



# Water and Sewerage Services Cost and Performance Report for 2020-21

An assessment of NI Water's costs and  
performance

May 2023



## About the Utility Regulator

The Utility Regulator is the independent non-ministerial government department responsible for regulating Northern Ireland's electricity, gas, water and sewerage industries, to promote the short and long-term interests of consumers.

We are not a policy-making department of government, but we make sure that the energy and water utility industries in Northern Ireland are regulated and developed within ministerial policy as set out in our statutory duties.

We are governed by a Board of Directors and are accountable to the Northern Ireland Assembly through financial and annual reporting obligations.

We are based at Queens House in the centre of Belfast. The Chief Executive leads a management team of directors representing each of the key functional areas in the organisation: Corporate Affairs, Markets and Networks. The staff team includes economists, engineers, accountants, utility specialists, legal advisors and administration professionals.



### Our mission

To protect the short- and long-term interests of consumers of electricity, gas and water.



### Our vision

To ensure value and sustainability in energy and water.



### Our values

- Be a best practice regulator: transparent, consistent, proportionate, accountable and targeted.
- Be professional – listening, explaining and acting with integrity.
- Be a collaborative, co-operative and learning team.
- Be motivated and empowered to make a difference.



## Abstract

We regulate the revenue NI Water receives through periodic price controls. Our proposals set an overall revenue requirement and identify the level of capital and operational expenditure allowed and the outputs to be delivered within the period. This report reflects our assessment of NI Water's performance during the 2020-21 financial year. As this was the final year of the company's third regulatory price control (i.e. PC15, covering the period from April 2015 to March 2021) the report also comments on performance against the final determination requirements for the price control period as a whole.

## Audience

Regulated utilities, regulatory community, industry, consumers and their representative bodies and statutory bodies.

## Consumer impact

This assessment provides consumers with an assessment of NI Water's performance in delivering the requirements of our PC15 price control covering the period April 2015 to March 2021.



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## Executive Summary

The assessment of NI Water's performance undertaken for our 2020-21 Cost and Performance Report shows that the company has broadly delivered on its performance targets across the duration of the PC15 price control period. This is despite having to deal with some very challenging circumstances, including Brexit and COVID-19. The company continued to deliver an improved overall level of service to consumers, but underperformed against its operational expenditure (opex) efficiency target. The key findings from our assessment are summarised below.

### Operating expenditure

NI Water's operating expenditure was £239.2m in 2020-21. This was above our regulatory allowance of £204.1m (in real prices), a difference of £35.1m. However, this reporting year spanned the beginning of the COVID-19 pandemic which, along with other factors detailed later in this report, added significant pressure to the company's opex.

### Capital Investment

The company invested £177.3m of capital expenditure (capex) in 2020-21, contributing to a total investment of £971.5m over the PC15 price control period. This was c£32m lower than the nominal figure of £1,003m included in the PC15 final determination. Capital investment was constrained by the available public expenditure budget, which contributed to the lower levels of investment than expected. We therefore worked with NI Water, DfI and other key stakeholders to ensure that the company delivered the best possible package of outputs within the funding available.

### Output Delivery

We use an Overall Performance Assessment (OPA) score to assess NI Water's overall delivery of service to customers. This is a composite score which includes a broad range of measures covering service delivery in the areas of water supply, sewerage service, customer service and environmental performance. NI Water met and exceeded our PC15 Overall Performance Assessment (OPA) target in every year of the PC15 price control and achieved its highest ever OPA score in 2020-21.

NI Water met 36 of the 45 output targets set for water and sewerage services in the PC15 final determination. This included twelve out of fifteen consumer service measures and all but one of the eight water and sewerage quality outputs. NI Water delivered the majority of its nominated output targets and delivered stable or improving serviceability in all service categories. There was a delivery shortfall in some areas, primarily in the delivery of wastewater outputs. Although NI Water



suggests that the inability to re-profile budgets due to its funding model was a contributory factor.

Where appropriate we made adjustments within our PC21 price control determination for areas of outperformance and underperformance.

### **PC21 Price Control**

The indicative capital budget used for investment planning purposes in PC15 was significantly less than the investment need identified by NI Water. This constrained necessary improvements to services.

So while NI Water delivered the majority of its planned outputs for PC15 this was not sufficient to address existing capacity issues, particularly for wastewater services.

NI Water's submission for PC21 identified the capacity issues at wastewater treatment works and in the sewerage network that are acting as a constraint to current and future development. It detailed the work that the company considered essential to meet established needs. This indicated that significantly more funding was needed to sustain existing services, meet its legal obligations and support economic and social development.

Our review and consideration of NI Water's PC21 Business Plan submission resulted in a final determination which delivered a 74% increase in capital investment compared to PC15. This additional investment will begin to address the lack of capacity in wastewater systems and release development constraints in 49 areas by the end of PC21. It also aims to continue to deliver improved service for consumers.

# 1. Introduction

## Price Controls

- 1.1 Northern Ireland Water (NI Water) is responsible for providing water and sewerage services to consumers in Northern Ireland. Since NI Water is the sole provider of these services, the Utility Regulator (UR) regulates the amount of revenue the company receives to help ensure consumers receive value for money. To achieve this we scrutinise the company's revenue requirements through periodic price controls.
- 1.2 NI Water is government-owned and because the majority of its income comes from public funding, it is treated as a Non-Departmental Public Body (NDPB) from a financial perspective. While domestic consumers do not pay for water and sewerage services directly, the cost of providing these services to commercial consumers is recovered through bills.
- 1.3 NI Water's third regulatory price control period, PC15, began on 1 April 2015 and covered the six year period until 31 March 2021.
- 1.4 Our [PC15 Final Determination](#) was published in December 2014. This took account of a public expenditure capital budget provision of £990m, as indicated in the Department for Regional Development's (DRD's<sup>1</sup>) 2014 Social and Environmental Guidance, along with the UR's assessment of the efficient operational expenditure required to deliver water and sewerage services. It set out the Revenue and output requirements for NI Water for the PC15 price control period.
- 1.5 The next price control period, referred to as PC21, commenced in April 2021. It follows a similar model to that adopted for PC15 and delivers a six year price control covering the period April 2021 to March 2027. Our [Final Determination for PC21](#) was published in May 2021.

## Cost and Performance Reports

- 1.6 We use Annual Information Returns and Cost and Performance Reports to assess and report on actual delivery against the requirements that we set for the company in our price control final determinations. As a minimum, our reports cover the key areas of costs and efficiency, operating expenditure, capital investment and delivery of KPIs (including our overall performance assessment

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<sup>1</sup> The CPR makes reference to the Department for Regional Development (DRD). Under the Departments Act (Northern Ireland) 2016 and The Departments (Transfer of Functions) Order (Northern Ireland) 2016, the functions of DRD transferred to the Department for Infrastructure (DfI) in May 2016.

score). However on occasions we also use these reports to explain material issues or developments that have occurred during the reporting period. We produce and publish a Cost and Performance Report for each year of our price control.

- 1.7 This report provides an assessment of company performance at the end of the six year PC15 price control period (i.e. to the end of 2020-21). Our overall conclusion is that NI Water broadly delivered against its final determination targets during the period, with the overall service provided to consumers continuing to improve despite some budget reductions in nominal terms.
- 1.8 Some aspects of delivery however did remain behind profile. This commenced early in the period, mainly as a consequence of re-profiling expenditure to accommodate the budget reductions experienced in the first two years of PC15. Our PC15 mid-term review had concluded that this should be recoverable if the budget and inflationary figures assumed for the remainder of the period remained correct. However NI Water didn't achieve this in all circumstances. Where this was not the case, we considered performance against target as part of the PC21 process and made adjustments in the final determination to take account of our reassessment of the benefit delivered. Further details can be found in the [PC15 Outturn Report](#) which formed part of our PC21 determination and in the text under Table 3-1 and Table 3-2 in Section 3.0 of this report.



## 2. Costs and Efficiency

### Turnover

- 2.1 The UR determines price limits (referred to as K factors) to be applied over the price control period. The K factors are the annual percentage increase or decrease in charges above or below inflation. An annual approval process is then undertaken to ensure tariffs remain in line with the determination. Our review of the 2020-21 tariffs found them to be lower than the permitted limit, as NI Water limited increases to a maximum of RPI (2.25%).
- 2.2 Actual turnover will vary from determination forecasts over time as inflation, volumes and accounting adjustments impact on the final reported turnover within the annual accounts. Actual regulated turnover of £399.1m was below the PC15 forecast of £412.7m
- 2.3 We considered under/over-recovery of revenue in our PC15 mid-term review and decided not to review tariffs. Within the PC21 final determination we adjusted for the PC15 over recovery based on five years of actual revenue and a forecast for the sixth and final year of PC15. This ensures that the PC15 under/over recovery will be largely dealt with in the PC21 period.

### Operating Profit

- 2.4 The operating profit of £115m was slightly higher than the PC15 forecast of £113.5m, however this is not a like for like comparison due the introduction of IFRS accounting.

