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14 September 2023

Dear Andrew

Re: Northumbrian Water PR24 Business Plan and LTDS: Compliance with legal obligations

- (1) In September 2022 Northumbrian Water (NWL) received legal advice on the legal framework that informs its obligations during PR24 and beyond (Legal Obligations Advice). The Legal Obligations Advice outlined the legal obligations alongside the potential legal, financial, and reputational consequences of not meeting these obligations. That Advice was used by NWL in considering its investment options for the PR24 Business Plan (the Plan) and its Long Term Delivery Strategy (LTDS).
- (2) In September 2023, KPMG Law was instructed to advise NWL on how these legal obligations have been addressed in the Plan and LTDS. For the avoidance of doubt, this note is not intended to, and does not, provide formal assurance that the proposals in the Plan and LTDS will ensure that the legal obligations will be met. Indeed, given the nature of the legal obligations and the inherent uncertainties, such forward looking assurance about future performance would not be reasonably possible.
- (3) In order to provide this advice, KPMG Law has reviewed: NWL's draft Plan and supporting appendices, including the latest drafts of the enhancement cases; the draft Board Assurance Statement (BAS) for the Plan and LTDS; a paper presented to NWL's Audit Committee regarding the company's business as usual approach to risk and compliance; and the latest Annual Performance Report (APR) statement on compliance with legal obligations. The KPMG Law team has also had discussions with various members of NWL's team dealing with key aspects of the Plan and LTDS: Andrew Beaver (Director of Regulation and Assurance); Jim Strange (Head of Economic Regulation); Lynn O'Brien (Internal Audit Manager); Colin Day (Head of Strategy and Planning); Mike Madine (Head of Wastewater Service Planning, Quality and Performance); and Laura Mollon (WINEP Strategy Manager). At the time of review aspects of the Plan, including specific enhancement cases, remain subject to finalisation. As such, this note

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reflects the drafts in place as at 11 September 2023 which might be subject to change before the Plan is finalised.

- (4) The initial review, and this subsequent mapping of the legal obligations against the plan, focus on the core legal obligations that apply specifically to NWL as a licensed water and wastewater undertaker, including those within the Water Industry Act 1991 (WIA 91) and which have a clear line of sight to the investment proposals for AMP8 and beyond. As such, and consistent with the annual compliance statement discussed below, it does not cover all and every legal obligation to which NWL is subject.
- (5) NWL is required to make an annual statement in its APR confirming compliance with its relevant statutory, licence and regulatory obligations. The approach taken to support the making of that statement is detailed in a paper on the regulatory reporting assurance approach presented to a joint meeting of the NWL Audit and NWGL Audit, Risk & Assurance Committees on 30 March 2023, and was discussed with Lynn O'Brien. It outlines NWL's approach for this year's APR which included: legal advice on the relevant legislation to be considered; identification of the relevant obligations; and circulation of that information to relevant managers to facilitate the confirmation of compliance and/or the detailing of any material exceptions. The resultant Risk and Compliance statement in the APR for the year ended 31 March 2023 confirms material compliance with these obligations (noting a number of departures) but also makes the following qualifying statement:

Ongoing compliance with our obligations in future will be dependent in particular on:

- successfully securing adequate/sustainable funding levels for capital maintenance in order to maintain asset health in the medium and long term;
- securing funding to allow sufficient investment in climate adaptation, to protect our services from deteriorating climate trends and increased prevalence of severe weather events; and
- given the substantial uplift in investment requirements from AMP8 onwards, successfully concluding work to secure the deliverability and financeability of our PR24 business plan.¹
- (6) The BAS explains in Section 6.5 how the approach taken with respect to that statement has informed how the Plan and LTDS have been developed and tested. Part of that process included receiving and utilising the Legal Obligations Advice.
- (7) It is clear from the Plan and LTDS, including in particular the description of the process for their development as set out in the BAS, that an understanding of legal obligations has informed the investment proposals for AMP8. For instance, the BAS confirms that during the phases of development of the Plan, the Board's approach was that asset health investments would be considered "must do" given the risk of otherwise being unable to meet legal obligations. The BAS also notes that over 90% of NWL's proposed enhancement investment is driven by legal obligations. The BAS confirms that NWL has undertaken a comprehensive assurance plan, including both internal external audit and assurance support, regarding, amongst other things, the data used to inform the plan and the proposals it contains.
- (8) I have been informed by those I interviewed that the Plan and LTDS were designed to include and deliver against the first five years of the Water Resources Management Plan (WRMP) and the Drainage and Wastewater Management Plan (DWMP). Similarly, they have confirmed that the Plan also addresses how NWL will meet the targets set under Environment Act 2021 (EA21) and the Water Industry Strategic Environmental Requirements (WISER), including through the Water Industry National Environmental Programme (WINEP). This is reflected in the scope of the Plan, including the enhancement cases which, with one notable exception regarding nutrient neutrality, are stated to be designed to achieve the applicable statutory targets within the

¹ APR, p. 126.

stipulated timeframe. The WRMP, DWMP and WINEP plans have each been subject to independent assurance.

- (9) In that regard, it is worth noting that across the breadth of the legal obligations that will impact in AMP8, the detail of some of these obligations (including guidance as to how they should be met) is still subject to ongoing review and debate. For example, we understand that NWL recently received new/updated guidance from the Environment Agency (EA) with respect to its expectations around raw water quality. The Levelling-Up and Regeneration Bill (LURB) which introduces stringent new statutory requirements with respect to nutrient neutrality is still going through parliament, such that there remains some uncertainty about the final obligations that NWL will be required to meet. We also understand that NWL has been engaging with the EA with respect to opportunities for phasing investment which might require the EA to revisit its expectations on timing for compliance. As a consequence we understand that NWL's plan represents the most up to date position reasonably possible, but that some key areas of uncertainty remain.
- (10) With respect to nutrient neutrality specifically, we understand that NWL's Plan will contain its preferred nature-based solution, despite this having been formally rejected by EA during its WINEP process (which is a legally binding process). However, as noted above the legislation that will give legal effect to the underlying targets is yet to be finalised. Indeed amendment 247YV to s.158 LURB was agreed by the House of Lords on 14.9.23 which gives the Secretary of State the power to modify or revoke the clause 158 duty on water companies to upgrade certain sewage plants. This introduces statutory flexibility that could enable NWL's preferred solution to be accepted by the EA. However, to account for the possibility that it will not, we understand that NWL will be providing the relevant cost data for the alternative solution as well as suggesting a notified item which could be triggered if the LURB, once adopted, confirms the EA's current position. In that context, where NWL is actively engaging with relevant stakeholders to drive the necessary change in the legal obligations/requirements for compliance, the decision to include the alternative proposal in the Plan with the relevant caveats appears reasonable at this stage in the price control process.
- (11) More broadly, however, this review has confirmed that the Plan and LTDS contain proposals which are clearly targeted at delivering against the core legal obligations outlined below during AMP8. The detailed business cases explain how the relevant legal obligations have informed the need case for investment, and demonstrate how the options proposed have been designed with the underlying targets and outcomes in mind. In particular, the Plan and LTDS put forward a range of proposals that, collectively, address the specific risks identified in the APR Risk and Compliance statement (see para. (5)).
- (12) The tables in Appendix 1 outline the requirements of the core legal obligations, alongside an overview of how each obligation has been addressed in the Plan and LTDS. It should be noted that many of the actions in the plan go to meeting more than one legal obligation, particularly given the breadth of the general duties to maintain supply systems for water and sewerage. We have sought to identify key overlaps, but there may be others not specifically identified in the tables.

