Our Business Plan for 2020 to 2025

Appendix 11 Governance and Assurance

September 2018

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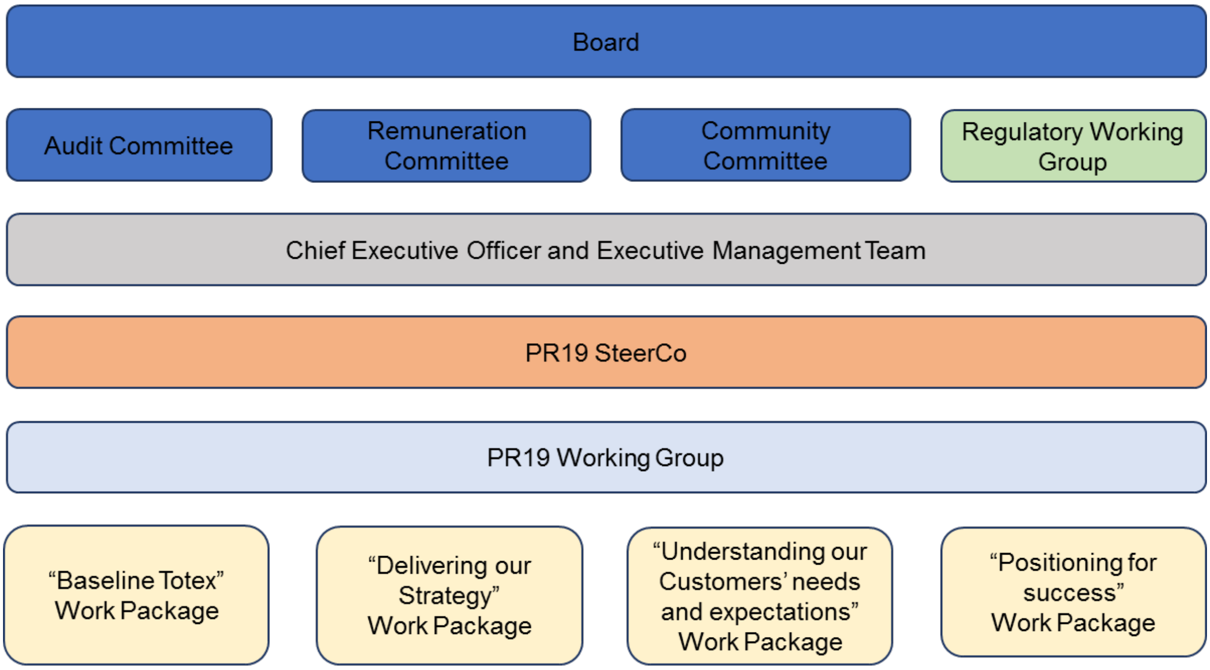
1 Business Plan Governance

Our Board owns the overall strategy for our Business Plan and its assurance. The overall governance structure for the development of our Business Plan is represented below.



Our Board has been fully engaged in the design, development and preparation of this Plan. Its regular formal meetings as a Board have allowed it to own the strategy and to lead and provide strategic direction to management, to scrutinise and inform their proposals and to hear the voice of our customers and stakeholders through our engagement programme.

The Board’s regular meetings have been supplemented by a number of PR19-specific board meetings. A Regulatory Working Group comprising board directors (including independent non-executive directors) and senior executives was established to support the Board’s oversight, scrutiny and challenge of this Plan. The Regulatory Working Group was not a formal sub-committee of the Board.

Our Audit Committee, Community Committee and Remuneration Committee have also taken leading roles in the development of this Plan. In particular:

- Our **Audit Committee** has:
  - scrutinised and informed the scope of the PR19 assurance programme and approved the appointment of PricewaterhouseCoopers LLP and Atkins Limited to provide strategic and technical assurance, as well as assurance of our data tables and commentaries submissions;
  - reviewed, challenged and approved the methodology for assuring the accuracy and quality of our data tables and commentaries submissions;
  - reviewed and challenged the process for assuring the accuracy and quality of the PR14 reconciliation data tables and commentaries and approved their submission;

- reviewed third party assurance reports on the 3 September data tables and commentaries provided by PricewaterhouseCoopers LLP (Annex E), Atkins Limited (Annex F) and ChandlerKBS (Annex G) and a report from Frontier Economics Limited (Annex B) providing assurance on the Outcome Delivery Incentives; and
- reviewed and approved the Water Industry Strategic Environmental Requirements (WISER) submission to the Environment Agency on 17 August 2018.

- Our **Community Committee** has reviewed the progress we have made in AMP6 against the community commitments in our PR14 Business Plan and has reviewed and influenced the community strategy we have set for AMP7 within this Business Plan.
- Our **Remuneration Committee** has comprehensively overhauled our executive remuneration policy to equally incentivise delivery of stretching performance for customers and stretching financial performance, and to provide safeguards where stretching customer measures are not met.

At an executive level, our **CEO** and **Executive Management Team** have established a programme structure overseen by a **PR19 SteerCo**. The **PR19 SteerCo** is led by members of the Executive Management Team and has:

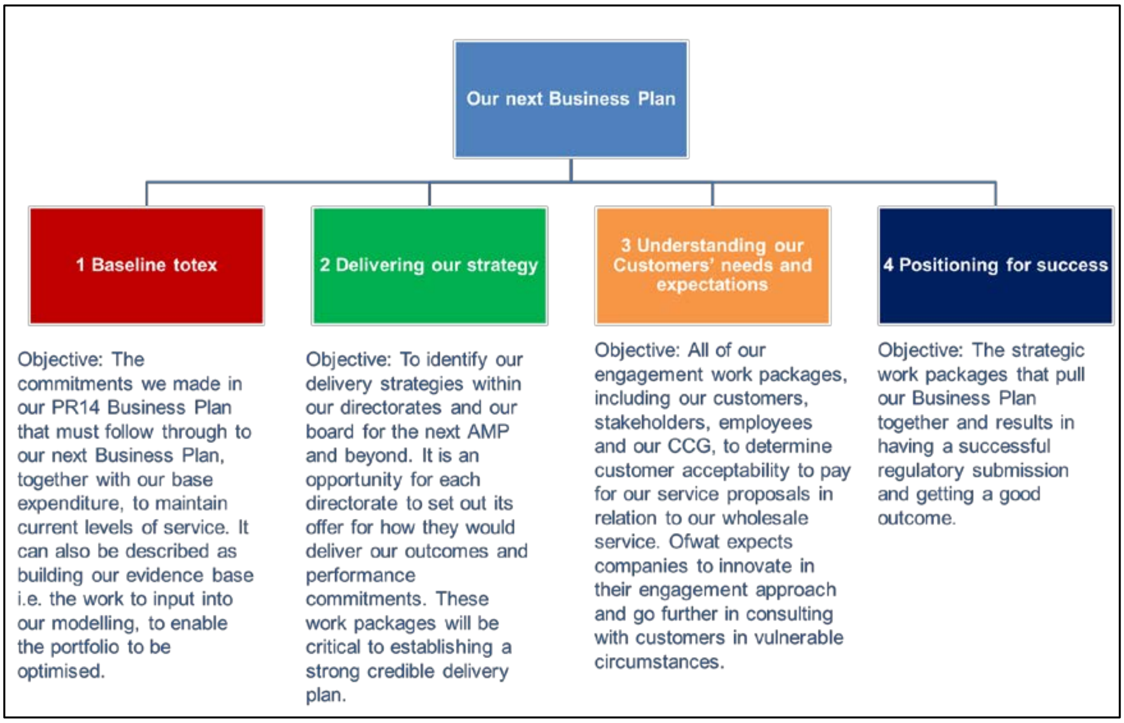
- Provided leadership to ensure that the Business Plan programme and activities set by the SteerCo are delivered on time, within budget and to the appropriate standard.
- Monitored and reviewed progress by the **PR19 Working Group** on delivery of the work packages against an agreed programme and agreed the issues to be brought to the Executive Management Team's attention.
- Ensured that appropriate levels of resource are in place to deliver the programme.
- Escalated items to the Executive Management Team that are not within its delegated authority.
- Maintained a programme 'risks and issues register' to manage programme and delivery risk that link into the corporate strategic risk register.
- Provided a summary of progress for discussion to the Regulatory Working Group.

The **PR19 Working Group** is a management group and met monthly. Members were primarily work package leads. Other key individuals, including third parties and/or consultants, were invited to attend meetings to cover specific topics. The **PR19 Working Group**:

- Implemented the strategy and direction set by the **PR19 SteerCo**.
- Ensured workstream activities were delivered on time in accordance with an agreed programme, within budget and to the appropriate standard.
- Reviewed progress of workstreams and agreed the issues and / or recommendations to be raised to the **PR19 SteerCo**.
- Ensured that any regulatory, legislative or other changes and their impact on the PR19 programme were understood and communicated to the wider team.
- Monitored and assessed risks and issues to the workstream packages, including the identification and implementation of mitigation strategies.
- Implemented and followed effective Change Control and Quality Assurance processes.
- Provided regular progress reports to the **PR19 SteerCo.**

- Implemented and followed a communications plan, providing regular updates to all participants and the wider stakeholder community.

The programme was broken down into work packages as described in the two figures below.

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2 Our Assurance Plan

We aim to be open with customers, stakeholders and regulators about our business, our plans and our performance. We want them to have trust in our service and confidence in the information we publish about our plans and performance. To this end, in line with Ofwat's Company Monitoring Framework requirements, we carry out an annual exercise to review the risks, strengths and weaknesses associated with how we provide information that stakeholders want and will trust. As part of this exercise, we consult with stakeholders, including our Customer Challenge Group (CCG), to identify areas in which we can improve. Thereafter, we develop our Assurance Plan, publishing the final version by 31 March each year. The final Plan each year reflects feedback received in respect of our Risks, Strengths and Weaknesses Statement and draft Assurance Plan, and describes what we have done or plan to do to address any issues or concerns raised.

Our Assurance Plan describes the various categories of information we publish each year and the assurance processes we have in place to ensure that information we publish is easy to understand, is of high quality and ensures that customers, regulators and wider society have trust and confidence in the services which we provide.

Our Assurance Plan 2017/18 is included in Annex A to this Appendix and outlines our plans for assurance of our PR19 Plan as follows:

Reports	Description	Assurance
PR19 Business Plan	We are required to submit our Business Plan for 2020 – 2025 to Ofwat by 3 September 2018. We are also required to submit various supporting data tables, some by 3 May 2018 and others by 15 July 2018. The Company and its Board are responsible for submitting high-quality Business Plans which include good assurance and have been put together using good governance processes. In Ofwat's PR19 methodology they have described six Confidence and Assurance tests that companies should consider when seeking and delivering assurance.	We are adopting a multi-layer assurance process to review and challenge our proposals and develop a final Business Plan that is in line with industry best practice. We are operating a variety of 1st and 2nd line of defence controls including internal team peer reviews; specialist technical support; and PR19 SteerCo oversight. By way of 3rd line of defence controls we are using (a) Atkins for technical assurance of non-financial data; and (b) PwC as our overall assurance partner; in this capacity, they will report to our Board to provide the evidence and information necessary to allow the Board to provide an assurance statement to Ofwat that will meet its key tests and expectations. Our Internal Audit team will also work closely with PwC to support their work.

This Appendix details the actual assurance work carried out with regards to PR19.

3 AMP7 Business Plan Assurance Framework

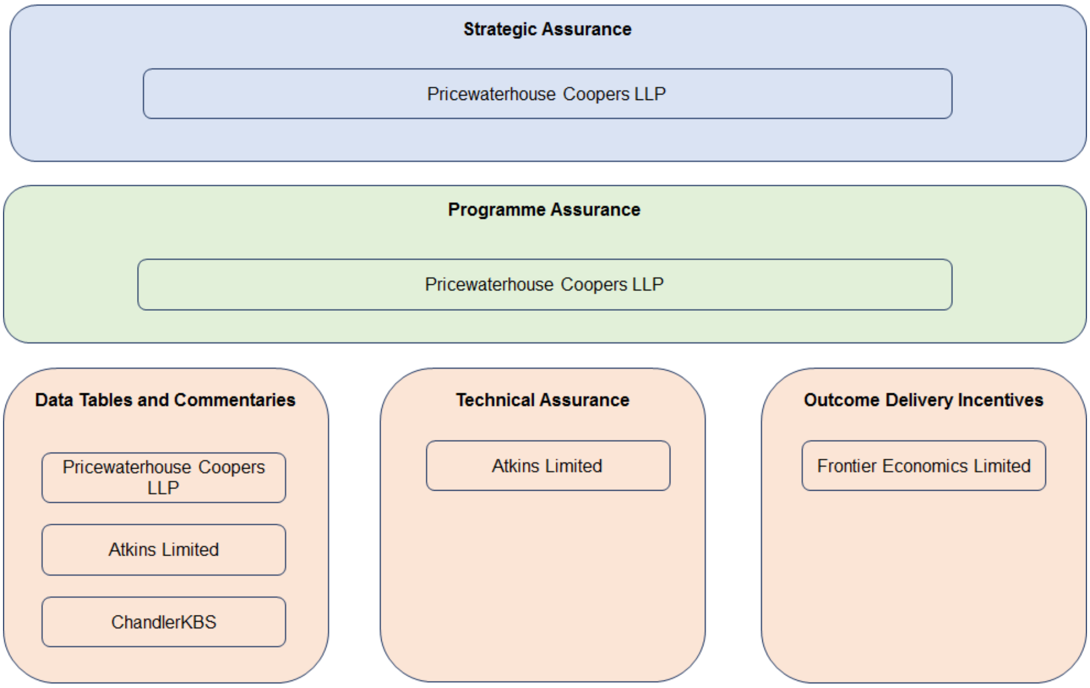
3.1 Overall Strategy / Approach

Our Board has owned the overall strategy for our Business Plan and acknowledges that assurance is a key component in producing a high-quality Business Plan and that there is a need for a level of assurance commensurate with risk.

Our Board has provided ownership of the overall strategy and direction of our long-term plans and has taken seriously its responsibilities with regards to providing comprehensive assurance of our Business Plan and accompanying data to ensure that the following requirements are met:

- All elements add up to a Business Plan which is of high quality and which is deliverable
- Our overall strategy for data assurance and governance processes delivers high quality data
- Our Business Plan will enable us to meet our statutory and licence obligations, now and in the future
- Our Business Plan will deliver operational, financial and corporate resilience over AMP7 and the long term
- Our Business Plan will enable customers' trust and confidence through high levels of transparency and engagement with customers on issues such as our corporate and financial structures.

Our overall assurance framework includes external assurance of this Business Plan as shown in the schematic below.



In February 2018, our Audit Committee approved the engagement of PwC as our PR19 strategic assurance partner. We were made aware that PwC had previously acted as Ofwat's delivery partner for PR14 and had continued to work as advisors to Ofwat on specific work packages following the PR14 price review. Subsequently, we were also made aware that Ofwat had awarded a delivery partner contract to support the PR19 Price Review to a consortium led by PwC. Our Audit Committee sought and received assurance from PwC that their internal procedures are such that the teams engaged by ourselves and Ofwat are entirely separate, and there is full transparency and no conflict of interest.

We agreed with PwC a three-layer assurance approach as follows:

1. <u>Strategic</u>

   PwC supported us in developing a robust and risk-based Assurance Framework, tailored to us, designed to deliver the right outcomes for the business. PwC developed a Challenge Framework which they reported against to the Board. PwC also performed their own independent and rigorous review and challenge of our Business Plan to ensure it aligned to Ofwat's strategic requirements. PwC provided independent scrutiny of the reporting from our other Assurance providers/advisers and ensured that this work aligned with our expectations and needs.

2. <u>Programme governance</u>

   Using PwC's approach to programme governance, which is underpinned by their 12 elements of programme management excellence, they worked with our Internal Audit team to review the governance structure put in place over our PR19 programme (and individual work packages), and ensure this was aligned to best practice. At strategic points between February and August 2018, PwC reviewed the PR19 programme and individual work packages to ensure that they were on track for delivery. PwC reported regularly to our PR19 SteerCo, Audit Committee and Board on any areas of the programme which were at risk of failing to deliver against scope within the required timeframe along with their recommended actions to remediate.

3. <u>Financial data</u>

   PwC worked with us to develop a risk based methodology so that assurance efforts were targeted at the highest risk areas of the data tables. PwC planned their own assurance activities and carried these out prior to any planned data lock down dates, leaving sufficient time for any remediation activities that were required.

3.2 Strategic Assurance Framework

The assurance work carried out has closely mirrored the overall governance around development of our plan as outlined in section 1 above.

PwC worked with us to develop an Assurance Framework. In this framework, for each of the building blocks making up our programme workstreams we:

- Identified deliverables, including Business Plan chapters, appendices, etc.
- Carried out a risk assessment taking into consideration, amongst other things:
    - relative complexity of building blocks
    - relevant knowledge, skills and experience within our employee base
    - relative importance of our programme workstreams from strategic and financial perspectives
    - our historic performance in delivering these workstreams/building blocks (e.g. in PR14) and similar exercises
- Detailed the specific planned first, second and third line of defence assurance activities
- Identified and planned additional assurance activities where this was considered necessary, especially for those building blocks assessed as high risk.

Thereafter, the Assurance Framework was regularly reviewed and updated as new information came to light, and all assurance activities were closely managed to completion.

For those workstreams / building blocks identified as high risk, this helped ensure that we were particularly focused on:

- Development of the required content and scope of our Board Assurance Statement so that we could identify and plan the relevant supporting assurance tasks
- Continuing our close relationship with the Customer Challenge Group and providing assurance and evidence to its members that our plan (in particular, our outcomes, performance commitments and ODIs) was informed by effective customer engagement
- Assuring ourselves, our Board and our Customer Challenge Group as to the deliverability of our plan; the stretching nature of our plan and its constituent outcomes, performance commitments, etc.; the financeability of our plan; and the appropriateness of our proposed risk mitigation and management plans
- Ensuring that our plan ensures that we will continue to comply with our statutory and licence obligations and that the expectations of stakeholders (e.g. EA, Natural England, DWI) were taken into account in development of our plan
- Ensuring the robustness of our methodology and process for developing our performance commitments and ODIs; on this particular point, we engaged Frontier Economics to provide our third line of defence assurance and their report is included in this appendix at Annex B.

3.3 Financial / Non-Financial Data Tables Assurance

We adopted a “three lines of defence” approach to assuring the accurate and complete population of all data tables and associated commentaries included in the various PR19 submissions. The tables were allocated to appropriate contributors to complete and provide commentary where appropriate. For each table, we identified a ‘data provider’, who was responsible for completion, a ‘responsible owner’ (usually the data provider’s line manager) and an accountable director, usually the relevant EMT member.

The roles of: data/commentary providers; responsible owners; and accountable directors were as follows:

- **Data/Commentary provider**: populate relevant table section(s) and associated table commentary according to Ofwat’s final guidance on the Business Plan data tables, ensuring data is reliable, accurate and complete and that any material assumptions have been included in the commentary
- **Responsible Owner**: check relevant table entries and associated commentary for accuracy and adherence to Ofwat’s final guidance on the Business Plan data tables; check that data is reliable, accurate and complete, and that any material assumptions have been included in the commentary
- **Accountable Director**: confirm that the data/commentary provider(s) and responsible owner(s) have properly discharged their responsibilities and that the relevant data table entries adhere to Ofwat’s final guidance.

In addition to the above, data and commentaries in all financial data tables were reviewed by PwC and non-financial data tables by Atkins. Reports from PwC and Atkins, describing the work they performed and the conclusions reached, are included as Annexes C, D, E (PwC) and F (Atkins).

Our Internal Audit team also took an active role: overseeing completion of tables and commentaries; ensuring adequate explanatory information was provided in the commentaries; and ensuring the consistency of data/information both (a) within the overall set of tables and commentaries; and (b) between the tables/commentaries and our Business Plan.