### Dividend

- 2.5 A dividend of £31.2m was paid to the company shareholder, the Department for Infrastructure, in respect of 2020-21. This compared to figure of £29.9m in 2019-20.

## Loan Profile

- 2.6 Department for Infrastructure (DfI) loans increased to £1,269.6m from £1,186.6m but were lower than the PC15 projection of £1,356.2m. The difference can largely be explained by lower actual borrowings compared to forecast at the start of PC15 and lower capital expenditure during PC15.

## Regulatory Capital Value

- 2.7 The Regulatory Capital Value (RCV) is the value of the appointed business on which NI Water earns a return at the determined weighted average cost of capital. The RCV is increased each year by investment in new assets and reduced by the value of assets that have been depreciated or sold off in the year. NI Water's RCV has grown steadily from the start of its first price control (PC10) and stood at £2.611 billion at the end of 2020-21. This is lower than the PC15 projection of £2.973 billion due to lower inflation than forecast and lower capital expenditure.
- 2.8 More detail on NI Water's financial information is set out in the company's statutory and regulatory accounts. These can be found on NI Water's website<sup>2</sup>.

## Operational Expenditure

- 2.9 NI Water's operating costs (opex)<sup>3</sup> increased in nominal terms from £224.4m in 2019-20 to £239.2m in 2020-21. This £14.8m rise, translates into a 5.3% real terms increase in the day-to-day running costs of the business over the year, once inflation is taken into account.
- 2.10 In 2020-21, NI Water experienced opex increases in some expenditure areas, for example, 'materials and consumables' and 'doubtful debts'. The most material increases were on 'hired and contracted' and 'general and support expenditure'. Overall, this resulted in a real terms increase in NI Water's opex over the year.
- 2.11 NI Water's £239.2m of opex spend in 2020-21 is above our regulatory allowance of £204.1m (in real prices), a difference of around £35.1m in-year<sup>4</sup>. This is in part due to a number of one-off atypical cost pressures experienced during the year, as well as other additional cost pressures explained in paragraph 2.10.

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<sup>2</sup> <https://www.niwater.com/publications/>

<sup>3</sup> Operating costs also include PPP/PFI costs. PPP/PFI refers to Public Private Partnership / Private Finance Initiative schemes.

<sup>4</sup> This -£35.1m figure reduces to -£34.0m if Voluntary Early Retirement/Voluntary Severance (VER/VS) costs of £1.1m is excluded from actual spend. Note, VER/VS was supported in principle by UR, but not funded through charges. Other expenditure items which NI Water consider as atypical in 2020-21 may impact on opex performance further.

Performance against opex targets over the PC15 period is detailed in Table 2-1 below.

| PC15 Performance            | 2015-16      | 2016-17      | 2017-18     | 2018-19     | 2019-20     | 2020-21      | PC15 Total     |
|-----------------------------|--------------|--------------|-------------|-------------|-------------|--------------|----------------|
| PC15 Allowance (£m)         | 226.3        | 223.2        | 217.1       | 211.3       | 207.7       | 204.1        | <b>1,289.8</b> |
| Actual Spend (£m)           | 223.4        | 222.7        | 223.2       | 223.8       | 227.1       | 239.2        | <b>1,359.4</b> |
| Over/Under Spend (£m)       | -2.9         | -0.6         | 6.1         | 12.5        | 19.3        | 35.1         | <b>69.6</b>    |
| <b>Over/Under Spend (%)</b> | <b>-1.3%</b> | <b>-0.2%</b> | <b>2.8%</b> | <b>5.9%</b> | <b>9.3%</b> | <b>17.2%</b> | <b>5.4%</b>    |

**Table 2-1: PC15 Opex Performance (All figures in 2020-21 prices)**

2.12 This table shows that NI Water overspent by 5.4% in real terms over the PC15 period. This is largely due to some material increases in spend on hired services and general and support expenditure in the last two years of the price control. NI Water has cited various reasons for this including:

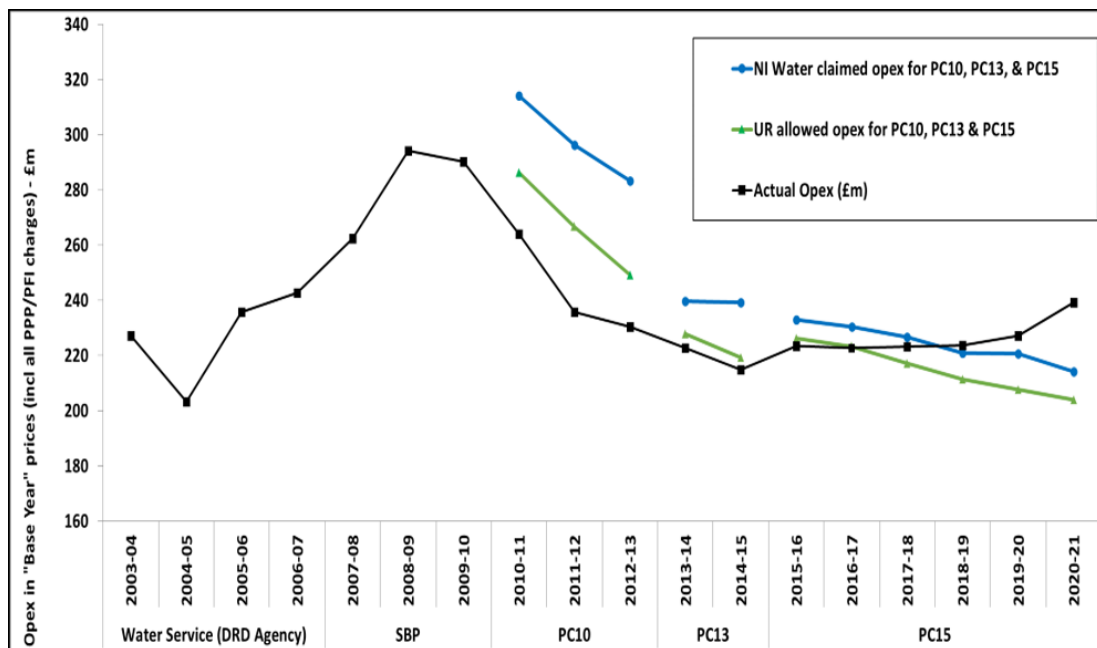
- a) Higher contractor costs driven by the COVID pandemic, Brexit and meeting maintenance obligations.
- b) Outsourcing of vehicle and plant maintenance.
- c) Hardening of the insurance market and increases in legal, professional and consultants' fees for various reasons.
- d) Cost increases relating to a new network repair contract.

2.13 Overspend in the final year has also been attributed to other key factors such as atypical expenditure, increased demand, new capital works framework and improvements in leakage performance. However, it is also noted that NI Water's total staff costs rose substantially over the period. This includes increases in both staff numbers and pay levels.

2.14 In overall terms NI Water has underperformed against our regulatory allowance over the PC15 period. The operational expenditure is also materially above the amount NI Water initially claimed for 2020-21, as shown in Figure 2.1 below.<sup>5</sup> An element of this underperformance is of some concern despite there being mitigating factors for the remainder.

<sup>5</sup> The rise in NI Water's opex in 2015-16 (first year of PC15) is primarily due to its rates bill increasing substantially over the year, driven by the LPS rating revaluation exercise.

2.15 It is acknowledged that COVID and other uncontrollable exogenous factors have materially influenced cost increases in PC15. However, it is also true that NI Water decisions with respect to staff, pay and contractor rates have also contributed to the underperformance. Cost increases in key areas have also been observed in 2021-22, suggesting that the impact of these factors may not be temporary. Whether these increases are sustained or not will become evident over time.



**Figure 2.1: NI Water’s opex profile in real terms (2020-21 prices)**

## Closing the Efficiency Gap

2.16 For some of our previous Cost & Performance Reports, we compared NI Water’s opex efficiency position with companies in England and Wales on an annual basis. The estimates were derived using the UR’s Corrected Ordinary Least Squares (COLS) econometric and unit cost models, as employed in the PC10, PC13 and PC15 determinations. These models were based on an Ofwat suite of models used for PR04 and PR09.

2.17 Over time our analysis showed a continuing improvement profile; however, a gap still remained to the best companies in England and Wales. According to our analysis, NI Water had already closed their efficiency gap to the ‘frontier’ (or best performing comparator company) from around 49% in 2007-08 to an estimated 13% in 2014-15.

2.18 Now we only benchmark efficiency when undertaking price controls, which aligns with the approach adopted by other regulators such as Ofwat or Ofgem. We developed a new methodology for our PC21 assessment of NI Water’s operational efficiency gap. Comparator data from Ofwat was utilised along with

NI Water's performance data and we identified new water and wastewater variables to inform PC21 price control efficiencies.

2.19 From this analysis we concluded that NI Water had continued to close the efficiency gap to companies in England and Wales. Based on an assessment of comparative data up to 2018-19, we estimated that the efficiency had further reduced to 5.7% compared to upper quartile performance by English and Welsh companies.