Yours sincerely,

KPHG Low

KPMG Law Enclosures

Appendix 1: Detailed commentary on how the core legal obligations are addressed in NWL's Plan and LTDS

This Appendix looks at how the legal obligations are addressed in NWL's Plan and LTDS by reference to the follow groups of core legal obligations:

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Table 8: Other legal duties – Safety and security	

Table 1: Core legal obligations – Water Industry Act 1991

Legal obligation	How are the legal obligations addressed in the Plan and LTDS
1. §2 WIA91: Statutory duties	
§2(2A) Primary duties: Duty on SoS/Ofwat to perform its duties in the manner best calculated to:	The primary and secondary statutory duties are expressly stated to apply to Ofwat, rather than the companies. However, NWL's Plan and LTDS are informed by its overall
 further the consumer objective (protect the interests of current and future consumers) 	approach with respect to its role in furthering the customer and resilience objective in relation to its performance, its operation of its supply and sewerage systems and the ability to meet future demand.
secure that the functions of the undertakers are properly carried out	
 secure that companies are able to finance the proper carrying out of those functions 	Furthering the customer objective – delivering a stretch in outcome performance and service level targets.
further the resilience objective	 NWL's approach to setting PCs and ODIs is detailed in Appendix 4 Outcomes. It explains that it has tried to set ambitious PCLs for the 2025-30 period to meet its
 secure long-term resilience of supply and sewerage systems as regards environmental pressures, population growth and changes in consumer behaviour 	'National Leader' vision of being the best performing water and wastewater company in England and Wales but also reflect customer priorities and be consistent with its long-term goals.
 secure that undertakers take steps to meet demand in the long term, including by: promoting long-term planning and investment; managing water resources in sustainable ways; increasing efficiency in use of water; and reducing demand for water. 	 NWL explains its aim to deliver these improvements from within base funding without driving additional rises in customer bills. It also notes that some areas of enhancement investment will also drive service improvements (or mitigate increasing risks which would otherwise result in a deterioration in performance).
§2(3) Secondary duties: Subject to the primary duties, duty on SoS/Ofwat to perform its duties in manner best calculated to:	 The BAS reflects on areas where NWL's performance is below target/below sector average, and notes how the PR24 Plan will target sector average performance in
promote economy and efficiency by companies	

contribute to achievement of sustainable development	those areas. It also states areas where the Plan will target upper quartile performance.
	 NWL has adopted Ofwat's common PCs. It has not proposed any bespoke PCs with financial incentives but has included some reputational incentives for existing bespoke PCs.
	Furthering the resilience objective – asset health
	 NWL's Risk and Compliance Statement in its APR² states ongoing compliance with its obligations in the future will be dependent on, amongst other things, successfully securing adequate/sustainable funding levels for capital maintenance in order to maintain asset health in the medium and long term.
	• NWL's plans to maintain asset health across its water and wastewater network have been informed by its overall approach to resilience, as detailed in Section A8 of the Plan. This includes having a programme of replacement and maintenance that is targeted to be sufficient to maintain asset health in the long term. The investment proposals in the Plan are intended to support stable or improving asset health performance commitment level (PCL) metrics to 2030.
	• The Plan explains how NWL has utilised the Tipping Point Tool to plan and focus maintenance/asset health investment. NWL considers that it has taken a balanced approach to investment in asset health, with investment focused on assets where there is a more immediate risk to service.
	 NWL has adopted the common PCs that relate to asset health. NWL states that its long term aims are to achieve AMMA assessment of leading or optimising for all measures of asset management maturity by 2030 and leading by 2035. Independent assurance provided by Arup indicates that NWL is considered beyond competent and close to optimising in this respect.
	 NWL explains that it is overspending in AMP7 relative to its allowances (as it has in aggregate since 2000) in part to undertake additional mains renewal and other asset health investments as it sees this activity as critical for the long-term resilience of the business. NWL also highlights some of the key challenges faced by the sector in this area.
	• NWL is explicit in its BAS that its AMP8 proposals are focused on no-regret investment where it can clearly show a specific need for investment with immediate threats to service levels and have set a price control deliverable to make sure that customers get the full benefit of this investment. It is the clear intention that this will enable NWL to meet its legal obligations on asset health during AMP 8.
	 NWL also states that further increases in capital maintenance will be required in the future or it will place its ongoing ability to meet these legal obligations at risk. NWL's proposals in that regard are detailed in the LTDS.

• A3-21 Base uplift case for asset health investments: this enhancement case presents evidence for the need for additional funding to deliver the investment required to maintain the health of the asset base NWL manages, above the 'base' cost allowances it expects from Ofwat's cost assessment methods for PR24. NWL states it highlighted the need for further work in this area in its paper for the Ofwat Future Ideas Lab in 2022. and its case focuses on 'no regrets' investments in the areas of civil asset replacement and water mains renewal. The case is structured to follow Ofwat's PR24 methodology requirements for enhancement cases while also taking account of the tests for cost adjustment claims described in Ofwat's PR24 final methodology.
- NWL has identified the civil structures on its treatment works as key areas of concern. Following investigations into condition and forecasting future deterioration NWL has proposed an enhancement case for additional investment in water and wastewater to repair and replace those assets that are in the worst condition in the 2025-30 period. NWL states that this has been calculated after it has taken into account of the funding that will already be available in the base cost allowances so customers do not pay twice.
- The Plan identifies the level of mains replacement it will target under base, and also proposes additional no-regrets enhancement investment. NWL states that its analysis suggests that this level of investment will allow it to maintain a relatively stable bursts rate which ensures that any further deterioration is arrested or delayed.
 The targeted mains replacement that forms part of the enhancement case for managing leakage will also support in relation to this issue.
Furthering the resilience objective – climate change and associated risks
In Appendix A8 of the Plan addressing resilience NWL considers climate change resilience and asset health over the long term. NWL explains for its 2020-25 business plan its resilience framework helped it understand the risks and investments it should make, including as enhancement expenditure. NWL explains that its resilience framework was developed further for 2025-30 taking into account learning from Ofwat's feedback at PR19, NWL's experiences using this in practice over the last few years, and an external review. This linked NWL's resilience framework more closely to its well-established risk management approach, as well as incorporating more systems thinking (such as from zonal studies). NWL states this also brought together all of its long-term planning frameworks as well as forward looking assessments of its biggest risks to understand its priorities for 2025-30. This included horizon scanning work and scenarios in its LTDS.
 A3-10: Climate Change Resilience Process enhancements (Hypo, SSF): this case sets out NWL's plans for protecting vulnerable water treatment works (WTW) sites from the effects of climate change - specifically the impact of rising temperatures on its existing water treatment processes. The case addresses three

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Subject to those duties Ofwat and the companies must:	
 have regard to the desirability of preserving for the public any freedom of access to areas of woodland, mountains, moor, heath, down, cliff or foreshore and other places of natural beauty 	
 have regard to the desirability of maintaining the availability to the public of any facility for visiting or inspecting any building, site or object of archaeological, architectural or historic interest 	
• take into account any effect which the proposals would have on any such freedom of access or on the availability of any such facility	
3. §4 WIA91: Sites of special interest	
In relation to any land designated by Natural England (NE) as a site of special interest (flora, fauna, geological or physiographical features) the company must:	 A3-05 WINEP Protected areas and biodiversity sets out NWL's plan to meet its obligations under this duty by reference to the WINEP driver for Sites of Specific Scientific Interest (SSSI).
 consult with NE before carrying out works or activities on the land which might have a negative impact 	 The Plan details the base expenditure that will enable it to continue with SSSI monitoring and management activities during AMP8. It also includes proposals for enhancement expenditure to carry out further investigations.
4. §37 WIA91: General duty to maintain water supply system	
 Duty on the company to: Develop and maintain an efficient and economical system of water supply; Ensure the availability of supplies of water in the area to meet demand; 	 NWL's investment plan is described as looking to ensuring the long term resilience of the water systems, utilising adaptive pathways informed by analysis of the key risks to resilience (including asset health and climate change adaptation).
 Maintain, improve and extend the pipes and mains as necessary to secure that the water supply obligations can be met. 	• NWL has published a WRMP which is designed to ensure security of supplies. The core pathway for the WRMP includes making progress towards long-term targets for leakage, metering and PCC as well as new pipelines in ESW to be delivered by 2030 and investigations for investment in future periods. The WRMP also acknowledged the potential for bulk supplies/NHH demand to impact on demand and NWL has reflected this in leakage and PCC reduction targets.
	 The Plan also includes preparatory work for alternative pathway relating to North Suffolk winter storage reservoir with a decision point in 2026
	• The BAS confirms that the Plan includes efficient costs for maintaining, improving and extending NWL's water supply system, with water supplies available to meet demand, consistent with the details set out in the WRMP. The relevant PCs and long-term targets are expressed as being consistent with a well-maintained water supply system. These include:
	- PC: Mains repairs
	- PC: Unplanned outage
	- PC: Sewer collapses
	- PC: Serious Pollution events

