Water & Sewerage Services
Price Control 2015-21

Draft Determination – Main Report

July 2014



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; Electricity; Gas; Retail and Social; and Water. The staff team includes economists, engineers, accountants, utility specialists, legal advisors and administration professionals.

Our Mission	Value and sustainability in energy and water.
Our Vision	We will make a difference for consumers by listening, innovating and leading.

Our Values

Be a best practice regulator: transparent, consistent, proportional, accountable, and targeted.

Be a united team.

Be collaborative and co-operative.

Be professional.

Listen and explain.

Make a difference.

Act with integrity.

Abstract

We regulate the revenue NI Water receives through periodic price controls. This draft determination sets out our proposals for the amount of money that NI Water can receive for the period 2015-21. Our proposals set an overall revenue requirement and identify the levels of capital and operational expenditure. Overall our proposals set a revenue requirement of £2.3 billion for NI Water, which is £89 million less than the company's submission to us. It is estimated that our proposals will reduce the average customer bill in real terms over 6 years. We are consulting on these proposals until 15 October 2014.

Audience

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

Consumer impact

The price control will protect customers by setting price limits for the six-year period 2015-21. Customer views have also been taken into account in setting the type and levels of service they expect.

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Foreword

The Utility Regulator's primary role within the water industry of Northern Ireland is to protect the interests of consumers, both today and in the future. One of our most important regulatory processes is that of the price control which is aimed at ensuring that consumers receive the best value for money. The price control results in a contract between the Regulator and the company, setting out the revenue that the company requires and is allowed to charge. At present, the revenue that is attributable to domestic consumers is provided by government subsidy.

This is the third price control we have conducted for NI Water. It covers the six year period 2015 to 2021, referred to as PC15. We have worked with the company and other principal stakeholders as part of a transparent and consultative process, agreeing the overall approach and timetable.

This draft determination will mean that the majority of consumers will see their bills decrease, before taking account of inflation, over the PC15 period. This is good for businesses in these difficult times and also equates to a saving in subsidy from the Department of Regional Development of £89.4 million that can be used in other critical public sector areas.

The determination also builds on NI Water's success in driving down its operating costs, success that has resulted in a reduction of the efficiency gap with its comparative English and Welsh water companies from 49% at the first price control, 38% in the second price control to 23% as benchmarked for this PC15 price control.

NI Water is both a government owned company and a non-departmental public body, given its dependency on public sector funding. The latter requires it to work to annual budgets. The allocation provided for within the draft determination aligns with public expenditure estimates and a mechanism is in place to address resource pressures or easements during the price control period. Additional efficient expenditure for enhancement would add value for consumers if further funding became available. While the current framework is undoubtedly not ideal for such a capital intensive industry, it is clear NI Water can continue to learn from the ways in which other water companies have reduced costs while improving performance.

The strategic approach we have taken in this price control, alongside other stakeholders, will facilitate more efficient long term planning for this capital intensive industry.

Summary

Background

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 water and sewerage services, the Utility Regulator (UR) regulates the amount of revenue the company receives. Our primary duty is to protect the interests of consumers. This ensures value for money for consumers in the provision of water and sewerage services. We therefore scrutinise the company's revenue requirements through periodic price controls.

While domestic consumers do not directly pay for water charges, the costs associated with providing water and sewerage services to commercial consumers is recovered through bills.

This document outlines our draft determination for our third NI Water price control (also called PC15) which will apply from April 2015 to March 2021.

Key price control proposals

i. Revenue requirement

We propose a total revenue requirement for NI Water of £2.34bn for the six-year period of the price control. Table 1 also notes NI Water's business plan submission for its revenue requirements.

Table 1: Total revenue request and proposal

Revenue Requirement	NI Water Business Plan	PC15 Draft Determination	Saving
Total Revenue	**£2.43bn**	**£ 2.34bn**	**£-89.4m**

ii. Capital expenditure (Capex)

We are proposing that £1bn is allowed for Capex. This aligns with the current public expenditure estimates that are available for water and sewerage services. We also accept that the company could commit a higher level of efficient investment and this would add value should additional public expenditure become available.

Within the £1bn we are proposing that £556m (55%) is allocated to ongoing capital maintenance and that £446m (45%) is allocated to clearly defined outputs that are prioritised and targeted for enhancement, such as new and upgraded works.

We have proposed a target of 9.1% increased capital efficiency for improving works. This along with other challenges increases service levels to meet new improved quality requirements by £59m.

A target of 0.6% per year efficiency for the current levels of capital maintenance is also proposed. This level will ensure the continued high levels of performance of

the network are maintained with continued reporting of existing service levels and new indicators being developed.

From the NI Water business plan submission it is clear that substantial work has been carried out by the company to engage with their consumers and improve their asset management processes. We expect the company to continue the journey of improvement and to take action to address the gaps they have identified. These include asset management and better alignment of consumer expectations with investment planning.

iii. Operational expenditure (Opex)

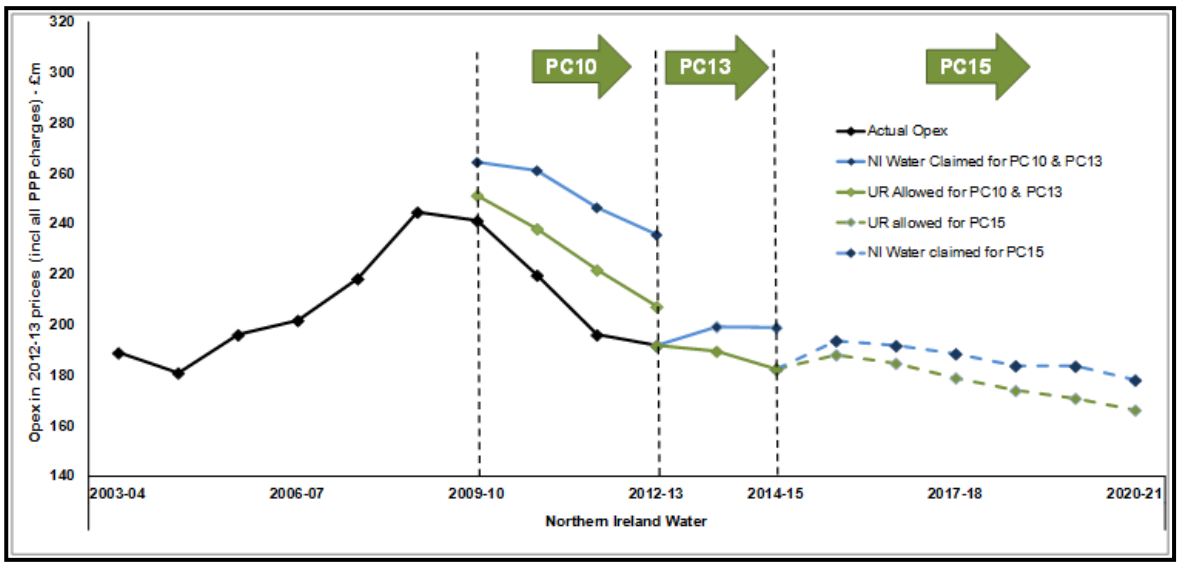
Benchmarking information shows that NI Water is 23% less efficient than similar companies in England and Wales. NI Water spends £0.30 more per £1 than more efficient companies.

This draft determination proposes a reduction of this efficiency gap and challenges NI Water to deliver 2.9% per annum efficiency savings over PC15, saving the consumer £56m in 2012-13 prices.

Figure 1 shows the profile of Opex by NI Water from our first price control PC10 onwards. The step change at the start of PC15 is largely due to an exceptional item around the likely increase in NI Water's business rates bill. NI Water has estimated an increase of over £10m per annum or around an extra £60m over PC15.

Our proposals mean that consumers will see NI Water absorb much of any exceptional increase so that Opex will rise by a smaller proportion, or just £6m in the first year of PC15 before reducing. Operational costs are expected to reduce to £166m per annum by the end of PC15, from NI Water's identified starting value of £193m in 2015-16.

Figure 1: Opex expenditure for PC10, PC13 and proposed expenditure for PC15



Impact on consumers

Under our proposals, the majority of consumers will see their bills decrease, before taking account of inflation, over the PC15 period (see Table 2).

Only unmetered consumers, who represent 11% of all billed consumers, will see an increase in their bills. A typical bill for this group of consumers will increase from £250 to £276 by 2020-21. The main reason for this increase is down to more accurate information about the consumption levels of this group of consumers.

Table 2: Typical consumer bills – NI Water Business Plan submission and UR Draft Determination(£)

Bills (2014-15 prices)	Actual 2014-15	NI Water Business Plan submission for 2020-21	UR Draft Determination 2020-21	Saving in 2020-21	Saving over PC15 compared to Business Plan
Average notional household	410	400	372	28	74
Typical unmetered	250	293	276	17	77
Typical small metered	361	367	336	31	103
Typical large metered	2,991	3,041	2,785	256	858

Our proposals – key benefits

Our proposals will result in:

- **Lower bills for most water and sewerage consumers -** the majority of consumers will see reductions in bills under our proposals;
- **Improved efficiency -** delivering a 13% real terms reduction in total opex (2012-13 to 2020-21). This builds on improved efficiencies from our first two price controls;
- **Continued significant investment in water and sewerage services -** NI Water will continue to invest in the network to deliver the required capital maintenance and will invest in new network to meet EU quality targets; and
- **Improvements in levels of service -** current service levels for consumer contact will be maintained. The number of properties at risk of low pressure or internal flooding will be reduced. New consumer service measures will be introduced, including a new consumer satisfaction survey providing 'actionable data' to improve customer services.

Table 3: Some key measureable outputs included within NI Water's programme for PC15
• Investment to maintain an existing asset base with a replacement value of over £9bn will maintain levels of service to existing consumers. • Continued connection of new properties to the water and sewerage network and the release of development constraints. • Investment in a trunk main to Cookstown will improve security of supply in an area badly affected by the 2010-11 freeze thaw. • Investment to alleviate the risk of internal flooding at 62 domestic properties and 836 properties affected by low water pressure. • Investment in 19 wastewater treatment schemes to improve the quality of discharges from works > 250 population equivalent and upgrades of 45 small wastewater treatment works. • Upgrading 54 unsatisfactory intermittent discharges to meet quality standards. • Replacement or renovation of 816km of water mains and 74km of sewers. • Further investment in systems to support the delivery of service, improve interactions with consumers, improve efficiency and make the service more sustainable. • Proactive replacement of 11,000 lead communications pipes at consumer properties in addition to lead pipe replacement under water main rehabilitation and in response to sample failures. • Further reductions in leakage surpassing 159Mld (the economic level of leakage). • Completion of work to secure water supply assets in line with requirements of the Preservation of Services and Civil Emergency Measures Directive.

Public Consultation

This draft determination of the PC15 Price Control for NI Water covering the six year period 2015-21 is published for public consultation. It sets out the Utility Regulator's assessment and challenge of NI Water's plans for PC15 and the determination we are minded to make.

We would encourage consumers and stakeholders to provide feedback on our proposals to inform and shape the final determination which we will publish on the 10th December 2014.

Responses to the consultation can either be emailed to **millsjb@uregni.gov.uk** (our preferred approach) or posted to the address below:

John Mills
PC15 Project Manager
Utility Regulator
Queens House
14 Queen Street
BT1 6ED

Responses can also be faxed to 028 9031 1740

Responses should be made no later than **5pm on Wednesday 15th October 2014**.

As a non-ministerial government department, we act in accordance with the Freedom of Information Act 2000 (FOIA) and aim for maximum disclosure where possible.

We will publish all responses to this consultation unless respondents request otherwise. Should individual respondents ask for their responses not to be published, in whole or in part, or that their identity be withheld from public disclosure, we will ask for a redacted version of the response that can be published.

It is possible that certain information contained in consultation responses can be placed in the public domain. Hence, it is possible that all responses made to consultations will be discoverable under FOIA – even if respondents ask us to treat responses as confidential. It is therefore important that respondents should specify why they consider the information in question to be confidential, when marking responses as confidential or asking us to treat responses as confidential.

This document is available in alternative formats on request.

1.0 Introduction

1.1. The draft determination

1.1.1 This document sets out the Utility Regulator's draft determination for the PC15 Price Control for NI Water covering the six year period 2015-21. It provides an assessment and challenge of NI Water's plans for PC15 and the determination of price limits and outputs we are minded to make.

1.2. Our role and duties

1.2.1 The Utility Regulator role is to protect the interest of consumers in relation to the supply of water and the provision of sewerage services. Our primary duties are to:

- Protect the interests of consumers;
- Ensure that NI Water carries out its functions properly; and
- Ensure that NI Water is able to finance its functions.

1.2.2 One of the ways we discharge these primary duties is to undertake price controls. Each price control ensures that consumers receive value for money through a challenging and achievable determination of the future revenues and charges necessary to deliver a defined set of outputs. PC15 is our third price control which follows two shorter duration price controls, PC10 covering 2010-13 and PC13 covering 2013-15. Both these price controls delivered improvements in service and greater efficiency resulting in lower costs and bills for non-domestic consumers.

1.2.3 When carrying out our duties we have regard to Social & Environmental Guidance issued by the Department for Regional Development (DRD). The Department has consulted on Draft Social and Environmental Guidance for Water and Sewerage Services (2015-21). The draft guidance follows the same themes as "Sustainable Water, A Long Term Water Strategy for Northern Ireland" which was published consultation in June 2014. Our draft determination has taken account of the draft guidance.

1.2.4 In accordance with the draft Social and Environmental Guidance we have used the indicative allocation of £990m for water and sewerage services in the Executive's Investment Strategy (ISNI) for investment planning purposes. We also accept that the company could commit a higher level of efficient investment and this would add value should additional public expenditure become available. This also have impacts upon consumer bills. The draft guidance notes that NI Water's public expenditure resource requirement for PC15 will be agreed on the basis of our determination.

1.3. NI Water's governance arrangements

1.3.1 NI Water is a government-owned company. Because it relies on government funding for the majority of its revenues, it is also classified for public expenditure purposes as a non-departmental public body and it is subject to the rules that govern public expenditure. This hybrid arrangement adds complexity and funding is uncertain from year to year. The Minister for Regional Development is currently considering future arrangements for sustainable, secure governance, funding and regulation of the water sector within the context of a long term water strategy.

1.3.2 We have developed our approach to PC15 on the assumption that the current arrangements for governance and funding will continue. The fundamental building blocks of our price control are clear outputs, a determination of efficient expenditure, a robust plan for delivery and a focus on consumer service. All these should be supported by robust benchmarking and will continue to be essential components of any good governance model.

1.3.3 We will continue to work with all stakeholders within the financial governance rules set by government to ensure NI Water continues to improve its service and levels of efficiency. It is worth acknowledging there are areas where current arrangements impact on the decisions made by NI Water.

1.4. Our approach to PC15

1.4.1 As a first step in PC15 we published a PC15 Approach document which described our overall approach and set out a programme for delivery of our information requirements, the company's business plan and our determination. We consulted the key stakeholders, the Consumer Council (CCNI), the Department for Regional Development (DRD), the Drinking Water Inspectorate (DWI), the Northern Ireland Environment Agency (NIEA) quality regulators (DWI and NIEA) DRD and NI Water to reach agreement on the overall approach and timetable.

1.4.2 In addition to our overall approach we published further documents providing more detail on our approach to three key areas:

- Asset Maintenance;
- Operational Efficiency; and
- Capital Efficiency.

1.4.3 PC15 has developed in four phases, broadly in line with the approach we set out:

- **Phase 1 – Our approach to PC15**. We carried out preliminary engagement with key stakeholders and published our Approach to PC15 in October 2012;

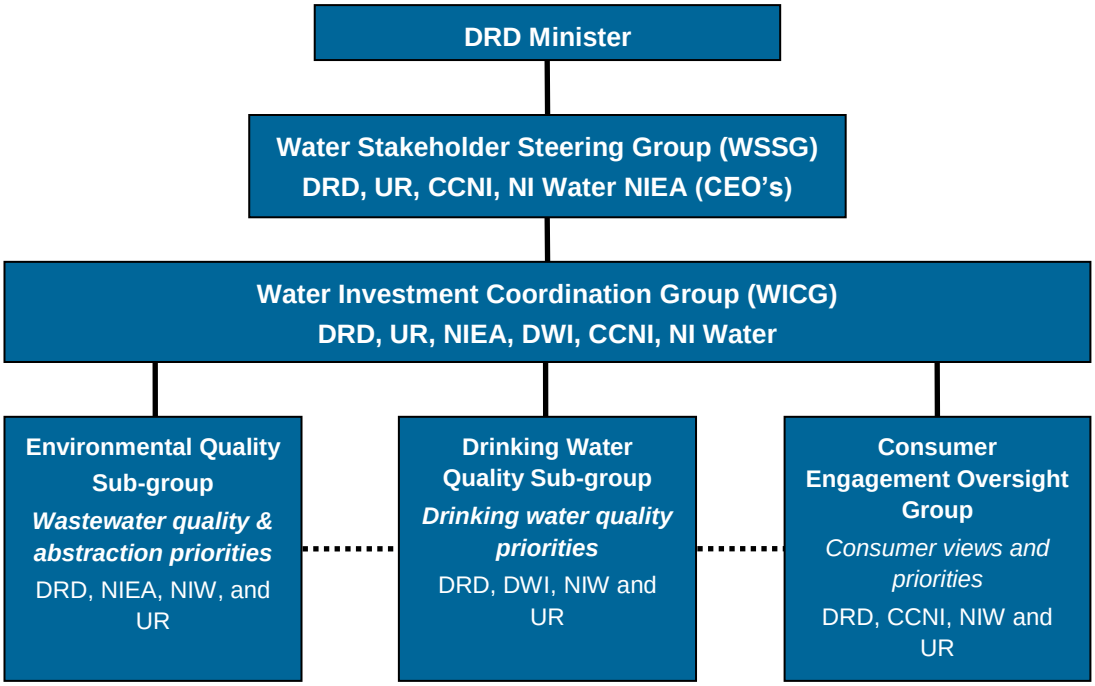
- **Phase 2 – Developing the building blocks for the PC15 Business Plan.** We developed our approach to PC15 in detail and published information requirements in May 2013. Surveys were carried out to understand consumers' preferences for improvements in service and priorities for investment. DRD provided initial planning assumptions and stakeholders worked together to prioritise investment. NI Water developed an outline capital investment plan in June 2013 which allowed the key stakeholders understand the limitations of working within a constrained capital budget and reach broad agreement on priorities;

- **Phase 3 – NI Water's business plan.** NI Water developed its business plan which was submitted in March 2014. During this period the company provided draft submissions on efficiency allowing the Utility Regulator to provide initial feedback on this key area; and

- **Phase 4 – Price Control Determinations.** We have now assessed the company's plans. Our draft determination is open for consultation until the 15 October 2014. Following consideration of the consultation responses, we plan to publish our final determination on the 10 December 2014.

1.4.4 A key part of our approach to PC15 has been to work closely with the Principal Stakeholders – CCNI, DRD, DWI, NIEA and NI Water. An established structure of formal working groups was continued from previous price controls with much of the detailed work necessary to support the price control undertaken in the WICG sub-groups.

Figure 1.1 - PC15 working group structure



1.4.5 We wish to acknowledge the efforts of the many stakeholders who contributed to the development of the PC15 Price Control over the period 2012-14. We also wish to recognise the work undertaken by NI Water's staff and suppliers in developing its PC15 Business Plan and the company's continued efforts to maintain and improve the essential services it provides.

1.5. Key themes and areas of focus

An opportunity for a longer term strategic view

1.5.1 The water industry faces many challenges over the long term, including climate change, population growth and an uncertain economic environment. In such a capital intensive industry careful long term planning is essential to equip the industry to meet these challenges in the most efficient way. A key part of planning for the long term is to balance certainty of delivery with changing consumer needs, changing legislative requirements and changing economic conditions.

1.5.2 PC15 is a six year Price Control which provides space for long term planning and efficient delivery. Because of the relatively long duration we have made provision for a mid-term review to accommodate changes in funding and provide an opportunity to implement innovative and sustainable solutions which might develop from the strategic studies and pilot projects which NI Water will carry out in the early part of the price control period.

1.5.3 This approach requires both a clear plan for delivery in the first three years of the PC15 period and the development of sustainable solutions which can be delivered in the second half of the price control. Rolling this approach forward will ensure that the further investigations and studies planned for the last three years of PC15 will underpin delivery in PC21. The key to success is the successful and timely planning of future improvements to ensure sustainable opportunities can be realised and delivered efficiently.

A proportionate approach

1.5.4 We are mindful of the need to keep the regulatory burden to a minimum while addressing the information asymmetry that exists between the company and the regulator and ensuring good outcomes for consumers.

1.5.5 For the previous Price Control (PC13), we simplified our business plan information requirements. Our aim was to reduce the regulatory burden on the company, align with NI Water practice and improve communication between stakeholders. We have built on these simplified requirements for PC15 maintaining the key objectives of continuity and simplicity.

1.5.6 In our assessment of the company's submissions, we have adopted a light touch approach if:

- There is evidence to show that the company is comparatively efficient;
- Past costs are a strong indicator of future costs; and

- There is insufficient data to support a more robust approach.

1.5.7 We have adopted a more detailed approach if:

- The company is comparatively inefficient;
- Past costs are a weak indicator of future costs; and
- Data is available for econometrics, serviceability measures, outputs and so on.

1.5.8 Where there is insufficient data, we have made a determination which is prudent but conservative until the company can develop a robust approach based on sound data.

Consumer engagement

1.5.9 The views of consumers on the type and level of service they expect, and the prioritisation and delivery of those services within reasonable funding limits is an important component of this price control.

1.5.10 A Consumer Engagement Oversight Group (CEOG) was established for PC15 with representatives from NI Water, the DRD, the CCNI and Utility Regulator (UR). Extensive research was carried out over 2013-14 to understand consumers' views of the service they receive and their preferences for improvements and investment in PC15. The outcome of this research was summarised in a report by CCNI called 'Connecting with consumers'.[1]

1.5.11 The research found that most consumers were satisfied with the service provided most of the time. No particular area of service was singled out as requiring significant improvement. Consumer's priority was for improvements which have a direct impact on them, their street or local community. They expect NI Water to identify local service 'hotspots' and resolve them as a matter of priority.

1.5.12 Following the initial round of consumer engagement, NI Water presented a summary of its plan to groups of consumers. These consumers felt that the summary proposals were consistent with their own views and priorities for investment and had few concerns or recommendations for change. However they wanted more detailed information on specific targets and actions that will be taken by NI Water at their own local level.

1.5.13 While the broad conclusions of the consumer engagement were incorporated in the business plan, it is clear that there is still work to do to ensure that consumer preferences are built into the prioritisation of investment and the development of more meaningful consumer measures.

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1 http://www.consumercouncil.org.uk/filestore/documents/Connecting_with_Consumers_Report.pdf

Delivering sustainable solutions

1.5.14 The water industry's primary function is to deliver a secure, wholesome supply of potable water, unrestricted at the point of use. It then collects and treats the wastewater before discharging it back to the environment. The development of these services has brought sustained improvements in health and well being, underpinned economic development and limited the impact of urbanisation on the environment.

1.5.15 In the past, water service providers have delivered improvements by investing in new assets which they could define, construct and operate. Service providers operated in a relatively stable environment where knowledge of historical climatic conditions provided a reasonable guide to the future and a sound basis for design standards. However, climate change, increasing awareness of the value of water, rising consumer expectations, improved understanding and new European Directives and an awareness of the economic value of a clean environment are all creating new challenges which will require different responses in the future.