2.20 The historic profile of the efficiency gap is shown in Table 2-2 below.

| Price Control Efficiency Gap Analysis   | Gap  |
|---|------|
| 2007-08 Opex efficiency gap used @ PC10 | 49%  |
| 2010-11 Opex efficiency gap used @ PC13 | 38%  |
| 2012-13 Opex efficiency gap used @ PC15 | 22%  |
| 2018-19 Opex efficiency gap used @ PC21 | 5.7% |

**Table 2-2: Historic Opex Efficiency Gap Analysis**

2.21 This shows that NI Water has made significant progress in closing the efficiency gap over recent price controls. However, since the last comparative analysis was undertaken, real costs have risen sharply. It is not clear if this trend is particular to NI Water or has been replicated across the other comparative companies. Further assessment of opex efficiency will be undertaken in the PC21 period to establish the true impact of these cost increases on the efficiency gap.

## 3. PC15 Performance

### Performance against PC15 final determination targets

- 3.1 In our [PC15 Mid-term Review](#) we concluded that NI Water should have sufficient funding to deliver all of the outputs defined in the final determination if budget reductions over the remainder of the period were no more severe than they had been to date. This continued to be the case.
- 3.2 Table 3-1 and Table 3-2 present our final assessment of delivery against the PC15 final determination targets. To ensure comparison with delivery on a like for like basis, the PC15 targets have been adjusted to:
- Include outputs which were expected to be delivered in PC13 but carried over into PC15.
  - Exclude outputs planned for PC15 which were delivered early in PC13.
  - Account for movements between programmes.
- 3.3 Colour coding has been used to indicate whether NI Water met or outperformed its target (green), was marginally behind target (amber) or was more significantly behind target (red). Where the company was required to deliver an annual target the shading is solid. Some targets were however set for PC15 as a whole and we report performance against these targets on a cumulative basis. In these cases the same colour coding has been used but the shading has been hatched.
- 3.4 Our conclusion based on reported final performance is that NI Water has broadly delivered against the PC15 final determination targets in overall terms. Comments on exceptions are provided under Table 3-1 and Table 3-2 below.

### Water Services Targets

| Line description |   | 2020-21 Target  | 2020-21 Actual  | Comments       |
|------------------|---|-----------------|-----------------|----------------|
| <b>A</b>         | <b>Consumer Service Water</b>   |                 |                 |                |
| 1                | DG2 Properties at risk of low pressure removed from the risk register by company action                   | 836             | 845             | Target met     |
| 2                | DG2 Properties receiving pressure below the reference level at end of year                                | 296             | 578             | Target not met |
| 3                | DG3 Supply interruptions > 12hrs (unplanned and unwarned)   | 0.15%           | 0.00%           | Target met     |
| 4                | DG3 Supply interruptions (overall performance score)  | 0.96            | 0.21            | Target met     |
| 5                | DG6 % billing contacts dealt with within 5 working days   | 99.90%          | 99.98%          | Target met     |
| 6                | DG7 % written complaints dealt with within 10 working days  | 99.50%          | 99.89%          | Target met     |
| 7                | DG8 % metered customers received bill based on a meter reading  | 99.00%          | 99.22%          | Target met     |
| 8                | Call Handling Satisfaction score (1-5)  | 4.75            | N/A             | Target dropped |
| 9                | DG9 % calls not abandoned   | 99.00%          | 97.64%          | Target met     |
| 10               | DG9 % calls not receiving the engaged tone  | 99.90%          | 99.96%          | Target met     |
| 11               | Overall Performance Assessment (OPA) score (11 Measures)  | 236             | 265             | Target met     |
| 12               | Total Leakage (Ml/d)  | 153             | 158             | Target not met |
| 13               | Security of supply index  | 100             | 99              | Target met     |
| 14               | % NI Water's power usage derived from renewable sources   | 40.00%          | 43.10%          | Target met     |
| <b>B</b>         | <b>Water Quality</b>  |                 |                 |                |
| 15a              | % overall compliance with drinking water regulations  | 99.79%          | 99.94%          | Target met     |
| 15b              | % compliance at consumers tap   | 99.69%          | 99.91%          | Target met     |
| 16               | % iron compliance at consumers tap  | 97.10%          | 99.56%          | Target met     |
| 17               | % Service Reservoirs with coliforms in >5% samples  | 0.00%           | 0.00%           | Target met     |
| <b>C</b>         | <b>Water Outputs</b>  |                 |                 |                |
| 18               | Water mains activity - Length of new, renewed or relined mains (km)                                       | 905             | 835             | Target not met |
| 19               | Completion of nominated trunk main schemes  | 4 <sup>6</sup>  | 4               | Target met     |
| 20               | Completion of nominated water treatment works schemes   | 4               | 3               | Target not met |
| 21               | Completion of nominated improvements to increase the capacity of service reservoirs and clear water tanks | 3               | 3               | Target met     |
| <b>D</b>         | <b>Serviceability</b>   |                 |                 |                |
| 22               | Water infrastructure serviceability   | Stable          | Stable          | Target met     |
| 23               | Water non-infrastructure serviceability   | Stable          | Stable          | Target met     |
| <b>E</b>         | <b>New Output Measures</b>  |                 |                 |                |
| 24               | Number of Catchment Management Plans  | 15 <sup>7</sup> | 15 <sup>8</sup> | Target met     |
| 25               | Number of lead communication pipes replaced under the proactive lead replacement programme                | 11064           | 11082           | Target met     |
| 26               | Number of school visits   | 1056            | 1494            | Target met     |
| 27               | Number of other education events  | 342             | 412             | Target met     |
| 28               | % Service Reservoirs where sample taps have been assessed and are to required standard                    | 100%            | 100%            | Target met     |

**Table 3-1: NI Water PC15 Key Outputs for Water Services**

<sup>6</sup> Target amended for reasons described in 3.2 to ensure a like for like comparison with delivery.

<sup>7</sup> The original target was based on all catchments, including those not in service. It was subsequently revised to reflect only catchments in service and exclude work completed in PC13, as agreed at ORG.

<sup>8</sup> Two CMPs were completed by AFBI as part of the INTERREG VA-funded Source To Tap Project, which has NI Water as a lead partner. AFBI is one of the research partners in the project.

- 3.5 NI Water met or exceeded the majority of the consumer service and water output targets set in the PC15 final determination.
- 3.6 Use of the call handling satisfaction measure was discontinued in 2016-17 as agreed by the Consumer Engagement Oversight Group (CEOG), comprising of all key stakeholders. This was a consequence of the work undertaken by the group to develop more consumer focused metrics and 'actionable' measures of customer satisfaction during PC15, in order to inform the introduction of new KPIs and targets for PC21.
- 3.7 The original survey is no longer used and has been replaced by a new unannounced survey of customers who have had need to contact NI Water in the recent past. The new survey includes a new customer advocacy measure to compare NI Water to its peers, both internationally and across other service providers, as well as yearly Omnibus customer advocacy results from a representative sample of all NI Water consumers. Conducting the new survey in PC15 provided CEOG with the information needed for the introduction of new targets for PC21.
- 3.8 For the purposes of assessing the final overall performance assessment (OPA score) for PC15, CEOG agreed that a call handling satisfaction score of 4.65 (equivalent to NI Water's best ever performance for the discontinued survey) should be used.
- 3.9 The company did not meet its PC15 targets in four water service areas and further details on the outturn performance for these measures is provided below:
- The number of properties receiving low pressure at the end of the year was significantly above the target level set in the PC15 final determination (i.e. an outturn of 578 against an end of period target of 296). This was despite NI Water reporting that it had achieved its PC15 target for removing low pressure properties from the register by company action. Underperformance against this measure was a consequence of the number of net additions due to better information over the PC15 period (i.e. 341) being significantly higher than anticipated at the time the targets were set. This material increase in additions resulted from the outcome of early investigation and logging work carried out by NI Water as part of the 'DG2 Refresh' project included in the PC21 final determination as a development output. This project is intended to provide greater confidence in the reported figures. It was identified as being necessary to address concerns that the number of registered low pressure properties might not be reflective of the actual service being delivered to consumers and to help ensure that figures reported as being removed by company action are reflective of service improvements. Ongoing progress on the DG2 Refresh project and its implications for the number of properties



listed on the low pressure Register will be reported in our PC21 Cost and Performance Reports.