	- PC – Water supply interruptions
	- PC – Unplanned outage
	 As NWL identifies in its Appendix A3 – Costs (NES04), the proposed investments in raw water deterioration (including nitrates and geosmin) are necessary to prevent deterioration. Without these investments in 2025-30, NWL considers that it would likely be unable to meet its obligations under S37 and S67 in the long-term.
	 Much of NWL's water-related activity in AMP8 is connected to this general duty. That includes, in particular, the plans regarding the maintenance of asset health and furthering resilience.
	 Also relevant to this duty is NWL's proposals with respect to leakage. NWL is subject to the National Infrastructure Commission/Water UK recommendation to 50% reduction in leakage from 2017/18 levels by 2050.
	 NWL has adopted the common leakage PC. NWL's long term targets are to halve leakage by achieving a 55% reduction in leakage in the North East levels by 2050 (61.1 Ml/d) and a 40% reduction in leakage in the Essex and Suffolk regions by 2050 (40.1 Ml/d), to achieve the national target of 50% companywide (from 2017/18 baseline).
	 The WRMP targets for 2025-2030 (3 year average NW 107.1 MLD and ESW 51.6 MLD) align with those long-term targets.
	 A3-02 WRMP Demand Management details NWL's plans with respect to leakage. It notes NWL's assumption that the investment to maintain the current rate of leakage improvements from 2020-25 are funded by base and that the cost of further reducing leakage to meet new targets more quickly would be an enhancement cost. It outlines the innovation NWL will employ to help it meet its targets. The increased totex forecast on leakage related expenditure reflects step change in investment to meet leakage targets, especially in ESW where leakage is already one of the lowest in the sector.
5. §37A WIA91: WRMPs	
Duty on the company to:	NWL has complied with its duty to prepare, publish and maintain a WRMP.
Prepare, publish and maintain a WRMP.	The WRMP explains NWL's plans to manage and develop its resources. The Plan and
• WRMP sets out how the company will manage and develop water resources so as to be able, and continue to be able, to meet its obligations.	LTDS are stated to be fully consistent with the WRMP
The Water Resources Planning Guidelines 22 July 2022 (WRPG) provide guidance on how the WRMP obligation should be met.	
6. §52 WIA91: Domestic Supply Duty	
Duty on the company to:	NWL's Plan is designed to allow it to continue to provide supplies that are sufficient
Provide a supply to premises that is sufficient for domestic purposes; and	for domestic and non-domestic purposes, including making and maintaining

Maintain the connection between the water main and the service pipe by which the supply is made	appropriate connections. In Suffolk, NWL has placed limitations on the provision of new non-domestic supplies as this would put at risk its ability to meet its obligations to supply water for domestic purposes or meet sustainable abstraction licences – and has included strong action on non-domestic smart metering and water efficiency to support lifting these limitations as soon as possible.
	 The anticipated abstraction sustainability reductions in ESW region will eliminate supply headroom. The WRMP for ESW has identified a material water supply deficit in the ESW region.
	 A3-02 WRMP Demand Management: NWL explains that its approach was to identify how the deficit could be reduced through demand side measures, before employing supply side solutions. NWL's plans to achieve its WRMP24 objectives are based on three key components: Leakage, household Metering and Water Efficiency interventions. The demand management programme will be delivered through a combination of base maintenance and enhancement investment.
	 Also relevant to achievement of the WRMP objectives are the Mains Renewal Enhancement Claim and the Non-Household Metering Enhancement Case.
	 The pace and scale of the Plan is stated to meet the statutory deliverables in the WRMP.
	 A3-01 Water supply investments: This addresses improvements to water supply resilience in ESW region, especially in the Suffolk area. It includes 5 schemes for AMP8 and longer term adaptive plan options in the LTDS and forms part of the broader WRMP package. These include the Suffolk strategic network and storage and Lowestoft reuse schemes.
	 The Plan is stated to meet the long term challenge of water supply set out in the National Framework – including the need to be resilient to a one in 500 year drought.
7. §55 WIA91: Supplies for non-domestic purposes	
 Duty on the company to: Take appropriate steps to enable the provision of the requested supply, and make such a supply; unless To do so would require the company to incur unreasonable expenditure OR put at risk its ability to meet its existing obligations to supply water for domestic or other purposes. 	NWL's Plan is designed to allow it to continue to provide supplies that are sufficient for domestic and non-domestic purposes, including making and maintaining appropriate connections. In Suffolk, NWL has placed limitations on the provision of new non-domestic supplies as this would put at risk its ability to meet its obligations to supply water for domestic purposes or meet sustainable abstraction licences – and it has included strong action on non-domestic smart metering and water efficiency to support lifting these limitations as soon as possible.
8. §57 WIA91: Duty to provide a supply of water for fire-fighting	
Duty on the company to:	This is a business as usual duty that is not specifically addressed in the Plan.
• Place fire hydrants on water mains or other pipes, and ensure that they are kept in good working order (including through replacement where necessary)	
NB: costs of compliance to be borne by the relevant fire and rescue authority	

	9. §65 WIA91: Duties as respects constancy and pressure		
fighting is laid on constantly and at such pressure to allow it to reach the top- most storey of every building in the appointed area (subject to certain limitations and exceptions).	his is a business as usual duty that is not expressly addressed in the Plan, but which is ken into account in the context of the measures designed to address the §37 general uty as outlined above. ee also the plans regarding the maintenance of asset health as outlined with respect to rthering resilience.		
10. §67 WIA91: Duties regarding water quality			
Duty on company to: • • Ensure water supplied for domestic or food production purposes is wholesome at the time of supply; • • Ensure, as far as reasonably practicable, that there is no deterioration in the quality of the water supplied from time to time • • • <td> NWL's Plan is designed to allow it to invest in improving water quality. NWL states it has looked at its current position on CRI (which is not in breach of this duty) and has set out its ambition and investments to improve on this both in 2020-25 and in 2025-30. Its business plan examines the risks of deteriorating raw water quality and includes investment to address these issues. NWL states it has discussed all its PR24 and long-term plans with DWI and include their support for these schemes where applicable. NWL has adopted the common Compliance Risk Index PC. As NWL identifies in its appendix A3 – Costs (NES04), the proposed investments in raw water deterioration (including nitrates and geosmin) are necessary to prevent deterioration. Without these investments in 2025-30, NWL considers that it would likely be unable to meet its obligations under S37 and S67 in the long-term. A3-08 resilience – raw water deterioration: NWL's WRMP takes into account how changing weather patterns could affect water quality and the availability of sources (eg. in its WRMP for 2024 NWL identified that increasing nitrates in the rivers that it relies on for abstraction in the South East will have an impact on its ability to supply high quality water (and this can be mitigated by upgrading treatment works to tackle this issue). Where NWL identifier risks it investigaties to understand what is causing the deterioration, and takes action to protect its customers. Where it can, it takes action to control the level of pollution entering its water supplies or modifies its processes at treatment works to mitigate these risks. Where this is not possible, NWL needs to invest in new treatment processes or capacity to make sure that it can remove the risk through treatment. NWL expects this risk to continue to grow. It has included investigations in its Plan to assess the source of nitrates and monitoring the growth of algae which can damage treatment works). NWL works with others such as the North Pennine</td>	 NWL's Plan is designed to allow it to invest in improving water quality. NWL states it has looked at its current position on CRI (which is not in breach of this duty) and has set out its ambition and investments to improve on this both in 2020-25 and in 2025-30. Its business plan examines the risks of deteriorating raw water quality and includes investment to address these issues. NWL states it has discussed all its PR24 and long-term plans with DWI and include their support for these schemes where applicable. NWL has adopted the common Compliance Risk Index PC. As NWL identifies in its appendix A3 – Costs (NES04), the proposed investments in raw water deterioration (including nitrates and geosmin) are necessary to prevent deterioration. Without these investments in 2025-30, NWL considers that it would likely be unable to meet its obligations under S37 and S67 in the long-term. A3-08 resilience – raw water deterioration: NWL's WRMP takes into account how changing weather patterns could affect water quality and the availability of sources (eg. in its WRMP for 2024 NWL identified that increasing nitrates in the rivers that it relies on for abstraction in the South East will have an impact on its ability to supply high quality water (and this can be mitigated by upgrading treatment works to tackle this issue). Where NWL identifier risks it investigaties to understand what is causing the deterioration, and takes action to protect its customers. Where it can, it takes action to control the level of pollution entering its water supplies or modifies its processes at treatment works to mitigate these risks. Where this is not possible, NWL needs to invest in new treatment processes or capacity to make sure that it can remove the risk through treatment. NWL expects this risk to continue to grow. It has included investigations in its Plan to assess the source of nitrates and monitoring the growth of algae which can damage treatment works). NWL works with others such as the North Pennine		