3.4 Legal Obligations

Our Legal team provided advice on the key legal obligations of the company as a water undertaker holding an appointment under the Water Industry Act 1991, and how these obligations map to the outcomes and performance commitments included in this Business Plan. This, coupled with the work undertaken by Atkins (to verify line of sight between the investment programme and performance commitments), enabled us to confirm a clear line of sight from our statutory obligations, through our outcomes, to our performance commitments and investment programme.

The Legal team’s detailed review of delivery of our legal obligations is attached as Annex H to this appendix.

3.5 Board and Director Leadership

Throughout our PR19 programme, our board directors as members of the Board, Audit Committee, Remuneration Committee, Community Committee and their participation in the Regulatory Working Group, have taken active roles in owning the strategy for and leading and overseeing development of our Business Plan. The table below shows the meetings from July 2017 onwards where the strategy for and development of this Business Plan were significant or, in most cases, the sole agenda item.

Board	Audit Committee	Remuneration Committee	Community Committee	Regulatory Working Group
8	3	1	2	15

The following table shows the scope of the work undertaken and subject areas covered by our board directors since July 2017 on setting the strategy for and leading the development of our Business Plan.

Date	Meeting	Subject Arears
11 July 2017	Regulatory Working Group	• Forward programme • Introduction to a price review • Ofwat's expectations of how companies will communicate with their customers during PR19 • PR19 programme including work breakdown structure, customer engagement programme • An introduction to our WRMP • Business Plan timelines including key milestones
26 July 2017	Regulatory Working Group	• PR19 programme plan, timescales and key milestones • Forward Programme • Ofwat draft methodology and emerging themes • PR19 strategy (our vision, what we are trying to achieve, our differentiator, our priorities and progress)
25 September 2017	Regulatory Working Group	• PR19 process and the role of the Board (key milestones, forward schedule and interactions with the Board). • The role of the Board, importance of it including Ofwat expectations, and outlining our approach to assurance • Draft Baseline Plan (Key Business Plan components and building blocks - baseline plan strategy, outcomes, PCs, ODIs, totex, key assumptions and bill impacts. Strategic options. • WRMP (introduction to the process, briefing on the development of approach, importance of the key links to the Business Plan)
1 November 2017	Regulatory Working Group	• Programme plan and interactions (plan on a page and interactions with the Board) • PCs (AMP7 Outcomes, PCs and ODIs. Ofwat's approach to developing PCs and process for developing PCs and ODIs) • Our Customer Engagement Programme to underpin the Business Plan (review of the outputs of phase 0 of our Customer Engagement Programme and overview of planned activities for phase 1)

Date	Meeting	Subject Arears
29 November 2017	Regulatory Working Group	• Implications of dWRMP for our Plan • Ofwat's expectations on the role of CCGs • CCG briefing by Teresa Perchard, CCG Chair • Slides on current performance against PCs. • Ofwat' classification of plans
6 December 2017	Regulatory Working Group	• PR19 financial considerations • Possible financial outcomes including yield, returns, customer bills and RCV growth across AMP7; key assumptions and variables that will impact PR19 determination. • Evolution of Regulatory Framework from PR14 to PR19
25 January 2018	Regulatory Working Group	• PR19 update • PR19 core building blocks • RCV allocation and assurance • Draft PR19 PC framework • WRMP consultation
30 January 2018	Board	• RCV allocation submission and assurance
22 February 2018	Board	• PR19 Programme Update
22 February 2018	Audit Committee	• Assurance Strategy and scope of assurance for Business Plan • Appointment of PwC as assurance partner for PR19 and Atkins for technical assurance • Audit Committee oversight of high quality data
22 March 2018	Community Committee	• Community vision • AMP6 performance against community commitments at PR14 • Forward programme
22 March 2018	Regulatory Working Group	• Common understanding of our ambition and approach to customer engagement • Customer engagement Phase 0 and Phase1 results • Customer engagement Phase 2 activities planned • Approach to triangulation of customer engagement outputs and high-level conclusions • PwC update on assurance
30 April 2018	Board	• Cost adjustment Claims and PC early submission • Programme Update • Requirements for Board Assurance Statement • Business Plan structure • Deep dive areas for Regulatory Working Group • Business Plan high-level narrative
16 May 2018	Regulatory Working Group	• Wholesale investment portfolio • Totex envelope • Strategic Assurance Framework update from PwC
20 May 2018	Board	• Programme Update
22 May 2018	Community Committee	• AMP6 Community Commitments • Community Strategy • Community Model

12 June 2018	Audit Committee	• Assurance methodology for data tables and accompanying commentaries • PR14 reconciliation data tables, feeder models and commentaries for 15 July submission
14 June 2018	Regulatory Working Group	• Customer engagement deep dive • Requirements related to Customer Engagement • Customer engagement programme • Evidence and conclusions to date and how this has been informing the Business Plan, • CCG assessment framework • Addressing customer vulnerability and affordability
18 June 2018	Regulatory Working Group	• Outcomes, performance commitments and ODIs deep dive • Proposed Outcomes for AMP7 • Customer evidence supporting outcomes and proposed PCs • Approach to development of ODIs
20 June 2018	Board	• PR19 assurance update (PwC) • PR19 Business Plan Strategy • Water Resources Management Plan update • Proposed Outcomes for AMP7 • Customer evidence supporting outcomes and proposed PCs • Approach to development of ODIs • Wholesale Totex Programme and delivery risks • Financeability and funding
2 July 2018	Regulatory Working Group	• Totex deep dive • Legal and regulatory requirements • Efficiencies within programme • Delivery risks
17 July 2018	Regulatory Working Group	• Resilience deep dive • Corporate, financial and operational resilience • Shocks and stresses • Independent maturity assessment • Resilience framework and strategy • Customers' priorities
25 July 2018	Board	• Water Resources Management Plan 2019 • Water Resources in the South East (WRSE) • PR19 Business Plan Summary • Customer Engagement Update • Outcomes, PCs and ODIs • AMP7 Wholesale Investment Programme • AMP7 Wholesale Investment Programme Delivery Risk • Resilience • Retail Plan • Business Plan Financials • Business Plan Financeability • Legal Considerations • Board Governance and Assurance • Business Plan Executive Summary
16 August 2018	Audit Committee	• Assurance of data tables and commentaries • Assurance - Water Industry Strategic Environmental Requirements (WISER) • Assurance - ODIs • Assurance – technical • Strategic assurance of submission

20 August 2018	Board	• Board Assurance • How customers and stakeholders have influenced the plan • CCG Update (Teresa Perchard) • Bill levels and affordability • Customers in vulnerable circumstances • AMP6 Supply interruptions performance • PCs and ODIs • AMP7 wholesale totex programme • Resilience • Trading and Procurement Code, • Bid Assessment Framework • Direct Procurement for Customers • *Putting the sector back in balance: position statement* • Gearing and sharing efficient financing costs • Dividend Policy • *Board leadership, transparency and governance principles* • Business Plan Financials • Business Plan financeability and Financial Resilience • Cost Adjustment Claims • Cost efficiency and benchmarking • Legal and regulatory considerations
20 August 2018	Remuneration Committee	• Executive Pay Policy
28 August 2018	Board	• WRMP alignment with Business Plan • Resilience Assessment • Gearing and Financing Outperformance • Dividend Policy • Managing Uncertainty • Business Plan Assurance

Annex A

Company Monitoring Framework
Final Assurance Plan 2017/18
March 2018

Contents

Introduction and Background

About Affinity Water

We treat and supply over 900 million litres of water every day so we can ensure that 3.6 million people have high quality drinking water when they need it. We understand that we provide an essential service to households and businesses across our region. It is what drives our ambition to be a trusted, community-focused water company.

But we face a very real challenge to our ability to continue to meet demand in the longer term. We supply water to one of the fastest-growing, most economically active regions in the country. While demand is increasing, the amount of available water is decreasing.

In 2014 we submitted a five-year Business Plan to our regulator which set out a path to meeting this challenge. In developing our Business Plan, we sought the views of our customers and stakeholders through face-to-face community meetings, online panels and our Let's Talk Water Campaign.

As a result of what our customers told us, we set out 13 key performance commitments for the period 2015 – 2020 (AMP6). These commitments are designed to ensure that we:

- have enough water to meet demand, while leaving enough water in the environment;
- minimise disruption to customer supplies;
- provide high quality water; and
- provide customers a value-for-money service.

We aim to be open with our customers, stakeholders and regulators about our performance against those commitments. We want them to have trust in our service and confidence in the information we publish about our performance. We welcome feedback at any time about how we're performing against our commitments.

About this document

We regularly publish information on our performance to demonstrate to customers, stakeholders and our regulators the extent to which we are delivering the services expected of us.

This document describes the main assurance activities that we either carry out ourselves or engage third-party providers to carry out independently, so that the information we report to customers, stakeholders and regulators is accurate, transparent, reliable, relevant, complete and up-to-date. We consider it essential to demonstrate that we report information on our performance that meets those criteria. This is part of our commitment to demonstrate that we take ownership of the information we report.

This Assurance Plan sets out the main categories of information we publish and the processes in place to assess and assure that information. In producing and publishing this document we aim to provide transparency around how we support our Board in providing assurance of the information we report.

The water industry regulator, Ofwat, requires companies to provide different levels of assurance to support the information they publish, depending on Ofwat's confidence in the quality of the information that companies produce. As part of its Company Monitoring Framework, Ofwat require us to publish an assurance plan each year.

In November 2017 we carried out an assessment of the risks, strengths and weaknesses of the systems and processes we have in place to support our Board in providing assurance of the information we report. In writing our Risks, Strengths and Weaknesses Statement and draft Assurance Plan, we engaged directly with the Chair of our Customer Challenge Group (CCG). This was invaluable in ensuring both those documents and this Final Assurance Plan adequately reflect the perspective of our customers.

Following publication of our 2017/18 Risks, Strengths and Weaknesses Statement, we have:

- consulted with our key regulators and offered meetings to discuss the statement;
- sought feedback from the Chair of our CCG on how best to engage with CCG members as a whole in respect of the statement; and
- asked customers, stakeholders and regulators to give us their views on the way we assess data and information, and how we present our performance to them.

We have received no feedback from our stakeholders in respect of either our Risks, Strengths and Weaknesses Statement or draft Assurance Plan.

Ofwat published their Company Monitoring Framework 2017 Assessment Report in November 2017. We “met expectations” in all but one category, Financial Monitoring Framework, where Ofwat raised two minor concerns. These are detailed on page 20 of this document together with how we are addressing them.

Our Assurance Plan

General approach to assurance and information

Role of the Board

Our Board has overall responsibility for monitoring the Company's systems of internal control and for reviewing the effectiveness of these systems, including financial, operational and compliance controls and risk management, and is advised by our Audit Committee on these matters. We continue to maintain a multi-layer assurance process.

Role of the CCG

Our Customer Challenge Group (CCG) has an independent chair and its primary role is to "comment on how well Affinity Water considers customers' views and their priorities and how well customer risks are managed in relation to the achievement of the AMP6 Performance Commitments". In particular, the CCG's terms of reference include a requirement for them to have access to assurance reports from auditors and scrutinise performance against our AMP6 Performance Commitments. They are also expected to comment on and challenge the appropriateness of content and language of relevant customer communication and engagement material across the range of media channels used.

Risk Management Framework

We have an established framework for identifying, evaluating and managing the key risks we face. Our aim is to foster a culture in which teams throughout the business manage risks as part of their management of day-to-day operations. We identify, record, assess and manage risks at three levels as follows:

- Strategic Risks – those risks which potentially have a material adverse effect on our business, financial condition, results of operations and reputation; these risks are reported in our Statutory Financial Statements as our "Principal risks and uncertainties"
- Directorate Risks – those risks which potentially have a material adverse effect on the achievement of directorate-level business objectives
- Operational Risks – those risks which potentially have a material adverse effect on the effectiveness or efficiency of day-to-day business processes.

All of the above risks are recorded on our Risk Repository, assessed, and action plans prepared, if necessary, for further mitigation. Activities against these plans are monitored on an on-going basis. Risks are also regularly re-assessed and ranked by our teams during the year. Strategic and directorate risks are reviewed at least quarterly by our Executive Management Team and Audit Committee. Strategic risks are also reviewed at least twice-yearly by our Board, in particular as part of their approval of our Annual Report and Financial Statements.

The strategic risk register includes the principal regulatory risk of 'Failure to comply with laws, our instrument of appointment and other recognised standards'. This risk encompasses, amongst other things, the risks managed at directorate level relating to the provision of accurate information to customers, regulators and stakeholders.

Internal systems and processes

Systems are designed to manage the risk of failure to achieve business objectives (though such risk cannot be completely eliminated), and provide reasonable, but not absolute, assurance against material misstatement or loss. Particular features of the systems of risk management, planning and controls include:

- a comprehensive suite of internal control procedures across both operational and financial matters, supported by detailed delegated levels of authority;

- an Internal Audit function, the head of which has direct access to the Audit Committee, together with other internal control and assurance resources which monitor compliance with laws, regulations, policies and procedures;

- specialist planning teams retained within the organisation to work on major projects, such as business planning activities, supported by external specialists where appropriate; and

- the use of appropriate fiscal, regulatory and operational external assurance review. The Board approves the company's annual budget and regularly reviews actual performance. All major transactions are reviewed and approved by the Board.

The Company follows the principles of the 'three lines of defence' model, as promoted by the Institute of Internal Auditors and other professional and commercial organisations, as the basis of its assurance process. Assurance is achieved as follows:

1st Line: Management control

Controls are exercised by the operational managers who own and manage risks day to day. Controls are designed into systems and processes under the guidance of operational management.

2nd Line: Risk management and peer review

This comprises risk management and compliance functions established by management to help build and / or monitor the first line of defence controls, ensuring they are properly designed, in place and operating as intended.

3rd Line: Internal Audit

Internal Audit provides the Board and senior management with assurance based on a high level of independence and objectivity within the organisation. Internal Audit provides assurance, on a test basis, as to the effectiveness of governance, risk management and internal controls.

Internal Audit prepares an annual plan of reviews, taking into account risks identified on risk registers, and carries out a number of audits each year. Not all areas are reviewed every year. The Internal Audit Plan is approved by the Audit Committee, which also monitors its delivery over the course of the financial / regulatory year. When reviewing processes which include recording and processing of data to be used in regulatory reporting, Internal Audit particularly focuses on ensuring the effectiveness and efficiency of controls to ensure accuracy and completeness of that data.

External Assurance

We also make use of third-party organisations to provide the Board with external assurance that the information prepared by management is accurate and compliant. This particularly applies to major items such as the Annual Report and Accounts and the tariff setting process. The main parties used to provide this assurance are PricewaterhouseCoopers LLP (PwC), who provide assurance on financial data, and Atkins Limited (our Reporter), who provide assurance on engineering and technical data. These contracts are periodically re-tendered and providers may change.

In addition, from time to time we may also use other assurance providers, such as Deloitte, Frontier Economics, Ernst & Young and Oxford Economic Research Associates, on specific issues where management or our Board consider it appropriate.

It should be noted that the three lines of defence model does not always require the controls within the three lines to be performed in strict chronological order. In fact, it is not uncommon for all three to be performed concurrently.

Assurance of reported information

The tables on the following pages describe, for each of the types of information we publish, the main current assurance controls in place so that all information reported is accurate, transparent, reliable, relevant, complete and up-to-date.

Report Categories	Main Risks	Controls / Assurance in Place		
		1st Line (Data providers and management)	2nd Line (Regulation, Financial Control, senior management)	3rd Line (Internal Audit and External Providers)
Regulatory Annual Performance Report **(included within the Annual Report and Financial Statements)** **Summarises company performance in the preceding year and meets specific information requirements.**	Underlying non-financial data is inaccurate or incomplete. Information reported is unclear or misleading. Reporting requirements are not sufficiently well understood by staff resulting in inappropriate reporting methodology.	1. A wide variety of day-to-day operational controls is operated to ensure that all transactional data is accurately and completely recorded. 2. We have in place well-established responsibilities and accountabilities, policies, methodologies and processes, all of which are subject to frequent self-assessment and independent review by Internal Audit on a cyclical basis.	1. Reporting experts in the Regulation team carry out regular detailed reviews of underlying data and information to ensure accuracy and completeness. 2. Executive / Senior Management review all information prior to publication or submission. 3. The Audit Committee oversees all processes required to produce the Annual Report and Financial Statements, including the Annual Performance Report. 4. The Board approves the Annual Performance report prior to submission.	1. Atkins carry out reviews of methodologies and processes by which non-financial data are produced and information generated. We consider it essential to have this independent review given the penalties and rewards associated with the achievement of performance commitments and the consequent impact on customers' future bills 2. PwC carry out an annual audit of the Regulatory Accounting Statements contained within our Regulatory Annual Performance Report. We have a regulatory obligation for our external auditors to confirm that these statements have been presented in accordance with Condition F and the Regulatory Accounting Guidelines issued by Ofwat. These reviews also confirm whether reports are prepared in accordance with relevant guidance and regulatory requirements. 3. CCG comment on and challenge the appropriateness of content and language of relevant customer communication and engagement material across the range of media channels used. N.B. the assurance work carried out in respect of our Regulatory Annual Performance Report is detailed in the "Data Assurance Summary", published on our website.

Report Categories	Main Risks	Controls / Assurance in Place		
		1st Line (Data providers and management)	2nd Line (Regulation, Financial Control, senior management)	3rd Line (Internal Audit and External Providers)
Other Regulatory Reporting **Data and information provided to our main regulators Ofwat, DWI and EA, and to CCWater.** **In particular: Guaranteed Standards Scheme (GSS) information, written complaints data, annual data tables, annual tariffs and charges, quarterly reports to CCWater.**	Underlying non-financial data are inaccurate or incomplete. Information reported is unclear or misleading. Reporting requirements and the purposes for which submitted information will be used are not sufficiently well understood by staff, therefore reporting methodologies are inappropriate.	1. Day-to-day operational controls are operated to ensure that all transactional data is accurately and completely recorded. 2. We have in place well-established responsibilities and accountabilities, policies, methodologies and processes, all of which are subject to frequent self-assessment and independent review by Internal Audit on a cyclical basis.	1. Reporting experts in the Regulation team carry out regular detailed reviews of underlying data to ensure accuracy and completeness. 2. Executive / Senior Management review all information prior to publication or submission. 3. Our Audit Committee reviews and our Board approves our annual data tables submissions.	1. Atkins carry out reviews of methodologies and processes by which certain data are produced and information generated for inclusion in regulatory reporting submissions. Again, we consider it essential that we have this independent review of our processes and procedures given the importance of the information provided to customers and regulators. These reviews also confirm whether reports are prepared in accordance with relevant guidance and regulatory requirements. 2. CCG comment on and challenge the appropriateness of content and language of relevant customer communication and engagement material across the range of media channels used.

Specific reports in this category

Reports	Description	Assurance
CCW Quarterly Returns	We submit operational performance data to CCWater each quarter. Areas covered include supply interruptions, per capita consumption and complaints. This data is used by CCWater to compile and publish reports comparing water companies' performance. Therefore, it is important that it is complete and accurate.	Quarterly returns are subject to the 1st and 2nd line of defence controls as described in the above table. 3rd line of defence assurance is carried out by Atkins on the annual return.

