Determination document section 1.2.26 for Water (PR19NES_BES24), section 1.2.29 for Wastewater (PR19NES_BES27) and section 1.2.35 for Howdon STW (PR19NES_BES29), shown below in Figures 1-3 respectively.

1.2.26 Delivery of water resilience enhanced programme

Purpose: This performance commitment is designed to incentivise the company to reduce the risk of critical service failure affecting a large number of customers.

Benefits: This performance commitment protects customers from non-delivery of schemes in the company's water resilience enhanced programme. These schemes will deliver benefits to customers by reducing the number of events that results in customers not having water supplied over a sustained period of time.

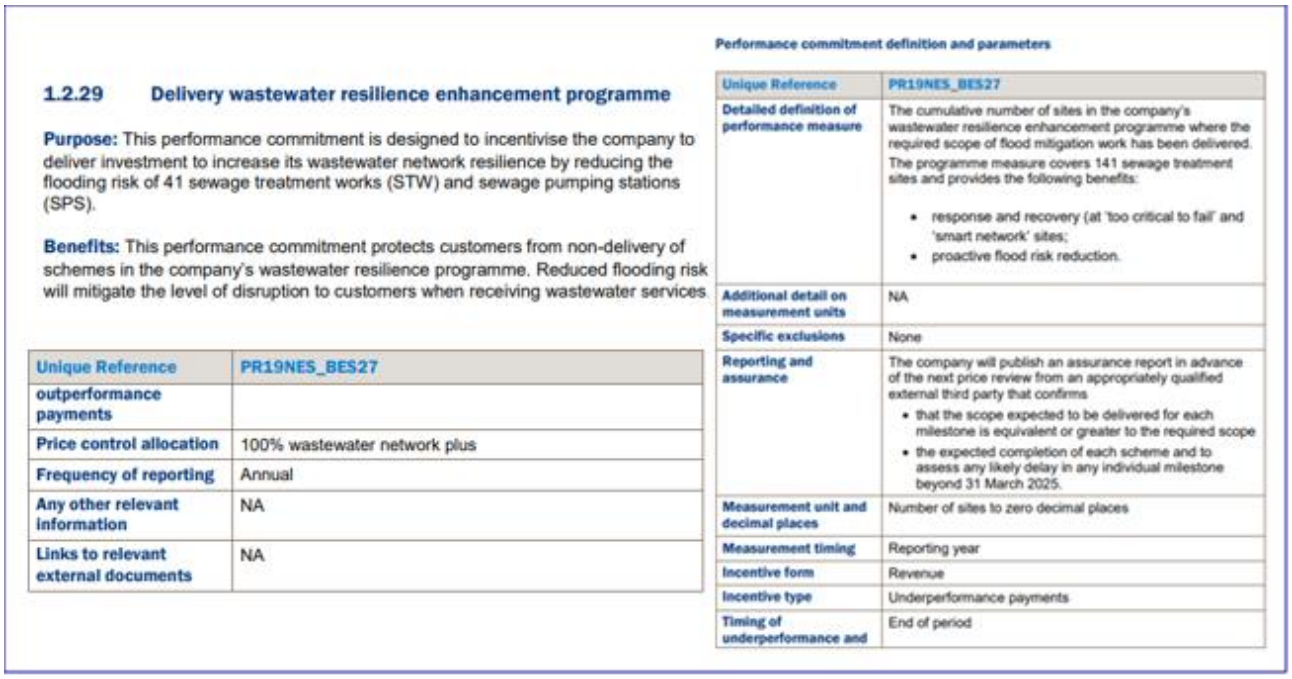
Performance commitment definition and parameters

Unique Reference	PR19NES_BES24
Detailed definition of performance measure	This performance commitment measures the delivery of the company's water resilience enhancement programme. The relevant milestones are:

Estimated completion date	Milestone	Weight %
31 March 2025	Central	39.36%
31 March 2025	Essex	22.58%
31 March 2025	Teeside	22.49%
31 March 2025	Suffolk	9.68%
31 March 2025	Tyne	0.46%
31 March 2025	Too critical to fail	5.43%

Unique Reference	PR19NES_BES24
	Completion is determined on full completion of the respective milestones when the measures are in operation and providing clear benefit to customers. The required scope of the milestones are as set out by the company in submissions to Ofwat in advance of draft determinations.
Additional detail on measurement units	None
Specific exclusions	None
Reporting and assurance	The company will provide an assurance report at the next price review from an appropriately qualified third party to: • confirm that the scope expected to be delivered for each milestone is equivalent or greater to the required scope • confirm expected completion of each scheme and to assess any likely delay in any individual milestone beyond 31 March 2025.
Measurement unit and decimal places	Percentage completion to one decimal place
Measurement timing	Reporting year
Incentive form	Revenue
Incentive type	Underperformance payments
Timing of underperformance and outperformance payments	End of period
Price control allocation	100% water network plus
Frequency of reporting	Annual
Any other relevant information	NA
Links to relevant external documents	NA

Figure 1 Consolidated PR19NES_BES24 Performance Commitment



1.2.29 Delivery wastewater resilience enhancement programme

Purpose: This performance commitment is designed to incentivise the company to deliver investment to increase its wastewater network resilience by reducing the flooding risk of 41 sewage treatment works (STW) and sewage pumping stations (SPS).

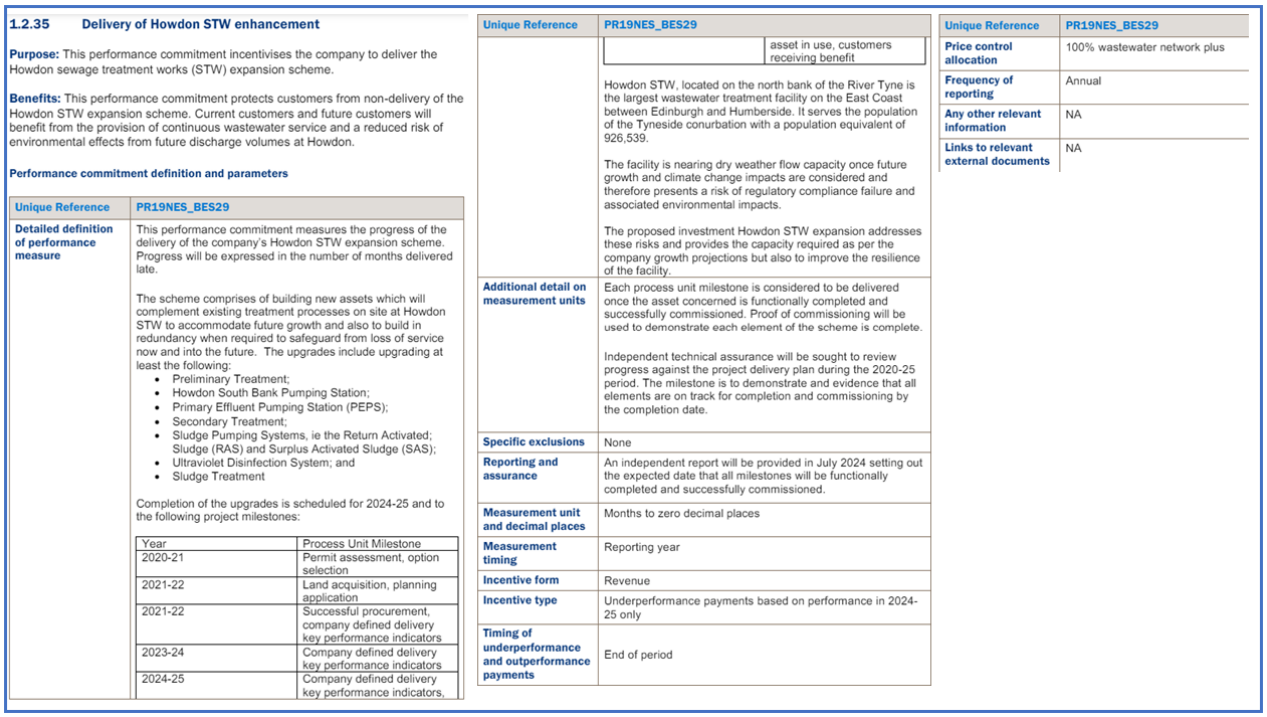
Benefits: This performance commitment protects customers from non-delivery of schemes in the company's wastewater resilience programme. Reduced flooding risk will mitigate the level of disruption to customers when receiving wastewater services.