	 WTWs has identified issues with nitrate levels in certain catchments. NWL's Plan includes enhancement proposals seek to reduce the impact of raw water nitrate levels at three WTWs to reduce WTW outage, maintain resilient supply and ensure drinking water quality standards are met; and it identified that some customers in the North East who receive drinking water from Broken Scar and Warkworth water treatment works could experience taste and odour impacts by 2030. This is due to increasing levels of geosmin – a naturally occurring chemical that can make water taste 'musty' – which these treatment works cannot remove. NWL's enhancement case for geosmin explains how it analysed this trend, how it explored the options including catchment management and nature-based solutions, and the treatment options selected.
 Aspirational target – lead free by 2050 DWI – flagging of future intention to reduce the lead standard for high risk zones 	 The Plan and LTDS reflect NWL's aspirational, but non-statutory target of removal of all lead pipes by 2050. A3-07: Lead replacement case. This is a targeted plan focused on lead hotspots; vulnerable customer groups; and phosphate disengagement: In March 2023 NWL updated its Lead Service Pipe Strategy. The strategy sets out its approach to managing lead pipes and reducing customer exposure to lead in 2020-30 within the context of NWL's vision to work towards the Water UK long-term ambition to be 'lead free' by 2050. This aspirational target – informed by customer preferences – is said to be instrumental in driving NWL's strategic thinking and its desire to deliver a step-change in replacement rates in 2025-30, in line with customer feedback and DWI expectation. NWL explains that in addition to this, the DWI has set out an intention to reduce the lead standard for high-risk zones from 10µg/l down to 5µg/l within the next 10 years. NWL states that this means that its current Lead Pipe Replacement Policy will not provide a sustainable solution in the long term and will not provide adequate protection to meet the tightening of the lead standard in drinking water. NWL estimates that at its current rate of lead pipe replacement, it would take NWL 138 years to remove its lead communication pipes (it has over 500,000 pipes in total). However, NWL recognises this still leaves a risk from the customer lead supply pipe. This means in the future NWL must increase its rate of lead pipe replacement and also include customer supply pipes in order to achieve the new lead standard and the 2050 commitment. The LTDS also anticipates future step up in investment to reflect limited customer
11. §93A WIA91: Duty to promote efficient use of water	appetite for additional investment this AMP.
Duty on company to:Promote the efficient use of water by its customers.	 Delivery against this duty requires support for the management of water resources through reduction in demand and increase in water efficiency. A3-02 WRMP Demand Management: this business case sets out NWL's plans in

	 efficiency for household customers. It outlines the considerations that have informed the selection of options (including, for example, relevant UKWIR reports). It concludes that the medium impact plan represents best value and will ensure a secure supply of wholesome drinking water for customers and will protect and enhance the environment, as well as enabling the PCLs to be met in AMP8 through a mixture of base and enhancement expenditure. NWL's Plan notes that it has contributed to the WaterWise strategy for water efficiency and will continue to promote collective and joined-up activity in this area NWL has adopted the common PC to reduce household water PCC. NWL's long term targets are to reduce PCC to 122 l/p/d by 2038 and 110 l/p/d by 2050. NWL's WRMP PCL of 136 (3 yr average) litres by 2030 aligns with reaching the 110 litres by 2050. The Plan acknowledges that NWL was below target in 2022/23 but that its Plan is to deliver improvements and meet targets to deliver reductions in line with national requirements by 2030. The Plan states that this will be achieved through a combination of compulsory metering in the ESW plus a significant increase in water efficiency activity (including direct provision of advice, retrofits and leaky loo initiatives). NWL has adopted the common PC on business demand. NWL's long term targets are to reduce non-household water demand by 9% by 2038, excluding growth (from 2019/20 levels). A3-22 WRMP Non-HH water efficiency: Details NWL's plans with respect to metering to achieve these targets.
12. §94 WIA91: General duty to provide sewerage system	
 Duty on company to: Provide, improve and extend system of public sewers and to cleanse and maintain the sewers, so as to ensure that the area is and continues to be effectually drained (including in relation to sewage disposal works to facilitate new development) [Lisa – this is referred to as a duty in the business case but I've just checked the Act and can't see it as a separate duty so I think it must come within this one or the one below] Make provision for emptying of sewers through sewage disposal works or otherwise Have regard to existing and likely future obligations to allow for discharge of trade effluent into public sewers, and the disposal thereof 	 NWL's Plan is designed to includes efficient costs for providing and improving public sewers and sewage treatment works. NWL has assessed the impact of population growth and future climate change on these systems as part of its DWMP and states that it includes investment for this in its Plan. NWL has adopted the common PCs that relate to this general duty: PC – Sewer collapses PC – Internal sewer flooding PC – External sewer flooding As with the water general duty, many aspects of NWL's wastewater plans for AmP8 will contribute to its performance with respect to this duty. For instance, the nutrient neutrality and WFD schemes all have other knock on benefits which contribute to achieving compliance with the §94 WIA91 general duty, as do the plans with respect to final effluent treatment and storm overflows. A3-19 First time sewerage details NWL's plans for adopting new assets, including existing assets that are currently privately owned.

		NES26 – A3-12 Waste Water Treatment Growth . This business case forms part of NWL's DWMP and describes the enhanced investment required to upgrade five WwTWs to deliver existing service levels to new customers as a result of new development and provide monitoring at six WwTWs. Investment relating to this case is recorded in the PR24 enhanced data tables lines entitled "growth at sewage treatment works (excluding sludge treatment)".
		A3-18 Flooding and power resilience. This sets out NWL's plans for sewer flooding. NWL's proposals target upper quartile for internal sewer flooding by 2030 and above average for external sewer flooding (reducing external flooding by c.45% from 2020/21). These proposals are less ambitious than NWL's initial proposals (60% reduction by 2040) to reflect customer preferences on expenditure. The proposals are to be funded from base.
	-	 Regarding internal sewer flooding, NWL's proposed target of 1.18 per 10,000 connections by 2030 aligns with a linear trend to its long-term strategy to reduce internal sewer flooding by 60% (from our 2025 performance) to 2050.
	-	 Regarding external sewer flooding NWL's target of 16.25 per 10,000 connections by 2030 puts it ahead of the linear trend to the 60% reduction on 2024/25 performance by 2050 (18.94 per 10,000 required by 2030).
		NWL will participate in the Northumbria Integrated Drainage Partnership to support greater resilience to flooding.
		NWL has adopted the common PCs on pollution and serious pollution. NWL's PCL follows the assessment from WISER, which is a 30% reduction on the 2024-25 PCL, this targets 13.3 per 10,000 km, ahead of the 15.87 it needs to target on a linear trend to our 2040 target.
		NWL set a PCL of 0 for serious pollutions which aligns with its long-term strategy to achieve leading levels of pollution incidents – zero serious pollutions now and always, zero pollutions as a result of its assets and operations and reduce the number of category $1 - 3$ pollutions by 50% by 2040 (from 2022 baseline).
		See also the plans regarding the maintenance of asset health as outlined with respect to furthering resilience.
13. §141A WIA91: Storm overflow discharge reduction plan		
Obligation on Secretary of State (SoS) to produce a plan for the purpose of reducing discharges from storm overflows (frequency, duration and volume) and reducing the adverse impacts of those discharges (Storm Overflows Discharge Reduction Plan or SODRP)		is a duty on the SoS, rather than NWL. The SoS has published the SODRP. The ets detailed in the SODRP are:
	•	10 discharges or less by 2050
		Discharges only permitted if no local adverse ecological impact can be demonstrated.
	Pha	sed targets:
	•	for SO's discharging in or close to high priority sites:
	-	- at least 75% by 2035;