Reports	Description	Assurance
Delving into Water	We also submit “Delving into Water” reports to CCWater each quarter. These submissions are used by CCWater to compile their annual “Delving into Water” reports to highlight how the various water companies are performing in areas that “really matter to consumers”. Again, in order to support the comparability of performance between companies it is vital that the information we provide is complete and accurate.	Quarterly returns are subject to the 1st and 2nd line of defence controls as described in the above table. 3rd line of defence assurance is carried out by Atkins on the annual return.
Discover Water	Discoverwater.co.uk is a dashboard bringing together key information about water companies in England and Wales in one place for customers. The dashboard aims to be a clear and simple source for trustworthy and factual information. Much of the data underlying the dashboard is provided by water companies and it is vital that this data accurately reflects our performance.	Data provided are subject to the 1st and 2nd line of defence controls as described in the above table.
PR19 Business Plan	We are required to submit our business plan for 2020 – 2025 to Ofwat by 3 September 2018. We are also required to submit various supporting data tables, some by 3 May 2018 and others by 15 July 2018. The Company and its Board are responsible for submitting high-quality business plans which include good assurance and have been put together using good governance processes. In Ofwat’s PR19 methodology they have described six Confidence and Assurance tests that companies should consider when seeking and delivering assurance.	We are adopting a multi-layer assurance process to review and challenge our proposals and develop a final business plan that is in line with industry best practice. We are operating a variety of 1st and 2nd line of defence controls including internal team peer reviews; specialist technical support; and PR19 SteerCo oversight. By way of 3rd line of defence controls we are using (a) Atkins for technical assurance of non-financial data; and (b) PwC as our overall assurance partner; in this capacity they will report to our Board to provide the evidence and information necessary to allow the Board to provide an assurance statement to Ofwat that will meet its key tests and expectations. Our Internal Audit team will also work closely with PwC to support their work.

Report Categories	Main Risks	Controls / Assurance in Place		
		1st Line (Data providers and management)	2nd Line (Regulation, Financial Control, senior management)	3rd Line (Internal Audit and External Providers)
Financial Reporting **Regulatory and statutory financial information, submitted to Companies House.**	Financial position or performance mis-reported. Underlying financial transaction data are inaccurate or incomplete. Incorrect classification of transactions and balances. Incomplete / unclear notes to the accounts.	1. Day-to-day financial controls over financial transaction recording. Verification applied through delegated authority by managers. 2. Senior Finance managers are responsible for ensuring that all accounting processes are aligned to UK Generally Accepted Accounting Practice and relevant requirements of the Companies Act 2006. 3. We have in place well-established responsibilities and accountabilities, policies, methodologies and processes, all of which are subject to frequent self-assessment and independent review by Internal Audit on a cyclical basis.	1. The Finance team produces monthly management accounts which are reviewed by Executive / Senior Management and the Board. 2. The Audit Committee oversees all processes required to produce the Annual Report and Financial Statements, including review of draft reports, and recommends to the Board that they can be signed off.	1. As required by the Companies Act, PwC conduct annual audits of our financial statements in accordance with International Standards on Auditing (UK and Ireland). The objectives of these audits are to confirm that the financial statements give a true and fair view of the state of the Company's affairs, profit and cash flow; that they have been properly prepared in accordance with UK Generally Accepted Accounting Practice; and have been prepared in accordance with the requirements of the Companies Act 2006. N.B. the assurance work carried out in respect of our Annual Report and Financial Statements is detailed in the "Data Assurance Summary", published on our website.

Report Categories	Main Risks	Controls / Assurance in Place		
		1st Line (Data providers and management)	2nd Line (Regulation, Financial Control, senior management)	3rd Line (Internal Audit and External Providers)
Direct Customer Communications **Multi-channel communications such as website information, on-line surveys, social media, customer call centre data, operational staff contact, customer billing leaflets, etc.**	Information provided is inaccurate, incomplete or unclear. Information provided does not meet the needs of customers.	1. Day-to-day controls are in place to ensure that all data are accurately and completely recorded. Data assurance is carried out by operational management. 2. We have in place well-established responsibilities and accountabilities, policies, methodologies and processes, all of which are subject to frequent self-assessment and independent review by Internal Audit on a cyclical basis. 3. All materials used to communicate directly to customers are developed jointly by our Customer Relations and External Communications teams.	1. Reporting experts in the Regulation team carry out regular detailed reviews of underlying data pertaining to regulatory submissions to ensure accuracy and completeness. 2. Executive / Senior Management review information prior to publication or submission.	1. Individual communications materials are not typically subject to specific external assurance. However, any underlying data used in such communications will be subject to external review by Atkins as part of their assurance work on our Annual Performance Report and other Regulatory Reporting. 2. CCG comment on and challenge the appropriateness of content and language of relevant customer communication and engagement material across the range of media channels used.

Report Categories	Main Risks	Controls / Assurance in Place		
		1st Line (Data providers and management)	2nd Line (Regulation, Financial Control, senior management)	3rd Line (Internal Audit and External Providers)
Other Stakeholder Information **Information provided to a range of customer, community, consumer and local government and other stakeholder groups.**	Information provided is inaccurate, incomplete or unclear. Information provided does not meet the needs of relevant stakeholders.	1. Day-to-day controls are in place to ensure that all data are accurately and completely recorded. Data assurance is carried out by operational management. 2. We have in place well-established responsibilities and accountabilities, policies, methodologies and processes, all of which are subject to frequent self-assessment and independent review by Internal Audit on a cyclical basis. 3. All materials used to communicate directly to customers are developed by our External Communications team in conjunction with other areas of the company dependent upon the nature of the information being reported.	1. Reporting experts in the Regulation team carry out regular detailed reviews of underlying data pertaining to regulatory submissions to ensure accuracy and completeness. 2. Executive / Senior Management review information prior to publication or submission.	1. Individual communications materials are not typically subject to specific external assurance. However, any underlying data used in such communications will be subject to external review by Atkins as part of their assurance work on our Annual Performance Report and other Regulatory Reporting. 2. CCG comment on and challenge the appropriateness of content and language of relevant customer communication and engagement material across the range of media channels used.

Specific reports in this category

Reports	Description	Assurance
Customer Performance Report	Our annual customer performance report is designed to update customers on our various performance targets and measures.	The contents of the performance booklet are reviewed in detail by our Audit Committee and members of our executive and senior management teams. All numbers reported are based on data which has already been subject to detailed review by our external auditors PwC and Atkins.

Report Categories	Main Risks	Controls / Assurance in Place		
		1st Line (Data providers and management)	2nd Line (Regulation, Financial Control, senior management)	3rd Line (Internal Audit and External Providers)
Charges scheme documents, tariff documents, charging arrangements and related information and documents.	Information provided is inaccurate, incomplete or unclear. Information provided does not meet the needs of relevant stakeholders. The Company does not properly comply with its legal and regulatory obligations.	1. We have in place well-established responsibilities and accountabilities, policies, methodologies and processes covering development of charges, charges schemes and charges arrangements; these are all subject to annual self-assessment. 2. Various detailed controls are operated as an inherent feature of processes to develop charges, charges schemes and charges arrangements, designed to ensure the veracity of calculations and compliance with regulatory requirements.	1. A Board sub-committee is formed every year to review, on behalf of the Board, the development of tariffs, charges schemes and charges arrangements, and approve any submissions to be made to Ofwat.	1. Internal Audit carry out an annual review to provide assurance that documented processes and procedures are designed to ensure compliance with all regulatory and legal obligations, and that charges schemes and charges arrangements are developed in line with those processes and procedures. 2. Atkins, our Reporter, review forecasts of customer numbers and charges volumes in order to provide assurance that these have been prepared on a reasonable basis. 3. PwC assess the computational accuracy of charges forecasts and provide assurance that expected revenue from our charges is in line with the price controls set out in our licence conditions.

Specific reports in this category

Reports	Description	Assurance
Charges Scheme Wholesale Tariff Document Charging Arrangements for New Connections Indicative Charging Information Statement of Significant changes Statement of significant Changes – Charges Scheme Charges	Each year we publish a number of documents which set out our wholesale charges to water supply licensees who operate in our supply areas; charges for services provided to household customers; and charges to developers for providing new water mains and for connecting to water mains. There are various legal and regulatory requirements covering these documents, summarised by Ofwat in Information Note 17/09.	We established a Board sub-committee to oversee development of the various 2018/19 charges and tariff documents, and the assurance activities operated to ensure compliance with the various legal and regulatory requirements. To support the sub-committee in making its Board Assurance Statement that we had complied with all our relevant legal and statutory obligations, we carried out extensive audit work to support the charges setting process, as follows: • Atkins carried out an audit of the information used to provide the "charge multipliers" for the Charges Scheme calculations; they concluded that "we can provide assurance on the processes that have been used to derive the base customer information and charge multipliers…and do not consider there are any material risks for the report year". • PwC reviewed our forecast revenue figures and concluded that "we agreed the total forecast revenue as being no more than the price control revenue as notified to Affinity Water by the Regulator on 12 December 2014" and further that "we found no exceptions". • Our Internal Audit team focused on reviewing written procedures and the operation of those procedures; they concluded that "we are able to provide assurance as to the adequacy of documented procedures for setting charges and the practical application of those procedures".

Ofwat's Assessment

The table below shows the "minor concerns" raised by Ofwat in their Company Monitoring Framework report, published in November 2017 and our responses designed to ensure that these concerns are addressed in future reports and submissions.

Assessment	Response
Financial Monitoring Framework	
• Our review identified a minor error relating to the disclosure of dividends which resulted in further errors in the dividend cover and dividend yield metrics provided.	• We acknowledge that table 1A of our Regulatory Annual Performance report incorrectly showed total dividends paid when it should have only reflected appointed dividends. • An amended table 1A was provided to Ofwat. • We have introduced further peer / management control checks to prevent such errors occurring in future.
• A more significant error was in relation to RORE where the information published by Affinity Water did not include the detailed analysis of the individual components of performance which was required by the RAGs. When the company provided this to us we also identified an error in their calculations which required correction.	• We did not take full account of Ofwat guidance on Return on Regulatory Equity (RORE) or seek clarification where we were unsure on said guidance. • We have introduced further peer / management control checks, including confirmation of compliance with Ofwat and other relevant guidance. • We will ensure we raise queries with Ofwat in the event of a lack of clear understanding of any guidance on completion of any aspects of Regulatory Annual Performance reporting requirements.

Feedback

We would be pleased to received feedback at any time with regards to our various performance and assurance documents, how we assess data and information and how we present our performance to customers, stakeholders and regulators.

Please contact us at:

Trustandconfidence@affinitywater.co.uk

Annex B

APPROACH TO SETTING OUTCOME DELIVERY INCENTIVES

Assurance Review for Affinity Water

August 2018

Strictly confidential

CONTENTS

EXECUTIVE SUMMARY

Affinity Water (Affinity) has commissioned Frontier Economics to carry out an assurance review of Affinity's approach to setting Outcome Delivery Incentive rates (ODIs) for PR19.

The review covers the overall approach that Affinity has taken in the following areas:

- setting Outcome Delivery Incentives (ODIs);
- the use of caps, collars and deadbands; and
- the application of enhanced incentive rates for clear out-performance or under-performance.

The scope of this review does not cover assurance of the inputs to the incentive rate calculations (i.e. the cost inputs and the benefit/valuation inputs).

Setting incentive rates

In reviewing Affinity's approach to setting ODIs we have addressed the following areas.

- **The choice between financial and reputational incentives.** Affinity has set financial ODIs as the default, and applied reputational only incentives to one common PC and three bespoke PCs. This approach is consistent with Ofwat's expectations for PR19.
- **The application of the Ofwat formula for calculating financial ODIs.** Affinity has used the Ofwat formula to calculate its financial ODIs. This approach is consistent with Ofwat's expectations for PR19.
- **Details in the application of the ODIs.** Affinity has confirmed that all of its financial ODIs will be in-period, and that all financial ODIs will be linked to revenue rather than the RCV. This approach is consistent with Ofwat's expectations for PR19.

The use of caps, collars and deadbands

Affinity has not applied caps, collars and deadbands to its ODIs as a default. However, by exception, Affinity has applied underperformance collars to seven PCs and underperformance deadbands to two of its PCs. Affinity has provided explanations for why it is appropriate to apply these collars and deadbands. We note that Affinity has not provided evidence to us on any customer engagement relating to caps and collars, which would have helped to support its case. Overall, this approach is not inconsistent with Ofwat's methodology.

Approach to enhanced incentive rates

Affinity has chosen not to include enhanced incentives, and has provided reasons for this choice. This approach appears reasonable as under the Ofwat methodology it is not necessary for companies to include enhanced ODIs.

1 INTRODUCTION

Affinity Water (Affinity) has commissioned Frontier Economics to carry out an assurance review of its approach to setting Outcome Delivery Incentive rates (ODIs) for PR19.

The review covers the overall approach that Affinity has taken in the following three areas:

- setting ODIs, including whether the ODIs are in-period, and whether the incentives are revenue or RCV based;
- the use of caps, collars and deadbands; and
- the use of enhanced incentives for clear out-performance or under-performance.

This paper is structured around these three areas. In each case we provide a brief summary of Ofwat's guidance and expectations in the area, and then present our findings in relation to Affinity's approach.

The scope of this review does not cover the inputs to the ODI calculations (i.e. the cost inputs and the benefit/valuation inputs) or a thorough QA of all of the calculations.

2 SETTING INCENTIVE RATES

2.1 Introduction

This section covers the overall approach taken in setting incentive rates.

2.2 Ofwat guidance

Ofwat's general guidance on ODIs is that they should be financial by default. In addition, Ofwat's methodology for PR19 sets out the formulas that companies should use to calculate the incentive rates, i.e. the payments for underperformance and outperformance.

These ODI formulas are shown in Figure 1 below.

Figure 1 Ofwat formula for ODI payments

Underperformance payments	• Incremental benefit – [incremental cost * p]
Outperformance payments	• Incremental benefit * [1-p]

In the formula *p* stands for the cost sharing rate in the totex sharing mechanism. Ofwat's guidance is to assume 50% for the cost sharing rate unless there is a good reason to use an alternative.

The formulas are designed to ensure that the value of the payments relates to the benefits from the change in service, and also reflect the customer share of the costs that may be associated with the performance level.

Ofwat has also set out its expectations for two further aspects of how financial ODIs should apply in practice.

- **In-period ODIs.** Ofwat stated that the default for financial ODIs is that they should be applied on an in-period basis, unless companies can justify why an in-period ODI is not appropriate for certain PCs. This is because in Ofwat's view, in-period ODIs *"bring service performance payments closer in time to when customers received the service performance"*.[1]
- **Revenue linked.** Ofwat continues to expect all in-period financial ODIs to be linked to revenue, rather than the Regulatory Capital Value (RCV). It has also stated that end of period ODIs by default should be linked to revenue, unless companies can justify with evidence why this should not be the case. This decision has been made to increase the strength of the incentives.

[1] Ofwat (2017), Delivering Water 2020: Our methodology for the 2019 price review, Appendix 2: Delivering outcomes for customers, p. 78.

2.3 Review of Affinity's approach

In reviewing Affinity's approach to setting ODIs we have addressed the following areas:

- the choice between financial and reputational incentives;
- the application of the formula for calculating financial ODIs; and
- details relating to the application of financial incentives (i.e. in-period ODIs and revenue based ODIs).

Choice between financial and reputational

We understand that Affinity adopted the following approach to decide where to apply financial ODIs.

- In principle, Affinity agrees that financial ODIs should be applied as the default.
- Affinity then reviewed its suite of PCs and ODIs, to consider whether it would be appropriate to apply only reputational ODIs in some cases, i.e. by exception.
- Following this review, Affinity applied reputational incentives only to one common PC. the 'risk of severe restrictions in a drought' (i.e. the common resilience PC). The rationale for this decision is that Affinity's investment on two other PCs (per capital consumption and leakage) will affect its performance on the resilience PC, meaning that any potential ODIs on the resilience PC may overlap with other financial ODIs. Affinity felt on balance it would be most appropriate to apply reputational ODIs to the resilience PC, to avoid any potential overlaps across ODIs, and to ensure that it could maintain financial ODIs on per capita consumption and leakage.
- In addition, Affinity applied reputational only incentives to three bespoke PCs; mean zonal compliance, and two PCs relating to customer satisfaction with support for vulnerable customers. In the case of mean zonal compliance Affinity concluded that there was a strong overlap with the common PC compliance risk index and therefore the risk of double-counting if a financial incentive was included. For the customer satisfaction PCs on vulnerability Affinity concluded that it was not appropriate to include financial incentives (with the corresponding impact on customer bills) in relation to supporting vulnerable customers.

In our view, the decision process adopted by Affinity is reasonable and it is valid to consider the potential overlaps across different measures. It has also resulted in financial ODIs as the default option, with reputational only incentives being applied by exception. In these exceptions, Affinity has provided a rationale for not applying financial ODIs. Overall we consider that Affinity's decision process and its outcomes package that results from it, are therefore consistent with Ofwat's expectations for PR19.

We also note that Affinity has applied both out and underperformance payments to all PCs as a default, with the following exceptions.

- For asset health PCs (unplanned outage and mains burst), Affinity has applied only underperformance ODIs.

- For the Compliance Risk Index, Affinity has applied only underperformance ODIs. This is because Affinity has been consistent with Ofwat's expectations and set the PC level at the maximum possible, so it is not possible to achieve any outperformance.
- For the Abstraction Incentive Mechanism, Affinity has applied only outperformance payments.

Affinity's approach in applying financial ODIs is consistent with Ofwat's approach. Ofwat stated that it does not expect outperformance payments on asset health PCs, unless a company can show that any outperformance would lead to customer benefits. For CRI Affinity has set the PC level at the maximum level and therefore outperformance payments do not apply.

Application of the ODI formula

Affinity has applied the ODI formula both in the way that it has calculated its outperformance payments and also in the way that it has calculated its underperformance payments. In particular, it has mechanistically used the formulas correctly, and has used an assumed cost sharing ratio of 50% in the formulas. Affinity has also made appropriate assumptions in the way that it has annualised the costs that are used in the calculation of underperformance payments. Affinity's approach for calculating the incentive rates for the Abstraction Incentive Mechanism is consistent with Ofwat's expectations.

Overall, Affinity's approach in applying the formulas is consistent with Ofwat's expectations for PR19.

In addition, although we have not reviewed the underlying cost and benefit inputs to these formulas, we note that the pattern of the ODI rates is consistent with Ofwat's general expectation. By this we mean that for any given measure the unit underperformance payment rate is greater than or equal to the outperformance rate. This result arises when the assumed benefit value is greater than or equal to the cost value.

Details in the application of the ODIs

Affinity has confirmed that all of its financial ODIs will be in-period, and that all financial ODIs will be linked to revenue rather than the RCV. This approach is consistent with Ofwat's expectations for PR19.

3 CAPS, COLLARS AND DEADBANDS

3.1 Introduction

In setting the ODIs for individual PCs, companies can propose the use of caps, collars and deadbands.

- A cap imposes a level where better performance than this level does not result in any additional outperformance payments.
- A collar imposes a level where worse performance than this level does not result in any additional underperformance payments.
- A deadband introduces a range around the PC level where within the range no outperformance or underperformance payments are earned.

3.2 Ofwat guidance

The Ofwat PR19 methodology stated that companies can propose outperformance payment caps and underperformance payment collars on individual ODIs. In doing so, it stated that companies will need to consider the costs and benefits of such caps and collars. Companies should also engage with customers on their proposed approach.

The main cost is that these individual caps and collars reduce the incentives for companies to improve their performance near, at and beyond the cap and collar.

There are benefits of such caps and collars. These include:

- avoiding the exposure of companies and customers to unlimited, or very high, outperformance and underperformance payments on individual ODIs; and
- allowing companies to have higher ODI rates, focused over a smaller performance range.

Ofwat stated that caps and collars are more likely to be appropriate in the following situations:

- where data quality is lower;
- where there is less comparative or historical information on performance;
- where the P10 / P90 levels are harder to estimate; or
- where the evidence on customer benefits is less robust.

In terms of deadbands around the PC level, Ofwat has discouraged companies from proposing this for the following reasons:

- deadbands remove the incentive for companies to improve their performance;
- they require judgement in setting the level and may reduce transparency for customers;
- since customers experience the downside and upside of the fluctuations in terms of their service, Ofwat considers it reasonable that any appropriate adjustments are made to bills; and

- finally, that companies are "*able to manage the financial consequences of ODIs as part of considering the impact of ODIs in the round in their applications for their in-period ODI determinations*"[2].

Ofwat's guidance is that companies that propose deadbands should provide strong evidence as to why their proposals are appropriate and in the interests of their customers. Ofwat cite the example of the Compliance Risk Index (where the PC level is set at the theoretical maximum) as a case where there is a rationale for including a deadband.