Unique Reference	PR19NES_BES27
outperformance payments	
Price control allocation	100% wastewater network plus
Frequency of reporting	Annual
Any other relevant information	NA
Links to relevant external documents	NA

Performance commitment definition and parameters

Unique Reference	PR19NES_BES27
Detailed definition of performance measure	The cumulative number of sites in the company's wastewater resilience enhancement programme where the required scope of flood mitigation work has been delivered. The programme measure covers 141 sewage treatment sites and provides the following benefits: • response and recovery (at 'too critical to fail' and 'smart network' sites; • proactive flood risk reduction.
Additional detail on measurement units	NA
Specific exclusions	None
Reporting and assurance	The company will publish an assurance report in advance of the next price review from an appropriately qualified external third party that confirms • that the scope expected to be delivered for each milestone is equivalent or greater to the required scope • the expected completion of each scheme and to assess any likely delay in any individual milestone beyond 31 March 2025.
Measurement unit and decimal places	Number of sites to zero decimal places
Measurement timing	Reporting year
Incentive form	Revenue
Incentive type	Underperformance payments
Timing of underperformance and	End of period

Figure 2 Consolidated PR19NES_BES27 Performance Commitment



1.2.35 Delivery of Howdon STW enhancement

Purpose: This performance commitment incentivises the company to deliver the Howdon sewage treatment works (STW) expansion scheme.

Benefits: This performance commitment protects customers from non-delivery of the Howdon STW expansion scheme. Current customers and future customers will benefit from the provision of continuous wastewater service and a reduced risk of environmental effects from future discharge volumes at Howdon.

Performance commitment definition and parameters

Unique Reference	PR19NES_BES29
Detailed definition of performance measure	This performance commitment measures the progress of the delivery of the company's Howdon STW expansion scheme. Progress will be expressed in the number of months delivered late. The scheme comprises of building new assets which will complement existing treatment processes on site at Howdon STW to accommodate future growth and also to build in redundancy when required to safeguard from loss of service now and into the future. The upgrades include upgrading at least the following: • Preliminary Treatment; • Howdon South Bank Pumping Station; • Primary Effluent Pumping Station (PEPS); • Secondary Treatment; • Sludge Pumping Systems, ie the Return Activated; Sludge (RAS) and Surplus Activated Sludge (SAS); • Ultraviolet Disinfection System; and • Sludge Treatment Completion of the upgrades is scheduled for 2024-25 and to the following project milestones: Year / Process Unit Milestone 2020-21 / Permit assessment, option selection 2021-22 / Land acquisition, planning application 2021-22 / Successful procurement, company defined delivery key performance indicators 2023-24 / Company defined delivery key performance indicators 2024-25 / Company defined delivery key performance indicators,

Unique Reference	PR19NES_BES29
	asset in use, customers receiving benefit Howdon STW, located on the north bank of the River Tyne is the largest wastewater treatment facility on the East Coast between Edinburgh and Humberside. It serves the population of the Tyneside conurbation with a population equivalent of 926,539. The facility is nearing dry weather flow capacity once future growth and climate change impacts are considered and therefore presents a risk of regulatory compliance failure and associated environmental impacts. The proposed investment Howdon STW expansion addresses these risks and provides the capacity required as per the company growth projections but also to improve the resilience of the facility.
Additional detail on measurement units	Each process unit milestone is considered to be delivered once the asset concerned is functionally completed and successfully commissioned. Proof of commissioning will be used to demonstrate each element of the scheme is complete. Independent technical assurance will be sought to review progress against the project delivery plan during the 2020-25 period. The milestone is to demonstrate and evidence that all elements are on track for completion and commissioning by the completion date.
Specific exclusions	None
Reporting and assurance	An independent report will be provided in July 2024 setting out the expected date that all milestones will be functionally completed and successfully commissioned.
Measurement unit and decimal places	Months to zero decimal places
Measurement timing	Reporting year
Incentive form	Revenue
Incentive type	Underperformance payments based on performance in 2024-25 only
Timing of underperformance and outperformance payments	End of period

Unique Reference	PR19NES_BES29
Price control allocation	100% wastewater network plus
Frequency of reporting	Annual
Any other relevant information	NA
Links to relevant external documents	NA

Figure 3 Consolidated PR19NES_BES29 Performance Commitment

In particular, the assurance will focus on the following areas:

- Confirming the scope expected to be delivered for each milestone is equivalent or greater than the required scope.
- Confirming expected completion of each scheme and to assess any likely delay in any individual milestone beyond the end of AMP 7.

1.1 Clarification of Success Criteria

Following Ofwat's Final Determination of the NWG PR19 business plan, NWG referred the outcome to the Competition and Markets Authority (CMA) for challenge. After their review, changes were made to the scope and funding of some of the initial PR19 programmes. Following these changes, NWG sought clarification from Ofwat of the Performance Commitment (PC) outcomes in July 2022 and again in June 2023. No official response was received until July 2024. In the absence of any substantive feedback from Ofwat, NWG took the decision to adopt revised PCs in which the success criteria were determined by the benefit to customers being fulfilled. These PCs were used as the basis for the previous assurance report completed by Jacobs in September 2023. The feedback received from Ofwat in July 2024 deemed that these revised PCs were not suitable and that the success criteria should instead be based on ***Outputs*** rather than ***Outcomes***. As such the below success criteria are taken from the document *Appendix 3.2 Enhancement Business cases.*