 14. §141C WIA91: Annual reports on discharges from storm overflows Duty on company to: Publish annual reports on storm overflows which specify: location of storm overflows; location of discharge; frequency and duration of discharges; volume of discharges; details of any investigations or improvement works. 	 100% by 2045 For all remaining sites by 2050 To ensure that action is taken by 2030 so that no river, lake, or estuary should be in 'poor' or 'bad' ecological status due to water company activities. Water companies must address any damage arising from their activities, and are expected to protect, restore, and enhance the environment. NWL already provides annual reports on storm overflows to the EA and has indicated that it will comply with this obligation as part of business as usual activities.
 15. §141DA WIA91: Reporting on discharges from storm overflows Duty on company to: Publish real time information about discharges (including location and duration). Details of discharges to be published w/in 1 hour of the event commencing and ending 	NWL states that real time reporting will be in place by the end of 2023 to include the storm overflow discharge data.
 16. §141DB WIA91: Monitoring quality of water impacted by discharges: Duty on company to: Continuously monitor the quality of water upstream and downstream of storm overflows and sewage disposal works that discharge into a watercourse; and Obtain specified information about the quality of the water. Obligation to deliver this investment for priority sites by 2030 and for all relevant sites by 2035. The profiling of this investment is dictated by the draft technical guidance. The guidance requires investigations and monitor installation for priority sites in 2025-30 and investigations at non-priority sites during 2025-30. WINEP drivers for objective of continuous water quality monitoring on rivers is to investigate the suitability for continuous water quality monitoring, provide monitoring data in the receiving environment to inform actions to protect the environment from the effects of discharges from storm overflows and wastewater treatment works. 	 NB: Not yet in force This duty is not yet in force. However, in anticipation of its commencement, NWL's Plan and LTDS include investment to support the continuous monitoring of the quality of water around storm overflows and sewage treatment works. The drivers apply to all wastewater treatment works discharges and permitted overflows including: Combined sewer overflows (CSOs) on the sewer network Storm discharges at pumping stations Inlet CSOs at wastewater treatment works Storm tanks at wastewater treatment works Storm tanks at wastewater treatment works Four of the drivers are statutory and two are non-statutory. Monitoring flow discharged at WTWs helps to protect the environment from the effect of WTW trade effluent discharges. It also contributes to delivery of WFD objectives of good ecological status in receiving water bodies and 25 Year Environment Plan objectives The WINEP has introduced a new statutory requirement for MCERTS certified monitoring for delivery as early as possible in the PR24 period. This will improve the accuracy and consistency of the reported data. Improved transparency over the use of overflows will help to understand the scale of discharges and drive future improvements to reduce the potential impact of discharges. This business case

	 describes NWL's approach regarding the implementation of this legislation. It also describes NWL's approach to the non-statutory requirements for continuous water quality monitoring. A3-16 Wastewater monitoring business case: this makes the case for enhancement expenditure to fund 11 new EPR-MON1 monitors. The Plan states that as all of the requirements for monitoring flow compliance are all new statutory requirements which are separate from the AMP7 deliverable there is no overlap with any AMP7 funding. All requirements relate to new monitors or changes to monitors as a result of a new standard so are not related to base expenditure. None of the sites are related to growth so there is no overlap with other investment programmes. NWL states that this investment is needed as part of the 'protecting the local environment' investment area under the LTDS core pathway.
17. §141DC WIA91: Reduction of adverse impacts of storm overflows: N	B: Not yet in force
 Duty on company to: secure a progressive reduction in the adverse impacts of discharges on public health and the environment 	This duty is not yet in force. However, in anticipation of its commencement, NWL's Pan and LTDS include investment to support it in match the Government's SODRP, allowing it to secure a progressive reduction in the adverse impacts of storm overflows on public health and the environment. NWL has adopted the common PC on storm overflows.
	 A3-13 Storm Overflows: The Plan implements the first five years of DWMP which has been designed to make progress towards the SODRP targets and to exceed them during the AMP8 period. NWL's delivery profile for improvements to its storm overflows indicates that its preferred plan will allow it to exceed the 2035 statutory target for high priority sites and to meet the 2045/2050 dates for 100% compliance for high priority/all sites. This is based on circa. £1bn investment in AMP8 and total investment up to 2050 of circa. £3bn. The Plan includes new schemes for storage, surface water separation and nature based solutions, as well as optimisation of existing storage capacity. It also supports investigations to understand whether storm overflows cause local ecological harm to be undertaken by April 2027.
	 NWL's target is to reduce sewer overflow activations to 10 or less p.a. by 2050. It is noted that the relevant guidance has not yet been finalised. NWL's Plan has been designed to address the requirements detailed in the draft guidance currently
	 available. The Board Assurance Statement provided to Ofwat, Defra and the EA on 31 May 2023 with respect to the DWMP also confirmed that NWL's Board is satisfied that measures are in place to achieve the objectives in the SODRP.
	NES45 line-of-sight: NWL states the SODRP sets out targets to improve 75% of high priority storm overflows by 2035, and to improve all storm overflows by 2050. NWL

	explains this plan does not necessarily require it to follow the pathway set out in the SODRP for 2030 (38% of high priority sites and 14% of all overflows) but does require NWL to achieve year on year reductions in the amount of surface water that is connected.
18. §144A WIA91 provision for optant metering	
Where a customer gives notice requesting charges to be fixed by reference to the volume of water supplied, the undertaker must give effect to that through	 The Plan notes that to work towards the long-term PCC objective NWL needs to reduce household PCC by 9.7% during AMP8.
the provision of a meter.	• A3-02 WRMP Demand Management includes NWL's plans for universal smart metering in ESW and accelerated optant metering in North East. The Plan details how this investment will contribute to meeting the PCC reduction target and the leakage target. NWL notes that replacing around 480,000 water meters between 2025 and 2030 will improve water consumption data, increase understanding of customer side leakage, improve understanding of customers' water use behaviour, and enable NWL to inform more targeted water efficiency measures in future that effectively reduce PCC.

Table 2: Other legal obligations - demand management

19. Water Industry (Prescribed Conditions) Regulations 1999	
Compulsory metering in an area of serious water stress	ESW's region has been designated as an area of serious water stress. As noted above, A3-02 WRMP Demand Management includes NWL's plans for universal smart metering in ESW.

Table 3: Other legal obligations - water quality

20.	Water Supply (Water Quality) Regulations 2016		
•	Obligation to ensure water supplied to customers is wholesome. To achieve this treated water from drinking water protected areas (DWPAs) from which water for human consumption is abstracted must meet specified quality standards.	•	 The Drinking Water Protected Areas (DrWPA) driver requires water companies to take action to protect and improve the quality of water abstracted for water supply. A3-05 WINEP Protected areas and biodiversity sets out NWL's plan to meet its obligations the DrWPA WINEP driver. The Plan includes base expenditure to continue: engagement with farmers to address potential risks to drinking water quality outside 'At Risk' DrWPAs or Safeguard Zones; and regulatory water quality monitoring at drinking water abstraction points. It also includes enhancement proposals for i14 needs against the DrWPA driver that NWL intends to deliver in AMP8. These are mostly investigations to understand the nature and cause of identified risks, in order to develop solutions.

 The Plan confirms NWL's ongoing approach of setting Prescribed Contribution or Value (PCV) levels lower than stipulated by DWI for water accessed at taps to ensure effective management of water quality and provide opportunity for remediation if issues occur.
 Other enhancements relevant to this obligation include the enhancement cases for mains renewal and asset health.
 NWL has adopted the common PCs for water quality compliance and water quality contacts. The LTDS sets a long term target to consistently deliver high quality water CRI of zero). This will be supported by investment in transformation programme to improve performance. The BAS states that NWL is on track with DWI transformation programme in AMP7. NWL's PCL for CRI is 0, which aligns to its long-term ambition. NWL acknowledges its current performance and that it will take time to achieve its PCL
 LTDS has adaptive pathway provision for other raw water quality investment in 2030-35 resulting from investigations on the impact of algae, and assumes that climate change will require further investment in this area after 2035.

Table 4: Other legal obligations – water sources and abstraction

21.	Water Environment (Water Framework Directive) (England and Wales) Reg	ulat	ions 2017 (WFDR)
•	Water company contributions to achieving or maintaining Good Ecological Status (GES) or meeting improvement objectives for surface water and groundwater bodies.	•	Improve abstraction levels, no deterioration in river flow due to abstraction or investigations into current or future impact, impact of reservoir or water structure asset on ecological function.
•	Preparation of river basin management plan (RBMP) outlining the legally	•	Deliver outcomes of AMP7 WINEP investigations
	binding objectives for groundwater and surface waters, including estuaries and coastal waters, by setting targets for ecological status and chemical status for each water body.	•	A3-06 WINEP Water Framework Directive sets out the enhancement investment designed to enable NWL to meet its environmental obligations under the WFD, including the WINEP drivers for
•	Water companies are responsible for contributing to meeting these objectives		- Water Resources Hydrological Regime (WRFlow);
	by putting in place actions to ensure that no river, lake or estuary is in poor or bad ecological status due to water company activities, and by to achieve good		- Water Resources Artificial and Heavily Modified Water Bodies (WRHWB);
	status where technically feasible and best value. This includes actions to:	•	- WINEP Groundwater Pressures (WFDGW) driver; and
	 protect and improve the hydrological regime of waterbodies (WFD_WRFlow); 		 Water Framework Directive Physical Habitat and Fish Passage (PHYS_HAB)
	 protect and achieve ecological potential of Heavily Modified Water Bodies designated for water resources uses (WFD_WRHMWB); 		Obligations under these drivers are concerned with water company contributions to achieving or maintaining GES or meeting improvement
	 prevent deterioration of groundwater quality, quantity and habitats (WFDGW); and 		objectives for surface water and groundwater bodies, as required by the WFDR. These obligations are detailed in the enhancement case.
		•	The Plan sets out details of the base and enhancement expenditure proposed to meet the obligations under these drivers and the WFDR. This includes:

	 address physical modification and ecological discontinuity causes by physical infrastructure that we own or utilise (WFD_PHYS HAB). 		 for the WRFlow driver the Plan states that base will cover the costs of investigation to understand the risk of deterioration of WFD status at current Waskerley Airshaft licence abstraction, which will support negotiations with the EA to renew this licence, as well as covering the costs of other licence modifications. It also includes a number of enhancement cases to cover investigations and implementation of solutions; for the WRHWB driver the Plan states that base expenditure will cover habitat management, catchment working, invasive species actions (specifically relating to killer shrimp), water quality monitoring, surveys of flora and fauna, implementation of biosecurity measures, and liaison with local stakeholder for two specified sites. It also includes a number of enhancement cases, mostly relating to investigations; for the WFDGW driver the Plan states that base expenditure will cover the renewal of certain abstraction licences. It also sets out the enhancement investment required for NWL to protect and improve the WFD status of groundwaters it abstracts from for drinking water supply; for the PHYS_HAB driver the Plan states that base expenditure will cover ongoing maintenance of existing fish passes, as well as any ecological monitoring to confirm their effectiveness. The Plan also identifies five specific schemes for intervention in AMP8 to address specific concerns under this driver which its states are necessary to enable NWL to deliver its LTDS.
		•	NWL has adopted the common PC for river water quality.
22.	. Water Resources Regional Plan Long-term Environmental Destination (ED	WR	MP)
•	New WINEP driver which aims to verify the EDWRMP scenarios and abstraction licence reductions identified during AMP7 as part of the WRMP24 for delivery in AMP8, and confirm their ability to meet environmental objectives at a local scale in light of future climate change. The EA's National Framework for Water Resources sets out a range of water resource (environmental destination) scenarios to 2050 and beyond that Regional Water Resource Groups and their constituent water companies need to build into their WRMPs. Companies must also use the range of EDWRMP		The EDWRMP supports an Investigation to support development of adaptive pathway to deliver sustainability reductions in the long term to support the resilience of the environment to climate change. Under the EDRWMP driver, water companies are required to contribute to reducing abstractions or enhancing the water environment to meet outcomes of the regional plan A3-4 WINEP Long Term Environmental destination sets out the enhancement investment required for NWL to meet its environmental obligations associated with the EDWRMP WINEP driver. The Plan states that
00	scenarios to develop their WRMP in order to demonstrate the plan seeks to secure public water supply whilst protecting the environment over the long term		as the EDWRMP driver is new to PR24, there is no base expenditure proposed for AMP8 that will continue previous AMPs efforts to deliver against this driver. NWL's business-as-usual catchment management activities will be covered by base investment. The Plan details the enhancement proposals it considers are required to meet this obligations, which mostly relate to investigations.
23.	25 Year Environment Plan		

 25 Year Environment Plan (25YEP): informed by 25YEP Driver Guidance (25YEPDG) which sets the non-statutory requirements that allow water companies to go above and beyond their regulatory obligations. The 25YEP sets 10 interlinked goals. These include, for example: a goal of achieving clean and plentiful water through 'improving at least three quarters of our waters to be close to their natural state as soon as is practicable'. Achieving the goal includes reaching or exceeding objectives for rivers, lakes, coastal and groundwater that are specially protected, whether for biodiversity or drinking water as per the river basin management plans (RBMP); thriving plants and wildlife: goal of restoring 75% of the total area of terrestrial and freshwater protected sites to favourable condition by 2042 The 25YEP aligns with the key strategic priorities set out in the Strategic Policy Statement (SPS) for Ofwat and support the four key ambitions put forward by Ofwat in the PR24 Final Methodology. 	 A3-15 WINEP 25 Year Environmental Plan: The 25YEP published in 2019 was used as the first 'Environmental Improvement Plan' published by the Secretary of State under the EA21. This was reviewed and revised at the end of January 2023. The revised plan includes, amongst other things, a target to create or restore 500,000 hectares of wildlife-rich habitat outside of protected sites as part of a Nature Recovery Network and a commitment to take action to recover threatened, iconic, or economically important species of animals, plants and fungi, and where possible to prevent human induced extinction or loss of known threatened species in England. NWL states that this enhancement case includes investments that contribute to the government's 25YEP goals including: improving Bluespaces – that is, accessible water environments; reducing flood risk by supporting local partnerships through the Northumbria Integrated Drainage Partnership (NIDP); investing in catchments – through gathering evidence using citizen scientists to support a catchment improvement plan for the Ouseburn; restoring the Roman River to support good hydrological status; and developing its programmes of SUDs and climate change resilience. NWL explains the investments proposed in this enhancement case are not covered by other driver guidance and offer best value options to address customer priorities and contribute to 25YEP goals. NWL has reflected direction provided by the EA when prioritising investments to include under the 25YEP drivers. NWL notes it is important to recognise all investment properties and contribute to a partner to an electively up acoded to the section provided by the EA when prioritising investments to include under the provided by the EA when prioritising investments to include under the partner of the during the top of the during the properties of the during
	proposed, including statutory and non-statutory, are collectively needed to deliver the 25YEP goals.
24. Environment Act 2021 (EA21)	
§3 104-108 EA21: Local Nature Recovery Strategies (LNRS)	 Water companies must have regard to the priorities set out in the LNRS which are a new system of spatial strategies for nature, introduced by the EA21 LNRS will help map out the action needed restore nature, working closely with local stakeholders especially farmers and land managers. When put together they will be a key way to meet the Government's England-wide nature targets.
25. Bathing Water Regulations 2013	
Obligation to progress actions for designated bathing waters with a planning class of poor or failing the baseline	 32 of 34 bathing waters in the NWL region are at good or excellent status. The Plan includes support for work at the two sites not good or excellent, although neither is subject to the Bathing Water Regulations obligations. NWL has adopted the common PC Bathing Water Quality

Table 5: Other legal obligations – sewerage, discharges and sludge

26. Water Environment (Water Framework Directive) (England and Wales) Regulations 2017 (WFDR)				
 Environment Improvement Plan to restore 75% of water bodies to GES. Target to achieve chemicals/nutrient reductions by 2027 to achieve good status . 	 NWL has adopted the river water quality PC. NWL's long term ambitions are to achieve leading levels of water quality and to eliminate the detrimental impacts of its operations and assets on waterbodies as soon as is practical. NWL states it will also work with partners so that, where possible, waterbodies in its regions can achieve good ecological status. Where possible NWL seeks to do so through use of innovative catchment and nature based solutions. NWI's obligations with respect to emerging contaminants are informed by PR24 WINEP driver guidance – Chemicals version 0.3, Environment Agency 2022 which states that that under the WFD chemicals and other substances with Environmental Quality Standards (EQSs) in surface waters may be described as Priority Hazardous Substances (PHS), Priority Substances (PS), Specific Pollutants (SP) or Other Pollutants (OP). PHS, PS, and OP are used to determine chemical status and SP are used in the determination of ecological status. There are also 'emerging chemicals' that do not have EQSs under these categories but may be of sufficient concern to warrant investigations to improve understanding of the risk they may present, and to inform future interventions to protect the environment 			
	 A3-25 Wastewater WINEP – emerging contaminants business case. This sets out NWL's plan as to how it will meet WFD good status targets during AMP 8 with respect to management of emerging contaminants through enhancement expenditure. It comprises three key areas for investment: chemicals investigations, nitrogen technically achievable limit and microplastics. It sets out NWL's proposals to undertake investigations to assess risk and treatment options. The funding requested reflects the output of the National Chemicals Investigation Programme as funded during AMP6 and AMP7. 			
	• For chemicals the Plan proposes enhancement expenditure to support investigations to meet new emerging needs, new permits and new equipment.			
	• For microplastics the Plan states that it is known that over 99% of micoplastics are removed by STWs but that the fate of microplastics within sludge treatment and subsequent application is an unknown. Use of sludge should not prevent water bodies from achieving the WFDR objectives. The investigations proposed by NWL will seek to fill this information gap.			
	The nitrogen technically achievable limit is addressed below (see item 27 below).			
River basin management plan targets for good status	Wastewater WINEP - phosphorus business case:			