1.5.16 It is unlikely that the best solutions to these emerging issues will be provided by NI Water in isolation. There is an opportunity to move from asset based solutions which are delivered by NI Water on its own to integrated developed by a range of stakeholders with a shared interest in the outcomes.

1.5.17 The company has taken a lead in developing sustainable solutions and has proposed funding to continue work on areas such as work on Sustainable Catchment Management Plans (SCAMP), storm water separation, low impact wastewater treatment solutions, energy efficiency and renewable energy generation. We welcome this, yet much of the work proposed in PC15 to promote sustainable solutions is developmental in nature or limited in scope. We believe that there is an opportunity before our final determination for the company to clarify the work it plans to undertake to set clear objectives and timelines for developmental work and expand the scope for sustainable investment which could be delivered if further funding becomes available.

Targeting investment and managing risk

1.5.18 The provision of water and sewerage services is a capital intensive business. The network of water mains and sewers extends to 26,700 km and 15,200 km respectively. Water resources, water treatment works, pumping plant and wastewater treatment works require substantial structures, mechanical and electrical plant and instrumentation. NI Water estimates the gross replacement costs of its current assets as £9.1bn (March 2013).

1.5.19 The company must invest to maintain these assets and to deliver improvements to address current shortfalls in service, support development and meet requirements for drinking water quality and environmental compliance.

1.5.20 We asked NI Water to assess the long term need for investment so that its business plan could be set in a long term context. The company has demonstrated that the £990m used as the planning assumption is not sufficient to deliver all the improvements which consumers and stakeholders would

require. The company has estimated that it could invest £1.4bn efficiently in PC15 if funding was available.

1.5.21 The company has also indicated that a further £1bn may be necessary to address strategic drainage issues and comply with shellfish water and bathing water requirements, with investment proposed in the current plan limited to £10m to undertake further investigations and studies. These strategic issues are not the responsibility of NI Water alone. The company will have to continue to work with other stakeholders to identify the root causes of these issues, ensure that the optimum solutions are identified and ensure that investment is funded equitably.

1.5.22 Over half the capital investment made by the company is used to maintain its existing assets. Effective asset maintenance processes are necessary to estimate the right level of capital maintenance over the medium term of a price control. As part of its PC15 plan the company prepared an assessment of its asset maintenance capability. It has recently set out a plan to address gaps in its capability over the PC15 period.

1.5.23 In the meantime we have been encouraged by the steps the company has taken to collect asset information and use this to prioritise investment.

1.6. Outline of the document

1.6.1 The following sections of this report describe the approach we have taken in more detail and set out the decisions we have taken in our draft determination:

Section 2: **Price Limits**

Section 3 **Outputs and Outcomes**

Section 4 **Plan for Asset Maintenance**

Section 5 **Capital Investment and Efficiency**

Section 6 **Operational Costs and Efficiency**

Section 7 **Managing Delivery, Managing Change**

Section 8 **Conclusions and Next Steps**

1.6.2 Further detailed information on our methodologies and supporting information underpinning the draft determination are included as annexes which are listed in the contents pages.

2.0 Price Limits

2.1. Introduction

2.1.1 This chapter sets out NI Water's overall revenue allowance and associated price limits. It is important to note that NI Water's submitted business plan contained an error in the setting of the RCV. This corrected RCV has a major impact on the allowed revenue since one of the building block elements is the return NI Water is allowed on the RCV. In agreement with NI Water we have amended their submitted business plan model to reflect the corrected RCV and not applied any smoothing to the revenue profile. Therefore, any comparisons to NI Water's business plan are made by comparison to this revised model. Compared to NI Water's revised model, our draft determination will see bills and subsidy together being £89.4m (nominal prices) lower over the six-year period 2015-16 to 2020-21. This equates to a saving of 3.68%.

2.2. Allowed revenue

2.2.1 The revenue and price limits we have determined for NI Water cover the six-year period from 1 April 2015 to 31 March 2021. The overall revenue requirement is informed by the operational running costs and the level of capital investment, which we seek to apportion fairly between current and future consumers. For additional detail on allowed revenue refer to Annex A.

2.2.2 We allocate the revenue between five different customer groups. This ensures that each group pays for the services they receive and are not being subsidised by, or subsidising, other customer groups.

2.2.3 We apply a 'building blocks' approach for determining revenue and for setting charges. This approach follows regulatory practice and is similar to the approach we used at the previous price control, PC13. Under the building blocks approach, NI Water receives a rate of return on its Regulatory Capital Value (RCV), i.e. the value of the company's asset base. The rate of return on the RCV is the cost associated with financing the asset base.

2.2.4 It is therefore necessary for us to update the company's RCV at the start of the price control. Efficient investment in new assets is added to the RCV at the start of the price control. Depreciation (reflecting the cost of using the existing assets) reduces the RCV. The cash cost of replacement is covered by the depreciation charge. The table below sets out the calculation of the notional RCV for each year of this regulatory control period.

Table 2.1– Calculation of RCV (£m)

Nominal prices	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Closing RCV (previous year)	2,084.7	2,227.5	2,376.4	2,531.6	2,693.9	2,862.6
Indexation	74.8	80.0	85.3	90.9	96.7	102.8
Adjustments	0.0	0.0	0.0	0.0	0.0	0.0
Opening RCV	**2,159.5**	**2,307.5**	**2,461.8**	**2,622.5**	**2,790.6**	**2,965.4**
Capital expenditure (excluding IRE)	130.0	133.1	136.1	139.9	142.9	148.5
Infrastructure renewals expenditure	26.4	27.2	28.0	28.8	29.7	30.6
Infrastructure renewals charges	-26.4	-27.2	-28.0	-28.8	-29.7	-30.6
Grants and contributions	-5.2	-5.4	-5.6	-5.8	-6.0	-6.2
Depreciation charge (MNI)	-59.6	-61.3	-63.2	-65.0	-67.0	-69.0
Adjustment to MNI for depreciation of capital grants	4.0	3.9	3.8	3.6	3.5	3.3
Other adjustments (e.g. disposal of assets)	-1.3	-1.3	-1.3	-1.4	-1.4	-1.5
Closing RCV	**2,227.5**	**2,376.4**	**2,531.6**	**2,693.9**	**2,862.6**	**3,040.6**
Note: Figures may not add up due to rounding.						

Allowed rate of return

2.2.5 In setting price limits we consider the appropriate rate of return that NI Water should earn on its RCV. In particular we consider three components, NI Water submitted a claim for each and we made our own assessment.

- The gearing level, which reflects the level of borrowing against the asset base. The cost of debt, which is informed by an assessment of the cost of embedded debt, the forecast nominal rate of new debt and the projection of retail prices index (RPI) inflation; and
- The cost of equity, which reflects what level of return the financial market would expect from its investment. This is informed by the perceived level of associated risk.

2.2.6 Table 2.2 summarises the rate of return that NI Water sought and the determined rate of return.

Table 2.2 – Proposals on the weighted average cost of capital (WACC)

Components of the allowed rate of return	NI Water's PC15 claim	Our PC15 draft determination
Cost of debt	1.22%	1.23%
Cost of equity	5.70%	5.65%
Gearing	50%	50%
WACC (pre-tax cost of debt, post-tax cost of equity)	**3.46%**	**3.44%**

2.2.7 We have set the elements comprising the WACC at levels similar to that submitted in NI Water's business plan and we commend the thorough and reasoned analysis that NI Water has undertook in order to set its cost of capital. We will continue to monitor the market and decisions by other regulators and reflect on the impacts of NI Water's status. Our detailed considerations are set out in Annex A.

2.2.8 In making our assessment on the rate of return, together with our consideration of the company's financeability we considered the following:

- The perceived risk to NI Water that arises because the company does not have a secure revenue stream (given the absence of domestic charging);
- The fact that risk has been handed back to taxpayers by the government and that only the government can address this risk transfer;
- The fact that the company must pay a dividend to its shareholder, the government;
- The absence of scrutiny of NI Water by external providers of finance and the setting aside of a requirement for a credit rating; and
- The risk associated with taking a price cap approach to regulation, as opposed to a revenue cap approach (which protects against a fall in customer numbers and consumption).

2.2.9 We have calculated an allowed revenue requirement of £2,341.7 m. This delivers a saving of £89.4m, when compared with NI Water's business plan submission.

Table 2.3 – Draft determination revenue proposal

	NI Water's corrected PC15 business plan	PC15 draft determination	Saving over PC15
Overall revenue (nominal)	£2,431.1m	£2,341.7m	£89.4
Level of subsidy (nominal)	£1,852.0m	£1,789.3m	£62.7m
Revenue from charging (nominal)	£579.1m	£552.3m	£26.8m
Note: Figures may not add up due to rounding.			

2.2.10 The way we have calculated the overall revenue requirement compared with NI Water's PC15 Business Plan is shown below. The main area of saving reflects our challenge on operational expenditure. Smaller savings have also been identified in all the other revenue building block lines.

Table 2.4 – Revenue requirement for PC15 (nominal)

	NI Water's corrected PC15 Business Plan	Our PC15 draft determination
Allowed for return	£524.8m	£516.4m
Infrastructure renewals charge	£175.9m	£170.7m
Depreciation	£395.9m	£385.0m
Operational expenditure	£1,028.0m	£967.1m
PPP costs	£306.5m	£302.4m
Overall revenue (unsmoothed)	£2,431.1m	£2,341.6m
Smoothing Adjustment	-	£0.1m
Overall revenue (smoothed)	**£2,431.1m**	**£2,341.7m**
Note: Figures may not add up due to rounding.		

2.3. Financial sustainability

2.3.1 We have a primary duty to ensure that NI Water is able to finance its functions. We also believe that NI Water's financial strength should be appropriate to the governance framework within which it operates.

2.3.2 During PC15 we have continued to measure a series of financial ratios, an approach used by other regulators, the investment community and rating agencies.

Table 2.5 – Financial performance 2015-21

Financial ratio	Targeted value	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Cash interest cover	Around 3 times	3.1	3.1	3.1	3.1	3.1	3.1
Adjusted cash interest cover	Around 2 times	1.6	1.6	1.6	1.6	1.6	1.6
Funds from operations: debt	Greater than 13%	10.5%	10.5%	10.4%	10.4%	10.4%	10.3%
Retained cashflow: debt	Greater than 8%	8.5%	8.5%	8.3%	8.3%	8.2%	8.2%
Gearing (adjusted for PPP asset / liability)	Less than 55%	47.9%	47.3%	46.8%	46.3%	45.6%	45.0%

2.3.3 While observing that NI Water has failed two of Ofwat's target values (adjusted cash interest cover and funds from operations: debt), we consider that the values the company has achieved are appropriate for the governance framework within which NI Water is currently operating. As at PC13, we remain of the view that under the current governance framework, achieving financial ratios around a 25% to 30% margin of the target set by Ofwat for private companies is adequate.

2.3.4 While raising some concern around the approach to the funding of capital maintenance if the governance model was to change, NI Water have told as part of the business plan submission that achieving financial ratios around 25% to 30% margin to the target is adequate.

2.4. Price limits and charges

2.4.1 We have to determine the 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 tariff basket charge caps above or below inflation (as measured by RPI). We set separate K factors for each of the five tariff baskets so that the correct revenue is raised from each customer group. The K factors for this draft determination are set out in Table 2.6, please refer to Annex B for additional detail.

Table 2.6 – K factors for PC15

Tariff basket	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Unmeasured water supply	-5.87%	-0.55%	-1.20%	-2.77%	-0.74%	-1.44%
Unmeasured sewerage service	-1.23%	-1.33%	-1.95%	-0.27%	-1.14%	-1.51%
Measured water supply	0.27%	-0.66%	-1.28%	-2.90%	-0.84%	-1.49%
Measured sewerage services	-0.57%	-1.11%	-2.55%	-0.43%	-1.33%	-1.64%
Trade effluent	5.74%	-1.19%	-2.04%	-0.31%	-1.14%	-1.36%
Overall K factor	**-2.19%**	**-0.95%**	**-1.66%**	**-1.46%**	**-0.98%**	**-1.48%**

2.4.2 Customers of the companies in England, Wales and Scotland pay a proportion of their sewerage charges for the collection and treatment of surface water drainage from individual properties and roads. This is because legislation in Great Britain does not permit any alternative method of cost recovery. However, the NI Executive endorsed the charging of roads drainage costs to DRD Roads Service.

Average notional household charges

2.4.3 Our price control process does not differentiate between customer groups, but seeks to deliver lower charges and better services for all. We have assumed that there will be no direct charging for domestic customers over the period of this price control. However, in order to provide full information, we have reproduced the notional average household charge over the PC15 period in the table below.

Table 2.7 – Average notional household charge

	Average notional household charge (2014-15 prices)							Saving over PC15
	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	
NI Water's corrected business plan	£410	£402	£402	£394	£387	£395	£400	**£79**
Our PC15 draft determination	£410	£397	£393	£386	£381	£378	£372	**£154**
Our draft determination saving	**-**	**£5**	**£10**	**£8**	**£6**	**£18**	**£28**	**£74**
Figures may not add due to rounding.								

2.4.4 The notional household costumer is projected to save £154 over the PC15 period. This is a further saving of £74 compared to the NI Water business plan.

Typical small and large business customer charges for water and sewerage

2.4.5 We have provided indicative bills for water and sewerage services for a small and large metered customer and an indicative unmetered non-domestic bill for water and sewerage services. These indicative bills are for information purposes only and are based on a number of assumptions that may not apply to each water and / or sewerage customer.

Table 2.8 – Typical small metered business bill

	Typical bill (2014-15 prices)							Saving / (cost) over PC15
	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	
NI Water's corrected business plan	£361	£371	£372	£363	£357	£363	£367	**-£28**
Our PC15 draft determination	£361	£360	£357	£350	£345	£341	£336	**£76**
Our draft determination saving	**-**	**£11**	**£15**	**£13**	**£11**	**£22**	**£31**	**£103**

1. *Figures may not add due to rounding.*
2. *Represents combined bill for water and sewerage services after deduction of subsidy element for domestic allowance. Domestic allowance available to non- domestic customers that pay full business rates.*
3. *Calculated based on assumed usage of 285m^3 a year and assuming a customer supply pipe size diameter of <20mm.*
4. *Based on 95% return to sewer.*

2.4.6 A typical small metered business customer is projected to save £76 during PC15. This is a further saving of £103 compared to the NI Water business plan.

Table 2.9 – Typical large metered business bill

	Typical bill (2014-15 prices)							Saving / (cost) over PC15
	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	
NI Water's corrected business plan	£2,991	£3,076	£3,082	£3,009	£2,954	£3,009	£3,041	**-£226**
Our PC15 draft determination	£2,991	£2,984	£2,958	£2,900	£2,860	£2,828	£2,785	**£633**
Our draft determination saving	**-**	**£92**	**£125**	**£110**	**£95**	**£181**	**£257**	**£858**

1. *Figures may not add due to rounding.*
2. *Represents combined bill for water and sewerage services after deduction of subsidy element for domestic allowance. Domestic allowance available to non-domestic customers that pay full business rates.*
3. *Calculated based on assumed usage of 1,306m^3 a year and assuming a customer supply pipe size diameter of over 25 up to 40mm.*
4. *Based on 95% return to sewer.*

2.4.7 A typical large metered business customer is projected to save £633 during PC15. This is a further saving of £858 compared to the NI Water business plan.

Table 2.10 – Typical unmetered business bill

	Typical bill (2014-15 prices)							Saving / (cost) over PC15
	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	
NI Water's corrected business plan	£250	£292	£293	£288	£283	£289	£293	**-£235**
Our PC15 draft determination	£250	£260	£272	£283	£286	£282	£276	**-£158**
Our draft determination saving / (cost)	**-**	**£32**	**£20**	**£5**	**-£3**	**£6**	**£16**	**£77**

1. *Figures may not add due to rounding.*
2. *Represents combined bill for water and sewerage services before after of subsidy element (currently corresponding to 50% of unmetered water and sewerage services)*
3. *Based on an annual Net Annual Value of £8,000.*

2.4.8 A typical unmeasured business customer bill is projected to increase by £26 by the end of PC15. However, our PC15 draft determination represents a saving to customers of £77 over PC15 as compared to the NI Water business plan.

2.4.9 Unmeasured bills have been held down during both PC10 and PC13 periods while NI Water implemented a targeted metering programme aimed at reducing average unmeasured water consumption. Although further metering of this customer group will continue, customer bills from PC15 onwards will now reflect improved information about consumption levels. We have chosen to smooth the increase over the PC15 period rather than customers facing a large increase in the first year.

2.5. The infrastructure charge

2.5.1 When NI Water connects a household premises to the water and sewerage network for the first time it can levy an infrastructure charge, as well as charging the direct costs of making the new connection. The infrastructure charge provides a contribution towards the cost of developing local networks to serve new consumers.

2.5.2 Under NI Water's Licence Condition C we set limits on the infrastructure charge. We have determined a draft infrastructure charge limit of £305 for 2015-16 (2014-15 prices). This is £42 lower than the maximum allowed charge set by Ofwat in England and Wales.

2.6. Management of risk and uncertainty

Working alongside a Public Expenditure (PE) regime

2.6.1 As part of the PC10 price control process and in order to provide a clearer framework for future price controls we worked with the DRD to develop a Memorandum of Understanding (MOU) to set out how the regulatory regime would work alongside public expenditure. A copy of this can found in annex C.

2.6.2 Following on from the MOU a 'Consequent Written Agreement' (CWA) was drawn up. This sets out the procedures for dealing with alterations to funding to be agreed between the Department and the UR. The agreement also details the processes and assumptions that will apply at each price control and resulted in new clauses being inserted to licence condition B to deal with price reviews during the period when public expenditure remains relevant.

2.6.3 We updated the CWA as part of the PC13 process and are continuing to work with DRD to update it again for PC15. Further changes will be considered following consultation on the draft determination and in particular responses to our thoughts on the mid-term review.

2.6.4 The latest draft of the CWA can be found in annex D. This also includes the PE figures consistent with the draft determination.

2.6.5 Whilst PE issues are both complex and beyond the regulatory environment, we will continue to work with officials from DRD and the Department of Finance and Personnel (DFP) to ensure transparency and understanding of our determination.

3.0 Outputs and Outcomes

3.1. Introduction

3.1.1 This Chapter provides a summary of the outputs which will be delivered in PC15. It sets outs how we classify and measure outputs and benefits to. A summary of key benefits is also provided.

3.2. PC15 Consumer engagement

3.2.1 The views of consumers on the type and level of service they expect, and the prioritisation and delivery of those service levels is an important component of this price control. A key aim for all stakeholders was to clearly identify what consumers want, identify their priorities for water and sewerage services, show how these will be delivered and over what timescale.

3.2.2 To gain an understanding of what consumers want, a CEOG was formed by CCNI, DRD, NI Water and the UR with NI Water acting as Chair. CEOG worked collaboratively to develop a plan for consumer engagement and an extensive piece of research was carried out to understand the aspects of water and sewerage services which matter most to households and businesses.

3.2.3 CCNI has reported the findings of this research work in “Connection with Consumers”. CEOG continues to meet to ensure that the findings are implemented. In this section we have summarised key findings from the report to provide background to the determination of outputs and outcomes for PC15.

3.2.4 Consumer research was undertaken in 2013 and involved:

a. Qualitative research
   - i 12 focus group discussions with 97 domestic consumers; and,
   - ii 17 in-depth interviews conducted on a one-to-one basis with non-domestic consumers.

b. Quantitative research
   - i A survey of 1,031 randomly selected households (domestic consumers) across Northern Ireland; and,
   - ii 512 telephone surveys with non-domestic consumers.

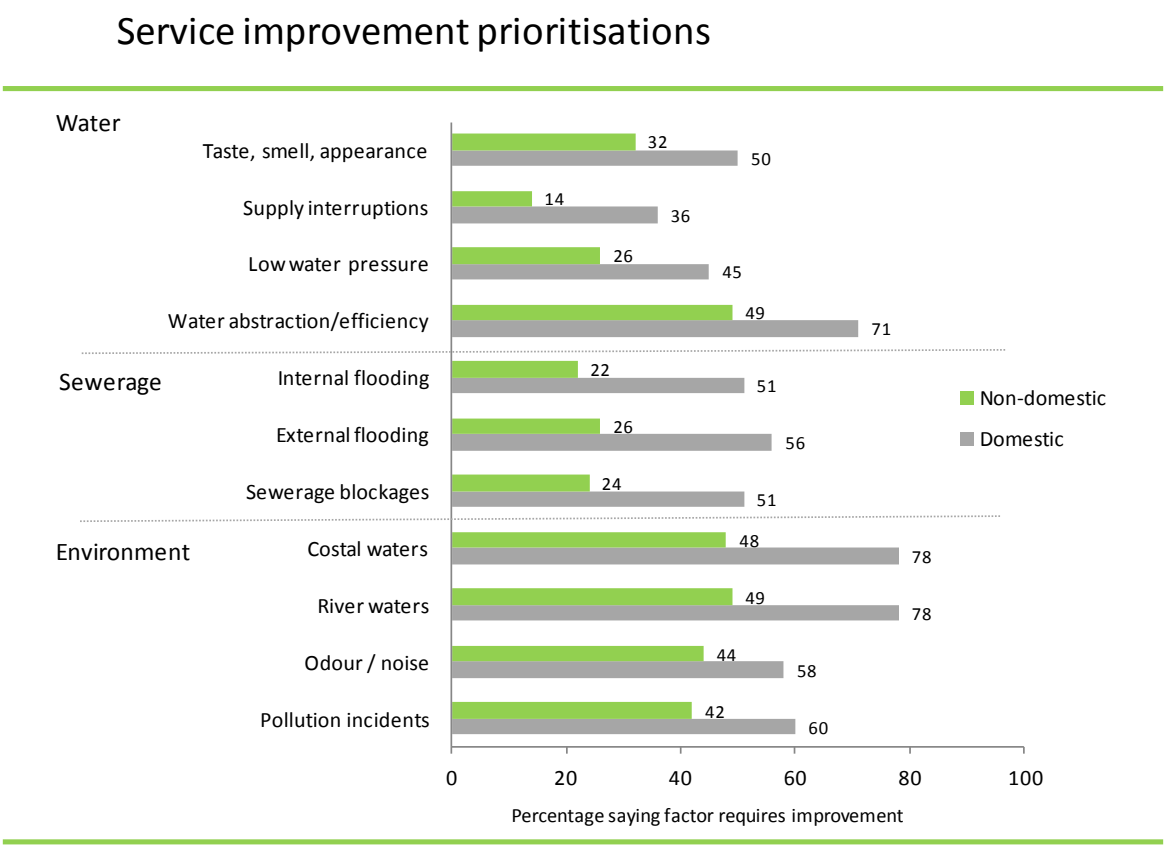
3.2.5 The research identified consumer preferences for a range of service improvements and a willingness to contribute survey used was to assess trade-offs between different improvements in service which could be delivered. The survey also covered consumers’ experience of NI Water, consumer views of NI Water, preferred methods of communication and consumer education. The service attributes assessed in the survey are shown in Table 3.1.