1.1.1 Water Resilience

Table 1 PR19NES_BES24 Output Success Criteria

Supply area with % regional milestone	Original Scheme Description	% of Water Resilience Programme	FD Costs Scheme Basis (£m)	Output assessed against
Central (39.35%)	Springwell Main (7km from Springwell to Pikes Hole + EOV) (Central 1)	15.57%	12.774	**Lay 7km of 1000mm water main from Springwell to Pikes Hole**
	New Service Reservoir at Springwell (Central 2)	16.98%	13.926	**Construct 42.75ML Service Reservoir at Springwell**
	Provide link from Tees to Central Area via new WPS at Shildon SR (Central 3)	3.66%	3.002	**Install new 55ML Water Pumping Station to provide a link from Teesside to the central area**
	1.5km of main from Carr Hill Link to Springwell SR (Central 4)	3.14%	2.579	**Lay 1.5km of 600mm water main to link Carr Hill and Springwell SR**
Essex (22.60%)	Abberton to Hanningfield Raw Water Transfer Main (Essex 5) (Now called Layer to Langford)	22.33%	18.315	**Lay 18.5km raw water main between Abberton and Hanningfield**
	Connecting Main at Herongate	0.27%	0.219	**Lay 30m of 900mm connecting water main at Herongate Service Reservoir**

	Service Reservoir (Essex 6)			
Teesside (22.48%)	Whorley to Shildon Main (Tees 7)	22.24%	18.240	**Lay 16km of new 800mm water main to allow connection between Whorley Service Reservoir (Tees) to Shildon Service Reservoir (Central)**
	Cross Connection into Darlington (C60/60a) (Tees 8)	0.24%	0.200	**Install cross connections into C60/C60a for Darlington**
Suffolk (9.68%)	Barsham SR/WPS Scheme (Suffolk 9)	9.68%	7.934	**Construct a new treated water storage reservoir and install a new Water Pumping Station**
Tyne (0.46%)	Duplicate Main at Chirton Service Reservoir Outlet (Tyne 10)	0.46%	0.380	**Lay 315m of 700mm Water main at Chirton Service Reservoir**
TCTF (5.43%)	Resilience Improvements at 'Too Critical to Fail' Sites	5.43%	4.456	**Increase Resilience across a number of sites (See Table 2)**

Table 2 Too Critical to Fail Mitigation Breakdown

Site	Overall Site Risk	Specific Risks (M/H)	FD Costs (£m) for Individual Schemes assuming equal % contribution
Birney Hill PS	High	Flooding (H) Loss of Power (M)	**0.318**
Broken Scar PS	Moderate	Loss of Power (M)	**0.318**
Broken Scar River Intake Pumps	High	Flooding (H) Loss of Power (M)	**0.318**
Broken Scar TW	High	Loss of Power (M)	**0.318**
Ormesby PS	High	Flooding (H)	**0.318**
Barsham Final Contact tank	High	Flooding (H)	**0.318**
Barsham PS1	Moderate	Flooding (M)	**0.318**
Chigwell Raw Water PS	High	Flooding (M)	**0.318**
Chigwell Treated Water PS	High	Flooding (M)	**0.318**
Hanningfield	High	Flooding (H)	**0.318**
Layer	High	Flooding (H)	**0.318**
Layer High Lift	High	Flooding (H)	**0.318**
Lower Hall PS	High	Loss of Power (M)	**0.318**
Ormesby Paterson Stream	High	Flooding (H)	**0.318**

1.1.2 Wastewater Resilience

The scope of this scheme was to provide resilience from flooding and power loss to wastewater sites deemed Too Critical to Fail. There were 141 sites identified to undergo assessment and provide the necessary resilience.

The sites were to be phased across the AMP as shown in Table 3 below, with all 141 sites being addressed by the end of the AMP.

Table 3 Delivery Commitment Profile of Wastewater TCTF

FY	2020-21	2021-22	2022-23	2023-24	2024-25
Target	0	35	70	105	141

1.1.3 Howdon STW Resilience

The original scope defined in the document Appendix 3.2 Enhancement Business Case, Section 'Wastewater Howdon' included several aspects to enhance resilience and improve capacity to meet projected growth in the catchment. The resilience portion requested was £14.73m to improve resilience at:

- South bank pumping station (SBPS)
- Primary effluent pumping station (PEPS)
- RAS/SAS sludge Pumping Station

In their final determination, Ofwat accepted the need for resilience at the South Bank and Primary Effluent pumping stations but rejected the need for resilience at the 'Activated sludge' pumping station (RAS/SAS), therefore they allowed an extra £6m compared to draft determination for these activities (see Appendix A.3). However, the commentary in Section 1.2.35 (PR19NES_BES29) of the document PR19 Final Determinations:

Northumbrian Water – Outcomes performance commitments appendix (shown above in Figure 3), did not reflect this scope change and still includes resilience for the RAS/SAS pumping station.

This was believed to be an oversight on Ofwat's part and therefore, this assurance audit will only consider the resilience improvements for SBPS and PEPS.

We understand that this is in line with a correction to the ODI which NWG sought from Ofwat in writing in July 2022. NWG sought to further clarify the position in 2023.

2. Methodology

2.1 Approach to the assurance review

Our approach taken to investigate scope alignment, delivery and projected delays considered evidence from the following sources:

1. The specification of the scheme as set out in the NWG document *Appendix 3.2 Enhancement Business cases*.
2. The detail post-decision from the Competition Markets Authority within the document *Anglian Water Services Limited, Bristol Water plc, Northumbrian Water Limited and Yorkshire Water Services Limited price determinations Final report.*
3. Progress and scope discussions with the Project and Programme Managers associated with each scheme.
4. Scheme risk registers.
5. Project Gantt charts

For each scheme we have considered the evidence and risk-assessed the information supplied to determine the risk of achieving the outcomes currently being reported and the delivery date currently being forecast.

NOTE – These may differ from the original PR19 customers protected figures and delivery dates.

We have used the below risk scale for this assessment:

Table 4 Risk Assessment Matrix

A	B	C	D
No issues identified (low risk) Appendix A. The benefit/delivery date is fully supported by all the evidence provided, which is robust and compelling. Appendix B. Evidence appears clear, relevant and of good quality. Appendix C. Low level risks with appropriate plan to remedy. Appendix D. Appropriate assumptions Appendix E. Solution offers described resilience enhancement	**Non-material issues identified (low to medium risk)** • Like A, but with some uncertainties. • Evidence is not as conclusive, but work is ongoing to mitigate the risk. • Medium risk areas but with appropriate plans to remedy. • Solution offers some resilience enhancement	**Material issues identified (medium to high risk)** • Material areas of deficiency in the evidence provided. • Many areas are incomplete and no clear or realistic plans to remedy. • High-risk areas but with appropriate plans to remedy. • Evidence does not support the figures presented. • Solution offers little resilience enhancement	**Significant material issues identified (high risk)** • Significant gaps, incoherent, no plans to remedy deficiencies etc. • No evidence to justify the figures. • High risk areas with no appropriate plan to remedy. • Solution offers no resilience enhancement

2.2 Assurance Standard

We conducted our limited assurance in accordance with the International Standard on Assurance Engagements (UK) 3000 Assurance Engagements other than Audits or Reviews of Historical Financial Information ("ISAE (UK) 3000 revised"). The Standard requires that we obtain sufficient, appropriate evidence on which to base our conclusion.

In particular we:

- Generally accepted evidence provided to us at face value, including source system reports;
- Relied on the comments from the auditees to form our opinions;
- Conducted a sample check to evidence data presented to us to source systems.

3. Findings

The risk assessment against the document *Appendix 3.2 Enhancement Business cases* is shown in Table 5 below.