3.3 Review of Affinity's approach

We have reviewed Affinity's approach to the use of caps and collars, and deadbands in the design of ODIs. We provide a summary of our findings in this section.

Approach to caps and collars

Affinity designed its ODIs with the default being that there would not be any caps and collars on individual ODIs. However, by exception, Affinity has included ODI collars in the following seven areas:

- per capita consumption – at 5 Ml/day higher than the PC level in each year (i.e. the PC level in each year plus 5 Ml/day);
- leakage – 3.57 percentage points below the PC level in each year (i.e. the PC level in each year minus 3.57 percentage points[3]);
- unplanned outage – at 4.3% of production capacity each year;
- mains burst – at 200 bursts per 1,000km each year;
- compliance risk index – at 4 each year;
- supply interruptions – 10 minutes per property each year; and
- low pressure – at 4 hours above the PC level in each year (i.e. the PC level in each year plus 4 hours).

We understand that Affinity introduced these underperformance collars because it has committed to stretching PC levels that would lead to material financial risks, if no individual collars were applied. For example, Affinity's calculations showed that in the case of leakage and per capita consumption, if underperformance payment collars were not applied in either case the potential downside could equate to over 3% of Return on Regulatory Equity (RoRE) on each of these PCs. The application of underperformance payment collars on individual ODIs therefore ensures that the incentives package is more balanced across Affinity's suite of PCs. Affinity also notes that in most cases the collar level applies at performance levels worse than the P10 level and that therefore the company retains meaningful financial incentives over a clear majority of potential performance levels.

2 Ofwat (2017), Delivering Water 2020: Our methodology for the 2019 price review, Appendix 2: Delivering outcomes for customers, p. 95.

3 Note that the PC is expressed as a % reduction from a base level, so this structure acts as a collar on underperformance payments.

We note that, in the materials provided to us to review, there is no reference to any customer engagement in relation to this decision.

In terms of potential overperformance payment caps, Affinity has reviewed its RoRE calculations and does not consider that its customers would be exposed to an unreasonably high level of risk from upside performance (i.e. outperformance payments and increases in bills), and therefore does not consider it necessary to apply outperformance payment caps to individual ODIs.

Our assessment of this approach is as follows.

- The decision to apply collars to seven PCs is not inconsistent with Ofwat's guidance. Affinity's default position was to not include caps and collars which was in line with the guidance. Affinity then identified a number of PCs where it considered collars were appropriate. The primary rationale for this relates to managing the magnitude of ODI underperformance in relation to extreme underperformance. Given that Affinity's downside RoRE exposure is towards the high end of Ofwat's indicated range, this reasoning appears to be consistent with Ofwat's expectations for justifying the inclusion on collars.
- To comply with Ofwat's guidance and expectations in this area Affinity should include details of its engagement on ODIs.

Approach to deadbands

Affinity designed its ODIs with the default being that there would not be any deadbands. However, by exception, Affinity has included underperformance deadbands in the following two areas.

- Compliance risk index – a deadband between zero and 2.8. Affinity has applied a deadband because this is a new PC, meaning that there is some uncertainty around likely performance levels.
- Supply interruptions –
  - a deadband between 3 minutes per property and 5 minutes per property in 2020/21 (PC level at 5 minutes per year);
  - a deadband between 3 minutes per property and 4.5 minutes per property in 2021/22 (PC level at 4.5 minutes per year);
  - a deadband between 3 minutes per property and 4 minutes per property in 2022/23 (PC level at 4 minutes per year);
  - a deadband between 3 minutes per property and 3.5 minutes per property in 2023/24 (PC level at 3.5 minutes per year); and
  - no deadband in 2024/25.

  While this is a more established PC for the industry in general, it is a new definition for Affinity. There is therefore more uncertainty in Affinity's possible performance levels on this PC.

Our assessment of this approach is as follows.

- Affinity's overall approach in only applying deadbands by exception is in-line with Ofwat's expectations for PR19.

- In the case of the Compliance Risk Index, Affinity’s approach is consistent with the Ofwat methodology.
- In the case of supply interruptions and in Affinity’s particular case, the approach is not inconsistent with the Ofwat methodology.

4 ENHANCED INCENTIVE RATES

4.1 Introduction

This section addresses the inclusion of enhanced incentive rates. These are higher outperformance payments or underperformance penalties that can be applied only to common PCs. Enhanced outperformance payments could only apply to industry-leading performance, while enhanced underperformance would be for performance that falls behind the industry lower quartile.

4.2 Ofwat guidance

One of Ofwat's stated goals for PR19 is to offer higher financial returns to companies that are "ambitious and innovative … with high quality business plans that set new standards for the sector" compared to those that just make improvements that keep them in-line with the rest of the sector. One of the mechanisms Ofwat is implementing to achieve this is by offering enhanced incentives.

Ofwat has therefore encouraged companies to include enhanced out and underperformance payments on the common PCs. Any enhanced outperformance payments must be accompanied by enhanced underperformance payments to provide a balanced set of incentives.

4.3 Review of Affinity's approach

Affinity has chosen not to include enhanced ODIs in its outcomes package. We understand that Affinity has chosen this approach for the following two reasons.

- Affinity considers that for the specific common PCs where enhanced payments could be applied, its PC levels and standard incentive rates are sufficiently stretching and powerful.
- In addition, Affinity's RoRE range without applying enhanced ODIs is within Ofwat's indicative range. It is likely that if Affinity applied enhanced ODIs, its RoRE range would fall outside of Ofwat's indicative range, at least on the P10 side.

Affinity's approach is not inconsistent with Ofwat's methodology, as companies do not necessarily have to include enhanced incentives. In addition, Affinity has provided reasons why it has adopted this approach, which support its chosen approach.

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Affinity Water Limited
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August 2018

For the attention of: Affinity Water Limited Board

Dear Sirs,

PR19 Strategic Assurance

As part of your PR19 Business Plan submission to Ofwat, you requested us to provide you with Strategic Assurance services in relation to various elements of your Business Plan submission to Ofwat, in line with our engagement letter dated 19 March 2018. The primary purpose of this letter is to communicate the scope and approach to our review and the significant findings and recommendations that we believe are relevant to your Business Plan submission.

1. Business Plan Review and Challenge

We conducted a technical review of your Business Plan (Version 1.0 and Version 4.0) in July and August 2018, to consider the extent to which the chapters met Ofwat's regulatory expectations for PR19. We performed this by challenging your Business Plan against our 'PwC Challenge Framework' which summarises the granular expectations, nine test areas and overarching characteristics outlined by Ofwat in their Final Methodology.

Throughout the course of our work we have provided you with a number of recommendations to address areas of potential non-compliance, or where arguments could be strengthened, and can confirm that you have incorporated all substantive feedback in Version 6.2 of the Business Plan.

2. Initial Assessment of Plans (IAP) Proforma

We conducted a review of your IAP Proforma which forms part of your Business Plan submission to Ofwat. In doing so we confirmed that the references included in the Proforma agree to the relevant pages/sections of Version 6.2 of the Business Plan, and the narrative comments that you've included are reasonable compared to the detail in the Business Plan.

We have provided feedback in respect of our review, and can confirm that the matters we raised have been incorporated into the final version of the IAP Proforma.

3. Assurance Framework Review

We performed an independent review of your PR19 Assurance Framework to assess if the programme followed a risk based approach to assurance so that each component of your Business Plan went

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through the right level of assurance and independent scrutiny. In performing our review we provided you with a number of recommendations to align to good practice as well as industry benchmarking. Where we have provided feedback to you in respect of your Assurance Framework, I can confirm that it has been incorporated into the final version of that Framework.

I can confirm that in respect of our Strategic Assurance activities, the company has provided us with all the necessary information on a timely basis to allow us to undertake our work, and that where we have made recommendations for improvement, these recommendations have been implemented as appropriate.

I would like to take this opportunity to thank all those who have supported us in our work.

Yours faithfully

Dave Gandee
Partner
PricewaterhouseCoopers LLP

Affinity Water Limited
Tamblin Way
Hatfield
Hertfordshire
AL10 9EZ

August 2018

For the attention of: Affinity Water Limited Board

Dear Sirs,

PR19 Programme Assurance

As part of your PR19 Business Plan submission to Ofwat, you requested us to provide you with Programme Assurance services in relation to the delivery of your PR19 Programme, in line with our engagement letter dated 19 March 2018. The primary purpose of this letter is to communicate the scope and approach to our review and the significant findings and recommendations that we believe are relevant to your Business Plan submission.

The approach to our work was to use the PwC 12 Elements of Programme Excellence, to assess the status of the PR19 programme at a point in time in May 2018.

Using the same framework, we then undertook 'deep dives' to consider whether specific elements of the PR19 programme were on track to support the delivery of a PR19 Business Plan that was of a high quality, on a timely basis.

As presented to you at your Board meetings and PR19 Steering Committee meetings, we noted that the PR19 programme had a strong governance structure and areas of work had been clearly assigned to owners within the business. Where we did identify improvements in the way that the programme was operating, we noted that you took these into consideration, and rapidly implemented change to ensure that the programme was not impacted.

I can confirm that in respect of our Programme Assurance activities, the company has provided us with all the necessary information on a timely basis to allow us to undertake our work, and that where we have made recommendations for improvement, these recommendations have been implemented as appropriate.

I would like to take this opportunity to thank all those who have supported us in our work.

Yours faithfully

D. Gandee

Dave Gandee
Partner
PricewaterhouseCoopers LLP

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Affinity Water Limited
Tamblin Way
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AL10 9EZ

August 2018

For the attention of: Affinity Water Limited Board

Dear Sirs,

PR19 Assurance – Financial Data Tables

As part of your PR19 Business Plan submission to Ofwat, you requested us to carry out an independent review over your financial data tables in line with our engagement letter dated 19 March 2018. The primary purpose of this letter is to communicate the scope and approach to our review and the significant findings and recommendations that we believe are relevant to your Business Plan submission.

Our scope of work included the testing of data within 50 data tables to be included as part of the Business Plan submission. The list of the tables are set out in the table on page 3 of this letter.

We followed a risk based approach in performing our testing over the financial data tables which aligns to Affinity Water's PR19 Assurance Framework, and utilises the 1st, 2nd and 3rd lines of defence where appropriate to do so. We undertook the following test procedures:

Supporting

- We reviewed a sample of 1st and 2nd line assurance activities (i.e. assessed if review procedures were adequate, appropriately documented and signed off by the relevant owners); and
- We reviewed the process documentation and commentary provided to support the data lines under review.

Historical Data

- We held interview meetings with the data owners to understand the process used for collating the data (e.g. systems, people, process);
- We tested the data by agreeing it back to the source in full, or sampling selected items within the data line and agreeing these back to source; and
- Where required, we performed analytical procedures on the data, such as historical trend analysis and benchmarking to the industry, to assess if the reporting data item appeared reasonable.

Forecast Data

- We held interview meetings with the data owners to understand the process used for forecasting the data (e.g. assumptions, judgements, forecast rates);
- We obtained evidence for the above along with management commentary. We challenged assumptions, judgements, forecast rates and assessed for reasonableness; and
- We performed a recalculation of forecast data, if applicable.

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In performing our work over the selected tables we provided management with ongoing feedback and recommendations. Management have actioned all of our recommendations and we consider the data included in the tables to be reasonable, complete and accurate.

I would like to take this opportunity to thank all those who have supported us in our work.

Yours faithfully

D. Gandee

Dave Gandee
Partner
PricewaterhouseCoopers LLP

Data Lines in Scope

Data Table	Lines in scope
App7 - Proposed price limits and average bills	E21-22, H39, J46
App8 - Appointee financing	A1-3, B5-12,
App9 - Adjustments to RCV from disposals of land	A1-2, A11
App10 - Financial ratios	A1-12, B23-34
App11 - Income statement based on the actual company structure	A1-5, A7-10, A12, A14-15, B17
App11a - Income statement based on a notional company structure	A1-5, A7-10, A12, A14-15, B17
App12 - Balance sheet based on the actual company structure	A2-6, B8-10, C13, C15-18, E21-28, G31, I35, J37-39, J41-43, J45-47
App12a - Balance sheet based on a notional company structure	A2-A4, A6, B8-9, C13, C15, C17-18, E21-22, E24-28, G31, I35, J37-39, J41-43, J45-47
App13 - Trade receivables	A1-9, B11-B13
App14 - Trade and other payables	A1-2, A4-11, B15-16, B20, C25-C26, D27-29
App15 - Cashflow based on the actual company structure	B5-B7, D10-11, F13-14, H17-19
App15a - Cashflow based on a notional company structure	B5-B7, D10-11, F13-14, H17-19
App16 - Tangible Fixed assets	A1-2, A6-7, B9-10, B14-15, C17-18, C22-23, D25-D26, D30-31, F41-F42, F46-F47
App17 - Appointee revenue summary	A1-11, B13, C14-17, D19, E20-23, F25-26, H28
App18 - Share capital and dividends	B8, B13
App19 - Debt and interest cost	A1-10, B11-22, C23-26
App20 - Cost of debt / analysis of debt	A1-6, C403-405, D604, E806-807
App21 - Direct procurement for customers	A1-2, A7-8
App22 – Pensions	A1, A3-4, A8, B10, B12-13, B17, C19, C21-22, D27, D29-30
App23 - Inflation measures	A2-13, B15-26, C27, F37-38
App24 - Input proportions	A1-5, B7-11, E25-28,
App24a - Real price effects (RPEs) and productivity assumptions	B2-6, C7-11, F22-23, G24-25, H26-30, I31-35
App25 - PR14 reconciliation adjustments summary	A7-8, A11,
App26 - RoRE Scenarios	A1-6, A10, B12-17, B21, C23-25, C27-29, D40-42, D44-46, E57-58, F60-61, G63, H64, I65-66, I70, J71-72, J76, K77-78, L80-81, M83-84, N88-89,
App28 - Developer services (wholesale)	B3-5, C7-12, D14, I34-39,
App29 - Wholesale tax	A1-2, B7-8, C13-17, C19-23, D43-44, D48-49, D53-54, E58-59, E63-64, F68-69, F73-74, F78-79, G83-84, H88

Data Table	Lines in scope
App32 - Weighted average cost of capital for the Appointee	A1-3, A5-7, A11-14, A17, A19, B21-23, B25-27, B31-34, B37, B39,
WS12 - RCV allocation in the wholesale water service	A2-7, B9-15, C18
WS12a - Change in RCV allocation in the wholesale water service	A1, B5-8
R1 - Residential retail	A1-7, A9, A11-12, A15, B16, C17-18, C20-21, D24-27
R3 - Residential retail ~ further information on bad debt	A2, A4-15, B16
R7 - Revenue and cost recovery for retail - PART A	A1-4, B7-10, C13-14, C20-21,
R8 - Net retail margins	A1
R9 - PR14 reconciliation of household retail revenue. Section D-	B7, B10, C13, C16, D19, D22, E25, E28, H44, I45-46
WS1 - Wholesale water operating and capital expenditure by business unit	A1-4, A5-8, A10, B12-16, B18, B20, C22-23, D25-34,
WS5 - Other wholesale water expenditure	A1-5, B6-9
WS7 - Wholesale water local authority rates	A1-2, B12-13,
WS8 - Third party costs by business unit for the wholesale water service	B5
WS13 - PR14 wholesale revenue forecast incentive mechanism for the water service	A3, E15-20, E22, G27-31
WS15 - PR14 wholesale total expenditure outperformance sharing for the water service	C9, D10-14, F17, F20, F22-23, G24-27
Wr2 - Wholesale water resource opex - Part A	A1-5, A7, B9
Wr3 - Wholesale revenue projections for the water resources price control	A2-12, B13, C14-17, D19, E20-23,F25-26,
Wr4 - Cost recovery for water resources	A1-5, B6-10, C11-15, D16-18
Wr5 - Weighted average cost of capital for the water resources control	A1-3, A5-6, A9, A11-13, A15-16, A19,
Wr7 - New water resources capacity ~ forecast cost of options beginning in 2020-25 - Line 15	A1-15, B1-2, C1-2, C1)5-7, C1)8, C1)10, C1)15, C2)5-7, C2)8, C2)10, C2)15, D1-2, D1)5-7, D1)8 – 9, D1)13, D1)15, D2)5-7, D2)8-9, D2)15, E1-2, F1-2, F1)5-7, F1)8-10, F1)15, G1-2, H1-2, H1)5-7, H1)11, H1)15, H2)5-7, H2)8, H2)12, H2)15, I1-2,
Wn3 - Wholesale revenue projections for the water network plus price control	A1-12, B13, C14-17, D19, E20-23, F25-26
Wn4 - Cost recovery for water network plus	A1-5, B6-10, C11-13
Wn5 - Weighted average cost of capital for the water network plus control	A1-3, A5-6, A9, B11-13, B15-16, B19,
App33 (DRAFT) - Wholesale operating leases reclassified under IFRS16	A1-15, A17, B22-36, B38, C43-57, C59, D64-78, D80, E85-99, E101, F107-108, F110-112
WS1a (DRAFT) - Wholesale water operating and capital expenditure by business unit including operating leases reclassified under IFRS1	A1-4, A5-8, A10, B12-16, B18,B20, C22-23

Annex F

AMP6 Technical Assurance

PR19 Assurance Report

Affinity Water

17 August 2018

Contains *sensitive* information

Notice

This document and its contents have been prepared and are intended solely for Affinity Water's information and use in relation to technical assurance on its PR19 Business Plan submission

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This document has 29 pages including the cover.

Document history

Job number: 5160860			**Document ref:**			
Revision	Purpose description	Originated	Checked	Reviewed	Authorised	Date
Rev 1.0	Draft interim report for July Audit Committee	DJH	JJ	JPA	DJH	17/07/18
Rev 2.0	Updated interim report	DJH	JJ	JPA	DJH	18/07/18
Rev 3.0	Draft final report	DJH	JJ	JPA	DJH	09/08/18
Rev 4.0	Draft Final	DJH	JJ	JPA	DJH	15/08/18
Rev 5.0	Final	DJH	JJ	JPA	JJ	17/08/18

Table of contents

Tables

Executive Summary

Atkins has been engaged by Affinity Water to provide technical assurance on its PR19 Business Plan submission to Ofwat, which was designed to integrate with the financial auditor activities to cover all of the tables that will be submitted to Ofwat in September 2018. Following discussion with Affinity Water our technical assurance activities were designed to cover three aspects of the Business Plan submission:

1. A check on the data tables contained within our scope of work, to comment on whether they are:

    - Reliable, Accurate and Complete (based on our review and given the uncertainties in the base data).
    - Compliant with the table guidance (including cost allocations between drivers and price controls).
    - Supported by commentary that complies with Ofwat guidance and reconciles with the technical cases as audited.

2. A review of the calculations and processes used to derive the AMP7 Investment Programme, structured to provide the following assurance outputs:

    - General commentary on the process of development and challenge that has been applied to the totex Investment Programme and the associated Business Cases.
    - Confirmation of whether each investment area has been completed according to the rules and QA that have been put in place by Affinity Water.
    - By investment area, provide a summary of any areas of material uncertainty or inconsistency between cost elements and Performance Commitment (PC) targets, or inconsistences with historic expenditure.

3. A review of the process used to set Performance Commitments and associated rewards/penalties for the Outcome Deliver Incentives (ODIs) to confirm whether:

    - The definition of the metrics, targets and threshold for the proposed PCs and ODIs are clear and transparent in accordance with Ofwat's stated expectations.
    - The proposals contained within the totex Investment Programme align with the PC targets that are proposed, and Affinity Water has reasonably considered the uncertainties and marginal cost risks when setting ODI rewards/penalties.
    - Affinity Waters' modelling of the impact that PC targets and ODIs could have on return on regulatory equity (RoRE) contains risk and uncertainty ranges that are reasonably reflective of the data, processes and investment outputs that were used to generate the ODIs.

