



Business plan supplementary submission

June 2014



Contents of supplementary submission

Section

Supplementary submission – overview

Board assurance

1. Updated company information
2. Further engagement with the customer challenge group
3. Customer engagement and willingness to pay
4. Wholesale cost assessment – cost modelling overview
 - 4.1 Wholesale cost assessment – the Fawley oil refinery
 - 4.2 Wholesale cost assessment – infrastructure renewals (mains replacement)
 - 4.3 Wholesale cost assessment – selective metering
 - 4.4 Wholesale cost assessment – new costs

Activity 1 –

National Environment Programme and catchment management;

Activity 2 –

Reduction in leakage

5. Household and non-household retail cost allocation

6. Average cost to serve adjustments

7. Default tariffs

8. Risk and reward

9. Affordability

10. Financeability

11. Adjustments to 2010-2015 price control

Evidence folders

Provided for each section where required

Tables

Provided as a separate folder

Supplementary submission – overview

Introduction

In December 2013 we submitted our business plan for 2015-2020. This supplementary submission updates the December plan. It takes on board Ofwat's risk and reward guidance, responds to risk-based review challenges and includes actual cost and performance data for 2013/14.

Our December 2013 plan proposed a significant reduction in bills and even better service levels. 79% of customers found our December plan acceptable and a further 14% were neutral. We have continued to engage with our customers and have undertaken further research. Our updated proposals offer greater benefits for customers and are supported by our Customer Engagement Planning Forum (CEPF). In this supplementary submission, we propose further improvements to costs and service and thereby greater value for money.

We have welcomed the dialogue that has taken place between Ofwat and the company, which has been very helpful in ensuring that as far as possible we are providing data and information which meets Ofwat's needs.

Closing the gaps identified in Ofwat's risk-based review:

- **Fawley:** standard modelling does not cope with this single, dominant customer taking 28% of our water input. The gap is in the order of £3.2m. We present new evidence to justify this single, huge UK customer as a special case in view of its unique circumstances and its major impact in both operational and financial terms, consistent with its treatment in previous periodic reviews.
- **Additional leakage reduction:** we provide evidence that the proposal to reduce leakage by 5%, which involves additional, un-modelled cost of £0.940m, is customer-driven, cost beneficial and customers are prepared to pay for this through a modest amount on the annual bill.
- **Embedded cost of debt:** strong evidence is presented in support of our embedded cost of debt:
 - providing good value for customers
 - our customers are willing to pay the cost, and
 - the cost and duration of the debt is efficient

The best-performing water company in terms of service and cost should not have to provide its shareholder with a lower than fair return on equity, accepting Ofwat's 5.65% cost of equity.

- Retail input price pressure:** new evidence is provided for ‘what makes us different’ in terms of the highest service levels at low cost, compared to benchmarks across different industries. We cannot reduce costs by as much as poorer performing or higher cost companies and require an adjustment in this respect over AMP6.
- National Environment Programme:** new obligations not covered by historical cost levels assumed in standard wholesale cost modelling. We provide more information in respect of the need and justification of the costs (£0.795m).
- Mains replacement programme:** at PR09 we were allowed funding to renew 12km of water mains per year. Ofwat’s approach to modelling has used a previous historic average of 9km per year. Our evidence shows that 24km need to be renewed each year to maintain stability in the longer term. However, we present evidence to support a small increase to 13km per year at an additional cost of £1.994m, and will continue to track performance and serviceability so as to be alert to any emerging evidence of deterioration in the future. We do not believe it would be appropriate to increase activity to the extent indicated by our own modelling at this time.
- Metering:** customers strongly support the continuation of metering as a matter of principle because charging by volume represents fairness in their view. We have reduced the number of meters we propose to install compared with our December 2013 plan (which reduces the cost by £1.3m), so that activity in the future will be broadly the same as in the past. More recent research has shown strongly that customers want choice in respect of being metered themselves, so we propose a new policy of allowing customers who are metered on change of occupier, to revert to an unmeasured charge after 12 months if they choose to.

Affordability

In adjusting our plan to reflect all of the above, we have increased our Year 1 proposed price reduction as shown in the table below:

Our adjusted bill profile shows a larger bill reduction in 2015/16.

K factor changes in total bills	AMP5	AMP6				
	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
December 2013 Business Plan K factor	Minus 3.2%	Minus 4.7%	Minus 0.5%	Minus 0.5%	Minus 0.5%	Minus 0.5%
Supplementary submission K factor	Minus 3.2%	Minus 5.1	Minus 0.5%	Minus 0.5%	Minus 0.5%	Minus 0.5%

Forecast K factors for AMP7 evidence a flat bill profile in real terms for the future. We are not allowing pressure for price rises to build up, despite short-term price reductions.

K factor changes in total bills in AMP7	2020/21	2021/22	2022/23	2023/24	2024/25
December 2013 Business Plan K factor	0.0%	0.0%	0.0%	0.0%	0.0%
Supplementary submission K factor	0.0%	0.0%	0.0%	0.0%	0.0%

Based on customer acceptability of our December 2013 plan and the subsequent enhanced bill profile proposed, we view the plan as remaining affordable to our customers over the longer term. We have also discussed current and future affordability with our independent customer challenge group (CEPF) who agree with our view as reflected in their supplementary report.

Responding to Ofwat’s risk-based review

In response to the risk-based review, in this supplementary submission we are submitting further evidence in the following areas:

Wholesale cost assessment

- An independent analysis of the costs and modelling impact that our single, very large special agreement customer has had on the wholesale assessment modelling, showing that the models cannot provide a robust result where a single large supply has such a distorting effect on the nature of the company’s assets and operations. This increases the required cost by at least £3.2m.
- Further evidence in respect of future costs for leakage reduction, increased mains replacement, metering and the National Environment Programme. Although included in the December 2013 plan, they were not highlighted as new or un-modelled costs. This was, in part, the cause of the cost assessment variance.
- Revised metering activity following further research with customers, which will reduce the totex we require by £1.3m over five years

Cost of embedded debt

- Evidence to demonstrate that our actual embedded cost of debt was efficiently and effectively incurred and that customers view the additional cost related to having a small, local company as value for money when considered against the service we provide

- In addition, we set out how the existence of small companies, especially those at the frontier of performance has a value as a comparator.
- We accept the cost of equity but in order not to penalise the shareholder through returns below this, we propose an allowance to recover the cost of embedded debt, as it provides real benefits to customers.

Retail input price pressures

- Further evidence supporting our claim for input price pressures in the retail part of the business. Our service levels are at the industry frontier and therefore contribute to overall industry improvement; and our costs are amongst the lowest. Input price pressures are real as the scope for efficiencies is more limited for us than for others.
- We will continually improve and so will achieve frontier-shift efficiencies. However, an adjustment in respect of input price inflation is required.
- We will continue our relentless drive to provide even better service to customers. While we intend to remain a frontier company in the industry, we will also aim to be viewed by our customers as providing service which is amongst the best they can find – anywhere.

Customer engagement and willingness to pay

- All supporting evidence and background data that had been shared with the CEPF but not included in our December 2013 plan, is included with this supplementary submission.
- We have simplified the commitments to performance we are making, compared with what was set out in the December 2013 plan.
- We have included our detailed rationale for the outcomes and performance commitments that we have undertaken.

Retail cost allocation

- Revised cost allocation incorporating Ofwat's new guidance. We have liaised closely with Ofwat's cost allocation teams to ensure that our submission is compliant with requirements.
- The allocation of costs has been reviewed and audited by an independent expert so as to give assurance of the robustness of the allocations.

2013/14 data

- Updated data tables, legacy models and AMP5 performance information reflecting 2013/14 outturn performance. The impact of these updates is detailed in section 1, 'Updated company information'.

Adopting Ofwat's risk and reward guidance

Since the publication of the risk and reward guidance we have:

- Created two outperformance rewards for performance commitments customers are willing to pay for.
- Strengthened protection for customers as a result of underperformance through the introduction of additional financial penalties some of which will be determined by an independent Customer View group, to be formally established later in 2014.
- Further explained how this independent ('Water Share'-type) panel will operate. This will include discussion about cost and technical performance compared with the commitments we are making and the timing of any passing back of any penalties to customers. The group will have direct access to our Board.
- Revised the scope for under or over performance to affect the return on regulatory equity (RORE) so that it falls within the range of 0.6% to 7.8%. (The RORE range reflects the asymmetric risk related to the closure of Fawley, which would produce a big downside, with no corresponding upside.)
- Included business rates as an uncertainty mechanism and withdrawn our proposal for an uncertainty mechanism for the cost of competition.
- Adopted a household retail profit margin of 1%. Our request in December 2013 for a 2.5% non-household margin remains unchanged. The weighted value of these margins is equivalent to 1.4% of the weighted average cost of capital.
- Reduced the wholesale weighted average cost of capital and so reduced future returns, in turn benefitting customers through greater bill decreases than proposed in our December 2013 plan.
- Accepted all but the cost of embedded debt in our reduced claim for the weighted average cost of capital. We present extensive evidence to support this.

Structure of this supplementary submission

This supplementary submission broadly follows the structure of Ofwat's gap analysis document.

Each section is designed to be read as a stand-alone document and has a corresponding evidence folder. For that reason it may seem repetitive but this structure is deliberate to ensure clarity.

Where challenges were raised during the risk-based review, the section starts with our response to Ofwat's specific challenges.

Governance and assurance of data

All data, updated legacy models and tables have been independently reviewed and assured by an independent expert from Halcrow Management Sciences Ltd who has reported his findings to the Board.

Where appropriate, the company's financial auditors have reviewed tables. They have met with, given feedback and been challenged by the Audit Committee of our Board.

Both assurance reports are provided with this supplementary submission.

Board assurance

The Board remains satisfied that the activities needed to ensure the meeting of statutory obligations in the future have been appropriately identified and are included in the plan. In addition, it is satisfied that engagement with customers has ensured that their views about the service and their preferences for the future have been understood and taken into account in compiling the plan. As stated above, all of the proposed revisions and additional evidence have been reviewed by an independent technical auditor, as have a revised set of data tables. Where appropriate, financial auditors have reviewed the data tables.

The Board is satisfied that it has been provided with sufficient information to enable it to conclude that the company's plan remains consistent with the company's aims and objectives, that the plan has been based on robust engagement with customers, and that it will provide a service that customers want and are prepared to pay for. The Board is also satisfied that in delivering the plan, the company will remain financeable under both its forecast and Ofwat's notional gearing levels.

The Board has been involved in the company's assessment of Ofwat's modelling of costs and urges Ofwat to consider how its risk-based review modelling, while being fit for purpose for the initial review, does not take account of the specifics of the company's business in respect of supplying a very large industrial customer or the proposed activities presented in its plan.

A full Board assurance statement follows this overview.



Jim McGown
Chairman



Roger Harrington
Managing Director

Board assurance statement

The Board of Sembcorp Bournemouth Water assured the business plan submitted to Ofwat in December 2013, providing a comprehensive description of the processes that were followed, the Directors' involvement in the development of the plan, and challenges made. That statement remains valid and should be read in conjunction with this update.

Since December 2013, and following the publication by Ofwat of its Risk and Reward guidance, together with feedback on the company's plan, and a number of new guidance documents, the Board has been kept aware of the implications and how the executive team has proposed addressing these.

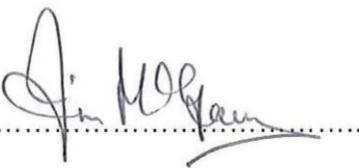
Since the December 2013 submission, the company has revisited the following aspects of its plan and:

- Reduced the weighted average cost of capital and hence returns included in future turnover forecasts.
- Revised its design of output delivery incentives to enable the company to earn a higher return if it outperforms certain commitments.
- Followed Ofwat's new guidance in respect of the allocation of costs between the wholesale and retail parts of the company's business.
- Provided more evidence in respect of customer support for the plan
- Provided more evidence in respect of the forecast costs to be incurred in the future.
- Reduced the capital investment proposed in respect of metering existing household customers.
- Explained further how performance will be discussed with an independent group which is representative of customers, and how any outperformance or shortfall in delivery will be dealt with.

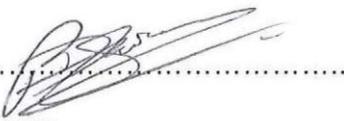
The Board has been involved in the company's assessment of Ofwat's modelling of costs and urges Ofwat to consider how its risk-based review modelling, while being fit for purpose for the initial review, does not take account of the specifics of the company's business in respect of supplying a very large industrial customer or the proposed activities presented in its plan.

The Board remains satisfied that the activities needed to ensure the meeting of statutory obligations in the future have been appropriately identified and are included in the plan. In addition, it is satisfied that engagement with customers has ensured that their views about the service and their preferences for the future have been understood and taken into account in compiling the plan. All of the proposed revisions and additional evidence have been reviewed by an independent technical auditor, as have a revised set of data tables. When appropriate, financial auditors have reviewed data tables.

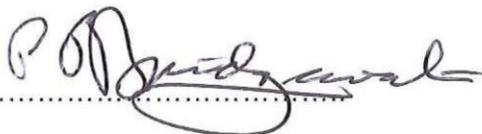
The Board is satisfied that it has been provided with sufficient information to enable it to conclude that the company's plan remains consistent with the company's aims and objectives, that the plan has been based on robust engagement with customers, and that it will provide a service that customers want and are prepared to pay for. The Board is also satisfied that in delivering the plan, the company will remain financeable, both under the company's forecast gearing level and Ofwat's notional gearing level.

Signed.....
Jim McGown

Signed.....
Peter Millward

Signed.....
Paul Gavens

Signed.....
Roger Harrington

Signed.....
Peter Bridgewater

Signed.....
Angela Lane

Signed.....
Ng Meng Poh

1. Updated company information

Introduction

This section outlines the key changes to our business plan since the December 2013 submission, taking into account Ofwat's Risk and Reward and other guidance and further research and evidence.

Key points

We have:

- Updated the figures for 2013/14 results
- Updated the legacy adjustments for 2013/14 results
- Reduced the WACC
- Adopted the household retail margin of 1%
- Clarified some of the entries on the wholesale tables
- Reduced the meter installation policy, and
- Clarified the pension deficit payments in the tables

Legacy updates

We provide more information and evidence on legacy models in section 11 'Adjustments to 2010-2015 price control'.

- Revenue Correction Mechanism

Our AMP6 adjustment has reduced from -£0.480m to -£0.390m per year.

- SIM

Based on indicative 2013/14 data, we now assume a SIM performance reward of +0.5% of turnover, or 4.5% of retail revenue.

- Change protocol

We have shortfalled our PR09 metering output by just over 2,000 meters, which has a financial impact of £0.475m capex and £0.020m opex.

- Capital incentive scheme

We forecast that our capital spend will exceed the assumed baseline by £3.5m due to increased investment in our water treatment works. The CIS model includes the capex impact of the metering shortfall.

- Opex incentive allowance

The OIA model includes the opex impact of the metering shortfall. Consistent with our December 2013 submission, we do not claim any other adjustment.

The net impact of the legacy adjustments is a -£0.294m per annum revenue adjustment and £0.928m additional RCV.

Changes to FD09 output forecast

We remain broadly on track with our FD09 outputs but have now shortfalled meter installation due to lower numbers of customers opting to be charged by meter. This has impacted our 'demand-side enhancements' indicator.

Water efficiency also proved challenging during 2013/14, to the extent that we did not meet the target.

More information and evidence on FD09 outputs is provided in section 11 'Adjustments to 2010-2015 price control'

Risk and reward guidance and impact on plan

Wholesale WACC

We have adopted Ofwat's risk and reward guidance on:

- The cost of equity
- The gearing level, and
- The cost of new debt.

We have followed the Competition Commission's latest precedent on Northern Ireland Electricity and included our cost of embedded debt. This is after further customer research and academic research into the issue. Two types of additional evidence are provided in this submission:

- Academic evidence and research by KPMG, and
- The results of further customer research into the value that customers place on their perceptions of the benefits of being served by SBW as a small company, compared with the additional cost this imposes on them. Customers show very clear support for the additional cost of including the embedded cost of debt.

We have adopted Ofwat's retail margin of 1%.

The Financeability and Risk and Reward (RORE) sections, 10 and 8, demonstrate that our business plan remains financeable with an appropriate range of returns on regulatory equity in line with Ofwat's risk and reward guidance.

Our updated plan now includes two outcome delivery rewards to our business plan proposal. We provide more information and evidence in section 3 'Customer engagement and willingness to pay'.

We have made minor adjustments to the totex Pay As You Go ratios each year to smooth out bills to customers and ensure that we remain financeable throughout AMP6. The overall impact is that required revenue in AMP6 reduces from £200m to £196m (2012/13 price base), the K factor in 2015/16 changes from -4.7% to -5.1% and the RCV at the end of AMP6 remains at £144m.

Changes in tax

There are a number of changes in the calculation of tax, when compared to the December 2013 submission, as well as consequential changes following updates to earlier years' tax returns. The three main adjustments are:

- Increased pension contributions
- Amortisation of infrastructure contributions
- Reduction in writing down allowances for meters

Pension contributions

Since the December 2013 submission, we have updated our plans on how we intend to deal with the defined benefit scheme and future liabilities. We intend to move the pension fund towards 'self-sufficiency'. As such, additional tax relief will be available on the additional cash contributions we will be making. This will reduce our tax payable.

Amortisation of infrastructure contributions

Under IFRS accounting, we are required to amortise certain types of capital contribution. This amortisation generates a taxable revenue. For modelling purposes, Ofwat require us to treat all contributions as a deduction from capital expenditure, (as confirmed on 10 June 2014). This difference in treatment generates a considerable timing difference in cash paid, and we have now built this into our tax calculations. This has increased the tax payable.

Reduction in writing down allowances for meters

We engaged KPMG to perform agreed-upon procedures on our tax calculations and they identified that we had continued to claim 100% capital allowances on expenditure on meters. This special allowance for meters was withdrawn in August 2013. As a result, we have recalculated our writing down allowances, restricting allowances claimed on meters to the standard capital allowance of 18%. This has increased the tax payable.

The excerpt¹ below comes from the Defra website and shows the removal of meters, specifically V100 25mm and V200, which we use.

Meters and monitoring equipment

Search by model name or number...

Select Sub-Technology:

Include products removed for 2 years or less

SEARCH RESULTS
TECHNOLOGY INFORMATION
CRITERIA
PARTNER DETAILS

Results for: Meters and monitoring equipment | Elster Water Metering Ltd Page 1 of 2

REF	MODEL NAME	MODEL NUMBER	MANUFACTURER	ADDED
4838	▶ Emeris Route Manager 2	ERM2	Elster Metering Ltd	1st Oct 2011
1203	▶ Combination Cold Water Meter - C4000 (REMOVED: 7th Aug 2013)	100mm	Elster Metering Ltd	1st Feb 2006
1201	▶ Combination Cold Water Meter - C4000 (REMOVED: 7th Aug 2013)	50mm	Elster Metering Ltd	1st Feb 2006
1202	▶ Combination Cold Water Meter - C4000 (REMOVED: 7th Aug 2013)	80mm	Elster Metering Ltd	1st Feb 2006
1194	▶ Volumetric Cold Water Meter - V100 (REMOVED: 7th Aug 2013)	15mm	Elster Metering Ltd	1st Feb 2006
1195	▶ Volumetric Cold Water Meter - V100 (REMOVED: 7th Aug 2013)	20mm	Elster Metering Ltd	1st Feb 2006
1196	▶ Volumetric Cold Water Meter - V100 (REMOVED: 7th Aug 2013)	25mm	Elster Metering Ltd	1st Feb 2006
1197	▶ Volumetric Cold Water Meter - V100 (REMOVED: 7th Aug 2013)	30mm	Elster Metering Ltd	1st Feb 2006
1198	▶ Volumetric Cold Water Meter - V100 (REMOVED: 7th Aug 2013)	40mm	Elster Metering Ltd	1st Feb 2006
1199	▶ Volumetric Cold Water Meter - V200 (REMOVED: 7th Aug 2013)	Qn1.0/1.5	Elster Metering Ltd	1st Feb 2006
1200	▶ Volumetric Cold Water Meter - V210 (REMOVED: 7th Aug 2013)	Qn1.0/1.5	Elster Metering Ltd	1st Feb 2006
1185	▶ Woltmann Cold Water Meter - H4000 (REMOVED: 7th Aug 2013)	100mm	Elster Metering Ltd	1st Feb 2006
1186	▶ Woltmann Cold Water Meter - H4000 (REMOVED: 7th Aug 2013)	125mm	Elster Metering Ltd	1st Feb 2006
1187	▶ Woltmann Cold Water Meter - H4000 (REMOVED: 7th Aug 2013)	150mm	Elster Metering Ltd	1st Feb 2006
1188	▶ Woltmann Cold Water Meter - H4000	200mm	Elster Metering Ltd	1st Feb 2006

¹ http://wtl.defra.gov.uk/product_list.asp?partner=&technology=00030008&sub-technology=&submit=Search...§ion=66&removed_state=1&keywords=Search+by+model+name+or+number...&pagesize=-1

Table submission

We have clearly marked changes to data in the submitted tables.

W11, wholesale cost exclusions

While all new and forecast costs were included in our December 2013 submission, we did not include them in Table W11 as we had misinterpreted the table guidance. None of the costs was therefore included as un-modelled costs in the wholesale cost assessment. We have corrected this by itemising them in Table W11.

Our supplementary submission now includes:

- National Environment Programme costs. This statutory obligation, strongly supported by the Environment Agency and Natural England, will incur new costs of £0.795m that will not have been reflected in historic cost models. We included these costs in our December 2013 submission but not in Table W11.
- The additional costs of our proposed leakage, metering and infrastructure renewals policies.

Following further informal feedback from Ofwat, we also include costs related to the Fawley oil refinery in Table W11.

We submit more information and evidence on each of these issues, (and the NEP costs discussed above) in the sections headed 'Wholesale cost assessment'.

Meter policy change

We have reduced our proposed metering policy from the December 2013 proposal of accelerating the installation rate, to continuing our PR09 policy of metering on change of occupier and on request, in line with customer feedback since December 2013, Ofwat's review, and a reassessment of the cost-effectiveness of the accelerated metering policy.

We submit more information and evidence in section 4.3 'Wholesale cost assessment – selective metering'.

The change has reduced wholesale totex by £1.263m. There is no impact on retail costs.

Performance commitments split

As a result of Ofwat's risk-based review, we have reduced the number of performance commitments from 33 to 14 by consolidating some and moving others to an alternative reporting and measurement mechanism.

We have not removed any commitments, only restructured them to fit better with Ofwat's expectations.

There is no financial impact from this change.

Pension deficit costs

Information Note IN13/17 advised companies of the amounts Ofwat would allow them to recover in respect of pension deficits during AMP6.

This notice specified that 80% of the pension deficit amount should be allocated to the wholesale cost, with the remaining 20% allocated to retail costs. Our total costs were £0.829m per annum for three years, resulting in a wholesale value of £0.663m for each year. As our August data submission showed, we have paid significantly more into the pension scheme during the current price control period than was assumed by Ofwat or us when the price control was set, contrary to the general conclusion in respect of the whole industry that Ofwat arrived at as detailed in Information Note IN 13/17.

We closed our defined benefit scheme to new accrual in 2013 to limit future uncertainty and provide protection for customers over the longer term. We have therefore already taken all possible actions to manage this cost and no further incentive on management can have any effect. We will make larger deficit recovery contributions in AMP6 than Ofwat assumed at PR09 and in IN 13/17, although we have only included the IN13/17 'allowance' in our PR14 business plan.

Since there was no line on any table to insert the pension deficit cost, we understood this to mean that Ofwat would add the deficit allowance to costs in its own models 'off line'. Our allowed pension deficit costs were therefore not included in our December 2013 Table W3 submission, but the costs were included within our required revenue proposal.

Pension deficit lines have now been added to the tables for the June 2014 submission, and we will include these costs on the relevant lines (Table A19 for the wholesale element and Tables R3 and R4 for the two retail elements).

This may show up in Ofwat's modelling as an additional cost within our wholesale submission, although it had been included in our own assessment of required revenue.

The impact is £0.663m per annum for the years 2015/16, 2016/17 and 2017/18 as shown in Table A19.

Conclusion

The net effect of the changes since our December 2013 submission are to reduce AMP6 revenues by around £4m. They have impacted annual revenues and K factors as shown in the table below.

The table shows we have taken account of Ofwat's guidance and customer feedback and reduced our proposed revenues by around £4m.

	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Revenues £m							
December Business Plan	43.1	42.5	40.5	40.3	40.1	39.9	39.7
June update	43.1	41.8	39.7	39.5	39.3	39.1	38.9
Difference	-	-0.7	-0.8	-0.8	-0.8	-0.8	-0.8
K Factor %							
December Business Plan			-4.7%	-0.5%	-0.5%	-0.5%	-0.5%
June update			-5.1%	-0.5%	-0.5%	-0.5%	-0.5%
Difference			-0.4%	-	-	-	-
Average Bill £							
December Business Plan	154	149	142	141	139	137	136
June update	154	149	141	140	138	136	135
Difference	-	-	-1	-1	-1	-1	-1

2. Further engagement with the customer challenge group

Key points

- Communication between the company and the CEPF has been proactive and regular
- We have responded to all challenges raised and revised our plan wherever necessary
- The resulting plan reflects customers' views, and provides significant bill reductions and increased service levels
- The CEPF fully supports this supplementary submission.

Introduction

Following our December 2013 submission, we have continued to proactively meet and liaise with our customer challenge group, the Customer Engagement Planning Forum (CEPF), during 2014.

This section details the key matters and discussions up to 27 June 2014.

CEPF meeting - Thursday 27 February 2014

Supporting documents in the evidence pack are:

- Agenda
- Paper on PR14 and new guidance from Ofwat on risk & reward¹
- CEPF meeting minutes

This meeting discussed in detail the paper provided by SBW on the new guidance from Ofwat on risk and reward. This was prior to Ofwat announcing the companies that had achieved enhanced status. The minutes highlight the questions and challenges that the CEPF directed to SBW.

Key points from the meeting

1. The chairman asked the meeting to recognise that SBW was already at the top of the SIM comparative tables and has a good track record of delivery of its obligations.
2. SBW's MD concluded that he is confident that SBW could accept the challenge of taking more risk in line with Ofwat's revised guidance.

¹ CEPF – Paper (Risk and Reward) 27-02-14

3. The CEPF queried what would the cost be of lower leakage? SBW's MD replied that there could be additional costs, but that any cost not included in the business plan would be borne by SBW.
4. The CEPF chairman queried if any SBW customer would be worse off under the revised package? SBW's MD replied no, as there would be even lower prices, better service but at higher risk to SBW's shareholder.
5. In response to the revised performance levels re leakage outperformance, SBW's MD advised the CEPF that the revised incentive proposal requires SBW to reduce leakage by approximately 15%, in order to provide an acceptable return by way of reward. However, there was significantly greater risk to the shareholder of achieving this performance.

CEPF meeting - Thursday 10 April 2014

Supporting documents in the evidence pack are:

- Agenda
- CCWater challenges and queries for SBW's CEPF meeting²
- SBW Paper 1 – Ofwat's PR14 Risk based review³
- SBW Paper 2 – Ofwat's PR14 Outcomes Requirements⁴
- SBW Paper 3 – Ofwat's PR14 Potential customer research⁵
- SBW Paper 4 – CEPF supplementary paper⁶
- CEPF meeting minutes
- Gap analysis⁷

This meeting discussed in detail the SBW papers shown above and resulted in robust challenge from the CEPF as detailed in the CCWater challenges document and the challenge diary.

² CEPF-CCWater Challenges – queries for 10 April meeting

³ CEPF Results of the RBR 10-04-14

⁴ CEPF PR14 Outcomes 10-04-14

⁵ CEPF Potential Research 10-04-14

⁶ CEPF Supplementary Paper

⁷ CEPF Gap analysis 10-04-14

Key points from the meeting

SBW report on Ofwat's risk-based review

1. SBW's MD presented a paper on the gap analysis. On consideration and after lengthy discussion with Ofwat SBW believes it does have the evidence required to satisfy the RBR requirements without the need for further research. SBW does not intend to re-submit the whole plan but to write a supplementary report addressing the gaps identified by Ofwat
2. The CEPF asked for clarity concerning the issue of costs. SBW's FD replied that SBW intends to query with Ofwat the misunderstood effect on their cost assessment model of SBW's single large supply agreement.
3. The CEPF asked how it could assist SBW in achieving a successful solution. SBW's MD replied that SBW would like the CEPF to help SBW strengthen their re-submission with their challenges and full assurance confirming to Ofwat that SBW's customers' interests are fully reflected in the plan and are in customers' best interests.

Specific challenges to SBW arising from pre distributed papers

1. Responses to CCWater challenges included the Challenge Diary.⁸
2. Metering will contribute to the reduction in leakage as well as ensuring a reliable supply and encouraging customers to use less.
3. CEPF felt that with the number of benefits meters bring, and with the research results, the CEPF could support SBW pursuing its proposed policy. The FD also noted the benefit of reduced carbon from pumping.
4. The group also discussed why SBW should push forward with mains renewal responding to customer wants regarding leakage and the environment, to avoid storing up future affordability problems.
5. SBW's MD that 80% of customers expressed support for increased involvement by SBW in the protection of water sources; reducing leakage and increasing metering are an integral component of this.
6. 18 challenges from the CEPF to SBW recorded in the challenge diary at this meeting. All 18 challenges were resolved satisfactorily.

⁸ CEPF final report Appendix 1 - Challenge Diary – record of challenges from the CEPF between February and June 2014

Open discussion

1. The CEPF offered to approach the Local Enterprise Partnership (LEP) to secure a letter of support for metering.
2. The CEPF agreed that WTP for metering is implicit in the research results and that with the CBA undertaken on metering and the environment that the group could agree.
3. Open discussion on the need for additional research to ensure customers understand the effect of inflation. Members agreed that existing research had adequately covered this point.
4. Open discussion of environmental aspects of SBW's plan and customer support for protection of water sources. It was agreed by the members that there was customer support for reducing leakage and for continued mains replacements.
5. The CEPF chairman asked the members if they felt that all the challenges raised by CCWater had been addressed to their satisfaction. Members agreed that they had.
6. The chairman asked the members if they wished PW to approach the LEP in respect of SBW's metering. Members agreed this was a good idea.
7. The chairman then asked the members if they felt that there was a requirement for further research to support the re-submission. Members agreed that no further customer research was necessary.
8. The members agreed to use Halcrow Management Science to write a supplementary report on behalf of the CEPF.

CEPF research sub-group meeting – 13 May 2014

The purpose of the meeting was for the sub-group to review and challenge the contents of the 'Outcomes Rationale' document submitted in support of section 3 'Customer engagement and willingness to pay' of the supplementary submission. The company has implemented the required changes.

The sub-group reaffirmed the previously-agreed view that where there is no incremental cost WTP was not required. They further confirmed their view that as bills were significantly decreasing and service levels increasing this represented value for money for customers; which was confirmed during acceptability testing when 71% of quantitative respondents stated the plan was good value for money.

The forthcoming deliberative research on the company's cost of debt and metering policies was also discussed, including confirmation that the company no longer intended to ask customers whether they supported increased mains replacement following CCWater's challenge that mains replacement was a technical issue that was unsuited to customer research. The results of the research are referred to in sections 3, 4.3 and 8 of the supplementary submission.

CEPF meeting - Tuesday 10 June 2014

Supporting documents in the evidence pack are:

- Agenda
- Covering paper on supplementary business plan⁹
- CEPF meeting minutes

This meeting discussed in detail the SBW papers shown above and resulted in robust challenge from the CEPF as detailed in the CCWater challenges document and the challenge diary (previously referenced above).

Key points from the meeting

1. Members had no specific issues or queries with the results of the deliberative research on customers' views on the company's cost of debt and future metering policy.
2. SBW informing the CEPF that there was one change of policy since the December submission and we are reducing the number of meters to be installed during 2015-20 and allowing occupier change meters to revert to unmetered after 12 months (in line with meter optants). This gives a reduction in totex of £1.3m.
3. Natural England (NE) challenging SBW on this change in policy and how confident the company is that, with a reduction in customer take-up of optional meters and the policy allowing customers with new change of occupier meters to opt for unmetered billing after 12 months, installation targets will be achieved.
4. NE further challenged on the company's ability to reach its per capita consumption target and registered its disappointment in the change of policy.
5. The company acknowledged NE's challenges and repeated its commitment to deliver all of its PCs and targets. It is working on alternative approaches for encouraging ongoing water efficiency and will more proactively market meter options.
6. CCWater challenged the company's calculations for its leakage ODI and the level of incentive to go beyond its target. After discussion the company agreed to review the calculation.
7. There was an open significant discussion on the company's intention to include its actual cost of embedded debt in its WACC. The CEPF concluded and agreed that SBW would have to negotiate with Ofwat after draft determination and would only defer to the CEPF in the event of any major implications for customers at draft determination.

⁹ Supplementary business plan - covering paper for CEPF meeting 10 June 2014

Summary

The CEPF pre and post the December submission have challenged the company, received satisfactory outcomes to their challenges and hence support the plan. The following points demonstrate this.

- The CEPF chairman asking the meeting to recognise that SBW was already at the top of the SIM comparative tables, and that it has a good track record of delivery of its obligations.
- The CEPF supporting SBW pursuing its metering policy. The CEPF agreeing that WTP is implicit for metering.
- The CEPF stating that there was no need for additional research to ensure customers understand the effect of inflation. Members agreed that existing research had adequately covered this point.
- The CEPF chairman asked the members if they felt that all the challenges raised by CCWater had been addressed to their satisfaction. Members agreed that they had.
- The Chairman asking the members if they felt that there was a requirement for further research to support the re-submission. Members agreed that no further customer research in relation to willingness to pay or value for money was necessary.
- 21 challenges from the CEPF to SBW being answered satisfactorily.

The meetings taking place after the December submission have continued the excellent communication links between the CEPF and SBW. They have also brought forth challenges from the CEPF, which the company has satisfactorily dealt with and have demonstrated the CEPF's strong support for our business plan.

3. Customer engagement and willingness to pay

Key points

- Our high-level outcomes and performance commitments reflect our customers' key priorities. Penalties for underperformance and scrutiny by an independent customer panel will ensure customers are protected.
- The proposed bill and service levels exceed customers' expectations. The bill and service package presented to customers was acceptable to 79%, while a further 14% were neutral. 71% rated it good value for money.
- Our plan complements our long term strategic direction and water resources management planning. These, and future-facing performance commitments such as the effective maintenance of the asset base and a long term sustainable reduction in water use, will help to ensure that customers and the environment benefit from what we are planning now.
- Our logic and mapping was tested and challenged by our Board and the Customer Engagement Planning Forum throughout the outcome development process.
- In response to Ofwat's risk-based reward guidance and risk-based review, we propose two Outcomes Delivery Incentive (ODI) rewards and have revised our performance commitments.

Risk-based review response

Ofwat's risk-based review raised the challenges detailed and addressed below.

Following the risk-based review, we have consolidated some performance commitments (PCs) and removed others. We present the changes in this supplementary business plan. The PCs which have been removed relate to external accreditation of management control in respect of quality processes (ISO, OHSAS etc) which we will retain as targets and subject to the same scrutiny and reporting as our outcomes and remaining PCs; and to research on social tariffs, which is already underway. We have therefore responded to Ofwat's challenges only in respect of the PCs that remain applicable.

This section is repetitive, because for clarity we have responded to Ofwat's comments for each of the wholesale and retail risk-based reviews.

Ofwat challenge – retail household	SBW response
<p><i>Criterion 1.3</i></p> <p><i>Approach to gathering willingness to pay (WTP) information and mapping this to outcomes, performance commitments (PCs) and outcome delivery incentives (ODIs)</i></p>	
<p>[There is] no evidence that the CCG supports the results of the WTP analysis. There is some doubt that the CCG was fully informed of the WTP analysis. The CCG 'notes that the process... must have used a series of WTP outputs from the research which the CEPF have not had sight of'</p>	<p>We incorrectly included incremental totex on the retail household PCs where there is no cost, and therefore no WTP was required. We have corrected this.</p> <p>However, the CEPF (customer challenge group) supports the results of our WTP analysis which they have endorsed as evidenced in their supplementary report included with this submission.</p> <p>We understand that Ofwat's assessment arises from a comment on page 11 of the CEPF's initial report.</p> <p>The technical workings of our WTP research are protected by intellectual property rights and were not available for the peer reviewer to analyse.</p> <p>While the peer reviewer was supportive of the process and approach¹ (which is acknowledged by the CEPF) the lack of evidence of the technical workings was observed and commented on by the CEPF in its initial report.</p> <p>Further information has since been provided to the peer reviewer who has stated² (emphasis added)</p> <p><i>'It is perhaps worth emphasising that the methods used in the SBW WTP study are well suited to the contractor's chosen method of applying the modelling results.'</i></p> <p><i>The outputs of the study were presented in terms of "elasticity curves" that describes the strength of customer preferences for packages of service improvements at different pricing points.</i></p>

¹ Scott Reid Peer Review page 9

² Scott Reid second peer review – response to Ofwat WTP response

	<p><i>These preferences exploit the respondent and service level specific utility coefficients that can be derived from the HB estimation methods. The elasticity curves are therefore built up from a good understanding of how preferences for service and price vary across a representative sample of SBW's customers.</i></p> <p><i>This approach is also termed "market share analysis" and is typically used to answer questions like "what proportion of customers are willing to pay price X for service offering Y". On this basis we were, and continue to be, content to conclude that the analysis conducted for SBW met the objective of the research which was to understand consumer preferences for differing levels of service provision.'</i></p>
<p>[There is] insufficient evidence that SBW sought to account for other factors (e.g. inflation and statutory obligations) when gathering WTP estimates from customers.</p>	<p>We understand that Ofwat's assessment arises from a comment on page 8 of the initial CEPF report. We have discussed this with the CEPF who, in their supplementary paper, acknowledge that:</p> <ul style="list-style-type: none"> • The impact of inflation had been clearly highlighted in the WTP stimulus material³, and • Inflation had also been clearly highlighted in other research stages⁴ <p>There are no statutory obligations relating to the retail household business. Those relating to the wholesale business are discussed in the wholesale part of this section.</p>
<p>It is unclear how the results of the WTP survey have been used in the cost benefit analysis</p>	<p>We incorrectly included incremental totex on the retail household PCs where there is no cost, and therefore no WTP was required. We have corrected this however, for completeness we respond to Ofwat's comment here.</p> <p>We analysed the results of the WTP survey using a bespoke simulation tool⁵. The tool uses Hierarchical Bayesian techniques, a form of regression modelling for conjoint analysis.</p>

³SBW WTP Information Pack page 3

⁴ Final Acceptability Testing Stimulus pages 1 and 4 and quantitative research slides 34 and 55

⁵ SBW Willingness to Pay survey report – technical section page 34

	<p>The tool allows us to understand WTP values and how elastic the WTP is for each separate attribute or package of attributes.</p> <p>The simulation tool has been peer reviewed by Dr Scott Reid of ICS Consulting.⁶</p> <p>Our CBA analysis followed UKWIR guidelines⁷ and was reviewed by Halcrow Management Sciences Ltd as part of the December 2013 submission and confirmed as robust. This formed part of Halcrow’s assurance to our Board.</p> <p>Their updated report is attached.⁸</p>
<p>There is no evidence that SBW used customers’ WTP values in its outcomes (other than for leakage and large-scale supply interruptions).</p>	<p>We incorrectly included incremental totex on a number of PCs (and therefore outcomes) where there is no cost, and therefore no WTP was required.</p> <p>These PCs will be funded by incremental improvements in efficiency and effectiveness.</p> <p>We have corrected this in our ‘Outcomes Rationale’⁹ document included with this supplementary submission.</p> <p>82% of a statistically representative sample of household customers (78% non-household)¹⁰ said they preferred bills to rise by no more than inflation or by slightly more than inflation with the same or improved levels of service respectively. With the agreement of the CEPF, WTP for PCs that do not attract incremental totex is not required.</p> <p>Our business plan package, which delivers a significant bill decrease in real terms and improved service levels, was found to be acceptable to 79% of our customers in customer acceptability research. We are satisfied that customers are willing to pay for this.</p> <p>Our ‘Outcomes Rationale’ document provides full details.</p>

⁶ Scott Reid Peer Review and Scott Reid second peer review – response to Ofwat WTP response

⁷ CBA calculations Final

⁸ Halcrow Management Sciences Ltd review of CBA

⁹ Outcomes Rationale

¹⁰ Quantitative research slide 34

<p>Criterion 2.5</p> <p><i>Performance commitments value for money</i></p>	
<p>The company has provided little or no evidence that its PCs reflect value for money.</p>	<p>82% of a statistically representative sample of household customers (78% non-household)¹¹ said they preferred bills to rise by no more than inflation or by slightly more than inflation with the same or improved levels of service respectively.</p> <p>Our PCs deliver improved levels of service at significantly reduced cost and reflect value for money as evidenced by the high level of acceptability of our plan. 79% of our customers in customer acceptability research. We are satisfied that customers are willing to pay for this.</p> <p>71%¹² of respondents in the acceptability testing rated the plan good value for money.</p>
<p>SBW have not provided any cost benefit information for its retail PCs. SBW state that "As per our customer priorities we do not propose any retail measures that constitute an enhancement to our current levels of service. Therefore there are no retail side schemes to assess through cost benefit analysis."</p>	<p>We incorrectly included incremental totex on a number of PCs (and therefore outcomes) where there is no cost, and therefore no CBA or WTP was required.</p> <p>These PCs will be funded by incremental improvements in efficiency and effectiveness.</p> <p>We have corrected this in our 'Outcomes Rationale' document included with this supplementary submission.</p>
<p>5 PCs allocated to the Retail element. Of these 2 are high significance, 2 are medium significance and 1 is low significance. For this criterion 2 high and 2 medium significance PCs fail this test for the reasons given above. One low significance PC passes the test, as there is no incremental totex.</p>	<p>We incorrectly included incremental totex on a number of PCs (and therefore outcomes) where there is no cost, and therefore no CBA or WTP were required.</p> <p>These PCs will be funded by incremental improvements in efficiency and effectiveness.</p> <p>We have corrected this and our 'Outcomes Rationale' document, included with this supplementary submission provides full details.</p>

¹¹ Quantitative research slide 34

¹² Quantitative acceptability test results slide 9

Ofwat challenge – wholesale	SBW response
<p><i>Criterion 1.3</i></p> <p><i>Approach to gathering willingness to pay (WTP) information and mapping this to outcomes, performance commitments (PCs) and outcome delivery incentives (ODIs)</i></p>	
<p>[There is] insufficient evidence of a robust approach to gathering WTP information and mapping this to its outcomes, PCs and ODIs</p>	<p>While our approach to gathering WTP information and mapping this to our outcomes, PCs and ODIs was robust, we did not provide the supporting evidence in our December 2013 submission.</p> <p>We now include it in our ‘Outcomes Rationale’ document as part of our supplementary submission. More information is also provided in the body of this section.</p>
<p>There is no evidence that the CCG supports the results of the WTP analysis.</p>	<p>The CEPF supports the results of our WTP analysis which they have endorsed in their supplementary report, included with this submission.</p> <p>We understand that Ofwat’s assessment arises from a comment on page 11 of the CEPF’s initial report.</p> <p>The technical workings of our WTP research are protected by intellectual property rights and were not available for the peer reviewer to analyse.</p> <p>While the peer reviewer was supportive of the process and approach¹³ (which is acknowledged by the CEPF) the lack of evidence of the technical workings was observed and commented on by the CEPF in its initial report.</p> <p>Further information has since been provided to the peer reviewer who stated¹⁴ (emphasis added)</p> <p><i>‘It is perhaps worth emphasising that the methods used in the SBW WTP study are well suited to the contractor’s chosen method of applying the modelling results.’</i></p> <p><i>The outputs of the study were presented in terms of “elasticity curves” that describes the strength of customer preferences for packages of service improvements at different pricing points.</i></p>

¹³ Scott Reid Peer Review page 9

¹⁴ Scott Reid second peer review – response to Ofwat WTP response

	<p><i>These preferences exploit the respondent and service level specific utility coefficients that can be derived from the HB estimation methods. The elasticity curves are therefore built up from a good understanding of how preferences for service and price vary across a representative sample of SBW's customers.</i></p> <p><i>This approach is also termed "market share analysis" and is typically used to answer questions like "what proportion of customers are willing to pay price X for service offering Y". On this basis we were, and continue to be, content to conclude that the analysis conducted for SBW met the objective of the research which was to understand consumer preferences for differing levels of service provision.'</i></p>
<p>There is insufficient evidence that SBW sought to account for other factors (e.g. inflation and statutory obligations) when gathering WTP estimates from customers.</p>	<p>We understand that Ofwat's assessment arises from a comment on page 8 of the initial CEPF report. We have discussed this with the CEPF who, in their supplementary paper, acknowledge that:</p> <ul style="list-style-type: none"> • The impact of inflation had been clearly highlighted in the WTP stimulus material¹⁵, and • Inflation had also been clearly highlighted in other research stages¹⁶ <p>With regard to statutory obligations, our plan includes activities that contribute to the National Environment Programme (NEP). When asked, 77% of customers expressed a willingness to pay an additional 30p for us to increase our work to manage the environmental impact of activities while 70% would support a 50p bill increase.¹⁷</p> <p>As a statutory obligation, the cost of the NEP will be incorporated in bills. However our plan delivers improved levels of service at significantly reduced cost and reflects value for money as evidenced by the high level of customer acceptance of our plan. No further WTP is therefore required.</p>
<p>It is unclear how the results of the WTP survey have been used in the cost benefit analysis.</p>	<p>We analysed the results of the WTP survey using a bespoke simulation tool¹⁸. The tool uses Hierarchical Bayesian techniques, a form of regression modelling for conjoint analysis.</p>

¹⁵ SBW WTP Information Pack page 3

¹⁶ Final Acceptability Testing Stimulus pages 1 and 4 and quantitative research slides 34 and 55

¹⁷ WTP and CBA analysis-internal review document

¹⁸ SBW Willingness to Pay survey report – technical section page 34

	<p>The tool allows us to understand WTP values and how elastic the WTP is for each separate attribute or package of attributes.</p> <p>The simulation tool has been peer reviewed by Dr Scott Reid of ICS Consulting.¹⁹</p> <p>Our CBA analysis followed UKWIR guidelines²⁰ and was reviewed by Halcrow Management Sciences Ltd as part of the December 2013 submission and confirmed as robust. This formed part of Halcrow’s assurance to our Board.</p> <p>Their report is attached.²¹</p>
<p>There is no evidence that SBW used customers WTP values in its outcomes (other than for leakage and large-scale supply interruptions).</p>	<p>We incorrectly included incremental totex on a number of PCs (and therefore outcomes) where there is no cost, and therefore no WTP was required.</p> <p>These PCs will be funded by incremental improvements in efficiency and effectiveness.</p> <p>We have corrected this in our ‘Outcomes Rationale’ document included with this supplementary submission.</p> <p>82% of a statistically representative sample of household customers (78% non-household)²² said they preferred bills to rise by no more than inflation or by slightly more than inflation with the same or improved levels of service respectively. With the CEPF’s agreement, WTP for PCs that do not attract incremental totex has been inferred from the quantitative research.</p> <p>Our business plan package, which delivers a significant bill decrease in real terms and improved service levels, was found to be acceptable to 79% of our customers in customer acceptability research. We are satisfied that customers are willing to pay for this.</p> <p>Our ‘Outcomes Rationale’ document included as part of our supplementary submission provides full details.</p>
<p>[Ofwat has] not found evidence that the CCG confirms that it is supportive of the results obtained and that they appear consistent with other evidence. There is some doubt that the</p>	<p>Our CEPF supports the results of our WTP analysis and its consistency with other evidence.</p>

¹⁹ Scott Reid Peer Review and Scott Reid second peer review – response to Ofwat WTP response

²⁰ CBA calculations Final

²¹ Halcrow Management Sciences Ltd review of CBA

²² Quantitative research slide 34

<p>CCG was fully informed of the WTP analysis. The CCG 'notes that the process must have used a series of WTP outputs from the research which the CEPF has not had sight of'</p>	<p>They have endorsed our analysis in their supplementary report, included with this submission.</p> <p>We understand that Ofwat's assessment arises from a comment on page 11 of the CEPF's initial report.</p> <p>The technical workings of our WTP research are protected by intellectual property rights and were not available for the peer reviewer to analyse.</p> <p>While the peer reviewer was supportive of the process and approach²³ (which is acknowledged by the CEPF) the lack of evidence of the technical workings was observed and commented on by the CEPF in its initial report.</p> <p>Further information has since been provided to the peer reviewer who stated²⁴ (emphasis added)</p> <p><i>'It is perhaps worth emphasising that the methods used in the SBW WTP study are well suited to the contractor's chosen method of applying the modelling results.</i></p> <p><i>The outputs of the study were presented in terms of "elasticity curves" that describes the strength of customer preferences for packages of service improvements at different pricing points. These preferences exploit the respondent and service level specific utility coefficients that can be derived from the HB estimation methods. The elasticity curves are therefore built up from a good understanding of how preferences for service and price vary across a representative sample of SBW's customers.</i></p> <p><i>This approach is also termed "market share analysis" and is typically used to answer questions like "what proportion of customers are willing to pay price X for service offering Y". On this basis we were, and continue to be, content to conclude that the analysis conducted for SBW met the objective of the research which was to understand consumer preferences for differing levels of service provision.'</i></p>
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²³ Scott Reid Peer Review page 9

²⁴ Scott Reid second peer review – response to Ofwat WTP response

Performance commitments	
<p>Ofwat considers that more evidence is required in relation to proposed performance commitments.</p> <p>There is evidence that SBW's PCs are allocated appropriately between its controls and that they are compliant with the methodology, however SBW has provided little or no evidence that the PCs reflect value for money or that the PCs are appropriate in the context of SBW's past performance.</p>	<p>Robust work mapping our logic from customer research findings through to setting target and stretch levels of performance based on past performance (including the methodology for measuring performance) was carried out for the December 2013 submission.</p> <p>This was not submitted and we include our mapped logic and evidence trail as part of this supplementary submission.²⁵</p> <p>82% of a statistically representative sample of household customers (78% non-household)²⁶ said they preferred bills to rise by no more than inflation or by slightly more than inflation with the same or improved levels of service respectively. With the CEPF's, agreement WTP for PCs that do not attract incremental totex has been inferred from the quantitative research.</p> <p>Our business plan delivers a significant bill decrease in real terms and improved service levels, was found to be acceptable to 79% of our customers in customer acceptability research. We are satisfied that customers are willing to pay for this.</p> <p>71%²⁷ of respondents in the acceptability testing rated the plan good value for money.</p> <p>Our PCs deliver improved levels of service at significantly reduced cost and reflects value for money as evidenced by the high level of acceptability of our plan.</p> <p>Our 'Outcomes Rationale' document included as part of our supplementary submission provides full details.</p>

²⁵ Outcomes Rationale

²⁶ Quantitative research slide 34

²⁷ Quantitative acceptability test results slide 9

<p>Criterion 2.5</p> <p><i>Performance commitments value for money</i></p>	
<p>[Ofwat has found] little or no evidence that SBW's PCs reflect value for money.</p>	<p>82% of a statistically representative sample of household customers (78% non-household)²⁸ said they preferred bills to rise by no more than inflation or by slightly more than inflation with the same or improved levels of service respectively.</p> <p>79%²⁹ of respondents in the acceptability testing rated the plan as acceptable; 14% were neutral.</p> <p>71%³⁰ of respondents in the acceptability testing rated the plan as good value for money.</p> <p>Our PCs deliver improved levels of service at significantly reduced cost and reflects value for money as evidenced by the high level of acceptability of our plan.</p>
<p>Two high significance PCs (leakage and reduce risk of large-scale interruptions) failed this test because we are concerned that the methodology used is not technically robust.</p>	<p>We analysed the results of the WTP survey using a bespoke simulation tool³¹. The tool uses Hierarchical Bayesian techniques, a form of regression modelling for conjoint analysis. The tool allows us to understand WTP values and how elastic the WTP is for each of separate attribute or packages of attributes.</p> <p>The simulation tool was peer reviewed by Dr Scott Reid of ICS Consulting.³²</p> <p>Our CBA analysis followed UKWIR guidelines³³ and was reviewed by Halcrow Management Sciences Ltd as part of the December 2013 submission and confirmed as robust. This formed part of Halcrow's assurance to our Board.</p> <p>Their updated report is attached.³⁴</p>
<p>Nine PCs (1 high significance – reduce per capita consumption, 2 medium significance – i) increase biodiversity score for ecological habitats; ii) national & local environmental programmes and six low significance – i) fair return to shareholders; ii) maintaining investment grade classification; iii) comply with debt gearing and covenants; iv) excellent corporate governance; v) working safely and</p>	<p>Note. The number of PCs in Ofwat's comment was incorrect and was revised <u>from nine to three</u> before being put in the public domain. We have reproduced it here in line with the original risk-based review comments provided to us.</p>

²⁸ Quantitative research slide 34

²⁹ Quantitative acceptability test results slide 6

³⁰ Quantitative acceptability test results slide 9

³¹ SBW Willingness to Pay survey report – technical section page 34

³² Scott Reid Peer Review and Scott Reid second peer review – response to Ofwat WTP response

³³ CBA calculations Final

³⁴ Halcrow Management Sciences Ltd review of CBA

<p>vi) ongoing customer engagement and communications programme) failed this test because SBW is proposing incremental totex but we have not found any evidence that the proposed PC is at the most cost beneficial level.</p>	<p><u>Incremental totex</u></p> <p>We incorrectly included incremental totex on a number of PCs (and therefore outcomes) where there is no cost, and therefore no CBA or WTP were required.</p> <p>These PCs will be funded by incremental improvements in efficiency and effectiveness.</p> <p>We have corrected this in our 'Outcomes Rationale' document included with this supplementary submission.</p> <p><u>Cost beneficial levels of activity</u></p> <p>Only two of our PCs attract incremental cost. We have conducted full cost benefit analyses for these.</p> <p>For those PCs that do not attract incremental totex we have analysed our current performance against the industry upper quartile to establish whether our activities are delivering industry leading edge comparators and so benefitting customers as a whole. For all areas we are in the upper quartile.</p> <p>Where there is no direct comparator, and no precedent for the proposed work, we have assumed that:</p> <ul style="list-style-type: none"> • as one of the most efficient companies in the industry (evidenced in our December 2013 submission), and • we propose further efficiencies in this plan • that we will operate at an efficient cost. <p>Our 'Outcomes Rationale' document included as part of our supplementary submission provides full details.</p>
<p>The company has not provided evidence of the approach it has followed in undertaking CBA for 32 PCs.</p>	<p>Only two PCs detailed in our December 2013 submission (reduce leakage and the risk of large-scale interruptions) attract incremental totex. These are customer-driven PCs and so required CBA. This was conducted and our approach was reviewed by Halcrow Management Sciences and confirmed as robust (see above).</p> <p>Work related to the NEP is a statutory obligation and no CBA or WTP were required.</p>