Table 5 Assessment of each scheme against Scope and Schedule

Area	Original Scheme Description	% of Programme	Scheme Scope Assessed Against	Scope Adherence RAG	Forecast Asset in Use Date	Schedule Risk RAG
Central (39.35%)	Springwell Main (7km from Springwell to Pikes Hole + EOV) (**Central 1**)	15.57% of Water Resilience	**Lay 7km of 1000mm water main from Springwell to Pikes Hole**	**B**	**31/03/2025**	**Scheme completed as per forecast**
	New Service Reservoir at Springwell (**Central 2**)	16.98% of Water Resilience	**Construct 42.75ML Service Reservoir at Springwell**	**A**	**31/03/2025**	**Scheme completed as per forecast**
	Provide link from Tees to Central Area via new WPS at Shildon SR (**Central 3**)	3.66% of Water Resilience	**Install new 55ML Water Pumping Station to provide a link from Teesside to the central area**	**C**	**06/2025**	**B**
	1.5km of main from Carr Hill Link to Springwell SR (**Central 4**)	3.14% of Water Resilience	**Lay 1.5km of 600mm water main to link Carr Hill and Springwell SR**	**A**	**08/2025**	**B**
Essex (22.60%)	Abberton to Hanningfield Raw Water Transfer Main (**Essex 5**) (Now called Layer to Langford)	22.33% of Water Resilience	**Lay 18.5km raw water main between Abberton and Hanningfield**	**A**	**28/02/2025**	**Scheme completed as per forecast**
	Connecting Main at Herongate Service Reservoir (Essex 6)	0.27% of Water Resilience	**Lay 30m of 900mm connecting water main at Herongate**	**A**	**11/2024**	**Scheme completed as per forecast**

			Service Reservoir			
Teesside (22.48%)	Whorley to Shildon Main (Tees 7)	22.24% of Water Resilience	**Lay 16km of new 800mm water main to allow connection between Whorley Service Reservoir (Tees) to Shildon Service Reservoir (Central)**	**A**	**10/05/2025**	**Scheme completed as per forecast**
	Cross Connection into Darlington (C60/60a) (Tees 8)	0.24% of Water Resilience	**Install cross connections into C60/C60a for Darlington**	**N/A Scheme Not Released, Funding to be returned at PR29**		
Suffolk (9.68%)	Barsham SR/WPS Scheme (Suffolk 9)	9.68% of Water Resilience	**Construct a new treated water storage reservoir and install a new Water Pumping Station**	**A**	**03/2025**	**Scheme completed as per forecast**
Tyne (0.46%)	Duplicate Main at Chirton Service Reservoir Outlet (Tyne 10)	0.46% of Water Resilience	**Lay 315m of 700mm Water main at Chirton Service Reservoir**	**N/A Scheme Not Released, Funding to be returned at PR29**		
TCTF Water (5.43%)	Resilience Improvements at 'Too Critical to Fail' Water Sites	5.43% of Water Resilience	**Increase Resilience across a number of Water sites (See Table 2)**	**C**	**06/2025**	**B**
TCTF Wastewater	Resilience Improvements at 'Too Critical to Fail' Wastewater Sites	100% of Wastewater Resilience	**Increase Resilience across a number of Wastewater sites**	**C**	**03/2025**	**Scheme completed as per forecast**

Howdon STW	Resilience Improvements at Howdon STW	100% of Howdon STW Resilience	**Increase the resilience of South Bank PS (SBPS) and Primary Effluent PS (PEPS)**	**A**	**2029**	**C**

3.1 Central 1

3.1.1 Scope

The Output to be achieved by the Central 1 scheme was to install 7km of 1000mm water main between Springwell and Pikes Hole, north of Washington and provide additional strategic transfer to the Wearside network. NWG have stated that as the project has progressed, the initially envisaged 7km route has been modified to avoid a river crossing and is planned to be approximately 5.5km in length. This will still provide the same outcome of linking Springwell to Pikes Hole. Based on the above we have given a B rating on scope adherence.

3.1.2 Programme Status

The project was completed on the 31st of March 2025, in line with the target set by Ofwat.

3.1.3 Risk

The project was completed on the 31st of March 2025, in line with the target set by Ofwat.

3.2 Central 2

3.2.1 Scope

The Output to be achieved by the Central 2 scheme was to construct a new 42.75ML service reservoir at Springwell. This was to provide 72h of strategic storage in the region. NWG have reported that the project will provide a new 43ML service reservoir. On this basis we have awarded the scheme an A for adherence to scope.

3.2.2 Programme Status

The project was completed on the 31st of March 2025, in line with the target set by Ofwat.

3.2.3 Risk

The project was completed on the 31st of March 2025, in line with the target set by Ofwat.

3.3 Central 3

3.3.1 Scope

The original proposed Output for Central 3 was to construct a new 55ML Water Pumping Station (WPS) at Shildon Service Reservoir (SR). However, following the PR19 submission and more detailed investigation/solutions development, it was understood that the resilience of supply could be enhanced through an alternate solution of installing automated values and reversing flows on existing systems in a loss of supply event. The WPS was considered redundant as there was enough existing system pressure to service customers in the same areas, without the need for additional boosting, in fact, upon detailed investigation NWG deemed that installing a new PS on the existing pipe network would pose a significant risk of pipe breaks and leakage. Challenge was given around the operability of this solution; however reversing flows is a common maintenance practice. We note that more turbidity monitoring is also planned to be installed as a safeguard. The planned valve reconfiguration solution will achieve the same outcome as was planned for the scheme by delivering water to the Mosswood supply zone. It slightly exceeds the 70,404-population benefit stated in the PR19 PC Annex 1 document, with the scheme expected to deliver benefit to 72,000, however, it does not meet the specified output of installing a new pumping station that was submitted in the document '*Appendix 3.2 Enhancement Business cases*. As the PS that was funded at PR19 was not required, the associated funding was returned to customers at PR24. Based on the above, we have given a C rating for the scope adherence for this output.

3.3.2 Programme Status

The NWG team have reported that the Central 3 project valving work will be in place and functional to use by mid-June 2025.

3.3.3 Risk

The programme is considered to have a suitable risk register, no risk impacted programme plan was shared at interview. This delay has led us to assign a B rating to the scheme schedule.

3.4 Central 4

3.4.1 Scope

The Output to be achieved by the Central 4 scheme is to lay 1.5km of 600mm water main to connect the Derwent North strategic main to the new Springwell service reservoir (Central 2). NWG have reported that the scope they are currently working to exactly mirrors that set out in '*Appendix 3.2 Enhancement Business cases*' and will provide a 1.5km connection to the new 43ML service reservoir. On this basis we have awarded the scheme an A for adherence to scope.

3.4.2 Programme Status

The NWG team have reported that there are delays expected due to connection complexities. Shutdown of site cannot happen due to an operational issue, so a live connection is needed. There are also third-party requirements around moving a gas main that have added delays and road closure. The forecast for completion is now August 2025.

3.4.3 Risk

The programme is expected to be delayed due to connection complexities, requiring a live connection, having third party requirements and has been forecasted for delivery in August 2025. This surpasses the Ofwat set date of the 31st of March 2025, therefore the programme has been awarded a B rating on delivery date.