- NI Water's leakage figure for the final year of PC15 was 158 MI/d. Although this represented the lowest level of reported leakage during PC15, it was higher than the end of period target of 153 MI/d. Over the price control the company therefore achieved an overall reduction of 8 MI/d against a target of 12 MI/d. The company has indicated that this was because it found the achievement of its leakage targets more challenging than expected. This may in part be reflective of the fact that controlling leakage becomes increasingly difficult as levels approach the sustainable economic level of leakage, due to both the impact of the natural rate of rise and the nature of established leakage detection techniques. It is however also potentially reflective of an underspend against the enhancement budget for leakage in PC15 which was logged down in the PC21 determination as a result. NI Water updated its economic level of leakage assessment in 2019 in line with a development objective we set for PC15 and identified a revised sustainable economic level of leakage (SELL) of 150MI/d. The PC15 outturn figure and this revised SELL have subsequently formed the basis of the leakage targets set for PC21, which require NI Water to achieve its economic level of leakage by the end of the price control period.
- NI Water rehabilitated 835km of water mains in PC15. This was around 8% less than the PC15 final determination target of 905km. NI Water has advised that this was a result of pressures within its base maintenance budget allocation which led it to reduce investment in water mains rehabilitation to balance the overall capital maintenance spend. NI Water indicated that it chose to reduce investment and activity in this area because the serviceability measures associated with the water network were stable and other initiatives including the 'Interruption to Supply Strategy implementation' projects were still delivering positive impacts for consumers. In our PC21 final determination '[PC15 Outturn Report](#)' we noted that NI Water had delivered this activity at a lower overall unit rate (delivering improved efficiency) and that a higher proportion of expenditure had been allocated to base maintenance, contributing to the reduction in spend on enhancement of the water main network. Our PC21 final determination credited the proportion of underspend due to the reduced unit cost to performance (improved efficiency) and the lower unit costs were captured in our expenditure projections. The balance of the PC15 underspend on enhancement was logged down.
- NI Water delivered three enhancement upgrades at nominated water treatment works during the price control period and only narrowly missed the PC15 target for the completion of four upgrades. Two of the schemes

in the original programme were delivered (Glenhordial and Killyhevlin) along with an additional output introduced through a change control during the period (Rathlin Boreholes). Planned work at Dorisland WTW only achieved internal approval in February 2021 and is now expected to be delivered at the start of PC21. A major planned upgrade at Caugh Hill WTW was also deferred to PC21 so that further investigation work to confirm the improvements needed could be undertaken. In our PC21 final determination we logged down the allowance included in PC15 final determination for Caugh Hill and logged up some enhancement work which was needed at the works prior to the delivery of the final solution. During the PC15 period it was identified that investment was required at Ballinress and Derg WTWs to address MCPA issues. This was the subject of Provisional Enforcement Orders and undertakings with DWI. However the intended work was delayed as the company undertook a range of studies to define the optimal solutions and this was still on-going at the end of the PC15 period. The underspend against the identified need was therefore logged down in the PC21 final determination.

## Sewerage Service Targets

| Line description |  | 2020-21 Target  | 2020-21 Actual   | Comments       |
|------------------|--|-----------------|------------------|----------------|
| <b>A</b>         | <b>Consumer Service Sewerage</b>   |                 |                  |                |
| 1                | DG5 Properties at risk of flooding - number removed from 2 in 10, 1 in 10 and 1 in 20 risk register by company action. | 62              | 52               | Target not met |
| 2                | DG5 Properties on the 2 in 10, 1 in 10 and 1 in 20 risk register at the end of the year                                | 124             | 108              | Target met     |
| <b>B</b>         | <b>Quality Sewerage</b>  |                 |                  |                |
| 3                | % of WwTWs discharges compliant with numeric consents  | 94.50%          | 95.3%            | Target met     |
| 4                | % of total p.e. served by WwTWs compliant with numeric consents excluding upper tier failures                          | 99.16%          | 99.5%            | Target met     |
| 5                | Small WwTW compliance (works greater than or equal to 20p.e. but less than 250p.e.)                                    | 96.74%          | 90.91%           | Target not met |
| 6                | Number of high and medium pollution incidents attributable to NI Water   | 23              | 9                | Target met     |
| <b>C</b>         | <b>Sewerage Outputs</b>  |                 |                  |                |
| 7                | Sewerage activity - Length of sewers replaced or renovated (km)  | 74              | 83               | Target met     |
| 8                | Delivery of improvements to nominated UIDs as part of a defined programme of work                                      | 78 <sup>9</sup> | 60               | Target not met |
| 9                | Delivery of improvements to nominated WwTWs as part of a defined programme of work                                     | 21              | 17 <sup>10</sup> | Target not met |
| 10               | Small wastewater treatment works delivered as part of the rural wastewater investment programme                        | 44              | 44               | Target met     |
| <b>D</b>         | <b>Serviceability</b>  |                 |                  |                |
| 11               | Sewerage infrastructure serviceability   | Stable          | Stable           | Target met     |
| 12               | Sewerage non-infrastructure serviceability   | Stable          | Stable           | Target met     |
| <b>E</b>         | <b>New Output Measures</b>   |                 |                  |                |
| 13               | CSO and EO discharges at which event and duration monitoring equipment has been installed                              | 347             | 279              | Target not met |
| 14               | WwTWs upgraded to comply with PPC Regulations  | 14              | 16               | Target met     |
| 15               | Impermeable surface water collection area removed from the combined sewerage network                                   | 180,000         | 296,313          | Target met     |
| 16               | Number of sustainable WwTW solutions delivered (p.e. ≥ 250)  | 2               | 4                | Target met     |
| 17               | Number of sustainable WwTW solutions delivered (p.e. < 250)  | 3               | 3                | Target met     |

**Table 3-2: NI Water PC15 Key Outputs for Sewerage Services**

3.10 NI Water met or outperformed twelve of the seventeen sewerage service output targets set in the PC15 final determination. Further details on the five areas where the target was not met are provided below:

- The company did not meet its DG5 targets for the number of properties at risk of internal flooding removed by company action. This was primarily a consequence of NI Water re-profiling the delivery of a major sewerage scheme to PC21 as a consequence of engineering complexity and traffic management constraints. The baseline investment for this scheme was

<sup>9</sup> Target amended for reasons described in 3.2 to ensure a like for like comparison with delivery.

<sup>10</sup> Both the output and target include for delivery of Dungannon WwTW Phase 1. The original targets and outputs assumed delivery of the full solution.

therefore logged down in the PC21 final determination.

- The small wastewater treatment works compliance percentage remained behind target throughout the PC15 period. NI Water advised that this was because the starting position for the compliance projections for PC15 was based on NIEA's assessment of works passing or failing in calendar year 2013, rather than being reflective of the actual compliance position at the start of the period. It is also noted that the company met its associated PC15 target for the number of small wastewater treatment works to be upgraded, that it delivered over 75% of planned percentage compliance improvement for the period and that compliance improved steadily throughout PC15. For these reasons, the variance against the target for this measure is not considered to be as material an issue as it appears.
- NI Water did not meet its cumulative target for the delivery of improvements to nominated Unsatisfactory Intermittent Discharges (UIDs) in PC15, with over-spends on some major projects contributing to delays in the delivery of this programme of work. In its PC21 submission the company identified the investment on PC15 outputs which it expected to re-profile to PC21. This carry over expenditure was logged down in our final determination and the funding necessary to deliver the outputs was reinstated in the PC21 period. The investment released by the delay of some UID schemes allowed a range of other schemes to be undertaken during PC15. This included substitute UID schemes and enhancement work to pumping station overflows which was carried out in conjunction with maintenance schemes. This investment was logged up in the PC21 final determination. The PC15 overspend and deferral of UID expenditure into PC21 indicates that the projects which NI Water included in its PC15 Business Plan were not sufficiently well developed to allow costs to be estimated with reasonable accuracy and to provide confidence that the planned project could be delivered within a six year price control period.
- The company did not meet its target for upgrading nominated WWTWs in PC15, delivering 17 against an overall target of 21 for the period. NI Water advised that it was unable to deliver four upgrades due to delays in acquiring the necessary land. These issues were resolved towards the end of PC15 and civil engineering work to deliver these outputs commenced in the final quarter of 2020-21. NI Water has therefore re-profiled delivery of these schemes to the start of PC21. In the PC21 final determination we logged down carry over expenditure identified in the company's business plan submission and reinstated the funding necessary to deliver the outputs in the PC21 period.