	<p>However when asked, 77% of customers expressed a willingness to pay an additional 30p for us to increase our work to manage the environmental impact of activities while 70% would support a 50p bill increase.³⁵</p> <p>Accreditations from various bodies (ISO, OSHAS etc) have been removed from our PCs because they relate to management control measures in respect of quality processes. We have retained the targets set out in our December 2013 submission and will report against them, together with our outcomes performance and measures. This has reduced our PCs to 14.</p> <p>As stated previously, none of the remaining PCs attracted incremental totex. We will absorb any cost associated with the stretch targets set for these PCs through efficiencies.</p> <p>Therefore, no further CBA is required.</p>
<p>[Ofwat has] found no evidence that their [SBW's] approach conforms to best practice (e.g., UKWIR) guidelines.</p>	<p>Our CBA analysis³⁶ and was reviewed by Halcrow Management Sciences Ltd as part of the December 2013 submission and confirmed as robust and conforming best practice as described in UKWIR guidelines. This formed part of Halcrow's assurance to our Board.</p> <p>Their updated report is attached.³⁷</p>
<p>Criterion 2.6</p> <p><i>Performance commitments evidence of track record in relation to future delivery</i></p>	
<p>[Ofwat has] found little or no evidence to justify SBW's future PCs in the context of its past performance.</p>	<p>All PCs were considered in the context of past and current performance and appropriate future stretch targets set.</p> <p>Future stretch targets took both customer views and ongoing incremental improvement into account. Industry ranking in relation to upper quartile performance was considered when applicable.</p> <p>Our mapped logic and evidence trail is included in our 'Outcomes Rationale' document as part of this supplementary submission.</p>

³⁵ WTP and CBA analysis—internal review document

³⁶ CBA calculations Final

³⁷ Halcrow Management Sciences Ltd review of CBA

<p>For two high significance PCs (Customer contacts per 1000 head of population with regard to taste and appearance and DWI performance - Distribution Maintenance Index (Turbidity Iron Manganese)) we have found some evidence of past performance.</p> <p>[We] have not found sufficient explanation of how track record supports PCs and how company has learnt from its past performance in order to deliver its future performance.</p>	<p>Historic performance data is detailed in our Outcomes Rationale document for the PCs 'discolouration or water quality contacts from customers' and 'compliance with all water quality regulations'.</p> <p>The PCs were considered in the context of past and current performance. Industry ranking in relation to upper quartile performance was also considered.</p> <p>Future stretch targets took customer views, current industry position and the potential for ongoing incremental improvement into account.</p> <p>Our previous performance history, comparative performance analysis and mapped logic and evidence trail is included in our 'Outcomes Rationale' document 'details' tab as part of this supplementary submission.</p>
<p>For the remaining 31 PCs [Ofwat] were not able to find evidence in relation to the company's track record that justifies support for the level of performance defined by these PCs.</p>	<p>Following Ofwat's risk-based review we have consolidated some PCs and removed others to an internal monitoring plan.</p> <p>We now proposed 14 PCs.</p> <p>These PCs have been considered in the context of past and current performance. Industry ranking in relation to upper quartile performance was also considered.</p> <p>Future stretch targets took customer views, current industry position and the potential for ongoing incremental improvement into account.</p> <p>Our previous performance history, comparative performance analysis and mapped logic and evidence trail is included in our 'Outcomes Rationale' document 'details' tab as part of this supplementary submission.</p>

<p>Criterion 2.7</p> <p><i>Outcome commitments consistency with long term customer interests</i></p>	
<p>There is insufficient evidence relating to justifying outcomes in the context of protecting the long term interests of consumers and the environment.</p>	<p>We have previously set out our long-term objectives for protecting customers and the environment in our PR09 Strategic Direction Statement³⁸ These objectives (as originally defined for PR09) are listed below:</p> <ol style="list-style-type: none"> 1. focus on our primary duty of delivering a continuous and reliable supply of safe drinking water 2. managing demand to ensure security of supply in the face of growth and the major uncertainty of climate change 3. achieving full metering 4. maintaining and renewing our assets and networks to provide greater resilience 5. increasing the rate of renewal of the mains network 6. managing the business according to the principles of sustainable development, making sure that public water supply and the environment are safeguarded in the future 7. keeping price rises to a level which is as low as possible while consistent with ensuring a sustainable <p>More recently we have produced an updated version³⁹ of our long-term objectives. Our PR09 objectives remain core but for this paper we linked them to our outcomes. We also extending them to incorporate 'Providing an excellent customer service' and Engage well with our community and customers'.</p> <p>The extended objectives now include:</p> <ol style="list-style-type: none"> 8. continuing to maintain and improve our customer service 9. play an important role in our community <p>We show the mapping of the outcomes to these objectives in the 'detail' tab of our Outcomes Rationale document.</p>

³⁸ Strategic Direction Statement December 2007

³⁹ Strategic Direction Statement April 2013

	<p>A safe and wholesome water supply</p> <p>Customers rightly take safe wholesome water for granted.⁴⁰ Ensuring that the water we supply is safe and complies with drinking water standards is a statutory obligation and so we did not conduct extensive research in relation to it.</p> <p>This essential activity will always be in the interests of customers now and in the future.</p> <p>Our catchment management work to improve raw water quality on the Lower Stour and at Woodgreen (see section 4.4, Activity 1) will benefit the environment in the longer term. It will also alleviate the need for investment in additional water treatment processes and the associated impact on bills, thus protecting the longer term financial interests of our customers.</p> <p>Long-term objective 1 supported.</p> <p>A reliable water supply</p> <p>84% of households say that it is important to avoid supply interruptions – it is their third-highest priority.</p> <p>Maintaining the serviceability of our network ensures a reliable water supply now and in the future and avoids supply issues and related spikes in bills in the future, thus protecting the long-term financial interests of our customers.</p> <p>96% of household customers say it is important that we ensure there is sufficient water for the future.</p> <p>94% of household customers also say it is important that we reduce leaks⁴¹ and 84% of them believe it is important for us to encourage people to use less water,⁴² both of which actions will leave more water in the environment, ensuring sufficient water for the future and benefitting current and future customers and the environment.</p> <p>Long-term objectives 1, 2, 3, 4 and 5 supported.</p>
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⁴⁰ Quantitative research slide 4
⁴¹ Quantitative Research slide 22
⁴² Quantitative research slide 23

	<p>An excellent customer experience</p> <p>Providing an excellent service implies ‘right first time’ which means less rework, redress and related expense – keeping bills low in the financial interests of customers, both now and in the future.</p> <p>96% of our household customers believe we do our job either very or fairly well.⁴³</p> <p>88% of our household customers believe local customer service is very or fairly important even if you do not need it.⁴⁴</p> <p>Our research shows that customers who have contacted us appreciate the service we offer. It was described as ‘exceptional’ during acceptability testing.⁴⁵ The Consumer Council for Water’s 2013/14 tracking survey confirms that customers’ trust in us is high and that our level of integrity is good.⁴⁶</p> <p>These levels of service benefit customers and we intend to continue to deliver these high levels of service to benefit current and future customers.</p> <p>Long-term objective 8 supported.</p> <p>Environmentally sustainable operations</p> <p>One of the most frequent suggestions, from the survey of our ‘future customers’, was investment in environmentally friendly processes to ensure future supplies.⁴⁷</p> <p>74% of respondents to our online PR14 survey said we should increase our involvement in protecting water resources.⁴⁸</p> <p>Over 70% of customers in our WTP research were willing to pay for us to increase work to minimise our impact on the environment.⁴⁹</p> <p>Our PCs for this outcome serve the long-term interests of the environment directly and benefit our customers through ensuring future availability and quality of supplies.</p> <p>Long term objective 6 supported.</p>
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⁴³ Quantitative research slide 16

⁴⁴ Quantitative research slide 44

⁴⁵ Acceptability testing – qualitative summary slide 3

⁴⁶ CCWater 2013-14 tracking survey Sembcorp Bournemouth May 2014

⁴⁷ Future Customer research page 36

⁴⁸ Report for Sembcorp Bournemouth Water – online survey page 41

⁴⁹ WTP and CBA analysis–internal review document

	<p>Financial sustainability – keeping bills low</p> <p>Keeping bills low and maintaining a stable bill profile in the longer term is what our customers want⁵⁰ and serves their financial interests now and in the future.</p> <p>82% of household customers preferred future bills to rise by no more than inflation or by slightly more than inflation, while 9% want bills to rise by less than inflation, with levels of service staying the same, increasing or falling respectively.⁵¹</p> <p>Our effective debt recovery activities will contribute to keeping bills low.</p> <p>Our Reliable water supply and Safe wholesome water outcomes and PCs are designed to ensure the long-term stable performance of the network and avoid supply issues and related spikes in bills in the future, thus protecting the long-term financial interests of our customers.</p> <p>Long-term objective 7 supported.</p> <p>Engage well with our community and customers</p> <p>Qualitative⁵² and quantitative⁵³ research revealed that awareness of the company and our activities is low. If customers identify more closely with us, our work in areas such as water efficiency and services for vulnerable customers are more likely to be effective.</p> <p>‘Doing the right thing’ is in the interests of customers and the environment both now and in the longer term.</p> <p>Our ‘Outcomes Rationale’⁵⁴ document included as part of our supplementary submission provides full details on all outcomes and PCs.</p> <p>Long-term objective 9 supported.</p>
<p>[There is] insufficient evidence relating to demonstrate that the long term interests of consumers and the environment are protected for one high significance outcome (reliable water supply)</p>	<p>96% of household customers say it important that we ensure there is sufficient water for the future.</p>

⁵⁰Acceptability testing – qualitative summary slide 11

⁵¹Quantitative research slide 34

⁵²Qualitative research page 68

⁵³Quantitative research slides 10 and 11

⁵⁴See Outcomes Rationale

	<p>94% of household customers also say it is important that we reduce leaks⁵⁵ and 84% of our household customers believe it is important for us to encourage people to use less water.⁵⁶</p> <p>Reducing leakage and demand will leave more water in the environment, ensuring sufficient water for the future, thus benefitting current and future customers and the environment itself.</p> <p>Maintaining the serviceability of our network ensures a reliable water supply now and in the future. 84% of households say that it is important to avoid supply interruptions. It is their third-highest priority.</p> <p>This outcome and related PCs also ensure the long-term stable performance of the network to avoid supply issues and related spikes in bills in the future, thus protecting the long-term financial interests of our customers.</p> <p>These outcomes link to our long-term objectives, as shown above, of:</p> <ul style="list-style-type: none"> • focus on our primary duty of delivering a continuous and reliable supply of safe drinking water • managing demand to ensure security of supply in the face of growth and the major uncertainty of climate change • achieving full metering • maintaining and renewing our assets and networks to provide greater resilience • increasing the rate of renewal of the mains network
<p>Two outcomes have long term impacts (Safe Wholesome Water (high significance) and Environmental Sustainability (low significance)) but [Ofwat] found no evidence to justify the performance commitments in the context of protecting the long term interests of customers and the environment.</p>	<p>Customers take safe wholesale water for granted.⁵⁷ This is an essential activity that will always be in the interests of customers.</p> <p>Our catchment management work to improve raw water quality on the Lower Stour and at Woodgreen (see 'wholesale – new costs' section) will benefit the customers and environment in the longer term. It will contribute to alleviating any need for investment in additional treatment processes and so contribute to keeping bill levels down.</p>

⁵⁵ Quantitative research slide 22

⁵⁶ Quantitative research slide 23

⁵⁷ Quantitative research slide 4

	<p>Our 'Future customer' research has also shown that one of the most frequent suggestions for ensuring future supplies was investment in environmentally friendly processes.</p> <p>These outcomes link to our long-term objectives, as shown above, of:</p> <ul style="list-style-type: none"> • focus on our primary duty of delivering a continuous and reliable supply of safe drinking water, and • managing the business according to the principles of sustainable development, making sure that public water supply and the environment are safeguarded in the future.
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Introduction

We commenced AMP6 business planning with no preconceptions about research findings and the shape the plan would take.

Over the last two years, we conducted a robust and comprehensive process⁵⁸ of customer research. We engaged with 1,500 household and business customers; and asked 1,000 sixth-form 'future' customers their views. What they told us shaped our plan. Our Board and the Customer Engagement Planning Forum (CEPF) gave regular input to the process; agreeing our approach, meeting our researchers, challenging assumptions and endorsing the findings.

Our six outcomes were developed from customers' key messages. Because of its statistical robustness, work on the development of the outcomes and PCs commenced once the results of the quantitative research were known.

This section is split in to the three areas listed in Ofwat's policy and information update⁵⁹, these being:

1. Customer engagement and willingness to pay evidence
2. Performance commitments
3. Outcome delivery incentives

⁵⁸ Email from Neil McPhee of Nuance

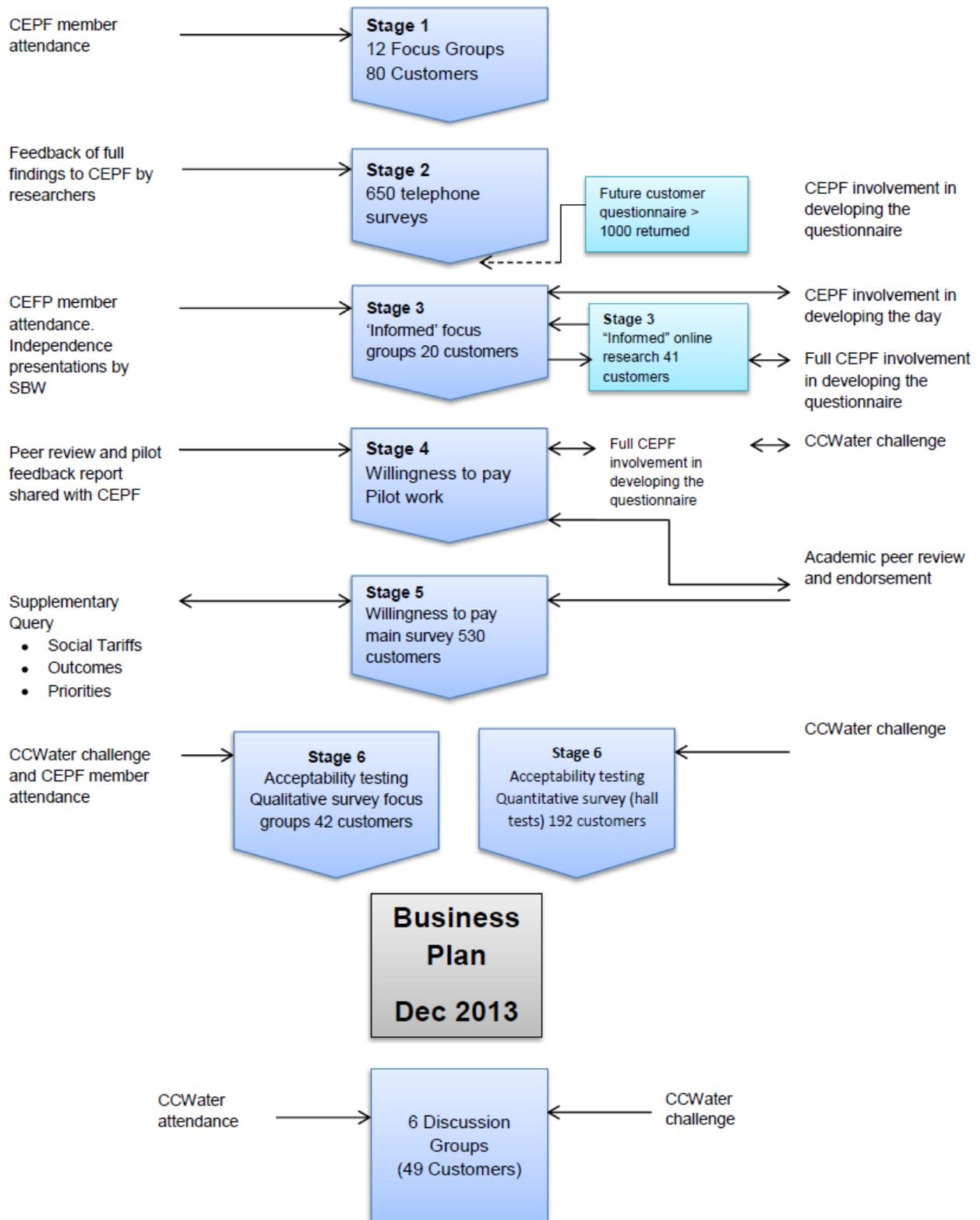
⁵⁹ http://ofwat.gov.uk/pricereview/pr14/pap_pos140404pr14policy.pdf pages 19-21

Customer engagement and willingness to pay (WTP) evidence

Our research and outcome development process was challenged at each step

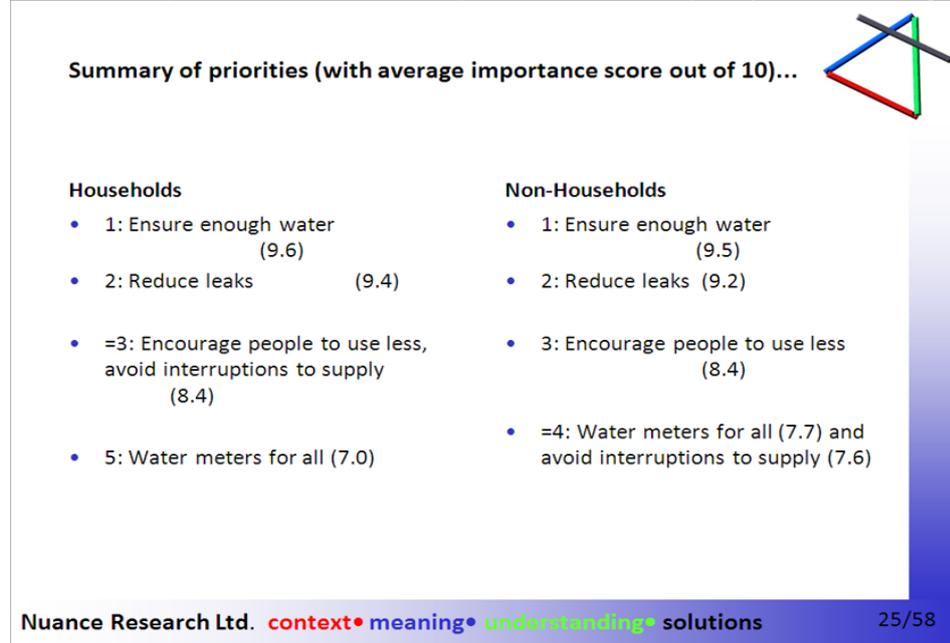
Openness

Challenge and assurance



We face no undue or unexpected challenges in relation to our business planning. Apart from delivering statutory obligations and ensuring that proposals supported our long-term strategic objectives⁶⁰, developing the plan focussed on our customers' priorities, and their repeated messages and recurring themes, from which our six outcomes were derived.

Customers' priorities in order of importance – water quality is taken for granted

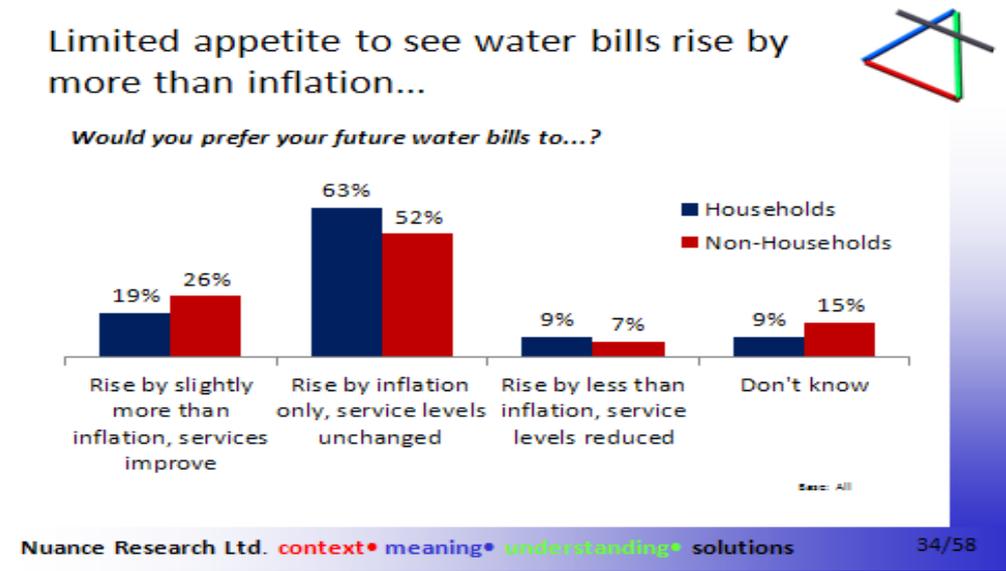


Because of its statistical robustness, work on developing outcomes and performance commitments (PCs) commenced once the results of the quantitative research were known. Our PCs were developed alongside the outcomes and were tested with our Board and the CEPF.

A key message was that the majority of customers would prefer bills to increase by no more than RPI or slightly more, with the same or slightly better service levels respectively.

⁶⁰ Strategic Direction Statement December 2007 (page 3) and Strategic Direction Statement April 2013 and Water Resources Management Plan 2013 non-technical summary (pages 8-12)

This chart shows 82% of households will accept bills increasing by inflation



After consultation with our Board and the CEPF, this message became central to the development of the plan and our approach to setting PCs. As prices were to fall significantly and service levels increase, we assumed an implicit willingness to pay and value for money in the proposal. Therefore, it was agreed with the CEPF that where there was no incremental cost to customers relating to a PC, no formal WTP research would be required as customers would receive a package exceeding their expectations. This assumption flowed through the outcomes and PC setting process.

Where there was incremental cost, formal WTP and cost benefit analysis (CBA) was carried out. Our 'Outcomes Rationale' document included as part of our supplementary submission details the process and logic.

Our outcomes were mapped in our 'Outcomes Rationale' document during the development process but this evidence was not shared with Ofwat. The version we include as part of our supplementary submission has been updated to incorporate the changes we have made in response to the risk-based review.

The mapping in the ‘Outcomes Rationale’ document is tiered to provide top-down detail:

Tier	Level	Details in worksheet	Tab title
1	Outcomes, performance commitments and ODIs	Outcome Performance commitment Type of ODI Impact of financial incentives as a percentage of turnover	Summary
2	Performance measures	Measurement details Unit Current performance Target performance Comparative upper quartile performance Willingness to pay Associated incremental cost Cost Benefit Analyses ODIs Historic performance Rationale for inclusion as a PC and stretch target set	Detail
3	Key research feedback	Key messages at each stage of research and the location in research results documents	Research feedback
4	Outcome Delivery Incentives	Calculation of financial penalties and rewards	ODI calculations (leakage, interruptions and serviceability)
5	Data dictionary	Methodology for performance measurement – a key document for the evaluation of target achievement	Embedded word document ⁶¹

⁶¹ Data Dictionary

Performance commitments

Ofwat’s risk-based review

Our December 2013 submission was as transparent as possible and we detailed each of the underpinning input measures we would use to ensure outcomes are delivered via PCs. We now understand that the level of detail was much greater than Ofwat expected and this has resulted in a number of related risk-based review challenges.

In response, we have revisited our presentation of PCs. We have:

- Consolidated some output measures
- Removed outputs related to professional accreditations and management control, although they will be subject to the same scrutiny as our formal outcomes and PCs – see the section 8 ‘Risk and Reward’ outperformance
- Removed social tariff research as this work is already underway, and
- Added metering

While all commitments in our December 2013 submission have been retained and are subject to independent review, the result is a reduction from 33 to 14 PCs presented in this supplementary submission.

Revised PCs

The table below details our rationale for our PCs. Only two PCs have related performance rewards. More information on these and the ODI penalties and rewards is in the ‘ODI’ section of this chapter.

Outcome and performance commitment	Rationale
A safe and wholesome water supply	
Water quality contacts from customers regarding taste and appearance - reduce numbers	Customers trust us to supply safe wholesome water. This measurement helps us to understand and improve performance and customers’ perception of quality of their water supply. An ODI penalty has been set. There is no associated incremental cost.
Maintain compliance with all water quality regulations	This is a statutory obligation. Statutory penalty for underperformance. There is no associated incremental cost.

A reliable water supply	
Asset serviceability	<p>This regulatory obligation protects current and future customers and it is essential our performance is maintained and measured.</p> <p>An ODI penalty has been set.</p> <p>There is no associated incremental cost.</p>
Reduce leakage	<p>Customers want less leakage as they view it as wasteful. It is their second highest priority and they are willing to pay for us to reduce it.</p> <p>The performance target is reflective of willingness to pay values. The work is cost beneficial.</p> <p>An ODI penalty and reward have been set.</p>
Reduce the risk of large scale interruption to 12,000 customers	<p>Customers value a reliable water supply. It is their 3rd highest priority and they are willing to pay to reduce the risk of large-scale interruptions.</p> <p>The performance target is reflective of willingness to pay values. The work is cost beneficial.</p> <p>An ODI penalty and reward have been set.</p>
Supply interruptions >3hrs – average number affected by band in any year	<p>The average length of interruption for our customers is one of the lowest in the industry. However as previously stated, avoiding interruptions remains a high priority.</p> <p>Customers' tolerance of interruptions decreases as the duration of the interruption increases.⁶² Therefore using historic performance data we have set a stretch target to reduce the weighted average number of properties affected by interruptions of a longer duration.</p> <p>Penalties are implicit in the current enhanced GSS structure.</p> <p>There is no associated incremental cost.</p>
Metering - continue current strategy	<p>Customers perceive metering as fair. The majority place a high priority on us metering everyone. Metering everyone is their 5th highest priority.</p> <p>Further qualitative research during May 2014 confirmed these findings.⁶³</p> <p>We do not have a water resources deficit but have set this commitment in response to what customers tell us they want. It also supports customers' other priorities of ensuring there is sufficient water, reducing leakage and encouraging people to use less water. Each of these contributes to a healthier environment.</p> <p>By continuing our current strategy there is no additional cost placed on customers. We had proposed to increase the rate of meter installation</p>

⁶² 'SBW Willingness to pay survey report' pages 29 - 31

⁶³ The Ofwat challenge to the SBW PR14 submission

	<p>and to do so more efficiently. However, we have reviewed this and have reduced the overall number of meter installations proposed. In addition, we intend offering customers who are new occupiers the opportunity to opt for rateable value based billing after a year.</p> <p>An ODI penalty has been set.</p> <p>There is no associated incremental cost as customers will pay no more than they currently do.</p>
<p>Water use - reduce average consumption</p>	<p>The majority of customers want us to encourage people to use less water.</p> <p>We have set our target in line with the Government's aspiration of a per capita consumption of 130 l/d by 2030.</p> <p>An ODI penalty has been set.</p> <p>There is no associated incremental cost.</p>
<p>An excellent customer experience</p>	
<p>Improve customer experience - increase Service Incentive Mechanism score</p>	<p>This effective regulatory mechanism protects customers and incentivises companies.</p> <p>We perform at the top of the industry and intend to retain that position while at the same time offering customers incrementally improving service. As a monopoly supplier, we believe we should provide a service which customers would choose if they had a choice.</p> <p>Statutory reward and penalty in place.</p> <p>There is no associated incremental cost.</p>
<p>Fixing visible leaks - improve response time</p>	<p>Customers want leakage reduced. They see it as wasteful and want visible leaks repaired quickly.⁶⁴ They view our response as taking leakage seriously.</p> <p>Using historic performance data we have set a stretch target to reduce the length of time it takes to repair visible leaks.</p> <p>An ODI penalty has been set.</p> <p>There is no associated incremental cost.</p>

⁶⁴ Quantitative Research slide 27

Environmentally sustainable operations	
Reduce carbon created in providing our service	<p>This measure protects the environment and reduces our costs, which in turn benefits customers.</p> <p>Penalties and rewards are implicit in the energy costs we will incur.</p> <p>There is no associated incremental cost.</p>
Help support a healthy natural water environment	<p>We will continue our current activities which will be complemented by the work we will undertake for the National Environment Programme (NEP).</p> <p>Customers are willing to pay a modest amount for us to increase our work to support the environment.</p> <p>We do not include any incremental cost of our activities.</p> <p>The NEP work is a statutory obligation, the cost of which is covered in our price reduction,</p> <p>Progress against this obligation will be by review with the relevant environmental organisations.</p>
Financial sustainability	
Fair customer bills	<p>It is important we maintain fair customer bills and work to protect vulnerable customers, to protect the financial interests of our customers overall.</p> <p>We have set a target to control debt levels and keep them at one of the lowest in the industry, which helps keep bills low.</p> <p>Any penalties deemed appropriate will be set by the independent Customer View panel.</p> <p>There is no associated incremental cost.</p>
Engage well with our community and customers	
Contribute to our community	<p>Customers have told us that our communication is not good. We are not widely recognised in the community we serve. We want to improve this to ultimately benefit customers. If customers identify more closely with us, our work in areas such as water efficiency and services for vulnerable customers are more likely to be effective.</p> <p>'Doing the right thing' is in the interests of customers and the environment both now and in the longer term.</p> <p>Penalties will be set by the independent Customer View panel.</p> <p>There is no associated incremental cost.</p>

Target performance levels

We developed target performance levels using historic data for all PCs except those which were new to us (reducing the risk of large-scale interruptions and help support a healthy natural water environment) as no historic performance data is available. These were compared to upper quartile industry performance. The 'details' tab of our 'Outcomes Rationale' document shows this.

As we developed the target levels, we tested them with our Board and the CEPF. The following logic⁶⁵ was adopted:

- Where there is an incremental cost to customers, the PC target has been set at a level appropriate to customers' willingness to pay for it
- Where there is no incremental cost, PC targets have been set to stretch us to deliver an upper quartile level of service to customers while absorbing any associated cost of the improvement as an operating efficiency. Customers will therefore receive better service at no extra cost to them.

This approach will deliver ongoing performance improvement to customers while keeping bills low.

Later in this section and in section 8 'Risk and Reward' we provide more information on how customers will be protected from our failure to deliver our target performance.

⁶⁵ Outcomes Rationale - column U

Willingness to pay and cost benefit analysis

Willingness to pay research

Data on customers' stated preferences was collected prior to the application of conjoint willingness to pay analysis techniques.

The attributes⁶⁶ we asked customers about were focussed on areas where either:

- Customers had given strong messages on their priorities during previous research, or
- We understood there may be a forthcoming requirement, or work could be necessary to protect customers' future interests.

We did not ask customers their opinions on any areas that they had not already told us were important to them.

A simulation tool was developed to provide elasticity (demand) curves to show customers' preference for improvement at a range of prices. The results are based on representative samples of 405 household customers and 124 non-household customers.

The results of the WTP research are summarised below:

The attribute we asked about	Our rationale for inclusion	WTP	Results and action taken
Reduce the number of properties at risk of interruption to supply of more than 6 hours	Customer priority during research	Yes	74% acceptability for £1.80 to reduce the risk of large-scale interruption to 12,000 properties. CBA positive Proposal added as a project and performance output within the 'Reliable water supply' outcome. Also supports 'An excellent customer experience' outcome. Also see ODI section below.
Reduce the amount of water lost through leaking pipes	Customer priority during research	Yes	75% acceptability for an additional £1.60 to reduce leakage to 20 MI/d. CBA positive Proposal added as a project and performance output within the 'Reliable water supply' outcome. Proposal also supports the 'Environmentally sustainable operations' outcome. Also see ODI section below.

⁶⁶ 'SBW Willingness to Pay survey report' page 12

Assistance for customers whose own supply pipes have failed	Forthcoming requirement (Water Bill) Additional service offering peace of mind in event of supply pipe leakage	No	No willingness to pay. Proposal abandoned.
Policy towards residential metering	Customer priority during research	No	There is no willingness to pay despite very strong messages from customers. Acceleration* of the current metering project proposed in our December 2013 submission, linked to 'A reliable water supply' and 'Environmentally sustainable operations' outcomes. *Note: this proposal has now been revised to a continuation of our current metering policy. See 'metering' section below.
Managing the environmental impact of our activities	Customer priority at research	Yes	For a £100k per year spend, 77% support for a 30p bill increase and 70% support for 50p bill increase. No increase in our standard activity proposed but clear link to the statutory obligation of National Environment Programme activities which sits in the 'Environmentally sustainable operations' outcome. Supports the long-term interests of customers and the environment.

Analysis of WTP research results

We analysed the results using a bespoke simulation tool⁶⁷.

This tool uses Hierarchical Bayesian techniques, a form of regression modelling for conjoint analysis. It allows us to understand WTP values and how elastic the WTP is for each separate attribute or package of attributes.

The WTP analysis based on these attributes resulted in WTP values for our PCs of 'reducing leakage', 'reducing the risk of large-scale interruption' and 'increase environmental activity'⁶⁸. The mapping is evidenced in the 'Outcomes Rationale' document included as part of our supplementary submission.

⁶⁷ SBW Willingness to Pay survey report – technical section page 34

⁶⁸ CBA and WTP analysis-internal review document

Full results and price elasticity are held within the analysis tool. The simulation tool provides the level of a customer's WTP for a certain attribute and the elasticity of the willingness to pay. In line with the Consumer Council for Water (CCWater) focus group research in July 2013,⁶⁹ we used a notional 70-75% as a threshold to determine whether to include a particular attribute as a PC.

The simulation tool was peer reviewed by Dr Scott Reid of ICS Consulting.⁷⁰

Cost benefit analysis of WTP results

Our CBA analysis followed UKWIR guidelines⁷¹ and was reviewed by Halcrow Management Sciences Ltd⁷² as part of the December 2013 submission and confirmed as following UKWIR's methodology and as robust. This review was repeated and updated for our June supplementary submission. Each review formed part of Halcrow's assurance to our Board.

Willingness to pay and value for money where there is no incremental cost for PCs

We have previously shown in this section that a key finding from our quantitative research was that the majority of our customers preferred bills to increase by no more than RPI or slightly more with the same or slightly better service levels.

With the agreement of the CEPF we have assumed that if prices are falling significantly and service levels increasing, there is implicitly both a willingness to pay and value for money in the proposal, and no further research is required.

This assumption flowed through the outcomes and PC setting process and was used for all PCs where there was no incremental cost to customers.

Our business plan package proposed in December 2013 delivers a significant bill decrease in real terms and improved service levels. It was found to be acceptable to 79% of our customers during research while 14% were neutral.

71% of respondents in the acceptability testing rated the plan as good value for money.

Our supplementary plan delivers a greater bill decrease and therefore we now assume that the majority of customers will continue to find it acceptable and value for money.

Metering

Throughout the course of our research nearly all customers viewed metering as 'fair'.

In our December 2013 submission, we said that we suspected that our proposal to accelerate metering had attracted little willingness to pay because of consistent industry messages which advertise 'free' meter options. Therefore asking customers 'to pay' was not logical to them.

⁶⁹ Threshold of Acceptability Report (for CCWater) slide 4

⁷⁰ Scott Reid Peer Review and Scott Reid second peer review – response to Ofwat WTP response

⁷¹ CBA analysis Final – CBA tab

⁷² Halcrow Management Sciences Ltd review of CBA

While there was little willingness to pay, based on this strong pro-metering message from customers plus the fact that our plan delivered significant bill decreases, our December submission proposed to accelerate metering. However, following further discussion with customers⁷³, and Ofwat's wholesale cost assessment modelling, we have revised our plan to maintain our current metering strategy of metering on request and on change of occupier – see section 4.3 'Wholesale cost assessment – selective metering'

Metering activity is now included as a PC in the 'Reliable water supply' outcome. In our December 2013 submission we explained⁷⁴ that we had not included metering as a PC as it was an input measure that contributed to the PCs of leakage reduction and reducing average water use. We have revised our view because of its importance to customers and to these measures, which in turn support the 'Environmentally sustainable operations' outcome by reducing carbon and leaving water in the environment.

Protecting the long-term interests of customers and the environment

Our proposals will help us deliver our long-term objectives described in our PR09 Strategic Direction Statement⁷⁵ and updated 2013 version⁷⁶ of:

- focus on our primary duty of delivering a continuous and reliable supply of safe drinking water
- managing demand to ensure security of supply in the face of growth and the major uncertainty of climate change
- achieving full metering
- maintaining and renewing our assets and networks to provide greater resilience
- increasing the rate of renewal of the mains network
- managing the business according to the principles of sustainable development, making sure that public water supply and the environment are safeguarded in the future
- keeping price rises to a level which is as low as possible while consistent with ensuring a sustainable level of maintenance and acceptable risk of failure.

More recently we have produced an updated version⁷⁷ of our long-term objectives. Our PR09 objectives remain core but for this paper we linked them to our outcomes. We also extended them to incorporate our outcomes of 'Providing an excellent customer service' and 'Engaged well with our community and customers'.

⁷³ The Ofwat challenge to SBW PR14 submission – deliberative research with 48 customers

⁷⁴ See page 70, Section 3 - Outcomes

⁷⁵ Strategic Direction Statement December 2007

⁷⁶ Strategic Direction Statement April 2013

⁷⁷ Strategic Direction Statement April 2013

The extended objectives now include:

- continuing to maintain and improve our customer service
- play an important role in our community

We have addressed how our outcomes will deliver these objectives in the table detailing our response to specific risk-based review challenges (above) and in our ‘Outcomes Rationale’ document ‘details’ tab.

We have demonstrated that each outcome links to our long-term objectives and will provide longer-term benefits to customers, the environment or both.

To ensure this, our performance will be subject to independent scrutiny – see ‘How customers will be protected’, in the next part of this section.

Outcome delivery incentives

Our December 2013 submission did not include financial outcomes rewards.

We said “we do not propose a reward for achieving the target performance [for leakage reduction and reducing the risk of large-scale interruptions], as we see no justification for one.”

Following Ofwat’s risk and reward guidance we have reviewed this. In consultation with our Board and the CEPF we have developed two financial rewards linked to willingness to pay and cost benefit. Both follow Ofwat’s guidance in Appendix 1 of Ofwat’s PR14 methodology and all calculations are provided in our Outcomes Rationale document.

We have also reviewed our approach to the financial penalties we propose and discuss this later in the next part of this section.

Changes to our ODI proposals (changes in blue)

Performance commitment	December 2013 incentive	June 2014 incentive
Water quality contacts from customers re appearance - reduce numbers	Statutory and reputational	Statutory, reputational and financial penalty
Reduce leakage	Financial (penalty) and reputational	Financial (reward and penalty) and reputational
Minimise customer disruption: Reduce the risk of large-scale interruption to 12,000 properties	Financial (penalty) and reputational	Financial (reward and penalty) and reputational

Serviceability	Statutory and reputational	Financial penalty and reputational
Metering – continue current strategy	Not included as stand-alone PC in December 2013 submission	Financial penalty and reputational
Water use - reduce average consumption	Reputational	Financial penalty (by way of increased activity level set by independent panel) and reputational
Fixing visible leaks - improve response time	Reputational	Financial penalty and reputational
Fair customer bills	Reputational	Financial penalty (by way of increased activity level set by independent panel) and reputational
Contribute to our community	Reputational	Financial penalty (by way of increased activity level set by independent panel) and reputational

Rationale for ODI proposals

Here we explain why the incentives we have set will ensure that we deliver what customers need and want and how they will protect customers from underperformance.

Financial – where there is willingness to pay and incremental cost

Our WTP financial rewards and penalties have been calculated using Ofwat’s methodology, although we have smoothed the reward to create a better incentive for us and so a better outcome for customers.

The elasticity graphs produced from the simulation tool (see above) produced WTP values for two performance commitments: reduce leakage and reduce the risk of large-scale interruption to 12,000 customers – see ‘Willingness to pay and cost benefit analysis’, above.

Cost benefit analysis confirmed that each proposal was cost-beneficial.

Our Outcomes Rationale⁷⁸ document, included as part of our supplementary submission, details the calculation and data behind the financial ODIs. See the ‘calculation’ tabs.

- *Reduce leakage*

⁷⁸ Outcomes Rationale – ODI calculations tab

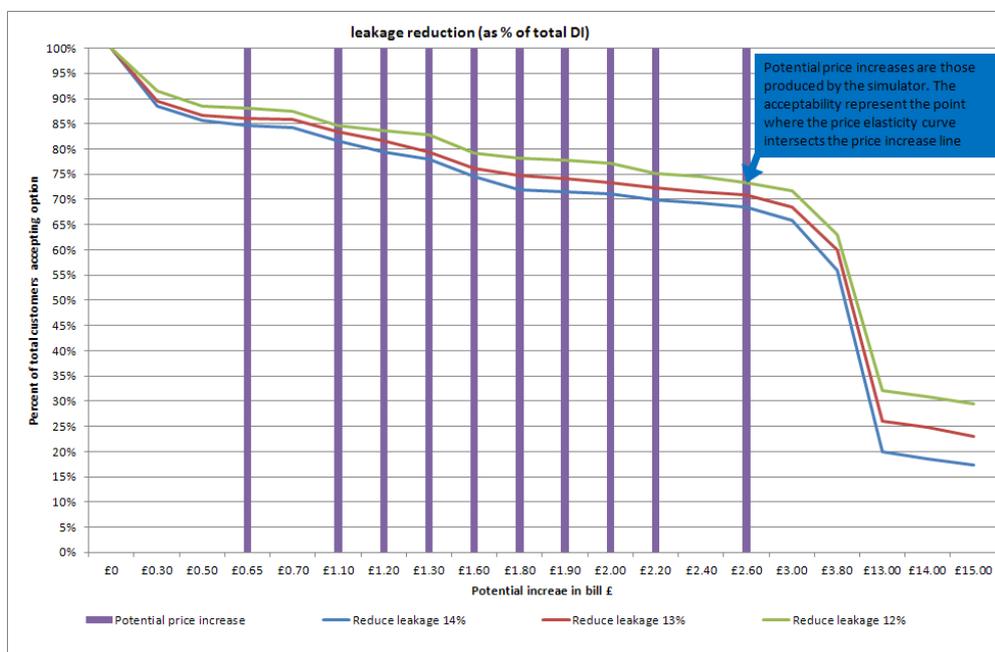
Our leakage performance is one of the best in the industry and is significantly under our SELL (sustainable economic level of leakage).

We have set our target performance level to less than 20MI/d. At this point the CBA is significantly positive at a factor of 4.1⁷⁹ and the target will stretch us to provide a better service for customers without incurring an increasing incremental cost of reduction as leakage levels fall. It will be at the frontier of industry performance.

However, the graph shows that WTP for leakage reduction is at its greatest when leakage is reduced to 17 MI/d.

The following graph shows that customers place greater value on a higher leakage reduction.

Willingness to pay is higher for greater leakage reduction



Therefore, we have set a further stretch target using the incremental difference between the WTP values for 20 MI/d (14%) and 17 MI/d (12%) leakage. Our plan contains the cost for a reduction to 20 MI/d, but we will seek to reduce it further and if we succeed, we will be eligible for reward.

The financial penalty is calculated on the WTP for 20MI/d. It is now calculated using the Ofwat methodology instead of our original non-standard approach.

The 'ODI calculation – leakage' tab of our Outcomes Rationale document provides all calculations.

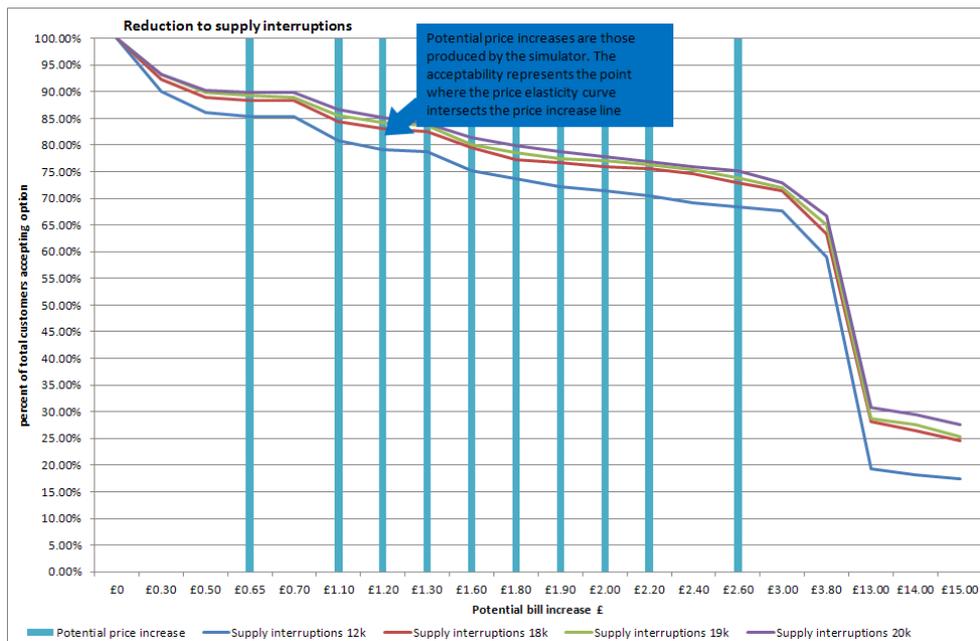
- *Reduce the risk of large-scale interruption for 12,000 properties*

⁷⁹ CBA analysis FINAL – CBA tab

Customers value a reliable water supply. It is their second-highest priority. They are willing to pay for the reduction in risk of large-scale interruptions.

As with leakage willingness to pay and acceptability levels increase as the number of properties at risk decreases, as the graph shows.

Customers wish to see the number of properties at risk of large-scale interruption reduced



The performance target of a risk reduction for 12000 properties, and related incentive, are reflective of willingness to pay values. Our plan contains the cost for this reduction and the work is cost beneficial at a factor of 1.3⁸⁰.

We have set a further stretch target using the incremental difference between the WTP values for 12,000 and 18,000 properties and if we succeed in reducing the risk to more than 12,000 properties, we will be eligible for further reward.

The 'ODI calculation – interruptions' tab of our Outcomes Rationale document provides all calculations.

Financial penalties - where there is no willingness to pay and no incremental cost

To ensure customers are protected from underperformance we have introduced a number of financial penalties.

The 'ODI calculation – serviceability' tab of our Outcomes Rationale document provides the calculations for the penalty should we underperform against serviceability targets.

⁸⁰ CBA analysis Final – CBA tab

This calculation is based on Ofwat's methodology, as detailed in PR09/06 (Setting price limits – logging down and shortfalling) and PR09/38 (serviceability outputs for PR09 final determinations). A maximum penalty of £0.866m will apply in annual increments should serviceability of both sub-services be classed as 'deteriorating' in all 5 years of the control period.

Other penalties are shown in our Outcomes Rationale document where the 'summary' and 'details' tabs provide details and the 'data dictionary' details the financial impact and dead bands.

Where there are no financial rewards on individual ODIs

Where there is no WTP and/or no statutory financial rewards or penalties, our performance will be subject to review by an independent organisation or panel. The result of these reviews may be a requirement for additional investment to return performance to target levels. For the avoidance of doubt this is laid out in the 'data dictionary'.

We will also place our performance against target in the public domain, publishing it annually alongside our Key Performance Indicators. This introduces a further reputational penalty if we do not achieve our targets – see 'How customers will be protected' below.

Scaling rates and calibration with other incentives

There has been no need to scale our financial incentives as there is only minor overlap with statutory incentives. For the same reason there has been no need to calibrate the incentives.

Actual WTP has been used for both rewards; therefore no scaling has been required. This above applies to leakage and interruptions ie these are the only PCs with incentives. They are stand-alone ODIs and do not impact each other.

Application of dead bands

Leakage

We have set the maximum penalty to apply at 21.0 MI/d.

Both the reward and penalty are scaled at 0.1 MI/d. This has replaced a dead band and will protect us and the customer from step-changes in either.

Reduction of risk of large-scale interruption to 12,000 properties

For every 1,000 properties either benefitting or not benefitting, a percentage of the reward or penalty will apply.

Full details are in the 'ODI calculation' tab of our 'Outcomes Rationale' document.

Dead bands for other PCs are detailed in the 'Data Dictionary' tab of the Outcomes Rationale document.

How customers will be protected

Section 3 (Outcomes) of our December 2013 submission gave details on how we would ensure the governance and quality assurance of evaluating outcomes performance. We confirmed that we would subject our performance to the same level of scrutiny, external audit and Board assurance that our statutory annual Key Performance Indicators receive. We confirmed that we would publish our performance and covering explanations in our 'How we're doing' publication annually.

Further to this, section 8 'Risk and Reward' of our supplementary submission details how our Customer View group will scrutinise our performance and have the autonomy to challenge us and in certain cases require additional investment to bring performance to the committed levels. In most cases we have committed to financial penalties which are laid out in the 'data dictionary'⁸¹ of performance measurements that clearly articulates how each PC will be measured. This will be made available for the Customer View group to use for its evaluation.

Summary

Many of the comments in Ofwat's risk-based review referred to activities that we had undertaken but had not included as evidence in our December 2013 submission.

In this section we have responded to each of Ofwat's points in turn and provided further information about the rationale behind our decisions. We have also introduced more financial penalties to protect customers and two financial rewards.

Our outcomes and PCs have been driven by what customers have told us they want. They have been fully considered and challenged by our Board and the CEPF. Our revised business plan, as a package of bill and service levels now delivers even more than what our customers had found acceptable and value for money, and therefore exceeds their expectations overall.

It has also been designed to protect the long-term interests of customers and the environment.

⁸¹ Data dictionary

4. Wholesale cost assessment – cost modelling overview

Key points

- Ofwat have used historic data to populate the PR14 cost models using a mixture of trends and averages. There are inconsistencies between the sets of input data.
- We have populated Ofwat's models using the proposed future activity levels that are consistent with our outcomes, will maintain serviceability of our assets and are supported by our customers.
- Ofwat have asked us to ensure and demonstrate that we are not 'cherry-picking' certain elements of the Ofwat modelling that advantage us and ignoring those that disadvantage us.
- Our data is consistent with our Water Resources Management Plan
- Small changes in a few variables of forecast data can make significant changes to the cost model outcomes suggesting that there is significant uncertainty around the base cost threshold.
- Using our business plan data, the variance in output of the three different cost models is much smaller than the output using the Ofwat forecast data.
- Using our business plan data increases the cost base threshold derived from Ofwat's modelling by £4.77m, excluding leakage reduction work, Fawley and the NEP work. This shows that the Ofwat models do not fully reflect the cost we will incur in AMP6. We therefore require adjustments to be made to close this gap.

Ofwat challenge	SBW response
<p>Acceptable level of costs for SBW was modelled to be £130 million. Given that SBW is proposing a level of expenditure above this (£136 million) leads to a score of More evidence required C. This is a marginal decision because the plan totex value is close to the significantly more evidence required threshold of £137 million.</p>	<p>Our costs are different to those modelled by Ofwat as the activity levels in respect of metering, leakage, IRE and NEP used by Ofwat were different to those we proposed in our December 2013 submission.</p> <p>With the exception of reduced meter installation numbers, we do not propose to change the levels of activity in our supplementary submission – see sections 4.2, 4.3 and 4.4 within the ‘Wholesale cost assessment’ section.</p> <p>In addition, there was no recognition of the additional costs in respect of our Special Agreement customer – see section 4.1 ‘Wholesale cost assessment – Fawley’.</p> <p>Our totex total for AMP6 including the additional activity levels and our Special Agreement customer is £136.5m.</p>
<p>Modelling approach uses planned reductions in water deficits as a cost driver. SBW has been a relatively low cost company historically due largely to the company’s very low costs in eliminating its water deficit. Because this deficit no longer exists our models do not predict any expenditure for this purpose, while the company’s forecast costs in AMP6 are broadly flat, which is consistent with the more evidence required score.</p>	<p>We have no water deficit because we have taken a proactive metering approach over the last 20 years, which has seen a steady decline in water demand even with increasing customer numbers. We are proposing to maintain our current metering policy of metering on change of occupier and on request and our costs reflect this – see section 4.3 ‘Wholesale cost assessment – selective metering’</p>
<p>Post risk-based review – telecon 14 May</p> <p>Ofwat challenged SBW to show that all aspects of the model were considered and not just the data inputs that are most favourable to the company.</p>	<p>We have considered all the data inputs used in Ofwat’s cost model. We have compared the forecast data used by Ofwat with our forward-looking forecasts of activity levels shown in our business plan – see below.</p>

Summary view

The table below summarises the adjustments in wholesale totex that are needed to reflect our business, following Ofwat’s risk-based review. These adjustments are needed either where Ofwat’s models do not sufficiently model a material and company-specific element (eg. Fawley) or where we are proposing activity levels, supported by our customers and for which evidence of necessary and efficient cost is provided, which are not reflected in the historic cost data used in Ofwat’s models. Individual sections covering each issue in detail are included as part of this supplementary submission.

Wholesale totex adjustments required to Ofwat’s risk-based review modelling

Issue	Total amount included in SBW totex £m over 5 years	Modelled data Change:	Method of accounting for highlighted issue
1. Additional leakage reduction – additional costs to reduce leakage by 5%.	£0.94m	None	Adding £0.94m to totex as a special item to reflect additional work required – see Activity 2 in section 4.4
2. Metering – ongoing costs of metering on request and on change of occupier.	£3.76m Note: This cost has reduced by £1.26m from our December 2013 submission.	Use 17,950 meters rather than 10,764 as current Ofwat forecast. Amend other additional associated modelled numbers to ensure consistency	Correction to financial model input data for consistency with our WRMP and an increase of 7,185 meters – see section 4.3 This results in an addition of £1.826m* with use of updated forecast model input data in line with our WRMP and proposed meter numbers
3. Fawley – additional costs not included in Ofwat modelling	£19.7m	None	Adding £3.2m to totex as a special item – see section 4.1
4. IRE – clarifying length of mains renewed annually.	£15m	Use 13km per year reflecting activity	Adding £1.944m to totex to reflect the increase in activity of replacing 13km of mains per year – see section 4.2
5. NEP – including opex costs which were not modelled.	£0.795m	None	Adding £0.795m to totex as a special adjustment item – see Activity 1 in section 4.4

*This figure includes all cost model variables impacted by meter numbers

The next part of this section describes the impact of changing each of the variables in the Ofwat models to reflect our business specifically and our customers' requirements over the next five years. This analysis was requested by Ofwat in its 'Setting Price Controls' document of April 2014, item 4 on page 21. This analysis includes IRE and metering changes described in the preceding table.

This analysis shows that totex increases by £4.77m with the adjusted variables. After 'swings and roundabouts' effects, this demonstrates that the Ofwat modelling underestimates the costs we will incur.

Introduction

Ofwat's risk-based cost review used historic averaged data from 2006 – 2012 to produce forecast data to populate the cost models. This data is not consistent with our Water Resources Management Plan (WRMP) or our business plan and customers' requirements. The data used by Ofwat is shown in Table 1 at the end of this section.

The data used in our business plan, consistent with our WRMP, customer engagement evidence and network modelling evidence is shown in Table 2 at the end of this section.

The key activity levels we propose for 2015 – 2020 are as follows:

- Installing 17,950 meters, including metering on request and selective metering on change of occupier
- Replacing 13km of mains per year
- Reducing leakage to 20MI/d by 2020

The other data used to populate the models is from our current WRMP. This data has also been used to populate the resubmitted Table W4.

Ofwat have expressed a concern that in using actual forecast company activity data we may be skewing the cost threshold in our favour and that on other measures we may be benefiting from a higher cost base threshold.

We have reviewed the impact of our forecast data by changing one variable at a time to assess the impact on the basic cost threshold.

Our totex costs also include costs to meet our commitments in respect of the National Environmental Programme (NEP). These are costs which are above our normal operating activity and historically this work has not been undertaken by us. These costs, of £0.795m, are currently not reflected in the modelling process and should be treated as an adjustment item.

Additionally, we have undertaken an analysis of the costs relating to the Fawley supply and this shows that the Ofwat models have not included these costs adequately. The additional costs in this area are not reflected in the modelling undertaken by Ofwat and should also be treated as an adjustment item. The adjustment required is £3.2m.