3.5 Essex 5

3.5.1 Scope

The successful Output of Essex 5 will be to lay 18.5km of raw water pipeline from Abberton to Lanford with a capacity of 50ML/d. This project was originally referred to as Abberton to Hanningfield but is now called Layer to Langford, primarily due to the perceived difficulties this might bring in the planning stage, as Abberton has a high public amenity value, even though the work to be conducted would not directly affect this area. We believe the scope being delivered matches the PC with the evidence supplied and have therefore assigned an A rating.

3.5.2 Programme Status

The project was completed on the 28th of February 2025, in line with the target set by Ofwat.

3.5.3 Risk

The project was completed on the 28th of February 2025, in line with the target set by Ofwat.

3.6 Essex 6

3.6.1 Scope

The Output to be achieved by the Essex 6 scheme was to install a new 30m section of 900mm connecting water main at Herongate service reservoir. This section is a duplicate main and would remove a single point of failure for approximately 110,000 customers. The scheme delivered 33m of 900mm pipework, 3m over the 30m that was set out in *Appendix 3.2 business case* and therefore we have given this scheme an A rating on scope.

3.6.2 Programme Status

The project was completed in November 2024, in line with the target set by Ofwat.

3.6.3 Risk

The project was completed in November 2024, in line with the target set by Ofwat.

3.7 Tees 7

3.7.1 Scope

The Output of the Tees 7 scheme to be achieved was to lay 16km of new 800mm water main to allow connection between Whorley Service Reservoir (Tees) to Shildon Service Reservoir (Central). This would allow transfer of water from the Teesside network to support the less abundant supplies in the Central network. NWG report that the scheme being delivered exactly mirrors that set out in *'Appendix 3.2 Enhancement Business cases'* and therefore we award this scheme an A rating for adherence to scope.

3.7.2 Programme Status

The project was completed on the 10th of May 2025, just over a month later than the target set by Ofwat.

3.7.3 Risk

The project was completed on the 10th of May 2025, just over a month later than the target set by Ofwat.

3.8 Tees 8

Scheme not released – associated funding will be returned to customers at PR29.

3.9 Suffolk 9

3.9.1 Scope

The successful Output of Suffolk 9 was to construct a new treated water storage reservoir and install a new water pumping station next to Barsham WTW. This enhancement work will be conducted in conjunction with a base funded project to build a new treatment works close to the existing NWG site at Barsham WTW. The projects have been merged into a single programme of works to benefit from increased control and efficiencies. NWG report that the scope being delivered is to install a 20ML reservoir, 2x 1.6ML contact tanks and a pumping station consisting of five sets of two pumps (Duty/Standby) to transfer this water. On this basis we have awarded the scheme an A rating for adherence to scope.

3.9.2 Programme Status

The project was completed by March 2025, in line with the target set by Ofwat.

3.9.3 Risk

The project was completed by March 2025, in line with the target set by Ofwat.

3.10 Tyne 10

Scheme not released – associated funding will be returned to customers at PR29.

3.11 Too Critical to Fail (TCTF) - Water

3.11.1 Scope

The successful Output for the Too Critical to Fail scheme was to increase resilience to flooding or loss of power on a number of locations across NWG assets. Fourteen locations across eight sites were initially identified as posing a Medium or High risk to one or both incidents (see Table 2). As the AMP progressed a number of these sites were dropped from the scope for several reasons (see Table 6 below) leaving nine locations to be mitigated. For the power resilience sites, a decision was taken to discount fixed generation in favour of supplying site-specific generator cables and enabling generator connection MCC access and/or sockets. Whilst this approach may appear to make logical sense, we have seen no clear methodology that proves the resilience enhancement Output from this activity compared to a "do nothing" option. For this reason and the removal of certain sites from the scope, we have rated this as C.

Table 6 Too Critical to Fail Scope

Site	Specific Risks (M/H)	Status	Completion Date
Birney Hill PS	Flooding (H) Loss of Power (M)	Wider scheme running late so decision to refurbish diesel back up pump - pump install programmed	06/2025

		on 3rd June. End of June 2025 forecasted completion. 3rd party validation through Mott McDonald.	
Broken Scar PS	Loss of Power (M)	Completed	24/12/2024
Broken Scar River Intake Pumps	Flooding (H) Loss of Power (M)	Back-up generator for the sump pumps to ensure assets are protected from flooding.	16/06/2025
Broken Scar TW	Loss of Power (M)	Completed	24/12/2024
Ormesby PS	Flooding (H)	Completed	01/2025
Barsham Final Contact tank	Flooding (H)	Completed	11/2024
Barsham PS1	Flooding (M)	Completed	31/10/2024
Chigwell Raw Water PS	Flooding (M)	No flood risk identified	N/A
Chigwell Treated Water PS	Flooding (M)	No flood risk identified	N/A
Hanningfield	Flooding (H)	No work required	N/A
Layer	Flooding (H)	Completed	28/02/2025
Layer High Lift	Flooding (H)	Completed	28/02/2025
Lower Hall PS	Loss of Power (M)	PS built above flood level – no flood risk	N/A
Ormesby Paterson Stream	Flooding (H)	Completed	30/09/2024

3.11.2 Programme Status

NWG states that functional completion of the sites should be completed by the end of June 2025. As shown in Table 6 above, protection was required at fewer sites than originally forecast, therefore the appropriate proportion of allocated funding was returned at PR24.

3.11.3 Risk

The programme is expected to be delayed due to a delay on Birney Hill wider scheme and has been forecasted for delivery in June 2025. This surpasses the Ofwat set date of the 31st of March 2025, therefore the programme has been awarded a B rating on delivery date.

3.12 Too Critical to Fail (TCTF) – Wastewater

3.12.1 Scope

We believe the scope of this PC is to deliver enhancements on 141 sites against flooding risk. The NWG team's view differed and reported that the scope of the programme was to deliver resilience on site specific risks of flooding and power loss across 141 locations. The area of power loss is ambiguous and is not clearly highlighted in any variation of PC documentation we have seen.

Solutions have differed on a site-by-site basis, but all have been completed to scope. Table 7 below shows the breakdown of the solutions deployed.

Table 7 Breakdown of Interventions

Option	No. of Sites
Minor Civils Works (Suitable for flood doors, flood gates, sealing works or modifications to building fabric)	61
Elevation/Relocation of Kiosk	12
Vulnerable Due to Power Disruption/Minor Electrical Works	36
Already mitigated or N/A	9
Mixed Interventions	23
Total	**141**

The scope of delivery was confirmed by consultants, Wood, who produced detailed recommendations on both flood and power parameters, discounting each parameter where deemed irrelevant, utilising data from the Environment Agency (EA) flood risk tool and anecdotal evidence of historic power outages. From the sample of 10 sites, we noted that flood resilience has been followed as per recommendations from the Wood report, however power resilience has been subject to challenge. The power resilience challenge has focused on; practicality of location to install fixed emergency generators, maintenance and the ability to supply fixed emergency generators in line with the project budget. A decision was taken to discount fixed generation across all sites requiring power resilience, in favour of supplying site-specific generator cables and enabling generator connection MCC access and/or sockets. Whilst this approach may appear to make logical sense, we have seen no clear methodology that measures the resilience enhancement output from this activity compared to a "do nothing" option. We have rated this as C.