Table 3.1 – Service improvement attributes considered in consumer engagement

Service area	Service attributes
Water service	Taste, smell and appearance Supply interruptions Low water pressure Water abstraction/efficiency
Sewerage service	Internal flooding External flooding Sewerage blockages
Environment	Coastal water River waters Odour/noise Pollution incidents

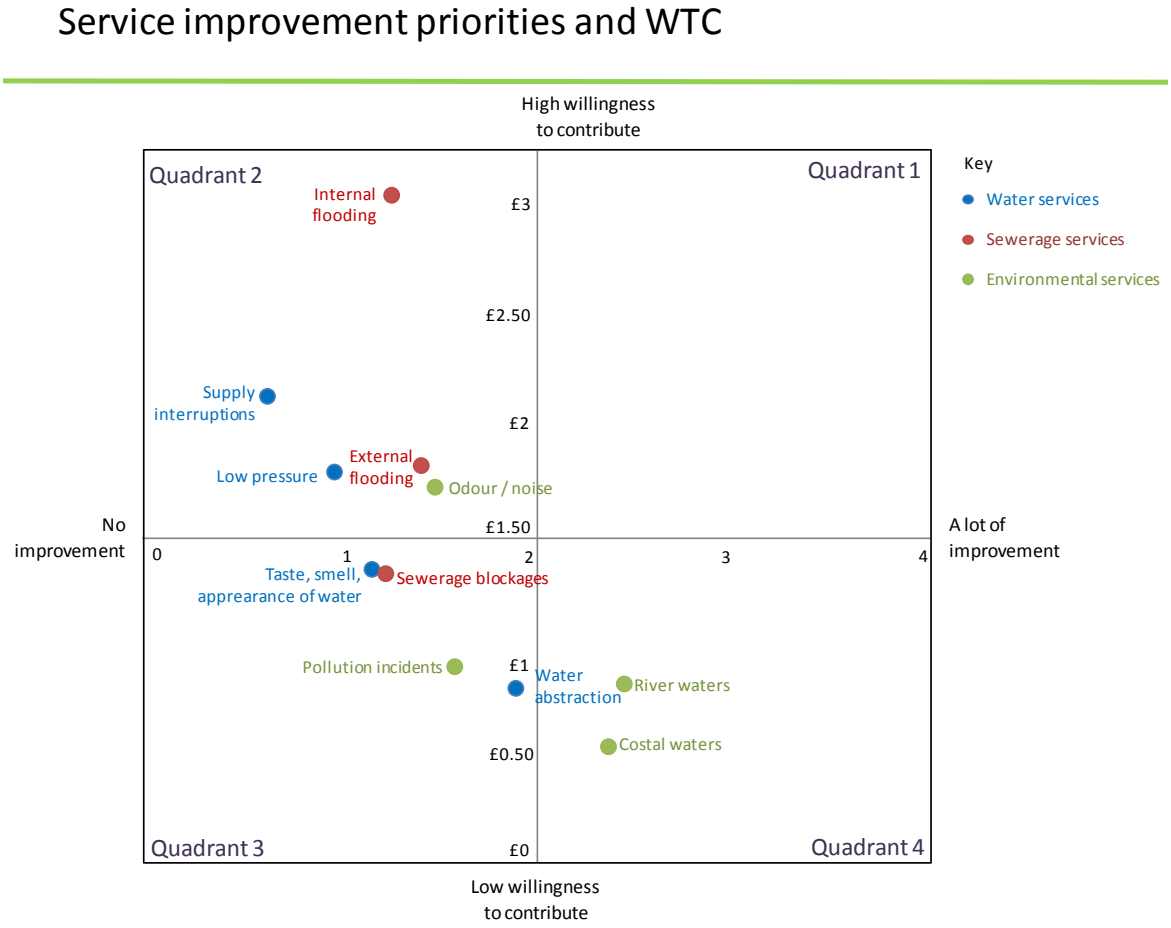
3.2.6 Figure 3.1 illustrates the percentage of consumers who requested improvements in each aspect of service. Domestic consumers were more likely to request improvement in all areas of service, with the highest percentages focused in the environmental area, followed by sewerage and then water.

Figure 3.1 – Overview of service improvement prioritisation



3.2.7 Figure 3.1 does not take into account the willingness of consumers to contribute extra to improve service delivery. This is addressed in Figure 3.2, which displays improvement priorities against the consumers' willingness to contribute extra to improve the service.

Figure 3.2 – Summary of domestic priorities and willingness to contribute



3.2.8 There are no attributes receiving a high improvement score and high willingness to contribute score (Quadrant 1). This indicates that no areas are falling well short of customer expectations and requiring widespread remedial attention. This backs up a key finding of the survey that most consumers were satisfied with the service received most of the time.

3.2.9 Quadrant 2 includes service attributes which had the highest value of willingness to contribute, yet received relatively low priority for improvement. Consumers deem these aspects of service to be vital to lifestyle and business operation and therefore are willing to contribute financially to ensure optimum service. However as consumers are typically satisfied with the current level of service, they did not request vast improvements in these areas. Targeted investment should be made to improve these areas further.

3.2.10 Service attributes in Quadrant 3 were given the same low priority for improvement as Quadrant 2 combined with a low value of willingness to

contribute. These areas should be investigated to identify improvements which can be delivered at low cost and combat 'hot-spots' of poor service.

3.2.11 Environmental improvements were given the highest priority in terms of need for improvement but received a low willingness to contribute. This suggests that consumers believe NI Water has a corporate responsibility to improve environmental aspects of service but lack the inclination to contribute towards improvements which have less of an immediate impact on the household.

3.2.12 These findings reinforce other key conclusions from the PC15 research:

- Most consumers appear satisfied with the service provided most of the time. Most domestic consumers have few issues with the current service. They simply expect it to work. Provided it does, consumers rarely think about water and sewerage services or how they are provided. Consumers expect their water and sewerage service to be resilient;

- Consumers expect local service 'hot-spots' to be addressed. When issues occur, they tend to be localised and restricted to defined areas. When asked about willingness to contribute, consumers prioritised local issues such as water supply and flooding which have a direct impact on their daily lives;

- Consumers want strategic decision making. They recognise the integrated benefits which can be delivered by investment, for example, the link between reduced leakage and increased water pressure or a reduction in sewer blockage and reduced risk of flooding. Working to prevent problems occurring is as important as resolving the problem when it does occur;

- Consumer experience shapes their views. The research was conducted at a time when there were relatively few large-scale reported incidents. Had the research been conducted after a major incident, customer priorities might be different because of their service experience;

- Consumers expect NI Water to provide information and education on how to be more water efficient and on the disposal of waste. It was evident that the majority had either missed previous campaigns or believe that more could be done to raise awareness;

- Domestic and business consumers prefer to contact NI Water by telephone. They want to speak to someone who provides answers based on their needs, not the company's, and who fixes the problem first time or can say when the problem will be resolved and then delivers on their promises; and,

- Non-domestic consumers who pay for water and sewerage services directly thought that NI Water needed to make improvements in its customer services. However, few were willing to pay more for these improvements. Good customer service is expected as part of the services businesses already pay for.

3.2.13 Affordability remains a key issue for many households. Forty nine percent of households would not be willing to contribute more to improve water and sewerage services.

3.2.14 In preparing its business plan, NI Water has had to balance competing priorities within a constrained capital budget. To test the business plan, NI Water went back to participants in the first stages of the research. NI Water provided information on the research findings, explained the proposals in the draft business plan and asked the participants to comment on them. Domestic and business consumers consulted in this review were mainly satisfied with the proposals in the draft business plan and had few concerns or recommendations for change.

3.3. Definition of outputs

3.3.1 The purpose of investing in water and sewerage services is to maintain and improve the services that consumers receive. Ultimately consumers experience service as a series of outcomes, including:

- Whether tap water is safe to drink and is acceptable in terms of taste, odour and appearance;
- Whether the supply of tap water is reliable, including during extreme operating conditions such as severe weather;
- Whether surface and foul wastewater is drained effectively and consumers are not affected directly by flooding or a reasonable fear that they might be affected by flooding from sewers;
- Whether the impact of water and sewerage services on the environment is limited (including the impact of water abstraction and the pollution that can be caused by intermittent and continuous discharges of wastewater); and
- Whether the company responds quickly when things go wrong, is able to resolve the underlying problem satisfactorily and keeps the consumer informed while doing so.

3.3.2 In practice, a water and sewerage company will deliver a series of outputs which aim to secure the outcomes consumers' want. We have assessed the outputs for PC15 in line with the level of investment. These outputs form part of an overall package which the company must deliver.

3.3.3 We categorise outputs under three headings:

- **Service level outputs:** service level outputs measure the impact of investment on the level of service experienced by consumers. This includes, for example, the number and duration of interruptions to supply and overall compliance with water quality parameters. This type of output is preferred as it maximises the company's freedom to determine the best way

to deliver the required level of service at minimum cost. It encourages innovation and cost savings that benefit consumers in the longer term;

- **Nominated outputs:** these are specific items, often identified by the quality regulators such as improvements to a discharge standard to meet mandatory legislative requirements. We have also included a number of specific improvements that NI Water identified as nominated outputs in its business plan. This includes trunk main schemes and the provision of additional water storage capacity; and,

- **General activities:** we included activities (such as the rate of replacement of water mains or the replacement of sewerage) as outputs where it was not possible to establish a clear link between activity and service level outputs in the short term. This ensures that NI Water will put forward robust plans for each price control period against which it can be monitored. Activity rates can be reviewed at subsequent business plans and increased or reduced to reflect experience and the levels of service that consumers require in the future.

3.3.4 The summary outputs for PC15 are set out in Table 3.2, Consumer service and water quality outputs for PC15 and Table 3.4, Sewerage service outputs for PC15. This includes some proposals for additional output measures for PC15.

3.3.5 The output tables include projected performance for the final year of PC13 to show how the outputs planned for PC15 compare with the current period. Further commentary on these outputs is given in Annex F.

3.3.6 These tables will form the basis of the monitoring plan we will ask NI Water to publish following our final determination. They will be supported by a detailed list of nominated outputs which will be subject to a formal change control process throughout the PC15 period.

3.3.7 The outputs included in Table 3.2 and Table 3.4 are targets which the company is expected to meet or exceed. Performance against some targets can be affected by external factors such as weather conditions, by the statistical impacts of sampling or by the quality of the assets. This can create variability in performance which the company cannot control or can only partially control. This is true for water quality measures, wastewater quality measures and leakage.

3.3.8 In the outputs tables we have set targets for these measures at the lower end of the likely level of performance. We have provided further information on the expected range of performance in Annex F. Exceeding the targets should not be seen as out-performance. The company will only out-perform when it is reliably operating at the upper end of the expected range.

3.3.9 In PC13 we have introduced a formal process of serviceability monitoring. Our first serviceability assessment is included in Annex G and summarised in Section 0.

3.3.10 In addition to monitoring individual outputs we also assess the company's progress against a composite OPA score. This combines a range of service measures. Further details of our overall performance assessment are provided in Section 3.6 and at Annex E.

3.3.11 Many of the targets included in Table 3.2 and Table 3.4 do not adequately reflect the things which were found to be most important to consumers in the consumer research. For example:

- Company-wide targets can mask local hotspots of poor service;
- Targets for service measures such as interruptions to supply are only meaningful if the company has the information necessary to develop challenging targets which drive improvement; and,
- Consumers expect the company to answer the phone. What's important is the quality of the response and the ability of the company to resolve the issue quickly.

3.3.12 In conjunction with other stakeholders, we are taking a number of steps to address this issue:

- Our treatment of consumer service outputs during PC15 is to be developed by the Consumer Measures and Satisfaction Working Group (CM/SAT) who will continue to report back to the CEOG. A more detailed examination of the work of CM/SAT and a timeline to introduction of new consumer measures and satisfaction survey for PC15 is included provided in Section 3.6;
- Additional output measures included in Table 3.2 and Table 3.4 provide activity measures which chart progress towards longer term outcomes. For example, proactive lead pipe replacement or the completion of catchment management plans; and,
- Introduction of serviceability measures including sub-threshold indicators and consumer complaint measures which will alert us to possible emerging service issues before failure occurs.

3.3.13 In addition to this we believe there is a need for the company to be more specific in defining the steps it will take over the long term to improve planning and delivery of improved service. We have developed this in Section 0.

3.4. Summary of PC15 Outputs

Table 3.2 – Customer service and water quality outputs for PC15

	Line description	Units	PC13	PC15					
A	**Consumer Service**		**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**
1	DG2 Properties at risk of low pressure removed from the risk register by company action	nr	170	92	108	157	159	160	160
2	DG2 Properties receiving pressure below the reference level at end of year	nr	1,132	1,040	932	775	616	456	296
3	DG3 Supply interruptions > 12hrs (unplanned and unwarned)	%	0.19	0.18	0.17	0.17	0.16	0.15	0.15
4	DG3 Supply interruptions (overall performance score)	nr	1.08	1.07	1.05	1.03	1.00	0.98	0.96
5	DG6 % billing contacts dealt with within 5 working days	%	99.90	99.90	99.90	99.90	99.90	99.90	99.90
6	DG7 % written complaints dealt with within 10 working days	%	99.50	99.50	99.50	99.50	99.50	99.50	99.50
7	DG8 % metered customers received bill based on a meter reading	%	99.00	99.00	99.00	99.00	99.00	99.00	99.00
8	Call Handling Satisfaction score (1-5)	nr	4.75	4.65	4.65	4.70	4.70	4.75	4.75
9	DG9 % Calls not abandoned	%	99.00	99.00	99.00	99.00	99.00	99.00	99.00
10	DG9 % calls not receiving the engaged tone	%	99.90	99.90	99.90	99.90	99.90	99.90	99.90
11	Overall Performance Assessment (OPA) score (11 Measures)	nr	214	218	221	224	227	232	236
12	Total Leakage	Ml/d	165.00	163.00	161.00	159.00	157.00	155.00	153.00
13	Security of supply index	nr	100	100	100	100	100	100	100
14	Percentage of NI Water's power usage derived from renewable sources	%	20.0	20.0	25.0	30.0	35.0	40.0	40.0
B	**Quality Water**								
15a	% overall compliance with drinking water regulations	%		99.79	99.79	99.79	99.79	99.79	99.79
15b	% compliance at consumers tap	%		99.69	99.69	99.69	99.69	99.69	99.69
16	% iron compliance at consumers tap	%		97.10	97.10	97.10	97.10	97.10	97.10
17	% Service Reservoirs with coliforms in >5% samples	%	0.00	0.00	0.00	0.00	0.00	0.00	0.00
C	**Water Outputs**								
18	Water mains activity - Length of new, renewed or relined mains	km	168.26	114.94	128.98	114.22	152.61	132.40	173.19
19	Completion of nominated trunk main schemes	nr	3	1	0	0	1	0	0
20	Completion of nominated water treatment works schemes	nr	3	1	0	0	0	0	2
21	Completion of nominated improvements to increase the capacity of service reservoirs and clear water tank	nr	1	0	0	1	0	1	1
D	**Serviceability**								
22	Water infrastructure serviceability	Text	Stable	Stable	Stable	Stable	Stable	Stable	Stable
23	Water non-infrastructure serviceability	Text	Stable	Stable	Stable	Stable	Stable	Stable	Stable
E	**New Output Measures**								
24	Number of Catchment Management Plans	nr		6	7	7	6	7	7
25	Number of lead communication pipes replaced	nr		1,844	1,844	1,844	1,844	1,844	1,844
26	New Customer Service Measures	tbc							
27	Number of school visits	nr		176	176	176	176	176	176
28	Number of events	nr		57	57	57	57	57	57

3.4.1 The water quality targets reflect the minimum of a likely operating range based on a lower 2.5 %-ile. The expected operating range is shown in Table 3.3

Table 3.3 - Water quality compliance range

	Overall Compliance	Compliance at Tap	Iron Compliance
Minimum	99.79%	99.66%	96.50%
Maximum	99.87%	99.82%	98.90%
Mean	99.82%	99.74%	97.86%

Table 3.4 – Sewerage service outputs for PC15

	Line description	Units	PC13	PC15					
A	**Consumer Service Sewerage**		**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**
1	DG5 Properties at risk of flooding - number removed from the 2 in 10, 1 in 10 and 1 in 20 risk register by company action	nr	21	1	0	25	12	12	12
2	DG5 Properties on the 2 in 10, 1 in 10 and 1 in 20 risk register at the end of the year	nr	150	155	161	142	136	130	124
B	**Quality Sewerage**								
3	% of WwTWs discharges compliant with numeric consents	%	91.0	91.1	92.4	93.2	94.1	94.5	94.5
4	% of total p.e. served by WwTWs compliant with numeric consents	%	97.80	98.08	98.26	98.30	99.12	99.16	99.16
5	Small WwTW compliance (works greater than or equal to 20p.e. but less than 250p.e.)	%	79.15	83.71	86.97	89.58	91.86	94.46	96.74
6	Number of high and medium pollution incidents attributable to NI Water	nr	29	27	25	23	21	19	17
C	**Sewerage Outputs**								
7	Sewerage activity - Length of sewers replaced or renovated	km	14.00	11.51	11.64	10.61	13.50	13.55	13.65
8	Delivery of improvements to nominated UIDs as part of a defined programme of work	nr	63	25	16	5	8	0	0
9	Delivery of improvements to nominated WwTWs as part of a defined programme of work	nr	18	3	5	3	0	4	4
10	Small wastewater treatment works delivered as part of the rural wastewater investment programme	nr	16	7	8	7	8	7	8
D	**Serviceability**								
11	Sewerage infrastructure serviceability	Text	Stable	Stable	Stable	Stable	Stable	Stable	Stable
12	Sewerage non-infrastructure serviceability	Text	Stable	Stable	Stable	Stable	Stable	Stable	Stable
E	**New Output Measures**								
13	Number of CSO and EO discharges at which event and duration monitoring equipment is installed/fully optimised, and meet NIEA requirments	nr		57	58	58	58	58	58
14	Number of qualifying Wastewater Treatment Works delivered as part of the defined programme of improvements to comply with PPC Regulations	nr		0	0	0	To be defined by output from and assessment of PPC sites and NIEA		
15	Number of appraisals for which Storm Separation and Infiltration Reduction have been a key driver and have been completed and accepted by BIC or CIP. storm separation and infiltration reduction as part of the solution development	nr							
16	Impermeable surface water collection area removed from the combined sewerage network (such as roads and pavements, roofs and hardstandings)	m2		30000	30000	30000	30000	30000	40000
17	Number of 'sustainable solution' WWTW serving a PE > 250 delivered as part of the defined programme of work for improvements to nominated WWTWs	nr		0	1	1	0	0	0
18	Number of 'sustainable solution' WWTW serving a PE < 250	nr		0	0	0	1	1	1

3.5. Maintaining serviceability

3.5.1 Serviceability is the capability of an asset to provide a service. It is a broad measure based on a mix of service indicators, asset performance indicators and sub-threshold indicators which balance consumer experience and the underlying performance of the assets. Focusing asset maintenance planning on serviceability, rather than the condition or performance of the assets, will ensure that investment targets consumer outcomes in the short term and the right level of capital maintenance investment is maintained in the medium and long term.

3.5.2 Serviceability is monitored by trending a series of defined asset performance indicators (such as the frequency of pipe bursts) and service indicators (such as the frequency of interruption to supply). Data trends are used to determine whether asset serviceability is stable, improving, deteriorating or marginal.

3.5.3 As well as monitoring what has been delivered, serviceability indicators provide a basis for planning asset maintenance investment to maintain a reference level of service to consumers and the environment now and into the future.

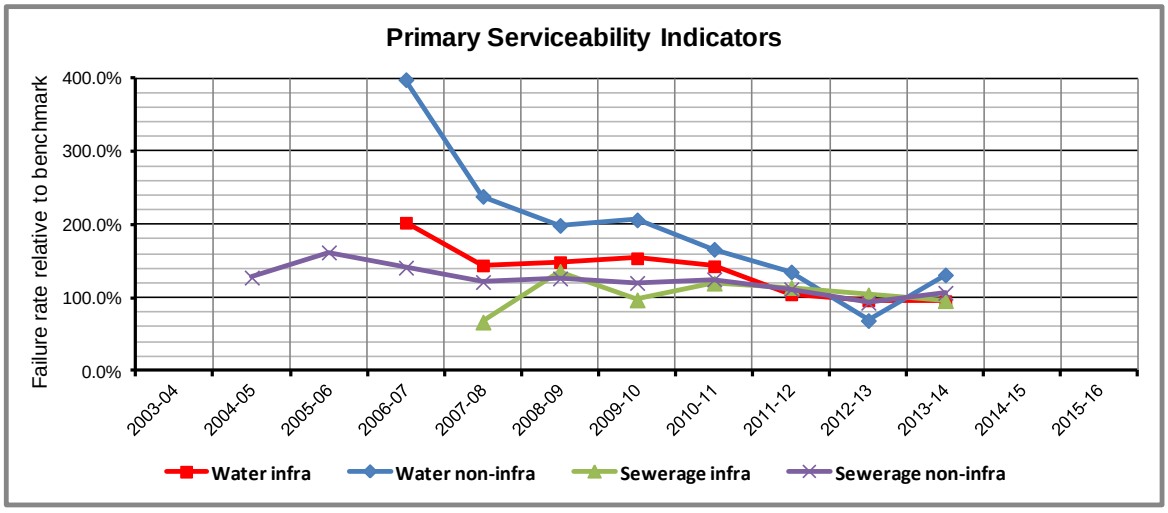
3.5.4 Serviceability measures include sub-threshold measures and consumer complaint measures which can reveal emerging service issues before failure occurs.

3.5.5 Annex G describes our approach to serviceability assessment and provides our first assessment of serviceability for PC13. It sets out:

- Our approach to assessing serviceability;
- Our assessment of the serviceability reference levels and control limits we consider appropriate for monitoring performance into PC15; and
- The regulatory action we would take in respect of serviceability.

3.5.6 The current trend in serviceability is stable following improvements driven by investment over the last decade (see Figure 3.3)

Figure 3.3 - Primary serviceability indicators



3.6. Overall performance assessment

Opinion on company proposals

3.6.1 NI Water has significantly improved its service performance over the last number of years. This improvement in service has been reflected in the OPA score more than doubling from 98 in 2007-08 to 198 in 2012-13.

3.6.2 Going forward, the key concern of the UR is that NI Water continues to deliver continuing service improvements. The company must also ensure that it operates within the limitations of allowed public expenditure.

3.6.3 Based on NI Water's performance so far, and on the performance of Scottish Water, it is our strong expectation that NI Water's OPA score can and will improve over the PC15 period, even where we have proposed a robust and reasonable efficiency challenge.

3.6.4 For the draft determination the UR has undertaken its own assessment of an appropriate and challenging OPA target. Like NI Water, this approach has been cautious, recognising that as NI Water closes the gap with what was achieved by companies in England and Wales, the scope for further rapid improvement diminishes.

3.6.5 Of the 11 service measures included within the OPA many individual measures are at maximum or close to maximum scores. This leaves drinking water quality and sewerage pollution incidents (high, medium and low) as offering substantial scope for improvement, with NI Water projecting a substantial increase in performance against sewage treatment works consent compliance for PC15.

3.6.6 The UR is also mindful that it is difficult to forecast with complete certainty the magnitude of individual service improvements, especially given year-on-year variability on some measures.