Cost impacts of data changes

The risk-based review models used up to 26 different variables. These were changed individually from the Ofwat data to those we forecast, to review the impact of the change. Some of the model variables impact a number of different model input numbers. For example, by changing the meter numbers this will also change: the distribution input, water delivered, number of households metered, water delivered to metered households and meter numbers being installed. In many cases, changing one single model input cannot be viewed in isolation.

We are planning to continue our current meter installation programme (in excess of the minimum requirement). Although metering enhances the supply demand balance, this was left as zero as per the Ofwat methodology.

Changing the data provides both positives and negatives to the basic cost threshold. Overall if our data is used, the cost base threshold increases by £4.8m of which £1.9m is accounted for by the increase in mains renewals activity moving from 9km to 13km per year, and £1.8m is due to changes to data to reflect consistency with our WRMP and our proposed metering activity.

A summary of the cost model impacts is shown in the table below highlighting the differences in the data used.

Using Ofwat’s models, but input data to match our business plan activities and WRMP, increases the cost base threshold by £4.8m

Description	Difference between Ofwat and our forecast data	Difference £m	Comments
Forecast mains length	Ofwat data on average forecasts 3km per year more than our data	-0.233	Our slightly lower increase in mains length going forward results in a lower basic cost threshold.
Forecast number of connected properties at end of the year as per WRMP	We forecast on average 500 properties per year less than the Ofwat data	0.322	Increasing property numbers changes density – we are predicting slightly lower property numbers therefore lower density. This forecast number has a relatively large impact on the cost forecast for a small number change. Therefore it has a high sensitivity and relative uncertainty.
Forecast of water delivered (potable)	Ofwat use a flat rate of 133.05MI/d while our forecast goes from 128.05 to 127.06 MI/d as demand is falling	0.718	We have falling demand due to our pressure reduction and active metering programmes. We have also included the loss of an industrial customer of 2 MI/d in 2014/15. This is offset by reduced cost due to a decline in distribution input.

Description	Difference between Ofwat and our forecast data	Difference £m	Comments
Forecast of numbers of households connected for water (metered) as per WRMP	Ofwat forecast a rise in 23,600 over the 5 year period but only 10,760 optional meters. We forecast 17,950 meters to be installed over the 5 year period	1.579	Lower meter numbers as current WRMP and preferred option. If meters are reduced, it is likely to increase this cost (counter intuitive) Ofwat's numbers are inconsistent with the correct optional meter numbers.
Forecast distribution input	Ofwat use a flat rate of 150ml/d while ours is lower and falls from 144.6Mld to 143.5Mld/d	-0.943	Falling demand and reduced leakage reduces the distribution input. This reduces the model cost output. This is consistent with our WRMP and also includes a loss of an industrial customer of 2M/d in 2014/15.
Changes using our meter numbers – as per our WRMP both optional and selective meter numbers	We are proposing 17,950 meters, Ofwat have assumed 10,764	0.522	Figures from current WRMP with our proposed selective and optional meter numbers - only impacts one model. Does not reflect cost of metering – additional amount from deep dive supply demand on base model has not been included.
Water delivered – total leakage set as a performance commitment	We have a performance commitment to reduce leakage to 20 Ml/d over the period	0.280	Reducing leakage increases cost threshold – but reflected only one model Does not reflect the true cost of the work
Water delivered (bill measured households) as per our WRMP	Our proposed meter rate is higher than that of Ofwat	0.500	Similar figure at start of the period but we are proposing a higher metering programme and therefore will end up with a higher billed measured amount
Length of mains renewed as our activity measure of 13km per year	Our rate is 4km per year greater than Ofwat's forecast of 9km per year	1.944	Additional cost reflects increased activity rate
Other items		0.081	See detailed Table 3 at the back of this section
Total		£4.770m	

Conclusion

- The models can be sensitive to fairly small changes in the data suggesting that they have a relatively high degree of uncertainty.
- The data Ofwat has used is inconsistent in several areas. This is especially noticeable with the forecast of households connected and metered which rises at over twice the rate of optional metering. This significantly reduces the cost base threshold number, potentially penalising us.
- For certain activities where there is an increase in activity such as reducing leakage, the cost models do not reflect the cost of the work to be undertaken as this activity only impacts one model.
- Certain activities are interdependent and we believe the data we have provided is more consistent and fairly reflects the likely future compared with the original Ofwat data.
- All the measures should be used with all of our data to ensure that the negative, as well as the positive changes are included.
- No additional deep dive costs have been added to the base model calculation. In the initial cost modelling, additional allowance was made for optional metering. No change to this figure has been made to the numbers shown above.
- Data inconsistencies assumed in the risk-based review modelling understates our wholesale totex costs by £4.77m (excluding the Fawley, NEP and the additional leakage reduction costs).

Data used by Ofwat in the risk-based cost models

Table 1 shows Ofwat forecast data used and its source

Description		2015-16	2016-17	2017-18	2018-19	2019-20	Comment
Total length of mains on 31 March of report year.	km	2,836	2,844	2,851	2,858	2,865	Forecast trend based on 2006 – 2012 JR data
Total connected properties at year end	000s	207	208	210	211	212	Forecast trend based on 2006 – 2012 JR data
Water delivered (potable).	MI/d	133	133	133	133	133	Average of 2006 – 2012 JR data
Water delivered (non-potable)	MI/d	9	9	9	9	9	Error and should be set to 5.2MI/d
Population - Total	000s	450	454	459	464	469	Forecast trend based on 2006 – 2012 JR data
Households connected for water only and water and sewerage - metered	000s	135	140	146	152	158	Forecast trend based on 2006 – 2012 JR data
Non-households billed measured water	000s	15	15	15	15	15	Average of 2007 – 2012 JR data
Source types and pumping - total number of sources	nr	9	9	9	9	9	Average of 2006 – 2012 JR data
Distribution input	MI/d	150	150	150	150	150	Average of 2006 – 2012 JR data
Source types and pumping - average pumping head - total	m.hd	127	127	127	127	127	Average of 2006 – 2012 data
Metering programme - household selective meters - water service	nr	0	0	0	0	0	Set selective metering forecast to zero because forecasting no water resources deficit
Metering programme - household optional meters - water service	nr	2,153	2,153	2,153	2,153	2,153	Average of 2006 – 2012 JR data
New mains	km	6	6	6	6	6	Average of 2006 – 2012 JR data
DG2: Properties receiving pressure or flow below reference level at end of year.	nr	0.001	0.001	0.001	0.001	0.001	Turned zero into a very small number so it can be logged in the model
Water delivered: total leakage	MI/d	21	21	21	21	21	Set leakage at 2014-15 level from WRMP instead of Jacobs forecast
DG3 properties affected by planned and warned interruptions of more than 3 hours	nr	1,478	1,478	1,478	1,478	1,478	Average of 2006 – 2012 JR data
DG3 properties affected by unplanned interruptions of more than 3 hours	nr	1,298	1,298	1,298	1,298	1,298	Average of 2006 – 2012 JR data
Water delivered (billed measured)	MI/d	39	40	42	43	44	Forecast trend based on 2006 – 2012 JR data

Description		2015-16	2016-17	2017-18	2018-19	2019-20	Comment
households)							
Water delivered (billed measured non-households)	MI/d	62	62	61	61	60	Forecast trend based on 2006 – 2012 JR data
Proportion of distribution input derived from river abstractions	Propn 0 to 1	0.8523	0.8523	0.8523	0.8523	0.8523	Average of 2006 – 2012 JR data
Proportion of distribution input derived from impounding reservoirs	Propn 0 to 1	0.0001	0.0001	0.0001	0.0001	0.0001	Turned zero into a very small number so it can be logged in the model
Total enhancements to the supply demand balance (dry year critical / peak conditions)	MI/d	0.000	0.000	0.000	0.000	0.000	
Total enhancements to the supply demand balance (dry year annual average conditions)	MI/d	0.000	0.000	0.000	0.000	0.000	Using WRMP forecast instead of Jacobs forecast
Total number of new connections	000s	1.375	1.375	1.375	1.375	1.375	Average of 2006 – 2012 JR data
Number of lead communication pipes replaced for water quality	nr	0.000	0.000	0.000	0.000	0.000	
Average regional wages Water	£/hr	0	0	0	0	0	
Total length of mains relined	km	0.000	0.000	0.000	0.000	0.000	
Total length of mains renewed	km	8.944	8.944	8.944	8.944	8.944	Average of 2006 – 2012 JR data

Data used in our forecast

Table 2 shows our data used and its source

Description		2015-16	2016-17	2017-18	2018-19	2019-20	Comment
Total length of mains on 31 March of report year.	km	2,836	2,842	2,848	2,854	2,860	Growth in mains length slightly lower than OFWAT prediction
Total connected properties at year end	000s	206.39	207.80	209.09	210.33	211.51	Total number of connected properties lower than OFWAT predictions based on forecast data used in WRMP
Water delivered (potable).	MI/d	128.05	127.67	127.43	127.17	127.06	Water delivered is lower than suggested by OFWAT average as SBW has a falling demand
Water delivered (non-potable)	MI/d	5.2	5.2	5.2	5.2	5.2	Potable water in Ofwat model in error due to inclusion of industrial customer in 2008-09
Population - Total	000s	454.2	457.2	460.3	463.4	466.2	Higher initial population but lower forecast growth than OFWAT data based upon Experian forecast data used in WRMP
Households connected for water only and water and sewerage - metered	000s	128.23	133.13	137.92	142.66	147.34	These based upon actuals then forecast meter installs as WRMP
Non-households billed measured water	000s	15	15	15	15	15	Base on WRMP
Source types and pumping - total number of sources	nr	9	9	9	9	9	No Change
Distribution input	MI/d	144.6	144.3	144.1	143.8	143.5	Lower than OFWAT data. As forecast in WRMP
Source types and pumping - average pumping head - total	m.hd	121.63	121.45	121.24	121.02	120.78	Lower than OFWAT data. Lower demand will reduce average pumping head
Metering programme - household selective meters - water service	nr	1,860	1,860	1,860	1,860	1,860	Based upon SBW forecast activity level
Metering programme - household optional meters - water service	nr	1,730	1,730	1,730	1,730	1,730	Based upon SBW activity Level
New mains	km	5.3	6.0	6.4	5.9	5.7	Length of new mains similar to that of OFWAT data but based upon no of new properties as WRMP
DG2: Properties receiving pressure or flow below reference level at end of year.	nr	0.001	0.001	0.001	0.001	0.001	Turned zero into a very small number so it can be logged in the model

Water delivered: total leakage	MI/d	20.8	20.6	20.4	20.2	20	As SBW Outcome
DG3 properties affected by planned and warned interruptions of more than 3 hours	nr	1885	1741	1597	1454	1310	Aim to reduce DG3 failures from their current levels
DG3 properties affected by unplanned interruptions of more than 3 hours	nr	1209	1117	1025	932	840	Aim to reduce DG3 failures from their current levels
Water delivered (billed measured households)	MI/d	39.94	41.35	42.73	44.08	45.41	As current WRMP
Water delivered (billed measured non-households)	MI/d	61.20	60.94	60.85	60.76	60.84	As current WRMP
Proportion of distribution input derived from river abstractions	Propn 0 to 1	0.863	0.862	0.861	0.855	0.855	Forecast based upon current sources and distribution input
Proportion of distribution input derived from impounding reservoirs	Propn 0 to 1	0.00001	0.00001	0.00001	0.00001	0.00001	Turned zero into a very small number so it can be logged in the model
Total enhancements to the supply demand balance (dry year critical / peak conditions)	MI/d	0.000	0.000	0.000	0.000	0.000	No Change
Total enhancements to the supply demand balance (dry year annual average conditions)	MI/d	0.000	0.000	0.000	0.000	0.000	Although metering improves the supply demand balance set to zero as Ofwat methodology
Total number of new connections	000s	1.230	1.313	1.198	1.151	1.089	As current WRMP
Number of lead communication pipes replaced for water quality	nr	0.000	0.000	0.000	0.000	0.000	No Change
Average regional wages Water	£/hr	0	0	0	0	0	
Total length of mains relined	km	0.000	0.000	0.000	0.000	0.000	No Change
Total length of mains renewed	km	13	13	13	13	13	Set as proposed activity level

Cost impact on data changes

Table 3 shows the cost impact of changing each Ofwat variable to our data

Description	Ofwat modelled totex estimate with upper quartile efficiency £m	Our modelled totex estimate with upper quartile efficiency £m	Impact model difference £m	Comments – reasons why our data is preferred to the Ofwat forecast data
Mains length	111.293	111.060	-0.233	We are predicting slightly lower increasing mains length than was used in the baseline model. Estimate ties in with forecast number of new properties from WRMP
Number of connected properties at end of the year	111.293	111.615	0.322	We are predicting slightly lower numbers of new properties and therefore connected properties at the end of the year than the Ofwat model. Estimate ties in with our forecast numbers in the WRMP that uses the Experian population growth forecast and 2011 census numbers. This forecast number has a large impact on the cost forecast and therefore has a high sensitivity and relative uncertainty.
Water delivered (potable)	111.293	112.011	0.718	We have falling demand and water delivered is lower than Ofwat forecast. Our forecast of potable water delivered matches current WRMP and includes loss of major customer in 2014/15 of 2 MI/d.
Water delivered (non-potable)	111.293	111.293	0	We have no non-potable water service to customers. Non-potable water is pumped due to an environmental requirement for stream augmentation. This is estimated as being around 5.2MI/d but is weather dependent.

Description	Ofwat modelled totex estimate with upper quartile efficiency £m	Our modelled totex estimate with upper quartile efficiency £m	Impact model difference £m	Comments – reasons why our data is preferred to the Ofwat forecast data
Population - Total	111.293	111.445	0.151	We have a higher starting population. This matches our current WRMP forecast and uses 2011 census data. Higher population increases cost – (except full totex model which is counter intuitive) although the change is not significant.
Households connected for water (metered)	111.293	112.872	1.579	Forecast numbers in Ofwat data are not consistent with the proposed number of additional meters to be installed. Our data is consistent with proposed meter installation activity and our WRMP. Costs are higher with lower numbers of metered households, which is counter intuitive.
Non-households billed (measured)	111.293	111.275	-0.018	We have slightly rising numbers of billed metered non-household customers compared with Ofwat modelled data. Our data is consistent with our current WRMP forecast. Higher meter numbers than base cost model but cost drops, which is counter intuitive
Source type and pumping	111.293	111.293	0	No change in data – source numbers unchanged
Distribution input	111.293	110.350	-0.943	We have lower distribution input than Ofwat forecast. Our demand is falling over time. Forecast data is consistent with our WRMP and includes loss of a significant industrial customer. As distribution input falls, costs reduce.

Description	Ofwat modelled totex estimate with upper quartile efficiency £m	Our modelled totex estimate with upper quartile efficiency £m	Impact model difference £m	Comments – reasons why our data is preferred to the Ofwat forecast data
Average pumping head	111.293	111.101	-0.192	We are predicting lower average pumping head because of lower distribution input.
Metering programme – household both selective and optional meters	111.293	111.815	0.522	Figures from current WRMP plan with our proposed activity level of meter selective and optional installations. This only impacts one model and does not reflect the cost of metering. The additional amount from deep dive supply/demand on base model has not been included.
Our forecast new mains	111.293	111.388	0.095	Slight change in length of new mains – only driven in one model – added as an adjustment in base model. Our new mains forecast is driven by the forecast of new properties in our WRMP.
DG2 properties receiving pressure or flow below reference level at end of year	111.293	111.293	0	No change in data as zero
Water delivered – total leakage	111.293	111.573	0.280	The target is set as our customer-driven outcome. Reducing leakage increases cost threshold – but reflected only in one model. This does not reflect the true cost of the work.
DG3 properties	111.293	111.291	-0.002	Change in DG3 numbers makes limited difference

Description	Ofwat modelled totex estimate with upper quartile efficiency £m	Our modelled totex estimate with upper quartile efficiency £m	Impact model difference £m	Comments – reasons why our data is preferred to the Ofwat forecast data
Water delivered billed (measured) households	111.293	111.793	0.500	Water delivered billed measured household is consistent with our current WRMP and proposed meter installation numbers. Ofwat numbers are not consistent with number of proposed meter installations
Water delivered billed (measured) non-households	111.293	111.321	0.028	Our numbers reflect our current WRMP and loss of industrial customer in 2014/15. Slightly lower numbers of NHH billed (measured) results in higher cost. This is counter intuitive but small.
% of distribution derived from river abstraction	111.293	111.300	0.006	Change in % as distribution input changes amount slightly. This is an insignificant change.
% of distribution input derived from impounding reservoirs	111.293	111.293	0	No change
Total enhancement to the supply demand balance	111.293	111.293	0	Although meter installation enhances the supply demand balance, this was set as zero as per Ofwat methodology. If enhancement to supply model included, our cost threshold increases.
Total number of new connections	111.293	111.253	-0.040	Our forecast matches our current WRMP. Slightly lower numbers give slightly lower costs.

Description	Ofwat modelled totex estimate with upper quartile efficiency £m	Our modelled totex estimate with upper quartile efficiency £m	Impact model difference £m	Comments – reasons why our data is preferred to the Ofwat forecast data
Number of lead communication pipes replaced	111.293	111.293	0	No change as none forecast to be replaced
Total length of mains relined	111.293	111.293	0	No change, none to be relined
Total length of mains renewed	111.293	113.237	1.944	Increase from 9km to 13km per year of mains renewals increases the cost. Our forecast is our current proposed level of activity.
Modelling adjustment			0.053	
Total	111.293	116.063	4. 770	<p>Our data is consistent with our WRMP and activity level and is consistent with our proposed activity level. The data is consistent across all measures, unlike the Ofwat forecast data.</p> <p>There is a much closer spread between the 3 models using our forecast data, which is consistent with our activity profile and our WRMP.</p>

4.1 Wholesale cost assessment – the Fawley oil refinery

Key points

- We are the second smallest water company in England and Wales supplying one of the largest industrial customers in the industry. Fawley exceeds the current threshold for a large user by a factor of around 3,000 and on average, takes almost 30% of our entire output each year.
- Fawley has a disproportionate impact on our economic position which has not been fully reflected in Ofwat's risk-based review. In simple terms, Fawley can be considered as a 'water company within a water company', a situation unique to the industry.
- We have engaged Oxera to review Ofwat's econometric modelling approach. Oxera's analysis shows that model WM3 is likely to produce anomalous results – this was presented to Ofwat at a meeting on 21 May 2014.
- The Oxera analysis shows that the totex amount included in the original risk-based review model for Fawley was -£1.6m short over five years. This negative result is clearly incorrect. Another more complex Oxera analysis estimates an allowance of £12m in the models compared with actual costs of £20m over 5 years. Both of these results show a serious shortfall in what has been allowed.
- Oxera have suggested an alternative modelling approach using totex and botex models where the variable known as 'usage' plays a more central role to take account of the large volume of water delivered to one site (as is the case with Fawley).
- The Oxera analysis shows that our totex allowance should be increased by a minimum of £3.2m to cover costs over and above those already included in the risk-based review analysis. This calculation is supported by our own analysis of the costs of supplying Fawley and is consistent with Ofwat's Special Factor approach that it has historically taken when dealing with Fawley's significant impact on us.

Introduction

This section addresses the systematic bias against the company in Ofwat's cost assessment modelling. It considers the totex allowance as impacted by Fawley. Other concerns regarding our wholesale cost assessment are considered in sections **4, 4.2, 4.3 and 4.4** of this supplementary submission. There are two main thrusts to our argument that Fawley's costs have not been adequately considered:

1. An econometric argument, using an analysis carried out on our behalf by Oxera, which shows that Ofwat's econometric models poorly reflect Fawley's costs.
2. A supporting bottom up assessment of our cost of supplying Fawley based on our accounting information.

The technical detail behind supplying Fawley

We have supplied industrial water to the Fawley oil refinery since 1956, and since 1963 Southern Water has also supplied it. Currently we supply about 85% of the refinery's needs, with Southern Water supplying the balance. The contracted supply volume is 42 MI/d.

The contract was renegotiated in 1996 and competitively let in 2003. Neither Southern Water nor we can provide the refinery's full requirement, and the dual sourcing arrangement mitigates the risk of failure of either water company's supplies (each of which is made through a single pipeline).

The Fawley oil refinery is by far our largest customer and is one of the largest single water customers in the country, dwarfing the current large user threshold of 5 MI per year by a factor of around 3,000.

In 2013/14 we supplied an average of 40 MI/d to the site; representing 27% of our total water supply.

Ofwat's models include a cost allowance for serving typical large industrial water users. However, we do not believe that these costs would cover a customer with Fawley's characteristics. The Fawley water supply system can be considered almost as a separate, standalone water supply system. While there is some commonality at the Avon river intake and rapid gravity filters, the rest of the supply system is entirely separate. This is a very different arrangement from typical large industrial water users. These arrangements are shown in Figure 1 and Table 1 below. Table 1 highlights the areas where serving Fawley adds materially to our cost base

Figure 1 – Fawley is a water company within a water company

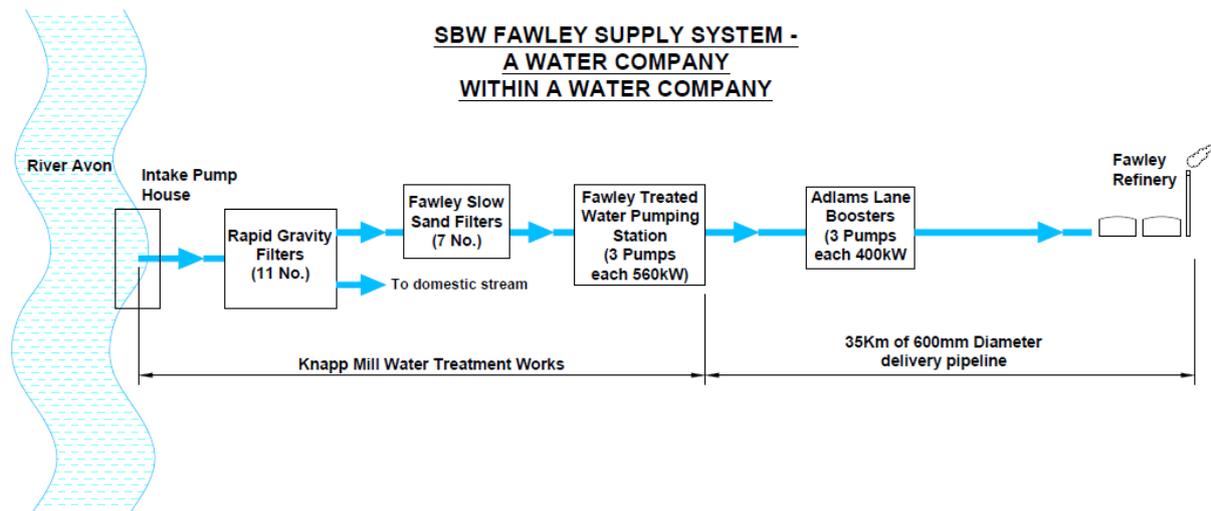


Table 1 – Fawley’s supply arrangements differ from typical large industrial water users

	Typical large customer	Fawley arrangements	Cost impact of Fawley
Water treatment	No special arrangements – water supplied is part of what is produced at the plant supplying the general area.	Fawley has a separate process stream and dedicated treatment facilities at Knapp Mill WTP. Facilities were constructed at the outset of the supply agreement in the 1950’s. Please see figure 1.	Fawley’s scale requires dedicated assets with their specific requirements for operation and maintenance. There is little cost sharing with assets feeding other customers.
Pumping	No special arrangements – receives water supply flow and pressure as defined by the local network arrangements.	Fawley has two separate dedicated pumping facilities, one at Knapp Mill WTP and one at Adlams Lane.	Two dedicated high pressure pumping facilities with their own energy, operation and maintenance costs.
Network	Supplied via connections to local network. In some cases multiple connections are provided or a connection to local trunk main to deliver the larger quantities needed.	Fawley has a dedicated steel pipeline 35Km long and 600mm diameter, much of which runs through the New Forest national park.	Additional costs for monitoring pipeline condition and operability. Compensation to landowners for access to make repairs. National park area has particularly onerous conditions.

Management of service	Normally the service delivery will be similar to and consistent with other local customers. No special infrastructure or facilities.	Fawley refinery has limited on site storage and the implications of a water interruption are major – production would stop – therefore the response time required for an emergency interruption to service is 2 hours. This short turnaround means additional SBW investment in system redundancy plus additional operating cost to try to predict any problems before they become an emergency (eg regularly walking the length of the pipeline more frequently than otherwise would be the case to check for small leaks which could get worse).	The two hour response time is very demanding. Additional redundancy of mechanical and electrical plant needed to maintain service in the event of component failure. Additional staff both during working hours and on standby to respond rapidly to service failure. Management time in liaising with Fawley to conduct full risk reviews prior to planned interruptions. Plant and equipment needed to monitor the operation very carefully and respond to anything unusual in a proactive way before service is affected.
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The ratios included in Table 2 below illustrate that the inclusion of Fawley moves the company considerably out of line with the range for the industry as a whole:

Table 2: Fawley significantly impacts the company from an industry-wide perspective

	SBW	SBW excluding Fawley	Lowest	Average	Highest
Water delivered per length of mains (MI/day of water per km of main)	0.048 (4 th)	0.036 (10 th)	0.023	0.036	0.068
Water delivered per property (MI/d per thousands of property)	0.67 (1 st)	0.47 (15 th)	0.33	0.49	0.67
Ratio of non-standard rates of water to water delivered (%)	31.3 (1 st)	No data	0.0	1.8	31.3

The revenue received from Fawley represents approximately 10% of our turnover (£4.5m per annum approx.) – removal of Fawley as a customer would add costs in the region of £12-15 per connection across the remaining customer base.

Oxera analysis

In our December 2013 submission we raised concerns about the ability of standardised econometric models to deal with our very unusual circumstances in relation to Fawley. The outcome of the risk-based review strongly supports this concern. We therefore commissioned Oxera to undertake a detailed review of the econometric models.

Their study highlights the inability of the models to deal with the delivery of a large volume of water to a single site and in particular, model WM3. An alternative modelling approach has been proposed which focusses more strongly on this issue and concludes that a totex allowance of £3.2m should be added as an adjustment item to cover the shortfall allowed in the original cost assessment analysis.

Oxera's detailed summary is included as part of this supplementary submission. An earlier version of this slide pack was presented to Ofwat on 21 May 2014. The findings are summarised below:

- Model WM3 has the highest number of counter-intuitive cost drivers – with eleven out of twenty falling into this category. The most counter-intuitive variable is company-specific. This model is therefore likely to produce anomalous results for us. The output from WM3 is out of step with models WM5 and WM6, which both give consistent results.
- Given the limitations of WM3 in dealing with Fawley, Oxera have considered an alternative approach. Their substitute WM3 model has been shown to be statistically robust with 99% R-squared values.

To quantify the impact of Fawley, Oxera has examined:

- A totex model based on WM3, WM5/WM6 with usage: increases our predicted costs by £4.4m
- A botex model based on WM9/WM10 with usage: increases our predicted costs by £1m
- Across all models, using the average effect (i.e. based on Ofwat's feeder model) increases our predicted costs by £3.2m to £121.7m (from £118.4m)
- Using only the RE models (which better capture company-specific effects such as Fawley, to the extent not already captured by the cost drivers such as usage) increases our predicted costs by £5.8m to £124.3m (from £118.4m)
- Oxera have concluded that Fawley materially distorts Ofwat's modelling of the company and an adjustment of between £3.2m and £5.8m should be made if these models are to be used. We are requesting an adjustment of £3.2m.

To assess the extent to which Fawley costs are captured in the modelling, Oxera have compared the predicted costs using CEPA models and the predicted costs obtained excluding Fawley from the projected cost drivers.

The comparison of these two predictions provides an indication of the cost allowance implicitly included in the CEPA models for Fawley. This is approximately -£1.6m less, compared with £20m* projected costs for Fawley over AMP6. This indicates that the current models do not capture the impact of Fawley and its impact needs to be quantified.

In summary:

- Based on the initial Oxera analysis using CEPA’s models, above, the totex amount included in the original risk-based review model for Fawley was -£1.6m short over five years. This is clearly incorrect.
- The output of the Oxera revised modelling suggests that between £3.2m and £5.8m of totex should be added to the risk-based review model output due to the failure of this modelling to deal with the unique circumstances surrounding Fawley and its impact. We are requesting that £3.2m is added to our cost base.
- The figures in Table 3 below were extracted from Table W11 of our business plan submission in December 2013 (in 12/13 prices) and give a totex figure for Fawley of £19.69m over five years. Between £3.2m and £5.8m of this cost has been excluded from the Ofwat CEPA modelling:

Table 3 – Bottom-up assessment of Fawley costs

Year	2015/16	2016/17	2017/18	2018/19	2019/20
Opex £m	3.25	3.35	3.35	3.38	3.41
Capex £m	1.37	0.44	0.29	0.54	0.31
Totals £m	4.62	3.79	3.64	3.92	3.72

Grand total is £19.69m over 5 years

At FD09, Ofwat made a 'post modelling' adjustment to the 2008/09 efficiency saving of £0.409m per annum negative following our Special Factor claim for Fawley.

A breakdown of the Fawley costs from 2012/13 is presented below:

Components of Fawley supply operating cost 2012/13	£000
Employment	136
Power	1,170
Hired and contracted	231
Materials and consumables	16
Chemical costs	85
General and support expenditure	270
Abstraction	300
Rates	863
Total Fawley functional expenditure	3,071
Less future cost reduction for closure of third party*	(260)
Adjusted future expenditure (2012/13 prices)	2,811

* As we explained in our December 2013 submission, the largest third-party user of the supply, consuming over 2Ml/d, announced its intention to close during 2014. We have factored this in to our data.

Conclusion

The Oxera analysis included as part of this submission shows that our totex allowance should be increased by £3.2m to cover costs over and above those already included in the risk-based review model analysis. This calculation is supported by our own analysis of the costs of supplying Fawley and is consistent with Ofwat's 'Special Factor' approach taken historically when dealing with Fawley's significant impact on us.

4.2 Wholesale cost assessment – infrastructure renewals (mains replacement)

Key points

- Historically, our network renewal rates have been amongst the lowest in the industry in the range of 0.2% to 0.5% per year of the network.
- Our network deterioration modelling has shown for some time that the rate of renewal is less than half of what it should be to achieve a stable, long-term network performance.
- Therefore, our strategy, like many other water companies, has been to gradually increase the length of mains renewal (starting from a very low base 10 years ago), while carefully managing the performance of the network to minimise customer impact.
- Our customers value a reliable water supply and this includes low interruptions, low leakage and high overall network resilience. To maintain current levels of network performance in these areas, replacement rates have to continue to increase to avoid likely deterioration in the longer term, because trends in network performance cannot be reversed quickly.
- However, we acknowledge that any deterioration will be slow and that currently our network performs well in respect of burst mains, resultant interruptions and other measures.
- For AMP6, we propose a mains renewal length of 13km per year compared with 12km in AMP5 and with the 24km per year suggested by our model. This small increase is aimed at keeping options open in respect of gaining even better information in the future about trends in performance; and avoiding unnecessary bill increases for customers at this time. The increase is supported by our customers in the longer term as evidenced by our customer research.
- Ofwat's risk-based review implies a 25% reduction of mains renewal on current levels to 9km per year. However, this analysis uses historic rates of renewal and fails to take account of the fact that we increased the rate of renewal during AMP5.
- Modelling indicates that in the longer term, the rate of renewal should double to around 24km per year. However, we do not propose this level of investment because there is too much uncertainty around the accuracy of models which use data from the past to predict the future. We will continue to improve our knowledge and monitor actual trends in performance against predictions.
- With our proposed investment we are still below the implicit allowance for IRE spend assumed by Ofwat.

Introduction

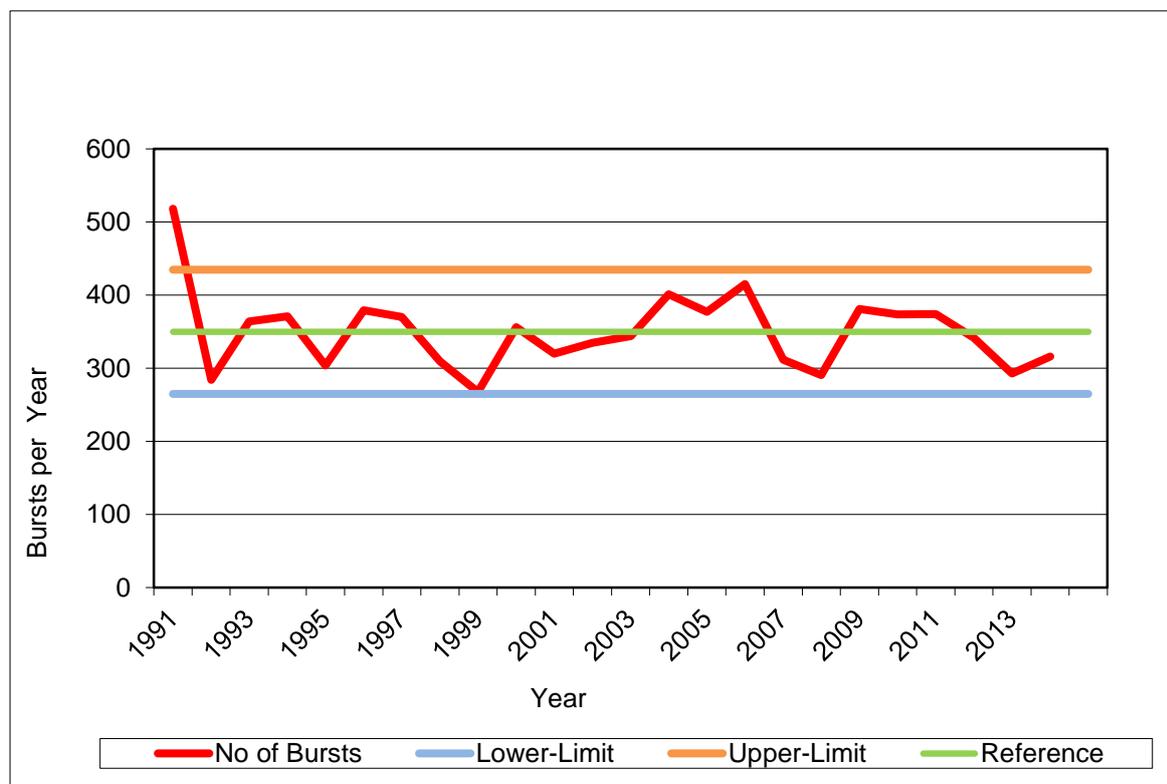
Our water distribution network of underground mains and associated equipment is fundamental to delivering a safe and reliable supply of drinking water to customers. We must maintain it so that it is capable, together with good management, of providing the service well into the future.

The performance of our network and the service to customers as measured by the number of burst mains, interruptions to supply, leakage and drinking water quality has been good relative to others. Our network is not especially old (average age 58 years); we have not suffered unduly from the effects of corrosive treated waters; and are not in an area where there are large areas of very aggressive soil conditions.

Infrastructure renewals expenditure has been rising. Annual investment has ranged from as little as £1.28 m in 2000/01 to as high as £3.17m in 2011/12. Our underlying historical trend of increasing infrastructure maintenance expenditure has resulted in serviceability performance remaining stable.

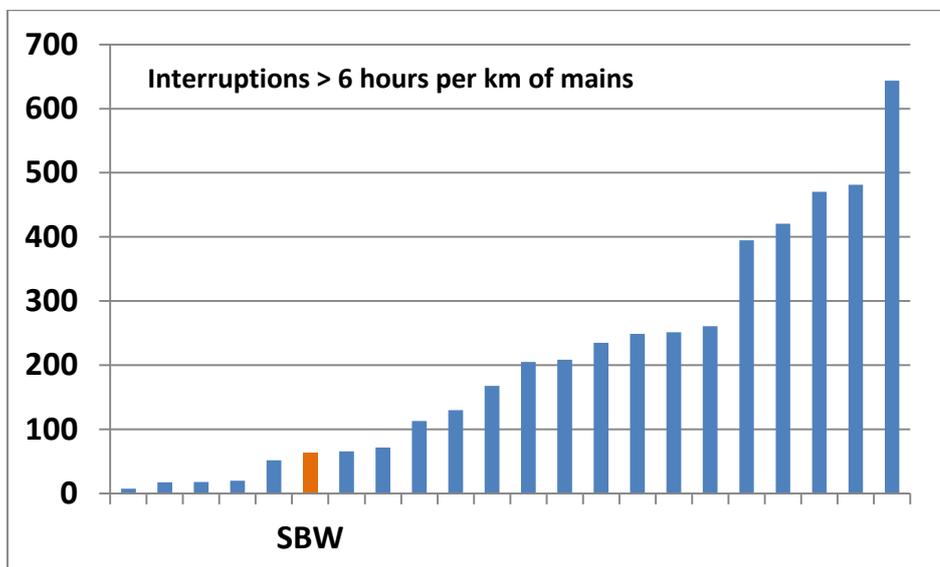
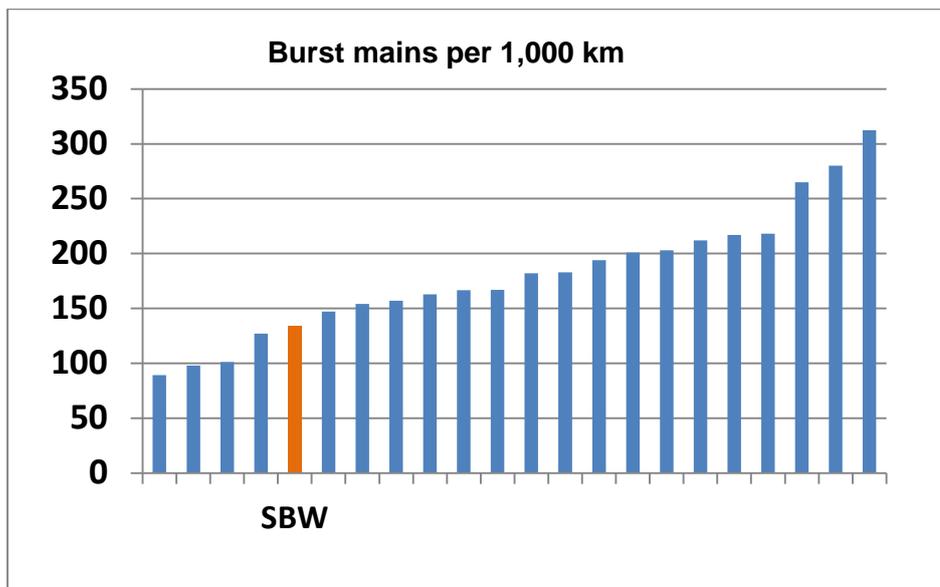
Numbers of burst water mains shown with tram lines derived from Ofwat's serviceability toolkit are shown below. Also shown are bursts and interruptions relative to other companies. All of these indicate a reasonably satisfactory situation.

Network performance is stable and burst rates are consistently within the upper and lower limits



However, it is easy to see how trends can be misinterpreted. If the five-year period 2001 to 2006 were taken in isolation, it would have appeared that the performance of our network was deteriorating. We should not assume that because there does not appear to be an overall upward or downward trend in the above chart, that the series is not just a small part of a much longer-term trend. There are many short to medium term influences such as the weather, or the mitigating impacts of other network activity such as pressure reduction.

Comparative performance against the industry is very good

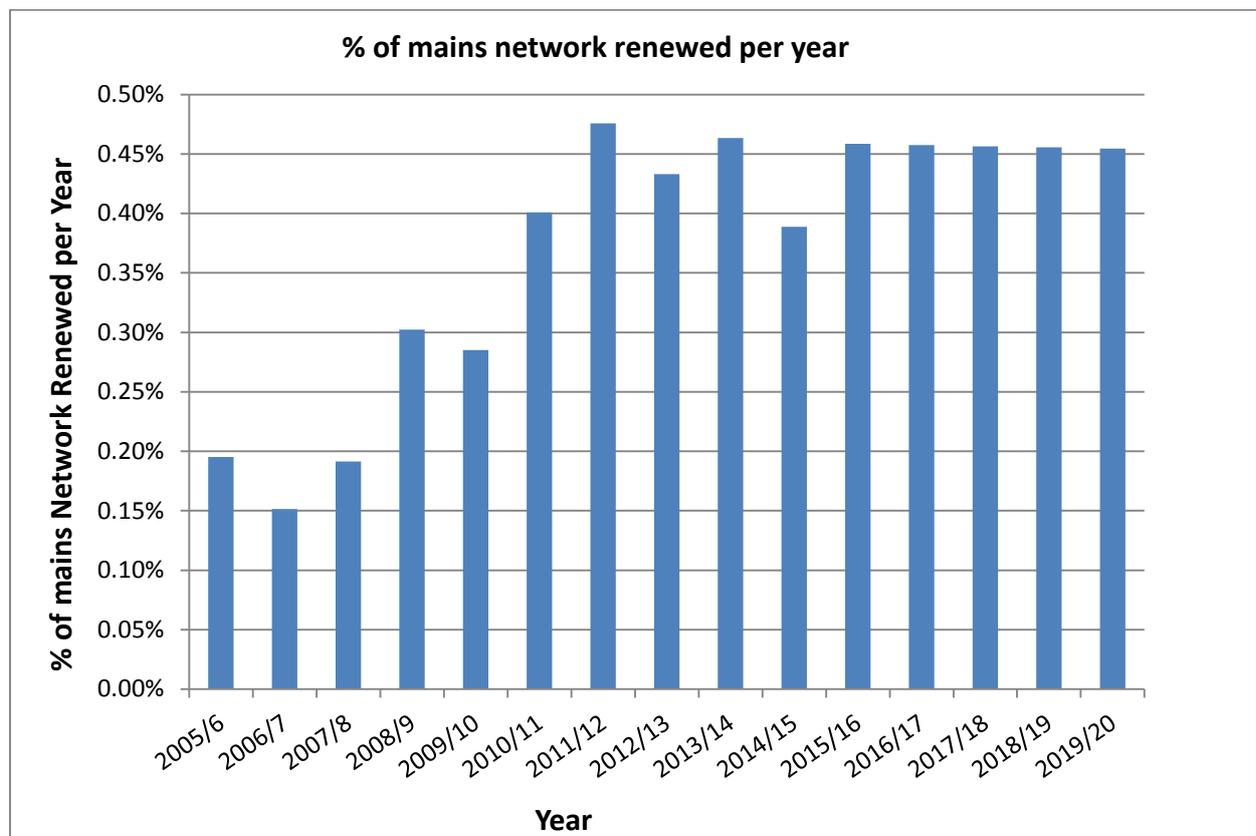


We need to use customers' money wisely and invest the optimum amount to maintain the service they require, while ensuring that we manage the network in the best way to maximise its performance.

We have been slowly increasing the rate of renewal over the last 15 years and managing the impact of network failures, partly through investing in configuring the network to reduce the scale of unplanned interruptions, and partly by placing a high priority on completing repairs and maintenance effectively and quickly. This approach has been successful.

We have: targeted poorer performing mains for replacement; found the most cost effective way of replacing them, (including use of cost effective and less disruptive trenchless technology where possible); managed our pumping plant to minimise shocks on the mains network, and continued a small but very effective programme of improving the operability of the network so as to reduce the impact of maintenance work.

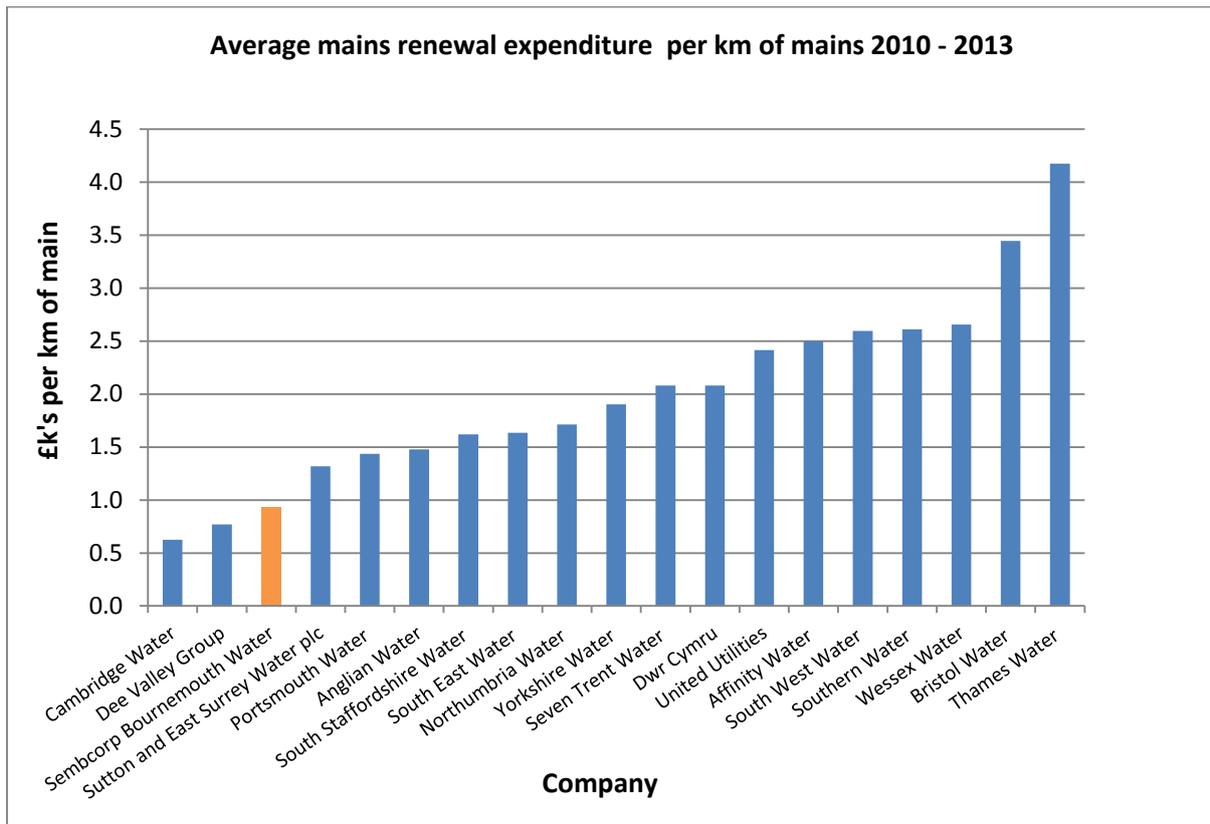
Our renewal rate has gradually increased over the last 10 years



Our modelling indicates that at current replacement rates, in the medium to long term the condition and performance of our network will deteriorate. We need to invest to avoid this. While we recognise that predictive simulation models are not perfect and that prediction of performance is subject to margins of error, we are satisfied that our modelling is robust in the context of what we are looking to achieve as we have applied a relatively strict 95% significance level to all correlations identified in the approach. The detail behind our modelling approach is described later in this section.

Even at the current rate of increase in mains renewal in AMP5, our average expenditure is below £1k per kilometre of installed network per year.

Our average renewals expenditure is currently one of the lowest in the industry.

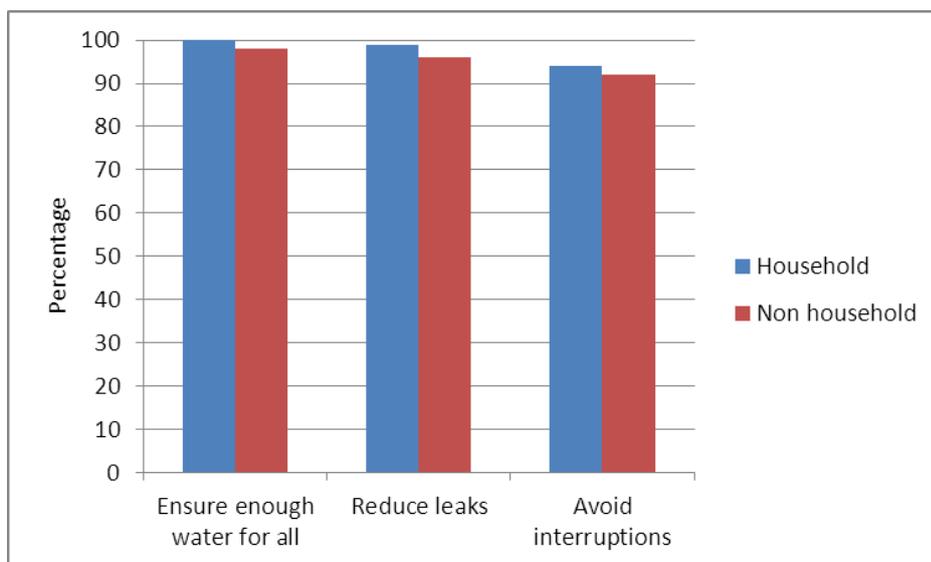


The above chart is based on £ per km of installed network, taken from companies' published regulatory accounts.

Customers' views

Over the last two years we have extensively researched customers' views and preferences.

Customers feel strongly about avoiding supply interruptions¹



¹ Quantitative research slides 22 and 24

Customers value a reliable water supply both now and in the future. We have therefore set an AMP6 outcome of 'Reliable water supply', comprising measures for leakage, interruptions, metering and reducing water use.

Effective network maintenance links to outcomes desired by customers and the associated performance measures in the following way:

Outcome	Performance measure?	Supporting other performance measures?	Customer research	Protecting long term interests of customers and the environment
Reliable water supply	No	Yes: Reducing leakage Minimising customer disruption Serviceability	See 'Outcomes Rationale' document – Research findings tab	Yes. Contributing to asset serviceability Reducing the impact of leakage and bursts on the environment
Financial sustainability	No	Yes: Fair customer bills	See 'Outcomes Rationale' document – Research findings tab	Yes. Ensuring balance between bill impacts now and in the future

However, we cannot reasonably expect customers to form a view about the investment we need to make in the maintenance of our mains network. They expect us to manage it efficiently and effectively on their behalf.

How we assess infrastructure maintenance needs

To protect customers' long-term interests we must invest sufficiently and proactively to prevent deterioration of our underground network and its ability to provide the service. We must do this in the most economic manner. A reactive approach whereby we wait for a deteriorating trend in overall performance and then aim to halt and reverse it would not be acceptable as it would represent failure. In addition, correction of the adverse trend could take many years.

Our approach follows the Common Framework methodology, which is an appropriate approach to evaluating asset maintenance requirements and is still accepted as best industry practice. It is forward looking and uses statistical techniques to predict future performance. We do not have significant drinking water quality, or pressure drivers for investment in the distribution network.

Though burst water mains are a cause rather than the effect of poor service, the modelling of and predicting burst water mains (and so indirectly, the service), has been developed and in use for some years. We use a model developed and refined by Halcrow CH2M Hill. A full technical paper is provided.²

We hold geo-located data on all burst mains since 1992. This provides a good dataset for assessing the probability of failure and trends over time. From this a *failure probability model* has been developed. The model helps us understand the deterioration of our asset base and investigate intervention strategies to mitigate the risk of future asset failure. The approach used can be split into two distinct parts, namely:

- Data analysis to determine current levels and historical trends in the performance of our network
- Development of a forecasting tool to investigate intervention strategies to mitigate the risk of future asset failure

In summary, the model is able to predict future performance of the network in combination with various future mains replacement scenarios.

To establish trends in our mains performance we have used a *cohort methodology* which is a standard assessment technique for assessing mains performance. Using existing performance data, Halcrow CH2M Hill has developed a series of mains cohorts which exhibit similar properties. This uses material deterioration mechanisms and internal and external influences on mains performance to assess the likelihood of mains failure over time. The modelling was developed in a series of stages as set out below.

Stage 1

The Geographical Information System (GIS) mains data base is used to develop cohorts of similar pipes comprising the following factors:

- Pipe function. Material, diameter, age, and external soil conditions.

Stage 2

Burst data is used to assess the probability of failure.

Stage 3

Cluster identification techniques are used to refine the analysis and identify geographic 'hot spots' where the network is forecast to perform poorly and mains are most likely to burst. This cluster-based methodology uses a bespoke tool to analyse our corporate GIS (asset base and failure history) in order to identify areas of high asset failure, thus indicating the worst performing assets in our system. 155 clusters have been identified throughout our distribution system based on the latest five years of failure history.

² CH2MHill paper - Sembcorp Network Modelling

Stage 4

To understand the deterioration of our system, modelling is undertaken to quantify the change in performance of our network over time due to deterioration processes of materials. This modelling has used multi-variable linear regression to consider the association of variables (external weather factors such as temperature and rainfall) with burst rate. This modelling has been based on the latest 11 years of failure history.

Calibrated deterioration models for asbestos and cast iron mains were developed from burst data to provide a likely level of impact if no investment were undertaken and what level is required to maintain the same level of burst performance. The rates of asset deterioration are broadly in line with our submission for PR09.

The performance of our system has been characterised using both the cohort and cluster methodologies to establish the worst performing assets in our system.

Stage 5

The pipes are also assessed in terms of their impact on service in terms of numbers and types of customers affected by failure, drinking water quality and pressure, to give a ranking for investment purposes. This is then cross referenced using local network knowledge to help validate the calibration.

Stage 6

A forecasting tool is used to predict the service and cost implications of intervention strategies for mains. The tool operates at a pipe level and uses established trends in the performance of our system (burst rate) and deterioration of our system (deterioration rate) to forecast operational maintenance.

In addition, the tool uses unit costs of replacement to forecast capital maintenance requirements and consequence data to forecast the impact of interventions on outcome measures over a defined planning horizon. The tool enables the optimisation of strategies by applying the following limits:

- Threshold burst rate (number/km/year) – the level of mains performance (burst rate) that triggers pipe replacement in any given year of the planning horizon. This is set using data to determine at what level it is generally more cost effective to replace a pipe rather than repair it.
- Maximum annual mains replacement rate (metres per year) – the maximum total length of pipe replaced in any one year of the planning horizon.
- Maximum annual replacement cost (£ per year) – the maximum total cost of mains replaced in any one year of the planning horizon.

Infrastructure assets – is the future different from the past?

We have been increasing our infrastructure investment in real terms over time albeit from a very low base and at PR09 we anticipated an increase in capital expenditure during AMP 6 compared with AMP5.

This increased activity has been in response to our deterioration modelling which at PR09 indicated that higher levels of mains replacement were needed to maintain stable serviceability. At the time the modelling indicated that for AMP5 and beyond, replacement levels needed to be at around 24km per annum.

At the time we felt that we were able to manage part of the risk in the short term through good network management such as targeted investment. Therefore we planned for, and were allowed funding for 12km per annum for AMP5. Our updated modelling shows that to maintain current network performance the levels of replacement calculated at PR09 are still needed in the longer term ie 24km per annum and we need to gradually ramp up replacement levels in the future.

Despite the increased investment, we have been replacing mains at below the indicated necessary level of replacement. As mains investment is a long-term activity, serviceability has not suffered in the short term. But if we do not continue to gradually increase replacement levels to the levels predicted in the model, our service to customers will suffer in the longer term.

Infrastructure interventions are based upon a requirement to counteract increasing failure rates because of deteriorating mains condition. Mains renewals are targeted at hot spots of mains failure by focussing on the worst performing pipes in our network. Only the poorest performing parts are replaced, which can mean that we find it necessary to replace only a few metres of mains at an individual hotspot.

Mains replacement modelling

Using the mains replacement forecasting tool to predict the service and cost implications of intervention strategies for mains, we have analysed a number of different replacement strategies. We list a selection of these and their predicted impacts below.