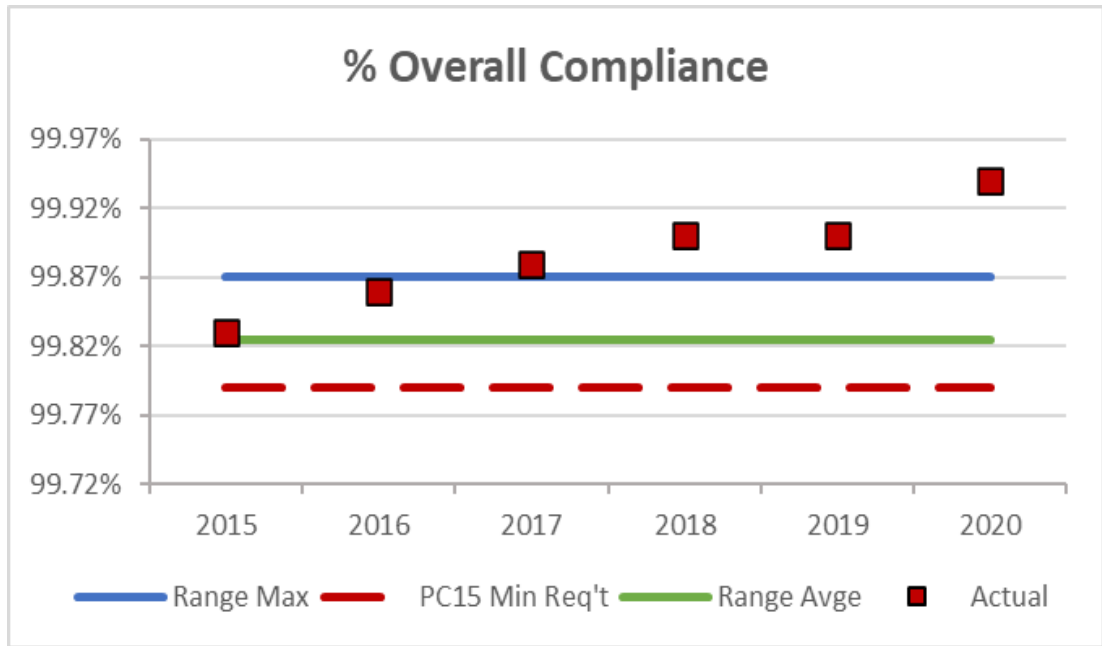
- The target for CSO and EO discharges at which event and duration monitoring equipment has been installed was not met. NI Water advised that this was because its investigation of the sewerage network to determine the specific requirements at each CSO/EO, showed that a number of sites had either been decommissioned or lay outside the intended monitoring area. Consequently, it was only able to identify 279 suitable locations for the installation of monitors in the PC15 period (compared to the original target of 347) and this revised number of outputs was delivered.

## Quality Compliance

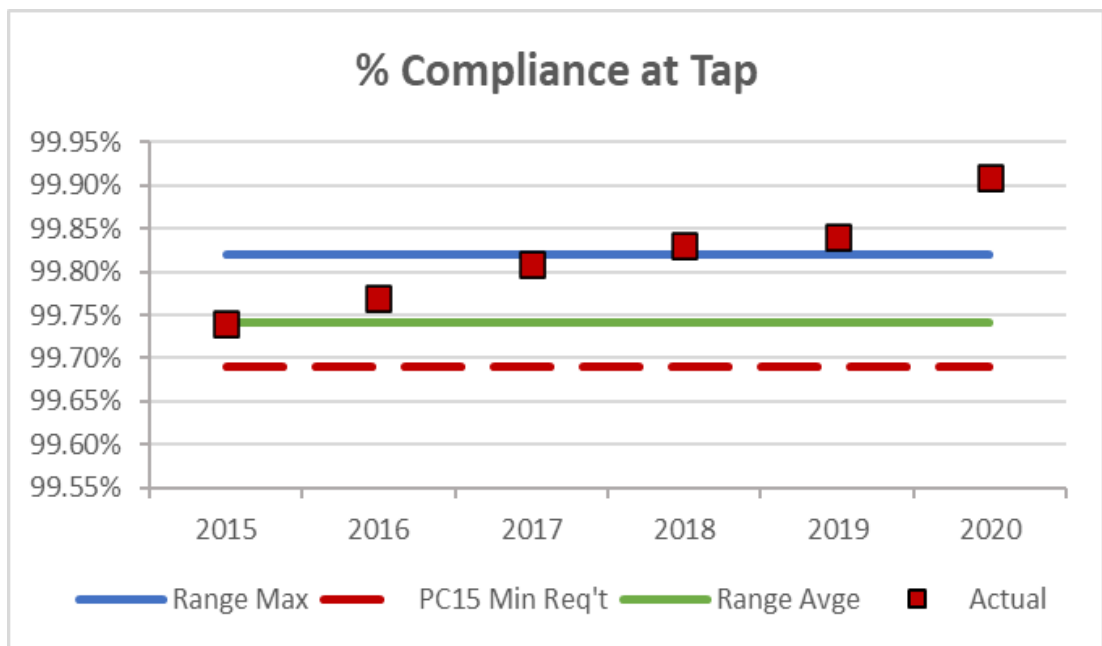
- 3.11 Performance against some targets can be affected by things outside the company's control, such as the weather or sampling regimes. For PC15 we identified performance ranges for water and wastewater quality which reflected this inherent variability. The specific annual targets which were based on these ranges were all met in the 2020 calendar year (report year 2020-21) as shown in Table 3-1 and Table 3-2 above.

### *Water Quality*

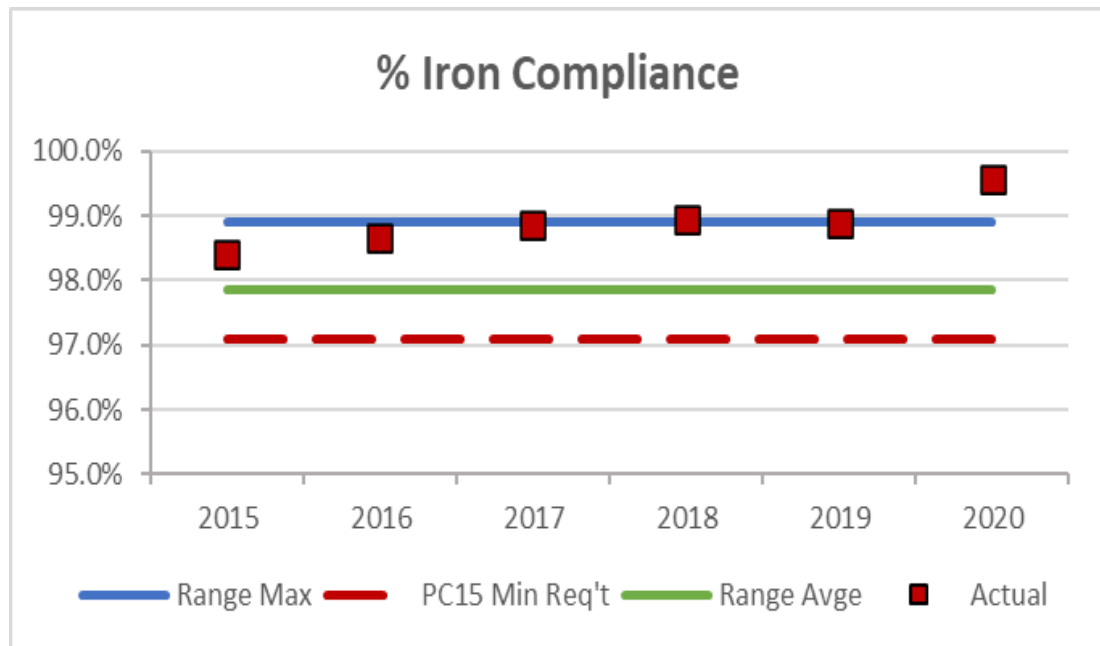
- 3.12 The PC15 water quality output targets were set just above the lower limits of the estimated performance ranges and the company has outperformed these consistently throughout the period, as expected. In 2020, performance for all these water quality measures (i.e. overall water quality compliance, compliance at consumers' taps and iron compliance) lay above the top of the performance range as shown in Figure 3.1 to Figure 3.3 below.
- 3.13 The performance improvements in 2020 were primarily driven by an increase in compliance for samples taken at customers' taps as can be in Figure 3.2 and Figure 3.3 below. The 2020 figures must however be treated with caution as the company's ability to take samples in people's houses was impacted significantly by COVID and so the results cannot be considered representative of a 'normal' year.



**Figure 3.1: Overall water quality compliance**



**Figure 3.2: Water quality compliance at the tap**

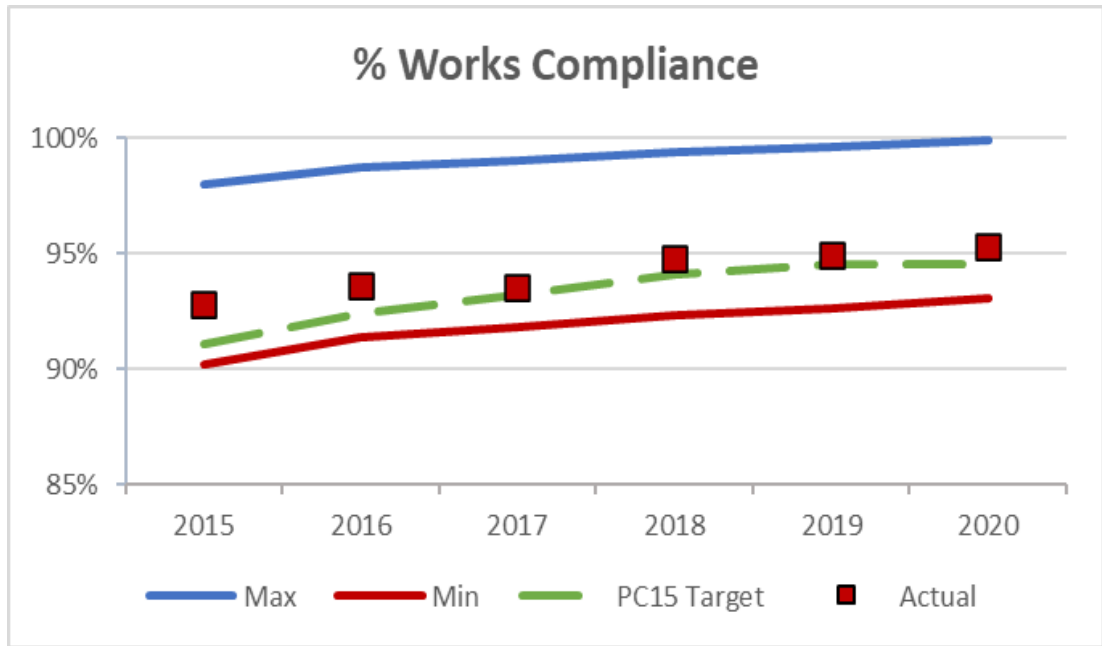


**Figure 3.3: Water quality compliance at tap for iron**

- 3.14 When considering projected performance ranges and setting targets for PC21 we took account of the improvements delivered up until the final year of PC15 (i.e. years which were subject to a 'normal' sampling regime and not impacted by COVID).