3.12.2 Programme Status

The NWG team have reported that resilience improvements to all 141 sites were completed by end of AMP7.

3.12.3 Risk

The NWG team have reported that resilience improvements to all 141 sites were completed by end of AMP7. A selection of these have been audited by a third party with site inspections to assess adherence to scope. Whilst the scheme has been completed to the scope set out by NWG we have seen no clear methodology that measures the resilience enhancement output from this activity compared to a "do nothing" option.

3.13 Howden STW

3.13.1 Scope

The successful outcome of the South Bank Pumping Station scheme is to enhance resilience of the pumping station and associated rising main. NWG's plan to improve the resilience of the SBPS is to install a new rising main and completely refurbish the mechanical and electrical components of the existing pumping station. The rising main will be made of ductile iron, which is significantly stronger than Glass Reinforced Plastic (GRP), and sized for future flows. The only components that are remaining of the existing pumping station are the concrete wet and dry wells and a section of existing pump suction pipework that is captive in a core drilled hole in the chamber. None of these items have been highlighted as a risk to resilience. There will be new pumps installed (upsized for future flows), new pipework in the dry well, new valves, instrumentation, Motor Control Centres (MCC), software and cabling. We have determined that the successful completion of the items listed above will deliver 100% of the scope required so have rated this an A for adherence to scope.

The successful outcome of the Primary Effluent Pumping Station scheme is to enhance resilience of the pumping station and associated rising main. NWG's plan to improve the resilience of the PEPS is to build a new pumping station and install a new rising main. The route of this rising main is to be diverted away from Natural gas assets and will be made of ductile iron, which is significantly stronger than GRP, and sized for future flows. We have determined that the successful completion of the items listed above will deliver 100% of the scope required so have rated this an A for adherence to scope.

3.13.2 Programme Status

The NWG team has reported that the programme now has a meaningful use date of April 2029, which is significantly later than the expected completion date of 31st March 2025 agreed with Ofwat. The programme was subject to setbacks from the start around purchase and decontamination of additional land, as well as ecological impacts. We consider the programme to have been subjected to late start, due to uncertainty around deliverables post the PR19 CMA decision. Further setbacks have then arisen due to groundwater and settlement issues; there is now the requirement to redesign the PEPS (Primary Effluent Pumping Station) and a high risk that the ground water and settlement issues are threatening the integrity of the existing rising main. These risks could not be mitigated, and the pumping stations construction needs to be moved to avoid interaction with existing infrastructure. This need has been peer reviewed by Stantec and shown to be appropriate. The latest best estimate (LBE) cost is now £60m, which is much greater than the £7.6m awarded at FD19.

3.13.3 Risk

There are continuing risks around contamination of the site as the project progresses, risks around contracts and design of the SBPS and a high risk of groundwater and settlement issues threatening the integrity of the existing rising main. For these reasons we have assigned a rating of C.

4. Conclusion

4.1 Water Resilience

The water resilience programme is made up of eleven constituent projects which have an Output measured by adherence to specific asset plans put forward in the document *Appendix 3.2 Enhancement Business cases*. All eleven projects have a 31st March 2025 completion date set by Ofwat. Details of our findings at the scheme level are provided within this report.

4.1.1 Scope

This study has sought to confirm that the scope of the water resilience enhancement programme is equivalent or greater than the required scope set out in the document *Appendix 3.2 Enhancement Business cases*.

92.9% of the Water Resilience programme is assessed to deliver on scope, with 3.7% (Central 3) not delivering on the proposed asset but nevertheless delivering on the outcome required, and 2.7% (Parts of TCTF) where additional clarification needs to be undertaken to demonstrate benefits of the selected resilience method.

This is specifically in relation to the substitution of onsite fixed generators with onsite generator connection points.

4.1.2 Programme Delivery

This study has sought to confirm that the water resilience enhancement programme is expected to be completed as set out in the PR19 PC annex 1 document.

Our assessment of the evidence supplied leads us to conclude that 64.83% of the water resilience programme was delivered by 31st March 2025, with a further 22.24% delivered by May 2025. As of the time of writing this report a further 12.23% is in line to be delivered by August 2025.

99.3% of schemes are in delivery, with 0.7% awaiting release.

In terms of schedule risk, 99% of water schemes have no material issues.

4.2 Wastewater Resilience

The Wastewater resilience program has completed 141 of the committed 141 sites against the completion of flood mitigation work by the end of March 2025. The outcome is measured by the number of sites with enhanced flood resilience at sewage treatment works and sewage pumping sites. Mitigation must include response and recovery at “too critical to fail” sites and proactive flood risk reduction. Details of our finding are provided within this report.

4.2.1 Scope

This study has looked to confirm the scope of the enhancement programme is equivalent or greater to the required scope set out in the PR19 document.

Our assessment is that additional clarification needs to be undertaken to demonstrate benefits of the selected resilience method. This is specifically in relation to the substitution of onsite fixed generators with onsite generator connection points.

4.2.2 Programme Delivery

This study has looked to confirm that the enhancement programme is expected to be completed as set out in the PR19 PC document.

Our assessment of the evidence supplied leads us to conclude that of the 141 projects, 100% of the wastewater resilience projects have been delivered.

4.3 Howdon STW

The Howdon wastewater resilience programme is made up of 2 schemes, one to improve resilience at South Bank Pumping Station (SBPS) and one to improve resilience at Primary Effluent Pumping Station (PEPS). Both have outcomes that are measured by adherence to company progress milestones. Both schemes had a delivery date of 31st March 2025 as set by Ofwat. Details of our finding at the scheme level are set out in this report.

4.3.1 Scope

This study has sought to confirm that the scope of the Howdon wastewater resilience enhancement programme is equivalent or greater than the required scope set out in PR19 Final Determination Outcomes Performance Commitments Appendix.

Based on our findings, we concur that 100% of the Howdon wastewater resilience programme is assessed to deliver on scope and so have awarded an A for adherence to scope.

4.3.2 Programme Delivery

This study has sought to confirm that the Howdon wastewater resilience enhancement programme is expected to be completed in the timescales set out in PR19 Final Determination Outcomes Performance Commitments Appendix.

Our assessment of the evidence provided leads us to conclude that the Howdon resilience scheme is not due to be delivered until 2029.

Appendix A. Additional information

A.1 Calculation of Scope Adherence for Too Critical to Fail

In feedback from Ofwat (see Appendix A.2) a proposal was made to split the total 5.43% contribution TCTF has to the overall programme equally between the fourteen locations submitted for resilience mitigation. By this logic, each location contributes 0.39% to the overall programme. There are three locations that have both flooding and power supply risks to be mitigated, so we have split the 0.39% for each of these locations in half. We have assessed that the flooding mitigation work adheres to the Output scope, but that the power supply mitigation does not increase resilience and therefore does not meet the Output. We have also counted those sites that no longer require additional mitigation, either through other work or a re-assessment of risk, as not adhering to the scope. The calculation is summarised in Table 8 below.