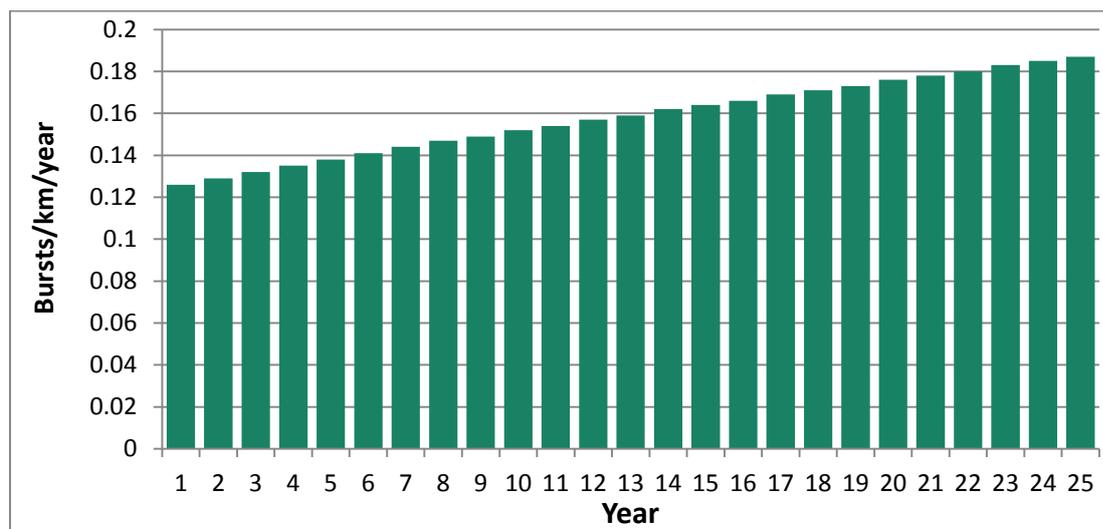
In these scenarios, Year 1 is 2012/13.

Scenario 1: maintaining replacement at current levels (12 km per year)

Our current target in AMP5 is to replace 12km per year and we are likely to slightly outperform this measure.

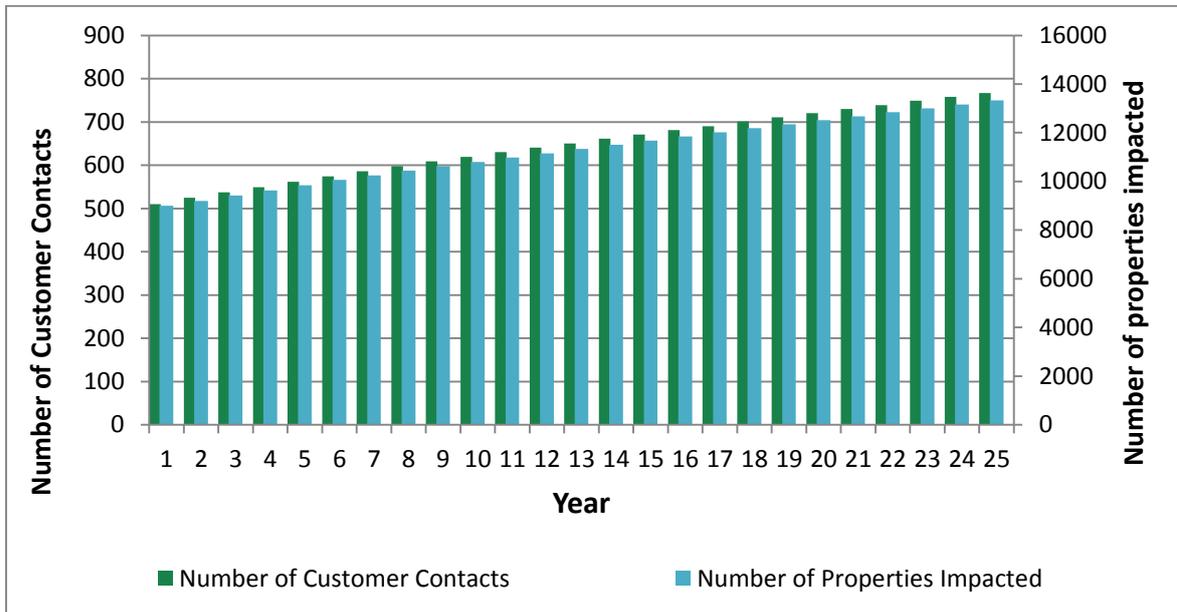
However, analysis indicates that the current replacement rate of 12km per year is well below the level which is sustainable in the longer term. If this replacement rate is maintained, failure rates will slowly rise over time as the investment will be insufficient over the longer term to maintain the current level of network performance. This is illustrated in Chart 1 below.

Chart 1: maintaining PR09 replacement rates will not prevent failure rates increasing, as predicted burst mains per km per year in the future show a rising trend.



We predict increases in both customer contacts about the service and numbers of properties affected by interruptions of nearly 50% over the next 25 years.

Chart 2: maintaining PR09 activity rates will result in increased customer contacts about the service and increased numbers of properties affected by unplanned interruptions over the next 25 years



We therefore conclude that in terms of managing the service, the risk of service failure is increasing over time and the future is likely to be different from the past, with increasing investment required.

Scenario 2: the investment required to maintain service performance

Modelling indicates a need to replace 24km /year (0.8 – 1.0% of the mains network) to stabilise the predicted increasing failure rate over a 25 year horizon. This would maintain the current serviceability levels and avoid the build-up of serviceability issues in the longer term.

Maintaining the current level of service performance is what our customers want as evidenced by our customer research. Maintaining reliability of supply was their top priority. See above and section 3 ‘Customer engagement and willingness to pay’.

The following charts illustrate the impact of increasing investment in line with modelling outcomes; that is a replacement rate of 24km/year.

Chart 3: increased investment rates will stabilise future failure rates

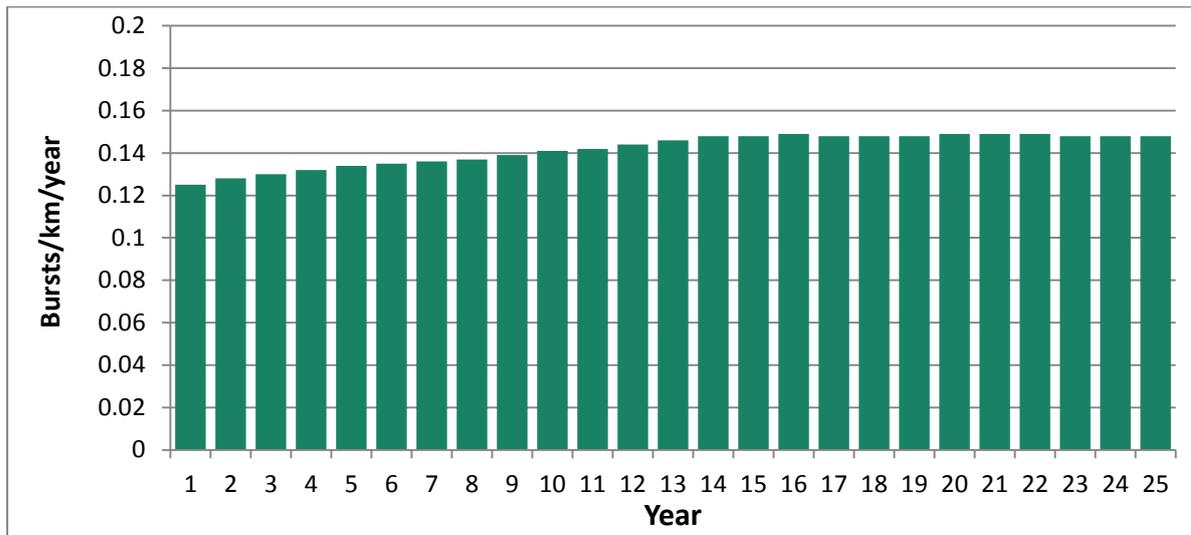
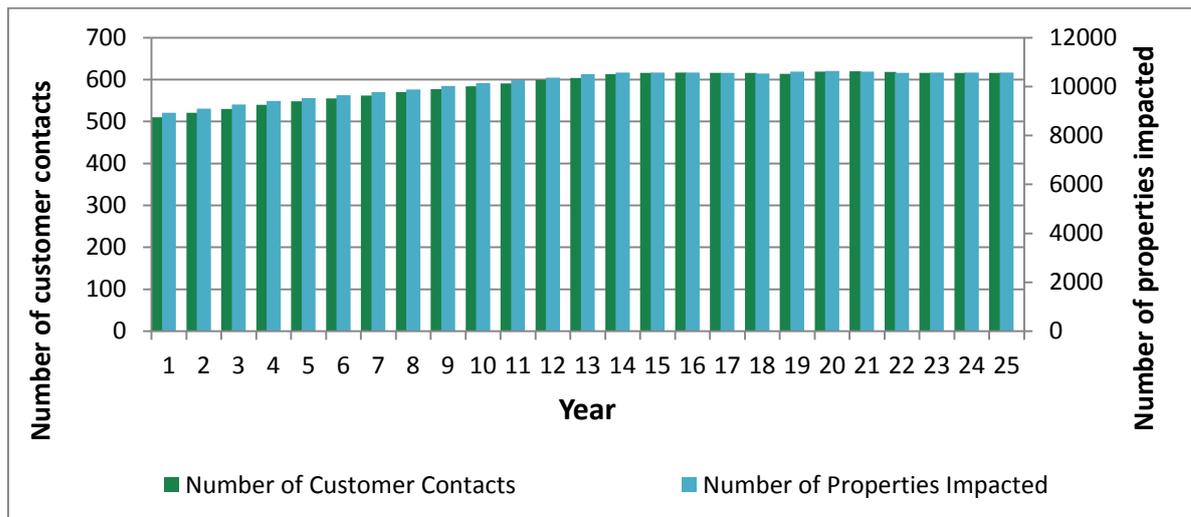


Chart 4: customer contacts and properties impacted will stabilise with 24 km per year mains replacement



We conclude from this scenario that to avoid storing-up future serviceability issues, protect customers’ long-term interests and deliver what customers tell us they want, future replacement rates should be significantly greater than they currently are.

However, these forecasts are based on predictive models using historic data and trends to predict the future. Forecasts can never be completely accurate and many factors affect the performance of the network, such as weather, management of operational interventions, pressure management.

While modelling indicates that we need to significantly increase replacement levels in order to prevent long-term deterioration, recent and current performance is not showing a discernable downward trend.

Proposed AMP6 mains replacement option – 13km per year

In view of the relatively slow rate of deterioration and the effect of the current economic climate on affordability, we do not believe it is necessary to significantly increase investment over AMP6. It is more appropriate to slowly increase the replacement rate over time, focusing on the poorest performing parts of the network and continuing to improve both our understanding of trends in performance and our ability to manage them through better targeting of investment.

We propose a small increase in activity during AMP6 from replacing 12km of mains a year in the current period, to replacing 13km per year; followed by a further increase in AMP7, subject to review at PR19.

We consider that our proposals represent a reasonable and realistic scenario. Our studies indicate that we need to increase investment in infrastructure over the longer term if we are to maintain a stable network performance. (This step up in activity has been deferred beyond AMP6 to minimise upward pressure on prices.)

For AMP5, in our business plan we increased our renewal rate to 0.43% of our network per year and our proposals for AMP6 represent a further increase of 0.05% per year, to a renewal rate of 0.48% per year from AMP6 onwards.

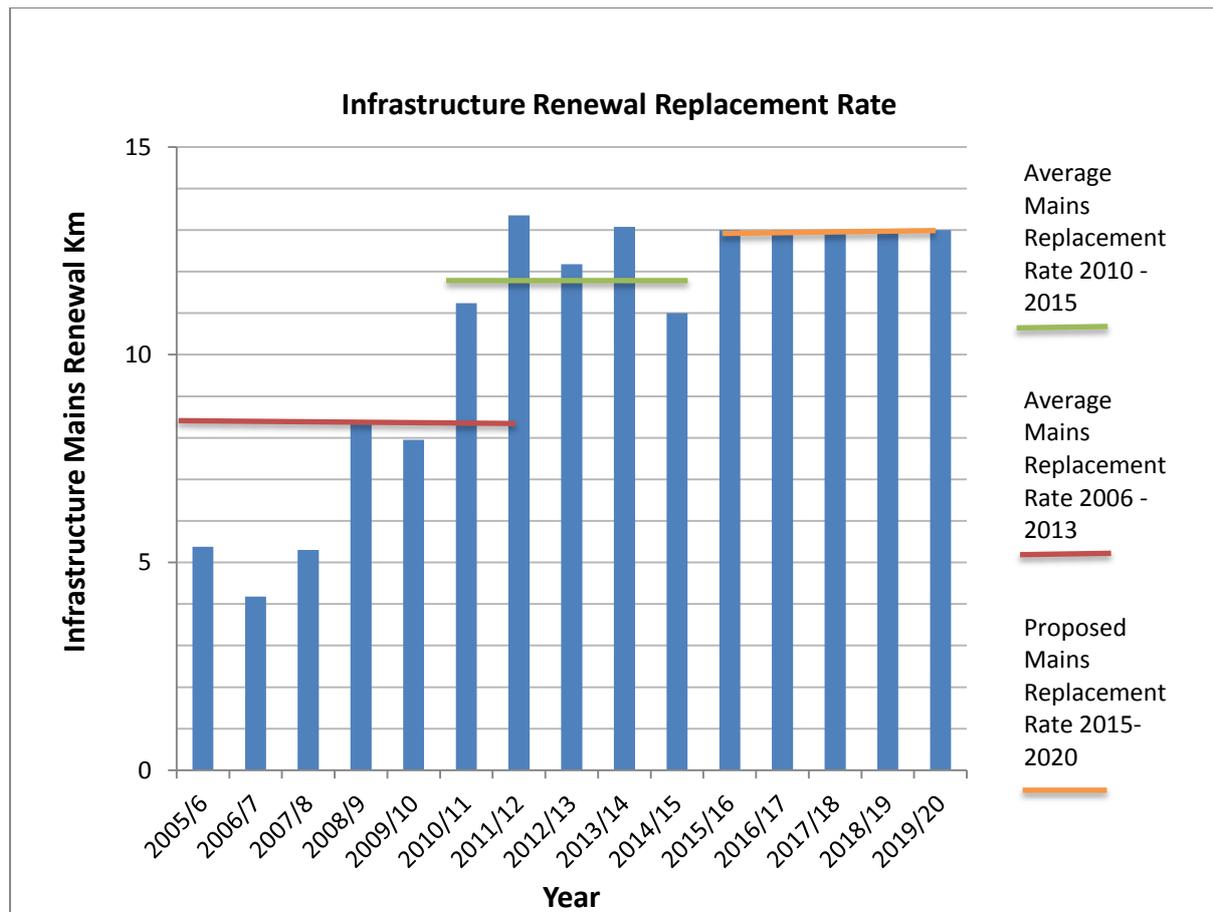
While estimates of future performance and levels of service suggest that this level of renewal may not be enough to maintain stable infrastructure performance and serviceability in the longer term, we consider that by effective targeting of mains renewal (further refining a cluster-based approach) and through effective operational activities we will be able to mitigate risk and ensure stable infrastructure serviceability. The result lends support to our conclusion that the analytical and predictive methods used have provided a realistic forward-looking proposal.

Results and implications of Ofwat’s cost assessment modelling

Ofwat has used historic data from 2005/6 – 2013/14 to populate its wholesale cost assessment models.

This data indicated a rear-view facing mains renewal level of 8.9km per annum, which is 25% below current replacement levels.

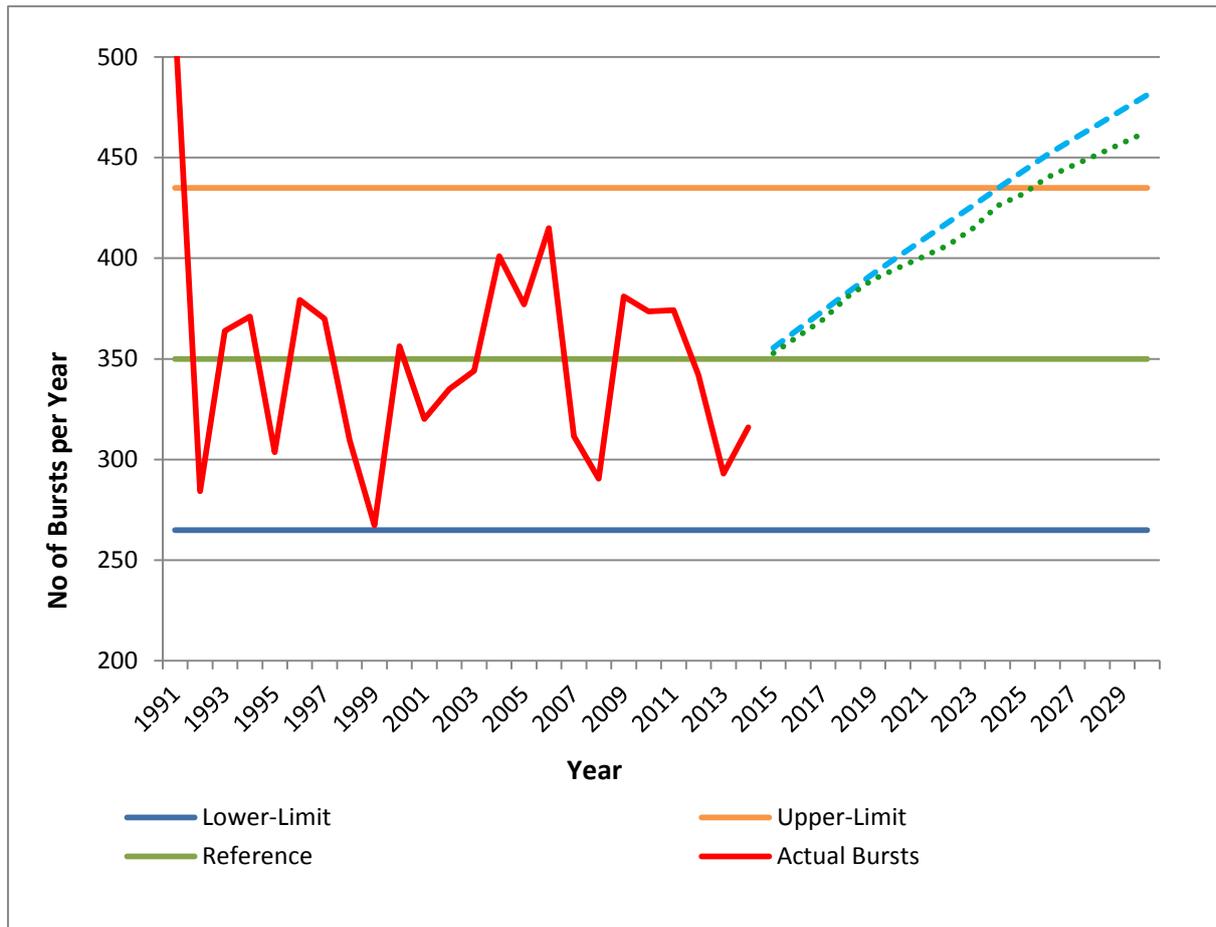
Ofwat’s cost assessment modelling indicates a renewal rate reduction of 25% Compared with Current



We have modelled Ofwat’s outcome scenario to illustrate the effect of a replacement rate of 9km per annum.

Our modelling indicates that bursts and customer contacts will rise more quickly over the medium term.

The upper serviceability limit will be reached earlier than by using the current proposed investment in 13 km of mains replacement per year



In view of the extensive modelling we have conducted, we argue that 9km replacement / year will result in:

- Longer-term serviceability issues,
- Increased customer inconvenience as a result of bursts, and will not be in keeping with customer requirements.

Outputs from the cost assessment models

- The costs proposed in our December 2013 submission included forward-facing costs for replacing 13km of mains per annum. This has been a contributory factor to the variance in our proposed costs and Ofwat’s cost assessment model. The estimated cost of the proposed Infrastructure Renewals expenditure is £15m over the 5 year period.

- We have not changed our mains replacement proposals since our December 2013 submission. The investment costs included in our June 2014 submission remain consistent and there are no changes to the totex submitted in respect of infrastructure maintenance.
- Our proposed replacement level of mains renewal does not in the short term (2015-2020) impact any other cost assessment model input item.
- We have run our proposal through Ofwat's cost assessment model. Using forward-looking data in Ofwat's econometric models increases the cost model threshold by £2.068m prior to an efficiency adjustment, and £1.944m at the upper quartile efficiency.
- The Ofwat base cost model for a typical company for AMP6 assumes 17% of totex is spent on infrastructure renewals. Ofwat's modelled base cost after efficiency is £1111.3m. This implies an allowance of £18.9m. Our proposed replacement cost is £15m, which is below the implied Ofwat allowance.
- Despite our proposed increase in investment the activity level we propose for AMP6 remains below what Ofwat would expect of a typical company for AMP6.

Why costs are efficient

There are a number of component drivers to the overall cost of renewing water mains, which include:

1. The mix of mains diameters and locations, whether rural/urban etc.
2. How well the renewal is targeted in terms of benefit per £ invested
3. Solutions chosen at scheme level e.g. trenchless v open cut
4. Unit rates for installing pipes
5. Any overlap benefit, for example with meter installation, capacity increases, or resilience improvements.

Items 1, 2 and 5 above are addressed through the process of scheme prioritisation which maximises benefit to customers in terms of reduction in service interruptions, pressure and water quality issues, impact of construction (e.g. traffic disruption) leakage; and improved resilience. This is applied at least annually when compiling the mains renewal programme.

We target renewals to replace only the poorest parts of the system. Over the last five years we have undertaken 92 specific schemes, the average length of which has been 587 metres, at an average individual cost of £0.074m. Half of the schemes involved replacing under 250 metres of pipe. Pipes run between nodes which in suburban or urban areas tend to be street junctions. We do not necessarily renew a whole street where a pipe is performing poorly for only a small part of its length between nodes.

For item 3, each proposed scheme is assessed on its own merits. More than 50% of all renewals are now installed using one of several available trenchless techniques used either to minimise the cost or to reduce disruption (to traffic or a community), or both. These techniques are not usually cost effective when laying mains in open fields. We aim to increase the proportion of urban mains renewal undertaken by trenchless methods.

For item 4, the installation of water mains is the subject of competitive tender and the costs included in the plan are based on actual costs where possible. We have applied an efficiency target equivalent to decreasing costs by 0.6% over AMP6.

We currently procure all of our materials through a western procurement hub with Wessex Water and Bristol water therefore gaining lower material prices through the larger buying power.

Our mains renewal and network maintenance is carried out by a partnered term contractor. This is competitively tendered. This process has just been retendered and has been awarded to a new contractor ensuring we get competitive rates for all mains renewals works carried out.

Satisfying Ofwat’s risk-based review criteria

<p>Is there compelling evidence of need for the programme?</p>	<p>Yes.</p> <p>Modelling shows that in the medium to long term, network stability will be compromised, bursts will increase and the numbers of customers and properties affected will also rise if we do not increase our level of mains replacement.</p> <p>This is contrary to customers’ priorities and the need for service stability. Increasing activity now will mitigate the storing-up of future serviceability issues and consequent bill impacts. A reduction in mains replacement to 9 km per year will bring forward these issues, and is insufficient to enable us to meet our licence obligations.</p>
<p>Is it justified by cost benefit analysis and strategic optioneering?</p>	<p>Our detailed network models will enable us to optioneer and target replacement to ensure the most efficient and effective investment. They will enable us to optimise renewal rates and therefore the cost and impact on customers.</p>

<p>Is there robust evidence on costs?</p>	<p>See section above titled 'Why costs are efficient'</p> <p>Our spend per km of main is relatively low – see chart on page 5. Our proposed AMP6 investment remains below the level Ofwat assumed an average company would invest in infrastructure renewals.</p>
<p>Will it protect customers' longer-term needs?</p>	<p>Yes. Our proposed level of mains replacement, and the way we manage our programme will allow us to maintain our service performance in the longer-term and protect customers' longer-term needs.</p>

Conclusion

Our research shows that customers value a stable and reliable water supply, both now and in the future. There are judgements to be made regarding the appropriate level of renewal activity based on data and information from a range of sources. Our infrastructure is performing well and is stable. However, modelling suggests that the current rate of mains replacement will not ensure that this current performance level is maintained over the long term and that replacement rates will need to rise.

Importantly, Ofwat's modelled *reduction* in replacement rates will accelerate the deterioration of our network over time

We have limited our proposed activity to a very small increase from the current level, which is already low compared with the industry.

Our proposed increase in replacement rates from 12km per year to 13km per year in AMP6 acknowledges cost of living pressures. The impact of this increase on average annual bills is about £1.50.

Although our replacement rates (current and proposed) are still a long way below what our models indicate they should be to achieve long-term network performance stability, the increase in investment proposed in AMP6 will help avoid larger increases at a future date thus protecting our customers' long-term interests.

4.3 Wholesale cost assessment – selective metering

Key points

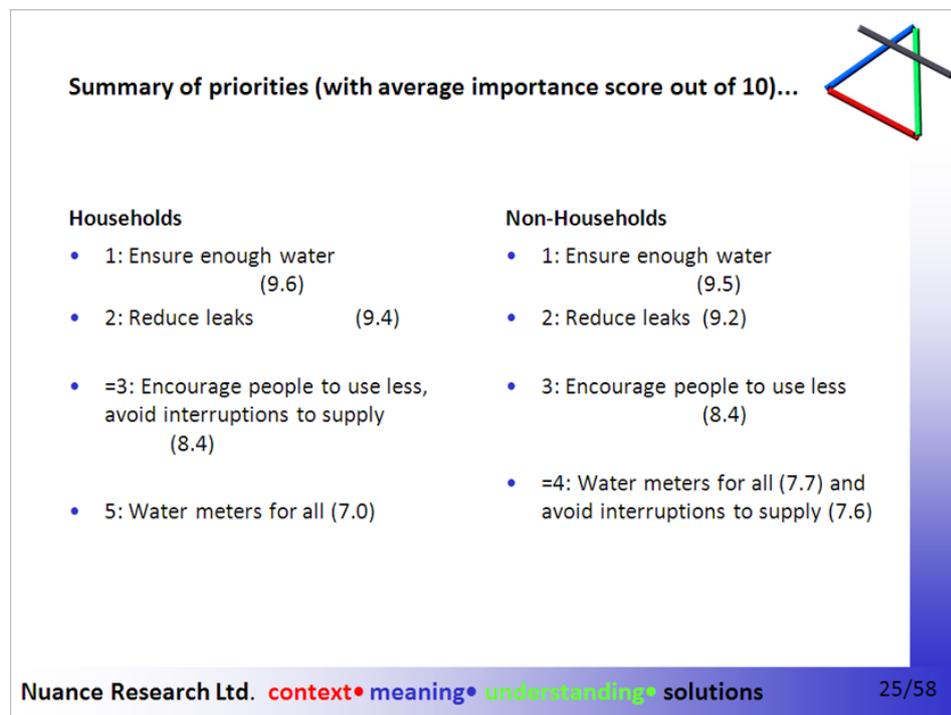
- Customers support our current policy of metering on demand and on change of occupier.
- They support metering on the basis of fairness, and as a means of reducing leakage, reducing water usage and protecting the environment.
- Distribution input has fallen by around 13% since we commenced metering on change of occupier in 2000. Over the same period, the number of properties supplied has increased by about 10%.
- Our metering programme supports our long-term Water Resources Management Plan, our outcome of ensuring a sustainable supply of water, our performance commitment in respect of leakage and our commitment to the long-term protection of the environment.
- Since our December 2013 submission, we have taken on board Ofwat's concerns in respect of costs not being justifiable as our area of supply is not water-stressed; and customers' views about choice. As a result, we have revised our future metering strategy
- We have abandoned our proposal of accelerated installation by zone and propose to continue our current policy of metering on demand and on change of occupier. This has reduced our proposed totex by £1.3m.
- We also propose to offer customers who are metered on change of occupier, the opportunity of reverting to a non-measured charge within 12 months.
- Our metering proposals are cost beneficial and installation will be targeted.

Introduction

Metering plays a key part in our long-term strategy for managing resources efficiently, promoting water efficiency and minimising environmental impact. Although we are currently in a reasonably comfortable position in respect of the supply demand balance, it is largely metering that has led to this position. Our position 10 years ago was very different, partly because of concerns at the time about the sustainability of some of our abstractions.

Customers regard metering as the fairest way to charge and it supports their three main priorities, namely: ensuring enough water for everyone; reducing leakage; and encouraging people to use less water. Our customers care about protecting the environment and the impact of our work on the environment.

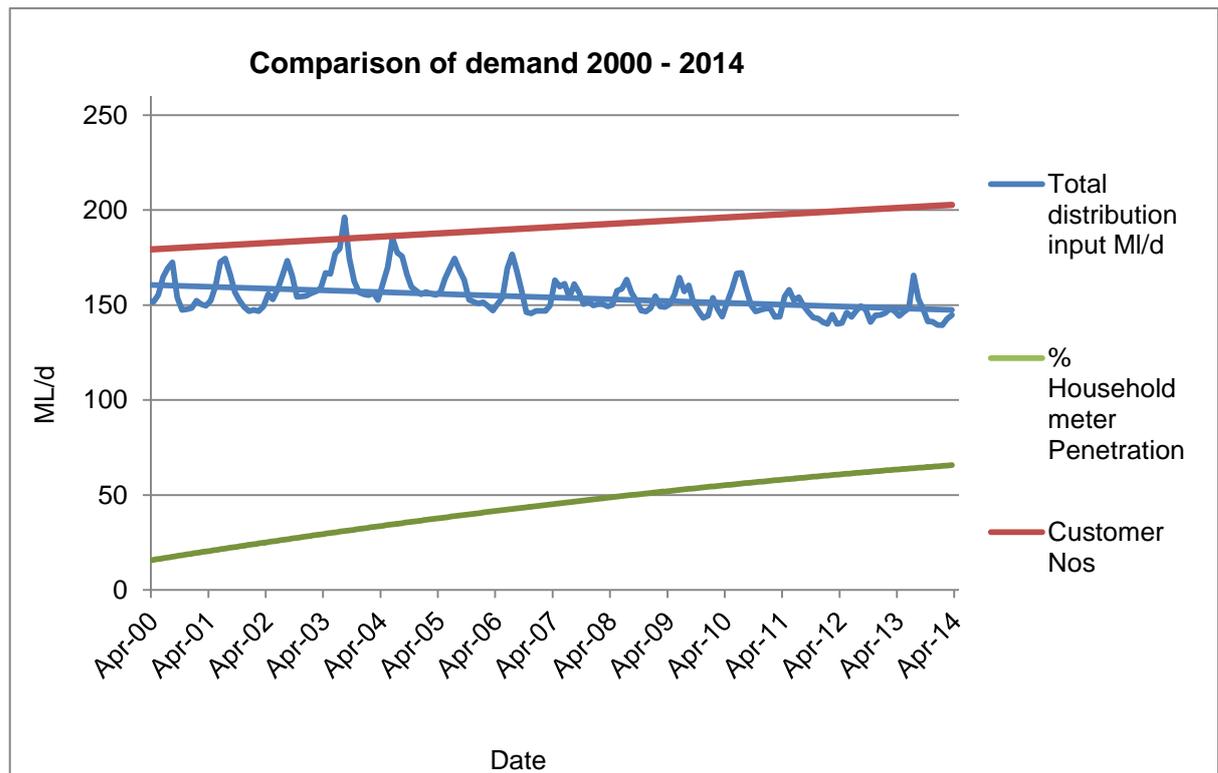
Customers' priorities in order of importance



Our metering policy on change of occupier commenced in 2000 and to date we have installed nearly 71,000 meters, raising overall household penetration levels to 67%, from 15% in 1999.

Since 2000, annual average distribution input has fallen by around 13%, while customer numbers have grown by about 10%. The effect on peak demand has been even greater. This has been a very good outcome and metering has driven much of this improvement, along with customers' growing awareness of the need to use water carefully (underpinned by extreme weather events in the last few years); and supply-side measures such as pressure management and leakage reduction.

This graph shows the trend of falling distribution input against increasing customer numbers and increasing household meter penetration



Customers' views on metering

Over the last two years we have engaged with 1,500 customers to understand their opinions and preferences. They have consistently told us that they want us to continue our metering programme.

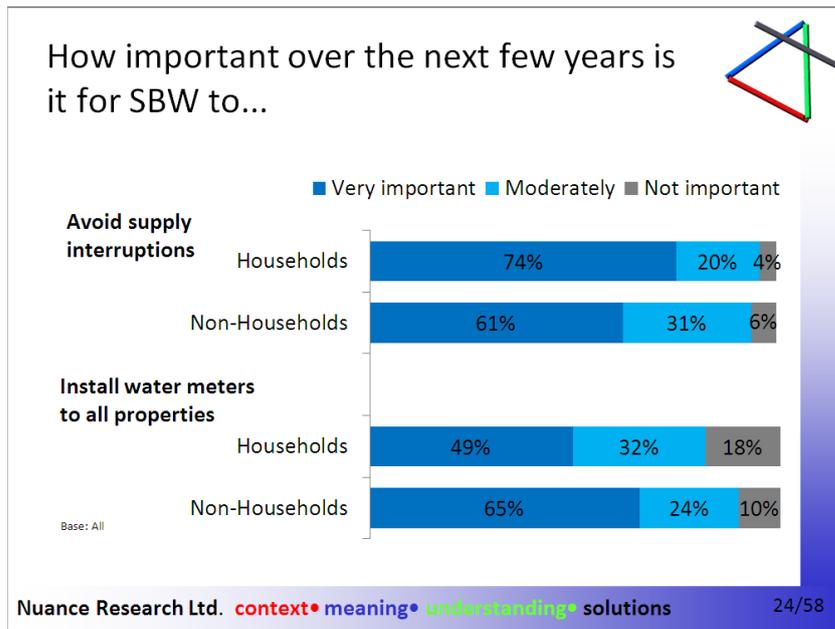
- Customers view metering as the fairest way to charge.¹
- Metering everyone is one of the top five priorities for both household and non-household customers as shown on the slide on the previous page.
- 81% of household and 89% of non-household customers think it is important for us to meter all customers over the next few years – see slide on the next page.
- Metered and unmetered households have the same perception of the benefits of metering.²

Further research has continued to reveal very similar customer preferences.³

¹ Qualitative research pages 10,11 and 28

² Quantitative research slide 31

³ The Ofwat Challenge to the SBW PR14 submission – Nuance June 2014



Metering also supports customers' three main priorities of: ⁴

- Ensuring there is enough water for all – by reducing per capita consumption and leaving more in the environment
- Reducing leakage – by making it easier to identify supply pipe and other customer-side leaks
- Encouraging less water use – by making people more aware of how their behaviour affects overall water usage

Section 3, 'Customer engagement and willingness to pay' discusses customers' preferences regarding metering.

Customers' views linked to AMP6 outcomes, performance measures and ODIs

We have mapped what customers have told us against our outcomes, performance measures and ODIs.⁵

Customers clearly support metering and continuing our metering programme will deliver the fairness they require, as well as supporting their three main priorities.

⁴ Quantitative research slide 25

⁵ Outcomes Rationale – research findings tab

Metering links to these main priorities and two outcomes in the following way:

Outcome	Set as a performance commitment of the outcome?	Supports other performance measures?	Protects long-term interests of customers and the environment?
Reliable water supply	Yes	Yes Reducing leakage Water use: Reduce average consumption	Yes Forms part of our strategy for resource management, contributing to leakage reduction Encouraging customers to use less water, leaving more in the natural environment
Environmentally sustainable operations	No	Yes Help support a healthy natural water environment	Yes Reducing carbon Ensuring that water remains in the environment for future generations

Our current policy

Our policy for the past 14 years has been to install meters free of charge, on request and on change of ownership. At our current installation rate, we forecast achieving near-full metering penetration (95% of household customers) around 2037.

We were the first company to install meters on change of occupier on a significant scale. The policy allows us to transition more quickly to a measured customer base, bringing benefits to customers in terms of perceptions of fairness, and further benefits in terms of demand management, long-term sustainability of supply and environmental protection.

However, as meter penetration has increased, the opportunity to install meters on change of occupier has diminished. In recent years, we have also seen a decline in requests for meters. This has occurred as meter penetration has increased and those with the largest savings potential have already opted for a meter. To compound this situation, 62% of customers cite inertia as a reason for not taking the opportunity of having a meter installed. More recently, we have had some success through raising awareness by targeting customers living in houses with higher rateable values with personalised mailings.

Why it is important to continue metering on change of occupier

- Our customers favour metering as the fairest way to pay, as well as an effective leakage reduction and demand management tool. It is appropriate to continue our existing metering policy to secure water resources well into the future.
- Any substantial reduction in metering will adversely affect leakage and demand levels, and bring forward the point when demand begins to increase again (due to new customers). It will potentially create a future need for investment in new treatment and network capacity. Continuation of the current metering policy to manage leakage and demand will be a more cost-effective option than capital solutions and offers other benefits in addition to the purely economic argument.
- Metering has played a vital role in our demand management strategy and has been instrumental in improving our security of supply. Metering has not only reduced overall demand but has significantly reduced peak summer demand to the extent that we are now capable of meeting summer peaks without difficulty – this has not always been the case.
- Metering remains marginally cost beneficial even though we do not forecast any significant supply-side capital investment in the near future.
- Relying purely on optional metering will not enable us to meet our long-term objective of metering all customers where feasible and appropriate. Although we have a proactive metering communications programme, this will not be enough to persuade customers to opt for a meter. In addition, 29% of customers cite cheaper bills as a potential reason for opting for a meter.⁶ Therefore, while it is very good news for customers' bills, the 2014/15 price freeze and AMP6 price reduction have created a potential disincentive for customers to opt for a meter.

Amendment to our December 2013 proposal

In response to what customers told us, our December 2013 submission proposed extending our current policy and accelerating our metering programme. In addition to a continuation of metering on request and on change of occupier, we had intended to install meters on a zonal basis for operational efficiency, and to provide previously unmetered customers with actual consumption and bill data to inform their decision on whether to opt for measured charges.

Customer choice and Ofwat's review

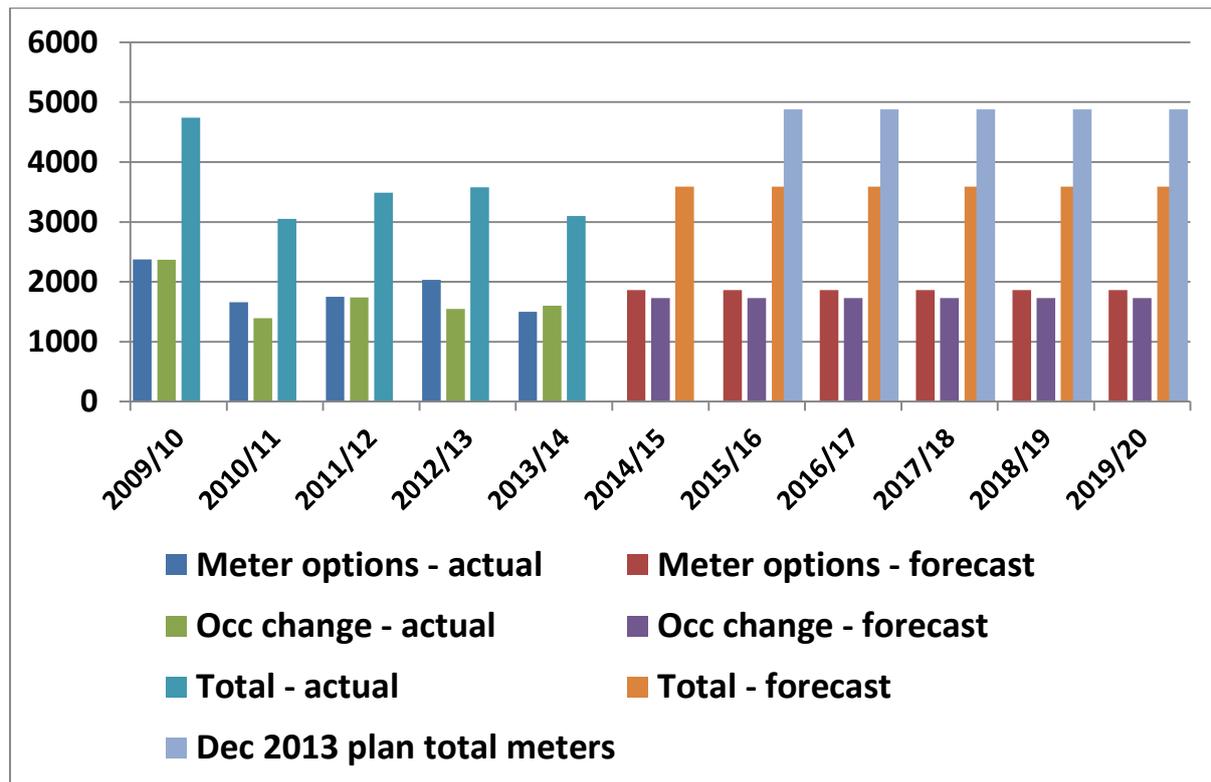
Following Ofwat's risk-based review, and after further discussion with customers, we have revised our strategy and now propose to continue our current policy of metering on request and on change of occupier only. In Ofwat's view, our favourable demand supply position does not justify an accelerated metering programme. Going back to our customers, we have found that while they continue to support our metering programme, they value choice.

⁶ Quantitative research slide 31

Therefore, taking these views on board, we have abandoned our additional proposal to meter by zone, and propose to offer customers who are metered on change of occupier, the option of reverting to an unmeasured charge after 12 months.

Based on our most recent five years' installation data, we now assume that we will install 17,950 meters during AMP6 rather than the 24,400 we had assumed in our December 2013 submission. In other words, we will install meters in AMP6 at the same rate as in AMP5.

We have revised our metering forecast based on installation numbers over the past five years



This has reduced capital investment from the £5.021m included in our December 2013 submission to the £3.758m we now propose – a reduction of £1.263m. This change will reduce the impact on customers' bills during AMP6 by £1.02 and will not impact the overall outcome of our water resources management planning.

Under this supplementary submission we estimate that by 2020, household meter penetration across our area of supply will be 76%; an increase of 9% from the current level.

Cost benefit of the proposed policy

Cost Benefit Analysis (CBA) methodology used

We used UKWIR's CBA model⁷ to conduct our analyses.

This model was jointly commissioned by Ofwat and the Environment Agency (EA) and was designed to provide a framework for Water Smart Metering cost-benefit analysis, particularly in respect of the incremental costs and benefits associated with alternative metering scenarios.

To ensure that all potential options were fully explored, we analysed the following scenarios:

- Do nothing – ie no further metering (baseline option)
- Continue the existing policy of metering on request and on change of occupier
- Undertake compulsory metering using dumb meters
- Undertake a programme of accelerated metering using dumb metering technology and allowing the customer to choose whether to be charged on a measured or rateable value basis
- The use of automatic meter reading technology (AMR) going forward

CBA was conducted over a 40-year period, following UKWIR's methodology. Due to significant uncertainty surrounding the benefits of the methodology's third and final stage, the analysis did not include any environmental benefits associated with reduced abstraction from the natural environment, sewerage savings or any potential energy savings associated with the consumer. The inclusion of these benefits would actually strengthen a positive CBA.

CBA results

All options using dumb meter technology were cost beneficial when compared with the 'do nothing' option.

The most cost beneficial option is compulsory metering of all households. However, as the EA has reclassified⁸ us as being non-water stressed, it is not a feasible option.

The cost benefit of automatic meter reading (AMR) is significantly negative due to the high capital installation cost and so has been discarded. Should the future cost of AMR reduce, we will review our strategy in relation to its use.

When starting to consider future metering strategy, and so conducting options appraisal, willingness to pay research with customers had yet to be conducted, and so was not included in the cost benefit analysis. However, as all options using dumb meters are cost beneficial when compared to the 'do nothing' option, the inclusion of formal customer willingness to pay was not needed to achieve a cost beneficial outcome.

⁷ CUSP report – Metering strategy development

⁸ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/244333/water-stressed-classification-2013.pdf

The cost of our revised policy

As discussed above we have reduced our proposed capital investment from £5.021m in the December submission to £3.758m; a reduction in totex of £1.263m.

Wider stakeholders' views

Our policy is in line with an aim to help achieve the Government's 'Future Water' (2008) aspiration of reducing water demand to 130 litres per person per day by 2030,⁹ and its more recent paper 'Water for Life' (2011)¹⁰. Ofwat acknowledged this target in its PN note 36/08. Without a continuation of our metering programme this target is unlikely to be achieved.

Metering on change of occupier is supported by the EA as an appropriate tool for managing demand and minimising impact on the environment and water resources. The EA supports our proposed AMP6 policy¹¹. Our policy is also a key component of the final planning forecast in our 2014 Water Resources Management Plan.

Natural England has also given its support to our proposed AMP6 policy¹².

The Consumer Council for Water (CCWater) supports our policy and the safeguards we will have in place to protect vulnerable customers – see section 2 'Further engagement with the customer challenge group'.

Results and implications of Ofwat's cost assessment modelling

The costs proposed in our December 2013 submission included forward-facing costs for installing 24,400 meters, which included metering on request; on change of occupier; and accelerated metering by zone.

In contrast, because we do not have, or forecast, a supply demand balance issue, Ofwat's cost assessment model assumed an 'optional metering only' scenario and included funding for only 10,764 meters.

These differing assumptions account for part of the funding gap in Ofwat's cost assessment.

We have revised our metering proposals down and now propose to install 17,950 meters during AMP6. This figure remains a mix of optional and occupier change installations.

The inclusion of investment in metering on change of occupier during AMP6 increases the forecast costs using Ofwat's model by £1.826m* at the upper quartile efficiency.

We discuss the overall impact of the variables within Ofwat's cost assessment modelling in section 4 'Wholesale cost assessment – cost modelling overview'.

*This figure includes all cost model variables impacted by meter numbers

⁹ <http://archive.defra.gov.uk/environment/quality/water/strategy/pdf/future-water.pdf> supported by Ofwat PN note 36/08 http://www.ofwat.gov.uk/mediacentre/pressnotices2008/prs_pn3608_wateffsav

¹⁰ https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/228861/8230.pdf

¹¹ PR14 SBW CEPF Report to Ofwat Appendix C

¹² PR14 SBW CEPF Report to Ofwat Appendix D

Satisfying Ofwat's risk-based review criteria

<p>Is there compelling evidence of need for the programme?</p>	<p>The need for the programme is driven by three key factors :</p> <ol style="list-style-type: none"> 1. Strong customer support for metering as the fair and just method of payment; 2. The careful management of water resources through continuation of a consistent and successful pro-metering strategy; and 3. More recent (May 2014) deliberative discussion with a small number of customers indicated that they would not want a small bill decrease which would arise from reducing metering activity.
<p>Is it justified by cost benefit analysis and strategic optioneering?</p>	<p>The analysis presented here confirms that metering is cost beneficial. This analysis has been conducted using the UKWIR CBA methodology.</p> <p>Our revised AMP6 strategy is a cost beneficial option that will deliver benefits while at the same time having a lower bill impact for customers than our original proposal.</p>
<p>Is there robust evidence on costs?</p>	<p>We carried out a metering CBA using the UKWIR CBA methodology for smart metering. This suggested that over the long term, metering is cost beneficial against a 'do nothing' option. The cost used in our forecasts is our actual average cost of around £209 per meter to install meters on an ad-hoc basis.</p>
<p>Will it protect customers' longer-term needs?</p>	<p>Metering is proven to reduce use, which protects current and future customers and the environment. In the longer term, the metering programme will continue to underpin our promotion of the careful use of water and the corresponding reduction in per capita consumption - thereby ensuring that water resources will remain plentiful for future generations.</p>

Conclusion

Metering is an effective tool for managing demand and reducing environmental impact. It will also help us to reduce the carbon emissions impact of our operations.

The majority of customers support metering and consider it a priority for us to ultimately meter all properties as it supports their three main priorities.

Our proposed AMP6 policy is supported by customers and wider stakeholders and will contribute to ensuring long-term protection for the environment and customers' supplies. It is also cost-beneficial against a 'do nothing' option over the long term.

Discontinuing metering on change of occupier, as suggested by Ofwat's cost assessment modelling, will send inconsistent messages to customers regarding the value of water and the role metering plays in demand reduction, and long-term protection of the environment and future customers' water supplies. As well as running contrary to the consistent pro-metering messages we have been giving since 2000, it would also undermine our long-term strategy and prevent us achieving our objective of metering all customers and reducing per capita consumption to 130 litres/person/day by 2030.

Our revised metering proposal with improved customer choice balances Ofwat's concerns and our customers' priorities, and an additional totex allowance of £1.826m should be made in this respect.

4.4 Wholesale cost assessment – new activities

Introduction

This section details new activities not included in table W11 in our December 2013 submission and therefore not reflected in Ofwat's cost assessment modelling.

Activity 1: National Environment Programme and catchment management

Key points:

- New activities are new or additional activities brought about by statutory obligations, customer requirements and longer-term interests of customers.
- Catchment management and National Environment Programme activities are statutory obligations that are new to us and have not been reflected in any historic modelling.
- None of the activities detailed in this section was included in wholesale table W11.

National Environment Programme (NEP) requirements

Article 7.3 of the Water Framework Directive (WFD) has an objective to avoid deterioration in the water quality of Drinking Water Protected Areas so as to avoid undue levels of treatment required in the production of drinking water.

The NEP is a regulatory obligation placed on water companies by the Environment Agency (EA) requiring them to undertake programmes of work to improve water quality or better understand sustainability issues.

How the NEP affects us

The EA reviewed and substantiated raw water quality data we supplied and concluded that two water sources in our area of supply show a deterioration of water quality sufficient to meet the requirements for inclusion in the NEP. These areas are:

- The Lower River Stour, where metaldehyde levels are unacceptable, and
- Woodgreen, where the incidence of cryptosporidium and turbidity in groundwater is high.

To achieve the objectives of the NEP, and avoid capital solutions such as new treatment processes, catchment management at each location is required. Catchment management and NEP activities are statutory obligations that are new to us and have not been reflected in any historic modelling. The following sections discuss each of the two areas in turn.

Metaldehyde in the Lower River Stour

The River Stour is one of two surface river sources that feed our 100 MI/d Alderney WTW.

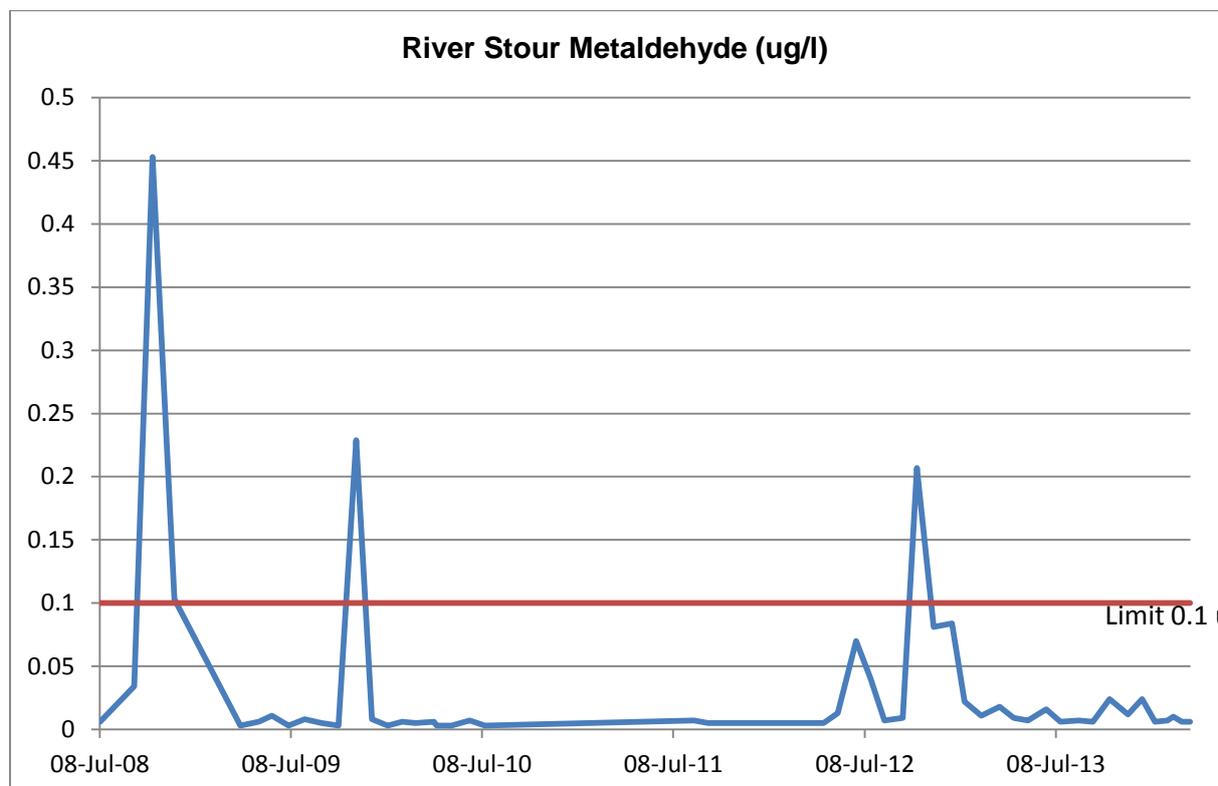
Our raw water monitoring data shows that water quality is deteriorating and that the River Stour Drinking Water Protected Area (DrWPA) is at risk of failing the requirements of Article 7.3 of the WFD for metaldehyde. Without the appropriate catchment management we risk failing the drinking water standard for individual pesticides which could result in enforcement action from the Drinking Water Inspectorate (DWI) and potentially significant investment in water treatment.

Metaldehyde is a national issue and currently there is no proven form of large-scale economically viable water treatment which will adequately remove it from raw water.

River Stour water quality testing results have, in the past, shown metaldehyde at levels between two and four times the regulatory maximum in drinking water.

Over the past 12 months, there has been a continual detection. Sampling on a monthly basis may miss significant additional spikes above the limit and therefore understate actual levels in the river.

The chart below shows metaldehyde being detected continually, with spikes in excess of the permitted limit for drinking water



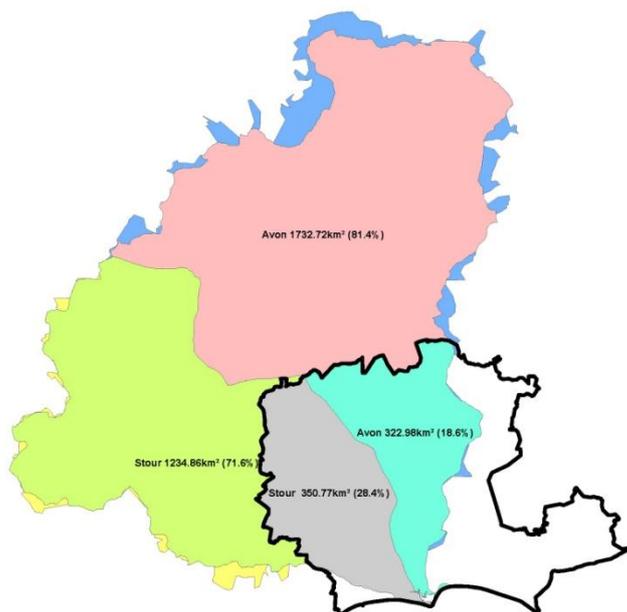
Sources of metaldehyde and pathways of pollution

Metaldehyde in the Lower River Stour is understood to come from upstream farming activities, with a small domestic contribution. Metaldehyde in pellet form is used to control slugs in oilseed rape and cereals, and slugs in gardens.