As per items 2 and 3, as well as providing basic assurance on the table figures, we were also engaged to provide assurance that there is a 'line of sight' between the Performance Commitment (PC) targets that were agreed with the CCG, and the totex investment that Affinity Water has proposed in the Business Plan. The derivation of the PCs themselves and the customer aspects of the ODIs (preferences, willingness to pay etc) have been challenged separately by the Customer Challenge Group, so were not included within our scope of work.

This report provides a summary of our assurance findings. Findings relating to each of our three scope items are discussed below.

Tables and Commentaries

Completed tables and commentaries were submitted to us later than planned in the audit process, and we did encounter a number of errors in these final submissions, which were raised with Affinity Water and addressed through e-mail communication rather than our usual formal processes. However, we were able to track these queries and responses and confirm that all of the non-trivial issues that we identified have been addressed prior to final submission. We have therefore been able to assign a 'green' classification to almost all of the tables where we have completed the audit process. This means that, to the extent revealed by our audits, the tables have been completed in accordance with the Ofwat guidance and reflect supporting calculation processes that have reconciled through to base data, or industry standard modelling and forecasting approaches. The associated table commentaries do not contain any notable factual errors and Affinity Water has included commentary against any specific Ofwat requirements for the relevant tables.

Investment Programme

The investment programme was subject to ongoing changes throughout our audit process, which continued into the early part of August 2018. We did therefore have to complete a number of audits via ‘remote’ reviews and telecons, and in some cases, there were still uncertainties at the time of writing this report. Despite this, we consider that the compilation of the Investment Programme has been adequately controlled, and there is a clear line of sight between the investment programme and the Business Plan that is being presented to customers. The spreadsheet based process that was used to apportion totex and outcomes into the relevant Business Plan tables was relatively complex and difficult to audit, but we were able to complete the audit process and we did not encounter any errors during our final checking of the calculations.

We were able to confirm that the cost basis that underpins the investment programme was designed to reflect current (AMP6) total outturn costs. These were applied to scopes of work that were generated through a Business Case development process that reflected clear investment needs and, in most cases, appropriately modelled or derived work activities that linked back to the driver and/or PC. Investments were compared against the AMP6 position, and variation from AMP6 costs were clear and logically explained within the proposed programme. In some cases, there were inevitable uncertainties in the estimation of investment needs, which we have highlighted as appropriate within the body of this report. Where opex has resulted from Business Case investments, Affinity Water has used an appropriate process to ensure that these are reflected in the company level opex forecasts.

In order to meet affordability constraints, Affinity Water has applied a considerable efficiency challenge to its investment programme, which the SteerCo and Board are aware of and consider to be achievable. On the capex side of the programme we have been able to track the scope and cost changes that have resulted from this challenge and can confirm that they are reflective of a typical, but robust, process of efficiency challenge for Business Plans. On the opex side we have noted that the level of challenge (circa 28%) is very large, and there is no clear link between capex efficiency investments (IT, spend to save etc) and the chosen level of challenge. In some cases, these efficiency challenges have exacerbated our concerns over investment uncertainties. Overall, we highlighted seven areas of investment where uncertainties and risks are notable, but have only classified these as ‘amber’ rather than ‘red’ risks as they are unlikely to materially affect the deliverability of the Business Plan. However, we do note that uncertainties and efficiency challenges for investments associated with the achievement of the leakage, per capita consumption, bursts and interruptions to supply PCs do increase the risks associated with those commitments, as discussed below.

Performance Commitments and Outcome Delivery Incentives

To the extent revealed by our audits we are able to confirm that the definitions of PCs, and the associated generation of ODIs for Table App1, have been developed in accordance with Ofwat requirements, based on rewards and penalties modelling structures that have been developed in accordance with Ofwat guidance. In some cases, it was difficult for Affinity Water to identify the investment costs that will be required to achieve the marginal increments in the PCs, which means there is uncertainty in the links between investment needs and the rewards/penalty structure applied to the PCs. This includes PCs where either directly relevant cost information is not available (unplanned outage, composite risk index (CRI)), or the nature of the PC means that a pragmatic, rather than strictly ‘correct’ approach, has been employed to avoid inappropriately high reward and penalty risks (bursts). We have assigned ‘amber’ risk categories to those PCs.

For other PCs (supply interruptions, leakage, per capita consumption and low pressure), we have assigned ‘amber’ classifications where there are considerable uncertainties associated with the costs and ability to achieve the targets, particularly where Affinity Water has set itself stretching targets against the Ofwat ‘common metrics’. However, as noted above, management is aware of this and Affinity Water has also applied a number of ‘collars’[1] and ‘deadbands’[2] to reduce the reward and penalty risks to an aggregate level

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[1] A collar is used to place an upper limit on the penalties that are incurred for a particular PC.
[2] A deadband represents a range of values around the target where no reward or penalty is incurred. Rewards and penalties only start once measured values exceed the deadband range.

that falls within the RORE range expected by Ofwat, and that is representative of the range presented in Table App1.

Following our process of audit challenge and review, and through the inclusion of the collars and deadbands, we were therefore able to remove all ‘red’ classifications prior to completing this report. That means that we are able to provide assurance that the PCs are meaningful and measurable metrics that can theoretically be achieved based on the information available, and that the risk ranges that have been assessed by Affinity Water within its return on regulatory equity (RORE) risk model and App1 are reasonable, provided that Affinity Water is able to meet the efficiency targets that it has set itself. That conclusion also assumes that Ofwat does not challenge the use of deabands or significantly reduce the totex that is available through the determination process. In relation to deadbands, Ofwat has indicated that it will not generally approve their use, unless clear reasons are provided. Affinity Water has provided reasons within its commentary and the RORE range of rewards and penalties is at the upper end of expectations, so it is not unrealistic to expect that this will be allowed, however there remains a regulatory risk in the App1 submission.

1. Introduction

1.1. Background

Atkins has been engaged by Affinity Water to provide technical assurance on the PR19 Business Plan submission to Ofwat. The scope and coverage of our audits is intended to provide a third-party assurance process that integrates with the financial auditor activities to cover all tables within the PR19 submission. By its very nature the Business Plan submission involves a number of forecasts and assumptions, which means that almost all of the Tables and supporting calculations contain some elements of uncertainty. However, as detailed within our scope of work in Section 2 below, we have sought to provide assurance on the reasonableness of the forecasts and investment proposals, with a particular emphasis on the linkages between the proposed investment and the risks associated with the Performance Commitment (PC) targets and associated Outcome Delivery Incentives (ODI) rewards and penalties.

1.2. Report Structure

A summary of our scope of work for the PR19 audits is provided in **Section 2**.

Our key findings are detailed in **Section 3,** separated into:

- **Section 3.1,** which summarises our audit findings for the PR19 Table submissions
- **Section 3.2**, which provides assurance commentary on the Investment Programme that underpins the PR19 Business Plan
- **Section 3.3,** which provides assurance commentary on the links between the Performance Commitment targets and the Company management of the risks contained in the Outcome Delivery Incentive rewards and penalties.

2. Scope of Work

The scope of our technical assurance activities were discussed and agreed with Affinity Water during a meeting in March 2018 and in correspondence during June 2018. Our general remit was to carry out a technical review of the Business Plan Tables, along with the investment proposals to evaluate the reasonableness of the proposed activities and costs in light of the PC targets that have been proposed.

Specifically, this includes the following three key assurance objectives:

1. A check on the data tables contained within our scope of work, to comment on whether they are:

    - Reliable, Accurate and Complete (based on our review and given the uncertainties in the base data)

    - Compliant with the table guidance (including cost allocations between drivers and price controls)

    - Supported by commentary that complies with Ofwat guidance and reconciles with the technical cases as audited

2. A review of the calculations and processes used to derive the AMP7 Investment Programme, structured to provide the following assurance outputs:

    - General commentary on the process of development and challenge that has been applied to the totex Investment Programme and the associated Business Cases.

    - Confirmation of whether each investment area has been completed according to the rules and QA that have been put in place by Affinity Water

- By investment area, provide a summary of any areas of material uncertainty or inconsistency between cost elements and Performance Targets (PCs), or inconsistences with historic (AMP6) expenditure

3. A review of the process used to set Performance Commitments and associated rewards/penalties for the Outcome Deliver Incentives (ODIs) to confirm whether:

   - The definition of the metrics, targets and threshold for the proposed PCs and ODIs are clear and transparent in accordance with Ofwat's stated expectations.
   - The proposals contained within the totex Investment Programme align with the PC targets that are proposed, and Affinity Water has reasonably considered the uncertainties and marginal cost risks when setting ODI rewards/penalties
   - Affinity Waters' modelling of the impact that PC targets and ODIs could have on return on regulatory equity (RoRE) contains risk and uncertainty ranges that are reasonably reflective of the data, processes and investment outputs that were used to generate the ODIs.

As per items 2 and 3, in general terms we were engaged to assist in confirming that there is a 'line of sight' between the Performance Commitment (PC) targets that were agreed with the CCG and the totex investment that has been proposed in the Business Plan. The derivation of the PCs themselves and the customer aspects of the ODIs (preferences, willingness to pay etc) have been challenged separately by the Customer Challenge Group, so were not included within our scope of works.

Because they are related to external factors or the management of baseline opex, we did not review developer services costs and contributions, the energy programme or the 'spend to save' initiative.

Our audits related to the technical, rather than financial, aspects of the Business Plan so only covered a specific number of tables and lines. These are summarised in Table 2-1 below. Similarly, for our review of investment proposals we have only examined the implications of new capex or initiatives to address a particular PC target. The base opex figure used as the starting point for AMP7 has been reviewed separately by the financial auditors.

Table 2-1 Tables and Information Blocks Include in our Audits

Table	Block/Line Reference
App 1 - Performance commitments	All blocks and all lines
App 2 and App 5 - leakage information	Block A Block B Block C Block D
App 3 - AIM	
App 4 – Affordability	Block A & B (1-21)
App 5 - PR14 Reconciliation: Performance Commitments	All blocks and all lines
App 27 - ODI PR14 reconciliation	All blocks and all lines
App 30 - Voids	All blocks and all lines
App 31 - Past Performance	All blocks and all lines
R1 - Properties	Block B (16)
R2 - Special cost factor data and R8 - PR14 reconciliation	All blocks and all lines
R3 - Customer metrics	Block C (17-28)
R10 - SIM	Block A (1-5) Block B (6-7) Block C (8) Block D (22)
WS1 - Capex	Block B (12-17, 19, 21))
WS2 - Capex	Block A (1-39)

WS2a - Capex	Block A (1-39)
WS10 – Capex	Block A (1-42)
WS3 - Water populations and properties	All blocks and all lines
WS4 - Explanatory variables	All blocks and all lines
WS17 - Water trading incentive	All blocks and all lines
WS18 - Explaining the 2019 FD	Block A (1-2) Block B (3) Block C (4) Block D (5-6) Block E (7-8) Block F (9) Block G (10-12) Block H (13)
WR1 - Water resources explanatory factors	All blocks and all lines
WR6 - Water resources capacity forecasts	All blocks and all lines
WR7 - Cost of water resources capacity	All blocks and all lines
WN1 & WN2 - Network plus explanatory variables	All blocks and all lines

In addition we confirmed that an appropriate technical process was in place to provide opex figures to Table WR2 (contained in the financial auditor scope), and we were asked to separately review the Special Cost Factor submissions contained in Table WN6, which we have provided feedback on outside of this report.

3. Key Findings

3.1. PR19 Data Tables

Our audits of the data tables concentrated on confirming whether the data that have been entered satisfy the three criteria detailed in Section 2 (reliable, accurate, complete; compliant with guidance and supported by commentary). Where table entries link through to the Investment Programme and/or PCs and ODIs, then we have made comment on whether the tables have been accurately completed in accordance with the guidance and calculations generated from the Business Plan process. Commentary on the reliability of the Investment Programme and the PC/ODI targets and rewards/penalties is provided in Sections 3.2and 3.3 respectively.

We note that completed tables and commentaries were submitted to us later than planned in the process, and we did encounter a number of errors in these final submissions. These were raised with Affinity Water and addressed through e-mail communication rather than our formal process. However, we were able to track these queries and responses and confirm that all of the non-trivial errors that we identified were addressed prior to final submission. Summaries of the individual findings, by table, are provided below.

Table and Block *App 1 - Performance Commitments*	**Comments**	**RAG Status**
Common Performance Commitments	In terms of table completion, we consider that all of the errors we identified were amended prior to completion of this report. In terms of the generation of ODI costs, benefits and the rewards/penalties structure, our comments are provided in Section 3.3	Green (for table completion – see Section 3.3. for individual PC classifications)

Table and Block	**Comments**	**RAG Status**
App 2 – Block A – Leakage new definition reporting	Reconciled figures with PCs, WRMP forecasts and the economic level of leakage model outputs provided by RPS. We note that	Green

	the true range of uncertainty is likely to be wider than shown in the table, as the model calibration makes it very sensitive to uncertainties over cost allocations. However, the table entries reflect the analysis of weather and other externalities as referred to in the Ofwat guidance, and we understand that the model sensitivities have reduced since our initial audits.	

Table and Block	Comments	RAG Status
App 2 – Block B – Leakage PR14 definition reporting	The figures reported in line 31 are from the WRMP14 model, as this is all that is available to Affinity Water. The SELL therefore represents an old model rather than a comparative analysis of the effect of moving from the old to the new methods of leakage reporting. This may attract regulatory attention, as Affinity Water's reported leakage under the new method is very close to the old method, so there is no logical reason for the difference in SELL. The commentary does explain this.	Amber (may attract Ofwat's attention)

Table and Block	Comments	RAG Status
App 2 – Block C – PCC old definition	Reconciles with the Water Resources Management Plan and underlying supporting models.	Green

Table and Block	Comments	RAG Status
App 2 – Block D – Supply Interruptions old definition	No significant issues (although we have commented on the targets in Sections 3.2.3 and 3.3)	Green

Table and Block	Comments	RAG Status
App 3 - AIM	No significant issues to method. Forecasts have been set to zero in accordance with APP1, and links to the performance commitments plus ODIs are explained in the commentary.	Green

Table and Block	Comments	RAG Status
App 4 – Block A – Affordability	Table satisfactory following audit challenges and resulting changes	Green
App4 – Block B - vulnerability	Table satisfactory following audit challenges and resulting changes	Green

Table and Block	Comments	RAG Status
App 5 - PR14 Reconciliation: Performance Commitments	Audited and agreed as part of the early submission audit	Green

Table and Block *App 27 - ODI PR14 reconciliation*	Comments	RAG Status
Block A - In-period ODI revenue adjustments by PR14 price control units (2012-13 prices)	Audited and agreed as part of the early submission audit	Green

Block B -End of period ODI revenue adjustments by PR14 price control units (2012-13 prices)	Audited and agreed as part of the early submission audit	Green
Block C - End of period ODI RCV adjustments by PR14 price control units (2012-13 prices)	Audited and agreed as part of the early submission audit	Green
Block D - In-period ODI revenue adjustments allocated to PR19 price controls (2012-13 prices)	Audited and agreed as part of the early submission audit	Green
Block E - End of period ODI revenue adjustments allocated to PR19 price controls (2012-13 prices)	Audited and agreed as part of the early submission audit	Green
Block F - End of period ODI RCV adjustments allocated to PR19 price controls (2012-13 prices)	Audited and agreed as part of the early submission audit	Green
Block G - In-period ODI revenue adjustments input to PR19 financial model (2017-18 prices)	Audited and agreed as part of the early submission audit	Green
Block H - End of period ODI revenue adjustments input to PR19 financial model (2017-18 prices)	Audited and agreed as part of the early submission audit	Green
Block I - End of period ODI RCV adjustments input to PR19 financial model (2017-18 prices)	Audited and agreed as part of the early submission audit	Green

Table and Block	**Comments**	**RAG Status**
App 30 – Void Properties	Table satisfactory following audit challenges and resulting changes	Green

Table and Block *App 31 Past Performance*	**Comments**	**RAG Status**
App 31 - Block A - Complaints from residential and business customers	Audited and agreed as part of the early submission audit	Green
App 31 - Block B - Major incidents	Audited and agreed as part of the early submission audit	Green
App 31 - Block C - Compliance with Environment Agency/National Resources Wales statutory requirements	Audited and agreed as part of the early submission audit	Green
App 31 - Block D - Compliance with DWI statutory requirements	Audited and agreed as part of the early submission audit	Green
App 31 - Block E - Compliance with Ofwat regulatory requirements	Audited and agreed as part of the early submission audit	Green

Table and Block	**Comments**	**RAG Status**
R1 – Block B - Customer numbers	Figures reconcile with the APR base year and WRMP forecasts	Green

Table and Block	Comments	RAG Status
R2 - Special cost factor data (claim for transient populations)	Following our initial challenge, the cost factor submission associated with this line now appears to address the Ofwat 'tests' that they have outlined for a special factor case. We have identified that additional evidence around the consideration of options is likely to be required to pass the 'best option for customers' test, but given the lack of credible options this should be straightforward to address and will be incorporated into the final submission.	Green

Table and Block	Comments	RAG Status
R3 - Block C - Customer metrics	Table satisfactory following audit challenges and resulting changes	Green

Table and Block	Comments	RAG Status
R10 PR14 SIM – Block A - Qualitative	Audited and agreed as part of the early submission audit	Green
R10 PR14 SIM – Block B – Quantitative	Audited and agreed as part of the early submission audit	Green
R10 PR14 SIM – Block C – SIM Score	Audited and agreed as part of the early submission audit	Green
R10 PR14 SIM – Block D forecast revenue impacts	Audited and agreed as part of the early submission audit	Green

Table and Block	Comments	RAG Status
WS1- Block B - Capital Expenditure (excluding Atypical expenditure) 2, 2a and 10 Capex Tables	Underlying capex has been reviewed and is commented on in Section 3.2. We have reviewed the process for allocating expenditure and this appears to be appropriate. Final reported figures reconcile with the investment programme and allocations appear to be in accordance with the guidelines.	Green

Table and Block	Comments	RAG Status
WS2 – Block A - Enhancement expenditure by purpose ~ capital	Underlying capex has been reviewed and is commented on in Section 3.2. We have reviewed the process for allocating expenditure and this appears to be appropriate. Reported figures reconcile with the investment programme and, following audit challenge and amendments, allocations appear to be in accordance with the guidelines.	Green

Table and Block	Comments	RAG Status
WS2a – Block A - Cumulative capital enhancement expenditure by purpose	Underlying capex has been reviewed and is commented on in Section 3.2. We have reviewed the process for allocating expenditure and this appears to be appropriate. Reported figures reconcile with the investment programme and, following audit challenge and amendments, allocations appear to be in accordance with the guidelines.	Green

Table and Block	Comments	RAG Status
WS3 Wholesale water populations and properties	We reviewed both this table and the underlying demand forecast that supports the table to check for consistency with Experian property and demand forecasts. The errors we identified in relation to the double counting of re-classified properties were addressed prior to writing this report, so the figures in the demand forecast should match Environment Agency expectations. Errors that we identified in the translation of the demand forecast into the table were amended prior to writing this report. There are some discrepancies between the measured/unmeasured household property split in this table and the split in R1, but this is legitimately associated with differences in the allocation of customers on social tariffs, which is now explained in the commentary following our queries.	Green

Table and Block	Comments	RAG Status
WS4 Wholesale water other (Explanatory variables)		
Line 1 – Number of lead communication pipes replaced for water quality	We challenged why AMP7 forecasts did not include the balance of the under delivery of the AMP6 obligations. This was a risk of DWI enforcement action against the Company for any failure to deliver on its AMP6 obligations. The Company has revised its programme to show that it will complete the programme by the end of AMP6.	Green
Lines 2 to 5 - Total demand side enhancements	All figures reconcile with the final Business Plan run of the EBSD model.	Green
Lines 6 to 8 Energy consumption	Revised as a result of challenges made through the audit process.	Green
Line 9 – Mean zonal compliance	No issues identified.	Green
Line 10 – Compliance Risk Index	New metric. Changes made as a result of challenges made at audit.	Green
Line 11 – Event Risk Index	New metric. Changes made as a result of challenges made at audit.	Green
Line 12 - Volume of leakage above or below the sustainable economic level	Reconciled versus APP5	Green