Targets for reduction of phosphorus loading from treated waste water by 80% by 2037 against a 2020 baseline (statutory obligation under EA21, not subject to cost benefit)	 NWL states that the investment it is planning in AMP8 will achieve a number of benefits including phosphorous removal load reduction against a 2020 baseline by the end of AMP8 of 62%. The phosphorus reduction programme NWL has proposed is materially
	different in size and characteristic to that seen in previous regulatory periods. The current WINEP requirements are of a scale that is much greater than the historical requirements and the complexity of the required interventions.
	- As these are new statutory requirements to meet relevant water body objective in the 2021 river basin management plans (status of Good) and the EA21 target to reduce phosphorus (P) loading from treated wastewater by 80% by 2037, NWL is requesting enhancement investment for new interventions that have not been previously funded. The investigations will inform PR29 options development.
	- The Plan explains in detail the nature of the proposed interventions at different sites and within different catchments, taking into account a range of factors including permit levels, population growth, treatment capacity and headroom, the ecological status of affected water bodies and the associated cost.
	 Also relevant is the emerging contaminants business case which sets proposals for a programme for reduction of phosphorus and nitrogen, taking a partnership based approach to catchment management and nature-based solutions.
27. The Urban Waste Water Treatment (England and Wales) Regulations 1994	(UWWTD)
 Current non-statutory obligation under the WINEP for nitrogen TAL (N-Tal): 10mg/l identified under UWWTD. Proposal to impose Technically Achievable Limits (TAL) for phosphates and 	• A3-25 Wastewater WINEP – emerging contaminants business case. As noted above this sets out, amongst other things, NWL's proposals for N-TAL under the non-statutory WINEP driver.
nitrogen as statutory obligations under s.158 of the Levelling-up and Regeneration Bill (LURB)	• When considering the N-TAL driver and likely future TAL statutory obligations NWL considered options for a 'grey' solution to achieve TAL through the installation of end-of-pipe infrastructure. Costings were prepared for circa. 50 sites (capex, opex and carbon). NWL also explored alternative nature-based solutions to test if these might be more cost effective, as well as more sustainable.
	 NWL developed an alternative plan using innovative and nature based solutions in the Tees catchment, including seaweed and shellfish farming. Progresses marine restoration. That plan is said to be consistent with the net effect of the target to remove all phosphorus and nitrogen from wastewater by at least 2030 - it is suggested that it will support a 30% reduction in all pollutants in those waters. For AMP8 that plan proposes trials of three

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			technologies (Bran Sands – Algal based solutions; Bran Sands Nuvoda mobile organic biofilm process; and Low Wadworth – integrated constructed wetland)
		•	NWL has explained that it put the alternative proposal utilising nature-based solutions to the EA as part of its but it was rejected. The EA concluded that it was inconsistent with the applicable guidance and non-compliant with the relevant statutory requirements. We understand that this is, at least in part, because the anticipated legislative requirement is focused on the levels of phosphate and nitrogen in discharges, whereas the aim of the alternative proposal is to reduce the overall levels in the environment itself.
		•	NWL has indicated that this issue has been fully briefed with the Board. The Board has taken the strategic decision to engage with the EA to explore the possibility of the EA accepting the nature-based proposal and to include it in the Plan on the assumption that the negotiations will be successful. NWL is also suggesting a Notified Item to cover the higher costs of the end-of-pipe solution if it is required by the EA to go down that route.
		•	On 14 September 2023 the House of Lords approved amendment 247YV to the LURB. This new section gives the Secretary of State the power to pass regulations modifying or revoking the s158 duty on water companies to upgrade sewage plants discharging into rivers by 2030. This creates the potential for a shift in the legal requirements that would accommodate NWL's alternative nature based solution.
•	Duties to provide and maintain a wastewater collecting systems and operate treatment plants.	•	A3-16 WINEP Monitoring : as noted above with respect to the EA21 monitoring duties, this enhanced business case describes NWL's approach to meeting the statutory requirements for investigating and installing monitoring to meet the EA's Monitoring Certification Scheme (MCERTS). The statutory requirements for storm overflow discharges from wastewater treatment works to have MCERTS certified overflow operation and flow passed forward (FPF) for full treatment monitoring that allows performance with their permit conditions to be better regulated. (U_MON3 and 4)
		•	This business case describes NWL's approach regarding the implementation of this legislation. It also describes NWL's approach to the non-statutory requirements for continuous water quality monitoring.
•	Upgrading 75 septic tanks to have secondary treatment	•	A3-17 Septic tanks : this enhanced business case describes NWL's proposed approach to meeting the statutory requirement in the UWTTD to provide secondary treatment for septic tanks where they discharge to surface water. This contributes towards the improved water quality in downstream surface waterbodies, supporting the move towards Good Ecological Status. Based on initial estimates provided in the WINEP Guidance NWL has 2 to 3 times more septic tanks than other companies.
28	. Sludge (Use in Agriculture) Regulations 1989 (SUiAR)		

•	Requirements and precautions on supply and use of sludge in agriculture. Farming Rules for Water (FRfW) Pending transition from (SUiAR) to the new EA Sludge Strategy late 2023 / 2024 under EPR.	•	 WINEP Bioresources A3-20 – strategic sludge storage: The Plan focuses specifically on the WINEP enhanced investment for providing resilience in the sludge supply chain when business as usual measures have been disrupted and the environment is put at risk. NWL's actions in the enhancement case relate to: provision of 90 days strategic cake storage and increased high solids dewatering which provide resilience in the supply chain to manage the short-term impacts of landbank availability; and the extra reporting requirements as a result of the change in the regulatory framework to bring bioresources into an evolved version of the Environmental Permitting Regulations. Promoted alternative disposal routes but all rejected by EA and NWL has been pushed towards adopting more storage based solutions. EA still developing its strategy.
			its strategy.
29.	Environmental Permitting (England and Wales) Regulations 2010 and 2016	5	
•	General compliance with permits	•	See work detailed above under WFDR to achieve reductions in chemicals and nutrients. Also relevant to the general question of compliance with permits are the range of investment proposed with respect to ongoing monitoring as well as investment in asset health and maintenance. NWL has adopted the common PC on discharge compliance.
		•	
	STW Permits – Dry Weather Flow (DWF) and treatment quality conditions	•	A3-12 Growth and WWTWs : this business case forms part of NWL's DWMP and describes the enhanced investment required to upgrade five WwTWs to deliver existing service levels to new customers as a result of new development and provide monitoring at six WwTWs. NWL explains that investment relating to this case is recorded in the PR24 enhanced data tables lines entitled "growth at sewage treatment works (excluding sludge treatment)".
		•	NWL has an enhancement case for 11 sites in Amp 8. 7 of these are expanding the STW to deal with additional flow to comply with a new DWF consent. 5 are to install flow monitoring as they are close to exceeding 250p.e or 50m3/D but not yet exceeding that.
		•	Some STWs are only descriptive with no reporting obligations

Table 6: Other obligations - habitats and biodiversity

30. Duties regarding Invasive Non-Native Species (INNS)

 EU Invasive Alien Species Regulation 1143/2014 Wildlife and Countryside Act 1981 Invasion Alien Species (Enforcement and Permitting) Order 2019 Great Britain non-native species strategy framework and INNS local or regional strategies 	•	The purpose of the INNS-related legislation is to mitigate the risk of introduction and spread of INNS across new and existing assets and activities. To meet its obligations NWL is required to control and manage INNS where their impacts pose a risk of deterioration in water body status or impact the achievement of conservation objectives at SSSIs and habitats sites. It is also required to mitigate risks of introduction and spread of INNS within existing raw water transfer networks. A3-05 WINEP Protected areas and biodiversity sets out NWL's plan to meet its obligations with respect to the WINEP drivers for iNNS. It states that its proposed base expenditure allowance will allow it to continue to manage or eradicate the presence of INNS where it has been confirmed at NWL's sites and where there is a known effective treatment option. It will also allow NWL to continue its partnership projects to remove INNS on shared waterways. It also includes proposals for various interventions to be funded as
		enhancements with respect to its INNS obligations.
31. Duties to protect eel and fish passage		
 Eels (England and Wales) Regulations 2009 (ER09): §14 Duty to install eel passes §15 Duty to maintain and repair eel pass §17 Duty to install eel screens §19 Duty to maintain eel screens in an efficient state Salmon & Freshwater Fisheries Act 1975 (SFFA) §9 Duty to make and maintain fish passes §14 Duty to install screens 	•	These duties create obligations to install screening at abstractions to protect salmon, trout and/or eels and measures to allow fish passage. They require NWL to identify and implement actions to improve abstractions and outfalls to prevent the entrainment of fish and to address barriers to passage of fish. This can include installing new screens and passes and maintain/replace existing ones. A3-06 WINEP Water Framework Directive sets out NWL plan to meet its obligations with respect to the WINEP driver: Water Framework Directive Physical Habitat and Fish Passage (PHYS_HAB). The Plan states that base expenditure will cover ongoing maintenance of existing fish passes, as well as any ecological monitoring to confirm their effectiveness. The Plan also identifies five specific schemes for intervention in AMP8 to address specific concerns under this driver which its states are necessary to enable NWL to deliver its LTDS.
	•	A3-05 WINEP Protected areas and biodiversity sets out NWL's plan to meet its obligations under the WINEP driver for Eels Regulations. It states that the base expenditure proposed in the Plan will cover the ongoing maintenance of the eel exclusion screens on the Blackwater, Chelmer, Stour, Waveney and Bure rivers. It also proposes enhancement expenditure to allow the implementation of solutions identified during AMP7.
32. Conservation of Habitats and Species Regulations 2017		

