

# SRN-DDR-034: Lead Enhancement Cost Evidence Case

28<sup>th</sup> August 2024  
Version 1.0



from  
**Southern  
Water** 

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# 1. Introduction

This document is to update Ofwat on changes to the scope of our AMP8 Lead Replacement Programme as requested by the DWI and as required due to increasing metering penetration through our smart metering programme.

## 2. Issue

### 2.1 Scope change

The significant part of our Lead replacement plans for AMP8 are dependent on the volume of mains replacement within our Water Resource Management Plan (WRMP). This approach of linking our lead programme with our WRMP makes removal of lead pipes as efficient and cost effective for our customers as possible.

At the time that our plans for Lead replacement were submitted to the DWI (March 2023), our draft WRMP included DMA scale mains renewal for leakage reduction at a volume of 1,250km in AMP8. We estimated that this programme would encounter c5,000 lead communication pipes. Between March 2023 and the PR24 Business Plan submission of October 2023, dWRMPs were revised and the mains renewal volume in our plan was reduced to c300km. This in turn reduced our estimate of lead communication pipes replaced through this programme to c800.

Through the DWI's legal notice review process and a meeting on the 3rd April 2024 with the Deputy Chief Inspector [REDACTED], the DWI requested that we increase the number of lead pipe replacements in our plan.

In response, we have agreed with the DWI to increase the number of lead comm pipes in our plan by 1,200 pipes. This figure is more than double the number of comm pipes that we expect to encounter through our WRMP linked replacement programme.

We have also carried out further work on our smart metering programme, which has determined that c34,000 additional properties will be metered during AMP8. 11.1% of Southern Water's communication pipes are currently lead, so we expect to encounter nearly 4,000 lead comm pipes through our metering programme. We will need enhancement funding to replace these.

### 2.2 Cost challenge by Ofwat

The costs adopted in our plan for replacement of lead communication pipes and external supply pipes were taken from Ofwat's 2021-22 Outturn Special Data Request to UK Water companies. The costs used to set the maximum level for grants to customers for replacing internal supply pipes, was set roughly 10% below the rate identified by the outturn Special Data Request and Severn Trent's Green Recovery proposed rates.

The rates proposed in our Business Plan and those proposed by Ofwat are in the table below:

	Comm pipes	External supply pipes	Internal supply pipes
SRN Business Plan unit rates	2,803	1,971	1,416
Ofwat DD unit rates	2,507	2,073	1,209

## 2.3 Data error in DD assessment

We believe there is an error in the original calculation of our DD allowance for lead replacement, although this is superseded by the above changes to pipe numbers, we have captured the information to allow the original model to be corrected.

	Comm pipes	External supply pipes	Internal supply pipes
Lead failures and incidental replacements	300	225	75
WRMP linked delivery	600	450	150
Public buildings	200	200	200
<b>Total incl WRMP funded</b>	<b>1,100</b>	<b>875</b>	<b>425</b>
<b>Total excl WRMP funded comm pipes</b>	<b>500</b>	<b>875</b>	<b>425</b>
<b>Ofwat DD pipe totals</b>	<b>500</b>	<b>875</b>	<b>250</b>

The use of 250 internal supply pipes, in place of our calculated number of 425 internal supply pipes, results in underfunding of £0.212m.

## 3. Our proposed response

### 3.1 Scope change

The increase of 1,200 communication pipes has been accepted by the DWI and the Section 19 legal Undertaking (ref SRN-2023-00012), issued to Southern Water on 22<sup>nd</sup> May, includes these additional communication pipes.

[Southern Water Services Limited – AMP8 Lead Strategy - Drinking Water Inspectorate \(dwi.gov.uk\)](https://www.dwi.gov.uk/Southern-Water-Services-Limited-AMP8-Lead-Strategy)

We have additionally determined that a further 3,748 properties with lead comm pipes will be identified through our smart metering programme. This was determined using the number unmetered properties that will become metered during AMP8 (33,864 – 4% of connected properties) and the proportion of our customers that currently have lead comm pipes (11.068% from Table 6C of 2024 APR Industry data share). The lead pipes discovered through our metering programme are not in addition to those agreed with DWI. The new requested pipe totals are as shown in the following table.

	Comm pipes	External supply pipes	Internal supply pipes
Total excl WRMP funded comm pipes	500	875	425
Extra pipes for newly metered properties	3,748	2,811	937
Total pipes including metering, but excluding WRMP funded	4,248	3,686	1,362

Using the above numbers of lead pipe replacements and the Ofwat DD Response unit rates gives the following revised costs for our AMP8 lead replacement programme.