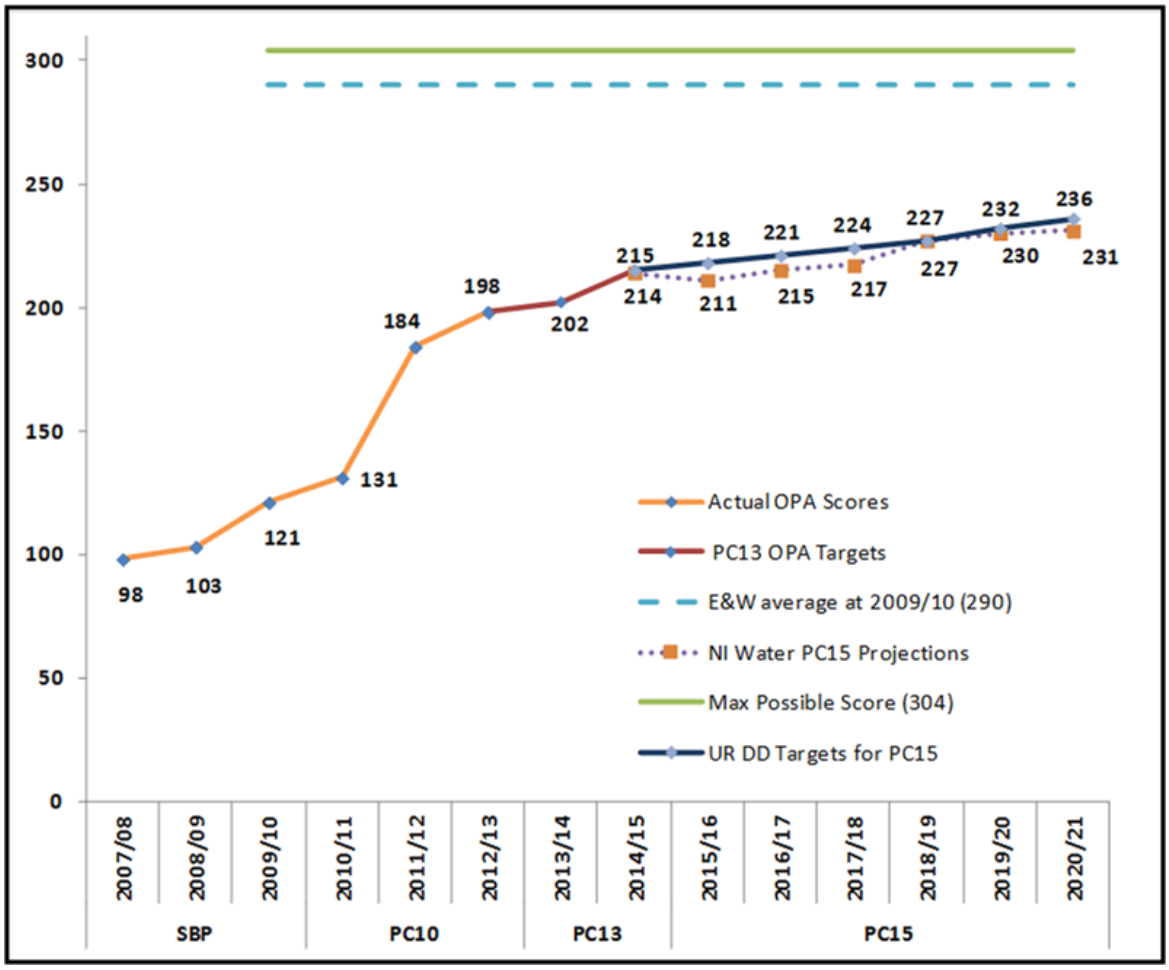
Proposed OPA scores

3.6.7 For the above reasons, the UR has taken a cautious approach to estimating the degree to which NI Water can improve its OPA score over the six years of PC15 and our detailed reasoning can be found at Annex E.

3.6.8 We do not accept the company's OPA score of 211 in 2015-16 where consumers would in effect need to accept a reduction in overall service levels. The UR believes this is detrimental to consumers and has therefore set a gradual, more realistic target in this draft determination.

3.6.9 The UR has therefore interpolated a high level and gradual, year-on-year linear increase in the OPA from its PC13 OPA target of 215 in 2014-15, to its end of PC15 OPA target of 236 in 2020-21. A comparison of the UR PC15 draft determination targets against company business plan proposals is contained in Figure 3.2.

Figure 3.2 – Targeted Improvements to NI Water's OPA Scores in PC15



3.6.10 The company will therefore need to increase its OPA score by around 3 to 5 points per year to achieve the UR's target. Our final annual OPA targets based on this high-level analysis is shown in the table below:

Table 3.5 – Draft Determination targeted OPA scores for PC15

	PC13 Targets		PC15 DD Targets					
	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
OPA target score	202	215	218	221	224	227	232	236

3.7. New consumer measures and satisfaction survey

Background

3.7.1 An open workshop on the future of the current Overall Performance Assessment of NI Water was held in October 2013. The workshop considered the relevance of the OPA's satisfaction survey of recent telephone contacts to NI Water, conducted on a quarterly basis to derive an annual performance statistic.

3.7.2 The need to consider new consumer focused measures was first introduced at PC10 along with OPA. Our next price control at PC13 was designed to cover a two-year period and as such the aim agreed between the UR and principal stakeholders, was to conduct a proportionate price control. Hence PC10's consumer engagement and DRD's Social & Environmental Guidance was judged as remaining relevant to the PC13 price control process.

3.7.3 The need to re-focus upon consumer service measures was then deferred to the next price control at PC15. In addition, it was envisaged that by PC15 developments at an Ofwat level might have become sufficiently well informed to shape their subsequent development locally if it was determined advantageous to maintain comparisons between NI Water's performance and that of its counterparts in England and Wales.

New developments within the industry

3.7.4 For PR09 Ofwat had already replaced its own OPA with a Service Incentivisation Mechanism (SIM). Amongst other changes the older OPA style consumer survey was replaced by a newer survey which enabled the key influencers of consumer satisfaction, rather than just satisfaction with a telephone contact with a water company, to be identified. Consumer measures were also replaced by a focus upon 'wanted' and 'unwanted' contacts which promoted First Point of Contact Resolution (FPOCR) by companies who were now financially incentivised to improve their overall SIM scores over time.

3.7.5 Whilst SIM has been widely acknowledged as having improved customer services in broad terms it became evident that the incentivisation methodology was potentially not rewarding companies who actively sought to develop their communication channels with consumers to include the emergent social media channels. This was seen as an unfortunate and unforeseen consequence of focusing financial incentives (rewards and penalties) on an overall SIM score.

3.7.6 With the new regulatory framework for PR14 Ofwat decided to embark upon a consultation on how SIM might be replaced by some form of alternative.

3.7.7 At the same time the Utility Regulator began working group input to a UK Water Industry Research workstream entitled, "Alternative SIM: Implementation Plan - Research Project CU666" which is soon to publish its report during summer 2014.

Local considerations on way forward

3.7.8 The detailed examinations by both UKWIR and Ofwat of a way forward were then fed back into our local CM/SAT. This established a common desire for the CM/SAT working group to progress the development of both new consumer measures and a new consumer satisfaction survey locally. The primary aim was to provide NI Water with "actionable data" since gaining insight, without taking action, is of no real value. This principle is a key enabler towards NI Water improving consumer service without the need for additional funding of consumer services. This improving service should be delivered with the existing resources at the company's disposal.

3.7.9 Of perhaps equal importance to the debate on our own way forward was the fact that the UR's comparison of NI Water's OPA score was continuing to be undertaken against an England and Wales OPA average total score of 290 points, frozen from the last time Ofwat completed an equivalent analysis back in 2010-11.

3.7.10 Whilst the 11 measures which inform NI Water's OPA scores cover network related measures which remain of considerable value when comparing NI Water to its counterparts going forward, the consumer service measures are now dated.

3.7.11 There also would appear to be as much value in NI Water being able to compare its consumer satisfaction to its peers in the widest sense, so that actionable data can be found by conducting consumer surveys which can be compared to similar consumer satisfaction scores from public, private, national, local and international firms. Such comparison would also over time provide a time series of consumer satisfaction with NI Water.

3.7.12 The work of CM/SAT and the direct involvement of DRD representatives already influenced the department's SEG which included the following priorities under CS4 and CS5:-

Table 3.6 – DRD Social & Environmental Guidance relating to consumer service

Priority CS4	Continue improvements in handling customer queries, complaints and billing (DG6-9).
Priority CS5	Work with stakeholders through the Customer Measures and Satisfaction Group (CM/SAT) to develop more consumer focussed performance measures, including: i) New consumer satisfaction (CSAT) Key Performance Indicator which gives a measure of customers' overall satisfaction with the service provided by NI Water; and ii) Adoption of industry best practice measures for performance on handling customer contacts for example: - customer contact levels (through all communication channels); - first point of contact solutions; and - repeat contacts.

The way forward

3.7.13 For PC15 continued use of the OPA is envisaged, especially those network related measures and scores. The company is also conducting consumer surveys using the Ofwat SIM template on back of advice from CM/SAT.

3.7.14 Once CM/SAT has evaluated the usefulness of the SIM style survey and depending upon when the industry moves to its new 'Alternative SIM' survey as consulted upon by Ofwat 2013-14, CM/SAT Working Group will need to decide what format of survey best suits NI Water and local consumers.

3.7.15 One aspect of Ofwat's new consumer survey involving unannounced surveys with no notice period for companies should particularly be considered for local consumers. Any new satisfaction survey of NI Water should be based upon truly random sampling techniques without any notice.

3.7.16 By our final determination many of the uncertainties around direction of travel will become much clearer. Ofwat will likely have announced the detail of its decisions on replacement for the SIM and its satisfaction survey, the UKWIR report will have been published and we shall have had an opportunity to evaluate the survey research of NI Water's consumer satisfaction levels using the newer SIM template.

3.7.17 In addition, we consider there is a needed to introduce a consumer satisfaction measure which can be adapted across our regulated utilities. This will provide additional comparisons for the regulated companies in Northern Ireland and can inform its decisions on how to continually improve consumer service in other regulated areas.

3.7.18 The inclusion of a simple question using the Net Promoter Score (NPS) methodology is something that has already been examined by Ofwat and UKWIR, in the context of the England and Wales regulatory landscape where there appears a strong preference to retain some form of financial incentive around the SIM and its replacement.

3.7.19 NPS would certainly provide NI Water with actionable data as the answer to the simple question, "How likely are you to recommend company / brand / product X to a friend / colleague / relative?" can be compared across industries and local utilities, and performance monitored over time. Actionable data comes from accompanying the NPS question by more open questions that probe the underlying reasons behind the consumers stated score.

Timeline to new consumer measures and satisfaction survey

3.7.20 To this end, NI Water will need to consider procurement of a new consumer survey to replace its existing OPA survey and SIM survey; having more than one survey running in parallel is difficult to justify once we have evaluated the SIM survey within CM/SAT.

3.7.21 Once a new survey is trialled along with some performance monitoring of NI Water, the Regulator will consider introducing the necessary amendments to the PC15 Monitoring Plan during the PC15 period, to include a new consumer satisfaction survey target.

3.7.22 Regarding new customer measures, a similar process of trialling and then amendment to the PC15 Monitoring Plan will happen during PC15. The department's SEG has already usefully included some examples which CM/SAT is examining:

- Customer contacts (both wanted and unwanted);
- FPOCR; and
- Repeat contacts

3.7.23 An indicative timeline to (i) new consumer measures and satisfaction survey and (ii) and amended PC15 Monitoring Plan follows:

Table 3.7 – Proposed timeline to new consumer measures and satisfaction survey

Customer Measures (CM)	Timeline	Customer Satisfaction Survey (CSAT)
	July 2014 to Mar 2015	Procure new survey provider (=9 months)
Draft AIR15 reporting requirements issued by Regulator	end Mar-15	Draft AIR15 reporting requirements issued by Regulator
AIR15 clarification process - start	Mar-15	AIR15 clarification process - start
New CM trial - start	1st Apr-15	New CSAT trial – start
	30th Jun-15	CM/SAT review 1st set of results
AIR15 clarification process - ends	15th Jul-15	AIR15 clarification process - ends
New CM trial – ends	Jul-15 to Sep-15	Further trialling
CM/SAT Working Group review results	29th Sep-15	CM/SAT Working Group review results
New CM refinement process	Oct-15 to Dec-15	Further trialling
CM/SAT review progress and finalise new consumer measures Regulator amends PC15 Monitoring Plan (including new KPIs and whether to include tramlines)	Dec-15 through Jan-16	CM/SAT review results and finalise new satisfaction survey for PC15 to replace previous OPA Call Handling Satisfaction Survey Regulator amends PC15 Monitoring Plan (including new KPIs and whether to include tramlines)
NI Water prepare systems for monitoring from 2016-17 onwards		
New CM Go-Live and AIR16 reporting	1st April 2016	CSAT Go-Live and AIR16 reporting

3.8. Development of plans in key areas

3.8.1 In PC15 we have promoted the importance of long term planning to ensure that improvements in service are delivered effectively and efficiently. Success depends on the early action the company takes to build capability and acquire the information necessary to drive future service improvements. In this section we have set out areas where greater visibility of the company's plans to develop capability and acquire information would be beneficial.

- The company should set out its plan to incorporate consumer preferences and willingness to contribute into the prioritisation of investment;
- The company should clarify how it will identify and target hotspots of poor service. For example by extending work already undertaken to prioritise water mains investment or service reservoir maintenance across other areas of service;
- The company should identify the steps it can take to mitigate the risk of property flooding where the long term solution is linked to a major investment programme and may be delayed until that programme can be funded;
- The company should set out its plan for education campaigns, describing how these campaigns will be designed to change behaviour and be monitored to assess awareness and effectiveness;
- The company should set out its plans to improve its understanding of the links between service failure, asset failure and operational response to identify opportunities to improve performance for targeted service areas such as interruption to supply or reducing sewer blockages;
- The company should prepare a plan to close gaps identified in its asset maintenance planning capability (see Section 4.0);
- The company should set out its plan for developing storm water separation, showing how the funding included in the determination will be used to assess the potential for storm-water separation and complete relevant demonstration projects to inform cost and effectiveness;
- The company should prepare an overall plan for energy efficiency and energy generation to ensure that economic opportunities have been identified which can be delivered if further funding becomes available;
- The company should assess the opportunities to purchase additional land to support the development of sustainable wastewater treatment processes; and,
- The company should provide a clear plan for the strategic drainage study funded under the determination.

3.9. Summary of key benefits

Table 3.8 – PC13 Summary of key benefits

Base maintenance	• Investment to maintain an existing asset base with a replacement value of over £9bn will maintain levels of service to existing consumers. • Completion of safety inspections and planned work at impounding reservoirs. • Renovation and renewal of 74km of sewers.
Maintain and enhance consumer service	• Investment in trunk mains to a trunk main to Cookstown will improve security of supply in an area badly affected by the 2010-11 freeze thaw. • Investment in the water distribution network to reduce interruptions to supply and improve supply pressure and 836 properties. • Investment in the sewerage network to address the risk of internal flooding at 62 domestic properties. • Further investment in systems to support the delivery of service, improve interactions with consumers, improve efficiency and make the service more sustainable. • New consumer service measures will be introduced, including a new consumer satisfaction survey providing 'actionable data'.
Improve water quality compliance	• Completion of three nominated water treatment upgrades to secure the quality of drinking water. • Continued investment in water distribution mains to improve water quality as part of a programme to rehabilitate a further 816 km of mains. • Proactive replacement of over 11,000 lead communications pipes at consumer properties in addition to lead pipe replacement under water main rehabilitation and in response to sample failures. • Completion of work to improve the security of water supply assets.
Improve environmental compliance	• Investment in 19 wastewater treatment schemes to improve the quality of discharge from works >250 population equivalent. • Upgrade of 45 small wastewater treatment works. • Upgrading of 54 unsatisfactory intermittent discharges to meet quality standards.
Growth and supply demand balance	• The company will be able to continue to connect new properties to the water and sewerage network. • Investment at sewage treatment works will address development constraints due to lack of capacity.
Improve sustainability	• Improvements to existing assets, levels of service and quality enhancements will contribute to a sustainable service. • Further leakage reductions to reduce water lost and go beyond the sustainable economic level of leakage (ELL) of 159Mld. • The proportion of renewable energy used will increase in line with government targets and energy efficiency measures will be implemented. • The company will extend the sustainable catchment management approach it has developed with stakeholders. • A revised Water Resource Management Plan (WRMP), incorporating drought planning requirements, will be prepared to identify long-term water resource management and security of supply investment needs. • Feasibility and development work will be undertaken to ensure the continuity of output delivery into PC21.

4.0 Plan for Asset Maintenance

4.1. Introduction

4.1.1 This chapter considers NI Water's plan for asset maintenance and assesses the approach NI Water has adopted for PC15.

4.2. Background

4.2.1 The provision of water and sewerage services is a capital intensive business. The network of water mains and sewers extends to 26,700 km and 15,200 km respectively. Water resources, water treatment works, pumping plant and wastewater treatment works require substantial structures, mechanical and electrical plant and instrumentation. NI Water estimates the gross replacement costs of its current assets as £9.1 billion (March 2013).

4.2.2 Asset maintenance investment (sometimes referred to as base maintenance or capital maintenance investment) is the investment necessary to replace assets which have reached the end of their useful life or to provide alternatives which will support continued service delivery. At present, NI Water invests about £80m per annum to maintain its assets. It plans to continue to invest at this level in PC15 but has indicated that a higher level of investment may be necessary in the future.

4.2.3 Almost a quarter of NI Water's revenue is used to maintain the assets and the service they deliver. Because this investment maintains current services, it is paid for by current consumers and taxpayers through charges and subsidy.

4.2.4 Given the scale of investment and the complexity of the asset base, there is a need for a robust plan for asset maintenance which will allow the company to establish the 'right' level of asset maintenance in the medium and long term and ensure that this is delivered efficiently. If investment is made too early, we lose the opportunity to either reduce charges or invest in other service improvements. If investment is made too late, service may deteriorate until an adequate level of investment is restored.

4.2.5 As part of the development of PC15, we set out or approach to asset maintenance in which we identified:

a. The need for the company to develop a Plan for Asset Maintenance as part of its PC15 Business Plan submission; and

b. Our views on a range of asset management techniques commonly applied to estimate future investment and the strengths and weaknesses of these techniques.

4.2.6 We developed this approach in our information requirements for PC15. Within the general requirement for a Plan for Asset Maintenance we asked the company to:

a. Assess its asset maintenance planning capability; and

b. Report on its current asset inventory and costing systems and the improvements necessary to allow the company to:

   i Improve its estimate of the gross and net value of its assets and refresh its current cost depreciation estimate; and

   ii Improve the medium to long term estimate of asset maintenance investment.

4.2.7 In this section we provide an assessment of the company's plan for asset maintenance and further work necessary to develop it.

4.3. Asset maintenance planning capability assessment

4.3.1 We asked NI Water to prepare a structured assessment of its asset maintenance planning capability as part of its plan for asset maintenance.

4.3.2 We asked that the asset maintenance capability assessment should identify the steps necessary for the company to achieve excellence in asset maintenance planning to provide confidence in the company's ability to assess the optimum range of medium term interventions and the level of investment required to both maintain serviceability and to target future investment effectively.

4.3.3 NI Water has prepared a bespoke asset management capability assessment methodology covering the creation and ownership of assets over their full life cycle. The company's methodology combines the principles, criteria and scoring methods from:

- PAS55 (now replaced by ISO 55001) which is an internationally adopted standard for asset management aimed at optimisation of assets to reduce the overall cost of ownership, while helping meet the necessary performance and safety requirements; and

- Asset Management Planning Assessment Process (AMPAP), an assessment tool developed in the water industry in GB to provide information that the economic regulator (Ofwat) could use to benchmark water and sewerage companies asset maintenance investment plans.

4.3.4 While the methodology provides a wide ranging framework for assessing a comprehensive set of elements, we continue to have concerns about the grading of the elements defined. The key reference points on the grading scale are 'Competent' and 'Excellent'. In generic terms, the company has often defined 'Competent' as having developed a process which is embedded across the business. 'Excellence' is often defined as a process which is fully integrated across the business and is being continuously reviewed, improved and updated. In our opinion, there is further work to do to develop the definitions so that a grading of 'Competent' includes a process which is proven, is applied across the business and is subject to regular review, improvement and update. 'Excellence'

should surpass the required standard and push the boundaries of current practice to develop new concepts and ideas.

4.3.5 Although we have concerns about the grading system adopted by the company, the key purpose of the methodology is to provide a framework for a critical assessment of asset maintenance planning capability which identifies gaps and provides the basis for a plan to address these gaps. From our review of the initial capability assessment we believe that the company has achieved this. The company has identified improvements across its processes: from the need to keep them under review, to the need to address the key weaknesses in the data and processes necessary to allow it to assess the medium to long term investment required to maintain serviceability.

4.4. Plan for asset maintenance

4.4.1 We asked NI Water to provide us with a plan for closing the gaps identified in its asset planning capability (including data systems and processes) and set out the benefits, timescale and cost of doing so.

4.4.2 The proposed improvements identified in the company's business plan were expressed in generic terms with no clear understanding of the desired outcome, the scope of activities necessary to achieve these outcomes, the timescale in which these activities will be delivered, or the costs of these activities. The company has recently provided us with a summary of the approaches it intends to use for assessing the capital maintenance quantum and prioritisation in Price Control periods. The company has also confirmed that there is adequate funding in PC15 to deliver the work necessary to develop and apply these approaches.

4.4.3 There is further work to do to develop the summary of approaches provided by the company into a plan to address the gaps identified in the asset maintenance planning capability assessment. The plan should clearly set out the desired outcome, the scope of activities necessary to achieve these outcomes, the timescale over which these activities would be delivered and the cost of the activities. In developing timescales, it will be necessary to consider data, systems and processes including, for example, how long it will take to collect a sufficient trend of robust data to draw conclusions. We expect the company to brief us on the development of its plan and to submit the plan with its consultation response on the 15 October 2014, or earlier if possible.

4.5. Modern equivalent asset valuation

4.5.1 In the past other regulators have asked utility companies to submit a modern equivalent asset valuation (MEAV) and a current cost depreciation estimate. These estimates have been used to confirm that the assets owned by the company were being maintained and to either estimate or confirm medium and long term investment in asset maintenance.

4.5.2 However, the need for companies to prepare a MEAV and submit the valuation to an economic regulator has been subject to some criticism:

- The level of information used to compile modern equivalent asset valuations is not necessarily information which is useful to utility companies in managing their assets to deliver benefits to consumers;
- The accuracy of the overall valuation can be relatively low. Changes in data, methodologies and assumptions over time can have a material impact on the estimates to the extent that they are not a useful indicator of how the assets are being maintained; and
- Regulators have often distrusted current cost depreciation estimates which are significantly higher than current estimates of investment need. As a result, the estimates have not been used to determine maintenance investment.

4.5.3 For PC15, we asked the company to report on its current asset inventory and costing systems and the improvements necessary to allow the company to:

a. Improve its estimate of the gross and net value of its assets and refresh its current cost depreciation estimate; and

b. Improve the medium to long term estimate of asset maintenance investment.

4.5.4 Following a review of the company's submission, we have concluded that there is no material benefit in asking the company to prepare a MEAV in the first three years of PC15. In reaching this decision we have consulted DRD to confirm that it does not need a revised asset valuation for public expenditure purposes at present.

4.5.5 While we do not require the company to submit a revised MEAV for regulatory purposes, we recognise that the components of a MEAV valuation (asset data, asset replacement costs and residual asset life estimates) can be useful in assessing asset maintenance requirements. In the absence of a more specific bottom up approach, an estimate of the replacement cost profile can provide a useful estimate of medium to long term investment need. In view of this, and in the absence of a requirement to complete a MEAV, we expect the company to include proposals for updating its asset inventory and asset intervention costs and for improving its estimate of residual asset lives in the updated plan outlined in Section 4.4.3.

4.6. NI Water approach to estimating PC15 asset maintenance investment

4.6.1 In our approach to asset maintenance planning for PC15, we identified a range of techniques which are typically used to assess medium to long term asset maintenance need:

Top down expenditure analysis

a. The projection of historical expenditure;

b. Econometric analysis of expenditure by other companies; and

c. Depreciation approach based on modern equivalent asset valuation.