Table and Block	Comments	RAG Status
WS10 – Block A - Transition capital expenditure purposes WS10 – Block B - Transition summary totals	Underlying capex has been reviewed and is commented on in Section 3.2. We have reviewed the process for allocating expenditure and this appears to be appropriate. We have not been informed of any decisions to bring forward AMP7 expenditure into 2019/20	Not applicable

Table and Block	Comments	RAG Status
WS17 water trading incentive	Null return	N/A

Table and Block	Comments	RAG Status
WS18 Explaining the 2019 FD		
Block A - Customer service	No issues identified.	Green
Block B – Resilience	Revised in line with challenges made during audit process and subsequently agreed with Environment Agency that investigations should not be included.	Green
Block C – Affordability	Changes made as a result of challenges made during audit process that Watersure should also be included alongside Social Tariff.	Green
Block D – Markets	No issues identified.	Green
Block E – Environmental	Revised in line with challenges made during audit process and subsequently agreed with Environment Agency for length of rivers to include.	Green
Block F – Bill Impacts	Not confirmed yet, bill impacts will be finalised at end of process.	Not reviewed
Block G - Total expenditure (real prices ~ 2017-18 FYA CPIH deflated)	No issues.	Green
Block H – Customer engagement	Revised in line with challenges made during audit process. Updated in August to take account of final round of customer engagement activities.	Green

Table/ Block	Comments	RAG Status
WR1 Water resources explanatory factors	2017/18 figures were confirmed as part of the APR audits. Forecasts were reviewed against the latest version of the revised WRMP and these now reconcile at the time of writing.	Green

Table and Block	Comments	RAG Status
WR2 Water resources – Block A - Opex analysis	Figures are audited by financial auditors; we can confirm that opex impacts from schemes and sustainability reduction changes were made available through the final WRMP EBSD modelling.	Confirmed that an appropriate process is in place
WR2 Water resources Block B - Analysis of abstraction charges (forecast only)		

Table and Block	Comments	RAG Status
WR6 Water resources capacity forecasts	Issues around the interpretation of the guidance were addressed prior to submission. Figures reconcile with WRMP modelling outputs.	Green

Table and Block	Comments	RAG Status
WR7 Cost of Water resources capacity	The schemes that are listed reconcile with the WRMP model outputs and costs contained in the investment programme. We note that the majority of costs are associated with the initial development of the Abingdon reservoir scheme.	Green

Table and Block	Comments	RAG Status
WN1 - Wholesale network plus raw water transport and water treatment (explanatory variables) & 2 Network plus explanatory variables	2017/18 figures were confirmed as part of the APR audits. Following corrections to the average pumping head forecasts and consistency checks with WRMP forecasts and other tables, we were able to confirm that forecast figures are in line with investment proposals, table guidance and other parts of the Business Plan.	Green

Table and Block	Comments	RAG Status
WN2 - Wholesale water network plus water distribution (explanatory variables)	2017/18 figures were confirmed as part of the APR audits. Following corrections to the average pumping head forecasts and consistency checks with WRMP forecasts and other tables, we were able to confirm that forecast figures are in line with investment proposals, table guidance and other parts of the Business Plan.	Green

3.2. Investment Programme

3.2.1. General Comments

Affinity Water has employed a database type process for collating its investment costs, which is typical of processes used across the industry for Periodic Reviews. The overall totex forecasts contained within the Investment Programme are generated by:

- Creation of Business Cases for each scheme or group of schemes that contain opex and capex forecasts, with associated outcomes and impacts on key Performance Commitments
- Derivation of a number of alternative plans for consultation with customers, which use different scenarios identified in the Business Cases to derive the different levels of expenditure and associated Performance Commitments
- Rolling forward of the expected AMP6 'landed' opex (i.e. budgeted outturn without current exceptional costs), with assumed year on year efficiency gains. This is then modified by any of the opex identified in the individual Business Cases

Our review did not include audits of base opex ('the Tamblin model'), which we understand will be covered by the financial auditors. Within this section of the assurance report we provide comment on both capital investments and their associated impact on opex, and specific opex schemes that have been derived to deliver against performance commitments (e.g. leakage reduction).

The investment programme was subject to ongoing changes throughout our audit process, which continued into the early part of August 2018. We did therefore have to complete a number of audits via 'remote' reviews and telecons, and in some cases, there were still uncertainties at the time of writing this report. However, overall, we consider that the compilation of the Investment Programme was reasonably well managed given the delivery delays, and there is a clear line of sight between costs and the Business Plan that is being presented to customers. The spreadsheet based process that was used to apportion totex and outcomes into the relevant Business Plan tables was relatively complex and difficult to audit, but we were able to complete the audit process and we did not encounter any errors during our final checking of the calculations.

3.2.2. Comments on the Overall Programme Size, Costs and Role of Efficiency

All elements of the Investment Programme inherently contain some uncertainty, but there is a degree of flexibility in actual investment needs that means minor changes and uncertainties can usually be allowed for during the budget setting process when the Business Plan activities are being delivered. We therefore concentrated on identifying those issues that might affect the overall costing of the Investment Programme, and the more significant uncertainties that we identified in the individual investment areas (groups of Business Cases that relate to the same theme or cost driver). Commentary on the investment areas has been provided separately in Section 3.2.3 of this report.

For the programme as a whole there are two high level considerations that can affect costs and the ability of the programme to adequately reflect the PC targets that Affinity Water is proposing for AMP7. These are:

- The representativeness of the cost base that has been used to calculate the (pre-efficiency) capex of the activities that are proposed in the programme
- The level of scope challenge and cost efficiency assumptions that have been applied to the programme

In relation to the cost base, the key tool that has been used in the development of the Business Cases that feed into the Investment Programme is the Scheme Builder costing tool. We found that the unit costs that have been derived for use in Scheme Builder are designed to be reflective of current (AMP6) scheme outturn costs, which includes contractor costs, along with calculated averages for direct overheads and indirect overheads. Not all costs were derived using Scheme Builder, but where we reviewed such costs as part of our audit process it was clear that they had been based on reasonable consultant estimates or supplier quotes.

‘Efficiencies’ can be incorporated into the Investment Programme using three broad approaches:

1. Challenge on the need for, and scope of, the individual Business Cases that form the Investment Programme.

2. Enabling of operational efficiencies through capital investments or departmental operational review.

3. Procurement efficiencies in the delivery of capital investments.

In relation to the first approach, during our reviews it was clear that there has been a reasonable degree of challenge applied to the individual Business Cases through the use of MoSCoW (*Must have*, *Should have*, *Could have*, and *Won't have) type* analysis by the SteerCo. This means that scope related efficiencies are well reflected in the Investment Programme.

Even with this level of challenge in place, Affinity Water found that the capital programme tended to breach the upper limit of what was considered to be ‘affordable’ by the Finance team. However, during our initial audits we found that Affinity Water had included corporate overheads as a global addition to the whole of the capital programme, with a total cost of £51m for AMP7. This figure was based on current AMP6 expectations, but this was not consistent with Scheme Builder, as those costs already included corporate overheads. Affinity Water therefore chose to remove the corporate overheads from the programme altogether, both to remove any risk of double counting, and to provide an effective further efficiency challenge for non-infrastructure investment. The size of this challenge cannot be fully determined, but it is likely to be in the order off £20m - £30m. In addition to this, cost efficiencies were imposed upon the infrastructure side of the capital programme, in the order of 10% procurement efficiency, and a reduced level of infrastructure renewals. The implied risks from this on the achievements of PCs and ODI risks and penalties are discussed in Section 3.3 below.

Forecast efficiencies in base opex were initially based on high level assumptions of what is feasible, with profiles that were agreed by the SteerCo. They were not linked to any specific capital investment or business activities, but followed ‘deep dive’ reviews of efficiency savings. However, following affordability reviews of the overall investment programme towards the end of the planning process, a much higher level of efficiency was agreed with the Board. It is beyond our scope to comment on the wider implications of this decision, but this level of efficiency reduction (28%) has implications on the leakage and interruptions to supply PC targets, which are planned to be met primarily by opex investment. These are discussed further in Section 3.3 of this report. We saw no demonstration of a clear link between the IT enhancement, energy strategy or the ‘spend to save’ initiative and the planned level of base opex efficiencies, so we are not able to comment on the adequacy of those expenditure items in relation to the opex efficiencies that have been included in the Business Plan.

3.2.3. Comments by Investment Area

Table 3-1 below summarises our findings for each of the investment areas that we reviewed as part of the technical audits. Our analysis of the technical adequacy of the proposals included both a review of the calculations and methods used to support the Business Cases, as well as a comparison against the equivalent AMP6 expenditure where appropriate. Where there have been clear stepped changes from AMP6 investment we have commented on this within the table.

Only those key issues or concerns that we consider need to be brought to the attention of the Audit Committee are highlighted in the table. In most cases we also identified lesser issues that were either addressed prior to this report, or are not considered material enough to warrant inclusion within this report. They were included in the individual audit summary reports that we provide to Affinity Water following each audit, and are tracked through our ‘issues log’, but we have not replicated them in the table below.

Based on our audit findings we have assigned an RAG classification to each investment area, using the following definitions:

- Green: Clear drivers, optioneering and costs that are underpinned by an appropriate evidence base

- Amber: Reasonable clarity over drivers and evidence of reasonable optioneering, but there are notable uncertainties either in relation to the quantum of activities or the costs that have been applied, or there are inconsistencies between the investment proposals and the Performance Commitments within the Business Plan

- Red: Areas of investment where we have significant concerns over the derivation of the investment activities or the costs associated with those activities, and those concerns relate to either a defined regulatory issue or cost errors in the programme that are likely to exceed 1% of totex

As shown in Table 3-1, there are 7 areas of investment where we have applied an 'amber' classification, meaning there are uncertainties beyond those that would normally be expected in an investment programme. Of those, four categories of investment (infrastructure capital maintenance, management of supply interruptions, leakage and the WRMP demand management activities) have direct potential implications on the achievement of PC targets and hence could translate into ODI penalties. These are discussed further in Section 3.3. There is one area of investment (non-infrastructure modelled maintenance) where we raised some concerns about the outputs. We have classified this as 'green' as we understand that these were investigated and addressed by Affinity Water, but note that there was insufficient time for us to carry out a full re-review of the model outputs.

All 'red' level concerns were satisfactorily addressed by Affinity Water prior to the submission of this report.

Table 3-1 Summary of Findings by Investment Area

Investment Area	Summary of any Key Issues or Concerns	AMP7 totex (£m)	RAG classification
National Environment Programme	All major challenges satisfactorily addressed.	28.5	Green
Catchment Management	All major challenges satisfactorily addressed.	6.9	Green
Schemes to manage sustainability reductions	All major challenges satisfactorily addressed, although we note that £20m relates to strategic transfers to allow the transfer of water out of the Wey Water Resource Zone. Following our audit challenges, we can confirm that this has clear drivers associated with the Water Resources Management Plan but there is a relatively high level of cost uncertainty. The Sundon scheme is listed separately below.	78.7	Amber – relatively high cost uncertainty
Schemes to manage sustainability reductions - Sundon	Following audit challenges, the drivers for this scheme were re-evaluated and the decision was taken not to make it the subject of a Special Cost Factor claim. The 'conditioning' (treatment) element of the scheme is now proposed to address water quality risks over the extension of the Grafham supply, which is necessary as a result of sustainability reductions. However, it is now acknowledged that the storage reservoir component will be used to enhance the resilience of the area following the changes in supply arrangements, which represents a business decision rather than a clear externally driven requirement. No further concerns have been raised.	30	Green
Non-infrastructure: maintenance (modelled)	We did not find any significant issues during our review of the modelling methodology used to derive this figure, and it appears that the long-term investment need has been reasonably derived. We did some concerns about the profile and timing of the investment that is generated from the model and recommended sensitivity testing to check that these do not significantly impact on the overall required level of expenditure across the AMP7 and AMP8 period. We understand that Affinity Water has done this and is confident in the outputs, but there was not sufficient time to fully re-audit the modelling outputs.	85.2	Green, but we note there is some modelling uncertainty
Non-infrastructure: storage and service reservoir maintenance	All major challenges satisfactorily addressed.	21	Green

Non-infrastructure: specific schemes at treatment works (non-modelled)	We found that the derivation of schemes relating to water quality improvements and other miscellaneous items followed the processes of scheme development, challenge and costings that had been set up for the Business Plan. Affinity Water changed its allocation of costs within the WS1 and WS2 tables following our initial challenge over scheme allocation between maintenance and enhancement costs, so there are no outstanding issues or concerns for this investment area.	74.5	Green
Infrastructure: Distribution mains, trunk mains and communication pipes	The modelling of renewals costs was generally well evidenced and carried out, although we note that the AMP7 mains renewals costs have dropped significantly from AMP6 (£64m in AMP6 to £38m for AMP7). Much of this reduction in costs is associated with apparent modelling 'artefacts' in the Pioneer model, which are not well linked to actual delivery efficiencies, and reduce the short-term cost of interventions (mains renewals) to below the longer term sustainable rate. The implications of this reduction in expenditure on burst rates within a single AMP are relatively small (less than 20 bursts/annum likely impact by the end of the AMP). In addition to this, proposed renewals lengths were dropped on a pre-efficiency basis from the 280km in the model down to 210km, which theoretically increases burst rates by a further 30 per annum by the end of the AMP. The 'central' estimate of burst rates by the end of the AMP is therefore theoretically around the 3,050 level (compared with 3,000 current), so still below the target of 3,100 *[note, in terms that are equivalent to the PC, this relates to a risk of +3 bursts/1000km/annum versus the target of 186 bursts/1000km/annum]*. However, as noted in Section 3.3, there is a large amount of volatility in the burst figure, so Affinity Water is increasing its risk of ODI penalties as a result of the proposed mains renewals investment.	38	Amber – the combination of model uncertainty and reduction in scope means that the risks associated with meeting the bursts target will be higher in AMP7 than they have been in AMP6.
Infrastructure: Operational costs for leakage reduction	Costs for leakage reduction have been assessed through both a 'bottom up' analysis of costs, and through the use of the SALT model to derive Active Leakage Control (ALC) cost curves. We found that the SALT model costs are highly uncertain due to the model's sensitivity to cost allocations between DMAs, but that there is some confidence gained by use of the 'bottom up' engineering analysis of activities and costs, which supports the overall figure. Leakage costs were also evaluated through the WRMP process, which used a combination of the SALT model curves for distribution leakage and 'bottom up' costs for customer side leakage improvements. Overall these indicate a range of totex in the order of £48m to £52m, but there is considerable uncertainty in these costs. Because the majority of the costs are opex rather than capex, leakage control has then been subject to an effective efficiency reduction of 28%. The risk of under-funding for the leakage Performance Commitment (PC) is therefore relatively high.	35.5	Amber – significant uncertainties plus high levels of 'top down' efficiency represent a risk to the leakage PC.
Infrastructure: Capital expenditure to maintain leakage	The Company's cost comparison shows that this is close to the AMP6 expenditure on maintaining leakage detection assets and carrying out ongoing repairs on a pre-efficiency basis, although as with other opex schemes, this has then been subject to a 28% efficiency assumption. This increases the pressure on the leakage reduction programme.	36.5	Green, although this does increase pressure on the item above
Wholesale operations costs: management of supply interruptions	The achievement of the interruptions to supply PC comprises a trunk mains maintenance programme covering valves, critical crossings, etc (circa £7.5m pre-efficiency), plus two tranches of largely operationally based activities to reduce interruptions from their current levels down to the 3 minute target. The first, larger tranche of activities, to achieve a reduction down to 6 minutes, which is based on an extension of the current operational initiative has been reasonably well costed. The second, smaller tranche of activities, to reduce from 6 to 3 minutes is highly uncertain and requires activities that Affinity Water has limited experience of (e.g. overland temporary connections and tankering). We have assigned this an 'amber' risk as the initial costs that were presented to us totalled £45.8m (£7.5m trunk mains maintenance and £38.3m interruptions response investment), compared with the £33m in the final programme, so not only are the requirements very uncertain but there have also been very large levels of efficiency challenge applied to the initiative. A 'red' risk has not been assigned as this has been mitigated by the use of penalty collar 'deadbands' for the PC (see Section 3.3)	33.0	Amber – high levels of uncertainty for circa 1/3 of the costs, plus very high levels of efficiency applied to this uncertain programme, mitigated by the use of 'deadbands' for the PC

Infrastructure: Lead communications pipes	The costs for this programme are clearly linked to current unit rates. Our only significant concern relates to the current AMP6 programme, which is currently running well behind schedule and hence could increase costs in AMP7 if it is not delivered. We have been assured that the AMP6 programme will be completed on time.	9.2	Green – provided AMP6 targets met
Water Resource Management Plan: meters and water savings	The costs for the continuation of the metering programme (£75m) are straightforward and based on the current programme. They contain some efficiency, but still outturn at a realistic £220 per meter installed. The remainder of the water saving programme is highly uncertain and contains at least £28m of schemes with a very low benefit to cost ratio, which have been selected by the WRMP model as there were no other options to achieve the PCC target. Other options such as fast logging have increased from £7m to £12m following initial audits. As there are no 'top down' efficiency assumptions that have been imposed on water efficiency targets it appears that this part of the programme is well funded, although the costs and benefits of the activities remain inherently uncertain by their very nature, as Affinity Water is effectively pushing the boundary of demand management in the measures that it is proposing to implement in AMP7.	140.2	Amber – very uncertain costs, but this is unavoidable to a large extent and the programme appears to be well funded, so we have not applied a 'red' classification.
Water Resources Management Plan: supply side options	Costs are relatively small, covering well defined schemes. No significant issues. although we note that £0.6m relates to small schemes from the WRMP modelling that are not associated with a project code.	9.4	Green
Water Resources Management Plan: Strategic Water Resource costs	Costs associated with up-front planning of longer term strategic water resource options, including Abingdon reservoir, plus Water Resources in the South East (WRSE) contributions and an allowance for feasibility studies for strategic investment needs post AMP7. The Abingdon reservoir development costs and WRSE are well evidenced, but £10m of the expenditure (on the Abingdon reservoir public enquiry and future strategic needs) are nominal figures. We checked and confirmed that the public inquiry costs have not been double counted with the Abingdon reservoir costs. Although the Abingdon costs are based on a reasonable apportionment, the exact level of need and timing is very uncertain at this stage, given the very long lead times before the scheme is constructed, and the high level of scrutiny and resistance it is likely to attract.	30	Amber – uncertainty over the timing of Abingdon reservoir expenditure and large uncertainties over the strategic scheme and public inquiry cost elements
Business Plan, WRMP and Drought Plan preparation costs	The Company's cost comparison shows that this is close to the AMP6 expenditure in preparing these Plans. Costs for WRSE and other strategic planning are discussed separately above.	6.6	Green
Maintenance of IT, vehicles and lab equipment	No significant issues, although we note that there has been a large cost challenge on the IT maintenance component of this investment area, reducing from £54m during our main audit, to £42m for the final plan.	45.1	Green
Ongoing asset management operations and modelling support	Similar expenditure to AMP6. No significant issues.	9.6	Green
Energy and opex saving initiatives	We have not specifically audited these schemes as they represent part of the operation cost saving initiatives and hence are not directly related to ongoing maintenance or performance commitments. As noted previously, there is no clear link between the cost of these options and the opex efficiency assumptions that have been applied to the Business Plan, although the net increase in opex from the energy initiative is quoted at £13.9m.	43.6	Not reviewed
IT enhancement strategy	Because there is no linkage between capital costs and operational savings within the programme, the £12m here effectively represents a 'budget' allowance, and the return on investment associated with the enhanced IT spend does not appear to inform the approval process. We note that this amount is much less than the 'minimum case' spend initially put forward by IT (£31m), so it is likely that all of the expenditure contained within this £12m will be cost beneficial.	12	Amber (main issue is the lack of linkage with operational savings, as discussed above)

3.3. Performance Commitments and Outcome Delivery Incentives

For each of the individual ODIs we carried out individual reviews of the first of our two scope items, namely relating to the transparency of the targets and rewards, and the alignment with investments and investment risks. A summary of our findings for each of the PC and associated ODI calculations is provided in Table 3-2 below.