Our scope for influence on catchment management in the Lower River Stour

Metaldehyde levels in the river should be below the Drinking Water Directive standard of 0.1µg/l, which is the objective of catchment management activity. However, most of the River Stour catchment lies outside our area of supply.

Diagram below shows the extent of our catchment area – the black line denotes our area of supply



Options appraisal

There are few options open to us as at this time there is no economically viable proven metaldehyde removal treatment. Currently pesticide removal using GAC adsorption costs us upwards of £3m per AMP cycle in operating costs alone for carbon regeneration. Our current process for removing pesticides was designed in the 1990s to remove atrazine. It would not remove metaldehyde. The current research into metaldehyde removal suggests that a technologically complex (and potentially expensive) treatment process will be needed. Therefore there is no reason to suggest that any specific removal process for metaldehyde would cost any less than our current GAC based system.

This makes a catchment management approach more attractive economically. As we have no internal expertise in catchment management, we would have to recruit an expert, appoint consultants or work in partnership with other stakeholders, all of which involve similar costs.

Preferred option

As shown in the diagram above, our catchment area is significantly larger than our area of supply. Working partnerships with other lead agencies such as the EA and Natural England (NE) are therefore essential for the delivery of an effective and efficient solution for improving raw water quality in the Lower Stour River.

We have discussed the Catchment Sensitive Farming (CSF) solution with both NE and EA. To date there has been little CSF interaction on the Stour catchment. We have agreed that based on very successful experiences elsewhere (particularly the South West of England), the presence of a CSF officer for the Stour catchment would be an effective measure, potentially having the most significant impact on river water quality.

As a result, we have committed to secure funding for a CSF officer for the duration of AMP6. Work would incorporate monitoring investigations on metaldehyde levels in the upper catchment, as well as crop use. This will help us to better understand the nature and scope of the problem.

A further advantage of a CSF officer is that they allocate and administer the Grant Aid Scheme amongst others, under which farmers can apply for funding for capital schemes for farm improvements. CSFs can also commission independent consultants to carry out farm audits with recommendations for improvements in for example, soil management.

This measure would also provide wider water quality improvements that would add value, for example, in respect of nutrient loading as the River Stour also fails the limit for phosphate under the WFD. High nutrient loading promotes the development of algal blooms in our Longham bankside storage, which in turn gives rise to serious operational difficulties. In the past, the algal blooms have impacted treatment filtration capacity potentially reducing the ability to meet demand. We incurred significant additional cost in 2013/14 in suspending abstraction from the Stour to control the high nutrient content going into the bankside storage.

This arrangement is seen by NE as an innovative model, the first of its type in the UK and they will be following it closely with a view to considering its application in other areas.

How we will work with other agencies to achieve the objective of Article 7.3

Measures for addressing the deterioration in water quality of the Lower River Stour are outlined in the EA River Stour tabled below. The full action plan is included as part of this supplementary submission¹.

¹ Environment Agency paper ActionPlan_Stour_Metaldehyde_Dec2012_agreed

PROTECT EA / Sembcorp Bournemouth Water, December 2012

Measure	Responsibility for measure	Progress with delivery of measure
When undertaking farm visits in the Lower River Stour the Environment Agency will raise awareness of the metaldehyde issue, where appropriate, and will promote the recommendations of the MSG. ²	Environment Agency	EA will undertake this action as the opportunity arises
The Environment Agency will raise awareness of the metaldehyde issue in the River Stour at the horticultural nursery close to the abstraction point.	Environment Agency	
Raise awareness of metaldehyde issue with agronomists and promote best practice.	Catchment Sensitive Farming (CSF)	
Send metaldehyde leaflet to farmers to raise awareness of the metaldehyde issue and promote best practice.	Catchment Sensitive Farming (CSF)	
Implement effective pollution incident reporting and response procedure.	Environment Agency / Sembcorp Bournemouth Water	Implement as required
Seek to have articles on metaldehyde published in agricultural trade press / local newspapers to raise awareness of the issue and the need for best practice.	Environment Agency	Articles published Autumn 2010, 2011 and 2012.
EA to raise awareness of the metaldehyde issue and promote best practice with Farm Advisors, Farm Consultants and Agronomists.	Environment Agency	E-mail explaining the metaldehyde issue sent to Farm Advisors, Farm Consultants and Agronomists across the South West Region in Autumn 2012.
Location of DrWPA and list of substances putting DrWPA at risk to be put on the "What's in your backyard" section of the EA's external website.	Environment Agency	DrWPA and initial draft SgZ put on website June 2012. Website to be updated to include all the SgZ ³ water bodies shown in Fig 1 of the full plan.
Consider promoting a Catchment Management scheme in PR14.	Sembcorp Bournemouth	

⁴ 'EA to Sembcorp letter of support for NEP' and NE letter of support

Review of the effectiveness of measures

The effectiveness of the measures on water quality will be reviewed by the EA and NE annually. The purpose of the review is to monitor progress against targets and assess impact. However, it is accepted that much of the improved performance from catchment management and farm intervention will only be realised in the latter part of the six-year programme or even later.

The EA will monitor and measure performance in the WFD Safeguard Zone against the overall Article 7.3 action plan. This will help them to identify the additional measures that may be needed to meet Article 7.3 over the next River Basin Planning cycle and beyond.

As part of the planning for the second cycle (2015-21), the EA will seek ongoing engagement with all relevant stakeholders to discuss options in respect of these additional measures and mechanisms.

Funding sought

The cost associated with this initiative is that of a full-time CSF officer who will be under the day-to-day management of the EA. This amounts to £0.050m per annum; a modest cost but one which should bring significant benefits in terms of risk management.

There is little information available regarding the likely cost of treating the water to remove metaldehyde, mainly because no realistic and economically viable solutions have been developed. Membrane treatment would remove metaldehyde, but the construction and operating costs would amount to tens of millions over an AMP cycle, just for our Alderney WTW.

Summary

The River Stour has been designated a WFD Safeguard Zone because of metaldehyde levels.

The water treatment process at Alderney WTW is not capable of removing metaldehyde.

Metaldehyde levels have been confidently attributed to ongoing anthropogenic activity in the catchment.

We are required to undertake catchment management initiatives as an obligation under the NEP to reduce metaldehyde levels.

Meeting the requirements of the NEP have been discussed in detail with the EA and NE. The appointment of a CSF officer has the support of the lead agencies in relation to catchment management, i.e. NE and EA⁴.

⁴ 'EA to Sembcorp letter of support for NEP' and NE letter of support

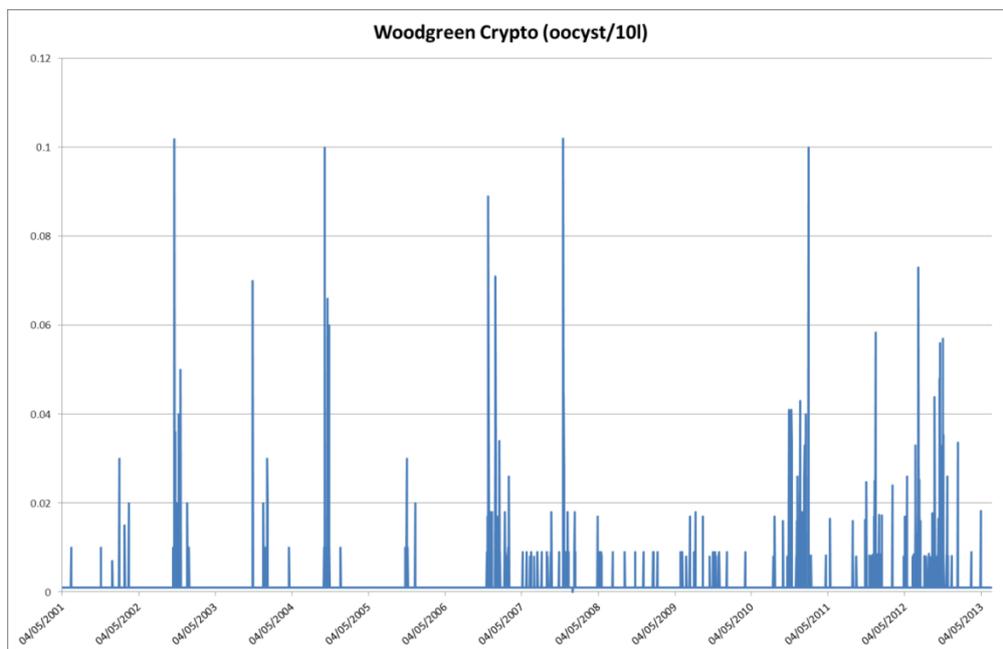
This approach is an innovative solution that potentially can deliver the greatest impact at best cost based on previous experience of NE in other catchment areas. This option fits with the strategic objectives of both the EA and NE in that it is recognised that the working partnership approach can deliver cost-effective solutions at the same time delivering mutual objectives.

Both lead agencies have provided strong letters of support confirming our preferred option.

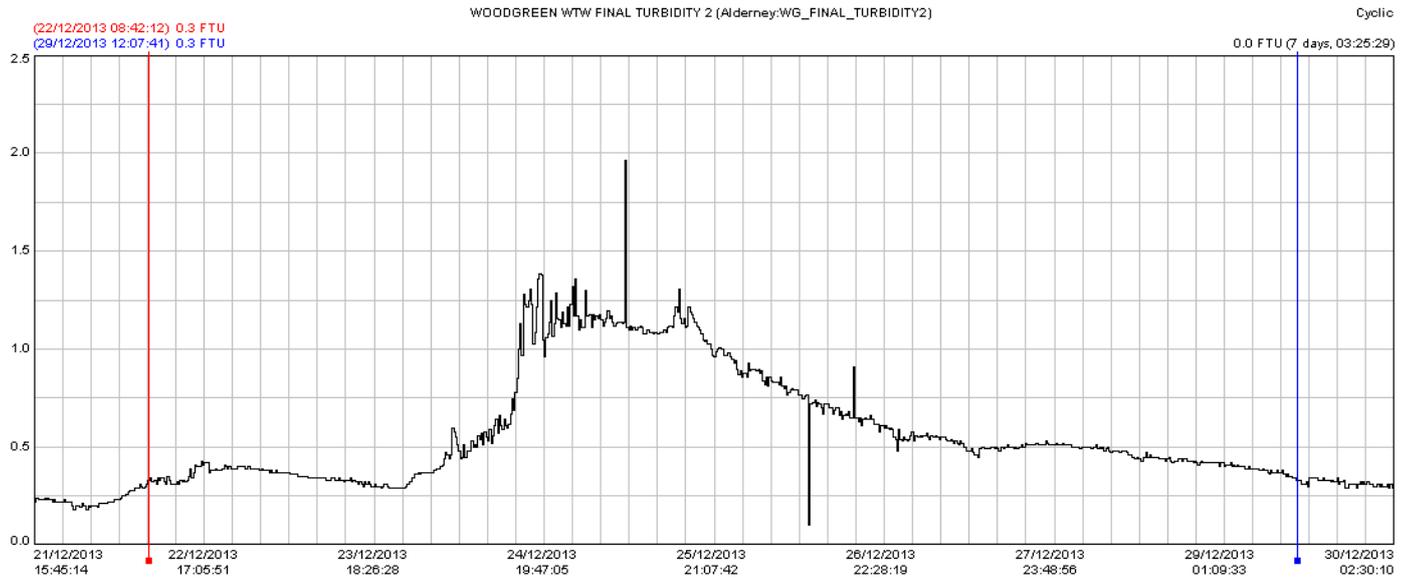
Cryptosporidium and turbidity at Woodgreen

Woodgreen WTW is fed from a ground water source comprising five borehole sites. The boreholes were designed to draw water from the chalk aquifer. However, analysis of historic performance does indicate that the quality of the raw water deteriorates after rainfall, possibly indicating that there is short circuiting of water from the surface towards the boreholes. The site is also near a river and it is possible that at times of high river water levels, river water is finding its way into the chalk aquifer. Recent trends in water quality have shown an increasing problem with the detection of cryptosporidium oocysts; and increasing turbidity. This scale and frequency of raw water challenge present a higher risk profile.

This graph shows a rising trend in cryptosporidium oocyst detection



This graph shows a rising trend in turbidity linked to adverse weather conditions



In December 2013, turbidity rose to a level that could not be controlled to meet the statutory water quality standard. This was a 'reportable event' to the Drinking Water Inspectorate (DWI).

Following the event, the DWI recommended, 'the Company investigates and addresses the route of high turbidity water into the borehole(s) to ensure that Regulation 26 is complied with'.⁵

At present, the deterioration in raw water quality is unexplained, although we had identified this as a problem needing detailed investigation during AMP5 and had discussed the need with DWI during PR14 preparatory work to identify the source.

A significant amount of work is required to understand the performance of each borehole; the geology in the area around the boreholes; and the catchment. In addition, detailed typing work is needed to identify the origin of the cryptosporidium oocysts.

Should the decline in raw water quality continue, the source may become untreatable by Woodgreen WTW's current facilities. As treatment processes become less effective, a threat to water safety is feasible.

The standard of 1.0 NTU for turbidity at treatment works is mandatory. Failure to meet this standard is a contravention of Regulation 26 of the Water Supply (Water Quality) Regulations requiring water to be adequately prepared for disinfection.

Ultra-violet disinfection was added to the treatment process in 2011, specifically to inactivate cryptosporidium oocysts. It is an accepted process for doing so, provided the water being disinfected has a low turbidity. However, we are not satisfied that the performance of the disinfection will not at some time in the future be compromised by a large 'challenge' from very poor raw water quality.

⁵ DWI letter - Woodgreen

We need to understand the paths of pollution into the source so that if necessary and effective, we can take steps in the future to remove the source of the pollution or prevent it reaching the water source.

Our scope for influencing cryptosporidium and turbidity at Woodgreen

DWI expect all water companies to fully understand risks/hazards associated with raw water quality, and ensure appropriate treatment is in place. The geology of the catchment is complex. It is not known if the contamination results from point or diffuse sources. It may be the case that it is a combination of both. A detailed investigation should highlight the causes of the deterioration. This information could then be used to quantify the degree of ongoing risk, and identify the measures that could be taken to provide adequate mitigation.

Options appraisal

To understand the factors causing the decline, a major study is required of the catchment and the performance of each borehole in relation to the contributory factor. Importantly, the origin and routes of suspended matter and cryptosporidium oocysts into the boreholes needs to be determined in detail. In the case of cryptosporidium it may then prove possible to influence the use of land to reduce or remove any load on the treatment works.

Potential alternative solutions include:

1. Moving (reconstruction of the source, or at least the boreholes), to a location where the geology is much less likely to lead to short circuiting and ingress of surface water.
2. Further effective barriers to turbidity and cryptosporidium oocysts within the treatment process. It is likely that this would include membrane treatment. However, DWI would not accept this as a satisfactory solution at this stage because the hazard is not understood.
3. In depth investigation of the catchment and borehole performance over a range of conditions

The cost for the options is estimated as follows:

1. Moving the boreholes has less chance of success as they would still need to be drilled in to the same aquifer and pumped to the same treatment works, with no guarantee that the current licence quantities could be met. The work would require an extensive geotechnical and hydrological survey replicating much of the work required to investigate the local catchment. It is estimated that the cost of the environmental impact assessment, design and drilling of 5 new boreholes, along with the associated infrastructure, will be in excess of £1.5m with no guarantee of success.
2. A 17Ml/d membrane treatment plant is estimated to cost around £4m to construct and £0.200m a year to operate. This is a proven technology, but has a relatively short life cycle with the membranes requiring frequent cleaning with chemicals and eventual replacement.

3. It is estimated that the catchment survey including cryptosporidium typing, potential solution identification and minor remedial works will cost around £0.350m. There is a potential risk that this will not identify the source or sources and therefore may not provide the solution.

We would employ external services to advise us on the best method of carrying out the investigation.

Preferred option

There are significant costs associated with the provision of a membrane, as well as a significant environmental impact as it is chemically and energy intensive although the risks are reduced as it is a proven technology.

The options of moving the boreholes and carrying out catchment studies both have significant risk in that they may not solve the issues we are experiencing.

The catchment and borehole investigation is the cheaper alternative and the preferred option.

There is a significant risk that the current treatment processes at Woodgreen will not meet the regulatory requirements for drinking water. We have already failed in this respect, albeit during a period in December 2013 when some of the worst weather ever recorded was experienced.

A number of consultants will be asked to present a methodology to arrive at the required outputs.

The costs have been built up as follows:

Consultant/Project management – the current rate for a consultant of the required calibre is £90/hr. The duration of such a project we would anticipate to be around 18 months. Total cost £250k.

Water analysis – this will include analysis of traditional parameters to monitor changes in water quality. There will also be a significant component made up of cryptosporidium geno-typing. This is a fundamental part of the investigation in that the results will differentiate between human and animal derived oocysts. The ratio of the two may change with different weather conditions giving important clues as to their origin. Crypto geno-typing costs £300 per sample and to provide a meaningful survey, we would require in the order of 100 samples. The other analytic work will include cryptosporidium analysis itself at £50 per sample, as well as background microbiological and turbidity monitoring. Total cost £50k.

Borehole survey and tracer work – each borehole will require down hole surveys. This is involved work and can only be carried out by a specialist contractor. Previous costings based on similar work have been in the order of £5k per borehole and there are five boreholes. However, specialist tracer work will be required to look at water flows into the boreholes. We would see this costing in the same order as the original survey. Total cost £50k. Total overall cost £350k.

How we will work with other agencies

The catchment element of this work may also be of benefit to the EA.

Once the plan has been scoped, the EA will be consulted on the approach and invited to contribute to the project. Any EA contribution will be discounted from the project cost and returned to customers – see section 8 ‘Risk and Reward – outperformance’.

Review of the effectiveness of measures

The effectiveness of the project will be assessed in two parts:

- 1) Identification of the causes of the deterioration
- 2) Identification and delivery of mitigation

The length of time required for catchment mitigation measures to have any demonstrable effect could be significant. However, it is anticipated that some improvement could be seen towards the end of the AMP6 period.

Summary

The raw water quality at the Woodgreen WTW is showing significant deterioration.

We are required to undertake investigation and catchment management initiatives under the obligation of the NEP to mitigate the decline.

The raw water deterioration could limit the ability of the Woodgreen WTW to meet regulatory standards and threaten drinking water safety.

The use of specialist consultants is the most cost-effective means of delivering the required output.

Other areas featuring in the EA’s NEP classification

Two other areas feature in the EA’s NEP classification of the company, neither of which is an issue to us. These are:

- ‘All company sites’ invasive plants and fish, and
- Ampress flow measurement.

Invasive plants and fish

We are conscious of the need to manage and control certain invasive species of plants and fish, especially where they impact on sites of environmental importance. As a significant landowner, we will survey all of our sites, continuing work we have undertaken in the past, record and report on invasive species, and work with the EA and NE to minimise or where practicable, eradicate such species. We will provide data to these partners.

An allowance of £0.195m is included in our business plan costs for addressing this issue. This includes a desk top study and survey of all sites, monitoring of sites, developing action plans where invasive species occur and potentially undertaking minor works where appropriate, to remove alien invasive species.

We have not appraised any alternative options in advance for this in view of the relatively low cost.

How we will work with other agencies

This work may also be of benefit to the EA. The EA will be consulted on the approach and invited to contribute to the project. Any EA contribution will be discounted from the project cost and returned to customers.

Review of the effectiveness of measures

The effectiveness will be measured by the completion of reports for all our sites within the AMP6 period.

Summary

We are required to undertake investigation into invasive plants and fish for all our sites under the obligation of the NEP.

The use of specialist consultants is the most cost-effective means of delivering the required output.

Amprass flow measurement

This project is of low significance and we anticipate completing it early in AMP6.

It is assumed that the cost of this would be absorbed as part of our ongoing capital maintenance

The cost of delivering the National Environment Programme

We have estimated the cost of delivering NEP requirements at £0.795m over the five-year period. This comprises £0.250m for the Catchment Sensitive Farming initiative; £0.350m for the Woodgreen catchment investigation; and £0.195m for the invasive species study.

National Environment Programme: the results and implications of Ofwat's cost assessment modelling

NEP activities create additional cost of the type that we have not historically incurred. Therefore, they will not have been reflected in any historic cost models.

The expenditure is opex in nature and was not included in line 14 of Table W3 of our December 2013 submission. Neither did we include it as un-modelled expenditure in Table W11.

Following discussion with Ofwat, we understand that costs should be shown this way in order that it is incorporated in Ofwat’s baseline cost models.

The costs we now detail in our July 2014 table submission are consistent with the costs submitted in the December business plan submission. There are no changes to the totex costs.

Satisfying Ofwat’s risk based review criteria

<p>Is there compelling evidence of need for the programme?</p>	<p>The need for the programme is driven by a regulatory requirement</p>
<p>Is it justified by cost benefit analysis and strategic optioneering?</p>	<p>Although the programme is driven by a regulatory requirement, there is a willingness by customers to pay for an increase in spending on environmental improvement.</p> <p>We had 70% customer support to spend an additional 50p per year per customer. This equates to just over £0.100m per year additional expenditure.</p> <p>The option of catchment studies and improving the raw water quality is considerably cheaper than the alternative treatment options.</p>
<p>Is there robust evidence on costs?</p>	<p>The costs are based on estimates of the scope and extent of the work to be undertaken.</p>
<p>Will it protect customers’ longer-term needs?</p>	<p>The catchment investigation and catchment sensitive farming will potentially deliver environmental improvements which not only benefit the environment but also potentially reduce significant investment in end of pipe treatment solutions.</p> <p>This is in the long-term interest of the customer by enhancing the environment and providing cost-effective sustainable solutions.</p>

Conclusion – activity 1: NEP and catchment management

The NEP is a stakeholder supported regulatory programme that was not incorporated in the base line cost models in our December 2013 submission. We believe we have developed with the Environment Agency and Natural England the most efficient and cost-effective method of delivering the required statutory outputs.

Activity 2: Reduction in leakage

Key points

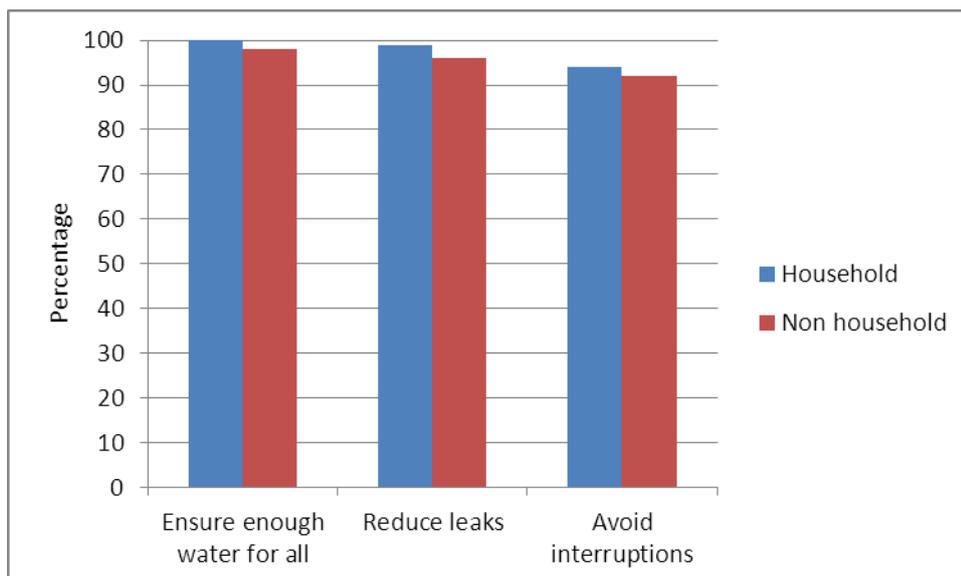
- 94% of customers tell us they want leakage reduced
- 75% are prepared to pay a modest amount (£1.60 on the annual bill) for us to do this
- This customer-driven proposal is cost beneficial from the customer point of view, but involves additional cost that was not reflected in Ofwat's recent econometric modelling. We require an amount of £0.940m over five years to be added as an un-modelled special item.
- Customers' interests will be protected through an outcome delivery penalty, and independent review and scrutiny by our Customer View⁶ group.

Introduction

The management of leakage has always been a priority for us, not just because of the important role it plays in the overall water balance but because it is a key concern for customers and other stakeholders.

Historically, leakage debates in the water industry have centred around economic considerations but for us, our customers' opinions and concerns are central to our strategy. Our current leakage level of 21MI/d is already well below our long term sustainable economic level of leakage (SELL 36.4 MI/d.)

94% of customers tell us that they want us to reduce leakage:



⁶ Customer View group – our proposed customer group for ongoing customer engagement

Customers' views on leakage

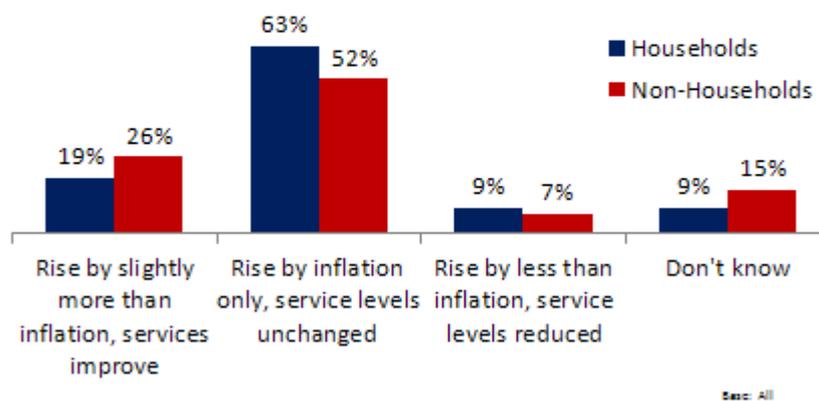
Over the last two years, we have engaged with over 1,500 customers to inform our business planning activities. Through this we assigned values to various options to determine their acceptability with customers. A key finding for this business case was that the vast majority of our customers support a 'business as usual' approach, with inflationary increases in bills.

Customers support a 'business as usual' approach.

Limited appetite to see water bills rise by more than inflation...



Would you prefer your future water bills to...?



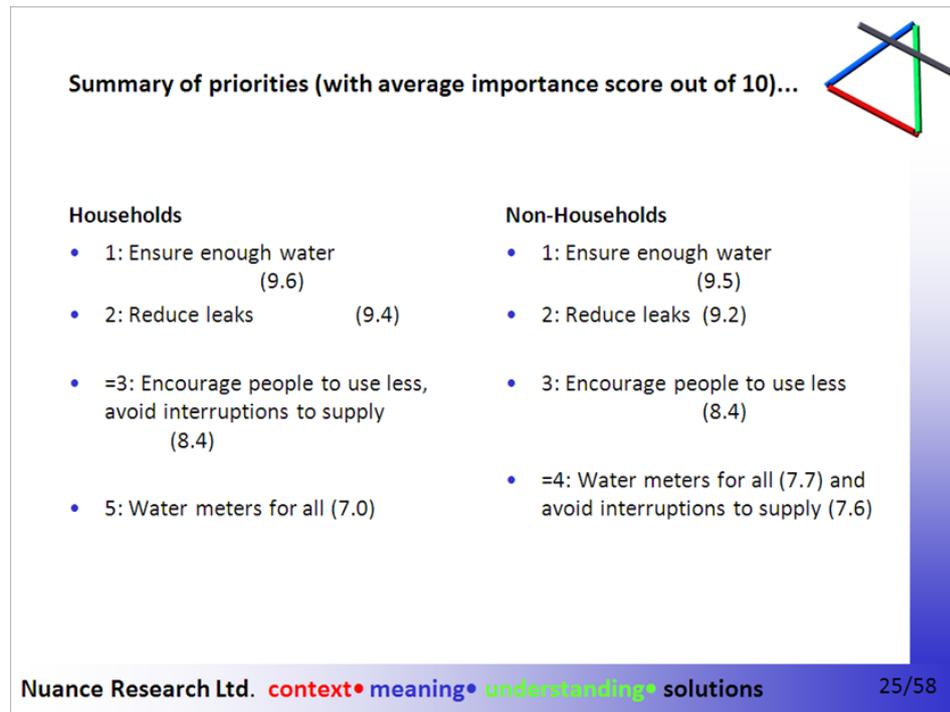
Nuance Research Ltd. context • meaning • understanding • solutions

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Our customers have also told us that they want to be assured that we take leakage seriously. They want more investment to repair or replace leaking pipes and want to know that we are investing enough to keep the supply network in good condition.

The most frequent 'top of mind' issue is leakage and they expect us to respond quickly to visible leaks.

Reducing leakage is customers' second-highest priority for us for AMP6



Our current performance

We have consistently met our leakage target since mandatory targets were introduced in 1997.

Our 2013/14 leakage level equates to 14.3% of the total amount of water into supply. This compares favourably to the industry average of around 23%.

Analysis of customer willingness to pay results

We conducted a willingness to pay (WTP) study as part of our programme of research and the following emerged:

- 75% of customers would be prepared to pay an additional £1.60 on the annual bill to reduce leakage by 5% from its current targeted level of 21 MI/d to 20 MI/d. This is significantly below the 'economic level' of leakage which has been assessed as being 36.4 MI/d for our operations.
- We have discussed the WTP analysis with our Board and customer challenge group (CEPF) who have endorsed it.

Proposed AMP6 outcome delivery incentive

The WTP figure of £1.60 per customer per year to reduce leakage by 5% over AMP6 would provide a customer benefit with a value of £0.325m per year (£1.6m over the five-year period).

We estimate the additional opex cost to achieve this to be £0.940m, comprising leakage detection costs of £0.640m and repair costs of £0.300m. Therefore, the reduction in leakage is cost beneficial from a customer point of view although it is below our current economic level of leakage. Our cost benefit analysis, which has been independently reviewed and assured by Halcrow Management Sciences,⁷ is included as part of this supplementary submission.⁸

We will therefore reduce leakage by a further 5% during AMP6, from 21MI/day to 20MI/d and this has been set as a performance commitment within our Reliable Water Supply outcome.

To protect customers, we have set a delivery penalty of £0.115m for each 0.1MI/d by which we fall short of the target level of 20MI/d. This is matched by an asymmetrical outcome delivery incentive of £0.102m for each 0.1 MI/d by which we exceed the target, and for which our customers are willing to pay – see section 3 ‘Customer engagement and willingness to pay’ for more detail.

Our performance will be subject to independent review; the assured data presented to our Customer View⁹ group for consideration and, where necessary, challenge; and placed in the public domain. The ‘Risk and Reward’ section 8 provides more detail.

Additional benefits

Reducing leakage has the additional benefit of reducing the amount of water we abstract and treat.

This reduces the environmental impact of source abstraction by leaving more water in the environment, as well as reducing our carbon footprint.

These are long-term environmental and sustainable benefits for our customers. Reducing leakage therefore also contributes to our outcome of Environmental Sustainability.

How we will further reduce leakage

As leakage levels in any network reduce, the difficulty in making further reductions increases; and this is not a proportional relationship. A reduction in leakage levels requires us to find and repair larger numbers of leaks, and to manage the rate of loss through pressure control.

⁷ Halcrow Management Sciences Ltd – review of CBA

⁸ CBA calculations final

⁹ Customer View group – our proposed customer group for ongoing customer engagement

A major factor in our historical leakage performance is the maturity and technological quality of our leakage management systems. These include the following developments:

- 98% of properties are within District Metered Areas (DMAs) which have been established and refined for more than 15 years. District metering is the modern foundation of leakage management and enables us to monitor water flows and leakage levels district by district across our system. We have 190 DMAs today and will continue to improve and optimise the design going forward.
- We have achieved a high level of operability for our DMAs, one of the highest in the industry, and this provides us with a robust data set to use in leakage calculations. This high level of operability revolves around maintaining the integrity of the DMA infrastructure even during operational emergencies. The key to this is training - making sure the network team understands that the DMA infrastructure is vital to our efforts to reduce leakage.
- We have a highly-developed Geographical Information System (GIS) that was initially established more than 20 years ago (as a replacement for paper-based mapping systems) and continuously developed/updated since then. Therefore, we are confident of the accuracy of the asset information that we use as a basis for our decision-making for issues such as investment in mains replacement.
- Our all-mains hydraulic models are calibrated on a constant rolling basis and we are able to provide accurate simulations of our network performance and operation and as a model the likely impact of day-to-day operational changes.
- We have researched the concept of 'calm networks' and the relationship between rapid pressure and flow variations and leaks. We have used data analytics ('big data') techniques to show that an intervention in a DMA which involves significant flow and pressure variations almost always leads to additional maintenance interventions to repair new leaks. This reaction is often delayed by 2-3 weeks but is nonetheless clear. Therefore our plan is to ensure calm and careful operation of the network through improved operation and monitoring along with the expansion of pressure management across the wider network. This will ensure that our network assets are exposed to the lowest possible variation in flow and pressure and that rapid pressure surges, in particular, are avoided.
- We have invested heavily in staff training and provided our staff with modern leak localisation equipment. Current training initiatives include the 'Licence to Operate' being developed for leakage technicians and specialist technical 'calm networks' training on the appropriate techniques to operate network valves and hydrants to ensure minimal flow and pressure variation.

Quantifying the reduction in leakage

Mains repair savings

We estimate conservatively that we can save 0.85 MI/d from the mains repair count identified below. Leak flow rates vary widely depending on the individual failure type. 'Burst' flow rates are generally higher and although often found by leakage detection staff (where they are not visible), they are actually reactive repairs rather than actively detected 'leaks'. It is also an observed fact that some leak repairs have no discernible reduction on area flow volumes. We have analysed a random set of mains repairs and averaging across this set focusing on actively found mains leaks (some of which have no observed reduction), we see an average flow rate of 0.93m³/hr. Multiplying this firstly by our average pressure correction factor of 22.8 to give a daily volume, and then by the estimated count of mains repairs (40) gives the 0.85 MI/d saving.

Communication pipe repair savings

Applying the same reasoning as for mains repair, the resulting average flow rate of 0.15m³/hr equates to a daily volume of 0.23 MI/d saving over 68 CP repairs.

The sum of the above estimated savings is 1.08 MI/d (0.85 + 0.23). This is rounded to 1 MI/d for the purpose of this representation.

Cost of proposed policy

We estimate the additional opex cost associated with the additional detection and repair of leaks to be £0.940m (detection £0.640m and repair £0.300m) over the five-year period. The breakdown of these costs is as follows:

Detection

Our internally calculated, fully-absorbed cost for a Leakage Technician is £32/hr. This equates to approximately £64k per annum including overheads such as company vehicle, fuel, office, and supervision.

Using our historic data which quantifies typical annual detection rates for Leakage Technicians and the volume of water saved from repairing these leaks, we estimate we will need two additional Leakage Technicians to achieve and maintain a 1 MI/d reduction in leakage.

- Detection cost total: £128k/annum – £0.640m over five years.

Repair

Costs of key repairs:

- Mains repair – average unit cost £1k
 - Over last three years, an average of 20 mains leaks repaired per Leakage Technician per annum
 - 2 additional Leakage Technicians = $2 \times 20 \times £1k = £40k/\text{annum}$
- Communication pipe repair – average unit cost £300
 - Over last three years, an average of 34 communication pipes repaired per Leakage Technician per annum.
 - 2 additional Leakage Technicians = $2 \times 34 \times £300 = £20.4k/\text{annum}$

- Repair cost total: £60k/annum – £0.300m over five years

Total cost

- Annual total: $£128k + £60k = £188k$ of extra spend
- Over five years, this equates to £0.940m.

This investment proposal is consistent with the costs included in our December 2013 submission and there are no changes to the totex costs.

Leakage reduction: the results and implications of Ofwat's cost assessment modelling

The proposed reduction in leakage results in additional expenditure above our historic expenditure. This is therefore an additional cost above our usual leakage expenditure.

Only totex cost estimate model 'C' uses leakage as a cost model driver. Therefore, the additional leakage expenditure is not reflected in the other cost models. The modelling does not reflect the additional expenditure we are required to spend to reflect customers' wish for reduced leakage.

The additional cost therefore needs to be treated as an un-modelled cost item. We omitted to include the cost in Table 11 in our December 2013 submission and have corrected this for the June 2014 supplementary submission.

Satisfying Ofwat's risk-based review criteria

<p>Is there compelling evidence of need for the programme?</p>	<p>Yes.</p> <p>94% of customers have told us they want us to reduce leakage and 75% are willing to pay for this.</p>
<p>Is it justified by cost benefit analysis and strategic optioneering?</p>	<p>Yes.</p> <p>Our proposal has been independently verified as cost beneficial from the customer point of view; in other words that costs proposed for leak repairs are in line with the required output of reduced leakage.</p> <p>The only viable option to reduce leakage is to find and repair leaks and we have challenged ourselves to use the most efficient means to do this. We anticipate that most of the additional leak repairs will not arise from visible leaks. Therefore the leakage management infrastructure described earlier will be instrumental in supporting the process.</p> <p>As an alternative option, replacing infrastructure would clearly have an impact on leakage if carried out at a sufficient level. However, the cost would be significantly higher in the short term.</p>
<p>Is there robust evidence on costs?</p>	<p>Costs are based on verifiable data on leakage detection and repair work and have been independently verified.</p>
<p>Will it protect customer's longer-term needs?</p>	<p>Yes.</p> <p>Reducing leakage will leave more water in the environment and reduce our carbon footprint. This supports our Reliable water supply and Environmentally sustainable operations outcomes.</p> <p>Customers and the environment will be protected from any failure to deliver through outcome delivery penalties.</p>

Conclusion – activity 2: reduction in leakage

Customers value a stable and reliable water supply, both now and in the future. Leakage reduction supports customers' stated priorities and the outcomes of Reliable Water Supply and Environmental Sustainability.

Our leakage performance is good but customers would like to see leakage reduce further, and are willing to pay for an improved performance even though we currently operate well below our economic level of leakage.

The proposed leakage reduction of 5% is cost beneficial from the customers' point of view.

The additional costs of £0.940m to meet our customers' desired outcome on leakage reduction in AMP6 are currently not reflected in the cost modelling process and we propose that they be included.

Customers view leakage as a symptom of inefficiency and neglect. Their biggest concern is that when they see or report a leak, we repair it quickly and effectively. We will target repairing 90% of visible leaks within five working days. We will continue to provide good information to customers about outstanding leaks, especially those that are difficult to repair because of, for example, traffic constraints. We view this as being an important part of providing an excellent experience for customers.

5. Household and non-household retail cost allocation

Key points:

- We have remedied issues identified in the risk-based review
- Our Wholesale/Retail cost allocation follows Ofwat’s guidance and is explained and evidenced
- The revised allocation has been assured by Halcrow, whose report will be shared with our Board and submitted to Ofwat

Risk-based review response

Ofwat’s risk-based review raised the following challenges:

Ofwat challenge – household	Our response
<p>Allocation between Retail and Wholesale for 2015/16 is not within 2% of expectations. Variance was 2.05%.</p>	<p>We have provided further explanation regarding our allocation methodology and additional costs – see the ‘Wholesale/Retail split’ section.</p> <p>Some of the variation may be as a result of a wording error on our part which is discussed under ‘Meter capital costs’ in the ‘Wholesale/Retail split section.</p>
<p>Allocation between Retail and Wholesale is not in accordance with business planning guidance. Best estimate of the net sum of known misallocations represents an over allocation to Retail of 8.07% of total Retail operating expenditure for 2013/14.</p>	<p>We are confident that we had followed Ofwat’s business planning guidance. As a result of a wording error on our part, Ofwat was led to understand otherwise.</p> <p>This wording error contributed to some of the percentage variance – see ‘Meter capital costs’ in the ‘Wholesale/Retail’ split section.</p> <p>Ofwat were also unable to see how we had allocated costs, and as a result made estimates. We have included a table in the ‘Wholesale/Retail’ split section to show how costs were allocated. We now follow Ofwat’s guidance.</p>

<p>The company does not have any external assurance over the Retail/Wholesale cost allocations in its business plan.</p>	<p>The work for our December submission was independently verified and assured by Halcrow Management Sciences and was shared with our Board to form part of the Board's assurance statement. The Halcrow report was not submitted to Ofwat.</p> <p>The revised allocation has also been assured by Halcrow, whose report will be shared with our Board and submitted to Ofwat.</p>
<p>Split between household and non-household opex outside of the 2% tolerance when compared to the percentage split between household and non-household customers from the 2012/13 regulatory accounts – variance was -6.1%</p>	<p>The detail behind Ofwat's assessment has not been available to us and we have therefore not been able to assess the variance specifically.</p> <p>We have now provided additional explanation on our approach – see section 'Household/non-household allocation'.</p>
<p>Allocation between household and non-household not in accordance with business planning guidance. Estimate of the net sum of known misallocations represents under-allocation to non-household of 76.78% of total non-household opex.</p>	<p>From discussions with Ofwat we understand that this issue is due to us not providing sufficient information on our cost assessment methodology. This is now provided in the table under 'Household/non-household allocation'.</p> <p>The percentage variance relates to bad debt and specifically to the fact that our bad debt charge and debt management costs are significantly lower than the industry average which, we understand, Ofwat used as a benchmark for assessment – see 'Household/non-household allocation'.</p>
<p>The company does not have any external assurance over the household/non-household cost allocations in its business plan.</p>	<p>The work for our December submission was independently verified and assured by Halcrow Management Sciences and was shared with our Board to form part of the Board's assurance statement. The Halcrow report was not submitted to Ofwat.</p> <p>The revised allocation has also been assured by Halcrow, whose report will be shared with our Board and submitted to Ofwat.</p>

Ofwat challenge – non-household	Our response
<p>Allocation between Retail and Wholesale for 2015/16 is not within 2% of our expectation. Variance was 2.05%.</p>	<p>We have provided further explanation regarding our allocation methodology and additional costs – see the ‘Wholesale/Retail split’ section.</p> <p>Some of the variation may be as a result of a wording error on our part which is discussed under ‘Meter capital costs’ in the ‘Wholesale/Retail split section’.</p>
<p>Allocation between Retail and Wholesale is not in accordance with business planning guidance. Over allocation to Retail of 8.07% of total Retail opex for 2013/14.</p>	<p>We are confident that we had followed Ofwat’s business planning guidance. However, as a result of a wording error on our part, Ofwat was led to understand otherwise.</p> <p>This wording error contributed to some of the percentage variance – see ‘Meter capital costs’ in the ‘Wholesale/Retail’ split section.</p> <p>Ofwat were also unable to see how we had allocated costs, and as a result made estimates. We have included a table in the ‘Wholesale/Retail’ section to show how costs were allocated. We now follow Ofwat’s guidance.</p>
<p>The company does not have any external assurance over the Retail/Wholesale cost allocations in its business plan.</p>	<p>The work for our December submission was independently verified and assured by Halcrow Management Sciences and was shared with our Board to form part of the Board’s assurance statement. The Halcrow report was not submitted to Ofwat.</p> <p>The revised allocation has also been assured by Halcrow, whose report will be shared with our Board and submitted to Ofwat.</p>
<p>Split between household and non-household opex is outside 2% tolerance when compared to the percentage split between household and non-household customers from the 2012/13 regulatory accounts – variance was -6.1%</p>	<p>The detail behind Ofwat’s assessment has not been available to us and we have therefore not been able to assess the variance specifically.</p> <p>We have now provided additional explanation on our approach – see section ‘Household/non-household allocation’.</p>

<p>Allocation between household and non-household not in accordance with business planning guidance. Estimate of the net sum of known misallocations represents under-allocation to non-household of 76.78% of total non-household opex.</p>	<p>From discussions with Ofwat we understand that this issue is due to us not providing sufficient information on our cost assessment methodology. This is now provided in the table under 'Household/non-household allocation'.</p> <p>The percentage variance relates to bad debt and specifically to the fact that our bad debt charge and debt management is significantly lower than the industry average which, we understand, Ofwat used as a benchmark for assessment – see 'Household/non-household allocation'.</p>
<p>The company does not have any external assurance over the household/non-household cost allocations in its business plan.</p>	<p>The work for our December submission was independently verified and assured by Halcrow Management Sciences and was shared with our Board to form part of the Board's assurance statement. The Halcrow report was not submitted to Ofwat.</p> <p>The revised allocation has also been assured by Halcrow, whose report will be shared with our Board and submitted to Ofwat.</p>

Introduction

Ofwat's risk-based review challenges arose from a lack of supporting evidence. In particular, Ofwat could not see how we had allocated costs, nor could they see the third-party verification we had obtained. Furthermore, we made an error in the description of a significant cost.

We have remedied all of these issues. In doing so, and in conducting the revised cost allocation activities, we have complied with Ofwat's latest guidance.

Wholesale/Retail split

Meter capital costs

Ofwat's risk-based review showed us as being outside of its expected cost allocation. Discussions with Ofwat established that the main reason for this issue was that our wording had led Ofwat to believe that meter capital costs had been included within Retail. This was a description error on our part – our Retail costs did not include meter capital costs.

The reason for this misunderstanding was our response to Ofwat's query on cost allocation tables R3 and R4 sent on 7 January (response reference 15, sent 13 January 2014).

In response to the query, we provided Ofwat with an analysis of our 2012/13 Retail costs. This was in the format of the former June Return Table 21B. In error, we had abbreviated a description as:

“Other operating expenditure: Meter maintenance”

when it should have read:

“Meter maintenance/installation non-capex”

The £0.497m on this line was therefore viewed by Ofwat as being a Wholesale cost and we understand that this contributed to our costs falling outside expectation in the risk-based review. We have since discussed the issue with Ofwat, and explained that this cost relates to Retail costs associated with metered billing.

We confirm that our June 2014 submission does not have any costs related to meter installation or meter maintenance allocated to Retail. This is supported by independent, third-party verification.¹

Wholesale and Retail allocations

It was also unclear to Ofwat how a number of cost allocations between Wholesale and Retail had been made. Amendments made as a result of Ofwat's March and April 2014 cost allocation guidance have clarified this, and we have detailed how we have allocated costs in the following table.

¹ Halcrow Management Sciences Ltd report

Wholesale/Retail cost allocation complies with Ofwat guidance

Cost Type	Allocation /driver for December submission	Driver used for June submission : 2012/13 and 2013/14 costs	Complies with Ofwat guidance
Customer Services			
Billing	Wholly in retail	Wholly in retail	✓
Payment handling	Wholly in retail	Wholly in retail	✓
Debt management costs	Wholly in retail	Wholly in retail	✓
Customer doubtful debts	Wholly in retail	Wholly in retail	✓
Vulnerable customer schemes	Wholly in retail	Wholly in retail	✓
Non-network customer enquiries and complaints	Wholly in retail	Wholly in retail	✓
Meter reading	Wholly in retail	Wholly in retail	✓
Network customer enquiries and complaints	Wholly in retail	Wholly in retail	✓
Other customer services	Wholly in retail	Wholly in retail	✓
Other Operating Costs	Itemised out below	Itemised out below	
Disconnections and reconnections	Wholesale, but not material	Administration element in retail	✓
Demand-side water efficiency initiatives - Regulatory	Wholly in retail	Wholly in retail	✓
Developer services	Information costs in retail	Administration and information costs in retail	✓
Customer-side leak	Wholly in retail	Wholly in retail	✓
Charitable trust donations	Wholly in retail	Wholly in retail	✓
Other direct costs	Partly retail, timesheet or activity based, depending on cost	Partly retail, timesheet or activity based, depending on cost	✓
General and Support Expenditure	Itemised out below	Itemised out below	
IT	Weighted calls with software usages	Number of computers	✓
Motor vehicles	Allocated by service charge	Number of vehicles	✓
Finance & payroll - other	GMEA of regulated business	FTE, including contractors	✓♦
Finance & payroll - labour costs	Management estimate	FTE, including contractors	✓♦
HR	Management estimate	FTE, including contractors	✓♦
Facilities, building	Floor space	Floor space	✓
Executive team & general management - Labour	Management estimate	FTE, including contractors	✓♦
General management - other	GMEA of regulated business	FTE, including contractors	✓♦
Insurance - employer liability	GMEA of regulated business	FTE, including contractors	✓♦
Insurance - motor vehicles	GMEA of regulated business	No of Vehicles	✓
Insurance - plant etc	GMEA of regulated business	All wholesale	✓
Quality/compliance	Management estimate	FTE, including contractors	✓♦
Services general	Management estimate	FTE, including contractors	✓♦
Secretarial costs	Management estimate	FTE, including contractors	✓
PR costs	Management estimate	FTE, including contractors	✓
Fitters , electricians and treatment general costs	Time sheets	Entirely in wholesale direct costs	✓
Management charge deducted from G&S	Management estimate	FTE, including contractors	✓
Other costs	Itemised out below	Itemised out below	
Scientific services all wholesale	Entirely in wholesale	Entirely in wholesale	✓
Other business activities - matrix non-license	Management estimate	1/5 of total cost to retail	✓
Other business activities - Ofwat license fee	1/5 of total cost to retail	1/5 of total cost to retail	✓
Local authority rates - Cumulo rates only	GMEA of regulated business	GMEA of regulated business	✓
Local authority rates - Non -cumulo rates	N/A, all our rates are Cumulo	N/A, all our rates are Cumulo	✓
Third party services - others	Partly in retail	Partly in wholesale, partly netted against Third party income	✓
Pension deficit	Not included specifically	As per IN 13/17	✓

FTE's refer to staff and contractors who are an opex cost
See section below for further details

✓♦

Halcrow's review has verified that the amendments made to the December submission comply with Ofwat's cost allocation guidance. Significant changes arising as a result of the allocation review are detailed below.

The revised allocation uses the following:

- Computer numbers to allocate IT costs
- The inclusion of contractors in the calculation of full time equivalent (FTE) staff numbers
- The allocation of an internal recharge to Retail to cover the shared use of assets

The net effect of these changes is to increase Retail costs by £0.155m for 2012/13.

FTE allocation

For the December submission, we interpreted 'FTE' (used to allocate General and Support costs between Wholesale and Retail) as relating to staff directly employed by the company. Ofwat has since clarified² its requirements which state that directly-employed contractors should be included in the FTE calculation. We have complied with this guidance.

In doing so, we have assumed that since the FTE numbers are being used to allocate operating costs, FTE should refer to people who represent an opex cost.

Depreciation

Within our asset register we allocate a cost centre against each asset. This enables us to allocate depreciation for "owned" assets to the correct business unit, and so to Wholesale or Retail.

We have now allocated depreciation charges for specific retail assets existing at March 2015 to row 2 of tables R3 and R4. (This depreciation had previously been included within Wholesale depreciation on the basis that the asset value had been included in the RCV.)

As mentioned above, Retail has been charged for assets shared with Wholesale. This charge is now shown in rows 36 and 38 on R3 and rows 20 and 22 on R4. (These costs are not included in row 1 of R3/R4). The depreciation recharge for shared assets is made on the same basis that operating costs for the department that uses the assets are allocated. As these shared assets tend to relate to G&S the standard method of allocation is on an FTE basis.

Pension deficit allocation

We have included £0.829m for each of the years 2015/16, 2016/17 and 2017/18. This cost was included in our revenue numbers for the December submission, but was not included as a cost on any table. We believed Ofwat would add the number advised in IN13/17 to the base costs. The pension deficit is included in this supplementary submission. 80% of the deficit allowance (the Wholesale element) is on a new line on table A19. 20% of the deficit amount is included in our Retail base costs, in line with Ofwat's guidance note IN13/17.

² Ofwat cost allocation guidance March 2014

Household/non-household allocation

Our allocation of costs between the household and non-household business in our December submission was not clear to Ofwat. In particular, Ofwat made assumptions concerning bad debt charges.

Our household and non-household cost allocation methodology has been amended to comply with Ofwat’s guidance and we have followed Ofwat’s recommended approach for cost allocation drivers. This has been verified by Halcrow.

The change in methodology has reduced the allocation of General and Support (G&S) costs for 2012/13 to the non-household business as follows:

- Household: an increase of £0.332m
- Non-household: a reduction of £0.177m
- Overall increase in Retail costs: £0.155m

The cost allocation drivers for each of the December 2013 and June 2014 submissions are shown in the table on the following page.

We have a very low non-household bad debt cost and few overdue non-household debtors. The resulting low values are therefore likely to show us as being an outlier against industry averages. However, the data has been independently verified by Halcrow as correct.

Non-household debt costs are very low

	Note	2012/13		2013/14	
		£m	% of NHH Turnover	£m	% of NHH Turnover
Bad debt charged		0.032	0.33%	0.021	0.21%
Debtors over 30 days	1			0.215	2.14%
Note 1	We are unable to retrospectively run an aged debtor report We have used 2013/14 aging for 2012/13 allocations				

Pension deficit

20% of the allowed annual deficit amount of £0.829m has been allocated between the household and non-household business on a customer number basis. This has been included in base costs for 2010/11 to 2017/18.

Household/non-household cost allocation complies with Ofwat guidance

Cost Type	Allocation /driver for December submission	Driver used for June submission : 2012/13 and 2013/14 costs	Complies with Ofwat guidance
Billing	No. of bills raised	No. of bills raised	✓
Payment handling	No. of bills raised	No. of payment received	✓
Payment handling - others	Entirely in Household	No. of payment received	✓
Debt management	No. of bills raised	Debt outstanding for more than 30 days	✓
Debt management dept costs etc	No. of bills outstanding at the year end, including current debt i.e. less than 30 days	Debt outstanding for more than 30 days	✓
Non-network customer enquiries and complaints	No. of bills raised	Volume of non network customer enquires and complaints	✓
Meter reading	No. of bills raised	No. of meter reads	✓
Meter reading costs from meter read dept etc	No. of meter connections	No. of meter reads	✓
Meter maintenance/installation non capex *	No. of meter connections	No. of meter connections	■
Network customer enquiries and complaints	No. of bills raised	Volume network customer enquires and complaints	✓
Other Operating Costs	Itemised out below	Itemised out below	
Customer doubtful debts	Prorated on the value of the debt outstanding at the year end by type of customers	Directly attributable on customer specific basis	✓
Charitable trust donations	Entirely in Household	Entirely in HH	✓
Vulnerable customer schemes	Entirely in Household	Entirely in HH	✓
Demand-side water efficiency initiatives - Regulatory	Customers by type	Customer numbers	✓
Developer Services	Entirely in non household	Entirely in non household	✓
Customer-side leak	Based on allocation of Wholesale staff time	Directly attributable on a job specific basis	✓
Disconnections and reconnections	Administration element in NHH	Administration element in NHH	✓
Other direct costs	Timesheets used for costs reallocated from wholesale, customer call log used to allocate retail costs	Timesheets used for costs reallocated from wholesale, customer call log used to allocate retail costs	✓
General and support expenditure	Itemised out below	Itemised out below	
IT	Weighted calls with software usages	Customer numbers	✓
Finance & payroll - other	GMEA	Customer numbers	✓
Finance & payroll - labour costs	Management estimate	Customer numbers	✓
HR	Management estimate	Customer numbers	✓
Facilities, building	Management estimate using same drivers as dept	Customer numbers	✓
Executive team & general management - Labour	Management estimate	Customer numbers	✓
General management - other	GMEA	Customer numbers	✓
Insurance - other Employer liability allocate with FTEs	GMEA	Customer numbers	✓
Insurance - Motor vehicle allocate with vehicle nos	GMEA	Customer numbers	✓
Insurance - Plant etc	GMEA	N/A : All wholesale	✓
Quality/compliance	Management estimate	Customer numbers	✓
Services general	Management estimate	Customer numbers	✓
Secretarial costs	Management estimate	Customer numbers	✓
PR costs	All retail	Customer numbers	✓
Motor vehicles	Customer numbers	Customer numbers	✓
Fitters , electricians and treatment general costs	FTE	Entirely in wholesale	✓
Management charge deducted from G&S	GMEA	Customer numbers	✓
Other costs	Itemised out below	Itemised out below	
Scientific services all wholesale	Samples taken	Entirely in wholesale	✓
Other business activities - matrix non-license	Management estimate	Customer numbers	✓
Other business activities - Ofwat license fee	50:50 allocation	Customer numbers	✓
Local authority rates - Cumulo rates only	GMEA of regulated business	Customer numbers	✓
Local authority rates - Non-cumulo rates	N/A, all our rates are Cumulo	N/A, all our rates are Cumulo	✓
Pension deficit	All in wholesale but not detailed out in tables	As per IN 13/17	✓

Meter maintenance/installation non capex *

Costs included here (£0.006m) relate to initial customer enquiries regarding metering
No specific Ofwat guidance. As this cost relates to meters we have used number of meters

■

Reconciliation between PR14 and Regulatory Accounts 2013/14

We have followed Ofwat's guidance as to the preparation of both the Regulatory Accounts and the Business Plan. This has resulted in a number of differences which are explained below. The table below reconciles the Regulatory Accounts to the Business Plan.