Asset maintenance outcomes

d. Assessment of historical serviceability trends; and

e. Historical assessment of condition and performance.

Asset maintenance plans

f. Specific asset maintenance plans identifying outputs and expenditure; and

g. Forward looking risk based approach which takes account of how asset serviceability deteriorates over time and analyses the cost of running or replacing the asset to drive a cost effective or cost beneficial asset management plan.

4.6.2 In its business plan submission the company has made use of:

a. An estimate of historical expenditure which shows investment in PC10 and PC13 at or below levels projected for PC15;

b. Specific asset maintenance plans developed for non-infrastructure assets using expert panels, augmented by an assessment of asset life-cycle to estimate replacement over the longer term; and

c. Condition assessment programmes for service reservoirs and trunk mains.

4.6.3 There has been no significant use of forward looking risk based approaches which take account of deterioration and running costs. This is an area that the company plans to develop during the early years of PC15.

4.6.4 During our engagement with the company on the business plan submission, we noted significant improvements in the quality of data available and the quality of the assessments being undertaken compared to previous price controls. Previous investment in asset data, systems and processes, such as the Asset Data Acquisition project and the use of mobile work management systems, has facilitated this work. For example we noted:

- The development of formal methodologies for the prioritisation of investment in service reservoirs and water mains;
- Improved quality and granularity of non-infrastructure asset data which will provide the basis for collecting information on proactive and reactive maintenance from the mobile works management system; and
- A comprehensive and well structured bottom up assessment of medium term investment needs for treatment works and pumping stations which used expert panels and challenge panels.

4.6.5 We welcome these developments which will provide an improved understanding of asset maintenance investment into the future. However, at this stage, the data and processes are in their initial development. Many are being applied for the first time and have not benefited from feedback as they are applied repeatedly. They lack supporting information on how the assets are deteriorating over time to confirm that any backlog identified is a true backlog rather than a steady state. As a result, we do not have sufficient evidence to accept the outcome of this work as a means of supporting a significant increase in asset maintenance investment.

5.0 Capital Investment and Efficiency

5.1. Introduction

5.1.1 This chapter gives our overall assessment of investment in capital maintenance and enhancement during PC15. It includes consideration of the out-turn of the PC13 capital programme and an assessment of available funding. Consideration is given to ensure that the level of capital maintenance investment is appropriate to ensure that existing services and serviceability is maintained. Then further investment is committed to accommodate growth, enhance services to consumers and meet new quality obligations.

5.1.2 Scrutiny is also applied to the estimate of future costs ensuring they reflect actual costs experienced by the company and scope for further efficiency is assessed with a capital efficiency applied. Scope for delivering additional outputs within the identified budget is also determined.

5.1.3 The programme of work proposed by the company is constrained by the available public expenditure budget of £990m in nominal terms. The company has concluded that it could spend £1.4bn efficiently over PC15. It has identified a further £900m would be necessary to complete all the work necessary to meet the Social & Environmental Guidance including substantial work to improve drainage in Belfast, improve water quality in Belfast Lough and meet the requirements of revised European Union directive on shellfish waters and bathing waters.

5.1.4 We agree with the company that the programme of work is constrained and further investment would deliver benefits and could be delivered efficiently. However, any future increase in expenditure needs to be well planned to allow it delivered efficiently and on the highest priority outputs. NI Water has indicated that any substantial increase in investment should be phased into the second half of PC15 and we agree with this approach. There is a clear need to signal any substantial increase in expenditure as early as possible to allow enough time to develop sustainable solutions and deliver them efficiently.

5.2. PC13 Out-turn

5.2.1 Our determination for PC13 allowed capital investment of £297.6m in 2010-11 prices to maintain serviceability and deliver a defined set of outputs and outcomes. In this section, we assess the delivery of the PC13 capital programme and describe the action we have taken to ensure that the company is adequately financed for the outputs it has delivered and that consumers do not pay twice for the same output.

5.2.2 All costs are presented in 2010-11 prices, consistent with the PC13 final determination.

5.2.3 In our final determination for PC13, we indicated that we would adjust future charges to reflect actual levels of capital inflation as measured by the

Construction Output Prices Index (COPI). Capital inflation, as measured by COPI, has been higher than we assumed in the PC13 final determination, reducing the purchasing power of the capital allowance by £7.0m. A 'notified index' adjustment, which considers changes in both COPI and RPI, has been applied to the opening RCV for PC15 to account for changes in capital inflation. This adjustment is described in Annex A.

5.2.4 There have also been changes to the outputs delivered in PC13. To determine whether the company continued to deliver value for the investment made in PC13, we assessed the changes in outputs through a process of logging up and logging down and adjusted the opening balance of the RCV at the start of PC13 accordingly. As a result, future charges to consumers will reflect the value of the outputs that have been delivered. Where an additional output is delivered, the efficient cost of delivery is logged up. Where an agreed output is not delivered, the value of the output is logged down.

5.2.5 Our assessment of logging up and logging down is presented in more detail in the technical Annex I and the outcome summarised in Table 5.1.

Table 5.1 – PC13 Logging up and logging down (2010-11 prices)

Item description	RCV adjustment (£m)
Outputs logged up	6.5
Outputs logged down	-20.1
Return on capital adjustment	-0.6
Adjustment for Change Control submission	3.0
Total RCV adjustment	-11.2
Note 1. In 2010-11 prices consistent with the 'base year' for the PC13 final determination.	

5.2.6 Our assessment is based on the company's business plan submission which was itself based on information available 18 months before the end of PC13. We have made an allowance in our assessment for more recent information provided by the company on changes to the programme. We will update this assessment for the final determination based on the latest information available at that time.

5.3. Capital budget

5.3.1 NI Water's investment plan for PC15 is based on the indicative allocation of £990m for water and sewerage services in the Executive's Investment Strategy (ISNI) for investment planning purposes. This budget is expressed in nominal terms.

5.3.2 Our assessment of the capital expenditure available for NI Water to invest in PC15 is shown on Table 5.2. We have accepted the adjustments proposed by the company in respect of PPP finances and IFRS infrastructure accounting. We have based our estimate of future income on the company's projected level of development activity and the average level of development income for the three

year period 2012-15. 30% of income from infrastructure charges has been allocated to deferred credits.

Table 5.2 - Public expenditure budget reconciliation (£m nominal)

	15-16	16-17	17-18	18-19	19-20	20-21	PC15
PE capital budget used	155.0	158.0	163.0	167.0	171.0	176.0	990.0
Alpha PPP maintenance	(1.2)	(0.5)	(1.8)	(1.3)	-1.5	(0.2)	(6.5)
Residual interest in off balance-sheet PPP	(3.6)	(3.6)	(3.7)	(3.8)	(3.9)	(4.0)	(22.7)
IFRS infrastructure renewal charge adjustment	1.0	1.1	1.1	1.1	1.1	1.1	6.5
Capital grants and contributions	5.9	6.1	6.4	6.6	6.8	7.1	39.0
Capital grants and contributions transferred to deferred credits	(0.7)	(0.8)	(0.8)	(0.8)	(0.9)	(0.9)	(4.9)
NI Water gross capital budget	156.4	160.3	164.1	168.8	172.6	179.1	1001.3

5.4. Capital inflation

5.4.1 NI Water's capital investment is constrained by public expenditure budgets which are set in nominal terms. The outputs which can be delivered will be affected by inflation which will reduce the real purchasing power of the budget. In its business plan, NI Water repeatedly highlighted the risk that capital works inflation could grow faster during the PC15 period than currently assumed as a significant risk to delivery of the PC15 outputs.

5.4.2 Historically, we have used the Construction Output Price Index for New Works (COPI) prepared by BCIS (The Building Cost Information Service of RICS) as a means of adjusting the capital programme for inflation. This followed practice established in the water industry in England & Wales in 1990 where it was considered necessary to manage the risks associated with the delivery of major capital programmes.

5.4.3 In each price control we have made an estimate of future capital inflation which has been used to determine investment in real terms. At the subsequent price control we have used COPI to assess delivery and to adjust the regulatory capital value to reflect capital inflation in the previous price control.

5.4.4 There are no projections of COPI. In its business plan submission, NI Water adopted capital inflation projections which were prepared by our consultants First Economics based on future input price inflation and productivity improvements (see Annex O for more detail). However, NI Water noted that:

"Most indicators suggest that the construction industry is recovering in Great Britain and the normal boom and bust cycle will return. Construction inflation is very volatile and the actual value of COPI may significantly exceed this projection. This is likely due to the relatively low rates for work being offered in

the market as contractors have cut overheads and margin to survive during the recession."

5.4.5 The company estimated that if capital inflation ran 1% per annum higher than currently projected this would reduce the real purchasing power of the nominal capital budget by £34m.

5.4.6 In view of this sensitivity, we have given careful consideration to the allowance for capital inflation in the business plan and the mechanisms which should be in place to manage that risk. We have concluded that divergence between the construction market in Great Britain and Northern Ireland means that continuing to use COPI to reflect capital inflation may not meet our duty to protect consumers over the PC15 period. We have provided more detail on our reasons for reaching this conclusion in Annex O.

5.4.7 For PC15 we are minded to use RPI as a reasonable projection of capital inflation for NI Water in the medium term and we intend to use RPI as a means of monitoring delivery of the capital programme.

5.4.8 We would welcome the views of stakeholders on this approach and the balance of risks between consumers and NI Water that it entails. We would welcome views on any alternative approaches which both address the issues we have raised and provide a more robust mechanism for managing the risks of capital inflation including:

a. The use of a frontier shift estimate of inflation as set out in Annex O;

b. The continued use of COPI to adjust for capital inflation; and

c. The use of COPI subject to a predetermined adjustment for PC15 based on projections of movement in tender prices for Northern Ireland relative to national averages.

5.5. Capital maintenance investment

NI Water's proposals for capital maintenance investment in PC15 are summarised in Table 5.3, reproduced from the company's business plan.

Table 5.3 - NI Water's summary of capital maintenance expenditure (£m 2012-13 prices)

	PC10 Annual Average	PC13 Annual Average	PC15 Annual Average Unconstrained	PC15 Annual Average Constrained
Water infrastructure	18.4	20.6	21.6	14.2
Water non-infrastructure	15.4	12.7	32.2	21.2
Wastewater infrastructure	11.5	9.1	16.0	10.5
Wastewater non-infrastructure	30.9	27.8	52.3	34.4
Management & general	-	-	included	included
Total	76.2	70.2	122.1	80.3

5.5.1 In its assessment of the investment needed to maintain the service, the company has concluded that an increase in investment of 74% from PC13 levels is necessary (the unconstrained case). This scale of increase would have a significant impact on the long term cost of water services. It would have an immediate impact on costs to customers and taxpayers with an increase in maintenance costs transferring direct to revenue. This estimated unconstrained maintenance budget would use 87% of the indicative capital budget. Once investment to meet growth was considered, there would be no room for improvements to water quality, the environment or consumer service.

5.5.2 With this in mind, NI Water has proposed a constrained budget of £80.3m in 2012-13 prices. The company has emphasised the risk that this places on serviceability and the potential that expenditure will have to increase even further in the future to address a backlog. The company has proposed that the any mid-term review should include a review of capital maintenance investment in the light of improved asset information and serviceability trends.

5.5.3 In Section 4.0, we noted the significant improvements in the quality of the data being used and the quality of the assessment being undertaken to inform NI Water's assessment of capital maintenance investment need. However, we concluded that they do not provide sufficient evidence to support a significant increase in asset maintenance investment. In view of this, we adopted the following approach to determining capital maintenance investment in the absence of a strong case to support the level of increased investment identified by the company:

a. We reviewed recent trends in serviceability and concluded that serviceability is stable which indicates that capital maintenance investment in the recent past has been adequate;

b. We reviewed recent trends in capital maintenance investment and concluded that investment from 2007-08 has averaged £80m in 2012-13 prices (excluding backlog base maintenance in the SBP period);

c. We completed an econometric assessment of capital maintenance investment, expanding the range of techniques employed to allow us to triangulate to a reasonable determination. We concluded that a reasonable allowance for capital maintenance investment in 2012-13 prices is £80m; and

d. We have applied an on-going efficiency adjustment over the PC15 period of 0.6% from a base year of 2012-13.

5.5.4 Detailed information on the econometric modelling is included in Annex J. The overall analysis and our conclusions are described in Annex K. We have concluded that an average annual investment in capital maintenance of £77.4m would be adequate to maintain services and serviceability over the PC15 period.

5.5.5 We have set out the need for the company to develop its plan to close gaps identified in its asset maintenance planning capability. In preparing this plan, the company should consider the timing to the mid-term review and programme its activities to provide the information necessary to support any proposed change in asset maintenance investment.

5.6. Assessment of the capital investment programme

5.6.1 We have taken a number of steps to satisfy ourselves that the programme of work is reasonably costed:

a. We commissioned an audit by the Reporter which covered a range of estimates across the programme. The Reporter did not identify any material issues in the way the programme was costed. The Reporter did raise concerns about the level of risk, and / or optimism bias applied to estimates, particularly those where there is still significant uncertainty in the solution. At times the Reporter was able to provide confirmation that the unit costs of NI Water were as good as or lower than those experienced in the GB water industry;

b. We asked the Reporter to confirm that the cost estimates were consistent with the Cost Base. This provides us with confidence that any Cost Base efficiency adjustment is relevant to the investment programme; and

c. We have reviewed the costs proposed by the company against historical run-rates of expenditure and high level unit costs seen in the delivery of PC10 and PC13 to provide top-down confirmation that the overall cost is reasonable.

5.6.2 As an additional challenge on the company's cost estimates we asked a cost consultant to prepare a business plan level estimate for 4 schemes included in

the company's business plan. These estimates were prepared using a database of costs from across the water industry in England & Wales and reflect the average out-turn cost of work in England & Wales. The average out-turn cost of these schemes was 12% less than those proposed by NI Water's costs adjusted for regional price differences. While we do not given significant weight to a comparison based on a small sample of schemes we take comfort that:

a. The analysis suggests that the cost proposed by NI Water are reflective of costs in the wider industry; and

b. The variance on this small sample is similar to the Cost Base efficiency challenge derived by comparing standard costs from NI Water with standard costs in England & Wales.

5.6.3 Overall, we concluded that the business plan costs are a reasonable reflection the company's costs at the base year expect where there remains substantive uncertainty on the scope of the works.

5.6.4 At this stage, we have only made one scope adjustment to the programme. We have not included a further £3.6m increase in capitalised salaries and on-costs requested by the company over PC15. The Cost Base efficiency assessment takes account of the level of capitalised salaries and on-costs included in the capital programme. Any increase in capitalised salaries and on-costs would erode efficiency.

5.6.5 There are a number of major schemes where we either have reservations about the benefits of the investment or have insufficient information to assess the scope and costs of the projects. These include the clear water tank projects, the Carmoney trunk main, the Dungannon WWTW, and the new start UID programme. We will continue to engage with the company on these and other schemes.

5.6.6 The consultation period provides an opportunity for stakeholders to provide further feedback on the balance of the investment programme and the value of proposed outputs in light of the company's costed investment plan. We will continue to review the scope and cost of projects, taking account of representations from the company and other stakeholders, before we reach our final determination.

5.7. Capital efficiency targets

5.7.1 Capital efficiency targets have been derived through a triangulation process (see Annex L) against a separate report on Capital Procurement Efficiencies from our Reporter and this report is published at Annex N.

5.7.2 Our cost base analyses were further informed upon a Regional Price Adjustment (RPA) which can be found at Annex M. This updates the Utility Regulator's views on the overall regional cost relativity enjoyed by NI Water and is an essential part of our comparative analysis to ensure like-for-like comparison of standard capital unit costs against the England and Wales industry.

Cost base analyses

5.7.3 The results of our cost base analysis are outlined below. The PC10 cost base results as published in the PC10 final determination have also been included for comparison. It should be noted that there are some small differences in the data and assumptions used between the two price controls however.

5.7.4 The results of our cost base analysis are outlined below, including the principle scenarios which informed our triangulation of our eventual preferred catch-up target.

Table 5.4 – Results of PC15 Cost Base – Efficiency challenge

Service Area	*Efficiency Challenge at PC10*	PC15 Scenario			
		A	B	C	D
		Base Approach	E&W benchmark -10%	Asymmetric Approach	Upper Decile (10th percentile)
Water Infrastructure	*14.5%*	7.7%	11.2%	8.2%	16.9%
Water Non-Infrastructure	*11.2%*	16.8%	19.9%	17.5%	24.9%
Sewerage Infrastructure	*12.9%*	-14.6%	-9.9%	1.8%	-5.4%
Sewerage Non-Infrastructure	*11.4%*	9.9%	13.4%	9.9%	18.9%
Weighted Average	***12.5%***	**5.4%**	**9.1%**	**9.1%**	**14.3%**

5.7.6 Under **Scenario A**, our base case approach, the total scope for catch-up at PC15 is assessed to be 7.2%; however this is reduced to 5.4% when a 75% catch-up rate is applied. The notable minus efficiency figure for sewerage infrastructure (-14.6%) in Scenario A shows that NI Water are substantially more efficient than the upper quartile benchmark costs in England and Wales in this area.

5.7.7 For **Scenario B**, which assumes a 10% reduction in unit costs from PR09, it shows that while NI Water has made commendable improvement in the cost of its capital works, there is still a 9.1% cost reduction required to close 75% of the gap to the upper quartile. NI Water has become noticeably efficient on the sewerage infrastructure service area; however there is still some expectation for further cost reductions in water costs and sewerage non-infrastructure.

5.7.8 When we adopt the PR04 Ofwat approach of implementing an asymmetrical efficiency approach to PC15, it can be seen that while this negates NI Water's good performance on sewerage infrastructure (the -14.6% under Scenario A), there remains significant scope to improve unit costs across all other capital works.

5.7.9 The 75% catch-up reduction percentage for **Scenario C** to 9.1% illustrates that although NI Water has improved its unit rates for capital projects significantly from PC10, there is still scope for the company to deliver efficiencies across all service areas. This result is dependent upon an asymmetrical approach to efficiencies where NI Water efficiencies i.e. negative cost differences are ignored and only company inefficiencies included within the overall catch-up target of 9.1%.

5.7.10 **Scenario D** by contrast, assumes NI Water should be closing the gap to the 10th percentile, as opposed to the upper quartile benchmark. This shows NI Water would face an overall reduction of 14.3% to its enhancement budget. This approach however, may not be realistic given it results in a higher capital cost reduction in percentage terms than that which was applied at PC10. More detail is provided in Annex J.

Capital procurement efficiencies

5.7.11 We directed the Reporter to undertake a Review of Capital Procurement Strategies and Efficiency Comparisons which was shared with the company in the course of its compilation to a final draft in May 2014. A public domain version was then drafted for inclusion under our draft determination as Annex N.

5.7.12 The report considered procurement best practice internationally across public and private sectors, including best practice procurement within the England and Wales comparator set of water companies. The report's focus is efficiencies rather than scope savings so that the latter, if imposed, would further reduce the cost of whatever procurement strategy is employed.

5.7.13 Whilst the report explicitly considered the various governance arrangements which are in place over NI Water:

"Intrinsic institutional and financial differences (amongst others) between NI Water and [its comparators] in the privatised water companies which cannot be addressed through regulatory levers alone"

The Reporter concluded that:
*"Nevertheless, there are evidently a number of **keener business practices** [UR boldface] that NI Water could and should adopt which would allow it to close the efficiency gap and converge on the levels of capital efficiency of its privatised counterparts."*

5.7.14 The report goes on to estimate the extent of the efficiencies which might be obtainable from application of such procurement practices. These begin at 10% efficiencies applicable to PC15 using an incentivised Client / Consultant Model, which with the full benefit of Longer Term Planning and Early Supply Chain Involvement could produce 13% efficiency in the longer term.

5.7.15 Using alternatively the Project Joint Venture Model and capturing the longer term benefits the efficiency could rise to 14% in the longer term or alternatively using the Programme Joint Venture Model the efficiency could be as high as 15% in the longer term.

5.7.16 The key conclusion we take from the Reporter's report is that whilst differences occur between NI Water and its comparators, with the application of "keener business practices" the company can release at least 10% capital efficiencies during PC15.

Catch-up efficiencies

5.7.17 In establishing the appropriate efficiency target for capital enhancement in PC15, the UR has considered that for the draft determination a 9.1% efficiency target on capital enhancement expenditure is appropriate given NI Water's relative position with regards to capital works as outlined in Table 5.5.

5.7.18 Scenarios B and C support 9.1% which is based on a higher assumption of 10% productivity improvement from PR09 to date and an asymmetrical application of our base case approach respectively. Whilst both approaches may arguably pose a challenge for the company, both approaches are encompassed by our independent Reporter examination of potential for procurement efficiencies which ranges from 10% to 15% across PC15.

5.7.19 Whilst we have triangulated on a 9.1% target it should be noted that this allows a fair degree of latitude as it represents closing 75% of the gap to the upper quartile (not the top decile) in the first year of PC15 as opposed to 100% catch-up. The latter would mean a higher 12.1% target. This remains within the range of procurement efficiencies as advised by our independent Reporter.

Frontier shift

5.7.20 In addition a continuing efficiency assumption of 0.6% per annum capital productivity has been applied as a result analysis of capital frontier shift applying to the water industry, see Annex O.

Conclusion

5.7.21 Whilst our catch-up efficiency of 9.1% applies in full in year 1 of PC15 to capital enhancement expenditure only, due to the nature of our analyses of capital maintenance requirement, our 0.6% per annum continuing efficiency has been applied to both capital maintenance and capital enhancement across PC15.

5.7.22 Our capital maintenance econometric modelling[2] uses NI Water explanatory data as an input to equations which predict the quantum of capital maintenance requirement at the average and then upper quartile efficient spend for the whole industry. Having estimated NI Water's capital maintenance requirement at frontier performance it would be double counting to apply a further efficiency discount. That said, we envisage further capital productivity improvement over time and have therefore applied our 0.6% per annum assumption.

5.7.23 The cumulative efficiency profile applied to capital enhancement follows:

[2] Full details of our analysis of capital maintenance prediction using econometric techniques can be found at Annex J.

Table 5.5 – Utility Regulator's capital enhancement efficiency targets for PC15

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Catch-up Reduction – Annual Profile (%)	9.1%	-	-	-	-	-
Catch-up Reduction – Cumulative Profile (%)	9.1%	9.1%	9.1%	9.1%	9.1%	9.1%
Productivity Assumption – Annual Profile (%)	0.6%	0.6%	0.6%	0.6%	0.6%	0.6%
Productivity Assumption– Cumulative Profile (%)	0.6%	1.2%	1.8%	2.4%	3.0%	3.5%
DD Cumulative Capital Enhancement Efficiency Profile (%)	9.6%	10.2%	10.7%	11.3%	11.8%	12.3%

5.7.24 This works out on average across PC15 to be around 10.9% of the pre-efficiency enhancement expenditure programme. According to our calculations, NI Water assumed around 2.5% of capital efficiencies for the total six-year capital enhancement programme.

5.8. Scope for additional outputs

5.8.1 Within a fixed nominal budget any adjustment to the capital programme will impact on the outputs which can be delivered.

5.8.2 In our determination of the capital programme we have made a number of adjustments which increases the scope of additional outputs which can be delivered as follows:

- We have amended the assumptions for capital inflation to align with RPI from 2012-13.
- We have made an adjustment for additional income;
- We have determined a lower level of capital maintenance compared to the company in real terms, freeing investment for additional outputs;
- We have applied a Cost Base efficiency factor of 9.1% to the pre-efficiency enhancement expenditure in the company's plan; and
- We have made a specific adjustment to the programme in respect of capitalised salary and on-costs funding.