#### *Wastewater Quality*

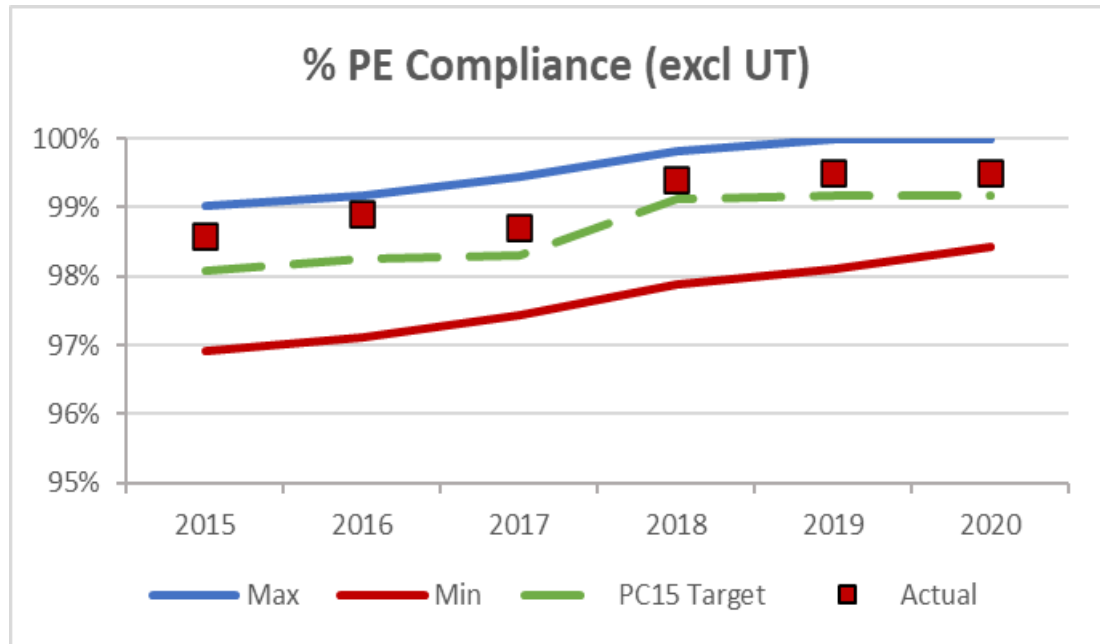
- 3.15 The PC15 targets for wastewater compliance, measured on the basis of the percentage of treatment works complying, were set at the lower end of our projected operating range. Although this was considered to represent a reasonable assessment of the operating risk, we noted in the final determination that we would expect the company to generally operate at or above the target level throughout PC15. The data presented in Figure 3.4 shows that this has been the case, with performance broadly following the profile set in the final determination and remaining above target in 2020. This reflects the fact that NI Water's cumulative delivery of nominated wastewater treatment work schemes also broadly followed the target profile set for PC15.



**Figure 3.4: WwTW discharges compliant with numeric consents**

3.16 The PC15 targets for wastewater compliance, measured on the basis of the population served, were set roughly at the mid-point of our projected operating range. Performance has remained above target and in the top half of the range, throughout the PC15 period as shown in Figure 3.5 below. This compliance measure is particularly sensitive to performance issues at treatment works serving large populations. So, the fact that NI Water has delivered compliance figures which are above target and in line with the profile set in the final determination, demonstrates that NI Water has delivered planned improvements whilst also maintaining compliance at its larger treatment works.





**Figure 3.5: Population equivalent served by WwTWs compliant with numeric consents**

3.17 As wastewater samples are taken at operational sites, COVID did not impact the sampling regime in the same way as it did for water quality samples taken at consumers' taps. The wastewater compliance figures produced for 2020 are therefore considered to be reflective of actual performance. When establishing performance ranges and setting targets for wastewater compliance in PC21 we took account of the environmental compliance improvements delivered in PC15.

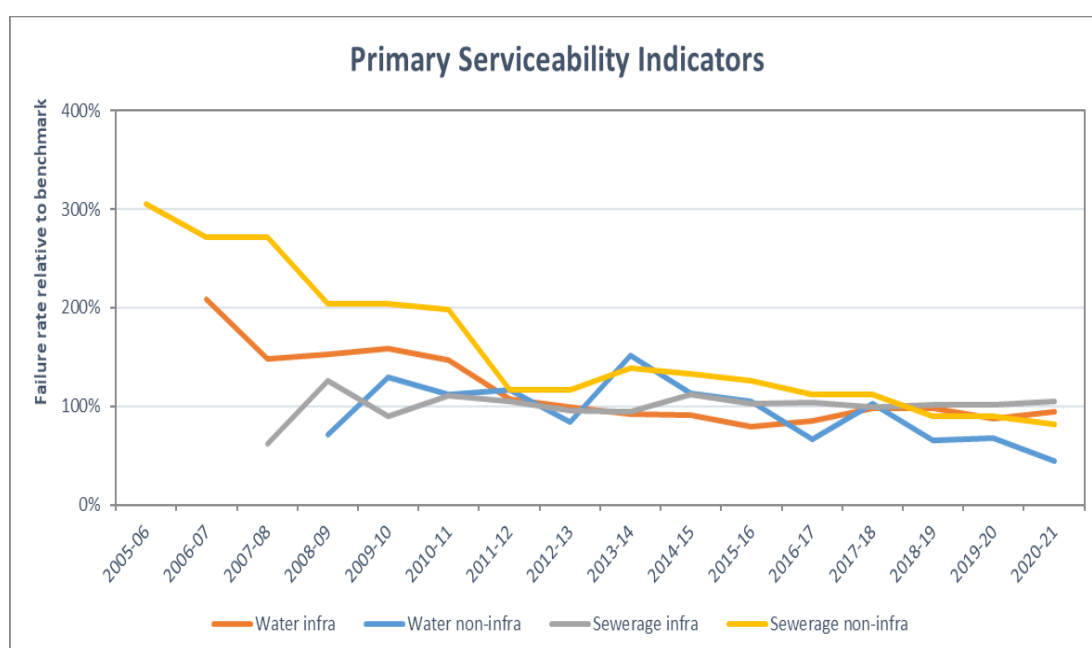
### Serviceability

3.18 We use trends for a range of primary and secondary serviceability indicators to assess how the company is maintaining its assets in four service areas (i.e. above and below ground for both water and sewerage).

3.19 We have updated our PC15 final determination serviceability assessment for each primary and secondary indicator to include outturn data for the 6 years of PC15. The updated trends for the primary indicators in each of the four service areas (as detailed in Table 3-3) are shown in Figure 3.6 below.

| Service            | Primary service indicator   |
|--------------------|---|
| Water Infra        | Mains bursts per 1,000km  |
| Water Non-infra    | Percentage of regulatory samples taken for Turbidity at WTWs which exceed 0.8 NTU |
| Sewerage Infra     | Sewer collapses per 1,000km   |
| Sewerage Non-infra | Percentage of WwTW discharges not compliant with numeric consents                 |