Overall our findings indicate that Affinity Water has followed the Ofwat guidelines in relation to the definition of the PCs and calculation of the rewards and penalties for the ODIs as far as it can. There are some PCs where either directly relevant cost information is not available (unplanned outage, CRI), or the nature of the PC means that a pragmatic, rather than strictly 'correct' approach, has been employed to avoid inappropriately high reward and penalty risks (bursts). We have assigned 'amber' risk categories to those PCs.

For other PCs we have assigned 'amber' classifications where there are considerable uncertainties associated with the costs and ability to achieve the targets, particularly where Affinity Water has set itself stretching targets against the Ofwat 'common metrics'. We understand that the SteerCo and Board are aware of these risks and consider them to be a stretching challenge that is adequately funded within the Plan. A number of 'collars'[3] and 'deadbands'[4] have also been used to reduce risks to reasonable levels, although we note that Ofwat has indicated they will tend to view 'deadbands' unfavourably and the regulator expects a strong case to be presented to support their use.

For the overall risk to RORE, we reviewed the risk model that was generated by Affinity Water to support Table APP1 and found that the ranges expressed in the model and hence in APP1 are a fair reflection of the range of risks faced by the company. In some cases, we did have initial concerns but these have been managed through the use of 'deadbands' and 'collars' on the penalties. The ranges that have been proposed should therefore be largely justifiable to Ofwat and, except where noted in Table 3-2, the assigned risk ranges are reasonably reflective of historic variability and investment proposals.

Following our process of audit challenge and review, and through the inclusion of the collars and deadbands, we were able to remove all 'red' classifications prior to completing this report. This means that we are able to provide assurance that the PCs are meaningful and measurable metrics that can theoretically be achieved based on the information available, and that the risk ranges that have been assessed by Affinity Water within its RORE risk model and APP1 are reasonable, provided that Affinity Water is able to meet the efficiency targets that it has set itself and Ofwat does not challenge the use of deadbands or significantly reduce the totex that is available through the determination process.

[3] A collar is used to place an upper limit on the penalties that are incurred for a particular PC.
[4] A deadband represents a range of values around the target where no reward or penalty is incurred. Rewards and penalties only start once measured values exceed the deadband range.

Table 3-2 Summary of Findings for ODI Parameters and RORE Risk Assessment Ranges

PC	Clarity of Definition	Clarity of Target and ODI 'deadbands'	Comments on investment costs used in the calculation	Comments on the marginal cost/benefit assessment for rewards and penalties	Comments on the range of risks used in the RORE impact assessment	Overall Assurance Grade
Supply Interruptions >3hrs	Ofwat Common metric (clear)	Clear; no issues	Costs reconcile with the investment programme, but as noted previously the links between investment and achievement of the targets are very uncertain.	Benefits are available from willingness to pay studies, and the marginal cost calculations are logical. The use of 'deadbands' reduces the risk, although Ofwat may not agree to this approach, particularly as penalty collars are also proposed.	This metric will have a high between year variability in AMP7, but it is amenable to management interventions if trends are not favourable. The modelled RORE ranges will tend to be conservative, as it is highly unlikely that the P10 would constantly occur during the whole of the AMP. However, the use of a collar on the metric means that the effective range (with a 'worst case' of 8 minutes by the end of the AMP) appears reasonable.	**Amber** (clear metric, but there is uncertainty in the marginal costs and there is a significant potential for a large penalty on the ODI given the investment proposals)
Leakage	Ofwat Common metric (clear)	Confirmed that starting position and targets are in line with the new Ofwat leakage reporting method.	Following audit challenge and removal of current leakage maintenance costs, the costs reconcile with the investment programme. As noted previously, the links between investment and achievement of the targets are very uncertain.	The calculation of marginal costs should theoretically separate out transitional and follow on maintenance costs, with cost annuitisation only being applied to transitional costs. This was not possible given the information available at the time. However, we are also not convinced that the capital costs that have been included in the calculation are appropriate. Overall the marginal costs in the risk/reward calculations are likely to be slightly lower than they technically should be.	This metric will have a high between year variability in AMP7, but it is amenable to management interventions if trends are not favourable. The modelled RORE ranges are a reasonable reflection of the risk, although we note that the P10 could actually be higher given the pressures on the investment proposals. However, the application of a penalty collar addresses this concern.	**Amber** (clear metric, but there is uncertainty in the marginal costs and there is a significant potential for a large penalty on the ODI given the investment proposals)
PCC (reductions)	Ofwat Common metric.	Confirmed that starting position and targets are in line with the new Ofwat PCC reporting	Costs reconcile with the investment programme. There are significant uncertainties in the investment need,	Clear approach to the calculation. The selected asset life is reasonable, although relatively high, given the nature of the assets involved.	This metric will have a high between year variability in AMP7, and it may be very difficult to remedy if the trend is unfavourable, as Affinity Water are seeking to push the	**Amber** (very difficult to be confident in the links between investment and the target, although

		method. We note that, unlike AMP6, there will be no 'normalisation' of the monitored yearly outputs to account for the impact of weather.	but funding levels appear to be reasonable overall.		boundaries in terms of demand management. Affinity Water has therefore reasonably assumed that the P50 performance (most likely) is actually 1l/h/d higher than the target, and incorporated a penalty collar. The P25 risk in Affinity's internal risk model may under-estimate the risk.	funding levels are reasonable)
Risk of Severe Restrictions	Ofwat Common metric	Clear target, but we have not reviewed the calculations behind it due to time constraints.	No risk or reward proposed	No risk or reward proposed	No risk or reward proposed	**Green** (although we have not viewed the target calculation)
Unplanned Outage	Ofwat Common metric	Clear, no issues	The costs that have been used do not link directly with this metric, although we accept that there are no obvious alternatives. The costs that have been used do relate to capital maintenance but there is no logical link with unplanned outage.	Although we cannot assure the relationships between the input costs and the metric, we can confirm that Affinity Water has used reasonable endeavours to generate logical marginal costs and benefits for the ODI calculation.	Although there is a high potential of between year variability, it should be possible to manage this through operational practices so the risks are reduced. The modelled RORE used in Affinity Water's risk assessment is quite conservative on an individual yearly basis (i.e. fluctuations could be greater than stated), but when considered across the AMP as a whole, they appear to be reasonable. We note that our opinion on this is based on the fluctuations seen in the outage calculation in the current Water Available for Use (WAFU) PC, which will be different to this proposed PC.	**Amber** (cannot assure the linkage between the metric and the marginal costs/benefits that have been used, and there is little historic experience of the metric. However, the approach is the best that can be used given the available information, and the PC is 'penalty only', so less likely to raise concern with Ofwat)
Mains Bursts	Ofwat Common metric	Clear, no issues	Reliable and based on assured modelling, although as noted previously there are some modelling uncertainties and	We have challenged the logic that Affinity Water has adopted to calculate marginal costs, whereby maintenance investment has been annuitised, but accept that this approach is necessary on a practical basis to generate a	This metric is highly vulnerable to externally caused inter-annual variability. At the start of the programme there is a fair degree of 'headroom' between the target and likely average burst rates (6	**Amber** (marginal risk is high, but there is still some 'headroom' in the proposed targets. Some risk of regulatory

Contains *sensitive* information

			alongside scope reduction in the investment programme, this means that, theoretically, average burst rates should increase by circa 50 over AMP7.	reasonable cost range for the ODI. We also understand that this approach is being used by other water companies. The reason why a pragmatic rather than technically correct approach is needed for this PC is because it is far more susceptible to inter-annual variability caused by external factors (e.g. weather) than it is to changes in investment over the short term. Applying the full marginal costs to a reward/penalty system would only work if the ODI was applied based on averages over a much longer timescale, as the marginal cost risk is far too high for rewards and penalties that are calculated annually. Affinity Water's approach is therefore in our opinion pragmatic, if not technically correct.	bursts/1,000km/annum 'headroom'), but this could reduce to around 3 bursts/1,000km/annum by the end of AMP7. The risk range used to estimate potential RORE impacts appears to be reasonable based on historic levels of fluctuation.	challenge to the logic behind the rewards/penalties calculation).
CRI	Ofwat Common metric	Clear, no issues	Whilst the costs that have been used are not directly related to CRI, a reasonably reflective suite of projects has been taken from the investment programme to evaluate the cost range.	Penalty only, based on the zero target, but mitigated by the use of a 'deadband' so penalties only apply if the CRI reaches the industry average. The approach used to generate the marginal costs and benefits is logical.	Subject to fairly large inter-annual variability, but some management control is possible if there are adverse trends, and risks are reduced considerably by the use of the deadband. Uncertainties caused by the lack of clarity in the links between investment and CRI are therefore relatively less significant.	**Amber** (costs do not relate directly to the metric and there is a fairly low level of understanding about how the metric might vary during AMP7, but risk are mitigated by the 'deadband')
River Restoration	Bespoke and clear	Affinity Water will need to clarify the process of 'sign off' for scheme delivery with the EA.	No issues. Costs	Marginal costs and benefits are logical to generate a marginal cost of delay or acceleration by a year compared with target.	Relatively low risk as the delivery is within company control, provided sign off process is agreed up front.	Green (but need to define how 'sign off' will be achieved)

Low Pressure	Bespoke – in our opinion the definition of 'prolonged low pressure' will need to be clarified before the metric can be used in AMP7.	The target is clear, but how this relates to current performance is very uncertain (see right)	Costs from the investment programme are high level and cannot readily be reconciled with a set number of improvements.	Logical and reasonable approach taken.	Typically this would be a low risk PC, but there is a great deal of uncertainty about performance in the baseline relative to the target as the current DMA metering programme has identified a large number of low pressure properties, and this programme will continue to the end of AMP6. We cannot reasonably comment on the assigned risk range because the historic data for the metric is not likely to be representative of the position at the end of AMP6.	**Amber** (the AMP6 figure and hence the 'true' baseline for the PC targets is currently very uncertain)
Environment--al Innovation	Bespoke – clear as it relates to specific schemes	Target is clear, and under/over performance based on timing of delivery. Need to clarify sign off process	Clear costs from the investment programme.	Reasonable approach, as costs can logically be annuitised over the lifetime of the schemes to generate costs and benefits for delivering ahead of or behind schedule.	Relatively low risk as the delivery is within company control, provided sign off process is agreed up front. The proposed risk range appears to be reasonable.	Green (but need to define how 'sign off' will be achieved)
False Voids/Gaps	Bespoke but clear.	Target is clear	Void detection costs appeared to be reasonable	Clear process	Relatively low risk. The proposed risk range is reasonably reflective of historic variability.	Green
Sustainable Abstraction	Bespoke but clear	Target is clear, although 'sign off' requirements need to be defined	No conceptual issues – schemes and benefit multipliers have a clear audit trail back to the EA.	Reasonable approach, as costs can logically be annuitised over the lifetime of the schemes to generate costs and benefits for delivering ahead of or behind schedule.	Relatively low risk as the delivery is within company control, provided sign off process is agreed up front. The proposed risk range appears to be reasonable	Green (but need to define how 'sign off' will be achieved)
AIM	Based on the defined AIM process	Clear	Clear and AIM has been assured as part of the table audits.	Clear mechanism	Clear mechanism	Green

Appendices

Appendix A. Audit Schedule

Audit Type	Audit Activity	Atkins	Auditees	Audit Dates
Methodology Audits - Capital Programme	Overview of the capital programme development	D Hunt	Rebecca Carlisle, Allan Winkworth, Mumin Islam	26 April 2018
	Cross asset optimiser methodology	D Hunt & R Sadler	Rebecca Carlisle, Allan Winkworth	18 April 2018
	Modelling - non-infra	R Sadler	Allan Winkworth	30 April 2018
	Modelling - infra	D Hunt	Allan Winkworth, Patrick Campbell	20 and 24 April 2018
	Review of the impacts of capex on opex	D Hunt	Rebecca Carlisle, Patrick Campbell, Ratna Unalkat, Graham Turk	26 April 2018
	Non-modelled schemes	R Sadler	Rebecca Carlisle, Ellie Powers, Alice Elder, Teddy Belrain	24 April 2018
	Unit cost audit - non-infra	D Duffy	Allan Winkworth, Young Okunna	11 and 12 April 2018
	Unit cost audit - infra	D Duffy	Allan Winkworth, Young Okunna	16 and 19 April 2018
	Derivation of IT and asset management expenditure	J Jacobs	Rebecca Carlisle, David Clifton, Ash Damani, Max Gamrat	04 May 2018
Table Audits	App 1 - Performance Commitments	D Hunt	Tim Charlesworth	13 June and 19 July 2018
	App 2 and App 5 - Leakage Information	D Hunt	Ritchie Carruthers, Ben Gough, Tony Summerscales, Gerald Doocey, Ilias Karapanos, Eddie Lintott, Eldos Then	9 May and 10 July 2018
	App 3 - Abstraction Incentive Mechanism	M Barker	Ilias Karapanos, Dan Yarker	23 April 2018
	App 4 - Affordability	J Jacobs	Jackie Welsh, James Tipler	19 June, 3 July and 10 July 2018
	App 5 - PR14 Reconcilation: Performance Commitments	D Hunt	Early submission	Remote audit
	App 27 - ODI PR14 reconciliation	D Hunt	Martin Hall	08 May 2018
	App 30 - Voids	J Jacobs	Martin Hall	19 June and 10 July 2018
	App 31 Past Performance	S Ingall	Various	Remote audit
	R1 - Properties	S Ingall	Michael Calabrese , Ben Drake	Remote audit
	R2 - Special cost factor data and R8 - PR14 reconciliation	D Hunt	Martin Hall and Chris Stavrou	13 July 2018
	R3 - Block C (Customer metrics)	J Jacobs	Ben Drake	2 July and 10 July 2018
	R10 - SIM	S Ingall	Jackie Welsh	Remote audit
	Capital programme - Final figures infra	D Hunt	Patrick Campbell, Alan Winkworth et al	6 and 7 June 2018
	Capital programme - Final Sundon review	D Hunt	Alice Elder	7 June and 6 July 2018
	Capital programme - WRMP sustainability schemes	R Sadler	Ellie Powers and Adele Lawrence	11 June 2018
	Capital programme final figures - non-infra	R Sadler	Alan Winkworth et al	12 June and 11 July 2018
	WS1, 2, 2a and 10 Capex Tables	D Hunt	Rebecca Carlisle	21 June 2018
	WS3 Water Population and Properties	S Ingall	Ritchie Carruthers	06 June and 19 July 2018
	WS4 Explanatory variables	J Jacobs	Eddie Lintott, Ritchie Carruthers, Graham Turk, Jackie Welsh	20 June 2018
	WS18 Explaining the 2019 FD	J Jacobs	Eddie Lintott, Ellie Powers, Jackie Welsh, Ritchie Carruthers, Martin Hall	20 June, 3 July and 10 July 2018
	WR1 Water resources explanatory factors	D Hunt, S Ingall	Mumin Islam, Nick Honeyball	5 June and 19 July 2018
	WR2 Water resources opex	R Sadler, D Hunt	Ratna Unalkat	5 June (figures audit did not take place)
	WR3 Revenue projections	D Hunt, S Ingall	Mumin Islam, Nick Honeyball	5 June and 19 July 2018

	WR6 Water resources capacity forecasts	D Hunt, S Ingall	Nick Honeyball and Mumin Islam	5 June and 19 July 2018
	WR7 Cost of Water resources capacity	R Sadler, D Hunt	Nick Honeyball and Mumin Islam	5 June and 19 July 2018
	WN1 & 2 Network plus explanatory variables	S Ingall		Remote audit
	WN3 Network plus revenue projections	D Hunt		Remote audit
Closing off challenges and issues	Various	D Hunt, J Jacobs, S Ingall	Various	Face to face meetings and remote reviews during July and August 2018

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Annex G

CHANDLERKBS

PR19 APP29 – Wholesale Tax

Affinity Water

August 2018

CHANDLERKBS

Contents

Version		Prepared by	Checked by	Issue date
1	Final	Tony Evans	Dylan Davies	6/08/2018

1. Introduction

ChandlerKBS was commissioned by Affinity Water (AW) to populate APP29 – Wholesale Tax for the Periodic Review 2019 (PR19) to The Water Services Regulation Authority (Ofwat). Our review includes completion of Blocks C of the Table.

ChandlerKBS is currently completing APP29 Block A, B and C for four other large Water and Sewerage Companies (WaSCs) and two Water Only Companies (WOCs). We were also involved in similar work for PR14 as well as previous price reviews. ChandlerKBS has delivered the service in line with our ISO 9001 accredited Quality Assurance procedures.

The service was provided by a Senior Consultant with experience of the water industry, asset management plans, capital allowances and fixed assets. We therefore have the necessary skills, experience and expertise to provide support to AW in the preparation of the relevant data covered by this assurance document.

2. Scope

Our scope was as follows:

- APP29 Wholesale Tax Block C - New Capital Expenditure
  A financial model was used to derive an initial position and to populate the relevant percentages to be included in Block C.

  We have ensured that there are good audit trails between the inputs to the APP29 Blocks and the base information, i.e. the financial model and the Business Case documents.

- APP29 – Other data lines
  These lines are outside the scope of our direct engagement and have been determined direct by AW. Although we recognise that some of the output of our work would be used by the company to determine these figures, we have not reviewed the calculations prepared by AW.

3. Methodology

<u>Block C</u>

To populate Block C of APP29, we have developed a tax model based on an Excel workbook.

The base data used in the tax model is consistent with the AW capital expenditure as included in the business plan. We have ensured that the financial data used to populate Block C is consistent with the data included in other tables, in particular WS1 and WS2.

General Notes

- Retail\Wholesale
  APP29 covers Wholesale only. Retail expenditure identified in the M&G table has been excluded.

- Treatment of Infrastructure Repairs Expenditure (IRE)
  Infrastructure Repairs Expenditure is shown net of IAS16 adjustments (Opex)

- Treatment of Deferred Revenue Expenditure (DRE)
  Deferred Revenue Expenditure is shown net of IAS16 adjustments (Opex)

- Treatment of Infrastructure Connection Charges (ICC)
  No allowance has been made for these charges in Block D of APP29

- Taxation Categories
  Each project can contain up to 6 different taxation allocations. These are chosen from a standard set of categories comprising 12 different options.

- Taxation Assessments
  Where possible, we have applied our standard assessment policies to the Business Case documents and cost estimates provided by AW. Where detailed estimates have not been provided, we have used generic models and experience to assign the tax categories.

- Profiling
  The capex profile is based on the AMP7 programme of works. It also matches the WS1, and WS2 expenditure.

- HMRC Agreement
  We were instructed not to incorporate the Water UK\HMRC Long Life Structures agreement (Oct 13). We understand that this approach is consistent with the way in which AW's corporation tax computations are prepared and submitted to HMRC.

Worksheets

- Tax Model CA Input
  This is the capital allowances assessment input sheet. Columns C to M contain the price control category, titles and financial details of AW's AMP7 wholesale capital expenditure plan. Columns U to AF provide for the input of between one and six capital allowance categories and their respective percentages. The categories are chosen from the dropdown list of 12 headings as follows;

  - Maintenance of Underground Assets
  - M&E equipment – General Pool
  - First Year Allowances
  - Below ground assets – Special Rate Pool
  - Above ground structures – Special Rate Pool
  - Non-Qualifying Industrial buildings
  - Other Non-Qualifying expenditure e.g. landscaping
  - Integral Features
  - Intangible Assets
  - Infrastructure Repairs Expenditure (IRE)
  - Strategic Planning Surveys & Investigations
  - Deferred Revenue Expenditure (DRE)

  Columns Y to CY calculates and assigns the allowances between the various categories and price controls.