5.8.3 The impact of these adjustments on the enhancement investment available to deliver additional outputs is shown on Table 5.6.

Table 5.6 – Scope for additional outputs (£m)

	2012-13 prices	nominal
Reduction in outputs due to inflation adjustment	-7.5	-5.3
Adjustment for additional income	2.1	2.5
Adjustment for UR capital maintenance assessment	16.6	21.4
Additional output fund from efficiency	30.5	36.4
Then add capital maintenance adjustment	3.6	4.3
Total	45.2	59.4

6.0 Operational Costs and Efficiency

6.1.1 Chapter 6 sets out our approach to assessing the scope for additional operational costs and efficiency. This includes how we have established a baseline, assessed adjustments to the baseline, special factors, the operational efficiency gap and proposed efficiency target.

6.2. Background

6.2.1 Each price control ensures that consumers receive value for money. This is achieved through setting a challenging and achievable determination of the future revenues and charges necessary to deliver a defined set of outputs.

6.2.2 PC15 is our third price control which follows two shorter duration price controls, PC10 and PC13. Both price controls delivered improvements in service and greater efficiency resulting in lower costs and bills for non-domestic consumers.

6.2.3 It is important to emphasise that by 'efficiency' we mean delivery of the same (or better) levels of service for less money. Efficiencies, by definition, cannot result in lower levels of service.

6.3. Scope for operating cost efficiency

6.3.1 In determining the efficiency challenge, we undertake a number of steps to ensure it is appropriate going forward. These include:

- Establish NI Water's **baseline opex**;
- Adjust for **additions / (reductions)** to base costs;
- Determine transformation costs, including plans for Business Improvement (BI) and Voluntary Early Retirement / Voluntary Severance (VER/VS);
- Assess **opex from capex** requirements;
- Determine allowances for special factors and atypical expenditure;
- Ascertain the relative **efficiency gap** between NI Water and the **benchmark** company;
- Make assumptions on the **frontier shift**;
- Consider how public private partnerships / private finance initiative (PPP / PFI) costs should be treated;
- Review NI Water proposals; and
- Set efficiency targets.

6.4. Establishing baseline opex

6.4.1 Baseline expenditure is an assessment of the 'true' opex cost of providing water and sewage services in the base year. For PC15 the base year is 2012-13. The baseline cost will be the amount against which efficiency targets are set.

6.4.2 In order to establish a baseline, a number of adjustments must be made. For instance, PPP / PFI costs must be removed as these are not subject to the same level of efficiency challenge. Once an efficient allowance for PPP / PFI is determined elsewhere in our analyses we add an allowance for PPP / PFI back into the opex total.

6.4.3 Atypical costs should be accounted for separately and excluded from baseline opex as they are non-recurring in nature.

6.4.4 As announced in PC13, we do not treat business improvement (BI) costs as atypical anymore. These are recurring annual costs based on a management decision, so do not merit atypical status going forward. This means that BI costs are included in the gap analysis and subject to future efficiency targets.

6.4.5 VER/VS costs are much more sporadic and changeable in nature. The profile of the PC15 claim is good evidence of this. Consequently, these costs are still excluded from the baseline and any efficiency challenge.

6.4.6 The company's baseline and that adopted by us is set out in the table below.

Table 6.1 – Claimed versus allowed baseline costs (2012-13 prices)

	NI Water Approach	Regulator Allowed
Total opex in 2012-13	£191.71m	£191.71m
Less all PPP costs	£47.71m	£47.71m
Less BIP[3]	£0.00m	£0.00m
Less VER/VS	£3.43m	£3.43m
Less atypical costs	-£1.60m	-£1.60m
Baseline Cost	**£142.16m[4]**	**£142.16m**

Figures may not sum due to rounding

6.4.7 The baseline refers to the 2012-13 year, but PC15 does not begin until 2015-16. For the interim period, the company's opex claim is greater than that allowed in the PC13 final determination.

6.4.8 We see no reason to carry opex into PC15 beyond that allowed at PC13. To account for this we have allowed the additional opex that is considered

[3] Business improvement costs are no longer treated as atypical. These ongoing costs are now incorporated into the baseline figure.
[4] Whilst this figure forms the NI Water baseline, they exclude business activity costs from catch-up efficiency targets.

appropriate. We have then amended the efficiency level to ensure that the opex in 2014-15 aligns with our PC13 allowances. This results in a £2.6m reduction on the business plan claim.

6.5. Additions (reductions) to base operational expenditure

6.5.1 We have considered claims for new opex arising out of changes to the operating environment. For instance, these changes might include requirements to meet new legal standards or improve drinking water and / or treatment standards.

6.5.2 We also requested information on additions and any opex reductions. These reflect changes to baseline costs not due to efficiency changes. The table below details the amounts claimed and the proposed allowance.

6.5.3 In determining whether or not to allow additional opex, we apply the two regulatory tests as adopted at PC10:

- Newness – is the expenditure related to any new obligation or specified improvement in service levels e.g. new compliance standards; and
- Exogeneity – does NI Water face an exogenous (i.e. outside its management control) increase in costs in relation to current activities e.g. new tax levy etc?

Table 6.2 – PC15 claimed versus allowed additional costs (2012-13 prices)

Additional Opex by Area	NI Water Claim	Regulator Allowance	Allowance (%)
Insurance costs (employer & public liability)	£5.12m	£2.36m	46%
Communications	£0.45m	£0	0%
National Insurance contributions	£5m	£5m	100%
Carbon Reduction Commitment scheme	£3.30	£0	0%
Capitalisation	(£6.68m)	(£4.03m)	60%
Additional resourcing requirement	£2.64m	£0	0%
Rates	£63.78m	£63.78m	100%
Pension	£1.81m	£1.81m	100%
Consultancy Support	£0.71m	£0.57m	80%
Total Additional Opex	**£76.14m**	**£69.49m**	**91%**

Figures may not sum due to rounding

6.5.4 Consideration is further given as to whether the cost category has been taken account of elsewhere. For instance, no allowance would be necessary if the cost is accounted for in either the efficiency analysis or the frontier shift.

6.5.5 The table below details the rationale behind the proposed determinations.

Table 6.3 – Rationale for additional opex allowances

Additional opex claimed by NI Water	Criteria Met	Comment
Insurance costs (employer & public liability)	Partially	It is accepted that these claims will occur, so a level of provision must be made. The base year figure does appear abnormally low, so an uplift is merited. The partial allowance reflects the average run-rate of the last five years. 2007-08 has been excluded, as the figure appears to be an outlier.
Communications	No	Communications are neither a new nor an exogenous cost category. The company is already adequately funded for these activities.
National Insurance contributions	Yes	Changes to the contracting out pension arrangements will mean employers losing the National Insurance discounts they currently enjoy. Estimates support the scale of the proposed cost increase.
Carbon Reduction Commitment (CRC) scheme	No	Our Real Price Effects include forecast power price increases from DECC. These forecasts are uplifted by taxes and fuel duties and include announced future changes. Whilst it is unconfirmed if the CRC price rise is included in the 2013 forecasts, these should be updated for the final determination. Funding this part of claimed additional opex would amount to double funding.
Capitalisation	Partially	Partial allowance reflects a lower level of new salaries being capitalised. The UR does not consider additional staff to be required.
Additional resourcing requirement	No	Not a new or exogenous cost. The company is already funded to undertake these activities.
Rates	Yes	NI Water is undergoing rates revaluation through Land & Property Services (Dept of Finance & Personnel) or 'LPS' which is estimated to raise the company's water network related rates charge by an additional £10.6m per annum. We have engaged extensively with both the company and LPS so that we anticipate the new 2015-16 rates bill to become a fixed or known amount by the time of our final determination. Sewerage rates are also subject to change from a non-domestic revaluation. This adjustment to rates bill is impossible to forecast with any accuracy into PC15 since it is subject to a detailed 'bottom-up' analysis of NI Water's above ground asset network. Any eventual and further increase during the lifetime of PC15 can be subject to a Relevant Items bid by the company under the normal auspices of the Consequent Written Agreement. Whilst the above ensures consumers avoid having to pay up front for cost that have not as yet materialised, we are also minded to treat any bid under a Relevant Item as ring-fenced for the purposes of rates only. Subsequent over-funding of the water rates, based on our fixed estimate at final determination, will need to be used to off-set any eventual increase in the sewerage rates bill. We considered whether any of the new Ofwat-style uncertainty mechanisms would need to apply to NI Water's additional rates bill to the extent we must incentivise NI Water to minimise its rates bill on behalf of consumers. Ofwat's new regulatory framework is based around their setting expenditure allowances for companies at the frontier or most efficient performance.

		By contrast, we set NI Water's baseline, include various additions / reductions over the PC15 period, and then levy an efficiency discount to encourage NI Water to become more efficient over time. By close of PC15, the cumulative discount on all NI Water's opex, from catch-up efficiencies and frontier shift, is just over 20% so that for every £1 extra of water rates allowed at PC15, by year 6 NI Water will receive only 81 pence of funding. On this basis, we consider our efficiency discount a more than sufficient incentive for NI Water to manage both its estate and rates bill in the interests of consumers.
Pension	Yes	Full allowance for the draft determinations based on updated actuarial assessment.
Consultancy Support	Partially	NI Water's claim included additional consultancy support for both the potential mid-year review around the middle of the PC15 period, as well as the bulk of their claim in the years leading to our next price control or PC21. We have included the latter due to there being little evidence of a similar consultancy support within the 2012-13 baseline that applies across PC15. We are not convinced of the requirement for similar operational consultancy support for any mid-year review in PC15 since such activities will be focused upon the delivery of more informed business cases to justify further and / or additional capital investment through the latter half of PC15.

6.6. Transformation costs

6.6.1 Since 2007-08, NI Water has been allowed transformation costs. BI projects and VER/VS were both funded across previous price controls with no efficiencies applied.

6.6.2 The funding was granted in recognition that significant change was required to modernise the company. It was also provided to help reduce the sizeable efficiency gap, which stood at 49% in PC10.

6.6.3 NI Water was allowed funds in PC10 to fund BI and VER/VS in recognition of the significant transformation it proposed itself. This was expected to deliver reduced head count, improved efficiency and therefore close the gap with its peers in England, Wales and Scotland.

6.6.4 Actual spend has been confirmed by NI Water in their PC15 Business Plan as supporting an overall under spend across PC10 and PC13 of £26m.

6.6.5 NI Water therefore contends there is scope for future public expenditure bids to fund BI and VER/VS up to £26m. After this point is reached, any new BI or VER/VS bids would be wholly new from the consumer (and taxpayers) viewpoint. The UR might then consider an allowance that would not have previously been funded by consumers (and taxpayers).

6.6.6 The significant level of VER/VS funding was passed onto all customers in charges, non-domestic consumers via bills and domestic consumers via the government subsidy. The substantial in year under spend of funding was handed back to government and therefore the taxpayer was credited.

6.6.7 To ensure the non-domestic customer was not charged twice we proposed in PC13 that any additional funding sought by NI Water for the PC13 period should be funded through outperformance or if necessary through PE funding.

6.6.8 We sought additional support from stakeholders towards funding NI Water's future transformation through VER/VS and BI activities. We supported the company in taking forward its proposals for same through the normal PE processes of business case submissions to the relevant funding bodies.

6.6.9 At PC13 the DFP wrote to DRD indicating they were keen to support and willing to look favourably on VER/VS schemes and BI or 'invest to save' proposals. This assumes business cases submitted to the proportionate level of detail and quality for approval. We would hope DFP will maintain its position on such matters, subject to PE funding constraints.

6.6.10 We would hope any such approvals would be supported by robust business cases. These should include analysis of costs and benefits as well as defined targets for future staff levels to mitigate against the risk that overall headcount reduction is offset by the creation of entirely new posts.

6.6.11 Given the preceding, we remain committed to ensuring consumers are not charged twice for business transformation. We previously announced in PC13 our intention to treat such costs as Business as Usual or 'BAU' in future price controls rather than as atypical costs.

6.6.12 NI Water whilst incorporating most of its BI costs into their baseline opex then excluded BI from its own efficiency gap analysis. We have included within both baseline and modelled opex for the purposes of determining NI Water's efficiency gap.

6.6.13 As regards VER/VS, NI Water has included high-level costs in their opex submission whilst stating they have excluded such monies from their revenue recoverable from customers. This ensures consumers avoid paying twice.

6.6.14 Whilst different from the PC13 approach where (i) all VER costs were disallowed from NI Water's eventual opex allowance with (ii) the UR supporting in principal, applications to DRD to separately fund such schemes, the matter here is now largely one of presentation.

6.6.15 Whilst excluded from revenue, we remain supportive of NI Water continuing to improve its business and reduce its staffing numbers through VER/VS to further close the efficiency gap.

6.6.16 We do not support the PC15 claim for extra BI funding, either in revenue or PE terms. The company already has a funded staff complement for such projects so that its claim for additional BI staff is therefore not supported at the present time.

6.6.17 The PC15 costs claimed and the proposed revenue allowance is set out in the table below.

Table 6.4 – PC15 claimed versus allowed transformation costs (2012-13 prices)

	NI Water Claim[5]	Regulator Allowance
Business Improvement	£1.80m	£0
VER/VS	£6.60m	£0
Total Transformation Costs	**£8.40m**	**£0**

6.7. Opex from capex

6.7.1 This reflects new expenditure arising from the capital programme. Besides additional obligations and transformation costs, baseline opex will be impacted by capex spend.

As in previous price controls this can either have a positive or negative effect. Opex could increase as a result of more power consumption associated with better treatment. Alternatively, costs could fall as a capex solution may reduce the manpower requirement.

6.7.2 NI Water's claim and the proposed allowances are provided below.

Table 6.5 – PC13 claimed versus allowed opex from capex costs (2012-13 prices)

	NI Water Claim	Regulator Allowance
Opex from Capex Costs	£15.28m	£13.27m

6.7.3 The opex from capex proposed by NI Water appears reasonable. As a proportion of capital spending, their opex from capex remains in line with historic performance in England and Wales. The reduced allowance is based on our analysis of individual capital project costs.

6.8. Special factors

6.8.1 A special factor is a variable outside of management control, which results in either higher or lower costs than comparators. The company has the opportunity to make a case for such items in the business plan.

6.8.2 These adjustments do not represent additional allowed opex. They are however reflected in the relative efficiency modelling. Overall our special factors analyses means a smaller efficiency gap than would otherwise be the case had we ignored all of NI Water specific cost differences.

[5] NI Water's PC15 claim refers to PE expenditure rather than any revenue which would impact on customer tariffs.

6.8.3 For the purpose of establishing the efficiency gap, the UR must determine on these costs. Given the materiality of accepting or rejecting NI Water's special factors claim across a 6-year regulatory period, we invited the company to submit a draft claim at the end of 2013.

6.8.4 We provided NI Water with feedback on a 'comprehensibility' test basis and their subsequent claim was reworked prior to submission along with the PC15 Business Plan.

6.8.5 Compared to the £10.94 million special factor claimed by NI Water, the Regulator has allowed 47%. This materially reduces the estimate of the 2012-13 efficiency gap from what it might otherwise be without any account for company special factors.

Table 6.6 – Claimed versus allowed special factors (2012-13 prices)

Special Factor Claim	NI Water Claimed	UR Allowed	Proposed %
Rural Network (Sewage)	£4.02m	£2.81m	70%
Sludge Disposal	£0.69m	£0.00m	nil
Electricity Prices	£5.30m	£4.73m	89%
Regional Wages	(£1.20m)	(£2.38m)	198%
NDPB Status	£1.03m	£0.00m	nil
Sewerage Network Under-Investment	£1.09m	£0.00m	nil
Total Special Factor	**£10.94m**	**£5.16m**	**47%**

Figures may not sum due to rounding

6.8.6 Based on the information provided, the Utility Regulator has determined a partial allowance of £5.16m. The rationale behind the allowance for each factor is summarised below.

6.8.7 **Rural Network (Sewage)** – NI Water claimed extra cost incurred on the sewer network because of having a dispersed population. This consists of higher travel costs, more small treatment works and additional wastewater pumping stations.

6.8.8 For the purpose of the draft determination, the UR has accepted that a 'bottom-up' adjustment is required and revised NI Water's estimates towards what we believe are more reasonable estimates.

6.8.9 Further modelling work may lead to a further refinement of the special factor allowance at the final determination, especially given our concern regarding the extent to which these costs may already be captured in the sewer network model.

6.8.10 **Sludge disposal** – NI Water has claimed a special factor for the cost of sludge disposal. NI Water has a legal obligation to transport sludge to PPP operators

for incineration which the company contends is different to their England and Wales comparators, who have the flexibility over their choice of disposal method.

6.8.11 The company is contractually obligated to convert wastewater to sludge cake for incineration by a PPP. The company claim this legal restriction results in additional opex, which it cannot avoid. The Reporter has further confirmed that,

"Having adopted this thermal destruction strategy it is not practical for NI Water to now change this or apply a different strategy."

6.8.12 The Reporter has looked at the hypothetical scenario described by NI Water and estimated the savings could be less then £0.3m. Since this falls well below our 1% service level opex materiality threshold the Regulator has disallowed this special factor claim.

6.8.13 **Electricity prices** – NI Water has argued for a special factor due to higher power prices in Northern Ireland compared to their England and Wales comparators. NI Water cited the limited amount of supplier competition and tariff structures as some of the reasons behind the difference locally.

6.8.14 The UR accepts that an industrial electricity price difference exists as borne out by its own Quarterly Transparency Report (QTR). We have calculated a weighted price difference using the different connection types quoted within the QTR. We then applied our most up to date view on the inefficiency factor to produce a special factor allowance similar to NI Water's own claim.

6.8.15 **Regional wages** - The company has provided their assessment of the advantage they gain from operating in a low wage economy and this results in an agreement between us that some quantum of negative special factor should apply.

6.8.16 The UR has used the latest ASHE[6] provisional data which can be fixed by the final determination and included BI costs in its estimation of the special factor allowance (now included within modelled opex and not treated as atypical anymore).

6.8.17 **NDPB status** – Due to a lack of domestic charging, NI Water is classified as a non-departmental public body. This results in certain costs, which other utilities would not have to face e.g. procurement rules and approaches, public sector reporting, Assembly Questions and Freedom of Information requests, for example.

6.8.18 In principle, the UR is of the opinion that a special factor exists. It was recognised in PC13 that the structure would mean extra opex (then valued at 12 FTEs). NI Water's PC15 claim is based around a higher estimate of additional resourcing and costs form 20 FTEs.

[6] The Annual Survey of Hours and Earnings (ASHE) is a national statistic of levels, distribution and make-up of earnings and hours worked for UK employees by sex and full-time/part-time status in all industries and occupations. The ASHE is published by the Office of National Statistics.

6.8.19 The UR is also aware of various offsetting factors which need to be included in a fair estimation of the additional cost. These include the potential costs incurred by comparator companies i.e. guaranteed, enhanced and customer charter service standard payments to customers, and other costs which NI Water avoids i.e. a reduced consumer billing contacts from the continued absence of domestic charging.

6.8.20 Given such offsetting factors to NI Water's valuation and the uncertainty around the quantum of avoided costs, the Regulator has made no allowance. This is based on the view that the claim, whilst valid, falls below the materiality threshold.

6.8.21 **Sewerage funding** – NI Water has argued that the legacy of under-investment in small diameter sewers over the last 15-20 years has resulted in a poorer performing network. Therefore, the company contends it has to incur higher opex to mitigate against such impacts and has provided a number of performance metrics as evidence of a disparity between England and Wales comparators and themselves.

6.8.22 The company has demonstrated a clear gap in the number of network issues, a fact accepted by the UR. However, NI Water has failed to provide any financial data linking this with a lack of capital investment.

6.8.23 It is not clear whether capital budgets were restricted compared to England and Wales or the extent any such restriction might have been mitigated by more efficient capital spending (which is within the control of Water Service / NI Water managers).

6.8.24 Given the absence of any financial data supporting NI Water's position the UR cannot assume that a special factor for legacy investment is certain. No allowance has therefore been made.

6.8.25 Full details and discussion of the special factors is provided in Annex P.

6.9. Relative efficiency gap and catch-up

6.9.1 The catch-up targets and scope for improvement for NI Water are determined by the size of this gap. We also consider what has been achieved by companies in other utilities as well as the extent to which NI Water has closed its efficiency gap from 2007.

Current gap

6.9.2 NI Water has steadily improved its opex performance since the inception of the company. The efficiency gap has fallen from the 49% (2007-08) in PC10 to 38% (2010-11) in PC13 and 23% (2012-13) in the current PC15 price control.

6.9.3 It is important to recognise such reductions in opex have been achieved at the same time as increasing levels of service for consumers.

6.9.4 After taking special factors, atypical costs and alternative efficiency modelling[7] into account to inform our triangulation of the opex efficiency target, the UR assesses the PC15 gap to be 23% in the 2012-13 base year[8].

6.9.5 Under this analysis NI Water has moved from being a band E[9] performing company to a band C company. That said, there remains scope for further reductions in operational spend if NI Water is to improve its efficiency band.

6.9.6 In money terms this means that in 2007-08 NI Water spent £1.96 for every £1 spent by the benchmark company. The 2012-13 gap equates to a £1.30 operational spend for every £1 spent by its peers.

Draft determination

6.9.7 Our draft determination sets a catch-up efficiency rate of 2.9% per annum which offers NI Water a robust and reasonable challenge in the interests of consumers (and taxpayers). The challenge compares favourably to similar efficiency targets which applied to many of the England and Wales companies once they had moved close to frontier performance as a result of successive Ofwat price controls.

6.9.8 Our 2.9% per annum catch-up now resides outside the bounds of our 5% to 7.5% per annum range as advised by our consultants (LECG and NERA) at PC10[10]. The lowering of our efficiency target whilst recognising the company's success in moving to become a band C company, perhaps understates the challenge which lies ahead for NI Water after eight years of economic regulation.

6.9.9 The overall catch-up rate over the eight years from 2012-13 has been set at 80%. The equivalent catch-up assumption used under PC10 was 60% over five years, the same as used by Ofwat when setting efficiency targets for the private water companies in England and Wales. In PC13 the equivalent catch-up rate we adopted was 62.5% over five years. Other regulators such as the WICS have by contrast chosen different catch-up rate assumptions of 80% over just four years, with the ORR adopting a two-thirds catch-up rate across five years.

6.9.10 In PC10 and PC13, the UR followed Ofwat precedent quite closely, amending for the length of the control period.

6.9.11 On a geometric basis, an Ofwat precedent of 60% catch-up rate over five years equates to a 16.7% per annum closure. Extrapolated over eight years, this is equivalent to a 77% catch-up rate.

6.9.12 NI Water has chosen a catch-up of 75% over the eight years form 2012-13 in their PC15 Business Plan. This is a reasonable figure to assume. For the draft

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[7] Extensive analyses of a number of alternative modelling approaches supports the continued use of our the relative efficiency analysis used in both PC10 and PC13 determinations and can be found at Annex Q.
[8] Full details on the calculation of the efficiency gap can be found in Annex R.
[9] Ofwat used to compare companies relative efficiency using Band A to E, corresponding to 'most efficient' to 'least efficient' respectively.
[10] http://www.uregni.gov.uk/publications/final_determination_annexes_contents_page, see Annex F.

determination, the UR has increased the challenge slightly to 80%. This is in with both Ofwat precedent and our adopted approach in PC10 and PC13.