**Table 3-3: Primary serviceability indicators**



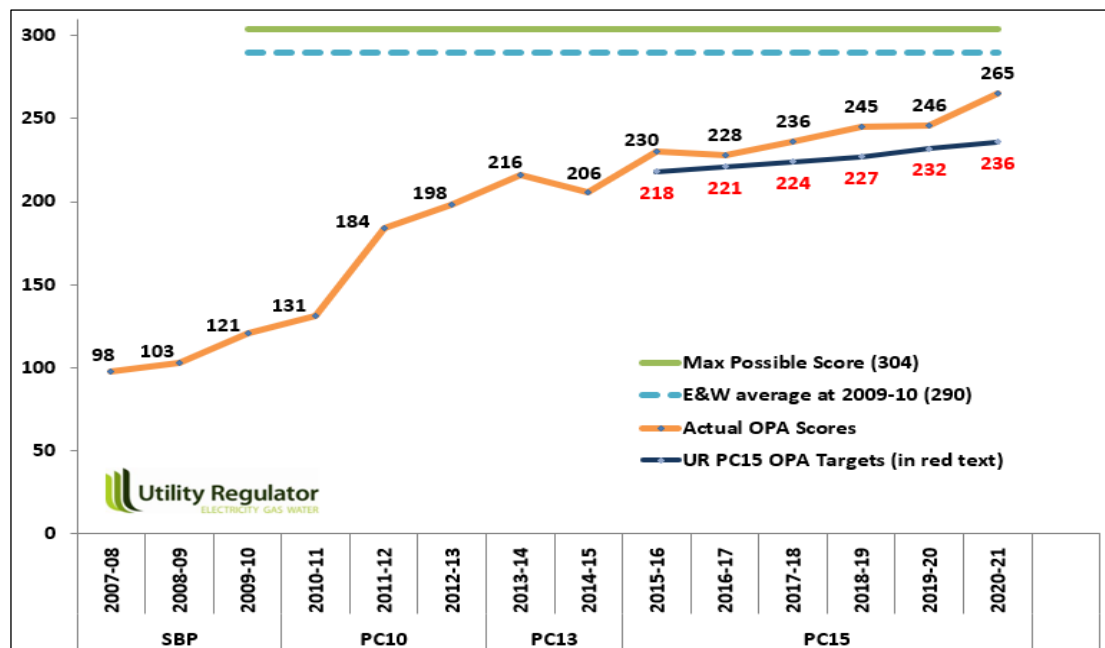
**Figure 3.6: Primary serviceability indicator trends<sup>11</sup>**

- 3.20 All four primary measures have been recorded as either ‘stable’ or ‘improving’. This was also the case for each service areas when the secondary indicators were taken into account and for the serviceability trend overall. This provides a degree of confidence that NI Water had sufficient money to maintain its assets during PC15 and that it was generally targeting this investment effectively.
- 3.21 Our assessment of serviceability in PC15 was used to inform the capital maintenance funding allocation provided for PC21 and any performance improvements delivered were taken into account when establishing our serviceability target ranges for individual measure in PC21.

<sup>11</sup> A score of 100% represents operation at the reference level benchmark and a horizontal trend around this benchmark is indicative of stable serviceability. A reducing trend indicates an improvement and an increasing trend indicates a deterioration.

## Customer Service and Overall Performance Assessment

- 3.22 In order to obtain a broader assessment of NI Water's performance in PC15, including the year on year improvements being delivered, we continued to use our established Overall Performance Assessment (OPA) framework. This monitors the overall level of service that NI Water provides to its customers.
- 3.23 Our OPA combines 11 individual service measures and scores them against a reasonable range. Scores are then weighted in order of importance and combined to give an overall view of the service level performance being delivered.
- 3.24 Figure 3.7 below details NI Water's OPA scores from 2007-08 until the end of PC15. It can be seen that NI Water outperformed our targets in every year of the price control period and that this outperformance increased in the final year, with NI Water achieving a score of 265 against a target of 236.



**Figure 3.7: NI Water's OPA scores**

- 3.25 In 2020-21, service levels for sewerage pollution incidents, drinking water quality and unplanned interruptions improved materially compared to the previous year. Whereas the service level for water pollution incidents showed a material decline. The increase in the OPA score in 2020-21 should however be treated with caution as COVID will have had an impact on activity associated with the measures showing a material improvement. Analysis of performance in 2021-22 will help clarify the extent to which this improvement can be sustained.

## 4. Capital Expenditure

### Expenditure to date

- 4.1 NI Water invested around £177m<sup>12</sup> in 2020-21 to:
- Maintain its existing assets;
  - Meet more demanding quality obligations;
  - Provide extra capacity for growth; and
  - Improve the levels of service it currently provides.
- 4.2 The total capital investment in PC15 was £971m. This was £32m lower than the nominal figure of £1,003m included in the PC15 final determination due to public expenditure constraints. However, when the benefits of lower than anticipated inflation are taken into account we do not believe that this should have constrained NI Water's ability to deliver the PC15 outputs in real terms.
- 4.3 The reduction from the nominal figures included in the PC15 final determination mainly resulted from public expenditure capital budget allocations being lower than anticipated in the early years of the price control period. In line with the approach set out in our PC15 final determination, we worked with NI Water, DfI and other key stakeholders to ensure that the company continued to deliver the best possible package of outputs within the funding available.
- 4.4 When assessing the impact of budget reductions on output delivery, we have taken account of the fact that inflation was mainly lower than we assumed in our final determination for PC15 as well as the capital efficiency challenge which forms an integral part of the final determination. Lower inflation and improved efficiency should allow the company to deliver more for less, and where this is the case we would expect the company to build these opportunities into its medium term plans.
- 4.5 In previous cost and performance reports we had noted that some of the sewerage projects which deliver priority nominated outputs in PC15 had been

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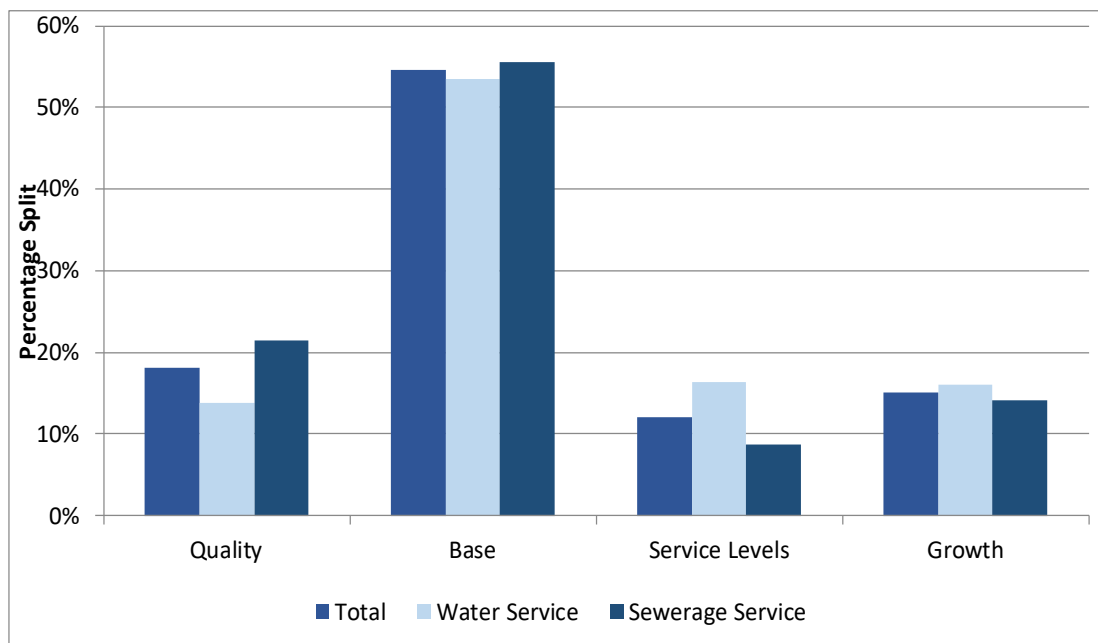
<sup>12</sup> This figure includes both Interreg and IFRS costs. The Interreg cost relates to projects where costs are shared with the Republic of Ireland and consequently the required regulatory standards and funding methods are subject to input from both countries. Therefore, the Interreg costs do not form part of our price control determination and are funded separately. The Interreg cost in 2020-21 was c £4m. The IFRS (International Financial Reporting Standards) cost relates to the accounting methods used to complete the annual returns. In previous years this cost has been dealt with separately to the main body of capital investment for the period, however moving forward we are including the IFRS cost as a distinct line in the main capital investment monitoring report. The IFRS cost in 2020-21 was c -£1m. Had these costs not been included in the analysis, the annual total would have been £3m lower, at £174m.

subject to delay and had expressed concern over NI Water’s capability to address all of the delivery shortfall in the final year of PC15. This concern materialised with a number of the wastewater nominated outputs not achieving beneficial use in the PC15 period. This is despite analysis indicating that the overall funding should have been sufficient to deliver them. NI Water advised that its inability to re-profile budgets due to constraints associated with its funding model was a contributory factor to it not achieving beneficial use in all circumstances.

- 4.6 The PC15 Out-turn Report which formed part of our [PC21 Final Determination](#) explains how we accounted for any shortfall in delivery across each investment sub-programme in PC15.

### Expenditure by purpose

- 4.7 The allocation of investment by purpose in 2020-21 is shown in Figure 4.1 below. Investment to maintain existing assets (base maintenance expenditure) was 55%, remaining at a similar level to 2019-20. The remaining 45% was enhancement expenditure which was used to improve quality compliance, improve the services delivered to consumers and provide for growth. The split of base and enhancement in 2020-21 was reflective of the proportions for the PC15 period as a whole which were 56% and 44% respectively.