Table 8 Breakdown of % Adherence to TCTF Scope

Location	Risk	Contribution to Programme	Adherence to Scope	% Meeting Scope
Birney Hill PS	Flooding (H)	0.19%	N	0.00%
	Loss of Power (M)	0.19%	N	0.00%
Broken Scar PS	Flooding (M)	0.19%	Y	0.19%
	Loss of Power (M)	0.19%	N	0.00%
Broken Scar River Intake Pumps	Flooding (H)	0.19%	Y	0.19%
	Loss of Power (M)	0.19%	N	0.00%
Broken Scar TW	Loss of Power (M)	0.39%	N	0.00%
Ormesby PS	Flooding (H)	0.39%	Y	0.39%
Barsham Final Contact tank	Flooding (H)	0.39%	Y	0.39%
Barsham PS1	Flooding (M)	0.39%	Y	0.39%
Chigwell Raw Water PS	Flooding (M)	0.39%	N	0.00%
Chigwell Treated Water PS	Flooding (M)	0.39%	N	0.00%
Hanningfield	Flooding (H)	0.39%	N	0.00%
Layer	Flooding (H)	0.39%	Y	0.39%
Layer High Lift	Flooding (H)	0.39%	Y	0.39%
Lower Hall PS	Loss of Power (M)	0.39%	N	0.00%
Ormesby Paterson Stream	Flooding (H)	0.39%	Y	0.39%
Total		**5.43**		**2.72%**

A.2 Feedback from Ofwat

This performance commitment applies to underperformance payments only, which are calculated by multiplying the ODI rate by the % completion that remains undelivered. It protects customers from non-delivery of schemes in the company's water resilience enhanced programme. The purpose of these schemes is to deliver benefits to customers by reducing the number of events that result in customers not having water supplied over a sustained period.

In its PR24 business plan ODI models, Northumbrian Water forecasts performance of 99.8% against the performance commitment level by 2024-25. It has included an underperformance payment of £0.042 million as an override, to reflect an estimated delay of 2.67 years in the completion date for the scheme Cross Connection into Darlington - C60/60a. The company has calculated this underperformance payment based on its view of how the performance commitment operates.

This performance commitment is intended to operate on an output basis. This means the number of schemes proposed within the company's PR19 business plan and subsequent submissions ahead of the PR19 draft determination should be delivered and, where that does not happen, the amount of funding allowed for the scheme(s) should be returned to customers.

During the period, Northumbrian Water made submissions to us[1] asking us to clarify the wording of this performance commitment definition, as it considered this was open to interpretation. These clarifications sought to:

- alter the success criteria for the delivery of these water resilience enhancement program schemes to the number of customers benefitting.
- calculate the measurement of performance by breaking milestones down to a scheme basis contributing to program level allowances, instead of by regional milestones.
- alter how the non-delivery underperformance payments should be calculated; and
- introduce late delivery underperformance payments.

We reviewed Northumbrian Water's submissions during 2020-25 and in its PR24 business plan. We note that the company reported its performance in its PR24 business plan based on its view of how this performance commitment should work, namely on a scheme rather than regional milestone basis and using success criteria measured solely on the basis of the number of customers benefiting from activities delivered instead of delivering specified outputs. It has also obtained external assurance over its performance, reported on this basis. Its external assurer[2] notes that this is a significant departure from the PR19 performance commitment definition, from the company's PR19 business plan submission prior to draft determination and from the performance commitment post-redetermination by the Competition and Markets Authority.

We also reviewed relevant information from PR19 when the performance commitment was set. We address the company's proposed clarifications and provide our assessment of this performance commitment below.

Altering the success criteria for the delivery of schemes

In its proposed clarification, Northumbrian Water stated that the PR19 Outcomes appendix[3] does not specify individual success criteria which would be used to determine that each scheme has been completed. The company considered success criteria to have been defined in terms of the customer benefit or outcome associated with the scheme and that it would be sufficient for ODI purposes for the schemes to deliver benefit of a minimum of 90% of the proposed number of customers to allow some flexibility should customer numbers change slightly. It stated that this was the original intention as described in the PR19 query response included in Annex 5 in the company submission. That is not correct. The final performance commitment definition (the drafting of which the company did not comment on at PR19 draft determinations) is clear that success is "on full completion of the respective milestones". This is because this specific performance commitment is

intentionally drafted to deliver outputs rather than outcomes. This is a point which Northumbrian Water acknowledged in its post Initial Assessment of Plans (IAP) response during PR19[4], where it said, "The performance commitment best suited to monitor the enhanced resilience outcome is an **output-based measure** (emphasis added) which tracks the % delivery of each scheme."

This performance commitment, as drafted, has six regional milestones which represent groups of schemes rather than individual schemes. These groups are aligned with the company's PR19 proposals and the Competition and Markets Authority's redetermination, which uses the % of completion as success criteria. This % criterion is used to calculate the ODI payments in 2024-25 and the ODI rate is calibrated based on the TOTEX allowance for all water resilience enhancement schemes included in this performance commitment and converted to a % completion rate. Therefore, changing success criteria against which scheme completion will be assessed would require a recalibration of the ODI rates because the cost allowances for individual schemes are not proportional to the number of benefiting customers. Additionally, using the number of customers as a success criterion is not consistent with assessing underperformance payments for non-delivery or late delivery.

The external assurer notes that the company considers that a scheme in the company's Central region (55 ML WPS at Shildon SR) is no longer needed and that the same level of resilience is being provided by an alternative solution that the company has included as counting towards the performance of this performance commitment. As noted above, the success criteria for this performance commitment are outputs based: completion is determined on full completion of the respective milestones and the delivery is to be assessed against the business plan 2019 defined outputs. There are no provisions for scheme substitution or alternative solutions in the definition of the performance commitment. This means an underperformance payment equivalent to the allowed funding for the specified PR19 output of 55 ML water pumping station at Shildon service reservoir will be applicable as this defined output is not being delivered. We will apply this underperformance payment in our final determination, when we have an external assurance report over the company's performance reported in line with the performance commitment definition, including the clarifications we set out here.

Measuring delivery on a scheme-by-scheme basis instead of regional milestones

The performance commitment definition states that "…The required scope of the milestones are as set out by the company in submissions to Ofwat in advance of draft determinations. Completion is determined on full completion of the respective milestones when the measures are in operation and providing clear benefit to customers." The performance commitment definition describes the % of the Water Resilience Programme attributed to each region, but not the individual schemes. This means that non-delivery of a single scheme within the package of schemes that constitute the regional milestone would mean the regional milestone would not be delivered and that the company would incur large under performance payments (including for schemes that will be delivered on time).

We agree with the company that it is appropriate to assess performance based on completion of those schemes that were set out by the company ahead of PR19 draft determinations. This retains the incentives on the company to deliver all individual schemes in each region. Sheet BES24 Costs verification in this model lists the schemes against which the company's performance should be assessed. As performance is to be assessed on an individual scheme basis this requires disaggregation of the group of schemes included in the company's clarification request and requires setting out each individual scheme to be assessed against the performance and expenditure allowance made in the determination.

It also means that the final determination allowance needs to be apportioned to each of the individual schemes. Northumbrian Water's clarification request broke down the final determination cost allowance for most of the programme to a scheme level except for the Central region (where three sub-regions, namely Central 1, Central 2, and Central 4, are grouped together) and the "Too critical to fail category". In sheet BES24 Costs verification, we have included our assessments of the PR19 final determination / the Competition and Markets Authority's cost allowance for these schemes disaggregated from regional milestones to individual schemes. We would welcome the company's view on these cost assessments, supported by appropriate

evidence including external assurance, should it consider that different costs allocations are appropriate for the schemes included in the tables in sheet BES24 Costs verification.