6.9.13 Having assessed the gap at 23.2%, an 80% catch-up generates an efficiency target of 18.6%.

6.9.14 A critical success factor for NI Water is for the company to reduce its operational expenditure within its PE funding envelope. NI Water's PE budget and its operational expenditure should reflect what is therefore achievable.

6.9.15 Given the material addition to NI Water's rates bill as a result of business rates revaluation by LPS, the net efficiency challenge NI Water faces at PC15 is 2.9% with a 5% reduction from claimed opex, saving consumers £56 million across PC15.

6.9.16 NI Water's efficiency target in PC15 must be delivered alongside the organisation absorbing an additional business rates bill totalling £64 million extra over the same six-year period.

Table 6.7 – Claimed versus allowed special factors (2012-13 prices)

Special Factor Claim	PC10 (3 yrs)	PC13 (2 yrs)	PC15 (6 yrs)
Efficiency gap	49%	38%	23%
Catch-up efficiency rate	7.2%	5.0%	2.9%

6.10. Frontier shift assumptions

6.10.1 This includes consideration of our productivity assumption and real price effects (RPE) which an efficient company is likely to face across the PC15 period

6.10.2 In addition to setting a catch-up target for the company to close the efficiency gap to the industry frontier, it is common regulatory practice to estimate how the best performing or frontier companies are expected to perform with respect to costs during the price control period.

6.10.3 The analytical framework we continue to adopt, first used with NI Water at PC13, examines productivity gains which the frontier companies are expected to deliver over the price control period. The analysis also examines input prices which England and Welsh water companies will typically expect, taking into account the nature of their opex spend.

6.10.4 The approach we have taken is comparable to that used in NIE's RP5 determination. The approach was subject to a referral to the Competition Commission which then validated the UR methodology.

6.10.5 Our new estimate of frontier shift was undertaken internally which we subsequently quality assured.

6.10.6 We remain of the view that our approach, whilst more sophisticated, is a much less arbitrary way of setting NI Water's opex compared to deducing how much each line of opex ought to rise and fall over a regulatory period.

6.10.7 Frontier shift analysis now more fully considers how input costs may change over the price control period and how companies may continue to realise productivity gains over the longer term.

Summary

6.10.8 A summary of the results of the analysis can be seen below.

6.10.9 The findings of our frontier shift analysis indicate the following additions / subtractions, to our efficiency catch-up targets. These are calculated from our detailed analysis of Real Price Effects (RPEs), our long-term productivity assumption of 0.9% per annum along with the OBR[11] latest forecast of RPI from March 2014.

Table 6.8 – Frontier shift assumptions

	PC13		PC15					
	2013-14	**2014-15**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**
Weighted Input Prices	2.5%	4.1%	4.6%	4.6%	3.6%	4.4%	4.9%	3.8%
RPI	(2.9%)	(2.6%)	(3.3%)	(3.6%)	(3.8%)	(3.9%)	(3.4%)	(3.4%)
Productivity	(0.9%)	(0.9%)	(0.9%)	(0.9%)	(0.9%)	(0.9%)	(0.9%)	(0.9%)
Frontier Shift	**RPI-1.2%**	**RPI+0.5%**	**RPI+0.3%**	**RPI+0.0%**	**RPI-1.1%**	**RPI-0.4%**	**RPI+0.5%**	**RPI-0.6%**

6.10.10 The associated frontier shift analysis is included in UR PC15 DD Annex S - Opex Frontier Shift Report.

6.11. Treatment of PPP / PFIs

6.11.1 Three PPP / PFI contracts provide a significant proportion of NI Water's water and wastewater services. The Alpha project supplies approximately 250 million litres of drinking water per day. Omega PPP provides around 20% of current wastewater treatment capacity. Taken together NI Water's PPP / PFI contracts account for close to 25% of its total opex spend.

[11] The Office for Budget Responsibility (OBR) was created in 2010 to provide independent and authoritative analysis of the UK's public finances. Whilst their remit is to analyse and report on the sustainability of the public finances, the OBR has a responsibility to the Chancellor of the Exchequer to deliver the fiscal and economic forecasts.

6.11.2 At this stage of PC13 it is apparent that NI Water is performing well against target. As efficiencies have been realised early in the contract period, the company included further anticipated service level savings within their cost projections, albeit much smaller than at previous price controls.

6.11.3 NI Water has informed us this is the result of having captured many of the larger service level savings earlier on within the PPP contracts.

Table 6.9 – NI Water proposed PPP efficiency targets for PC15 (2012-13 base year)

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
PPP Water – Cumulative Efficiency	5.415%	0.949%	1.413%	0.452%	0.135%	-0.181%
PPP Sewerage – Cumulative Efficiency	0.161%	0.161%	0.161%	0.161%	0.161%	0.161%

How NI Water's PPP / PFI savings compare

6.11.4 Each PPP / PFI project is different and the scope for money to be saved very much depends on the nature of the service delivered and the specification of the original contract. However, the UR has undertaken a brief comparison of the level of savings being experienced across the various government departments on PFI projects against those of NI Water.

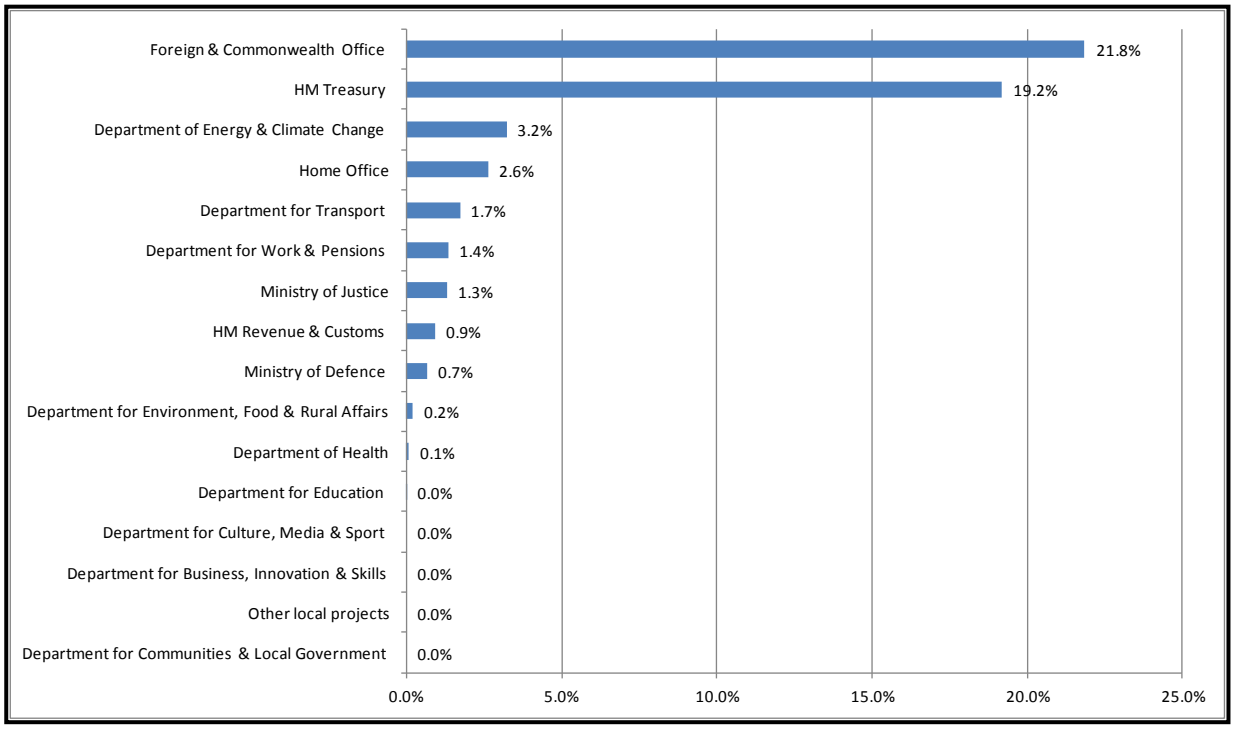
6.11.5 According to analysis undertaken by the National Audit Office (NAO) and HM Treasury, savings of £1.6bn are set to be made out of a total outstanding PFI Unitary Charge amount of £206.6bn across a wide range of UK government departments. This works out as an approximate 0.8% reported saving over the entire life spans of the various contracts.

6.11.6 These savings have transpired due to a Ministerial commitment for an ongoing programme of reform to improve the cost effectiveness and transparency of PFI contracts.

6.11.7 While the savings are small in relative terms, they are quite significant given the relatively fixed nature of these contracts and the magnitude in absolute money terms of the outstanding PFI charges. The graph below shows the large variation between the various government departments in question.12

[12] For further detail on the nature of these savings, see: http://www.nao.org.uk/wp-content/uploads/2013/11/Savings-from-operational-PFI-contracts_final.pdf. Graph calculated from Figure 5 of the NAO document.

Figure 6.1 – PFI Savings as a Proportion of Unitary Charge



6.11.8 Although comparison is difficult, NI Water savings since PC10 amount to around its originally contracted Unitary Charge. It therefore appears NI Water are achieving higher than the average operational savings as reported by the UK government departments. However, it should be noted that this figure is approximate.

6.11.9 The reader should also be mindful of a number of caveats for the NAO / HM Treasury figures, which may make a like-for-like comparison problematic – most importantly:

- Savings may have come from reduced levels of service rather than efficiency per se;
- Savings can very much depend on whether the original contract was 'over-specified' or no longer relevant, or whether the level of 'soft-services' which could perhaps be scaled back without affecting core service functions;
- Most of the £1.6bn of savings are forecast future savings, realised over the life of the project, rather than immediately. Some savings are, as yet, not legally binding;
- The large savings reported by the departments of Foreign & Commonwealth Office and HM Treasury relate to more intensive use of accommodation;
- Some savings may have led to an increased risk transfer to the public sector; and

- Savings made before the Ministerial commitment may not have been included.

6.11.10 Notwithstanding these caveats and limitations of the analysis, it is reassuring that NI Water's PPP / PFI savings at the present time are at least comparable to those being achieved elsewhere. Based on our high-level workings, the company savings appear relatively higher than the average saving reported by NAO / HM Treasury.

6.11.11 Despite contractual limitations, there may still be scope for further savings within the PPP / PFI schemes and these should be explored by the company. During PC15 therefore we expect the company to continue to:

- Effectively manage its PPP / PFI contracts to ensure value for money, including effective performance monitoring and payment deductions where appropriate;
- Review whether the service specification reflects the current requirements and that the company is only paying for what it needs;
- Consider opportunities to increase energy efficiency within its PPP / PFI projects (including potential energy from waste solutions);
- Effectively manage any transfer of risk;
- Monitor prospects for refinancing; and
- Communicate lessons learned with relevant parties.

6.11.12 Going forward, there is a need for the company to ensure an optimal usage of PPP / PFI vs. NI Water assets. NI Water analysis to inform this intra-company comparison should be based upon whole life costs (including opex, capex, lifecycle and maintenance) in order to ensure that the PPP / PFI assets are used as effectively as possible in Value for Money terms.

6.11.13 Given that some capacity exists within the PPP / PFI schemes, it may be beneficial to use these assets more intensively to ensure maximum value.

Other Issues

6.11.14 

6.11.15 

6.11.16 

6.11.17 In addition to this, in line with the PC13 determination, the UR will use the upcoming Annual Information Return (for 2013-14) to check and finalise its PPP / PFI allowance for PC15 in its final determination.

6.11.18 At this stage, the additional data (on flow amounts, volumes and atypicals etc) from AIR14 is not expected to change the majority of the PPP / PFI allowance

but, as in the PC13 determination, may lead to further refinement of the exact level of forecast spend going forward within the PC15 opex allowance.

6.12. NI Water opex proposals

6.12.1 The efficiency challenge proposed by NI Water in PC15 represent a further 'step-down' from the targets imposed at PC10 and at PC13. This reflects good progress in obtaining and out-performing our regulatory efficiency targets.

Table 6.10 – NI Water proposed targets for PC15 (excluding PPP's)

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Catch-up Reduction – Annual Profile (%)	1.40%	1.80%	2.56%	2.56%	1.80%	1.40%
Frontier Shift – Annual Profile (%)	-0.22%	0.35%	1.27%	2.03%	0.75%	2.05%
Total Cumulative Efficiency Profile (%)	**4.81%**	**7.066%**	**10.27%**	**13.24%**	**13.68%**	**16.00%**

Figures may not sum due to rounding

6.12.2 Adoption of a lower rate of catch-up (75% across an 8yr period), combined with good performance in the previous price control, has resulted in a relatively low annual target for PC15. NI Water also excludes business activities and their additional water rates expenditure from their own catch-up efficiency discount.

6.12.3 The result of the company's approach is detailed below.

Table 6.11 – NI Water proposed opex profile for PC15 (2012-13 prices)

	PC5					
	2015-16	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**
Baseline Opex (excl. Business activities) – (£m)	128.83	128.83	128.83	128.83	128.83	128.83
Plus Additional Opex (excl. rates increase) – (£m)	1.12	2.12	2.11	2.11	2.11	2.11
Plus Opex From Capex – (£m)	1.80	2.12	2.55	2.65	2.88	3.28
Plus Busines Activities – (£m)	13.33	13.33	13.33	13.33	13.33	13.33
Plus Water Rates Increase – (£m)	10.63	10.63	10.63	10.63	10.63	10.63
Less Efficiencies – (£m)	-6.29	-9.47	-14.01	-18.17	-18.49	-21.97
Plus Busines Improvement – (£m)	0.30	0.30	0.30	0.30	0.30	0.30
Plus VER/VS – (£m)	0.28	0.55	1.93	1.93	1.93	0.00
Plus Adjustments – (£m)	0.00	0.00	0.14	0.00	0.28	0.28
Plus Total PPP Unitary Charge (Post Efficiency) – (£m)	43.72	43.32	42.72	42.17	41.78	41.28
Total Opex Profile – (£m)	**193.71**	**191.72**	**188.52**	**183.78**	**183.57**	**178.07**

Figures may not sum due to rounding.

6.13. Overall challenge to NI Water

6.13.1 As part of the Price Control process the UR has the responsibility of setting efficiency targets. These targets are generated on the basis of:

a. The efficiency gap between NI Water and the frontier companies;

b. The rate of catch-up which is deemed achievable; and

c. Efficiency improvements previously recorded and / or expected of benchmark performers.

6.13.2 Having undertaken all the analysis, the Utility Regulator is of the opinion that NI Water's opex proposals are not challenging enough.

6.13.3 The UR therefore proposes the following efficiency profile:

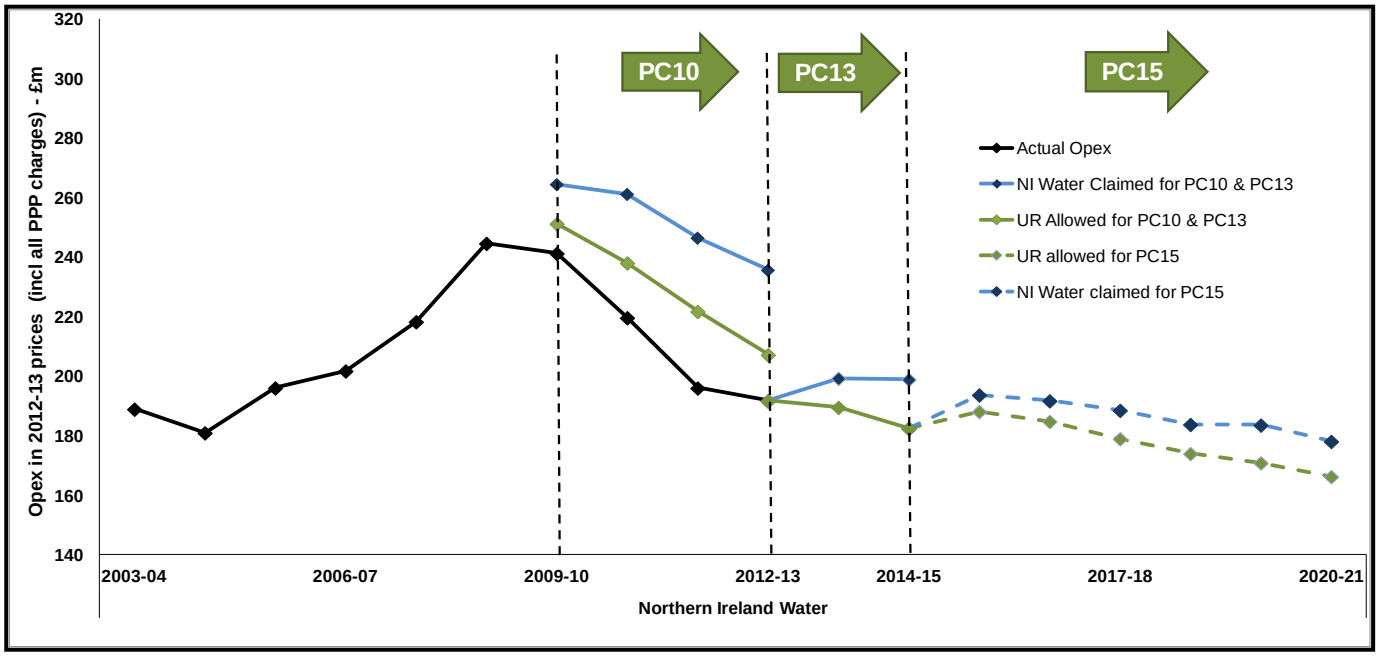
Table 6.12 – Utility Regulator's proposed efficiency targets for PC15[13]

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Catch-up Reduction – Annual Profile (%)	2.88%	2.88%	2.88%	2.88%	2.88%	2.88%
Catch-up Reduction – Cumulative Profile (%)	5.73%	8.45%	11.08%	13.65%	16.13%	18.55%
Frontier Shift – Annual Profile (%)	-0.30%	-0.01%	1.08%	0.44%	-0.51%	0.57%
Frontier Shift – Cumulative Profile (%)	0.47%	0.46%	1.54%	1.97%	1.47%	2.03%
DD Cumulative Efficiency Profile (%)	**6.17%**	**8.86%**	**12.45%**	**15.34%**	**17.37%**	**20.20%**

Figures may not sum due to rounding

6.13.4 The annual efficiency targets for PC15 represent a robust and reasonable challenge for the company. The UR has recognised NI Water's good performance during PC10 and PC13 evident in the graph below:

Figure 6.2 – PC10 / 13 / 15 claimed versus allowed and actual (2012-13 prices)



[13] The figures exclude the PPP efficiency profile. The Regulator has accepted the company PPP targets in full whilst imposing its own forecast of performance deductions.

6.13.5 The proposed profile and opex allowances give the following targets.

Table 6.13 – Utility Regulator's target opex profile for PC15 (2012-13 prices)

	PC15					
	2015-16	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**
Baseline Opex – (£m)	142.16	142.16	142.16	142.16	142.16	142.16
Plus Additional Opex – (£m)	10.66	11.66	11.65	11.65	11.93	11.93
Plus Opex From Capex – (£m)	1.47	1.79	2.21	2.32	2.54	2.95
Less Efficiencies – (£m)	-9.52	-13.79	-19.42	-23.95	-27.20	-31.72
Plus BI Costs – (£m)	0	0	0	0	0	0
Plus VER/VS – (£m)	0	0	0	0	0	0
Plus Adjustments – (£m)	0	0	0	0	0	0
Plus Total PPP Unitary Charge (Post Efficiency) – (£m)	43.35	42.96	42.36	41.81	41.42	40.92
Total Opex Profile – (£m)	**188.12**	**184.77**	**178.96**	**173.99**	**170.86**	**166.24**

Figures may not sum due to rounding.

6.13.6 A summary of the difference between the amounts claimed and allowed is detailed below.

Table 6.14 – Opex efficiency challenge (2012-13 prices)

Opex Efficiency Challenge	**NI Water PC15 Business Plan Claim**	**Regulator PC15 Draft Determination Allowance**	**Variance**	
Total Operating Expenditure (post efficiency)	£1,119m	£1,063m	-5.0%	£56.4m
			Additional efficiencies	£37.2m
			Other adjustments	£2.2m
			Additional opex	£6.7m
			Transformation costs	£8.4m
			Opex from Capex	£2.0m
Net efficiency challenge	1.67%	2.88%		

6.13.7 The efficiency challenge applied to NI Water in PC15 is 2.9% (annualised), calculated as a percentage of the prior year baseline.14

6.13.8 The equivalent efficiency challenge at PC10 was 6.48% (annualised) and 4.4% in PC13 (annualised) which demonstrates the challenge to NI Water at PC15 although robust, remains reasonable having taken account of NI Water's delivery of outperformance during PC10 and PC13.

6.13.9 The PC15 final determination efficiency challenge is materially lower than that for PC13 and PC10. This recognises NI Water's success in reducing its efficiency gap by delivery of real and sustainable savings, emerging into PC15 as a band C company rather than band E.

[14] Efficiency percentage calculated excluding PPP capital charges.

7.0 Monitoring Delivery, Managing Change

7.1. Introduction

7.1.1 This chapter considers monitoring of NI Water during PC15 and identifies how change will be managed, including consideration of a mid-term review.

7.2. Background

7.2.1 Processes for monitoring the company's delivery of outputs and for managing any potential changes will need to be established as part of the PC15 final determination. This Chapter outlines minded to approach for monitoring delivery and managing change during PC15 as well as initial thoughts on our approach to the PC15 mid-term review.

7.2.2 Monitoring delivery by the company is an important part of our role. It helps us discharge our duties under the Water and Sewerage Services (Northern Ireland) Order 2006 to secure that the functions of a water and sewerage undertaker are properly carried out. It needs to be detailed enough to provide assurance that the company will meet targets for the period as a whole, but not so onerous that regulatory reporting adds a significant burden to NI Water. By monitoring delivery we both ensure that the outputs included in the final determination are delivered and that we obtain the data and develop the understanding of NI Water's business necessary to carry out our role.

7.2.3 We aspire to 'output' regulation, but the lack of robust data in some areas means that we intend to continue to monitor a mix of outputs and activities. We will also monitor the delivery of nominated schemes which are either:

- Specific quality outputs required by the quality regulators or other stakeholders and included in the determination; or
- Specific schemes nominated by the company in its PC15 Business Plan which are directed at delivering a specific service improvement.

7.2.4 It is recognised that changes might occur during the regulatory period which might mean that the outputs included in the final determination will need to be altered. For example, as a consequence of changes to assumed funding or changes to legislative requirements. Such modifications need to be managed in a controlled and transparent manner and we have established approaches for ensuring this occurs.

7.2.5 We intend to use processes that have been established for previous price controls to manage change and monitor company progress in delivering outputs during PC15. The key components of our approach are listed below:

- The Monitoring Plan;
- Memorandum of Understanding and Consequent Written Agreement;
- Change Control Protocol;
- The Annual Information Return and Cost and Performance Report;
- Quarterly Capital Investment Monitoring returns;
- Serviceability assessments;
- Output monitoring;
- The Scheme of Charges;
- The Regulatory Accounts; and
- Mid-term review.

7.2.6 Each component is described in greater detail below. We would welcome views on our proposals and any responses returned through the draft determination consultation process will be considered when finalising our approach for PC15.

7.3. Monitoring delivery and managing change

Monitoring Plan

7.3.1 Once the final determination has been concluded we will ask the company to summarise the outputs it will deliver in PC15 in a Monitoring Plan. This will be supported by a detailed list of nominated outputs. The Monitoring Plan will provide a public facing summary which will be a ready source of information to allow other stakeholders to monitor the company's progress in delivering PC15. We will issue requirements for the Monitoring Plan with the final determination.