- Tax Categories
  This sheet summarises the various capital allowance categories by Price Control. It is linked to the 'Tax Model CA Input' sheet and is configured for easy reference. It also contains the 'dropdown' headings listed above.

  In order to determine the percentages, we have used the financial projects as provided by AW. The financial projections are included at today's prices.

- Tax Table APP29
  This is a replication of the Ofwat APP29 table. Block C of the table is automatically populated from 'Tax Categories' sheets.

4. Conclusions and Recommendations

The output generated by the above methodology was reviewed internally in line with our ISO 9001 Quality Assurance procedure. Based on our review, we therefore conclude that;

- The methodology is consistent with the approach taken by AW when preparing the corporation tax return and is in line with current tax legislation, HMRC agreements and interpretation of the law.
- The underlying data used for this process is consistent with other aspects of the AW's business plan.
- The percentages included in Block C are reasonable and consistent with the overall capital expenditure included in the business plan and are in line with what we would expect these to be based on our experience.

CHANDLERKBS

Contact sheet

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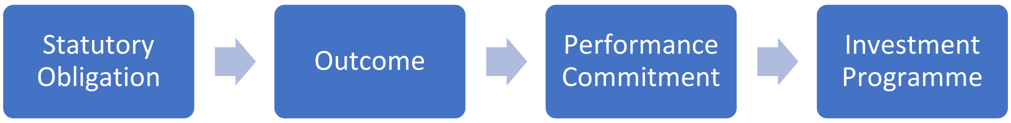
Annex H

AFFINITY WATER BUSINESS PLAN

DELIVERY OF LEGAL OBLIGATIONS

1.1. The is a clear line of sight from our statutory obligations, to our outcomes and performance commitments and the investment programme within the Business Plan.



2. Our Business Plan – Statutory Obligations and Performance Commitments

2.1. Tables 1 and 2 map the key statutory obligations to the outcomes and performance commitments included in our Business Plan and provide the first two of the links in the diagram above. It is important to note that not every statutory obligation has a specific performance commitment.

2.2. In early June 2018, PwC facilitated an assessment of risk at programme, sub-portfolio and portfolio levels[1]. The first step in this exercise was to determine the relative impact of the various planned programmes. Completion of this step involved mapping each investment programme to (i) each performance commitment that the programme would support delivery of; and (ii) each strategic risk that delivery of the programme should help mitigate; these mappings were captured on a scale of 0 (no correlation) to 5 (very significant correlation).

2.3. This mapping exercise provides the link between performance commitments and the investment programme. Appendix 2 shows the results of this exercise and the total scores have been included in the final column of the table in Appendix 1. This demonstrates that that the achievement of each performance commitment is supported by relevant investment. This also demonstrates that the key statutory obligations are supported by a higher number of investments.

2.4. The table below ranks the performance commitments by total mapping score:

Performance commitment	Score
Water Quality, Compliance Risk Index	36
Mean Zonal Compliance	35
Sustainable abstraction	34
Supply interruptions	32
C-Mex	26
Unplanned outage	24
Leakage	22
Per capita consumption	22
Mains bursts	20
Low pressure	18

[1] Capital expenditure and associated operational expenditure were both included in the assessment. Baseline department operational expenditure was taken into consideration but not assessed specifically.

Table 1 – Compliance with Key Statutory Obligations – Wholesale

Performance commitment	Score
Risk of restrictions in a drought	16
False voids and gap properties[2]	14
D-Mex	12
Abstraction Incentive Mechanism	11
Environmental innovation	9
River restoration	8
Customers in vulnerable circumstances – satisfied	3
Customers in vulnerable circumstances – ease	3

2.5. It is important to note that a statutory obligation without a specific performance commitment may nevertheless have an investment relating to it but these do not appear in the table. For example, the statutory obligation relating to reservoir safety is addressed as part of the storage investment programme. It is also important to note that compliance with many existing statutory obligations will be delivered through opex expenditure rather than specific investment programmes.

2.6. A scoping stakeholder sign-off exercise was carried out to review the scope of all proposed investments against three key questions:

- does this investment enable us to meet our legal and regulatory obligations?
- does this investment mitigate our strategic risks?
- does this investment facilitate the successful delivery of our performance commitments?

In addition, stakeholders were asked whether there were any additional investments necessary to deliver legal and regulatory obligations and performance commitments.

During the scoping sign-off there was investment added but none was removed. It is therefore reasonable to conclude that the coverage of performance commitments by investment programme will have improved slightly.

2.7. The scope of Atkins technical assurance included providing assurance that there is a "line of sight" between the performance commitment targets and the totex investment included in the Business Plan. This was confirmed by Atkins to the Audit Committee.

[2] This performance commitment has been split into two separate performance commitments since the delivery risk workshops in early June, one relating to false voids and the other to gap properties.

Table 1 – Compliance with Key Statutory Obligations – Wholesale

Statutory Obligation	Description	Outcome(s)	Performance Commitment(s)	Total Mapping Score (calculated as explained in paragraphs 2.2 and 2.3)
Supply of Water				
Duty to develop and maintain an efficient and economical system of supply (section 37 Water Industry Act 1991)	A water undertaker has a duty to develop and maintain an efficient and economical system of water supply within its area and to ensure that all such arrangements have been made: (1) for providing supplies of water to premises in that area and for making such supplies available to persons who demand them; and (2) for maintaining, improving and extending the undertaker's water mains and other pipes, as are necessary for securing that the undertaker is, and continues to be, able to meet its obligations under the provisions of the Water Industry Act 1991 relating to supply.	2. Making sure you have enough water, while leaving more water in the environment. 4. Minimising disruption to you and your community.	1. Leakage 3. Drought 4. Water supply interruptions 5. Unplanned outage 6. Mains Bursts 10. Low pressure	Leakage = 22 Drought = 16 Water supply interruptions = 32 Unplanned outage = 24 Mains Bursts = 20 Low pressure = 18

Table 1 – Compliance with Key Statutory Obligations – Wholesale

Statutory Obligation	Description	Outcome(s)	Performance Commitment(s)	Total Mapping Score (calculated as explained in paragraphs 2.2 and 2.3)
Domestic supply duty (section 52)	Duty to provide water sufficient for domestic purposes and to maintain the connection between the water main and service pipe supplying any premises.	2. Making sure you have enough water, while leaving more water in the environment. 4. Minimising disruption to you and your community.	3. Risk of severe restrictions in a drought 4. Water supply interruptions 5. Unplanned outage 6. Mains Bursts 10. Low pressure	Drought = 16 Water supply interruptions = 32 Unplanned outage = 24 Mains Bursts = 20 Low pressure = 18
Non-domestic supply duties (sections 55-59)	Duty to provide supply for non-domestic purposes subject to terms and conditions agreed with the person supplied or determined by Ofwat. Duty to provide fire hydrants on existing mains at the request of the fire authority or at the request of the owner or occupier of any factory or place of business.	2. Making sure you have enough water, while leaving more water in the environment. 4. Minimising disruption to you and your community.	3. Risk of severe restrictions in a drought 4. Water supply interruptions 5. Unplanned outage 6. Mains Bursts 10. Low pressure	Drought = 16 Water supply interruptions = 32 Unplanned outage = 24 Mains Bursts = 20 Low pressure = 18

Table 1 – Compliance with Key Statutory Obligations – Wholesale

Statutory Obligation	Description	Outcome(s)	Performance Commitment(s)	Total Mapping Score (calculated as explained in paragraphs 2.2 and 2.3)
Constancy and pressure (section 65)	Duty to ensure supplies for domestic or fire-fighting purposes laid on constantly and at a pressure to ensure water will reach top storey of every building within the undertaker's area, other than during any period during which it is reasonable to cut-off or reduce the supply for the purposes of carrying out any necessary works.	2. Making sure you have enough water, while leaving more water in the environment. 4. Minimising disruption to you and your community.	3. Risk of severe restrictions in a drought 4. Water supply interruptions 5. Unplanned outage 6. Mains Bursts 10. Low pressure	Drought = 16 Water supply interruptions = 32 Unplanned outage = 24 Mains Bursts = 20 Low pressure = 18
GSS Service Standards (Water Supply and Sewerage Services (Customer Service Standards) Regulations 2008	Provides for payment of compensation where pressure is not maintained at a minimum pressure of 7 metres static head in the communication pipe, except where a reduction is the result of necessary works.	4. Minimising disruption to you and your community.	10. Low pressure	Low pressure = 18
Water Quality				
Duty to supply wholesome water (section 68)	A water undertaker has a duty to ensure that any water supplied for domestic purposes or for food production is wholesome at the time of supply.	1. Supplying high quality water you can trust.	7. Water Quality Compliance Risk Index (CRI) 19. Water Quality – Mean Zonal Compliance	Water quality compliance = 36 Mean zonal compliance = 35

Table 1 – Compliance with Key Statutory Obligations – Wholesale

Statutory Obligation	Description	Outcome(s)	Performance Commitment(s)	Total Mapping Score (calculated as explained in paragraphs 2.2 and 2.3)
No deterioration duty (section 68)	A water undertaker has a duty so far as reasonably practicable, to ensure, in relation to each source or combination of sources from which water is supplied that there is no deteriorate in the quality of water which is supplied from time to time from that source or combination of sources.	1. Supplying high quality water you can trust.	N/A	N/A
Ensure adequate treatment (Regulation 26 of the Water Supply (Water Quality) Regulations 2016	Water undertakers must ensure that before supplying water it is adequately disinfected, that the design of the treatment process is adequate and that it is continuously monitored.	1. Supplying high quality water you can trust.	7. Water Quality Compliance Risk Index (CRI) 19. Water Quality – Mean Zonal Compliance	Water quality compliance = 36 Mean zonal compliance = 35
Duty to enforce regulations relating to network fittings (Regulation 10 of the Water Supply (Water Fittings) Regulations 1999	Water undertakers must enforce regulations relating to the quality of water fittings and their proper installation.	1. Supplying high quality water you can trust.	N/A	N/A

Table 1 – Compliance with Key Statutory Obligations – Wholesale

Statutory Obligation	Description	Outcome(s)	Performance Commitment(s)	Total Mapping Score (calculated as explained in paragraphs 2.2 and 2.3)
Obligation to comply with proposed notice regarding lead programme in Horsley Cross WTW connected supply system[3]. (Regulation 28(4) of the Water Supply (Water Quality) Regulations 2016	A water undertaker is required to take measures that are specified in a notice served on it under Regulation 28(4).	1. Supplying high quality water you can trust.	N/A	N/A
Developer Services				
Duty to provide water mains (section 41)	Water undertakers have a duty to provide a water main requisitioned by the owner or occupier of land for the purposes of making a domestic supply.	3. Providing a great service that you value	9. Developer Measure of Experience (D-Mex)	D-Mex = 12
Duty to connect to water supply (section 45)	Water undertakers have a duty to make connections with a main on receipt of a "connection notice" and to lay part of the service pipe to be located in the street (and up the stopcock if this is located in the garden).	3. Providing a great service that you value.	9. Developer Measure of Experience (D-Mex)	D-Mex = 12

[3] DWI's letter dated 31 May 2018 indicated DWI's intention to issue a notice under section 28(4) of the Water Supply (Water Quality) Regulations 2016 requiring the company to mitigate the risk of lead that has been identified as a potential danger to human health from the water supplied from Horsley Cross WTW.

Table 1 – Compliance with Key Statutory Obligations – Wholesale

Statutory Obligation	Description	Outcome(s)	Performance Commitment(s)	Total Mapping Score (calculated as explained in paragraphs 2.2 and 2.3)
Duty to move pipes (section 185)	Water undertakers are required to move mains located on private land and the owner or occupier's request if they are proposing to develop the land.	3. Providing a great service that you value.	9. Developer Measure of Experience (D-Mex)	D-Mex = 12
Adoption of water mains and service pipes (section 51A)	Right for a person proposing to construct water mains and/or service pipes (which could otherwise requisitions from water undertaker) to request undertaker to enter into agreement to adopt that infrastructure at a future date.	3. Providing a great service that you value.	9. Developer Measure of Experience (D-Mex)	D-Mex = 12
New Appointees and Retailers				
Provision of bulk supplies (sections 40 and 40A)	Ofwat can direct a water undertaker to provide a bulk supply of water to another water undertaker or prospective water undertaker.	3. Providing a great service that you value. 4. Minimising disruption for you and your community.	3. Risk of severe restrictions in a drought 4. Water supply interruptions 5. Unplanned outage 6. Mains Bursts 10. Low pressure	Drought = 16 Water supply interruptions = 32 Unplanned outage = 24 Mains Bursts = 20 Low pressure = 18

Table 1 – Compliance with Key Statutory Obligations – Wholesale

Statutory Obligation	Description	Outcome(s)	Performance Commitment(s)	Total Mapping Score (calculated as explained in paragraphs 2.2 and 2.3)
Duty to enable supply of water by licensees (section 66AA)	A water undertaker has a duty to take such steps as may be necessary to enable the requested use by a licensee (with retail authorisation) of undertaker's supply system to supply eligible non-household premises.	3. Providing a great service that you value. 4. Minimising disruption for you and your community.	3. Risk of severe restrictions in a drought 4. Water supply interruptions 5. Unplanned outage 6. Mains Bursts 10. Low pressure	Drought = 16 Water supply interruptions = 32 Unplanned outage = 24 Mains Bursts = 20 Low pressure = 18
Planning				
Duty to prepare, publish and maintain a water resources management plan (section 37A)	A water undertaker has a duty to publish a plan setting out how it will manage and develop water resources so as to be able, and continue to be able, to meet its obligations to supply water.	1. Supplying high quality water you can trust. 2. Making sure you have enough water, while leaving more water in the environment.	N/A	N/A
Duty to prepare, publish and maintain a drought management plan (section 39B)	A water undertaker has a duty to prepare, publish and maintain a drought plan setting out how the water undertaker will continue, during the period of a drought, to discharge its duties to supply adequate quantities of wholesome water, with a little recourse as reasonably possible to drought orders or drought permits and must review the plan every three years.	2. Making sure you have enough water, while leaving more water in the environment. 4. Minimising disruption to you and your community.	N/A	N/A

Table 1 – Compliance with Key Statutory Obligations – Wholesale

Statutory Obligation	Description	Outcome(s)	Performance Commitment(s)	Total Mapping Score (calculated as explained in paragraphs 2.2 and 2.3)
National Security and Civil Emergencies				
Duty to comply with direction given by the Secretary of State in the interests of national security or for the purpose of mitigating the effects of a civil emergency. (section 208)	The Security and Emergency Measures (Water and Sewerage Undertakers) Direction 1998 requires water undertakers to make, keep under review and revise plans to ensure provision of essential water services at all time and to co-operate with other water undertakers, the EA, local authorities, health authorities, police and any other bodies likely to be involved in handling emergency including priority provision of water to the sick, elderly, disabled, hospitals and schools and others in vulnerable sectors of the population.	1. Supplying high quality water 3. Providing a great service you value. 4. Minimising disruption to you and your community.	N/A	N/A
Reservoirs				
Obligations relating to reservoir safety (Reservoirs Act 1975)	Obligations on the owners / operators of reservoirs relating to structural design, construction, inspection, operation and maintenance.	4. Minimising disruption to you and your community.	N/A	N/A
Environmental				

Table 1 – Compliance with Key Statutory Obligations – Wholesale

Statutory Obligation	Description	Outcome(s)	Performance Commitment(s)	Total Mapping Score (calculated as explained in paragraphs 2.2 and 2.3)
Duty to have regard to river basin management plans (Regulation 33 of the Water Environment (Water Framework Directive)(England and Wales) 2017	Water undertakers are required in exercising their functions so far as affecting a river basin district to have regard to the river basin management plan for that district and any supplementary plan.	2. Making sure you have enough water while leaving more water in the environment.	1. Leakage 2. Per capita consumption 13. Environmental innovation 16. River Restoration 17. Sustainable abstraction management 18. Abstraction Incentive Mechanism (AIM)	Leakage = 22 Per capita consumption = 22 Environmental innovation = 9 River Restoration = 8 Sustainable abstraction management = 34 AIM = 11
Compliance with abstraction licences (section 24 of the Water Resources Act 1991)	It is a criminal offence to abstract water from any source of supply (or cause or permit any other person to do so) other than in accordance with an abstraction licence or to breach the condition of an abstraction licence.	N/A	N/A	N/A
Compliance with environmental permits (Regulation 12 and 38 of the Environmental Permitting (England and Wales) Regulations 2016)	It is a criminal offence to cause or knowingly permit a water discharge activity (which includes discharge of polluting matter) other than in accordance with an environmental permit and/or to breach a condition of an environmental permit.	N/A	N/A	N/A

Table 1 – Compliance with Key Statutory Obligations – Wholesale

Statutory Obligation	Description	Outcome(s)	Performance Commitment(s)	Total Mapping Score (calculated as explained in paragraphs 2.2 and 2.3)
Duty to further the conservation and enhancement of Sites of Special Scientific Interest (Wildlife and Countryside Act 1981)	Water undertakers have a duty to take reasonable steps, consistent with the proper exercise of their functions to further the conservation and enhancement of Sites of Special Scientific Interest.	N/A	13. Environmental innovation 16. River Restoration 17. Sustainable abstraction management 18. Abstraction Incentive Mechanism (AIM).	Environmental innovation = 9 River Restoration = 8 Sustainable abstraction management = 34 AIM = 11
Duty to conserve biodiversity (Natural Environmental and Rural Communities Act 2006)	Water undertakers must have regard, so far as is consistent with the proper exercise of their functions to conserving biodiversity.	N/A	13. Environmental innovation 16. River Restoration 17. Sustainable abstraction management 18. Abstraction Incentive Mechanism (AIM).	Environmental innovation = 9 River Restoration = 8 Sustainable abstraction management = 34 AIM = 11
Obligation to install fish screens (The Eels (England and Wales) Regulations 2009)	Water undertakers have an obligation to install an eel screen on any diversion structure capable of abstracting at least 20 cubic metres of water through any one point in any 24-hour period that they own or occupy.	N/A	N/A	N/A

Table 1 – Compliance with Key Statutory Obligations – Wholesale

Statutory Obligation	Description	Outcome(s)	Performance Commitment(s)	Total Mapping Score (calculated as explained in paragraphs 2.2 and 2.3)
Adaptation Reporting Power (Climate Change Act 2008)	The Climate Change Act 2008 gives the Secretary of State the power to direct reporting authorities (which include water undertakers) to produce reports on what they are doing to adapt to climate change.	1. Supplying high quality water you can trust. 2. Making sure you have enough water, while leaving more water in the environment.	N/A	N/A
Control of invasive non-native species (Wildlife and Countryside Act 1981)	It is an offence to plant or cause to grow in the wild any plant listed in Part 2 of Schedule 9 of the Wildlife and Countryside Act 1981.	N/A	N/A	N/A

Table 2 – Compliance with Key Statutory Obligations – Retail

Statutory Obligation	Description	Outcome	Performance Commitment	Total Mapping Score (calculated as explained in paragraphs 2.2 and 2.3)
Duty to promote the efficient use of water (section 93B Water Industry Act).	It is the duty of every undertaker to promote the efficient use of water by its customers.	2. Making sure you have enough water, while leaving more water in the environment.	2. Per Capita Consumption	Per Capita Consumption = 22
GSS Service Standards (Water Supply and Sewerage Services (Customer Service Standards) Regulations 2008)	Provides for payment of compensation for failure to meet service standards relating to: • making and keeping of appointments; • responding to complaints; • providing notice of interruptions of supply; • restoring supply within specified timescales; • maintaining minimum pressure; • paying compensation within defined timescales.	3. Providing a great service that you value.	8. Customer Measure of Experience (C-Mex)	C-Mex = 26
Water Sure Tariff (Water Industry (Charges)(Vulnerable Groups) Regulations 1999)	Water undertakers must make special provision for providing assistance with charges in relation to any consumer within a specified class satisfying certain conditions.	3. Providing a great service that you value.	11. Customers in vulnerable circumstances – satisfied. 12. Customers in vulnerable circumstances – ease.	Customers satisfied = 3 Customers ease = 3