We have considered Ofwat's PR14 guidance on cost allocation in relation to the Regulatory Accounts. Where the difference between our cost allocation methodology and Ofwat's methodology is minimal, we have adopted Ofwat's preferred methodology in our 2013/14 Regulatory Accounts. In these cases the changes represent a refinement of our methodology, rather than a substantial change. This has removed many of the minor differences between the Regulatory Accounts and the June 2014 Business Plan numbers.

For example, the move from using number of meter connections to number of meter reads as the basis of allocating meter reading costs has resulted in a change in the allocation of these costs to household from 91% to 89%. This has had a £0.002m impact on meter reading cost allocation.

However, there are significant differences between the Regulatory Accounts and the Business Plan in allocating general and support service costs (G&S). The net effect of these differences is quantified in the table below.

Our Business Plan is based on IFRS accounting. One of the effects of changing from UK accounting rules to IFRS is that under IAS19, the operating costs of administering pension schemes are now charged to the Profit and Loss Account. These costs will now be billed to our company as an operating cost, in line with how any other professional costs are treated. Our original submission included these costs from 2014/15 onwards. For consistency, we have added these costs to our 2013/14 actual costs, both in Wholesale (£0.160m) and in Retail (£0.040m). The retail costs can be seen as a reconciling item in the reconciliation shown in the table below.

The Business Plan is prepared in 2012/2013 price base, and so the 2013/2014 actual numbers need to be deflated back to 2012/13 prices to reconcile to line 1. For reasons explained in the detailed commentary on Retail we have added these costs back into table R3 row C14 so the reconciling item is reversed for the total Household costs.

Ofwat have specified that third party costs are to be excluded from Business Plan cost, so this is a reconciling item.

Reconciliation of Regulatory Accounts 2013/14 retail figures to Business Plan 2013/14

	Section	Wholesale	Household	Non Household	Total Retail	Company
Regulatory Accounts						
Total Operating Expenditure		16.768	3.667	0.523	4.190	20.958
Change in G&S for use of FTE as basis for apportionment		-0.381	0.521	-0.140	0.381	0.000
Restate numbers back to 12/13 price base		-0.493	-0.133	-0.021	-0.154	-0.630
Inclusion of IAS 19 administration costs: required under IFRS		0.160	0.036	0.004	0.040	0.200
Remove third party costs			-0.040	-0.002	-0.042	-0.042
Business Plan R3 / R4 row 1			4.051	0.364	4.415	4.415
Wholesale costs in 12/13 prices		16.054				16.054
Allocation of PR09 pension deficit		0.663	0.141	0.025	0.166	0.854
Gross up 12/13 numbers to 13/14 price base			0.133			
Business plan R3 row 14			0.274			0.274
Business plan R4 row 4				0.025		0.025
Total costs excluding recharges		16.717	4.325	0.389	4.415	

Detailed retail services analysis 2013/14

The table below provides a detailed analysis of our 2013/14 retail costs included in our business plan, as requested by Ofwat.

Retail services: Including Business Plan G&S Allocations 2013/14

DESCRIPTION	UNITS	RETAIL HOUSEHOLD	RETAIL NON HOUSEHOLD	RETAIL SERVICES TOTAL
SERVICE ANALYSIS- RETAIL				
DIRECT COSTS				
Billing	£m	0.441	0.041	0.442
Payment handling, remittance and cash handling	£m	0.260	0.005	0.243
Debt management	£m	0.516	0.021	0.495
Doubtful debts	£m	0.291	0.020	0.312
Charitable trust donations	£m	0.005		0.005
Vulnerable customer schemes	£m	0.027		0.027
Non network customer enquiries	£m	0.630	0.109	0.679
Meter reading	£m	0.179	0.019	0.184
Meter maintenance/installation non capex	£m	0.006	0.000	0.006
Network customer enquiries and complaints	£m	0.100	0.018	0.108
Disconnections	£m	0.000	0.001	0.001
Demand side water efficiency initiatives	£m	0.019	0.006	0.025
Services to developers	£m		0.033	0.035
Support for trade effluence compliance	£m		0.000	0.000
Customer side leaks	£m	0.222	0.007	0.229
Other direct costs	£m	0.124	0.007	0.132
Total direct costs	£m	2.820	0.287	2.923
OPERATING EXPENDITURE				
General and support expenditure	£m	1.433	0.096	1.529
Scientific services	£m	0.000	0.000	0.000
Other business activities	£m	0.061	0.005	0.066
Local Authority rates	£m	0.011	0.001	0.012
Exceptional items	£m	0.000	0.000	0.000
Third party services	£m	0.000	0.000	0.000
Total operating expenditure	£m	4.325	0.389	4.530

Reconciliation of December 2013 to June 2014 submitted retail numbers

A reconciliation of the movements in retail costs from the December 2013 submission to the June 2014 submission is provided below.

Subsequent to the December 2013 submission Ofwat provided substantial guidance on how it wished costs to be allocated between wholesale and retail, and between household and non household. This is discussed above. We have complied with these requirements and the effect of the changes is shown below.

Our original forecast 2013/2014 numbers have been adjusted for actual results, and restated back into 2012/13 price base.

For consistency with later years, 2013/2014 has had additional pension charges added in, and in accordance with guidance third party costs are excluded.

When completing table R3 in December, we misunderstood how total household costs shown in our model should be entered on table R3, and so inadvertently filled in the table with the wrong numbers. We have corrected this for the June submission. We have not changed the costs used in our internal modelling for 2014/15 onwards, (with the exception of removing third party costs); the changes are rather those of presentation and allocation. Including these costs in R3 has **not** changed our price control.

Line 1 R3 reconciliation, December submission

	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Line 1 R3 December submission	3.688	3.851	3.872	3.708	3.747	3.741	3.779	3.809
Costs reallocated from wholesale	0.066	0.066	0.213	0.128	0.077	0.042	0.02	0.01
Costs reallocated from non household	0.084	0.084	0.084	0.084	0.084	0.084	0.084	0.084
Amend 13/14 actual costs to 12/13 price base		0.187						
Allocate IAS 16 pension charges for consistency		0.036						
Remove third party costs	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04	-0.04
Correction of costs included in December calculations but not on R3		-0.133	-0.048	0.231	0.273	0.344	0.358	0.368
Line 1 R3 June submission	3.798	4.051	4.081	4.111	4.141	4.171	4.201	4.231

Line 1 R4 reconciliation, December submission

	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Line 1 R4 December submission	0.624	0.630	0.680	0.680	0.680	0.680	0.680	0.680
Costs reallocated to wholesale	-0.138	-0.284	-0.285	-0.285	-0.293	-0.299	-0.304	-0.307
Costs reallocated to household	-0.084	-0.084	-0.084	-0.084	-0.084	-0.084	-0.084	-0.084
Amendment to 13/14 actual costs in 12/13 price base		0.108						
Allocate IAS 16 pension charges for consistency		-0.004						
Remove third party costs	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002	-0.002
Line 1 R4 June submission	0.400	0.364	0.309	0.309	0.301	0.295	0.290	0.287

Impact of reallocations

The effect of reallocations arising from additional guidance on cost allocations on the separate Wholesale and Retail price controls was not modelled separately. We collected together all the changes arising from new guidance, including new ODI, new WACC and cost reallocations and remodelled everything in one new model. At a company level, the effect of the reallocations was neutral, and at a price control level it averaged less than £0.25m per annum.

Wholesale costs have been adjusted for as a result of the reallocation of costs from retail. Most of the adjustments relate to reclassification of G&S costs.

Changes are:

	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
Increase in wholesale costs £m	0.072	0.218	0.072	0.157	0.216	0.257	0.284	0.297

Company total operating costs for the PR14 period have not changed between the December 2013 and June 2014 submissions.

Retail cost allocation checklist

Shown below is the checklist for retail cost allocation as requested by Ofwat.

		Yes / No?	Comments
	Table R3		
1	Have you submitted a revised table R3 with 2013-14 actuals?	Yes	
2	Do the sum of lines 1, 3, 14, 15 and 38 less 39 in Table R3 agree to line G45 in Table A19?	Yes	
3	Have you provided a full reconciliation between line 1 of Table R3 in your December and June submissions, showing each individual adjustment?	Yes	
4	Have you provided a reconciliation / commentary explaining the differences between Table R3 and the 2013-14 regulatory accounts?	Yes	
	Table R4		
5	Have you submitted a revised table R4 with 2013-14 actuals?	Yes	
6	Does line 5 in Table R4 agree to line G51 in Table A19?	Yes	
7	Have you provided a full reconciliation between line 1 of Table R4 in your December and June submissions, showing each individual adjustment?	Yes	
8	Have you provided a reconciliation / commentary explaining the differences between Table R4 and the 2013-14 regulatory accounts?	Yes	

		Yes / No?	Comments
	Detailed cost allocation tables (6 January email)		
9	Have you provided the detailed cost allocation tables for 2013-14 (per the 6 January email) setting out how you have allocated your costs?	Yes	
10	Does your detailed cost allocation table include all of the costs set out on pages 7 to 12 of our 24 March guidance?	Yes	
11	Have you complied with the 24 March guidance in the allocation of your costs (directly attributing them or using one of the proposed cost drivers)?	Yes	
12	Does the total household cost per your detailed cost allocation Table	Yes	Detailed cost allocation reconciles to R3 line 1 plus R3 line 14. Line 14

	agree to line 1 of Table R3?		includes the price base adjustment from 2013/14 back to 2012/13, and the pension deficit allowance. These adjustments have been prorated
13	Does the total non-household cost per your detailed cost allocation Table agree to line 1 of Table R4?	Yes	
	Sampling		
14	Where you have used a sampling approach to allocate any of your costs, have you explained in detail your approach to sampling?	N/A	We have not used any sampling techniques
15	Have you explained why you are unable to follow our guidance in full?	N/A	
16	Have you obtained external assurance over the sampling approach and the adequacy and representativeness of the results of the sample?	N/A	
17	Have you informed us when you expect to be able to comply with our guidance in full?	N/A	
	Addressing issues identified in RBR		
18	Are you satisfied that you have addressed all of the cost allocation issues (between retail / wholesale and / or household / non-household) identified as part of the risk-based review?	Yes	

		Yes / No?	Comments
	External assurance		
19	Have you obtained external assurance over Tables R3 and R4 (including adjustments made between December and June) and over your allocation of costs between retail and wholesale and between household and non-household?	Yes	External assurance is provided by Halcrows in our Supplementary Submission. It can be found in the Board Assurance section under Evidence.
	Changes in wholesale costs		
20	Have you provided commentary explaining the differences between the December and June submissions, including the impact on water and sewerage separately?	Yes	(no sewerage as a water only company) Reclassification adjustments only.
	Capital costs and depreciation		
21	Have you stated how you have allocated capital costs and depreciation between price controls?	Yes	
22	Is your allocation in line with the principal use guidance / clarification issued to all companies on 3 June?	Yes	
23	Have you shown the appropriate recharges and income from wholesale in tables R3 and R4 where assets are used by both retail and wholesale?	Yes	
24	Have you stated in your table commentaries for R3 and R4 how much of your recharges / income from wholesale are from water and how much are from sewerage?	N/A	Water only company
25	Have you explained the impact of any re-allocations between December and June on the 4 price controls?	No	Effect relatively minor (less than 0.25m pa)
	Third party costs and exceptional items		
26	Have you excluded all third party costs and exceptional items from R3 and R4 in line with the Table guidance?	Yes	

		Yes / No?	Comments
	Customer-side leaks and demand-side water efficiency		
27	Have you completed block B of Table R3 and Table R4 in accordance with the Table guidance?	Yes	
28	Has the included any demand-side water efficiency or customer-side leaks costs as funded by wholesale in block B (lines 8 & 11 of R3, lines 14 & 17 of R4)	No	All costs are Retail, no new costs
29	If you have included any of these costs as funded by wholesale, is there an associated wholesale outcome? (note that you should not be including any of these costs as funded by wholesale unless you have an associated wholesale outcome)	N/A	
30	Does the net retail expenditure for these costs in line 13 of Table R3 and line 19 of Table R4 agree to the total costs for demand-side water efficiency and customer-side leaks in line 1 of Table R3 and R4?	Yes	These costs are included within Line 1 operating costs
	Customer number ratio		
31	Has the company used 1 for single-service customers and 1.3 for dual-service customers (as prescribed in the 24 March guidance) when allocating costs using customer numbers?	N/A	Water only company

Conclusion

Our cost allocation conforms to Ofwat's guidance issued in March 2014 and later.

The work has been subjected to independent scrutiny by Halcrow Management Sciences and their supporting report confirms that the work is compliant. The document forms part of this supplementary submission, and can be found in the evidence folder for this section.

6. Household average cost to serve adjustments

Highlights

- In a retail business the principal cost is labour. All major forecasts, including Ofwat's own, say labour costs rise faster than inflation.
- Bad debt costs also have a history of rising faster than inflation
- It is reasonable to expect a normally efficient company to be able to absorb some, if not all of this cost pressure via efficiencies. However, absorbing such cost pressures is much more difficult for companies which are already at the efficiency frontier, particularly when they are small.
- Using Ofwat's own analysis, we have been uniquely placed in the industry as a leader on cost and service for some time and as such we face upward cost pressure which we cannot absorb.
- Therefore, input price pressures affect us in a materially different way to other companies and are beyond management control.
- We are also cost effective when compared beyond the industry.
- An adjustment should be made for input price pressures.

Risk-based review response

Ofwat's risk-based review raised the following challenges:

Ofwat challenge	Our response
<p>The Input Price Pressure (IPP) Adjustment for AMP6 is 5.4% of household retail opex and depreciation for AMP6 and so exceeds our materiality threshold.</p>	<p>We have identified the 5.4% increase as relating to costs included on table R3, line 13 which should have been on R3, line 1. In addition, we have identified additional activity-related costs which were not included in the December 2013 submission. The effect of reallocating these costs to the correct line, together with the additional activity-related costs significantly reduces the increase in the ACTS between AMP5 and AMP6 – from 5.4% to 3.5%. This is explained in the detailed response in Part 1 of this section.</p> <p>In addition, we commissioned an independent report by Oxera¹, to assess the IPP adjustment request in respect of labour, bad debt and other costs such as post and print.</p> <p>This is explained in the detailed response in Part 2 of this section.</p>
<p>SBW has provided insufficiently convincing evidence that IPP is outside of management control.</p>	<p>The activity-related costs detailed in Part 1 are outside management control.</p> <p>Section 2, pages 5 and 6 of the Oxera report highlight local market wage pressures which are outside management control.</p>
<p>SBW has provided insufficiently convincing evidence that IPP impacts the company in a materially different way.</p>	<p>Section 3, pages 7 to 10 of the Oxera report, shows us as being uniquely placed in the industry both in terms of efficiency and service;</p> <p>Section 4, pages 12 and 13 of the Oxera report, shows how the distribution of our retail cost base differs significantly from the rest of the industry, and the impact of high labour costs as a proportion of the whole; and</p> <p>Section 5, pages 15 to 19 of the Oxera report, demonstrates our limited ability to mitigate IPP impacts due to our position at the efficiency frontier. We are able to make frontier-shift efficiencies but not catch-up efficiencies.</p>

¹ Oxera report: 'Adjustment to retail cost', April 2014

<p>SBW does not provide any benchmarking analysis showing that the company is efficient compared to other companies (either in the water sector and/or in other comparable industries).</p>	<p>Section 3, pages 7 to 10 of the Oxera report, shows us as efficient when benchmarked against the water industry;</p> <p>Section 4, pages 11 to 14 of the Oxera report, shows us as being efficient when benchmarked outside the industry specifically in relation to labour costs; and</p> <p>Section 5, pages 15 to 19 of the Oxera report, shows our position at the efficiency frontier.</p>
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In response to feedback from Ofwat, we:

1. Explain how a misallocation of costs in table R3 resulted in an inflated retail input price pressure (IPP) figure for AMP6 of 5.4%; and confirm the IPP adjustment of 3.5% we require; and
2. Address Ofwat's assertion that an increase in cost qualifies for an adjustment only to the extent that the factors driving the increase cannot be controlled by management and affect us in a materially different way to other companies.

Part 1 – Explanation of input price pressure of 3.5% (correcting the 5.4% reflected in our December 2013 submission)

We have a low average cost to serve (ACTS), low bad debt charge and deliver great service, which puts us in a unique position. We will remain efficient and serve our customers well. If we do not have the IPP adjustment required, we will be materially disadvantaged and are concerned that there will be undue and unfair pressure. This puts our customers at material risk of deterioration in service.

This section explains the calculation for the inflationary increase required.

Our December 2013 submission for PR14 table R3 showed additional costs of £0.208m for 2015/16 in line 13, and a reduction of £0.050m in our total operating expenditure in line 1 between 2014/15 and 2015/16. Further reductions in our total operating expenditure costs could be seen in subsequent years.

The table below shows the December 2013 submission and how the 5.4% IPP adjustment was calculated. We showed an IPP increase of 5.4% between 2014/15 and 2015/16, and an average IPP increase of 5.47% per annum for the period 2014/15 to 2019/20.

Table 1: December 2013 PR14 table R3 lines 1 and 13 – information to set the household ACTS control

Description	AMP 5			AMP 6					Average
	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	
December submission									
Line 1: Total opex - excluding exceptional items	3.688	3.851	3.872	3.916	3.952	3.958	4.001	4.034	
Line 13: Opex - excluded from ACTS	0.000	0.000	0.000	0.208	0.205	0.217	0.222	0.225	
Total retail costs (excluding depreciation)	3.688	3.851	3.872	4.124	4.157	4.175	4.223	4.259	
Average annual percentage increase of total retail costs				5.4%	5.2%	5.5%	5.6%	5.6%	5.47%

The costs excluded from ACTS were revised following Ofwat's guidance. Therefore, the IPP calculation of 5.4% for 2015/16 was based on incorrect data.

Following the revision, we have amended PR14 table R3 costs as shown in Table 2 overleaf. The allocation of costs to household has changed considerably (see section 5 'Retail cost allocation').

Table 2: Revised R3 numbers have changed following new guidance showing the average increase against total operating cost of 3.5% from 2013/14 to 2019/20

Description	AMP 5			AMP 6					Average from 13/14
	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	
Total operating expenditure (excluding exceptional items) (line 1)	3.798	4.051	4.081	4.111	4.141	4.171	4.201	4.231	0.7%
Operating expenditure excluded from ACTS (line 14 excluding pension deficit recovery - see below)	0.000	0.133	0.306	0.430	0.559	0.678	0.816	0.963	3.3%
Pension deficit recovery (line16)	0.141	0.141	0.141	0.141	0.141	0.141	0.000	0.000	-0.5%
Total Retail costs (excluding depreciation and recharge for shared assets)	3.939	4.325	4.528	4.682	4.841	4.990	5.017	5.194	
Average annual percentage increase of total retail costs			5.0%	3.8%	3.8%	3.6%	0.6%	4.2%	3.5%

Notes: Following clarification from Ofwat, we have calculated the ACTS using 13/14 actual costs in 12/13 prices. These are not indexed up to 15/16. Any adjustment for IPP has been included in PR14 table R3, line 14. Our view of how costs increase over AMP6 based on 12/13 prices is detailed below and in the Oxera report.

This has resulted in an overall annual percentage increase for retail costs of 3.5%, including IPP, pension deficit recovery costs and activity-related costs.

The inclusion of the pension deficit recovery follows Ofwat guidance and has a deflationary effect on the total average increase from 2013/14 to 2019/20 because no further pension deficit recovery costs are included from 2018-19.

As shown in Table 3 below, the operating expenditure excluded from ACTS totals £0.963m in 2019/20 and is made up of the following:

- IPP costs of £0.741m by 2019/20, and
- Additional activity-related cost increases of £0.222m by 2019/20.

Table 3: IPP and additional activity-related costs from 2013/14 to 2019/20 increase by 3.3%

Description	AMP 5			AMP 6					Average from 13/14
	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	
IPP costs excluded from total operating expenditure	0.000	0.133	0.264	0.347	0.438	0.520	0.624	0.741	2.4%
Activity related cost increases excluded from total operating expenditure	0.000	0.000	0.042	0.083	0.121	0.159	0.192	0.222	0.9%
Total costs excluded from ACTS (total operating expenditure)	0.000	0.133	0.306	0.430	0.559	0.678	0.816	0.963	
Total Retail costs (excluding depreciation)	3.939	4.325	4.528	4.682	4.841	4.990	5.017	5.194	
Percentage increase year on year of IPP to total retail costs			4.2%	3.0%	3.1%	2.9%	3.3%	3.5%	3.3%

IPP costs excluded from total operating expenditure

IPP costs of £0.741m by 2019/20 are made up of increases in labour, bad debt costs and post and print costs. Table 4 below shows the increases required for both items over the six years from 2013/14 to 2019/20 and the year-on-year movement as a percentage of the input cost for each item. The average increase over the period for both sets of costs is in line with inflators put forward by PwC in 2013 and used by Ofwat

The combined increases when measured against total operating expenditure (excluding exceptional items) show an overall average increase of 2.4% for the six years from 2013/14. This increase is net of efficiencies we have imposed upon ourselves mainly related to post and print and bad debt, which total £0.219m by 2019/20.

Table 4: IPP costs excluded from total operating expenditure increase by 2.4% from 2013/14 to 2019/20

Description	AMP 5			AMP 6					Average from 13/14
	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	
Increase in 12/13 Labour costs (measured from £1.659m base, excluding G&S)	0.000	0.133	0.186	0.249	0.314	0.383	0.450	0.515	
Year on year labour increases			3.2%	3.4%	3.4%	3.5%	3.3%	3.1%	3.3%
Increase in 12/13 Print and Post costs (measured from £2.63m, less efficiencies)	0.000	0.000	0.078	0.098	0.124	0.137	0.174	0.226	
Year on year print and post price movements against print and post costs			3.0%	0.7%	1.0%	0.5%	1.3%	1.9%	1.4%
Input Price Pressure excluded from ACTS (total operating expenditure)	0.000	0.133	0.264	0.347	0.438	0.520	0.624	0.741	
IPP Percentage increase year on year against total operating expenditure			3.21%	2.01%	2.19%	1.97%	2.48%	2.77%	2.4%

This is in line with the Oxera report 'Adjustment to retail cost', discussed later in Part 2 of this section, which suggests an IPP adjustment of 1.9% net of 0.6% of frontier efficiencies. The Oxera report analyses only costs related to input price pressures and not the additional activity-related costs or costs related to bad debt.

Additional activity-related cost increases excluded from operating expenditure in PR14 table R3, line 1

The additional activity-related costs of £0.222m in 2019/20 noted in Table 3, which were not incurred in 2013/14 and excluded from operating expenditure, are summarised below in Table 5.

Table 5: Additional activity-related costs increase by £0.222m from 2013/14 to 2019/20

Description	AMP 5			AMP 6				
	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20
G&S costs allocated to Retail (according to guidance)	0.000	0.000	0.042	0.083	0.121	0.159	0.192	0.222
Total activity related cost increases excluded from ACTS (total operating expenditure)	0.000	0.000	0.042	0.083	0.121	0.159	0.192	0.222

G&S costs relate to service costs such as HR and IT being recharged to retail from the wholesale business. These costs are unavoidable and cover additional activity that is not included in the baseline 'total operating expenditure' figure.

Conclusion

Overall IPP and additional activity-related cost increases average 3.5% from 2013/14 to 2019/20, of which:

- Our IPP of 2.4% is justified by Oxera who propose 1.9% as detailed in Part 2 which follows, and
- The remainder is as a result of the inclusion of new, additional activity-related costs.

As a business, we have concluded that we need an IPP and additional activity-related adjustment of 3.5% per annum.

This is because of our unique position in terms of service and efficiency which is discussed in detail in Part 2 which follows, and as detailed in the Oxera report.

We accept in principle that a company should continue to become more efficient and manage its costs. We are at the efficiency frontier and Oxera suggest that there is scope for a 0.6% per annum frontier efficiency improvement. We do not challenge this and have applied efficiencies at this level in this supplementary submission.

It must be noted that such gains will be hard to maintain as the retail part of the industry undergoes fundamental change and activities such as tariffing, sewerage billing and increased governance need to be undertaken.

Part 2 – Factors driving input price pressures cannot be controlled by management and affect us in a materially different way to other companies

In part 1, we identified additional activity-related costs which are beyond our control. This section addresses solely the IPP that relates to labour and other activities such as post and print as evidenced in the Oxera 'Adjustment to retail costs' – April 2014 report which accompanies this supplementary submission, the findings of which are summarised below.

We evidence the following:

- Cost pressures are mitigated by proactive management as detailed in Appendix 1 'Management efficiency practices'. A key mitigating factor is cost efficiency.
- We are affected in a materially different way from the rest of the industry.
- The adjustment is robustly quantified and is based on efficient costs.
- We meet cost-efficiency standards, and the size of the adjustment is calculated using a suitable methodology.
- The individual components such as labour, bad debt, and IT are cost-efficient over time and in relation to other industries.
- Benchmarking has been conducted to show why an adjustment is justified; and what adjustment should be made.
- We have benchmarked beyond the sector and beyond one specific point in time.

Introduction

We have proven we can deliver great service at low cost.

Our December 2013 submission was based on research we conducted and analysed ourselves. We have continued this philosophy in researching this paper. However, to provide additional research, stress-test our proposals and draw together conclusions, we engaged Oxera to produce the independent report which accompanies this submission.

Oxera has examined whether an adjustment to household retail costs for inflationary price pressures is appropriate for us; and the size of the adjustment. The Oxera report does not consider activity-related costs.

The starting point for this assessment is to recognise that retail costs are affected by three factors:

- Input price effects – i.e. changes in the price of labour, and purchases such as postage, paper and raw materials
- 'Catch-up' efficiencies – i.e. cost reductions from catching-up to the efficiency frontier as given by customer service best practice in the industry
- Frontier shift efficiencies – i.e. cost reductions from technological and process improvements.

For all companies, the change in retail costs over 2015 to 2020 will depend on the total impact of all three factors, which will differ depending on the mix of these factors for each company.

Input price effects

Using Ofwat methodology, Oxera has concluded that we are efficient and at the efficiency frontier for the average cost to serve (ACTS). We are unique in the industry in that we are a top performer in customer service and debt collection with one of the lowest ACTS in the industry. Our cost pressures are well managed in relation to national and regional statistics especially in terms of labour (see Appendix 1 'Management efficiency practices').

Based on the type of costs included in our household retail cost base, and using external forecasts, our retail cost base will increase due to inflationary input price pressures, which will be partly offset by the proposed savings and frontier efficiencies.

Labour price pressure in particular has had a material effect on our cost base following an essential uplift in salary for call centre staff to align our remuneration levels with the local labour market and the living wage in 2013. As labour accounts for 57% of our retail cost base, the effect of labour price pressure is exacerbated. This affects us in a materially different way to other companies, where the proportion of labour costs averages at around 45% of the retail cost base. The inflationary price pressures are typically recognised as being outside of management control.

Labour costs as a proportion of our retail cost base is significantly higher than the industry

Input	% of industry household retail costs	% of SBW household retail costs
Labour	45	57
Bad debt	35	9
Other expenses	20	32

Our low level of bad debt; and low ACTS and low wage rates as evidenced in the Oxera report, demonstrate that we have little opportunity for reducing staff numbers or wage levels further. The future inflationary price pressure on labour costs cannot therefore be mitigated by catch-up efficiencies or frontier efficiencies as discussed below.

Catch-up efficiencies

The key question is the extent to which we can offset external inflationary pressures through catch-up and frontier shift efficiency improvements. Critically, we are different to most other companies in the industry because we are uniquely placed as one of the best-performing companies in the industry in terms of:

- Retail costs, as measured by the unmetered average cost to serve, and
- Levels of service, as measured by the SIM.

The table below demonstrates companies' relative performance on cost to serve and the SIM, and our position compared to others (see Oxera report page 10).

We are uniquely placed the best-performing and lowest cost company in the industry

		SIM  Better			
Better  Unmetered cost to serve	Quartile based on rankings	More than one standard deviation below the industry average	Between industry average and one standard deviation below	Between average and one standard deviation above	More than one standard deviation above average
	On or above the most efficient quartile	Portsmouth		Affinity, Sutton & East Surrey, Yorkshire	SBW
	Above the median	Thames		Anglian	Bristol, Wessex
	Above the least efficient quartile	South East	Severn Trent, Dee Valley	Northumbrian	
	On or below the least efficient quartile	Southern	South West, United Utilities	Dŵr Cymru	South Staffs/ Cambridge

We are unable to offset inflationary price pressures through catch-up efficiencies as we are already at the efficiency frontier. Therefore our scope for offsetting inflationary price pressures will be limited to frontier shift efficiencies.

Frontier shift efficiencies

The scope for frontier shift efficiencies is estimated by Oxera to be broadly equivalent to the potential input price inflationary pressure for printing, postage, bad debt and utility costs, at around 0.6% per annum of the retail cost base. That is, we should be able to mitigate these particular input price inflationary pressures through technological improvements such as, for example, e-billing and IT process improvements.

However, Oxera conclude that an adjustment is still required in respect of our retail labour price inflation. They state this will have the effect of increasing our retail cost base, affected by IPP, by around 1.9% per annum over AMP6.

Results of further work

Our research has proven we are a low-cost, high-quality service company.

Oxera's report addresses the requirements posed by Ofwat through the following series of questions.

Are these cost pressures beyond management control?

Yes, through local labour market pressures

See section 2 of the Oxera report, pages 5 to 6

Are we efficient and materially different to most other companies in the industry?

Yes, in terms of:

- The SIM
- The very low cost to serve
- Labour cost as a proportion of the overall retail cost base

See section 3 of the Oxera report, pages 7 to 10 and section 4, pages 11 to 14

Further evidence on the efficiency of our retail costs?

Yes, through:

- Strong debt collection
- Process and IT efficiency
- Median level salaries in local labour market
- Excellent use of the principle of continuous improvement

See section 4 of the Oxera report from pages 11 to 14

Has the size of the appropriate adjustment been estimated?

Yes, resulting in partial absorption of input price pressures through frontier efficiency

See section 5 of the Oxera report, pages 15 to 19

Has benchmarking inside and outside the industry been incorporated?

Yes, using:

- Ofwat data for industry comparison
- Local labour market and ASHE and OBR labour market surveys
- Government data on Royal Mail privatisation

See sections 3 and 4 of the Oxera report, pages 7 to 14

Has the work covered different time series?

Throughout the report our efficiency and costs have been benchmarked against past present and future trends. For example:

- Past and recent SIM and efficiency performance within the industry
- Future efficiency performance
- Past, present and future salary benchmarking with local and national measures

Conclusion

The Oxera report concludes that an adjustment to the household retail costs is appropriate because we are at the efficiency frontier on both retail costs, as measured by the unmetered average cost to serve, and levels of service, as measured by the SIM.

There will be some scope for us to offset inflationary price pressures through frontier shift efficiencies.

The estimate for frontier shift efficiencies is broadly equivalent to the estimate of the inflationary price pressures related to printing, postage, utility, bad debt and other costs. However, this fully depletes our potential for further efficiency improvements.

Therefore Oxera conclude that an adjustment is required to our retail cost base for the remaining inflationary price pressure, namely, labour price inflation. This is estimated by Oxera to be around 1.9% per annum on our retail cost base.

Overall conclusion

We conclude we require an adjustment on our retail costs of 3.7% per annum over AMP6, comprising inflationary price pressure of 2.2%, with the remainder made up of additional activity-related costs.

Appendix 1

Management efficiency practices

Introduction

Sembcorp Bournemouth Water is unique in that it has managed to deliver excellent customer service as measured by the Service Incentive Mechanism (SIM) and the Cabinet Office Customer Service Excellence Award (CSE) in a very efficient manner with a low Average Cost to Serve (ACTS).

This has been achieved through a planned and methodical approach of applying a philosophy of right first time in an environment of continual improvement. There has been no single large efficiency gain to report but the table below details a number of key management practices that manage costs while optimising processes and procedures to improve service. Key points are:

- Individual staff contracts
- Terms and conditions can be different in different company departments
- Regular staff engagement
- Regular process reviews
- Root cause analysis of complaints and errors and relentless drive to remove them

We understand that to stay in this position we need to strive for further efficiency and service improvements, motivating and retaining the best quality staff.

A number of the practices listed below are not new or unique. However, we ensure they are applied effectively, actively engaging staff in our targets, philosophy and the success of the business as noted in our Investors In People (IIP) assessment summary statement below:

“The leadership and management at SBW is impressive, blending achievement of business targets with very good people policies and practices. Staff believe they are well led and managed, they enjoy their work, are proud to work for the company and are committed to its success. The company’s core values are alive and kicking throughout the enterprise – customer service is particularly important and it’s a pleasure to witness how individuals and teams combine to deliver a quality service to the customer”.

Evidence of procedures and policies have been referenced in the table below and these are included as part of our supporting evidence.

Management practices	Efficiencies
<p>All staff have individual contracts and we do not negotiate collective wage settlements. We have had one pay freeze and have awarded annual increases below RPI for some years, benchmarking salary increases against inflation rates. See Table 1</p>	<p>Our salary awards are based on overall budget target and individual performance to ensure best service and greatest value for money. Our pay awards reflect our need to remain cost efficient but also to retain and attract the right people.</p>
<p>We benchmark our salaries in the region against local companies and recruitment agencies to ensure we are competitive in terms of efficiency and competing in the market to attract and retain staff. See table 2</p>	<p>When we recruit staff through agencies, one has been quoted as saying “Sembcorp Bournemouth Water’s Customer Service Advisor vacancies are very much specialist roles which makes it more difficult for us to source the right calibre of persons to put forward”.</p> <p>Recruitment is expensive and risky and it takes at least six weeks to train a retail services member of staff. Therefore we need to create an environment that retains and motivates staff. We have managed to maintain our turnover within retail and the contact centre in line with the national average of 10.6% in 2013 (source: XpertHR) and 10.4% in 2014 (source: Daily Telegraph 17 June 2014 quoting PwC research).</p> <p>Overall staff turnover in 2013 – 10.10% Retail staff turnover in 2013 – 9.7% Contact Centre staff turnover in 2013 – 9.09%</p>
<p>We cost-justify all recruitment to ensure the role/person is required</p>	<p>Our recruitment process has a three-level approval process for all new permanent or temporary roles with final sign-off at Managing Director level. Within the process, even if the role is a replacement, managers have to provide a business case that is tested before approval is given. This ensures no unnecessary or inefficient recruitment takes place. Ref: SBW recruitment procedure</p>
<p>We have a 33% rule where staff absorb roles of leavers</p>	<p>Within the recruitment process, when a person leaves a role their colleagues are given the opportunity to share 33% of the leaving person’s salary if they can absorb the leaving person’s responsibilities. This ensures costs are reduced while maintaining productivity and service levels. Ref: SBW recruitment procedure</p>

Management practices	Efficiencies
We have in place a staff menu of benefits to enable staff to enhance their terms	<p>We offer very good employment terms such as sick pay – up to six months full pay and six months half pay; and paying sick pay from day 1 of the absence. We also give more than statutory holiday.</p> <p>Every year we offer staff in Retail the opportunity to trade holiday to increase their income and our productivity. We also find short sickness absences very disruptive and we offer staff the opportunity to forego their first three days of sick pay for enhanced payment. Ref: Menu of benefits rules</p>
We operate a specific absence and sickness policy within our call centre	Within the call centre we do not pay the first three days of absence (in line with statutory sick pay) because short-term absence is very disruptive. This reduces lost productivity through staff absence and allows the call centre to maintain service levels. This is in line with the policies of some high street retailers.
We carry out internal call auditing and agent productivity monitoring	In-house systems are in place to ensure service quality and productivity targets are achieved at no extra cost. Ref: Call auditing guidance and forms
We grade staff against competence levels which are reflected in salary scales	Within the Retail business, Meter Reading and Contact Centre staff are graded against competence levels. This ensures continual development in staff performance. Salary is related to experience/knowledge and so wage increases are clearly earned, linked to productivity and not just awarded for time served.
We make available online services and an automated payment line to avoid calls	We invest in web services such as online application for meters, online payment and online query answering. We also offer an automated payment line. These services will be further enhanced with our new billing system. Providing these services controls call volumes which helps us maintain staffing in Retail at an efficient level rather than increasing staff numbers to deliver these automated services.
We operate an internal department and Message Direct overflow service	To manage peak calls rather than overstaff the call centre, our phone system is set up to enable overflow to other retail and operations departments when call volumes are high. The system initially checks whether the contact centre is fully engaged with calls and then passes calls out to staff logged into the system.

	<p>Additionally, we have an operational overflow service hosted by a third party which answers calls as SBW at peak demand times. This helps us to manage Retail staffing levels because we can resource our departments for normal demand, with the overflow centre providing peak demand cover for the cost of one Customer Service advisor.</p>
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Management Practices	Efficiencies
We operate a “Win-Win” innovation and incentive staff suggestion scheme	Staff are rewarded for coming up with ideas for company efficiencies through this scheme. Where staff suggest a money saving or revenue generating idea, they are rewarded with up to 25% of the first year’s savings or revenue. To date, this has paid out a number of awards over £1,000. Ref: Win Win scheme rules 2013
We have the highest ratio of reads per meter reader	Over the years with route planning and staff incentives, we have maximised productivity in the meter reading department. The department can deliver 300,000 bulk meter reads and 30,000 adhoc reads per annum with 10 FTE.
We use mobile working and vehicle tracking for meter readers	We maximise the use of mobile working and vehicle tracking to pass jobs and appointments live to the field staff using vehicle tracking to identify the nearest person to allocate the work to. This results in higher productivity and efficient use of time.
We are currently installing a new billing and CRM system (go live planned for October 2014)	<p>Our new Customer Relationship Management system will allow for significant process efficiency and help manage the current headcount in Retail whilst providing improved levels of service. The system will give us the opportunity to provide customers with the flexibility of self-service, which will benefit both customers and the company through reduced dependency on staff. Customers will be able to:</p> <ul style="list-style-type: none"> • update personal details online • book appointments or meter readings • upload meter readings and automatically calculate the bill from the readings • receive text notification of bills or visits • have access to historical bills, download copy bills and request new bills • access an online chat facility • view the location of technician or field revenue operatives • access old contacts or phone calls • access their details from any internet device • view and pay bills online • benefit from 24-hour access • receive flexible payment dates and times
We have a right-first-time philosophy	We push hard on a right-first-time approach of continual improvement. This reduces error-related work, such as repeat contacts in the call centre and complaint handling which is demanding on staff and management time and not productive.

Management practices	Efficiencies
Quality circles	In line with the above, we hold regular formal and informal group reviews of processes and issues with staff to see where small improvements can be made to improve service and efficiency.
Innovation group	We encourage technical and process innovation and have formed a company-wide innovation group to review and suggest improvements to implement across the organisation. The innovation group comprises a cross section of staff to encourage 'out of the box' thinking.
Company-wide staff incentive scheme	We operate a bonus scheme designed to ensure we meet and beat our budget targets and service KPIs. This focuses staff to ensure we control costs and remain strong in our service delivery.

Table 1 – our salary increases in the last five years have been significantly below RPI

Date of Salary Review	Increase Awarded	RPI
April 2009	1.5%	3.0%
April 2010	NIL (No Pay Award)	0.3%
January 2011	2%	4.7%
January 2012	3.25%	5.2%
January 2013	1.5%	2.8%
January 2014	1.5%	2.6%

Table 2 – our Customer Advisor salaries are competitive and within the correct salary banding for our area

Company	Level 1 (Starter) Customer Service Advisor	Level 2 (Experienced) Customer Service Advisor
Sembcorp Bournemouth Water	£16,000 - £16,500	£18,000 - £19,500
Wessex Water	£16,494	
RIAS (customer calls only)	£15,000 - £16,000	
Southern Water	£17,609	
SSE Electricity Company	£17,948	
Lloyds Banking Group	£17,910	
Bond Williams Recruitment Agency*	£16,000 - £18,000 Dependent on experience	£18,000 - £20,000
REED Recruitment Agency	£14,000 - £15,000 Dependent on experience	£18,000 - £20,000
TATE Recruitment Agency	£16,000 - £17,000 Dependent on experience	£18,000 - £20,000
Rock Recruitment Agency	£17,000 - £17,500	£18,000 - £20,000
Candidate Source Recruitment Agency	£17,000 - £18,000 Dependent on experience	£18,500 - £19,500

7. Default tariffs

Introduction

Key points:

- Demand analysis no longer supports the continuation of seasonal tariffs therefore tariffs have been restructured
- The proposed default tariffs are compliant with Ofwat's guidance
- We expect to use transitional tariff policies to manage incidence impacts and will examine other options for further mitigation

Introduction

As explained in our December 2013 submission, as part of the default tariff process we have conducted a full review of our tariff structure to ensure that in AMP6 tariffs are:

- Cost reflective
- Comply with Condition E of our licence
- Compliant with Competition Law
- Appropriate to the future operating environment.

We have worked with an independent tariff expert and taken legal advice to ensure that we meet these objectives.

The tariffs we presented in December were indicative. Since then we have conducted further work to incorporate Ofwat's default tariff guidance and update the analyses using 2013/14 regulatory accounting data. We have also introduced an additional tariff band. The process has been reviewed by Halcrow Management Sciences Ltd to provide third-party assurance of the robustness of our approach.

A key part of the work has to analyse incidence effects to individual customer level. Because of the granularity of this information we are confident that we can manage these impacts. More detail is provided later in this paper.

In its default tariff guidance Ofwat provided a list of its expectations that companies would address. This paper is structured around that list.

Ofwat's consolidated expectations

1. If assumed wholesale charging structures differ from existing tariff structures, for a clear justification to be provided why an alternative structure has been used to calculate the projected wholesale charge.

Response:

Historically our peak week demand factor has reached as high as 1.49. Our current seasonal tariffs were therefore designed to ensure a 'no worse off' principle if the customer has a relatively stable monthly use, but include an incentive to reduce summer use (during June-August) and save money by doing so.

In developing the cost analysis to underpin wholesale tariff development it was apparent that the coincident peaking factors that had motivated the development of the seasonal tariff structure were no longer supported by the demand analysis. The revised structure has been developed to reflect this.

The paper produced by our independent tariff consultant, and submitted with our December submission, provides more information.¹

2. For companies to consider re-balancing the wholesale charges across the non-household tariff bands to limit the implication of any significant incidence effects.

Response:

As detailed in the December 2013 submission, we undertook a review of our wholesale charging structures as well as developing our new default retail tariffs for non-household customers.

This review of wholesale charging was based on a bottom up fully distributed cost allocation methodology. Details of this cost allocation methodology were provided with our December submission.

The results of that analysis were used to inform a new and simpler wholesale charging structure. The importance of simpler charging structures came through very strongly in our customer research. At the time of the December submission, this analysis suggested that the unit cost to serve for commercial customers was broadly constant up to 10 MI/a. This suggests that commercial customers in this range should face very similar unit tariffs. For customers > 10 MI/a it was clear that the unit cost to serve reduces and also that an unconstrained cost allocation would see cost recovery rebalanced toward the users in the 10-50 MI/a category and away from the largest users in the > 50 MI/a category. As described at the time, to minimise the scope for incidence effects as a result of tariff changes at PR14 it was decided to treat users > 10 MI/a as a single customer segment.

Since the December submission, we have updated the demand, cost driver and cost data (wholesale and retail) to reflect the 2013-14 Regulatory Accounts, Ofwat's default tariff guidance and taken account of cost re-allocations between wholesale and retail services.

¹ ICS report on wholesale and retail tariff development

Using the same wholesale cost allocation methodology to the 2013-14 data, we found that:

- There is an implied imbalance between unmeasured (under-recovering) and measured households (over-recovering). In combination, household tariffs were under-recovering wholesale costs by around 2.7% (household tariffs generating 72.4% of income compared to 75.1% of costs).
- This implies an over recovery of costs by commercial customers, however this over-recovery was unevenly distributed across the commercial customer segments.

Applying this unconstrained cost allocation to tariffs would have created significant incidence effects for unmeasured households and non-households (>10% increases in bills) and large movements in bills (> 10% decreases and up to 4% increases) for some measured non-household segments.

The finalised wholesale charging structure has therefore been designed to avoid the risk of significant incidence effects. The key principles guiding this design have been:

- The current balance between household and non-household cost recovery has been maintained in the proposed wholesale charges. This ensures that household and non-household will broadly recover wholesale costs in line with current proportions;
- Minimising the incidence effects for metered non-households arising from a shift from meter size based standing charges (under current tariffs) to fixed charges based on retail service costs (under the new default tariff structure); and
- Minimising individual bill changes for large users (> 10 Ml/a) customers currently on the large user seasonal tariffs. While, at the level of customer classes, the evidence to support a seasonal tariff structure is no longer present, moving from the current seasonal tariffs to the new wholesale and default retail tariffs will result in bill changes at the level of individual customers.

The move to a simpler wholesale charging structure combined with the level of cost rebalancing observed in the cost allocation modelling would have otherwise created more significant incidence effects than those observed (see further detail in point 4. below). Thus, the simpler wholesale tariffs for > 10 Ml/a customers have been designed to ensure overall cost recovery is broadly similar to present level.

In keeping with these policies to minimise incidence effects arising from the new wholesale and default retail tariffs, the proposed wholesale charging structure is as follows:

Table 1: wholesale unit rates 2013-14

Customer Band	Wholesale unit tariff (£ per m³ – 2012-13 prices)	% reduction relative to standard metered wholesale rate (up to 10 MI/a)	Average % reductions under current charging structures
Standard rate (up to 10 MI/a)	1.1890		
10-50 MI/a	1.1626	-2.2%	-3.9%
> 50 MI/a	1.0200	-14.2%	-14.8%

Based on our updated analysis since the December submission, different unit rates for the 10-50 MI/a and > 50MI/a have been re-introduced. Again this is motivated by the objective of minimising incidence effects for customers moving from the current seasonal tariffs. As the table above shows the % reductions in wholesale unit rates for customers above 10 MI/a are very similar to the % reductions implied by current charging structures.

3. If new structures are proposed, for companies to explain clearly why they consider those structures to be appropriate.

Response:

Wholesale charges are structured as unit rates (pence per m³) with 3 bands:

- Standard (up to 10 MI/a)
- 10-50 MI/a
- 50 MI/a

This wholesale tariff structure has been supported by the cost allocation analysis of our wholesale costs (as described above) and also informed by our analysis of the potential incidence effects of the new wholesale and default tariff structures (see further detail below).

The proposed default tariff structure has 8 customer bands:

- Unmetered non-households
- Pseudo-domestic metered non-households (up to 0.75 MI/a)
- Small metered non-households (0.75 to 2 MI/a)
- Medium metered non-households (2 to 4 MI/a)
- Medium metered non-households (4 to 10 MI/a)
- Large metered non-households (10-50 MI/a)

- Very Large metered non-households (> 50 MI/a)
- Special agreement (1 customer)

These bands have been developed through by our analysis and allocation of retail costs (see further detail below), which demonstrates how the unit cost of retail service varies across these segments.

The proposed default tariffs are structured as fixed charges (per customer), except in the case of domestic metered non-households (0 to 0.75 MI/a). For this category the default tariff is structured as a fixed and variable volume charge. This difference arose from our analysis of potential incidence effects, which showed that bill increases > 5% were dampened in this customer segment with a fixed/variable approach (reflecting a relatively high proportion of below average volumes for customers in this segment).

The default tariffs (equal to the gross margin) have been set to recover the sum of retail operating costs plus a retail operating margin (net margin) in line with Ofwat guidance. The net margin has been set at 2.5% over all non-households, though as explained below the net margins have been set differently across the default tariff bands.

Table 2 summarises our proposed default tariffs (based on 2013-14 costs and shown at 2013-14 prices). The tariff levels submitted in Table R4 for the period 2015-20 are derived from these calculated tariff levels for 2013-14.

Table 2: costs and margins for default tariffs

Customer Band	Retail Operating Costs (£000)	Operating Margin (£000)	Wholesale Revenue (£000)	Total Revenue (£000)	Gross Margin (£/per customer)	% Net Margin
Unmeasured Non-Households	21	3	357	380	23.50	0.73%
Domestic: 0 to 0.75 MI	272	30	1920	2223	23.50	1.36%
Small: 0.75 to 2 ML	27	38	1962	2027	49.32	1.88%
Medium: 2 to 4 ML	11	67	1486	1564	182.74	4.29%
Medium: 4 to 10 ML	41	92	2001	2134	509.66	4.29%
Large: 10 - 50 ML	15	65	1621	1701	999.53	3.82%
Very Large: 50 + MI	3	6	376	385	2379.42	1.66%
Special Agreement	4	80	4745	4829	84103.10	1.66%
Total	395	381	14469	15244		2.50%

Table 3: default tariffs (2013-14 price base)

Customer Category	Gross Margin (£/per customer)	Fixed Charge (£/per customer)	Volume Charge (£/m3)
Unmeasured Non-Households	23.50	23.50	0.0000
Domestic: 0 to 0.75 MI	23.50	18.55	0.0407
Small: 0.75 to 2 ML	49.32	49.32	0.0000
Medium: 2 to 4 ML	182.74	182.74	0.0000
Medium: 4 to 10 ML	509.66	509.66	0.0000
Large: 10 - 50 ML	999.53	999.53	0.0000
Very Large: 50 + MI	2379.42	2379.42	0.0000
Special Agreement	84103.10	84103.10	0.0000

4. If new structures are proposed, for companies to have considered the potential incidence effects

Response:

One of our key priorities has been to understand the incidence effects of changing to the proposed wholesale and default retail tariff structures.

Using 2013-14 data we have repeated the ‘what if’ analysis of non-household customers’ bills under the proposed wholesale and retail tariffs compared with the current total tariff structures.² These current tariffs include the seasonal tariff currently available to larger users. To ensure valid comparisons the total incomes under each tariff scenario are reconciled to the current billed total of £9.83 million.

Our incidence analysis simulates bills for a substantial sample of measured non-households customers. The analysis was undertaken for about 13,300 individual commercial customers out of a total of about 15,000 billed commercial customers.

The results, shown below in Figure 1, suggest around 53% of customers will see their bills increase with 47% correspondingly experiencing lower bills. This number of losers is lower than that reported in our December submission (61%), reflecting a number of changes to the default tariff structure to help mitigate incidence effects. For example, structuring the default tariff as a fixed and variable tariff reduces the number of lower volume users in the 0 to 0.75 MI/a band. Furthermore, re-introducing different wholesale unit rates for the 10-50 MI/a and > 50 MI/a bands similarly helps dampen impacts on losers.

² Special agreements are excluded from this analysis as the wholesale rates and default tariff for the special agreement have been set to reconcile with the current contractual terms with this customer.

Figure 1: at 2013/14 tariff levels the distribution of gainers and losers is broadly even



Figure 2 shows what results of comparing the calculated wholesale and default retail tariffs for 2013-14 with the projected levels for 2019-20 (both expressed at the 2012-13 price base).

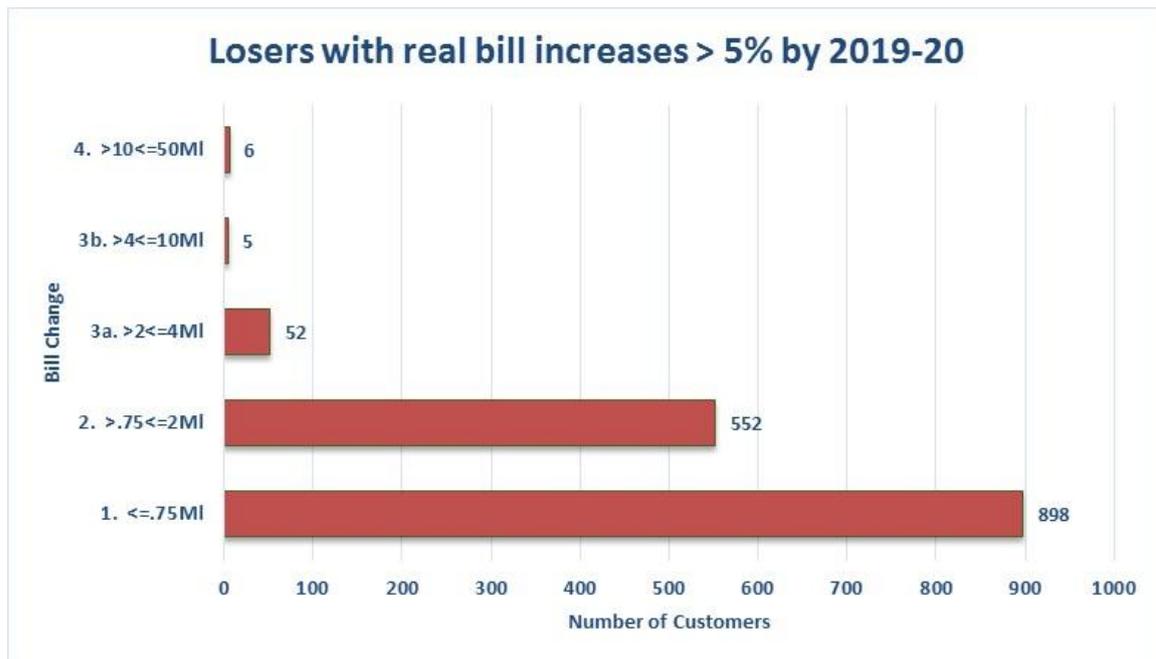
By 2019-20 37% of customers are projected to be losers with the restructured wholesale and default retail tariffs.

Figure 2: by 2019-20 there will be fewer losers



However Figure 3 identifies the distribution by tariff band of customers who will continue to experience real increases of > 5% in their bills by 2019-20.

Figure 3: by 2019-20 some customers will still be >5% worse-off



Options for mitigating incidence effects

The potential for real bill increases of > 5% within a context of overall price reductions emphasises the importance of careful management of the introduction of the new wholesale and default retail tariff structures.

We expect to use transitional policies to smooth these impacts and will closely monitor the roll-out of the annual tariff structures.