Memorandum of understanding and Consequent Written Agreement

7.3.2 A Memorandum of Understanding (MOU) has been agreed between the DRD and the UR which sets out how the regulatory regime works alongside public expenditure. A copy of this can found in Annex C.

7.3.3 A 'Consequent Written Agreement' (CWA) has been established under this MOU which sets out the procedures for dealing with alterations to funding and the processes and assumptions that will apply at each price control. The latest draft can be found in Annex D.

7.3.4 We will continue to work with DRD to update the CWA for PC15 and further changes will be considered following consultation on the draft determination.

Change Control

7.3.5 Specific outputs contained within the company's Monitoring Plan will be subject to a formal Change Control Protocol during PC15. This is presented in Annex T and sets out the procedures and steps that the key statutory stakeholders shall follow to control changes to outputs. It provides a structured framework for managing change and ensuring that: changes have been agreed by stakeholders; that the necessary funding is available; and, that changes are reflected in associated documentation and monitoring processes.

Annual Information Return and Annual Cost and Performance Report

7.3.6 Each year the company will be asked to submit an Annual Information Return providing information on its performance in the year including: key outputs; customer service measures; financial and billing information; the water balance and leakage; asset information; explanatory factors and expenditure reports. We will review the AIR requirement to align with the PC15 final determination and ensure that the data collected remains relevant for current and future needs

7.3.7 We will publish a Cost and Performance Report annually setting out the progress the company has made in delivering PC15. We shall continue to scrutinise NI Water's claimed efficiencies and publish our views on the extent of the real and sustainable efficiencies, especially but not exclusively relating to those operational efficiencies delivered by the company in the preceding financial year.

Quarterly Capital Investment Monitoring Returns

7.3.8 We have found the quarterly Capital Investment Monitoring (CIM) returns useful in monitoring delivery in previous price controls and for acquiring data which has informed our work on PC15. We will initially continue quarterly monitoring but will discuss the potential for using higher level summary data and exception reports and reducing detailed information requirements to half yearly submissions.

Serviceability Assessments

7.3.9 We have introduced serviceability requirements and completed an initial assessment of control limits which is included as Annex G. We will review this assessment for the final determination. We will monitor serviceability annually during PC15 and publish our conclusions as part of the annual Cost & Performance Report.

Output Monitoring

7.3.10 We have worked with the quality regulators to ensure we have a clear understanding of the nominated outputs that are to be delivered in PC15 in preparing our draft determination. This process will continue until the final determination has been concluded.

7.3.11 During PC15 we will continue to work with other stakeholders in the Output Review Group to monitor key outputs. We will also liaise with the quality regulators to receive compliance reports and sign-off of outputs and to manage

the impact of any changes to quality requirements, including the impact of any emerging issues.

Scheme of Charges

7.3.12 The provision and approval of an annual scheme of charges is a condition of the Licence. We will review and approve the Scheme of Charges to ensure that the company remains within the price limits of the determination and that its charges do not discriminate between different customer groups.

Regulatory Accounting Information

7.3.13 We will continue to collect regulatory accounting information allowing us to monitor the financial performance of the regulated business against the financial projections of the final determination.

7.4. Mid-term review

7.4.1 When we set our proposals for a 6 year Price Control for PC15 we concluded that we should make provision for a planned review part way through the price control to:

- Allow a managed change in funding to realign the revenue and outputs with any substantive change medium term funding levels; and
- Provide an opportunity to implement innovative and sustainable solutions which might develop from the strategic studies which NI Water will carry out in the early part of the price control.

7.4.2 We highlighted that a key risk of a planned mid-term review is that it will reduce the commitment to developing a business plan and determination for the full six years. There is a risk that the mid-term review becomes a full price control in itself which will increase regulatory burden and undermine the objective of long term planning.

7.4.3 We already have processes in place through the Memorandum of Understanding, the Consequent Written Agreement and the Change Control Process which allow us to manage annual changes in capital and opex within the public expenditure funding regime NI Water also operates within.

7.4.4 Within these existing processes we have the option of re-determining K factors to take account of changes in investment levels of increased or reduced costs (known as relevant items). Any re-opening of the financial determination under the Consequent Written Agreement would be comprehensive and symmetrical in that it should consider all relevant changes the company has faced, positive and negative. DRD have agreed with this principle and this is currently built into the Consequent Written Agreement (CWA).

7.4.5 While we have had the opportunity to reset K factors under the existing Change Control Process and Consequent Written Agreement, we have not found it necessary to do so. To date relevant item bids have not impacted on the

regulated funding of the company. Even a reduction in the capital programme of £50m in PC10 did not warrant a re-determination of K factors during the price control. Instead we adjusted prices in PC13 to reflect the reduced investment in PC10. However, these changes occurred with short duration price controls and it would not be appropriate to allow material changes in revenue to accumulate over a 6 year price control to cause a stepped change in prices at the start of the next price control.

7.4.6 However, we are aware that the process of changing K factors is in itself a determination which requires a detailed regulatory assessment which places a burden on both the company and the regulator. Therefore we are minded to make the mid-term review the only opportunity to re-open the financial determination for PC15. This means that any financial changes not captured in the mid-term review would not be reflected in charges until the next price control. We would retain the option of reviewing prices at anytime within the existing change mechanisms at our discretion but we would only exercise this option if we deem there to be a material need.

7.4.7 Our view is that the mid-term review should provide a single opportunity to re-open the financial determination to take account of:

- Any relevant items bids already determined as part of the regular monitoring of the company to the extent that they impact on regulatory funding;
- Any material change to capital funding determined through the change control process including any material increase or decrease in capital maintenance investment;
- Any material change in customer numbers and demand; and
- Any material change in costs which cannot be defined with any certainty in the business plan – for example a material change in sewerage rates or the cash tax position of the company.

7.4.8 There is value in limiting the scope of the mid-term review so that the opportunities and incentives of 6 year plan are maintained. Therefore we are minded not to reopen the financial determination to reconsider the following:

- Return on capital;
- Operational cost efficiency;
- Capital cost efficiency; and
- General changes in operational expenditure such as unit rates for power or changes in labour or contractor costs.

7.4.9 However, any re-opener could impact on risk and limiting the scope for the mid-term review may cause asymmetry in risks between consumers and company. We will consider this risk as we finalise processes for the mid-term review.

7.4.10 The risks associated with these issues remain with the company to manage over the duration of a six year price control. It ensures that the timing of a mid-term review does not have an impact on how the company plans and delivers efficiency. It ensures that the mid-term review is not driven by short term changes in key unit rates such as power costs which might be reversed during the remainder of the price control.

7.4.11 In setting out our proposals above, we have introduced a general test of materiality. We are minded to set an overall materiality threshold of a £3m change in revenue, positive or negative, in 2012-13 prices using RPI as a deflator. We would not re-determine K factors unless the total impact of the changes covered in the mid-term review is higher or lower than this materiality limit. This is similar to the materiality threshold which would have applied to the provisions for an interim determination previously included in the company licence. We will consider an materiality threshold for individual items which must be reached before they are included in the assessment of the overall materiality limit and re-determination of K factors.

7.4.12 Any re-opening of the financial determination at the mid-term review will be comprehensive and symmetrical in that it should consider all relevant changes the company has faced, positive and negative. The UR would retain the option of considering all areas if deemed appropriate at the time.

7.4.13 Including capital maintenance expenditure as one of the item considered in a mid-term review risks removing the incentive on the company to improve capital maintenance targeting and efficiency to remain within the determination. Before we considered a change of capital maintenance funding we would expect the company to demonstrate that any deterioration in serviceability was outwith its control and it had taken reasonable steps to reprioritise spending within existing budgets to address emerging issues.

7.4.14 The mid-term review should be undertaken in the third year of PC15 with a view to including any change in K factors in the scheme of charges for 2018-19. If the company intends to seek a review of K factors in the mid-term review it should liaise with the Utility Regulator at the start of June 2018 to set out the scope of changes it plans to include. The company should complete a submission by the 15 September 2018. The Utility Regulator will complete its determination of K factors by the 15 December 2018.

7.4.15 The mid-term review provides an opportunity to manage changes to the outputs for PC15 including the opportunity to introduce new outputs or react to any changes in the way outputs are defined or measured. We would encourage NI Water and stakeholders to hold back changes of this type until the mid-term review to maintain clarity. For example:

- Changes to WWTW compliance targets due to a change in the way that standards are defined or monitored;
- The introduction of targets for new consumer measures; and
- Any changes the Utility Regulator considers necessary to the upper control limits for serviceability modelling.

7.4.16 Finally, the mid-term review provides an opportunity for NI Water to implement innovative and sustainable solutions which might develop from the strategic studies which NI Water will carry out in the early part of the price control. NI Water should brief the Utility Regulator on these opportunities and include a programme for their development in its response to the consultation on the draft determination.

7.4.17 We have set out our proposals on the scope of a mid-term review. We will engage with stakeholders on the development of these proposals and how they can best be incorporated into the mechanisms we have for managing change. We would welcome feedback on:

- Our intention to limit the opportunity to re-open the financial determination to the mid-term review;
- Our proposals for the items which should be included in any financial determination at the mid-term review and items which would not be including in any financial determination at the mid-term review;
- The materiality thresholds we propose for a mid-term review;
- Our aspiration to limit the introduction of new outputs and changes in the way existing outputs are defined or measured to the mid-term review; and
- Opportunities for the development of innovative and sustainable solutions in the first half of PC15 which could then be incorporated in the determination at the mid-term review.

8.0 Conclusions and Next Steps

8.1.1 NI Water submitted their business plan to us in late March and substantial further engagement has taken place with the company to ensure this determination provides a robust analysis of the requirements for the company from April 2015 to Match 2021.

8.1.2 Based upon the analysis to date we propose a total revenue requirement of £2.34bn. This is £89.4m less than the company requested.

8.1.3 Although we acknowledge the work carried out by the company to substantially improve both services and consumer engagement there are a number of areas where the detail provided by the company falls short of what would be expected and we intend to continue to engage with the company during the consultation period to address this short fall.

8.1.4 This draft determination is now subject to a period of public consultation and this consultation closes on the 15th October 2014 after a 14 week period. In addition to written response we intend to carry out a number of stakeholder forums in September and information on those events will be published on our web site.

8.1.5 We encourage consumer and stakeholders to provide feedback on this draft determination and we will consider all responses in advance of our final determination which we will publish in December.

9.0 Glossary of Terms

Term	Description
Appointed water company	The term used to describe the regulated water only and water and sewerage companies who supply water and sewerage services to consumers. Also known as a 'regulated company' or 'undertaker'.
Asset life	The time from the date of installation (when new) of an asset (or part) until the asset (or part) has to be replaced. The remaining asset life is recorded from the present. Asset lives for the current asset base are estimated and only known exactly after the asset has been replaced.
Base expenditure	This is the expenditure needed to continue delivering current levels of service, before taking account of planned or required improvements. It comprises operating and capital maintenance expenditure.
Base service outputs	NI Water must maintain the service standards and the ability of its assets to continue to provide service into the future.
Benchmark company	This is the company which is used as the relative efficiency reference point. To set the benchmark, a company (or group of companies): • Must represent a reasonable proportion of industry turnover (historically 2.5% to 3%); • Must have no special characteristics outside management control that significantly reduce its costs; • We must have no concerns about the consistency of the benchmark company's data; and • For the capital maintenance benchmark a company must have stable or improving serviceability.
Business plan	NI Water's Business Plan sets out: • Its overall strategy and the implications for price limits and average bills; • Its strategic objectives in terms of service performance, quality, environmental and other outputs; • The activities necessary in the period to meet these objectives; and • The scope for improvements in efficiency.
Capital efficiency	The efficiency of using capital expenditure to deliver outputs.
Capital expenditure (capex):	Appointed water companies' spending on new, replacement or refurbished capital assets, such as construction and buying machinery.
Capital maintenance	Planned work by appointed water companies to replace and renovate water and sewerage assets to provide continuing services to consumers.
Capital maintenance econometric return (CMER)	A standardized data set provided by each appointed water company from which econometric models for assessing relative capital efficiency are developed.
Change protocol	Principles and outline procedures for confirmed changes funded improvement programmes during an asset management programme

	period.
Charging year	The period for which NI Water bills customers starting on 1 April each year.
Competition Commission (CC)	Considers merger references. It is also the body to which companies can appeal if they disagree with our decisions on price limits, licence amendments or accounting guidelines.
Construction output price index (COPI)	Published by the Building Cost Information Service (BCIS), COPI measures changes to construction prices which can move in a different way from the Retail Price Index. We use COPI to compare how much companies have actually spent on capital investment compared with what we allowed for in price limits.
Consumers	Refers to individuals or households that purchase and use goods and services generated within the economy. In this case we are referring to those who use water and sewerage services.
Cost base	A defined set of standardised capital work items and projects.
Cost benefit analysis	This measures all the costs and benefits of a project in a common currency (preferably £s). It is used to assess the balance between the costs and benefits of a proposed project.
Cost of capital	The minimum return that providers of capital require prompting them to invest in or lend to the appointed water companies given their risk.
Current cost depreciation (CCD)	The depreciation charge on tangible fixed (above-ground) assets based on the current values of those assets, less amortisation of deferred credits relating to grants and third party contributions. This depreciation is generally only applied to above-ground assets as an infrastructure renewal charge is applied to underground assets.
Depreciation	A measure of the consumption, use or wearing out of an asset over the period of its useful economic life.
Determinations	Some of our decisions are known as determinations, the biggest of which is the outcome of a price control setting out appointed water company's price limits that will operate for a period and the specific outputs that they will have to deliver.
Econometrics	A process that finds a link between expenditure in an area (for example, capital maintenance for water distribution) and a number of measurable explanatory variables (for example, length of distribution mains). If proved, the correlation can be used to derive predicted expenditure for an appointed water company.
Enhanced service levels	Permanent, identifiable and measurable improvements in service levels that are in addition to achieving the most recent established appointed water company-wide base levels of service. They are in addition to improvements resulting from expenditure in other purpose categories.
Enhancement	A level of service delivered better than previously defined. Examples of enhancements include: • Fewer supply interruptions for consumers; • Fewer disruptions for the public in general; and • Less pollution for the environment.

Financeability	Our duty to ensure that NI Water can finance the proper carrying out of their functions is interpreted to mean not only that they should receive a return on investment at least equal to the cost of capital.
Gearing	A company's net debt expressed as a percentage of its regulated capital value.
Indexation	A technique to adjust income payments by means of a price index.
Infrastructure assets	Mainly underground assets, such as water mains and sewers, also dams and reservoirs that last a long time. A distinction is drawn between the infrastructure and non-infrastructure assets because of the way in which they are managed, operated and maintained by appointed water companies.
Infrastructure charges	Developers pay infrastructure charges to NI Water when a new property is connected to either a public water supply or a public sewer. The infrastructure charge provides a contribution to the investment required as a result of the demand that new developments generally place on the local distribution or sewerage network.
Infrastructure renewals charge (IRC)	An annual accounting provision for the medium- to long-term maintenance needs of the infrastructure assets network (underground pipes) charged to the profit and loss account.
Infrastructure renewal expenditure (IRE)	The actual expenditure incurred in the financial year in maintaining the operating capability of infrastructure assets through renewal or renovation of those assets.
Interim determination	An interim determination may allow NI Water, or us, to seek revised price limits if specified outputs required of a company change such that the total impact on the company, in net present value (NPV) terms, amounts to 10% of company turnover. The specific items that can be considered are detailed in NI Water's Licence (as relevant changes of circumstances) or defined at a price control as notified items.
International financial reporting standards (IFRS)	These are standards and interpretations adopted by the International Accounting Standards Board.
K factors (price limits):	The annual increase in charges that NI Water can make. The amount by which a company can increase (or must decrease) its charges is controlled by the price limit formula RPI ± K + U. K is a number determined by us at a price control, for each year, to reflect what it needs above inflation, in order to finance the provision of services to consumers. It may be changed at an interim adjustment between price controls. RPI is expressed as the percentage increase in the Retail Price Index in the year to the November before the charging year and U is the amount of unused K not taken up in previous years.
Logging up and logging down	The process at price controls enabling appointed water companies to set aside variations in costs, which are taken into account when we next set price limits.
Maintenance non-infrastructure	All actual or historic expenditure charged to capital maintenance non-infrastructure.
Modern equivalent	A structure similar to an existing structure and having the equivalent productive capacity, which could be built using modern materials,

asset	techniques, and design. Replacement cost is the basis used to estimate the cost of constructing a modern equivalent asset.
Monopoly	A monopoly is defined as a persistent market situation where there is only one provider of a product or service, in other words a company that has no competitors in its industry.
Net present value (NPV)	The economic value of a project, at today's prices, calculated by netting off its discounted cash flow from revenues and costs over its full life.
Non-infrastructure assets	Mainly surface assets, such as water and sewerage treatment works, pumping stations, company laboratories, depots and workshops.
Non-regulated activity	Non-core business not associated with the delivery of water and sewerage services.
Notified items	Any item notified by us to NI Water as not having been allowed for (either in full or in part) in the determination at the most recent price control.
Operating expenditure (Opex)	NI Water's day-to-day spending on running the services, for examples, staff costs and power.
Outperformance	Achieving planned outputs for less expenditure than that assumed in price limits.
Output	Whatever is produced by a project.
Overall performance assessment (OPA)	A measure of performance which reflects the broad range of service provided to customers. The key areas within the OPA are: • Water supply (pressure, interruptions, restrictions and drinking water quality); • Sewerage service (flooding incidents and risk of flooding); • Customer service (quantitative and qualitative aspects of service); and • Environmental impact (compliance with statutory environmental legislation). We use the OPA within the price setting process.
Per capita consumption (PCC)	The measure of average use per person in an appointed water company's area. Companies are required to report estimates for both metered and non-metered consumers.
Quality enhancements	A generic term for work programmes implemented by the companies to improve the quality of drinking water or the environment typically by treating wastewater discharges to a higher standard. These enhancements are required to fulfil new legislation or national initiatives approved by Ministers.
Quality regulators	A collective term for the Drinking Water Inspectorate and the Northern Ireland Environment Agency.
Regulatory capital value (RCV)	The capital base used in setting price limits. The capital value is calculated using our methodology (for example, after current cost depreciation and infrastructure renewals accrual). Also known as the 'regulatory asset base' and the 'regulatory asset value'.
Reporters	These are professional independent consultants who act as commentators on the wide range of regulatory information that the appointed water

	companies submit to us. This information needs to be well founded and provide a consistent base of industry-wide comparative information for regulatory decision making. We therefore require NI Water to appoint a reporter to examine, test and give their opinion on this information, in line with our guidance. Each reporter's appointment is subject to our approval. Each owes a duty of care to us and also owes a duty of care to NI Water.
Retail price index (RPI)	An index of changes in retail prices. Charges are controlled by the formula RPI ± K. RPI is expressed as the percentage increase in the Retail Price Index in the year to the November before the charging year.
Return on capital	Return on capital, also known as return on invested capital, is a financial measure that quantifies how well a company generates cash flow relative to the capital it has invested in its business.
Revenue base	This is the amount received by NI Water from their customers.
Revenue requirement	The amount of money that NI Water must receive from its customers to cover its costs, operating expenses, taxes, interest paid on debts owed to investors and, if applicable, a reasonable return (profit).
Security of supply index (SoSI)	Assesses each appointed water company's ability to supply customers in dry years without imposing demand restrictions such as hosepipe bans. Companies with higher index score bands have better security of supply.
Serviceability	The capability of a system of assets to deliver a reference (i.e., expected) level of service to consumers and to the environment now and into the future.
Substantial effect clause	This allows companies, or us, to seek a change in price limits if circumstances beyond the companies' control change such that the total impact on the company amounts in NPV terms to 20% of company turnover.
Supply / demand balance	The balance between the amount of an appointed water company's available water resources and the demand for water by customers. Any imbalance between supply and demand can be met through resource enhancement or demand management strategies.
Tariff basket	The basket of charges to which the annual price limits apply, comprising charges for: • Unmetered water supply; • Metered supply; • Unmetered sewerage services; • Metered sewerage services; and • Reception, treatment and disposal of trade effluent. Within the overall price limit, basket items may increase or decrease by different amounts and percentages. However, the average change in the basket of charges must not exceed the price limit.
Unit cost modelling	Simple modelling based on unit costs, for example per connected property, which can be used to assess relative efficiency.
WaSC	Appointed water and sewerage company provides water and sewerage services.

Water Framework Directive (WFD)	A European Directive to provide a coordinated approach to water management with the European Union (EU) by bringing together strands of EU water policy under one piece of framework legislation. Member States must produce plans for river basin management districts that set out a programme of measures aimed at protecting bodies of surface and groundwater. Each plan must include economic analyses of water use and move towards full cost recovery in water pricing. For more information, see the WFD website at www.fwr.org.
Water resource zone (WRZ)	The largest possible zone in which all water resources, excluding external transfers, can be shared. Hence, it is the zone in which all consumers experience the same risk of supply failure from a resource shortfall.
Weighted average cost of capital (WACC)	For an appointed water company, the average costs of its debts and cost of equity capital, weighted according to the balance of debt and equity which finances the company's assets.
Water only Company	An appointed water only company. WoCs provide water but not sewerage services.

10.0 Abbreviations

Abbreviation	Description
AIR	Annual Information Return
BIP	Business Improvement Programme
BT	British Telecom
CAA	Civil Aviation Authority
CAPEX	Capital Expenditure
CC	Competition Commission
CC	Current Cost
CCD	Current Cost Depreciation
CCNI	Consumer Council Northern Ireland
CEOG	Consumer Engagement Oversight Group
COPI	Construction Output Price Index
CWA	Consequent Written Agreement
DFP	Department of Finance and Personnel
DG's	Performance Indicators (originally set by OFWAT Director General)
DRD	Department for Regional Development
DWI	Drinking Water Inspectorate
E&W	England and Wales
ELL	Economic Level of Leakage
GoCo	Government Company
IFRS	International Financial Reporting Standards
IRC	Infrastructure Renewals Charge
IRE	Infrastructure Renewals Expenditure
K-factor	The adjustment to price caps excluding RPI
KPI	Key Performance Indicators
M and G	Management and General
MEAV	Modern Equivalent Asset Value
MLE	Maximum Likelihood Estimation
MNI	Maintenance non-infrastructure
MOU	Memorandum of Understanding
NDPB	Non Departmental Public Body
NIE	Northern Ireland Electricity

NIEA	Northern Ireland Environment Agency
NIW	Northern Ireland Water
OBR	Office of Budget Responsibility
OFCOM	Office of Communications
OFGEM	Office of Gas and Electricity Markets
OFWAT	Office of Water Regulation (England and Wales)
OPA	Overall Performance Assessment
OPEX	Operating Expenditure
ORG	Output Review Group
ORR	Office of Rail Regulation
PC10	Price Control 2010 – 2013
PC13	Price Control 2013 – 2015
PC15	Price Control 2015 – 2021
PE	Public Expenditure
PFI	Private Finance Initiative
PPP	Public Private Partnership
RCV	Regulatory Capital Value
RPA	Regional Price Adjustment
RPI	Retail Price Index
RPI-X	A form of price control where charges are linked to RPI
SBP	The Strategic Business Plan 2007-2010
SONI	System Operator for Northern Ireland
STW	Sewage Treatment Works
UK GAAP	United Kingdom Generally Accepted Accounting Practice
VER	Voluntary Early Retirement
VS	Voluntary Severance
WACC	Weighted Average Cost of Capital
WACI	Weighted Average Charge Increase
WICS	Water Industry Commission for Scotland
WRZ	Water Resource Zone
WTW	Water Treatment Works
WwTW	Wastewater Treatment Works