•	 Duty to protect, conserve and restore protected habitats (also applies to Ramsar sites) To satisfy these duties NWL will need to: carry out Habitats Regulations Assessments as required; take action to improve habitats sites or prevent deterioration; and carry out actions or investigations to contribute to or meet conservation objectives for habitats sites. 	•	A3-05 WINEP Protected areas and biodiversity sets out NWL's plans to meet its obligation under various WINEP drivers including under the European Sites (Habitats Directive) driver. The Plan identifies a range of monitoring and site management activities connected with these obligations that are funded by base, along with certain investigations if required. It also includes proposals for various interventions to be funded as enhancements, including certain schemes that have been stipulated by the EA.
33.	Natural Environment and Rural Communities Act 2006 (NERC) as amende	d by	EA21
	§40 duty to have regard to conserving biodiversity when delivering functions and to contribute to local biodiversity priorities and obligations. §102 of the EA21 amended this to a " <i>duty to conserve <u>and enhance</u> biodiversity</i> ". §41: designated priority habitats.	•	 The NERC (biodiversity) WINEP driver enables water companies to contribute towards the conservation or enhancement of biodiversity via changes to permits or licences, other actions and/or investigations. It is a statutory+ driver meaning that proposals under the driver must be demonstrated to be cost beneficial. NWL has adopted the biodiversity PC. NWL's long term ambition is to stated to be to enhance biodiversity, such that all its activities, including those that do not require planning permission, will result in a net gain in biodiversity of 10% or the local requirement where higher. A3-05 WINEP Protected areas and biodiversity sets out NWL's plan to meet its obligations under the Biodiversity (NERC) WINEP driver. The Plan includes various activities to support compliance with obligations and targets funded by base. It also includes proposals for enhancement expenditure to carry out further investigations and implement certain solutions.
34.	Wildlife and Countryside Act 1981		
•	This supplements s4 WIA 91 regarding the further enhancement and conservation of SSSIs. Obligation to take reasonable steps, consistent with the proper exercise of functions, to further conservation and enhancement of the flora, fauna or geological or physiological features' of SSSIs. Biodiversity2020: A Strategy for England's wildlife and ecosystem services' also includes targets related to SSSIs: for at least 50% of SSSIs to be in favourable condition and 95% in favourable or recovering condition by 2020	•	A3-05 WINEP Protected areas and biodiversity sets out NWL's plan to meet its obligations in relation to SSSI. The Plan details the base expenditure that will enable it to continue with SSSI monitoring and management activities during AMP8. It also includes proposals for enhancement expenditure to carry out further investigations.

Table 7: Other legal duties - climate change and resilience

35. Climate Change Act 2008

UK government legally binding commitment to achieve net zero by 2050	This obligation is not legally binding on NWL. However, NWL has made voluntary commitments with respect to net zero.
	 In the Plan NWL acknowledges that its non-legally binding goal to reach Net Zero for operational emissions (scope 1 and 2) by 2027 is no longer deliverable. It explains that its measured emissions are higher than originally estimated and that customers do not support enhancement funding needed to deliver net zero in this AMP. NWL has set a new long-term target of reaching Net Zero for all operational and embedded emissions (scope 1, 2 and 3) by 2050.
	 In connection with this NWL has joined the UN's Race to Zero commitment to achieve net zero carbon by 2030, with its plans to achieve this detailed in its <u>Emissions Possible</u> plan.
	• The Plan does commit to reducing operating emissions by the same amount or more than estimated when the target was originally set. NWL will report and reduce emissions in accordance with the Science Based Target initiative.
	 NWL has adopted Ofwat's common PCs in this area:
	- Deliver Net Zero – achieve Net Zero Scope 1, 2 and 3 emissions by 2050.
	 Halve carbon impact of new assets – reduce embodied carbon by 50% for new assets by 2040 (compared to 2026 baseline).
	 Increase renewable generation – 100% of electricity will come from additional renewable generation by 2040.
	 NWL acknowledges areas of difference between its targets in AMP8, the common measures and the LTDS, but explains why it is confident that the near term targets build towards delivering its long-term goals. For instance it notes that:
	 the short-term greenhouse gas emissions target of net zero by 2027 is defined on the basis of the PC in place when NWL set this target, which is different to the common measure for PR24;
	- the 2050 target covers all emissions and so is broader in scope than the common measure; and
	 the renewable generation measure addresses not just the use of renewable energy, but also adding to renewable generation capacity.
	NWL has utilised consideration of whole life carbon emissions in optioneering for the development of its Business Plan.
	 NWL acknowledges that some of the carbon intensive solutions required to meet its legal obligations, such as to address storm overflow discharges, will increase emissions in the near term.
	Other activities to support the net zero objective include decarbonising its fleet through replacement with electric vehicles where that is cost effective,

investing in solar generation and exploring other opportunities to utilise heat
sources, etc.

Table 8: Other legal duties – Safety and security

36.	Reservoir safety duties		
•	Reservoirs Act 1975 Defra / Environment Agency 'Reservoirs: owner and operator requirements', June 2014. DEFRA Guide to drawdown capacity for reservoir safety and emergency planning	•	A3-24 reservoir drawdown capacity: The business case outlines the impact of the legislative change, the need for investment and NWL's plan to implement a programme of investment to achieve compliance by the end of AMP8, in line with regulatory obligations. In particular, through analysis of its reservoir portfolio and in consultation with its appointed Qualified Civil Engineer specialists, NWL has identified a number of sites where intervention is required to address a quantified shortfall against the new standard. In most cases, viable solutions are limited to modifying existing drawdown siphon arrangements or installing additional siphons to increase total flowrate. NWL considers the investment to be a no regret investment because it is needed to meet statutory requirements in 2025-30 and to deliver its LTDS.
37.	Security & Emergency Measures Direction 2022 (SEMD)		
•	 Duty to maintain a water supply and sewerage system in the interests of national security or to mitigate the effects of any civil emergency. Obligations introduced by Defra in 2022 under SEMD include: Revised alternative water supply planning requirements to a minimum of 1.5% of the total domestic population for the first 120 hours after an incident. Revised Critical National Infrastructure (CNI) classification/methodology leading to increased numbers of CNI-designated assets. 	•	A3-09 Physical and Cyber Security: NWL explains that it has already met the requirements for robust alternative water supplies, as well as the legal requirements for CNI sites designated before the 2022 SEMD. NWL's enhancement case includes investment to meet the physical security requirements for sites newly designated under SEMD 2022. NWL has indicated that it has a letter of approval from DWI, the regulating authority for SEMD, with respect to its security plans.
38.	Network & Information Systems Regulations 2018 (NISR):		
•	manage risks and prevent/minimise risk of cyber incidents National Cyber Security Centre (NCSC) Cyber Assessment Framework (ie. a systematic and comprehensive approach to assessing the extent to which cyber risks to essential functions are being managed by an organisation).	•	NWL explains that by virtue of AMP7 investment it will have appropriate levels of control by 2025 to minimise cyber security risk across all areas of the business and will meet the requirements of legislation including NISR. NWL states that it already meets the standards set under the NCSC's Cyber Assessment Framework as referred to in the DWI letter dated 23 June 2023.
39.	e-CAF		

DWI : new expectation to meet enhanced cyber security standards from 31 March 2028 – the " e-CAF ". This requires further improvements in six of the contributing outcomes		The Plan includes enhancement expenditure to meet the new e-CAF requirements. NWL notes that it is already on target to achieve these areas in line with the previous "amber" status requirements (this was the requirement under CAF) and that it is also well placed to achieve the new "green" status on some of the less challenging targets. NWL has reviewed the gaps and identified where additional investment is required to achieve the legislative target by 2028.
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