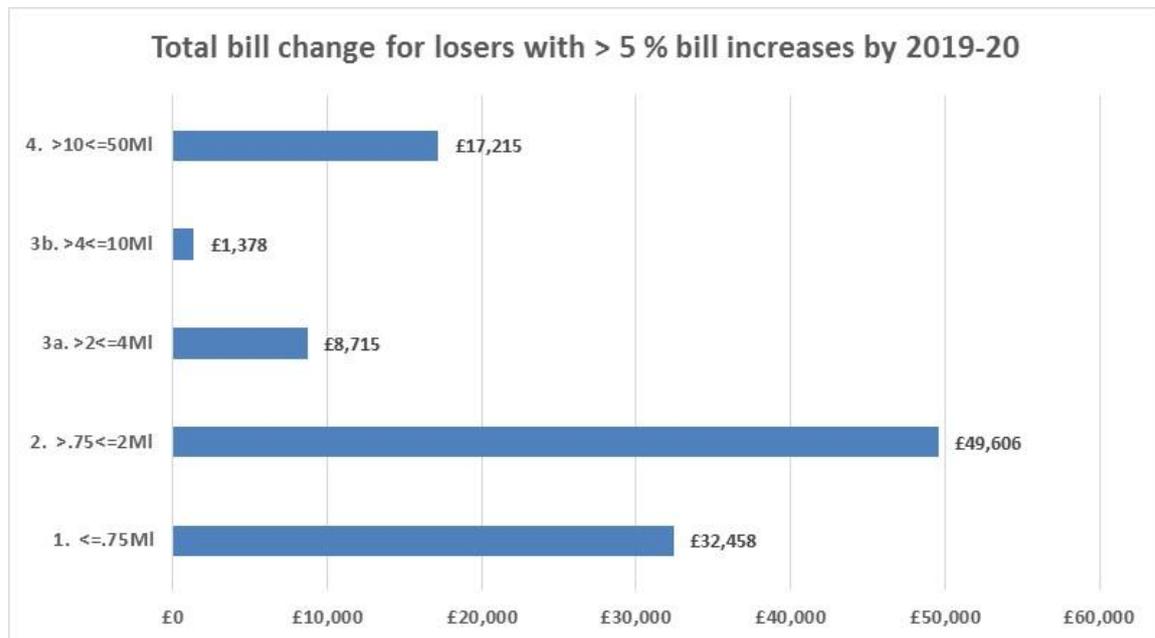
However it is also important to contextualise these impacts by considering them from a financial perspective. Figure 4 provides this context for the management of these potential incidence effects.

It shows the total bill increases (in real terms) for those customers who will experience bills increases of more than 5%. In total these bill increases sum to £109,000 or about 0.8% of projected total income from default retail and wholesale tariffs in 2019-20.

The analysis we have presented above assumes that the overall price reductions will be allocated evenly across the wholesale and default tariff reductions. Mitigation of the potential incidence effects could be aided by tilting the overall AMP6 price reductions towards the tariff categories anticipated to be worst hit by the transition to the new wholesale and default retail tariffs.

We are currently examining how this can be managed.

Figure 4: the total value of bill changes for customers with increases > 5% at 2019-20 tariff levels



5. Companies to have included distinct proposals for the services identified above in completing table R4.

Response:

Our overall non-household retail strategy is to deliver an excellent customer experience which results in customer retention and acquisition. All non-household customers will receive a level of service beyond the proposed Guaranteed Standard Scheme (GSS) measure and based on the SIM, using similar surveys to measure our performance. This equivalent SIM measure will provide focus to ensure that we continue to offer customers an excellent service.

We will adopt a tailored approach to managing our non-household customers, offering a service based on their particular needs and demands. Our focus will be to provide a one-stop shop for our customers with the aim of:

- Consulting directly with our customers on key topics
- Proactively offering customers the detail of savings they could make if they took up some of our value added services
- Identifying customers' preferred method of communication with us and introducing online customer service management
- 80% first contact resolution (currently 70%), with 95% first contact resolution for written complaints (currently 90%)
- Holding up-to-date customer data to ensure we understand our customers' needs

- Ensuring visible leaks have a substantial response (resolution or stated completed work date) within seven working days

Offering enhanced services such as:

- online metering and billing,
- water audits and
- water conservation reviews

Tariff band	Service provision
0 – 0.75 MI (pseudo domestic)	Value added service savings Identify preferred method of communication 95% first contact resolution for written complaints Substantial response to visible leaks within seven working days Online metering & billing Desk top and telephone assisted water audits and conservation reviews
0.75 – 2 MI	As above
2 – 4 MI	As above plus Key account visits and contact Consolidated billing Onsite water audits Onsite conservation reviews
4 -10 MI	As above
10 – 50 MI	As above plus Detailed onsite six monthly customer reviews
Over 50 MI	As above

6. Companies to explain why they have decided on the number of tariffs proposed.

Response:

As detailed in our response to question 3 we propose six non-household (NHH) default tariff for metered customers and a further two for unmeasured NHH customers and those currently under a special agreement which are small in number and clearly different to the majority of the other NHH customers.

The 0-0.75 MI tariff band represents the majority of our NHH customers and are banded together as a homogeneous group. This group mainly consists of small NHH customers with consumption similar or less than our HH customers. We intend to treat these customers in exactly the same manner as our household customers and our retail tariff reflects this.

The 0.75-2 MI and 2-4 MI bands reflect the NHH customers broadly termed as medium users of water. They are in two succinct groups as our analysis shows that in the 0.75-2 MI group there is an added debt risk which decreases as consumption exceeds 2 MI per year. This reflects our research and experience in that as water becomes more important to NHH customers in terms of their business the risk of non-payment reduces.

The final 3 bands, 4-10, 10-50 and >50 MI, reflect what we have previously classed as our Key Account Customers and as such all benefit from extra services including an Account Manager resulting in an increased cost to serve. The three bands again reflect annual consumption and a natural fit to the effort in serving customers of these sizes.

7. The retail service costs allocated to default tariffs to not include costs associated with services to developers.

Response:

Services to developers are not included in our default tariffs.

8. WaSCs to offer a water only and wastewater only default tariff, and not a dual service tariff.

Response:

This is not applicable.

9. WaSCs choosing to reflect economies of scope in the default tariffs, to use the approach outlined above of including a charging variable (as opposed to using a separate tariff to take account of the effect).

Response:

This is not applicable.

10. Companies to have considered whether separate default tariffs are required for any special agreements.

A default tariff has been submitted in Table R4 for the special agreement at the Fawley site.

11. Companies to consider having different net margins for different proposed tariff bands.

Response:

We are analysing the impact of different net margins and will adopt the profile that is most appropriate for customers while ensuring that working capital is covered. See our response to '12' below.

12. Where companies have used different margins for different proposed tariff bands, for them to explain how they have determined the appropriate proposed margin.

Response:

This response covers expectations 11, 12 and 13.

In setting our proposed default tariffs we have examined the most appropriate approach to take for the setting of net margins in each proposed tariff band.

One option was to profile the overall 2.5% net margin uniformly across the non-household customer segments.

As recommended in the Ofwat default tariff guidance we have applied the check that the calculated net margins cover the working capital requirements for each tariff band. Table 4 shows the Working Capital cover ratio for each band – this is the number of times the net margin would cover the working capital requirements in each segment. These requirements were calculated using debtor days from each band, the cost at risk (wholesale plus retail costs) and a financing cost of 3.1%.

Table 4: a uniform 2.5% net margin results in uneven working capital cover

Customer Category	Operating margin with uniform 2.5% net margin (£000)	Working capital requirement (£000)	Working capital cover ratio
Unmeasured Non-Households	9.7	0.18	52.7
Domestic: 0 to 0.75 MI	56.2	2.00	28.1
Small: 0.75 to 2 MI	51.0	2.53	20.1
Medium: 2 to 4 MI	38.4	4.45	8.6
Medium: 4 to 10 MI	52.4	6.07	8.6
Large: 10 - 50 MI	42.0	4.31	9.7
Very Large: 50 + MI	9.7	0.42	23.0
Special Agreement	121.8	5.30	23.0
Total	381.1	25.27	15.1

An implication of applying the 2.5% margin uniformly across the tariff bands is that the working capital cover ratios are uneven across the bands. This implies that operating margin would be generated disproportionately to actual working capital requirements to an extent that is not supported by the likely differences in payment risks. In fact the uniform margins approach results in working capital covers being skewed towards larger and smaller commercial customers, which is at odds with known debtor write-offs (see

Table 7 below).

We propose an alternative approach, which is to generate operating margins for each tariff band that are proportionate to actual working capital requirements. This ensures that operating margins are aligned to cash flow financing requirements. The consequence of allocating the overall net margin in this way is to ensure that working capital covers are equalised across the tariff bands and ensure that the highest share of operating margin is generated in bands with the highest working capital requirements. Table 5 shows this.

Table 5: profiled net margins with overall 2.5% net margin

Customer Category	Operating margin with profiling of overall 2.5% net margin (£000)	% share of overall net margin	Working Capital Requirement (£000)	% share of overall working capital	Cover Ratio	Net Margin (%)
Unmeasured Non-Households	2.8	0.7%	0.18	1%	15.1	0.73%
Domestic: 0 to 0.75 MI	30.1	7.9%	2.00	8%	15.1	1.36%
Small: 0.75 to 2 MI	38.2	10.0%	2.53	10%	15.1	1.88%
Medium: 2 to 4 MI	67.1	17.6%	4.45	18%	15.1	4.29%
Medium: 4 to 10 MI	91.6	24.0%	6.07	24%	15.1	4.29%
Large: 10 - 50 MI	65.0	17.0%	4.31	17%	15.1	3.82%
Very Large: 50 + MI	6.4	1.7%	0.42	2%	15.1	1.66%
Special Agreement*	80.0	21.0%	5.30	21%	15.1	1.66%
Total	381.1		25.27		15.1	2.50%

13. Companies to have checked that the proposed net margins more than cover the working capital associated with each tariff band.

Response:

See '12' above.

14. Companies to consider the profiling of the proposed net margin across the different years.

Response:

We have detailed above in '11' how we have profiled margins across customer bands to ensure that working capital ratios are even across bands.

Having considered the option of further profiling across different years we do not currently see a benefit and have therefore modelled tariffs uniformly across AMP6.

15. Companies to explain how they have decided to profile the proposed net margin.

Response:

See '14' above.

16. Companies to consider Ofwat's risk and reward guidance (published in January 2014).

Response:

We confirm that our default tariffs are in line with Ofwat’s risk and reward guidance. Specifically, the default tariffs are consistent with an overall net margin of 2.5% for each year 2015-16 to 2019-20.

17. Companies to explain clearly the cost drivers they have used to allocate costs

Response:

For this June Submission, the cost drivers for retail expenditures were reviewed to ensure consistency with Ofwat’s Default Tariff guidance. The allocation of retail expenditures to each of the default tariff bands was based on the following cost drivers:

Table 6: Retail cost drivers

Cost Driver	Retail Activity	Allocation rule
Number of Bills	Billing	Proportion of total bills issued in 2013-14 (36,878)
Number of Receipts	Payment handling, remittance and cash handling	Proportion of total receipts in 2013-14 (53,079)
Number of Reads	Meter reading	Proportion of total meter reads in 2013-14 (37,472)
Actuals	Doubtful debts	Proportion of total actual write-offs for 2013-14 (19,675)
Customer Numbers	All other direct retail operating expenditures, General & support*, Total business activities, Rates, Depreciation (shared and own)	Proportion of total metered non-household customers in 2013-14 (15,031)

* General & Support overheads associated with account management by senior staff for Fawley Special Agreement were allocated directly to that customer segment.

The resulting expenditure allocations are summarised in the table below:

Table 7: Retail cost shares by non-household customer category

Non-household category	% retail cost share	% customer share	% doubtful debts and debt management
Unmetered Non-Households*	5.3%	6.26%	9.26%
Metered Non-Households			
<i>Domestic (<0.75 ML)</i>	69.0%	80.6%	70.9%
<i>Small: 0.75 to 2 ML</i>	6.8%	8.2%	10.0%
<i>Medium: 2 to 4 ML</i>	2.8%	2.7%	2.2%
<i>Medium: 4 to 10 ML</i>	10.5%	1.6%	5.0%
<i>Large: 10 - 50 ML</i>	3.8%	0.5%	2.6%
<i>Very Large: 50 + MI</i>	0.8%	0.03%	0.02%
<i>Special Agreements</i>	1.0%	0.01%	0.01%
Total	100%	100%	100%

* In the allocation of retail costs, unmetered non-households are treated as equivalent to unmetered households and are allocated the same unit retail cost (£ per customer).

The % cost share for each non-household segment highlights the influence of each cost driver. For categories where meter reading frequency increases above annual or bi-annual billing (from 4 MI/a and above) there is a clear increase in allocated retail costs (above their proportion of non-household customers). Doubtful debts are also highest in share terms for unmetered customers, small commercials (0.75 to 2 MI) and medium commercials (4 to 10 MI) and this further drives a higher share of retail costs for these customer segments.

The differences between these retail cost shares compared to customer shares confirms the appropriateness of the above bandings for default tariff purposes. This analysis confirms sufficient variation is observed in the unit cost of retail service within each customer category to justify the setting of separate default tariff average revenue controls.

- Companies to allocate costs using cost drivers that are at least as cost reflective as those identified above

Response:

The allocation of 2013-14 costs arising from the cost driver analysis described above in '17' is summarised in the table below.

Table 8: Allocated retail costs by non-household customer category

Non-household category	£,2013-14 prices		£,2012-13 prices	
	Allocated 2013-14 Retail Costs (£K)	Average Retail Cost (£ per customer)	Allocated 2013-14 Retail Costs (£K)	Average Retail Cost (£ per customer)
Unmetered Non-Households	20.725	20.72	20.102	20.10
Metered Non-Households				
<i>Domestic (<0.75 MI)</i>	272.454	21	264.262	21
<i>Small: 0.75 to 2 MI</i>	26.743	20	25.939	20
<i>Medium: 2 to 4 MI</i>	11.112	26	10.778	25
<i>Medium: 4 to 10 MI</i>	41.456	159	40.210	154
<i>Large: 10 - 50 MI</i>	14.998	187	14.547	182
<i>Very Large: 50 + MI</i>	3.138	784	3.043	761
<i>Special Agreements</i>	4.123	4123	3.999	3999
Total	395		383	

19. Costs to reconcile to externally audited accounts for 2013-14

The retail operating costs used in the setting of the default tariffs have been reconciled to the 2013-14 Regulatory Accounts. The reconciliation summarised in the table below has been extracted from the tariff setting and cost allocation model developed for us by independent consultants (ICS Consulting).

Table 9: Retail cost shares by non-household customer category

Cost Category	£m, 2013-14 prices
Retail Operating Costs in 2013-14 as per Regulatory Accounts	0.552
<u>Less Exclusions:</u>	
<i>Services to Developers</i>	-0.035
<i>Third Party Services</i>	-0.002
<u>Business Plan Adjustments:</u>	
<i>Transfers of General & Support to Wholesale</i>	-0.140
<i>Pension Plan Deficit Recovery</i>	0.029
<i>Shared Depreciation</i>	0.017
Adjusted Retail Operating Costs	0.421
<u>Less Metering asset related depreciation*</u>	-0.026
Retail Costs for Default Tariff Setting	0.395

* Current cost depreciation associated with metering assets allocated to wholesale cost recovery for tariff setting purposes. Allocation in proportion to net MEA share for non-household metering assets.

We have also engaged Halcrow Management Sciences Ltd to review and provide assurance³ on the approach that we have taken and that the costs used reconcile to the 2013/14 Regulatory Accounts.

20. For data to reflect any updates made to companies' business plans as set out in Ofwat's price control process.

Response:

We have ensured that, in Table R4 the required annual adjustments are consistent with the level of modelled wholesale revenues and retail costs.

³ Halcrow Management Sciences Ltd Default Tariff Assurance

21. The retail service costs allocated to default tariffs to not include costs associated with miscellaneous charges.

Response:

We confirm that our default tariffs do not include costs associated with miscellaneous charges.

22. Companies to apply appropriate quality checks to assure the quality of the submission.

Throughout the tariff development process we have engaged an independent tariff expert, Dr Scott Reid of ICS Consulting, to work with us to assist in the development of the tariff structure. The process has been iterative and involved challenge and discussion between us and him. The breadth and depth of his knowledge has supported the development of a robust tariff proposal.

We have further engaged Halcrow Management Sciences Ltd to review the ICS Consulting methodology and tariff model; our adherence to Ofwat's default tariff guidance; consistency to the 2013/14 Regulatory Accounts and the correct completion of Table R4.

23. Companies to produce a statement explaining how they have assured the quality of the submissions.

We are satisfied that the process we have followed, and the external expertise that we have utilised throughout the development our AM6 tariff proposals has resulted in a robust tariff structure.

We are also satisfied that the process we have followed has identified and managed key issues arising from the changes in the tariff structure.

To the best of our knowledge, the tariff structure fulfils our key objectives of being

- Cost reflective
- Compliant with Condition E of our licence, and
- Compliant with Competition Law.

We are further satisfied that the proposed tariffs are appropriate to the industry's future operating environment.

8. Risk and reward guidance

Key points

- We accept Ofwat's cost of equity of 5.65% and the notional gearing level of 62.5%
- Our cost of debt, for the separately financed wholesale business, as supported by customers, is 3.05%
- We propose a wholesale WACC of 4.03%, which stands alone from the retail business finances.
- We accept Ofwat's proposals of a 2.5% margin on non-household bills and a 1% margin on household bills.
- Our RORE range is 7.8% to 0.8%, which represents +1.8% to -5.2% around a 6.0% base case. There is little scope for further upside. 2.5% of the downside relates to the scenario of the loss of our very large special agreement customer.
- We introduce the concept of the Customer View group, with which we will discuss gainshare options
- We have included business rates as a specific uncertainty mechanism

Introduction

We accept Ofwat's Risk and Reward guidance issued in January 2014 and have amended our Business Plan accordingly as set out in the following sections. To avoid an expected return to shareholders below Ofwat's Risk and Reward guidance level will require funding to reflect an efficiently incurred and competitive embedded debt cost in our WACC. To underpin this we have carried out further consultation with our customers, further professional research and reflected the Competition Commission's ruling for Northern Ireland Electric earlier this year.

This section addresses the returns in the wholesale and retail businesses, how we will share any gains with customers during AMP6, the range of potential returns to regulatory equity and, finally, proposed uncertainty mechanisms in line with the Risk and Reward guidance.

Wholesale WACC

In this section we discuss Ofwat's proposed wholesale WACC in relation to the various components and propose a revised wholesale WACC for our business of 4.03%.

To contextualise the arguments, the table below provides a comparison of our December 2013 submission with Ofwat's proposals.

A comparison of our December submission with Ofwat’s risk and reward guidance shows our wholesale WACC was 0.8% higher than Ofwat’s.

	SBW Original Business Plan	Ofwat Risk and Reward Guidance
Gearing	57%	62.50%
Wholesale Cost of Equity	6.40%	5.65%
Wholesale Cost of Debt	3.10%	2.75%
Wholesale WACC	4.52%	3.70%
Retail WACC	0.00%	0.10%
Appointed Business WACC	4.52%	3.84%
Appointed Business Rounded	4.50%	3.85%

Effect of gearing level

Our December 2013 submission based the Appointed Business WACC on our forecast average level of gearing during AMP6. We had taken note of Ofwat’s comments regarding the indebtedness of WOCs and WASCs, and as we did not need to take on further debt to fund our capital programme, we proposed not to take on new debt during AMP6.

However, the consequence of Ofwat setting a notional gearing level higher than our actual gearing level, and including financing out-performance in the Return on Regulatory Equity (RORE) incentive guidance, means we will have to increase our gearing slightly to be viewed as an efficiently financed company.

Cost of equity

For the December 2013 submission, we commissioned an independent report¹ by Oxera into current market costs of equity. The proposed cost of equity in our December 2013 submission of 6.4% was based on the recommendations of this report and was 70% less than the cost of equity used at PR09 (representing a 10% cut in equity returns).

In accepting Ofwat’s proposed cost of equity of 5.65%, we will need to ensure that the reduction in the assumed cost of equity should not be exacerbated by the significant increase in risk of equity. The risk of the shareholder not receiving a fair return is influenced by our ability to recover our actual cost of debt.

¹ Oxera paper ‘Evidence on required returns for WOCS at PR14’

Cost of debt

Our December 2013 submission proposed a cost of debt of 3.1%, as during AMP6, over 95% of our debt will relate to our Artesian Finance Bond, which has a coupon rate of 3.088% plus RPI. This loan is embedded until 2033 and it represents our long-term cost of debt which would only be reduced very marginally if we took on more debt to increase our gearing level to Ofwat's notional gearing level of 62.5% (see later paragraph on 'Potential New Debt').

The Artesian Finance Bond becomes a more significant element of our embedded debt through AMP6

(All at March 13 price base)	Mar-16	Mar-17	Mar-18	Mar-19	Mar-20	AMP 6 Average
Artesian Finance Bond Balance (£m)	83.5	83.5	83.5	83.5	83.5	83.5
RBS Lease (£m)	0.6	-	-	-	-	0.1
HSBC Lease (£m)	5.5	4.7	4.0	3.2	2.4	3.9
Debentures (£m)	0.1	0.1	0.1	0.1	0.1	0.1
Total Debt (£m)	89.6	88.3	87.6	86.8	86.0	87.7
Artesian as a % of Total Debt (%)	93%	95%	95%	96%	97%	95%
Average Cost of Debt (%)	3.07%	3.09%	3.09%	3.09%	3.09%	3.08%

Ofwat's proposed cost of debt of 2.75% is significantly lower than our long-term cost of debt. Using Ofwat's figure, the cost of debt in the WACC will not be sufficient to cover our interest commitments.

The 26 March 2014 Competition Commission (now Competition and Markets Authority) ruling on the Northern Ireland Electricity (NIE) case uses the same approach to the WACC (including the allowing the cost of embedded debt) that we are proposing in this supplementary submission. This Competition Commission ruling states in paragraph 13.56:²

"We consider that there are three elements to the cost of debt:

- (a) the cost of existing fixed-rate (embedded) debt;*
- (b) the cost of existing and new floating-rate debt (which depends on short-term interest rates during the price control period, as well as the relevant spread over government debt); and*
- (c) the cost of new fixed-rate debt (which depends on interest rates for this duration and type of debt at the time of issue, as well as the relevant spread over government debt).*

Each of these three elements should be weighted according to its projected importance in the licence holder's overall debt during the projection period. Among the points we considered was whether the relative importance of floating and new fixed-rate debt should depend on longer-run costs as well as which was expected to be cheapest during the price-cap period. For instance, during a period of low interest rates, floating-rate debt might be expected to be cheaper than longer-dated new fixed-rate debt, but it may nevertheless be reasonable to issue longer-dated fixed-rate debt if short-and longer-run interest rates are expected to increase (and hence there is a cost to delaying issue of fixed-rate debt)."

We propose following the same methodology as the Competition Commission.

² 'Extract from Competition Commission report on Northern Ireland Electricity'

The efficient incurring of the Artesian Finance Bond

The Competition Commission, in the NIE case, used NIE’s actual cost of embedded debt as the basis for estimating NIE’s cost of debt. Paragraph 13.58 of the ruling³ states:

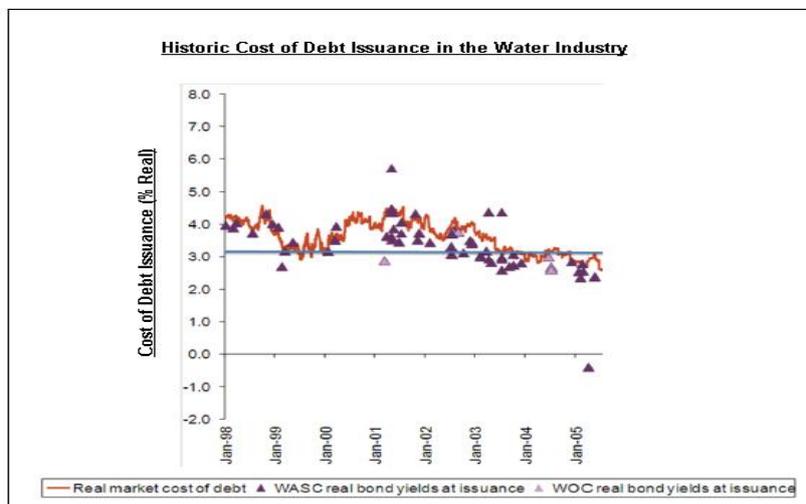
“We followed the established regulatory approach of estimating the cost of embedded debt based on NIE’s actual debt, with appropriate consideration of whether it had been incurred prudently and efficiently through examination of the yield on NIE’s bond and comparable bonds issued by GB electricity distribution companies.”

The following explanation and report by KPMG⁴ provide evidence that our embedded debt was incurred prudently and efficiently.

Around 95% of our interest cost relates to our Artesian Finance Bond, which has an overall cost of financing of 3.088% (real) including transaction costs. The bond was taken out in 2005 when we joined a syndicate of smaller UK water companies to take out a joint financing instrument, which allowed us to access the bond market at low transaction costs and competitive rates despite the company’s small size. This was a limited opportunity which we would not be able to repeat. Bank debt is materially more expensive than bonds.⁵

In 2005, as shown in the graph below, the Artesian Finance Bond (represented by the blue line) allowed us to achieve a highly-competitive and comparable cost of debt to the wider water industry despite our size.

Our cost of debt was competitive and comparable to the industry when it was taken out



Source: Oxera 2013

Therefore we are not making an argument for a Small Company Premium in respect of the cost of debt, but we do require Ofwat to recognise our need to participate in syndicated long-term debt due to the company’s size, and the embedded cost of debt related to this instrument.

³ Extract from Competition Commission report on Northern Ireland Electricity’

⁴ KPMG SBW ‘Note on Embedded Debt’

⁵ KPMG SBW ‘Note on Embedded Debt’

As part of our assurance process, we commissioned KPMG to review the Artesian Finance Bond. Their conclusion, is “SBW’s Artesian Loan (and therefore 92.5% of its embedded debt) was efficiently incurred in line with prevailing market conditions at the time and is not inconsistent with similar debt issuances in terms of quantum, tenor or price”⁶

When the bond was taken out, a significant proportion of the cash raised was used to buy back preference shares which were incurring a coupon rate of 8% per annum, thus significantly reducing the debt burden on the company. In addition, by accessing the bond market we were able to lock in a historically attractive rate for a period of 30 years, giving us long-term stability over the financing of our assets, and allowing for the long-term stability of customer bills. Our customer engagement work has highlighted that stability of bills is more important to our customers than more volatile but potentially lower future bills.⁷

We have explored the possibility of repaying the bond early, but the cost of early settlement (£136m on the existing loan of £85m) is prohibitive.⁸

Our cost of embedded debt at 3.088% compares favourably with that of NIE (3.2% real), which the Competition Commission allowed in March 2014. Paragraph 13.69 of the ruling states:

“We therefore assumed a real cost of existing debt of 3.2 per cent based on a weighted average cost of embedded debt of 6.5 per cent and inflation of 3.25 per cent.”

Customers’ views and value for money

In May 2014, we asked customers their views on whether the value they place on having a small, local company outweighs the additional cost to them (£1.30 per customer per year) of our embedded cost of debt.

The value to customers of being served by the company is reflected in the top SIM scores we achieve. The small size and local focus of the company has been a notable feature of customers’ feedback during the customer engagement work over the past two years. The supporting evidence is shown in the Nuance report, ‘The Ofwat challenge to the SBW PR14 submission’ included with this supplementary submission. Customers strongly confirmed that the value they placed on having a small, local company with a good reputation for customer service more than compensated for the additional cost of borrowing.⁹ This Nuance report demonstrates that additional value for customers comes from:

- Excellent customer service as evidenced by:
 - Second highest SIM scores in the country
 - Second lowest customer interruption rate in the industry
 - Second lowest water leakage rate in the industry
 - One of the lowest costs to serve in the industry.

⁶ KPMG SBW ‘Note on Embedded Debt’

⁷ Acceptability testing – qualitative summary slide 11

⁸ Letter from RBS re financing Artesian loan

⁹ The Ofwat Challenge to the SBW PR14 submission FINAL – slide17

We add value to customers in general, across the country, through comparative regulation which more than outweighs the additional and unavoidable cost of embedded debt.

The following paragraphs set out how the embedded cost of our debt 'benefits the customer' in excess of the customer engagement work that we carried out showing that our customers value the additional benefits of being served by us as a small company, more highly than the £1.30 additional (to Ofwat's assessment of a cost of debt of 2.75%) cost of our embedded debt that is the result of being a small company.

Here we set out the benefit to the customer in general resulting from the retention of a low cost, high service comparator in enabling Ofwat to carry out comparator based economic regulation on monopoly activities.

Not allowing the embedded cost of debt will result in either:

1. The shareholder getting a lower rate of return than the Cost of Equity which Ofwat sees a 'fair'. This would not be sustainable and the shareholder should sell the company if this state of affairs persisted, or
2. Costs and services being cut elsewhere in order to provide the cash that is required to service the embedded debt. We have, as set out in our December 2013 Business Plan, the cost of refinancing the Artesian loan and it is prohibitively expensive (£136m to refinance the current £85m loan). Customers have shown in the customer engagement work we conducted that they do not want a reduction in the levels or type of service, for a reduction in cost. Reducing operating costs in excess of any efficiencies determined elsewhere (by SBW or Ofwat) would be double counting and therefore inappropriate.

In the absence of any recognition of the additional cost of financing a smaller, yet efficient and effective company, the shareholder, in the long run should sell its shareholding. The most likely buyer of a smaller WOC, where there is no recognition of the higher financing cost of small companies would be a larger water company, this being the only way of avoiding the associated additional costs of financing a smaller company. This removal of a comparator company would therefore reduce the effectiveness of Ofwat's ability to regulate all water companies (regardless of any merger benefits accruing to the customers of the specific companies involved in the merger).

The value of a company such as SBW as a comparator for effective regulation comes at a cost. This is predominantly the cost of financing. Evidence on economies of scale, scope or water resources is mixed or can be dealt with in other ways – see Ofwat's 2011¹⁰ response on the Special Merger Regime.

In our case, the cost of this additional value is our embedded debt. To mitigate this handicap in terms of size, we had to enter into an efficient but relatively inflexible debt instrument – the Artesian loan.

¹⁰ http://www.ofwat.gov.uk/publications/ofwatsubmissions/res_ofw201209ukgspecialmerger.pdf

Given that customers in general get the benefit of such a comparator, and the only way to avoid the cost is to merge with a larger company, it is reasonable that Ofwat should recognise the embedded cost of debt in its assessment of the company's cost of capital.

Although not specifically quantified, the value of comparators to protect customers through comparative regulation is set out in papers by Ofwat, Ofgem and the consultancy, European Economics – see papers detailed in the footnote.¹¹

High performing service companies add value to customers across the country

In qualitative terms, the value of comparators in regulation of monopoly activities is shown by the water and energy regulators' statements in defence of the special merger regime.

On page 11 of its submission on the special merger regime, Ofwat summarises:

"... the loss of any comparator will have a detrimental impact on our ability to compare companies and correspondingly to protect customers. This effect is much broader than the econometric efficiency modelling that we have undertaken in the past as we make comparisons in a number of ways and are likely to need to continue to do so in the future to protect customers – including, for example, to protect and incentivise good customer service through mechanisms like the service incentive mechanism (SIM)"

Ofwat conclude on page 19:

"There is some evidence to suggest that there could be some benefits in relation to cost of capital savings in particular".

"The first point to be noted is that the loss of any comparator will result in detriment to customers. This is because with fewer comparators our approach to comparative regulation – in particular setting efficiency targets but also more broadly using league tables and challenging companies on aspects of service through mechanisms like the SIM – would be weakened. Therefore, as we have noted, the relevant issue is not whether a merger would result in costs, but rather whether the detriment arising from the loss of a comparator is significant when compared with the benefits of the merger."

On page 24 of its representation, Ofwat notes that SBW (with Sutton and East Surrey) are at the top of the SIM tables, and concludes *"the loss of these comparators could adversely affect the application of this incentive."*

The SIM is one of the competitive elements of performance monitoring in the water sector and the weakening of a comparator company, such as SBW, at the top of the SIM 'league' would be detrimental to all customers in the market.

¹¹ http://www.ofwat.gov.uk/publications/commissioned/rpt_com201105eecomparator.pdf,
http://www.ofwat.gov.uk/publications/ofwat submissions/res_ofw201209ukgspecialmerger.pdf and at
<http://www.ofgem.gov.uk/Networks/Policy/Documents1/Merger%20policy%20statement.pdf>

Smaller companies add particular value to customers through comparative regulation

The regulatory value of not only comparator companies in the variety of management approaches in particular is made by Ofgem in its case for special merger regime.¹²

“...the number of independent groups within a sector brings significant benefits to consumers in terms of the ability it gives Ofgem to set effective price controls. It is these very concerns that lie behind the existence of the special merger regime in the water sector and also behind Ofgem’s motivation for approving the sale of four gas distribution networks by National Grid which, through creating four independent groups, has delivered significant benefits to consumers.”

“These independent groups and their management teams are compared against each other not just by Ofgem, but by investors and consumers as well. This creates competition between these management teams to become the leading performers in terms of efficiency and service quality. The more independent management teams there are competing to be the leading company the fiercer this competition is and consumers benefit from this through improvements being made more quickly than they otherwise would in the absence of that competition.”

“There are significant qualitative benefits where Ofgem is able to make comparisons between companies in terms of the ideas and policies that they are proposing. It only takes one company to demonstrate that a proposal such as the DPCR5 outputs can be implemented or bring forward evidence that supports a fairer settlement for consumers on issues such as the cost of capital. Behaviours such as these were very valuable at past price controls and the RPI-X@20 proposals seek to build on such comparisons.”

Smaller companies are of higher value as comparators (and therefore create higher value for customers in general). This is demonstrated by Ofgem’s conclusion:

“A large group would also have a significant impact on any benchmarks that we set. If such a group were inefficient and had a high level of costs throughout its networks, there are two possible risks to consumers:

The overall level of the benchmarks could increase in response to a higher average cost base within the sector. This would lead to higher bills for all consumers within the sector.

- *It would be more difficult to identify that a company was inefficient if it exerted a strong influence on the benchmarks that were set for it. This could adversely affect the consumers using these networks.”*

¹² <http://www.ofgem.gov.uk/Networks/Policy/Documents1/Merger%20policy%20statement.pdf>

The operating cost savings or water resources benefits of mergers are concluded to be mixed or small. Despite this Ofwat conclude that the value of a comparator company such as SBW may outweigh the additional cost of financing and operating such a company, on page 21 Ofwat concludes:

“Therefore, provided that these companies merged with other small or standard-sized water only companies then the detriment might be limited. However, it should also be noted that there are very few small water only companies left in the industry. Accordingly, if a water and sewerage company or a large water only company tried to acquire one of the four companies then it is unlikely that the benefits would exceed the detriment, particularly if the companies were not contiguous.”

Low cost companies add higher value to customers in general.

Loss of a low cost operator is more detrimental to the customer in general, as a comparator company: Ofwat’s special merger regime, page 21 states:

“Therefore it seems likely that the loss of these [highly efficient] comparators could have a relatively high cost in terms of reducing our ability to assess operating efficiency.”

Whilst not the lowest cost operator (assessed an Upper B) by Ofwat for PR09, SBW is the leading company in terms of combined high service (SIM) levels and low cost (see section 6 ‘Average cost to serve adjustments’). This suggests that the value of SBW to effective economic regulation and customers in general is relatively high and therefore we ask Ofwat to give some recognition of this in supporting the company’s embedded and unavoidable cost of debt.

Beating the allowed cost of debt in one price control does not mean that shareholders should be penalised in future price controls.

Members of Ofwat’s PR14 team have suggested that the cost of embedded debt was lower than the cost of debt allowed in the PR09 price control and that any under-recovery of the cost of debt in PR14 should be offset against any over-recovery during PR09. However, each price control needs to be considered and accepted as a package and not as a discrete collection of elements. Therefore, any benefit that the shareholder has received in the past as a result of the embedded cost of debt being below the allowed cost must be offset against all the other elements of the package; it was not given in isolation. There can therefore be no ‘offsetting’ of previous benefits for any specific element against future costs of that element in future price controls.

Customers have benefitted from additional investments during the current AMP5 price control period, which were not planned at the time of the PR09 price review. These have been enabled by the cash flows generated by the debt financing of the company and lower shareholder returns than would otherwise have been achieved.

The additional investments include:

- Installing two UV treatment plants to reduce the risk from cryptosporidium
- Making significantly higher payments to the pension scheme deficit than were envisaged at the PR09 review as part of the pension closure agreement
- Entering into an agreement with Wessex Water in respect of a mutual resilience scheme, at a significantly lower cost than would have been achieved by each company pursuing separate solutions.

Conclusion

The cost of our additional cost of embedded debt (c£290k per annum), which our customers have expressed their perception as being value for money, is outweighed by the value to customers in general in terms of both cost and high service levels, as well as by the value we provide as a comparator of a top performing company in the industry.

Potential new debt

As discussed earlier, our average net gearing level of 56% during AMP6, on an average debt balance of £87.7m, means we have the potential to increase our borrowing by £8.5m to match Ofwat's notional gearing level of 62.5%. If we were to incur this additional borrowing, it would need to be at Ofwat's current notional cost of debt of 2.75%.

Our overall cost of debt

As per Ofwat's calculation in table W17 which accompanies this supplementary submission, our overall cost of debt, including potential new debt, is calculated as follows:

AMP6 Average Cost of Embedded Debt = 3.08%

AMP6 Cost of New Debt = 2.75%

Ratio of Embedded Debt to Potential New Debt = £87.7m / £8.5m = 10.3

Overall Cost of Debt = $((3.08\% \times 10.3) + 2.75\%) / (1 + 10.3) = 3.05\%$

In summary, we present evidence that our current cost of debt is efficiently incurred and to avoid penalising the equity returns of a high-performing and efficient company, we should be allowed revenues that cover forecast interest costs, based on Ofwat's guidance on an appropriate gearing level.

Wholesale WACC summary

We accept Ofwat’s decision to calculate the WACC on a notional balance sheet basis and Ofwat’s proposal of a significantly reduced cost of equity.

However, we are proposing a revised cost of debt of 3.05% to reflect our actual, efficiently incurred debt and potential new debt, which results in a wholesale WACC of 4.03%.

	Ofwat Risk and Reward Guidance	SBW Proposed Wholesale WACC
Gearing	62.50%	62.50%
Wholesale Cost of Equity	5.65%	5.65%
Wholesale Cost of Debt	2.75%	3.05%
Wholesale WACC	3.70%	4.03%

Recent precedence suggests that a WACC of 4.03% would not be unreasonable. The competition commission determined a WACC of 4.1% for Northern Ireland Electric in March 2014.

Retail profit margins

In our Business plan we proposed a non-household retail margin of 2.5%. We have not changed this.

In line with Ofwat’s risk and reward guidance we have amended our household retail margin to 1%, which we explain below. Our financial modelling and wholesale WACC have been adjusted accordingly.

Appointed Business return

Following our comments in the ‘Wholesale WACC’ and ‘Retail profit margins’ sections, we are proposing an Appointed Business return as follows:

	Ofwat Risk and Reward Guidance	SBW Proposed Wholesale WACC
Wholesale WACC	3.70%	4.03%
Household Retail Margin	1.00%	1.00%
Non-Household Retail Margin	2.50%	2.50%

To adequately fund our wholesale business, we need to recover our cost of debt.

In addition, we need to earn a margin in the retail business to be part of a competitive retail market. Our December 2013 submission did not include any returns in the household element of the retail business. However, we recognise the importance of including returns for a successful retail market in the future.

The returns shown in the table above allow us to cover our efficiently incurred cost of debt in the wholesale business and earn a margin in line with Ofwat’s expectations in the retail business.

Opportunities for outperformance

To ensure that our interpretation of RORE is in line with Ofwat’s risk and reward guidance, we have used Ofwat’s risk assessment tool¹³ to test the potential returns for our business plan under a number of scenarios.

We provide a spreadsheet¹⁴ showing how we have derived our high and low case scenarios from our business plan.

¹³ SBW RORE tool

¹⁴ Balancing risk and reward – high and low case scenarios

Cost performance incentives

Our proposed base wholesale costs are inclusive of challenging efficiency assumptions as detailed in Section 9 of the Wholesale Business plan submitted in December 2013.

Therefore the potential for achieving additional efficiencies is limited.

The totex upside shown is as a result of applying the combined effects of Ofwat's compulsory scenarios.

The totex downside includes our Fawley, our very large special agreement customer, closure scenario, which alone would reduce our RORE by approximately 2.5%. This highlights why we include the closure of Fawley as an exceptional item.

ODIs

In our December submission we stated that we could not justify any outcomes rewards. However, after consultation with our Board and the Customer Engagement Planning Forum we have introduced two in response to Ofwat's Risk and Reward guidance. These are linked to the two schemes most important to customers and that they are willing to pay a modest amount on their annual bill for.

To ensure that customers are protected we have extended the proposed penalties for underperformance.

We will discuss our performance with our Customer View group. See 'Protecting the customer and gainsharing', below. Where there is no financial penalty the Customer View group may impose a sanction on us, further extending potential penalties. This, for example, could be a specified donation to a local charity or remedial work to recover to target performance levels.

We provide detailed information about our ODI proposals in section 3, 'Customer engagement and willingness to pay'.

SIM

We continue to perform at the top of the industry therefore in our plan we assume a 0.5% performance reward which is included in the RORE calculation.

The downside shown in the RORE calculation is the maximum 1% penalty.

Financing risk

We are not proposing to change our overall capital structure during AMP6.

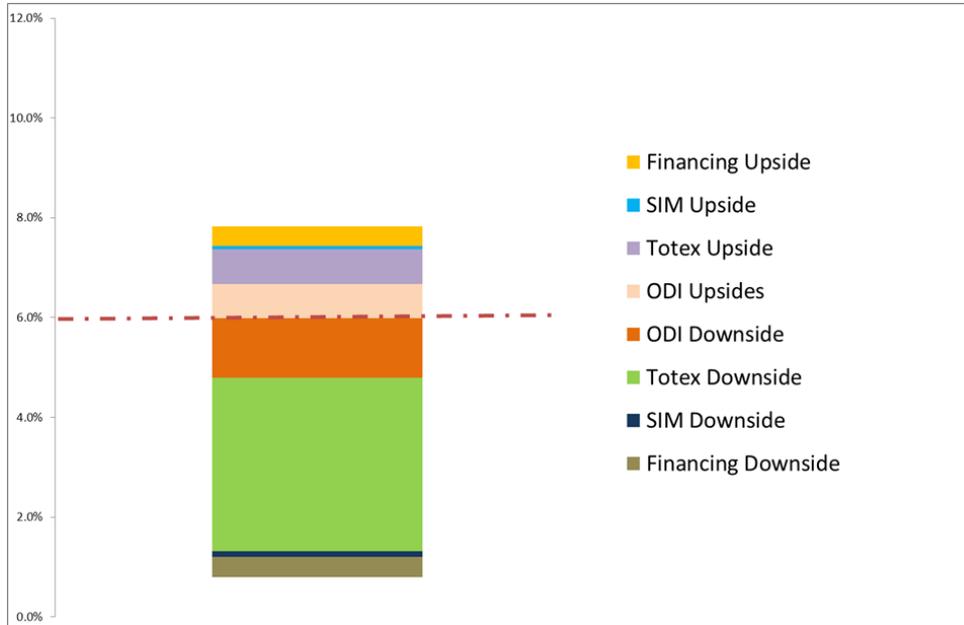
We have noted Ofwat's expectation¹⁵ suggesting that +/- 0.5% on RORE is appropriate for financing decisions. We have therefore included this range in our analysis for completeness, despite the fact that we have no current plans to utilise this.

¹⁵ Ofwat Investor Meetings 29 January 2014 slide 7

RORE summary

The graph below shows the RORE range resulting from this modelling.

RORE range 7.8% to 0.8% on 6.0% base case



Our base case is 6.0%. Applying the mid-point of Ofwat's expected ranges of +/- 3.5% to 4.5% suggests our RORE range should fall around 10 to 2. At 7.8 to 0.8 our range is outside this.

The following table shows it broken down in to key elements.

The single greatest impact is the loss of our very large special agreement customer

Driver	RORE guidance	Actual range around base of 6.0%
Costs	+/- 2.0%	+0.7 to -3.5%
Performance commitments and ODIs	+/- 1.0% to 2.0%	+0.7% to -1.2%
SIM	-0.5 % to +0.25%	+0.06% to -0.12%
Financing	+/- 0.1% to 0.5%	+0.4% to -0.4%
Total range	+/- 3.5% to 4.5%	-5.2% to +1.8%
Adjusted range (excluding the impact of Fawley)		-2.7% to +1.8%

We make the following comments:

- The impact of the loss of Fawley is significant, and so we show an adjusted range above to illustrate the extent of the effect and isolate the impact of the other elements in the calculation. There is no potential upside from this customer.
- We do not have support from our customers or Customer Engagement Planning Forum for additional ODI rewards. Because of this we do not see an opportunity for further upside.
- We claim the maximum SIM reward therefore there is no scope for further outperformance.
- We have included a notional financing range but do not, at this point, expect to be impacted by it.

Conclusion

The range of our RORE is greater than in our December business plan and the upside is restricted by our customers' appetite and support for additional returns for outperformance.

Protecting the customer and gainsharing

We have an excellent record of not only delivering industry leading customer service but of 'doing the right thing' and sharing gains with our customers. Recent examples include:

- In April 2014, freezing all customer bills – bringing forward by a year, AMP6 cost reductions for customers and delivering the bill stability our customers want
- In 2012, sharing equally between customers and shareholders a £7.6m refinancing package, half of which was used to reduce the defined benefit pension scheme deficit allowing us to close the scheme and reduce ongoing staff costs
- In both 2013/14 and 2014/15 investing £3.5m more in capital projects than planned at PR09 to improve water quality by building two new Ultra Violet disinfection plants at our Alderney and Knapp Mill treatment works.

In reviewing the draft determinations and other documents for other water companies we have taken and built on South West Water's Water Share concept. Our development of this concept and independent group is explained below.

The principles

In developing our approach to future customer engagement and stakeholder assurance, we have developed the following key principles:

- Open and transparent dialogue to ensure that messages to and from stakeholders are clearly understood and not just delivered
- Report and explain our progress on Outcomes and specific Performance Commitments
- Encourage challenge where we are falling behind
- Involve a range of customers and stakeholders
- Use project groups where specific issues are to be addressed with a mixture of ongoing and new members with specific skills and interests appropriate to the topic
- Ensure a reporting line directly to an independent non-executive director
- Understand customers' evolving priorities – so no surprises for future control periods
- Keep regulators apprised of feedback, progress and of customers' evolving views

Holding us to account: the mechanism

We have discussed with our customer challenge group our proposal to create an independent review body, which for the purposes of illustration we refer to here as the *Customer View* group, to:

- Review actual performance against targets
- Recommend to the Board what gain, or pain if appropriate, should be shared with customers, as well as when and how
- Ensure a sustainable, stable trend in customer bills. Our customers tell us they value stability and predictability more than absolute lowest bills now and in the future¹⁶

The sharing will be a default 50% share to customers, 50% to shareholders unless the *Customer View* group determines otherwise.

As well as the specific commitments to further reduce leakage and customer supply interruptions, any other significant performance commitments, including other material internal performance measures, will be discussed and reviewed with the *Customer View* group.

Performance reporting and assessment

At least once every year we will report our performance against agreed Performance Commitments to the *Customer View* group. The group will review the performance and recommend to our Board (through its independent non-executive director) the level of any gains recommended to be shared with customers and whether they should be shared ‘in period’ rather than waiting until the next price control. In making this recommendation, the group will balance short-term and longer-term customer interests with the need to ensure stability and sustainability.

The sharing of net benefits will be finally determined by the Board but any changes to the *Customer View* group’s recommendations will be disclosed and published. A hypothetical example (for the year 2017/18) is shown over the page.

The Performance Commitments will be reported on each year, published on our website and be part of the *Customer View* group’s review process.

¹⁶ Acceptability testing – qualitative summary, slide 11

Customer View Summary for 2017/18 Shares Gains Between Company and Customers

3 years to March 2018 £000s	Value Created/(Lost)	Share to Company	Share to Customers of Value Created/(Lost)
a) Costs	£400	£200	£200
b) Performance Incentives	£300	£200	£100
c) Shortfalls and Unexpected Events	No net value change	£(100)	£100
Total Net Additional Value	£700	£300	£400

Notes to the 2017/18 Customer View Summary

- a) *Costs. We reduced costs by £400,000 below our regulatory Business Plan targets. These savings have been shared 50:50 between the company and customers. The Customer View group determined that the operating cost element of this should be shared with customers immediately and the capital investment element would be rolled forward to be invested in other capital projects to benefit customers.*
- b) *Performance Incentives. As a result of the additional bursts during the very cold weather this winter, we did not reduce leakage this year as we had anticipated. We therefore recognise a potential penalty for the year against our leakage performance commitment. However, over the last three years, we have reduced leakage by 4%, which is above our regulatory Business Plan target. We have therefore generated a service benefit, so far, of £300,000 to customers, based on the value of leak reduction assessed during our customer willingness to pay research conducted in 2013. The Outcome Delivery Incentive awards £200,000 to the shareholder to reward the company for the improved performance and to offset the costs incurred in achieving the service improvement. Customers therefore enjoy a net benefit valued at £100,000 which is the service improvement benefit net of the cost.*
- c) *Shortfalls and unexpected events. The meter installation programme we set out in our regulatory Business Plan has been delayed as fewer customers have requested water meters than anticipated. This shortfall has reduced our costs (capital and operating costs) by £100,000. This unanticipated cost saving is being attributed entirely to the customer benefit and the company will offset this gain to customers against its own cost saving.*

Uncertainty mechanisms

Ofwat's risk and reward guidance states that it is not appropriate for different companies to have access to substantially different uncertainty mechanisms unless there is clear evidence that materially different specific risks are faced.

Our December 2013 submission detailed the specific material risk of serving one, very large industrial customer. We confirmed that as our licence provides for it, should the customer fail, we would seek an Interim Determination.

Ofwat's risk and reward guidance confirms that the current uncertainty mechanisms will remain in place. These are:

- RPI indexation
- Five-yearly price reviews
- Totex cost-sharing incentives
- The flexibility provided by ODIs, and
- The IDoK and substantial effects provisions in existing licences.

We agree with and accept these proposals.

Revised proposals

The guidance permits companies to include a mechanism for the revaluation of business rates in 2017. We therefore include business rates in this updated business plan submission. We propose to apportion 80% of the risk with customers; retaining 20% of the risk for the company. This proposal is the same as South West Water's draft determination due to the similarity of our Customer View group with South West Water's Water Share mechanism.

Our December 2013 submission proposed an uncertainty mechanism for the cost of competition. We now withdraw this proposal on the basis that we will bring any significant pain/gain variations to the Customer View group for consideration by this independent panel, as discussed with our Customer Engagement Planning Forum – see section 2 'Further engagement with our customer challenge group'.

9. Affordability

Highlights:

- The vast majority of our customers found our plan and proposed bill levels for AMP6 acceptable; only 6% found it unacceptable.
- Our modelling showed affordability over the longer term, with a flat bill profile in real terms for AMP7.
- Following the publication of Ofwat’s Risk and Reward Guidance, and the feedback on our plan, we now propose a plan which will decrease prices by a further 0.4% in 2015/16 when compared with our December 2013 business plan.

Risk-based review response

Ofwat’s risk based review raised the following challenges:

Ofwat challenge	SBW response
<p>There is no convincing evidence to support these statements [of longer-term affordability] but indirect evidence from the analysis of cost recovery tools that the company’s bill profile will remain largely flat.</p>	<p>In our December submission we confirmed that our modelling showed that keeping bills low in AMP6 would not result in large bill increases in AMP7. However, we did not show the forecast K factors for AMP7. They are now presented in this section and evidence a flat bill profile in real terms for that period.</p> <p>To maintain stable bill profiles over the longer term, we invest in infrastructure in a way so as to avoid both future serviceability issues and sharp bill increases – see section 4.2 ‘Wholesale cost assessment – infrastructure renewals’.</p> <p>In our December submission we made a commitment to further research customer views on the implementation of a social tariff, with the aim of introducing one in April 2015 if customers supported it. This research is underway.</p>

Introduction

In our December 2013 submission, we provided our customer research results which showed:

- 79% of customers found our plan and proposed bill levels acceptable, 14% were neutral and 6%* found it unacceptable.
- ‘Vulnerable’ customers (19% of the sample group) were less supportive of our plan, with 55% finding it acceptable and 31% being neutral.
- 100% of those attending discussion groups found our plan acceptable.

*99% total due to rounding

We confirmed that our modelling shows that keeping bills low in AMP6 will not result in large increases in AMP7.

The affordability of our plan was judged ‘acceptable’ in Ofwat’s risk-based review. However, we did not provide the forecast K factors, included in the table below, which evidence a flat bill profile in real terms for AMP7.

Forecast K factors for AMP7 evidence a flat bill profile in real terms for this period

Year	2020/21	2021/22	2022/23	2023/24	2024/25
Business Plan K factor	0.0%	0.0%	0.0%	0.0%	0.0%
Supplementary Plan K factor	0.0%	0.0%	0.0%	0.0%	0.0%

It is particularly important that we continue to support customers who cannot pay their bills. Therefore, we committed to conducting further research on customers’ views about and preparedness to support a social tariff. This research is underway.

Changes since the December 2013 submission

In adjusting our plan to reflect Ofwat’s risk and reward guidance and updating data to 2013/14 actuals, we have increased our Year 1 proposed price reduction as shown in the table below:

Our adjusted bill profile shows a larger bill reduction in 2015/16

	AMP5	AMP6				
Year	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20
Business Plan K factor	Minus 3.2%	Minus 4.7%	Minus 0.5%	Minus 0.5%	Minus 0.5%	Minus 0.5%
Supplementary Plan K factor	Minus 3.2%	Minus 5.1	Minus 0.5%	Minus 0.5%	Minus 0.5%	Minus 0.5%

Current and future affordability

Based on customer acceptability of our original submission and the subsequent enhanced bill profile proposed, we view the plan as remaining affordable to our customers over the longer term.

We have also discussed current and future affordability with our independent customer challenge group who agree with our view as reflected in their supplementary report.

10. Financeability

Key points

- We forecast remaining financeable through the AMP6 period as detailed in our December 2013 and this supplementary business plan submission
- There is less headroom in our investment grade credit rating but, after discussion with our main rating agency, we expect to maintain our current rating under both the company's forecast gearing and Ofwat's notional gearing levels
- Scenario analysis shows we will remain financeable under all the stress scenarios modelled.

Introduction

In our December 2013 submission, we noted that apart from having sufficient cash to finance our functions, the major factor determining whether we remain financeable relates to the covenants associated with our Artesian Finance Bond.

There are three covenants, which if broken, would result in our outstanding loan balance becoming repayable immediately, with significant penalties. These covenants require us to:

1. Restrict the net debt to RCV ratio (gearing) to a maximum of 70%
2. Maintain a Post Depreciation Interest Cover Ratio (PDICR) of at least 1.6 times
3. Maintain an investment grade credit rating with two major ratings agencies.

Finally, there were a number of ratios that Ofwat required for our December 2013 submission. While we do not use these ratios to assess future financeability, we have included them in this section for completeness.

We have also included, as Appendix 1, a comparison of Ofwat's financial model to our internal financial modelling.

Meeting the Artesian Finance Bond gearing covenant

	2015/16	2016/17	2017/18	2018/19	2019/20
Gearing (%)	56%	56%	55%	55%	56%

In our December 2013 submission, we proposed to maintain our gearing level at an average of 57% during AMP6. This business plan reduces the average gearing level slightly to 56%. Both plans give us sufficient headroom on the 70% gearing covenant.