**Figure 4.1: Allocation of investment in 2020-21 by service and purpose**

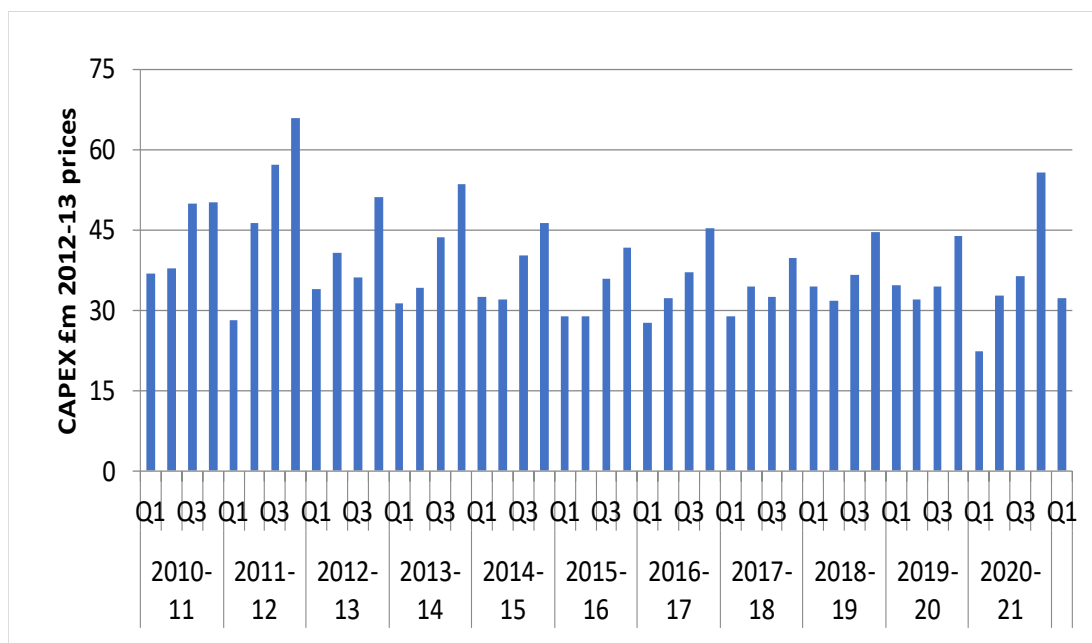
- 4.8 As indicated above, the investment to maintain the company’s existing assets and the service they deliver is the largest element of the company’s capital

programme by proportion. In 2020-21, the company invested £97m in base maintenance, contributing to an investment of £547m in the PC15 price control period overall. This was approximately £4m lower than the nominal base maintenance allowance included in the PC15 final determination.

- 4.9 The company invested approximately £80m on enhancement in 2020-21, contributing to an investment of £424m in the PC15 price control period as a whole. This was approximately £28m lower than the allowance included the PC15 final determination in nominal terms.
- 4.10 NI Water's ability to deliver the outputs defined for price controls depends on it managing the balance between 'base' and 'enhancement' expenditure effectively over the entire period. This should take account of movements in inflation and be informed by associated performance, including serviceability trends. Whilst the company spent slightly less on base maintenance than the determination had allowed in nominal terms, we would have expected this element of expenditure to be even lower based on the actual level of inflation compared to that which had been assumed. This could have helped reduced the impact of budget constraints on delivering nominated asset enhancements.

### **Expenditure profile**

- 4.11 In previous Cost and Performance Reports, we highlighted a consistent annual cycle of expenditure. Peak levels of investment occur in the winter months and expenditure is at its lowest level in the first half of each year. Figure 4.2 shows that this trend continued throughout PC15. This cycle of investment, driven by annual spending constraints, remains disruptive for the supply chain and detrimental to efficient delivery and could be further mitigated by longer term budget allocations and end of year budget flexibility.



**Figure 4.2: Capital investment from 2010-11 to 2021-22 Q1 by quarter<sup>13</sup>**

<sup>13</sup> The 2020-21 capex figures in Figure 4.2 also include the Interreg and IFRS figures (see footnote 12 for details).

## 5. Development Objectives

- 5.1 The promotion of long term planning was a key component of our approach to PC15 and the development outputs specified for the price control were set out in Table 3.5 of our [PC15 Final Determination](#) main report. In previous PC15 cost and performance reports and our PC15 mid-term review we noted concerns over progress on a number of the key development objectives included in the PC15 final determination. In commenting on delivery, we reiterated that these were funded work streams which were considered critical to improving NI Water's planning capability and informing investment proposals for PC21.
- 5.2 There were 18 development outputs identified in the PC15 final determination. Each development output had a number of associated project milestones which NI Water has reported progress against in its annual information returns. The final reported status for each of these outputs can be seen in Table 5-1 below. This represents a summary of the delivery status reported by NI Water in its AIR21 submission rather than the outcome of than any detailed investigation undertaken by the Utility Regulator.



|    | Development Output  | Status                      |
|----|---|-----------------------------|
| 1  | Development Of New Consumer Measures                                    | Complete                    |
| 2  | Plan For Asset Maintenance  | Complete                    |
| 3  | Preservation Of Services And Civil Emergency Measures Direction (PSCMD) | Complete (ongoing)          |
| 4  | ICAT Strategy   | Elements delayed until PC21 |
| 5  | Water Resource Management Plan And Drought Plan                         | Complete                    |
| 6  | Sustainable Economic Level Of Leakage                                   | Complete                    |
| 7  | Controlled Reservoir Safety   | Elements delayed until PC21 |
| 8  | Water Mains Prioritisation  | Business as usual           |
| 9  | Sustainable Catchment Management  | Complete                    |
| 10 | Minimising The Water Quality Risk From Lead Pipes                       | Business as usual           |
| 11 | Water Meter Renewal   | Complete                    |
| 12 | Targeting Sewerage 'Hotspots'   | Business as usual           |
| 13 | Polluted Storm Water Overflows  | Complete (ongoing)          |
| 14 | Storm Water Separation  | Complete                    |
| 15 | Strategic Drainage Study  | Complete (ongoing)          |
| 16 | Sewer Flooding Report   | Target not met              |
| 17 | Sustainable Urban Drainage Systems (SUDS)                               | Business as usual           |
| 18 | Implementation Of The PPC Requirements For Odour Management             | Complete (ongoing)          |

**Table 5-1: Reported Progress against PC15 Development Outputs**

5.3 Where an output is designated as 'Complete', this means that all milestones have been completed. Where an output is designated as 'Complete (ongoing)', this indicates that the milestones are complete, however there is a continuation of the output in a business as usual capacity. Where the status reads 'Business as usual', the output has been fully incorporated to normal company activities and will be performed as regularly as the overarching company activity is done.

5.4 NI Water's AIR21 commentary indicated that fifteen of the eighteen development

outputs had been delivered within the stated timeframe. The outputs that were not met or that had elements delayed until PC21 are discussed in more detail below.

- The ICAT strategy output stipulated that the company should develop and report against an ICAT (Information, Control, Automation and Telemetry) strategy. The aim of this strategy was to enable NI Water to become more customer focussed, to improve compliance and become more resilient, whilst simultaneously reducing costs. The project was divided into six phases with a total of twenty nine project milestones to be delivered. At the end of PC15, eighteen had been completed and seven were on target for completion. However a further four had been paused until PC21.
- The Controlled Reservoir Safety output related to the inspection and maintenance of controlled reservoirs under the proposed Reservoir Bill. This development output had five milestones linked to the completion of remedial works at Camlough reservoir and the identification and completion of remedial works at other sites through an inspection and maintenance regime. The milestones relating to Camlough reservoir and the implementation of the inspection regime were completed, however the majority of the additional maintenance requirements subsequently identified were deferred to PC21. NI Water states that this deferral was due to the company having insufficient resources to complete this work in the final years of PC15.
- The Sewer Flooding Report output was aimed at NI Water reducing sewer flooding incidents by collating an annual report on mitigation strategies and reporting on the identification and delivery of solutions. Details of the properties removed from the DG5 register (properties at risk of sewerage flooding) are included in the report. There was only one milestone associated with this objective which was a target to remove a defined number of properties from the register. Despite NI Water achieving its annual target for 2020-21, the overall cumulative target for PC15 was not met.

5.5 The promotion of long term planning remains a key component of our approach to price controls, as the work that NI Water undertakes to develop its capability and introduce new techniques, is considered important for the long term development of the services it provides to consumers and their cost.

5.6 As a result, the principle of establishing and reporting on development outputs was retained in our PC21 price control to help ensure that the company is able to identify and balance investment priorities and maximise the benefits delivered to consumers.

5.7 Twenty five development objectives have been set for PC21. These are detailed in Annex T of our [PC21 Final Determination](#). These objectives cover areas where we consider development to be necessary to justify the need for investment in the second half of the price control period and to support NI Water's preparation of its PC27 business plan submission. Progress on their delivery will be monitored and reported on in our PC21 Cost and Performance Reports and our PC21 mid-term review.