	Comm pipes	External supply pipes	Internal supply pipes	Total
Total pipes including metering, but excluding WRMP funded	4,248	3,686	1,362	
Ofwat DD unit rates	2,507	2,073	1,209	
<b>Total AMP8 lead replacement programme costs</b>	<b>10.650</b>	<b>7.641</b>	<b>1.647</b>	<b>19.938</b>

## 4. Supporting Evidence

### 4.1 Scope change

Confirmation of the required scope change can be seen in the AMP8 Lead Strategy Section 19 Undertaking (ref SRN-2023-00012) paragraph 4c.(5).

[Southern Water Services Limited – AMP8 Lead Strategy - Drinking Water Inspectorate \(dwi.gov.uk\)](https://www.dwi.gov.uk)

The number of newly metered properties was taken from our metering programme.

The proportion of properties with lead communication (comm) pipes was taken from the Table 6C of the 2024 APR Industry Datashare.

Lead pipe replacement numbers were taken from Table 8 of our Lead Replacement Enhancement Business case SRN31 and also from Ofwat Enhancement Feeder model for Lead (PR24-DD-W-Lead.xlsx) Tab “Output - Allowance by year”.

## 5. Customer Protection

At business plan submission we had proposed the PCD to cover:

- 5 schemes to reduce nitrate concentrations; and
- 13 schemes to enhance disinfection at sites across our region.

At Draft Determination, Ofwat expanded the scope of this PCD by including also:

- Our lead strategy; and
- Study on emerging contaminants.

We agree to include lead strategy and emerging contaminants study in the scope of this PCD. Our updated PCD below reflects this wider scope.

Our proposed PCD is in line with our Conditions for PCD design which we set out in detail in SRN-DDR-052 Price Control Deliverables.

Table 1 - Lead PCD

Component	Output based on delivery of DWI notices
Description	Delivery of schemes to reduce nitrate concentrations, enhance disinfection at sites across our region and delivery our lead strategy.
Output	<ul style="list-style-type: none"><li>• Delivery of 5 schemes to reduce nitrate concentrations.</li><li>• Delivery of 13 schemes to enhance disinfection at sites across our region</li><li>• Replace 2000 lead pipes</li><li>• Delivery of Emerging contaminants study</li></ul>
Total Cost	Total £114.0m, split as follows: <ul style="list-style-type: none"><li>• Nitrate: £46.81m</li></ul>

	<ul style="list-style-type: none"> <li>Disinfection: £44.76m</li> <li>Lead strategy: £19.93m</li> <li>Emerging contaminants study: £2.49m</li> </ul>
Unit cost	<ul style="list-style-type: none"> <li>Nitrate: average scheme value £9.36m per scheme</li> <li>Disinfection: average scheme value £3.44m per scheme</li> <li>Lead: average value per pipe £9,965 per lead pipe replaced</li> <li>Emerging contaminants study: £2.49m</li> </ul>
Penalty rate	Same as unit costs
Materiality of future scope alterations	£1.14m (1% of total cost)
Output delivery date with current scope	31 March 2030
Gated dates (if required)	Assurance of the scheme will be delivered on time 31 <sup>st</sup> of March 2030.
Conditions on allowance	Should we receive confirmation from a regulator of a necessary change to the timing or scope of a scheme, or in fact the change of scheme design to address the core issue being it, either change in the benefit delivered or the solution being more expensive, the implication of this change would be reflected in the PCD. Where this change leads to a material variance greater than 1% of the original enhancement investment, then the PCD would symmetrically account for this change in a reconciliation at the end of the AMP.
Assessment of PCD	In the event of not delivering the output by the end of AMP8 (i.e., by 31 March 2030), but the need is still required, this PCD remains in place until the end of AMP9 (i.e., 31 March 2035). Ofwat will assess the completion of this PCD by 31 March 2035 as part of the PR34 process.
Late penalty (if required)	No late penalty will be applied
Late penalty unit	N/A - Penalties will be applied by DWI for late delivery
DWI penalties to be netted off in the event of non-delivery	<p>If delivery dates or requirements are changed in conjunction with the DWI, the penalties will not be applied to the relevant schemes.</p> <p>Delivery relates to on-site work and excludes completion of notice approval paperwork</p>
Assurance	Third party assurer will assure conditions have been met

## 6. Business Plan Dependencies

Chapters	
Business cases	
Technical annexes	
Enhancement cases	SRN31 Lead Replacement Enhancement Business Case
Cost adjustment claims	
Ofwat test areas	
Assurance	
Other – please specify	

Data Tables impacted by the representation:

Table/s Impacted	Data Lines Impacted
CW3	106/107/108 (capex/opex/totex) Lead communication pipes replaced or relined
	109/110/111 (capex/opex/totex) External lead supply pipes replaced or relined
	112/113/114 (capex/opex/totex) Internal lead supply pipes replaced or relined

All documents and tables referenced above can be found on our website here: [Business Plan 2025-30 - Southern Water](#)