Calculating non-delivery under performance payments

In its submissions, Northumbrian Water also explained how it intends to apply ODI payments for non-delivery. It proposed using the ODI rate (as set out in the Competition and Markets Authority's redetermination) of £0.369 million per unit to be applied on a % completion scheme basis. This is consistent with our PR19 final determinations: Delivering outcomes for customers policy appendix[5] and the Competition and Markets Authority's redetermination. As explained above, this should be applied at a scheme rather than regional basis.

Company's preferred option on the late delivery underperformance payments calculations

In its correspondence, Northumbrian Water also clarified how it intends to apply ODI payments for any late delivery. It presented two options:

1. an independent in-the-round engineering assessment of scheme progress including an assessment of elapsed vs remaining timeline and delivered vs remaining expenditure. The underperformance rate of £0.369 million per unit would apply to any shortfall as per: (100% - Scheme % complete at regulatory deadline) x £0.369 million per %; or

2. the independent assurance report, required under the terms of the ODI, would determine the expected completion date for any scheme expected to overrun. Consistent with Ofwat's documented policy for calculating late delivery incentives at PR19, late delivery payments would then be calculated based on: Allowed funding for the scheme X length of delay X time value of money (WACC + RCV Run-off rate)[6]

Northumbrian Water preferred the second option for the late delivery, stating that it aligns more closely with what was originally intended by both Ofwat and Northumbrian Water for the calculation of this ODI and is also more economically robust.

We agree that the performance commitment does not state how the ODI mechanism operates if the company delivers schemes late as opposed to not delivering them at all. We consider that clawing back all the funding for a scheme through a non-delivery ODI underperformance payment, where a scheme will be delivered but delivery is late, is not proportionate and may not retain appropriate incentives on the company to deliver.

We note that the company is forecasting to deliver late on one of its schemes and has reported an underperformance payment of £0.042 million, based on its view of how this performance commitment operates. For the purposes of the draft determination, we have retained this payment in the ODI performance model for 2024-25. However, we recognise that this figure will change at final determination, once the company has reflected on our draft decision in its draft determination response submission and provided an updated assessment of its performance against on this performance commitment, in line with the requirements we set out here, and supported by external assurance.

If Northumbrian Water's response to our PR24 draft determinations (supported by appropriate assurance) demonstrates that there will be delays to the schemes included in this performance commitment (but that they will still be delivered), we would expect to intervene in the operation of the performance commitment so that underperformance payments do not apply to such schemes. Instead, we would expect to include a price control deliverable in our PR24 final determination in line with our policy set out in section 3.2 of the 'PR24 draft determinations: Accounting for past delivery' document. Our price control deliverable would have a time incentive rate in addition to the non-delivery rate. The time incentive rate would be calculated in line with PR24 policy on price control deliverables[7] as this performance commitment does not have a PR19 late delivery ODI rate. This means that we would apply late delivery underperformance payments for this performance commitment at PR29 (in 2022-23 price base) rather than at PR24. There are no additional funding provisions available at PR24 for completion of this scheme.

How we require the company to report performance on this performance commitment

When reporting against this performance commitment in its draft determination consultation response, the company should report on the basis of the performance commitment defined in the PR19 final determination, as redetermined by the Competition and Markets Authority redetermination, and taking into account the clarifications set out here. The company should also obtain external assurance over its reporting on this basis.

In summary, the company should report its performance on the following basis:

- Using success criteria to determine if each scheme has been completed based on full completion of the respective milestones (not on customer benefit) as this is an outputs-based performance commitment.
- Calculating the measurement of performance by breaking milestones down to an individual scheme basis contributing to program level allowances, instead of by regional milestones.
- Not including any scheme substitution or alternative solutions. There are no provisions for this in the performance commitment definition as this is an outputs-based performance commitment meaning that delivery is assessed against the 2019 business plan defined outputs.
- For non-delivery using the ODI rate, as redetermined by the Competition and Markets Authority, of £0.369 million per unit to be used on a % completion scheme basis; and
- For late delivery, clearly reporting the schemes which are forecast to be delivered late and the number of months delivery is expected to be late on each of these schemes. We will then create a price control deliverable with a time incentive rate for late delivery (calculated as per footnote 7) and a non-delivery rate for non-delivery (£0.369 million per unit in 2022-23 prices). As stated above, any underperformance payments for late delivery would not apply until PR29.

[1] Proposed Clarification Regarding the Application of NWG's "Water Resilience Enhancement Programme" Performance Commitment (BES24) (2022)

[2] Assurance report - NWG PR19 Enhancement performance commitments – Water and Wastewater resilience

[3] Consolidated PR19 final determinations Outcomes performance commitment Northumbrian Water

[4] Annex 5 - NES.OC.A59_65 A69_A71 - Nature of Adjustment.pdf (PR19)

[5] PR19 final determinations: Delivering outcomes for customers policy appendix.

[6] PR19 final determinations: Delivering outcomes for customers policy appendix (page 138)

[7] Underperformance payment at PR29 using PR24 time incentive PCD rate is calculated as follows: allowed funding per unit (in 2022-23 price base) x WACC per month x number of months forecast late.

A.3 Ofwat Response to PR19 submission

	Funding Category						TOTAL
Process Unit	Growth		Maintenance		Resilience		
	Proportion (%)	Value (£m)	Proportion (%)	Value (£m)	Proportion (%)	Value (£m)	(£m)
Inlet Works	100	2.93	-		-		2.93
Inlet Odour	85	1.16	15	0.21	-		1.37
South Bank PS	15	0.85	23	1.31	62	3.52	4.83
South Bank Rising Main	100	1.82	-		-		1.82
PEPS	20	1.15	-		80	4.62	5.77
PEPS Rising Main	100	19.33	-		-		19.33
Aeration	100	15.28	-		-		15.28
FST's	100	41.00	-		-		41.00
RAS / SAS	20	1.65			80	6.59	8.24
UV	100	2.51	-		-		2.51
Sludge Thickening	100	0.88					0.88
Misc (Power supplies and hard standing)	100	2.40					2.40
TOTAL		90.96		1.52		14.73	107.21

Figure 4 Excerpt from PR19 Business Case Document

At Howdon sewage treatment works we accept the need for investment in duplicate assets at the primary effluent and south bank pumping stations at which the company advises there are no feasible management control options for the loss of a critical asset. Loss of these critical assets would result in a category 1 pollution incident. We do not accept the need to invest to duplicate an asset at the activated sludge pumping station to mitigate risk of failure due to fire. The company receives a base allowance for installing and maintaining appropriate fire warning and suppression equipment. We expect the company to use its base allowance to fund such activities and mitigate this risk. In addition, we apply further cost challenges to the investment on the basis of insufficient evidence that a range of options have been considered and that the proposed costs are robust and efficient. In comparison to our draft determination allowance we allow an additional £6.0 million to mitigate risks at Howdon sewage treatment works.

Figure 5 Excerpt from PR24 Final Determination