However, as discussed in section 8 ‘Risk and Reward’ of this supplementary submission (under ‘Wholesale WACC’), Ofwat’s notional gearing level of 62.5% effectively penalises our equity returns as it increases the weighting of the cost of debt in our WACC. Therefore, we may need to consider increasing our gearing to at least the notional level of gearing used in Ofwat’s proposed WACC calculation. While there is room to do this under the Artesian Finance Bond covenant, the 70% ratio (minus sufficient headroom) acts as a ceiling to future borrowing.

A breach of the RCV covenant would occur if we:

- Reduced our RCV by £29m, or
- Increased our net debt by £20m.

Our RCV is to be maintained at roughly its current level over the next 10 years through a combination of the capital programme and the Pay as You Go and run-off rates. This will ensure that we will not breach the gearing covenant due to a reducing RCV.

To reach Ofwat’s notional gearing level, we would need to increase net debt by approximately £8.5m in AMP6. This is well below the £20m additional borrowing limit that would breach the covenant.

Meeting the Artesian Finance Bond PDICR covenant

The minimum Post Depreciation Interest Cover Ratio for the Artesian covenant is 1.6 times.

	2015/16	2016/17	2017/18	2018/19	2019/20
Post Depreciation Profit (£m)	10,945	10,583	10,525	10,580	10,432
Interest (£m)	2,752	2,725	2,699	2,675	2,651
PDICR (x)	3.98	3.88	3.90	3.96	3.94
Headroom (£m)	6,542	6,222	6,206	6,300	6,191

We currently forecast comfortable headroom in respect of the PDICR under our base case circumstances. We would need to lose approximately £6.25m in operating cash flows per year before we breach the PDICR covenant.

Please note that the way that this ratio is calculated may change due to new regulatory mechanisms that Ofwat have put in place for PR14. We are confident that we have sufficient headroom under any likely new definition of this ratio.

Further information on the scenario modelling is provided later in this section.

Maintaining an investment grade rating

The key financial ratios used by the credit rating agencies are shown below using the base case plan. We have discussed our business plan and the financial ratios with our main credit rating agency and, while there will be some reduction in the headroom on our existing credit rating; we expect to retain that rating with this plan¹. The financial risk is assessed at 'significant' although this, combined with our 'excellent' business risk profile produces a BBB+ rating.

Ratings agency ratios under current capital structure

	FFO Interest Coverage	Adjusted FFO Interest Coverage	Net Debt/RCV	FFO/Net Debt	Adjusted FFO/Debt	Retained Cashflow / Capex
2012/13	10.29	8.75	59%	28.8%	14.3%	1.89
AMP6 Ave	7.44	5.10	56%	20.3%	11.8%	2.07
2015/16	7.46	5.17	56%	20.3%	11.31%	1.84
2016/17	7.38	5.06	56%	20.1%	11.63%	1.95
2017/18	7.41	5.06	55%	20.2%	11.63%	2.00
2018/19	7.49	5.12	55%	20.4%	12.24%	2.21
2019/20	7.47	5.10	56%	20.4%	12.30%	2.35

Using our base data, in AMP6, we will underperform on most credit rating agency indicators compared to the 2012/13 base year. However, despite this deterioration, our financial ratios remain strong with sufficient headroom.

Ratings agency ratios under notional capital structure

	FFO Interest Coverage	Adjusted FFO Interest Coverage	Net Debt/RCV	FFO/Net Debt	Adjusted FFO/Debt	Retained Cashflow / Capex
2012/13	10.29	8.75	59%	28.8%	14.3%	1.89
AMP6 Ave	4.63	3.36	63%	18.1%	10.3%	2.00
2015/16	4.54	3.33	63%	18.4%	9.89%	1.71
2016/17	4.54	3.30	63%	18.0%	10.12%	1.82
2017/18	4.56	3.31	63%	18.0%	10.11%	1.97
2018/19	4.71	3.41	63%	18.2%	10.67%	2.15
2019/20	4.80	3.46	63%	18.0%	10.71%	2.32

If we move to Ofwat's notional capital infrastructure, all of our ratios will deteriorate, however they will remain strong enough for us to continue to remain financeable in AMP6, and maintain our current credit rating, albeit with further reduced headroom.

¹ Standard and Poors Credit Metrics - email

Please note, that in order to calculate the notional capital structure, we have used the notional balance sheet outlined in Ofwat's information note IN14/11 (June 2014). Namely:

- Gearing at 62.5% at the beginning of AMP6 (i.e. April 2015)
- 33% of debt is index linked at 2.75% per annum real
- 67% of debt is non - index linked at 2.75% per annum real
- Dividends are set at 4% of regulatory equity in 2015/16, and growing at a real rate of 1.65% until 2019/20.

Additional ratios

Ofwat asked that the following ratios, which were not calculated in the previous sections, be considered.

Financeability ratios under current capital structure

	Cash Interest Cover	Adjusted Cash Interest Cover Ratio	Retained Cash flow / Debt	Dividend Cover	Regulatory equity / regulatory earnings	RCV / EBITDA
2012/13	7.84	5.42	0.05	0.78	4.45	6.05
AMP6 Ave	5.57	3.33	0.12	1.50	8.04	8.86
2015/16	5.53	3.34	0.12	1.59	8.57	8.69
2016/17	5.45	3.24	0.12	1.65	8.25	8.91
2017/18	5.51	3.27	0.11	1.36	7.93	8.95
2018/19	5.67	3.41	0.12	1.49	7.78	8.87
2019/20	5.68	3.41	0.11	1.42	7.68	8.86

As with the ratings agency ratios, our AMP6 ratios across most of Ofwat's ratio indicators will deteriorate. However, they remain strong. Dividend cover is better, due almost solely to the extraordinary dividend paid in the base year.

Financeability ratios under notional capital structure

	Cash Interest Cover	Adjusted Cash Interest Cover Ratio	Retained Cash flow / Debt	Dividend Cover	Regulatory equity / regulatory earnings	RCV / EBITDA
2012/13	7.84	5.42	0.05	0.78	4.45	6.05
AMP6 Ave	3.26	2.00	0.07	1.07	7.37	8.51
2015/16	3.10	1.92	0.07	0.94	7.85	8.39
2016/17	3.14	1.91	0.07	1.02	7.57	8.58
2017/18	3.19	1.95	0.07	1.08	7.27	8.59
2018/19	3.39	2.09	0.08	1.15	7.12	8.50
2019/20	3.48	2.15	0.08	1.18	7.04	8.48

All of our ratios are materially worse under the notional capital structure. This is due to Ofwat's assumption of a 33% index-linked debt to 67% non-index linked debt ratio. The effect of such a structure is to significantly increase the interest paid within the AMP, and therefore reduce the Funds From Operations (FFO) and overall cash available.

Overall, while the ratios will deteriorate, we are confident that we will remain financeable under our December 2013 and this supplementary business plan submission and that there is sufficient headroom under each indicator to absorb reasonable shocks to our day-to-day operations.

Please note, that in order to calculate the notional capital structure, we have used the notional balance sheet outlined in Ofwat's information note IN14/11 (June 2014). Namely:

- Gearing at 62.5% at the beginning of AMP6 (i.e. April 2015)
- 33% of debt is index linked at 2.75% per annum real
- 67% of debt is non - index linked at 2.75% per annum real
- Dividends are set at 4% of regulatory equity in 2015/16, and growing at a real rate of 1.65% until 2019/20.

Worst case scenario ratios

We have also calculated the ratios shown above under a combined 'worst case scenario' on the company's actual balance sheet.

	FFO Interest Coverage	Adjusted FFO Interest Coverage	Net Debt/RCV	FFO/Net Debt	Adjusted FFO/Debt	Retained Cashflow / Capex
2012/13	10.29	8.75	59%	28.8%	14.3%	1.89
AMP6 Ave	6.78	4.49	58%	18.1%	10.1%	1.84
2015/16	7.10	4.82	56%	19.2%	10.41%	1.72
2016/17	7.39	5.08	56%	20.1%	11.64%	1.96
2017/18	6.50	4.18	57%	17.2%	9.30%	1.68
2018/19	6.51	4.22	59%	17.1%	9.69%	1.87
2019/20	6.40	4.14	60%	16.7%	9.48%	1.98

	Cash Interest Cover	Adjusted Cash Interest Cover Ratio	Retained Cash flow / Debt	Dividend Cover	Regulatory equity / regulatory earnings	RCV / EBITDA
2012/13	7.84	5.42	0.05	0.78	4.45	6.05
AMP6 Ave	5.40	3.17	0.11	1.10	9.65	9.70
2015/16	5.59	3.41	0.12	1.26	9.66	9.18
2016/17	5.80	3.58	0.13	1.68	8.16	8.86
2017/18	5.17	2.92	0.10	0.78	10.53	10.30
2018/19	5.23	2.97	0.10	0.90	10.11	10.13
2019/20	5.23	2.98	0.09	0.90	9.80	10.04

While under the worst case scenario we remain financeable, a number of ratings agency ratios deteriorate significantly. These movements are coming close to the point where our agencies may revisit our investment grade rating. Therefore, we would not want to see a situation where our returns are reduced from the levels outlined in this business plan, due to concerns about maintaining an investment grade rating under the worst case scenario.

Pay As You Go and run-off rates

Our proposed PAYG ratios and run-off rates have been set to ensure we offer customers a stable bill profile over AMP6 and AMP7, while retaining enough cash within the business to remain financeable.

Customers value stable bills and our proposed PAYG ratio and run-off rate combination will allow us to absorb potential shocks in AMP6 without having to return to customers for bill increases at PR19 unless there are new and additional costs to be borne.

As the table below shows, a relatively modest change in the PAYG ratio has a significant effect on cash from operations.

Average PAYG Ratio	Cash from Operations (£m 12/13 prices)	Forecast K in 2020 (%)
85%	17,664	-4.7%
Current (79.5%)	16,196	0.0%
75%	14,994	4.0%

For example, an average PAYG ratio of 75% would reduce operating cashflows (that is cashflows before interest, tax and capital expenditure) by almost £1.2m, and immediately remove 20% of the PDICR buffer discussed above. It would also create difficulties in the future by increasing bills by 4.0% in 2020 for AMP7, which runs contrary to customers' preference for bill stability. Customers have expressed satisfaction with the levels of bills proposed for the period 2015 to 2020 – see section 3 'Customer engagement and willingness to pay'.

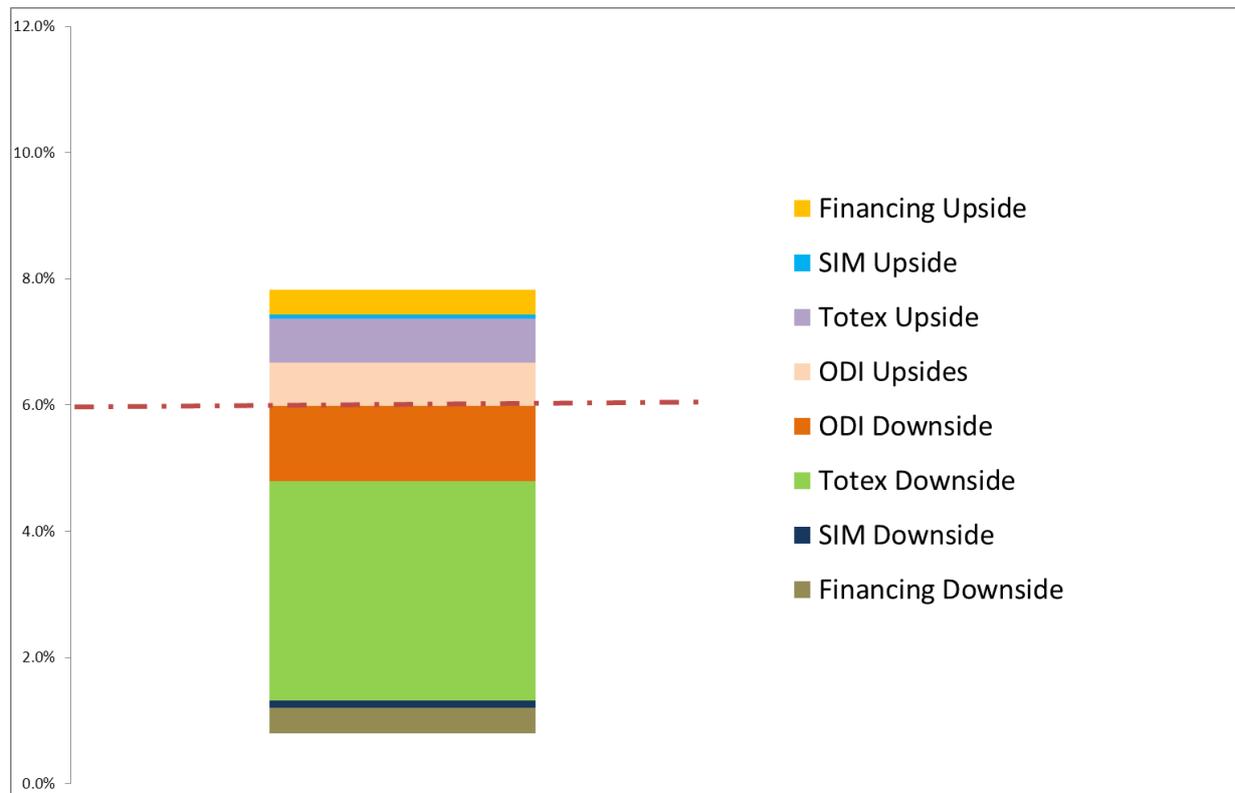
Our current PAYG ratios and run-off rates strike a balance between providing stable bills for customers and allowing the company to fund its ongoing operations, whilst absorbing reasonable shocks to its operations.

Regulatory return on capital

In April 2014, Ofwat released a Risk Assessment Tool which we have used to analyse our potential returns under a number of scenarios.

While we have the potential to earn additional returns relating to performance in AMP6, it is critical that failure to achieve any of these additional returns does not lead to us becoming un-financeable.

Using this tool, we have a base case appointed business RORE of 6.0%, which is roughly in line with Ofwat’s wholesale cost of equity of 5.65%.



We have combined our RORE analysis with our scenario analysis in order to give us an indication of whether we can remain financeable under the scenarios outlined by Ofwat, and the major scenario outlined by us (closure of the Fawley oil refinery).

As shown in the graph above, the combination of all of the worst case scenarios, ODI penalties and changes in financing is not enough to push us into a negative RORE, and therefore means that we should continue to be financeable under the most extreme cases.

However, the asymmetrical totex position is largely due to the impact of our Fawley closure scenario (which has no corresponding upside) and is worth roughly -2.5% to our RORE. This one item on its own would take us beyond the +/-2% corridor related to totex changes as specified by Ofwat in the Risk and Reward guidance, and demonstrates why we have included the closure of Fawley as an exceptional item in our business plan.

Retail margins

We have accepted Ofwat’s recommendation on including a 1% margin on household bills.

As per our December 2013 submission, the non-household control will include a margin of 2.5%, which is in line with Ofwat’s policies and guidance. The weighted average of these is an average net retail margin of 1.4%.

Average Net Retail Margins	Minimum in AMP6	Maximum in AMP6	Average in AMP6
Household Revenue (£m)	26,124	27,458	26,544
Average Household Margin (%)	1.0%	1.0%	1.0%
Non Household Revenue (£m)	8,380	8,871	8,525
Average None Household Margin (%)	2.5%	2.5%	2.5%
Average Retail Margin (%)	1.4%	1.4%	1.4%

The retail business will hold no debt as all of our current debt has been assigned to the RCV. Therefore, there are no interest payments or loan covenants that would raise potential financeability issues in this part of the business.

In addition, we are not forecasting any significant capital investment by the retail business during AMP6, so the retail business as a whole will be broadly cash neutral (except for the margin). Therefore, we propose to meet any financing requirements of the retail business in AMP6 through equity.

Conclusion

Based on our analysis, we are confident that our revised business plan allows us to remain financeable under all modelled scenarios.

Appendix 1

Comparison of Ofwat’s Financial Model to SBW’s Internal Financial Modelling

Summary

We have lacked the internal resources in order to carry out a full reconciliation of Ofwat’s model to our own. However, it is clear that the major differences between the models lie in the complexity of the calculations used. For example, each revenue control in Ofwat’s model has 9 phases of calculations, whereas our model has 1. In addition, we have not attempted Newton-Raphson solving in our revenue calculations.

We have loaded the majority of our data into Ofwat’s model and our analysis shows that the areas analysed are broadly in line with Ofwat’s modelling.

Wholesale Control

We can confirm that the method of calculating PAYG Totex, depreciation funding (both pre 2015 and AMP6 additions), and the return on RCV are identical under both methodologies. We have also accounted for pension deficit funding and legacy adjustments in an identical manner, although we have applied these at what would be phase 1 of Ofwat’s calculation and not in phase 8.

The main difference on the wholesale control in phase 1 of Ofwat’s wholesale control model is the method of calculating tax funding. Ofwat’s model gives us approximately £220k per annum in additional funding than our own internal calculations. We are unable to reconcile the reasons for this.

Comparison of Wholesale Controls (Real 2012/13 Prices)

(£m)	Mar 16	Mar 17	Mar 18	Mar 19	Mar 20
Ofwat Model ¹	34.990	34.881	34.619	34.690	34.507
SBW Model	34.376	34.141	33.973	33.942	33.754

¹Taken from row 297 in ‘Water Real AR’ , Ofwat Financial Model.

There are a number of adjustments in phases 2-9 of Ofwat’s model which proved to be too numerous to adequately analyse with current resources. However, we are confident that the wholesale control presented in the business plan is largely consistent with Ofwat’s methodology.

Household Retail Control

In both Ofwat’s model and our own, the wholesale charges apportioned to household customers and the household retail operating costs have been combined, and a margin has been applied. We have applied a standard 1% margin to each year, whereas Ofwat’s model appears to take outputs from R5 to calculate the margin. These R5 outputs average to 1% over the period but are not 1% in every year, however, we do not believe that this is material to the outcome of the overall retail control.

Comparison of Household Retail Margins (Real 2012/13 Prices)

(£m)	Mar 16	Mar 17	Mar 18	Mar 19	Mar 20
Ofwat Model ²	0.284	0.283	0.283	0.287	0.288
SBW Model	0.264	0.264	0.263	0.261	0.260

² Taken from row 45 in 'Calc HH', Ofwat Financial Model.

Our assumption is that the additional margin shown in Ofwat's model is due to the higher wholesale control, and thus a higher level of wholesale charges apportioned to the household business.

Non-Household Retail Control

Unfortunately we have been unable to match the descriptions and labels from table R4 with the input descriptions and labels in the Ofwat model, and therefore have been unable to input and calculate the non-household control under Ofwat's methodology.

In our methodology we have taken the wholesale charges apportioned to household customers and the household retail operating costs and then applied a 2.5% margin to the combined costs. We have then used the services of a specialist tariff consultant in order to help us split the overall costs and margin into a series of default tariffs, which can be found in table R4 of our business plan submission.

Non-Household Retail Margins (Real 2012/13 Prices)

(£m)	Mar 16	Mar 17	Mar 18	Mar 19	Mar 20
SBW Model excluding Fawley ("other income")	0.209	0.209	0.208	0.207	0.206

One difference that may occur between our modelling methodologies is that we have specifically excluded our special agreement with the Fawley oil refinery from our non-household margin calculations.

Conclusion

We are unable to comment on further differences between the methodology used in Ofwat's model and our own, but given the similarity in the wholesale and retail household controls, we have no reason to believe that the results will be materially different.

11. Adjustments to 2010-2015 price control

Key points

- We remain a top performer in the SIM.
- We have not achieved our overall meter installation target due to a shortfall in the number of optional meters, which has been partly offset by our selective metering programme.
- We are broadly on target to meet remaining AMP5 regulatory outputs. Although we have experienced some challenges with our disinfection processes at our Alderney Water Treatment Works, recent coliform results confirm that we have resolved the issue. The disinfection process has been strengthened by installing an additional barrier in the form of Ultra Violet (UV) treatment in 2013/14, and we will carry out further work to improve contact tank performance in 2014/15.

Risk-based review response

Ofwat's risk-based review raised the following challenges:

Ofwat challenge	SBW response
<p>Change protocol</p> <p>Ofwat raised two potential counter claims.</p> <p>One logging down claim in relation to supply demand balance annual outputs (FD09 SR table 2.2)</p> <p>One shortfall claim in relation to non-infrastructure serviceability as [Ofwat] does not agree with the company's assessment of their coliform performance.</p>	<p>We have a shortfall of 2,027 meter installations and have included the impact in the Capital Incentive Scheme (CIS) and Operating Expenditure Incentive Allowance (OIA) calculations.</p> <p>There were a small number of coliform failures at our Alderney WTW in 2010. However, the source of this issue was quickly identified and repaired.</p> <p>The disinfection process has been upgraded through the addition of UV treatment in 2014.</p> <p>Further improvements to the chlorine contact tanks will be completed before the end of AMP5.</p> <p>We consider that our non-infrastructure serviceability is STABLE. This view is supported by independent review by Halcrow Management Sciences.</p>

<p>CIS</p> <p>The company has provided insufficient evidence to demonstrate compliance with Ofwat methodology and business plan guidance (including subsequent updates issued by Ofwat) in relation to CIS adjustments</p>	<p>We supply more evidence to demonstrate compliance in this supplementary submission.</p>
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Introduction

Ofwat’s risk-based review assessed our December 2013 submission as ‘acceptable’.

This section updates the information we supplied in our December 2013 submission. We have taken note of Ofwat’s comments and provide more background information than we did in December 2013.

We have made one significant change in relation to a shortfall in our metering programme. We have reflected this in the CIS and OIA models.

In this section we also respond to Ofwat’s signalled intention to shortfall our non-infrastructure serviceability.

We confirm that the most up-to-date feeder models have been used.

Service incentive mechanism

On 2 May we submitted our 2013/14 SIM score of 87.

All elements were independently audited by Halcrow Management Sciences. The audit included a review of the methodologies used.¹

We confirm our three-year SIM performance as:

- 2011/12 - 85
- 2012/13 - 87
- 2013/14 - 87
- Average SIM Score - 86

¹ Halcrow management Sciences Ltd SIM assurance

Sensitivity analyses

Ofwat published all companies' average SIM score for 2011 – 2013 in Information Note IN 13/11.

With a two-year average score of 86, we ranked joint first (more than one standard deviation above the industry average).

We have conducted sensitivity analyses on a range of predicted 2013/14 SIM scores.

Our analyses indicate that, across four scenarios, the average SIM score could range from 77 to 81 (with standard deviations ranging from 4 to 8). Under all scenarios we would remain more than one standard deviation above the industry average with a final worst-case ranking of joint second place.

We are second-placed in the industry under every scenario.

Scenario 1: all companies scoring 86 or higher in year 3

Company	Average 2 year score	Estimate of year 3 score	Estimate of average 3 year score	Ranking		Customer Experience Ranking	Comment
South Staffs	86	88	87	1	More than 1 standard deviation above industry	2	Year 3 score is estimated at 88
SBW	86	87	87	2		12	Actual 3 year score
Bristol	85	88	87	3		10	Year 3 score is estimated at 88
Wessex	85	88	87	4		3	Year 3 score is estimated at 88
Anglian	82	86	84	5	Between the industry average and one standard deviation above	1	Year 3 score is equivalent to overall 2 year high score average
Welsh Water	81	86	84	6		3	Year 3 score is equivalent to overall 2 year high score average
Affinity	79	86	83	7		16	Year 3 score is equivalent to overall 2 year high score average
Northumbrian	79	86	83	8		3	Year 3 score is equivalent to overall 2 year high score average
Sutton and East Surrey Water	79	86	83	9		15	Year 3 score is equivalent to overall 2 year high score average
Yorkshire	77	86	82	10		3	Year 3 score is equivalent to overall 2 year high score average
Severn Trent	74	86	80	11	Between the industry average and one standard deviation above	13	Year 3 score is equivalent to overall 2 year high score average
Dee Valley	73	86	80	12		10	Year 3 score is equivalent to overall 2 year high score average
United Utilities	73	86	80	13	More than 1 standard deviation below industry	7	Year 3 score is equivalent to overall 2 year high score average
South west Water	69	86	78	14		18	Year 3 score is equivalent to overall 2 year high score average
Portsmouth	66	86	76	15	Average	7	Year 3 score is equivalent to overall 2 year high score average
South East	64	86	75	16		17	Year 3 score is equivalent to overall 2 year high score average
Southern	64	86	75	17		14	Year 3 score is equivalent to overall 2 year high score average
Thames	63	86	75	18		19	Year 3 score is equivalent to overall 2 year high score average
Average	76	86	81				
Std Deviation	8	1	4				

Scenario 2: all companies increasing the 2-year average by 3

Company	Average 2 year score	Estimate of year 3 score	Estimate of average 3 year score	Ranking		Customer Experience Ranking	Comment
South Staffs	86	89	88	1	More than 1	2	Year 3 score is improved by 3 SIM points on 2 year average
SBW	86	87	87	2	standard deviation	12	Actual 3 year score
Bristol	85	88	87	3	above industry	10	Year 3 score is improved by 3 SIM points on 2 year average
Wessex	85	88	87	4	average	3	Year 3 score is improved by 3 SIM points on 2 year average
Anglian	82	85	84	5		1	Year 3 score is improved by 3 SIM points on 2 year average
Welsh Water	81	84	83	6	Between the	3	Year 3 score is improved by 3 SIM points on 2 year average
Affinity	79	82	81	7	Industry average	16	Year 3 score is improved by 3 SIM points on 2 year average
Northumbrian	79	82	81	8	and one standard	3	Year 3 score is improved by 3 SIM points on 2 year average
Sutton and East Surrey Water	79	82	81	9	deviation above	15	Year 3 score is improved by 3 SIM points on 2 year average
Yorkshire	77	80	79	10		3	Year 3 score is improved by 3 SIM points on 2 year average
Severn Trent	74	77	76	11	Between the	13	Year 3 score is improved by 3 SIM points on 2 year average
Dee Valley	73	76	75	12	Industry average	10	Year 3 score is improved by 3 SIM points on 2 year average
United Utilities	73	76	75	13	and one standard	7	Year 3 score is improved by 3 SIM points on 2 year average
South west Water	69	72	71	14	deviation below	18	Year 3 score is improved by 3 SIM points on 2 year average
Portsmouth	66	69	68	15	More than 1	7	Year 3 score is improved by 3 SIM points on 2 year average
South East	64	67	66	16	standard deviation	17	Year 3 score is improved by 3 SIM points on 2 year average
Southern	64	67	66	17	below industry	14	Year 3 score is improved by 3 SIM points on 2 year average
Thames	63	66	65	18	average	19	Year 3 score is improved by 3 SIM points on 2 year average
Average	76	79	77				
Std Deviation	8	8	8				

Scenario 3: based on 2013/14 qualitative score and subjective improvement

Company	Average 2 year score	Estimate of year 3 score	Estimate of average 3 year score	Ranking		Customer Experience Ranking	Comment
South Staffs	86	90	88	1	More than 1	2	Estimated 90 score + 4 on average
SBW	86	87	87	2	standard deviation	12	Actual 3 year score
Bristol	85	88	87	3	above industry	10	Estimated 88 score +3 on average
Wessex	85	90	88	4	average	3	Estimated 90 score + 5 on average
Anglian	82	87	85	5		1	Estimated 87 score + 5 on average
Welsh Water	81	86	84	6	Between the	3	Estimated 86 score + 5 on average
Affinity	79	82	81	7	Industry average	16	Estimated 82 score + 3 on average
Northumbrian	79	83	81	8	and one standard	3	Estimated 83 score +4 on average
Sutton and East Surrey Water	79	82	81	9	deviation above	15	Estimated 82 score + 3 on average
Yorkshire	77	83	80	10		3	Estimated 83 score + 6 on average
Severn Trent	74	77	76	11	Between the	13	Year 3 score is improved by 3 SIM points on 2 year average
Portsmouth	66	85	76	12	Industry average	7	Estimated 85 score + 9 on average
Dee Valley	73	76	75	13	and one standard	10	Year 3 score is improved by 3 SIM points on 2 year average
United Utilities	73	80	77	14	deviation below	7	Estimated 80 score + 7 on average
South west Water	69	75	72	15		18	Estimated 75 score + 6 on average
South East	64	70	67	16	More than 1	17	Estimated 70 score + 6 on average
Southern	64	67	66	17	standard deviation	14	Year 3 score is improved by 3 SIM points on 2 year average
Thames	63	66	65	18	below industry	19	Year 3 score is improved by 3 SIM points on 2 year average
Average	76	81	78				
Std Deviation	8	7	7				

Scenario 4: a variation of Scenario 3 where other companies improve their scores

Company	Average 2 year score	Estimate of year 3 score	Estimate of average 3 year score	Ranking		Customer Experience Ranking	Comment
South Staffs	86	90	88	1	More than 1 standard deviation	2	Estimated 90 score + 4 on average
SBW	86	87	87	2		12	Actual 3 year score
Bristol	85	88	87	3	above industry average	10	Estimated 88 score +3 on average
Wessex	85	90	88	4		3	Estimated 90 score + 5 on average
Anglian	82	90	86	5	Between the Industry average and one standard deviation above	1	Estimated 90 score + 8 on average
Welsh Water	81	90	86	6		3	Estimated 90 score +9 on average
Affinity	79	82	81	7		16	Estimated 82 score + 3 on average
Northumbrian	79	82	81	8		3	Estimated 82 score +3 on average
Sutton and East Surr	79	82	81	9		15	Estimated 82 score + 3 on average
Yorkshire	77	83	80	10		3	Estimated 83 score + 6 on average
Severn Trent	74	77	76	11	Between the Industry average and one standard deviation below	13	Year 3 score is improved by 3 SIM points on 2 year average
Portsmouth	66	85	76	12		7	Estimated 85 score + 9 on average
Dee Valley	73	76	75	13	deviation below	10	Year 3 score is improved by 3 SIM points on 2 year average
United Utilities	73	76	75	14		7	Estimated 80 score + 7 on average
South west Water	69	72	71	15		18	Estimated 75 score + 6 on average
South East	64	70	67	16	More than 1 standard deviation	17	Estimated 70 score + 6 on average
Southern	64	67	66	17		14	Year 3 score is improved by 3 SIM points on 2 year average
Thames	63	66	65	18	below industry	19	Year 3 score is improved by 3 SIM points on 2 year average
Average	76	81	78				
Std Deviation	8	8	8				

Percentage reward

Based on these analyses and indicative 2013/14 data we assume a SIM performance reward of +0.5% of turnover, or 4.5% of retail revenue.

Revenue assumptions

The associated revenue assumption, applied as an uplift to our wholesale allowed revenue, is £0.215m per year in 2012/13 prices.

Revenue Correction Mechanism

Ofwat's latest version of the RCM feeder model has been used to produce the updated RCM submission.

The industry assumptions laid out in Table 4 of the guidance are incorporated in the model and we confirm that the data used links to tables W17, R3 and A9.

We submit the model as evidence.²

During AMP5 we experienced a variance from the FD09 forecasted revenues. The primary driver for this has been the variation between Draft Water Resources Management Plan (DWRMP) forecasts used at PR09 and actual volumes supplied and numbers of metered and unmetered properties.

² RCM model – June Submission

This led to an over collection for AMP5, which has been partially offset by freezing our prices in 2014/15. The price freeze has reduced our revenue over-collection in AMP5 and, in turn, the revenue correction to be applied in AMP6.

Our revenue forecasts use data from 2010 and would normally include volumetric and inflationary (i.e. RPI + K) forecasts. However, for 2014/15, as a result of our price freeze, changes in revenue are due to sales volumes and customer numbers only. We provide further detail in the RCM model.

Opex incentive allowance

We have calculated our opex incentive allowance in line with annex A of PR09/04 letter to Regulatory Directors.

We have updated our December 2013 submission with actual 2013/14 data.

We have shortfalled meter installation activity through the capital incentive scheme. This has had a corresponding impact on the opex incentive scheme of £0.020m. This adjustment is post efficiency.

There is no outperformance in relation to pension adjustments.

The actual 2013/14 opex figure now in line 6 of the 'Opex incentive allowance worksheet'³ does not affect the constraining year calculation, and 2013/14 outperformance numbers in line 10 remain negative. They are therefore reflected as zero in line 11.

Since outperformance is constrained to the 2013/14 level, which is zero, line 12 is zero. The remainder of the lines are dependent on line 12 and therefore they too are zero.

There were no exceptional costs or logging up and down adjustments.

We submit the calculations as evidence⁴ and confirm that tables W13 and W16 have been completed in line with guidance.

Capital incentive scheme

Capital spend

We have used Ofwat's latest version of the CIS feeder model to produce the updated CIS submission. We confirm that the data used in this model links to tables W13, W15 and A9 and submit the model as evidence.⁵

In 2013/14 we increased capital investment in our water treatment works. We constructed a UV treatment plant at our Alderney WTW to strengthen our disinfection processes.

³ Opex incentive allowance worksheet

⁴ Opex incentive allowance worksheet

⁵ CIS model

This cost was not included at PR09. We have mitigated some cost through efficiency savings and delaying selected investment. However, we forecast that our capital investment will exceed the assumed investment baseline by £3.5m (net capex expenditure in 14/15 price base). We currently forecast a total net capital investment over AMP5 of £51.9m (in 14/15 price base).

We will not claim for any logging up of additional investment in the UV disinfection at our Alderney WTW.

Metering shortfall

The number of meter switchers has been below the take up assumed at PR09. Therefore, we will shortfall the metering programme.

We attribute not achieving the target to lower numbers of household customers opting to be charged by meter. We have targeted customers living in higher rateable value properties with personalised mailings about the potential benefits of switching, with some success. However, the activity remains less than forecast at PR09. Freezing our tariffs for 2014/15 has had a further suppressing impact on optional metering.

Based on our current forecast activity in 2014/15, we estimate the shortfall will be £0.475m (in 2012/13 prices).

This is a new adjustment that was not in our December 2013 submission. We have made a corresponding opex adjustment within the OIA.

Overall CIS impact

The additional capital spend, the metering shortfall and the change in actual COPI inflators result in an increase to the RCV and a negative revenue adjustment.

The RCV adjustment is £0.928m (2012/13 prices).

The revenue adjustment is -£1.438m (2012/13 prices). This has been applied as an annual revenue adjustment of -£0.294m per year over the five-year period. We confirm that the adjustment is equivalent in NPV terms to a single year adjustment.

Other adjustments

Ofwat's guidance requires that we respond to the following additional areas:

- *The basis of any tax adjustments, justifying the need for these and demonstrating these are appropriate given the overall company tax position.*

No tax adjustments have been made.

- *An account of differences between the RCV projections we made in 2009 and companies' outturn positions.*

An analysis of the difference between our RCV projection at PR09 and our actual RCV is set out below.

- *If any, assumed costs of issuing new equity during 2015-20 should be returned to customers where these costs did not materialise and have not already been returned to customers (this only applies to the small number of companies we assumed would need to issue new equity).*

This is not applicable to us.

- *Any tax benefits arising from in-period changes in capital structures*

We have not made any changes to the capital structure.

- *Where additional smoothing of revenue has been undertaken companies should set out what and the benefit of this is to customers, and demonstrate that this has been undertaken in an NPV neutral manner.*

To facilitate the even bill profile customers prefer, we have smoothed any adjustments using an NPV neutral approach.

- *An explanation of any further revenue adjustments that companies believe are appropriate – the company should provide evidence that these are justified alongside the legacy tools described above.*

We have made no revenue adjustments beyond those detailed in this section: SIM, CIS, OIA and RCM.

- *Any operating cost adjustments associated with company specific criteria – the company should demonstrate why it considers these are appropriate under the PR09 methodology and justify that the costs are economic and efficient.*

We have requested one specific cost adjustment relating to our single, very large, special agreement customer. More information is provided in section 4.1 'Wholesale cost assessment – the Fawley oil refinery'.

Difference between RCV projection at PR09 and our actual RCV

Our actual RCV differs from the PR09 determination as set out below:

Reconciliation of PR09 RCV to company numbers (before midnight or legacy adjustments)

	PR09 in 12/13 prices £million		Company in 12/13 prices £million		Difference £million
RCV at 31 March 2010	139.471		139.471		0.000
Indexation	17.309		17.309		0.000
Capital expenditure (including IRE and IRC)	42.669		37.976		-4.693
Grants & contributions	-5.536		-3.876		1.660
Depreciation	-48.055		-40.448		7.607
Outperformance of regulatory assumptions	-4.366		-4.366		0.000
RCV 31 March 2015	141.492		146.066		4.574

Capital expenditure is lower than allowed for in the PR09 price determination as the COPI price index was much lower than the RPI price index used to inflate RCV capital expenditure. The difference in capital expenditure between PR09 allowances and actual spend is discussed more fully earlier in this section under 'Capital incentive scheme'.

The capital expenditure under-spend is in part offset and explained by a shortfall in developer contributions received; without the contributions the capital expenditure is not incurred. Again this is discussed more fully in the commentary on our CIS adjustment.

Current cost depreciation is lower than the determination following a review of asset lives recorded in our current cost asset register carried out in 2013.

These numbers are before any legacy adjustments, such as the CIS or RCM. These adjustments are discussed elsewhere within this section.

Change protocol

This section discusses performance against FD09 outputs.

Leakage

	10/11	11/12	12/13	13/14	14/15 forecast
Leakage TARGET (MI/d)	22	22	22	22	21
Leakage ACTUAL (MI/d)	22	22	21	21	21

We have consistently met our leakage target and will continue to do so.

Reducing leakage is one of our customers' top priorities with 99% of households and 96% of non-households telling us they wish to see leakage further reduced.⁶

Customers are willing to pay for a reduction in leakage and we have therefore committed to more challenging targets for AMP6. We have also imposed an Outcome Delivery Incentive on this activity.

Section 3 'Customer engagement and willingness to pay' provides further information on our proposal.

Metering

	10/11	11/12	12/13	13/14	14/15 forecast	Total
Optional TARGET	2,250	2,250	2,250	2,250	2,250	11,250
Optional ACTUAL	1,658	1,737	2,068	1,501	1,500	8,464
Selective TARGET	1,200	1,200	1,200	1,800	2,000	7,400
Selective ACTUAL	1,395	1,750	1,564	1,600	1,850	8,159

We have mitigated the shortfall in optional metering to a degree through metering properties on change of occupier. We have now revised downwards our forecast total meter installations over AMP5.

⁶ Quantitative research slide 22

Even though we continue to proactively target customers and have accelerated our selective metering programme to mitigate the shortfall, we forecast that we will fall short of our FD09 assumption by 11% or 2,027 meters.

We address this shortfall under ‘Capital expenditure incentive scheme’ and Opex incentive allowance’ earlier in this section.

Since 2000, our strategy has been to meter on change of occupier. Customers support metering on the basis of fairness and tell us it is a priority for us to meter all properties. We remain committed to metering on change of occupier and discuss it further in section 4.3 ‘Wholesale cost assessment – selective metering’.

Mains renewal

	10/11	11/12	12/13	13/14	14/15 forecast	Total
Mains renewal TARGET (km)	12	12	12	12	12	60
Mains renewal ACTUAL (km)	11	13	12	13	11	60

Our mains renewal programme is progressing well and we expect to meet or slightly exceed our target.

Customers value a reliable water supply and despite our leading position in the industry for average length of interruption,⁷ they place an average priority score of 8.4⁸ out of 10 on a reduction in interruptions.

Our deterioration modelling suggests that a replacement rate of 12km per year is insufficient to prevent future deterioration in asset performance. We discuss future mains renewal and the assumptions made in Ofwat’s wholesale cost assessment in section 4.2 ‘Wholesale cost assessment – infrastructure renewals’.

⁷ Annual Ofwat KPIs – average length of interruption per property connected

⁸ Quantitative research slide 25

Water efficiency

	10/11	11/12	12/13	13/14	14/15 forecast	Total
Water efficiency savings TARGET (l/p/d)	0.19	0.19	0.19	0.19	0.19	0.95
Water efficiency savings ACTUAL (l/p/d)	0.19	0.20	0.20	0.12	0.13	0.84

2013/14 proved a disappointing year despite proactive water efficiency activity. We are now unlikely to achieve our five-year overall water efficiency target. However, demand and distribution input continues to fall by substantially more than would be inferred from the above targets.

A key contributing factor is the provision of free water saving devices to customers on request. The savings achieved from this activity are subject to the law of diminishing returns, although the long, dry spell at the start of AMP5 mitigated this. Since then, the very wet period has made it difficult to engage customers on water saving devices.

During 2010, we took the decision to focus our efforts on education. Initially, this made a significant contribution to achieving our target as the guidance allowed soft measures to contribute to 50% of the activities. Although the guidance has been changed to reduce the impact of soft measures, we have continued our commitment to education as the most effective long-term water efficiency strategy.

Our 2012/13 performance includes 0.03 l/p/d claimed following a one-off contribution to the UKWIR lead research.

For 2014/15, we anticipate a similar savings figure as 2013/14 of 0.13 l/p/d. The 2013/14 figure incorporates both hard measures (devices) and soft measures (education – both schools and with bills).

Our future water-efficiency strategy will focus on reducing per capita consumption (PCC) in the long term. PCC reduction is a performance measure underpinning our 'Reliable water supply' outcome. Achieving a PCC reduction will leave more water in the environment and so contribute to our 'Environmentally sustainable operations' outcome.

Security of supply

	10/11	11/12	12/13	13/14	14/15 forecast
Dry year annual average	100	100	100	100	100
Dry year critical/peak conditions	100	100	100	100	100

There is no change to our December 2013 submission. Our security of supply is robust and, based on current abstraction licensing arrangements, is forecast to remain at 100 until the end of the next water resources planning period in 2040.

Demand-side enhancements

	10/11	11/12	12/13	13/14	14/15 forecast	Total
Dry year ave (MI/D) TARGET	0.14	0.14	0.14	0.19	0.21	0.84
Dry year ave (MI/D) ACTUAL	0.12	0.14	0.14	0.13	0.14	0.67
Critical period (MI/d) TARGET	0.17	0.17	0.17	0.23	0.25	0.99
Critical period (MI/d) ACTUAL	0.16	0.19	0.18	0.17	0.18	0.88

This measure has been affected by the meter installation figures, which we have shortfalled.

New properties

	10/11	11/12	12/13	13/14	14/15 forecast	Total where applicable
Number of new properties assumed by Ofwat	1,350	1,320	1,430	1,410	1,550	7,060
Actual number of new properties	957	1,123	846	961	1,000	4,887

We continue to attribute the low numbers of new properties in our area of supply to the economic climate during AMP5.

It is almost certain that the total number of new properties during AMP5 will not reach the number assumed in FD09.

Capex monitoring against key AMP5 obligations

Key obligation	Specific scheme outputs	Apr 2010 – Mar 2014 Actual	March 2015 Forecast
Maintenance non-infrastructure			
To maintain serviceability of asset base in a stable condition throughout the period	Target meters over 16 years old for replacement – 23,800 over the 5-year period	21,736 replaced up to March 2014.	23,800 replaced
Infrastructure maintenance			
To maintain overall serviceability of asset base in a stable condition	60km of mains renewals	49km replaced	60km replaced
	Installation of 600 flushing points	437 installed	600 installed

Enhanced service levels			
Reduce risk of outage due to pipe failure for Verwood	Installation of an additional feed to Verwood	Complete and in service	Complete
Quality enhancements			
Reduce cryptosporidium failure risk at Woodgreen WTW (PR09 project database 5WA5)	Install UV plant at Woodgreen	Plant commissioned and in service	Complete
Security enhancements (PR09 project database 5WA13)	Upgrade telemetry kiosks	Scheduled for 2014/15	Complete
	Doors	Complete	Complete
	Security at Alderney WTW	Alternative solution adopted with new works entrance. Complete	Complete
	Improve chemical storage security	Complete	Complete
	Improve borehole headworks security	Partially complete	Complete
	Develop tanker filling point network	To be completed by March 2015	Complete
	Improve office electronic security measures	Complete	Complete
Supply-demand balance			
Additional slow sand filter capacity at Knapp Mill WTW		Complete and in service	Complete

Serviceability measures and outputs

Asset serviceability

	10/11	11/12	12/13	13/14	14/15 forecast
Non-infrastructure ACTUAL	Marginal	Stable	Stable	Stable	Stable
Infrastructure ACTUAL	Stable	Stable	Stable	Stable	Stable

Throughout AMP5 we have utilised Ofwat’s serviceability tool⁹ to enable us to assess asset performance.

Each year our asset serviceability is scrutinised by Halcrow Management Sciences and we are challenged on our performance.¹⁰

To predict our serviceability performance for the year 2014/15, we have used our current internal KPI measures and historic performance.

Ofwat’s temporary categorisation of ‘marginal’ for non-infrastructure in 2010/11 was due to coliform detections at our Alderney WTW. These detections took place in 2010 and following effective action, performance quickly stabilised. The unusual ‘double decker’ configuration of part of the treatment process at our Alderney WTW (where for reasons of space economy slow sand filters sit on top of contact basins) gave rise to the presence of coliforms when partially treated water from a slow sand filter seeped into one of the three contact basins below. Investigations were carried out and the pathway of the seepage through the structure was identified and repaired (see JR11, appendix to Table 11a¹¹).

As a result of our early intervention and performance recovery, we viewed our performance for 2010/11 as stable; a view endorsed by Halcrow Management Sciences. Under the terms of a monitoring undertaking from the Drinking Water Inspectorate, the bacteriological performance is scrutinised very closely with high-volume samples.

In addition to this short-term action, we have also embarked on a longer-term review of our disinfection processes at our Alderney WTW to address the source of the coliform issue. This has resulted in a disinfection improvement plan.

Under Phase 1 of this plan we have installed a UV treatment plant at a cost of £3.500m. This work was originally planned for AMP6 but was brought forward and substantially completed in February 2014.

⁹ Serviceability toolkits: BWH – Serviceability-WI and BWH-Serviceability-WNI

¹⁰ Halcrow Management Sciences Ltd Summary of audit findings Table 11a (for years 2010/11+2011/12 and 2012/13)

¹¹ Table 11a Appendix – coliforms detections at WTW

Phase 2 of this plan involves abandoning the ‘double decker’ treatment plant configuration. One of the three existing contact basins will be upgraded to a proper contact tank; the other two abandoned; and the slow sand filter which sits above the contact basin to be upgraded will likewise be abandoned. This work will be completed during 2014/15 at a cost of £1.5m. We are confident that these major improvements to the disinfection system at Alderney will maintain serviceability, especially in respect of coliform performance, long into the future.

Although Ofwat categorised 2010/11 non-infrastructure serviceability as marginal, in Mark Worsfold’s letter of 29 July 2011¹² Ofwat acknowledged our actions and stated:

‘On this basis it seems highly likely that stable serviceability will be restored next year’ and ‘In our publication later in the autumn we intend to caveat our marginal assessment to show that you have already taken corrective action and are seeing signs of improvement. We do not require any more information or feel it is necessary to discuss it any further.’

We are therefore surprised to note in Ofwat’s risk-based review that it intends to challenge us on asset serviceability, particularly in view of the improved coliform performance over several years and the extensive work we are currently undertaking at Alderney WTW.

¹² ‘Maintaining serviceability to customers BWH – Ofwat July 2011
Page 17 of 28

Infrastructure

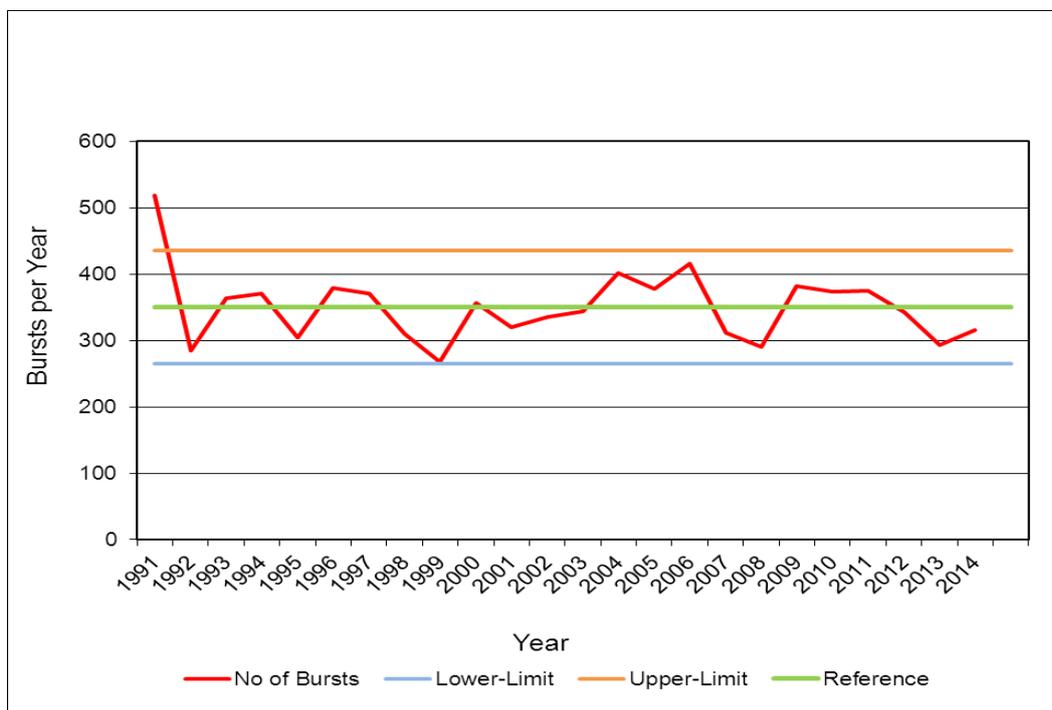
Our overall assessment of the infrastructure assets is that performance is stable and serviceability to the customer is excellent.

Total bursts performance: very good and remaining stable

Burst performance is very good and has remained stable during AMP5. Failure numbers dropped below the reference level in 2013/14 partly due to the mild winter weather.

We predict that during 2014/15 bursts will remain within the serviceability threshold.

Burst rates are consistently within the upper and lower limits



Interruptions >12 hours: performance is good

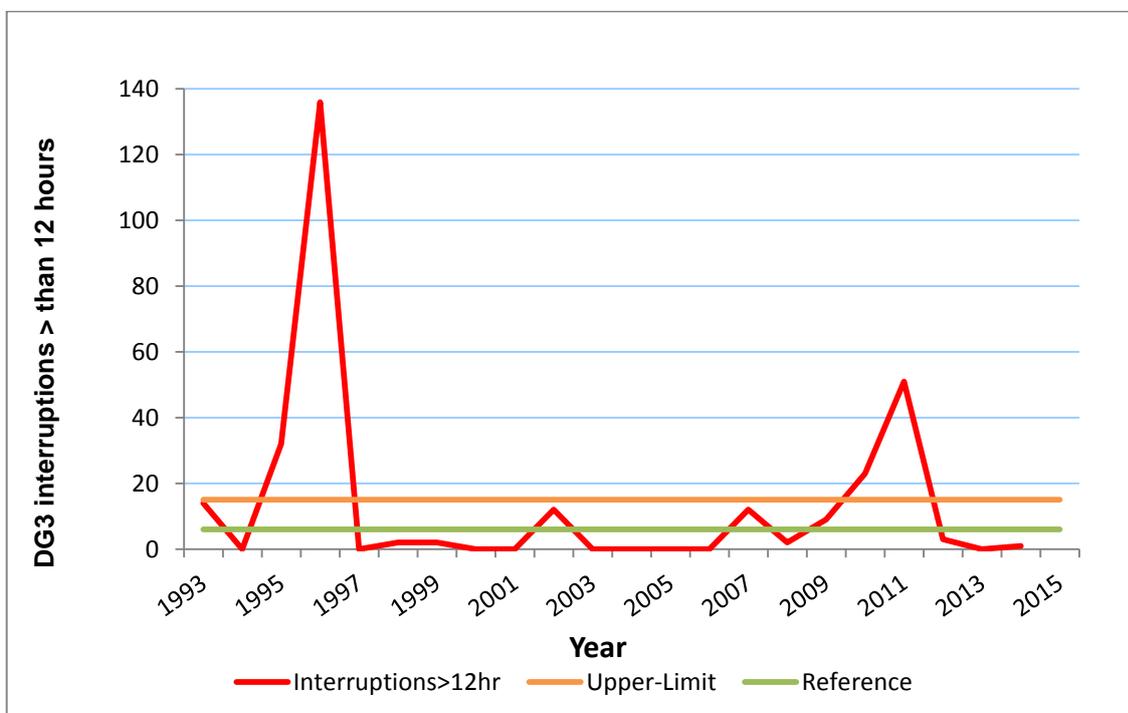
Our response time to repair network or treatment failures continues to be very good.

The exception to this was in 2011 when a single burst took longer than 12 hours to repair. As the serviceability upper limit is set at 15 properties, our performance is sensitive to any such situation.

We expect to repair all failures in less than 12 hours however in 2013/14 we had one incident created by a meter exchange that clogged the meter and reduced the flow. The customer did not contact us for some time, but we report it here for transparency.

We have introduced a performance commitment under our 'Reliable water supply' outcome to reduce the risk of large-scale interruption.

Our performance in respect of interruptions > 12 hours is good



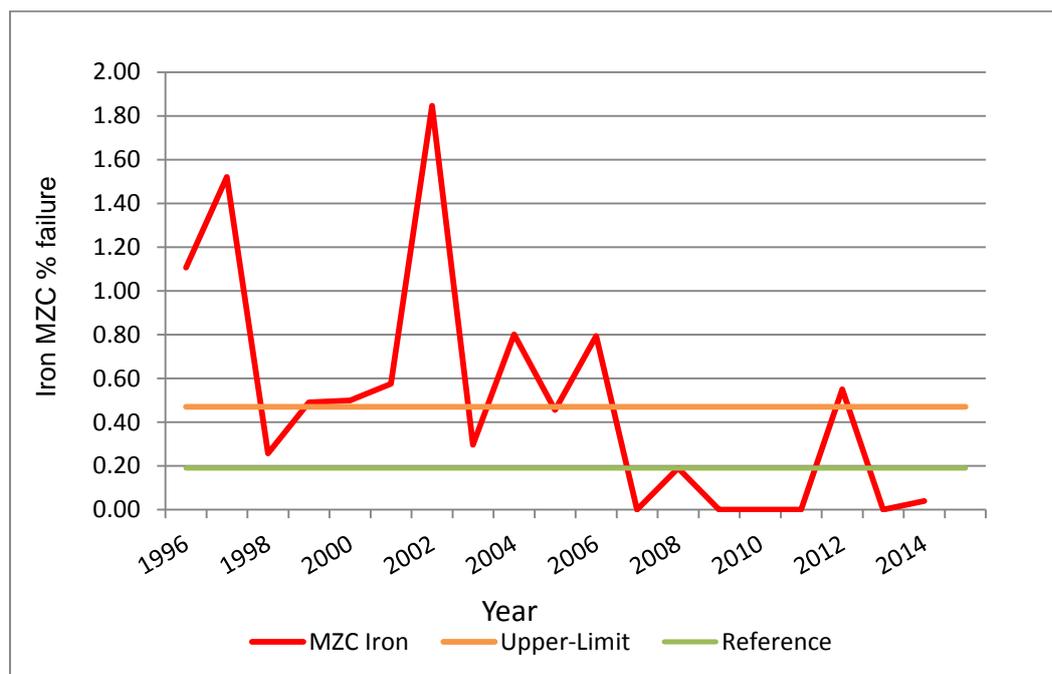
Iron non-compliance: good performance

Mean Zonal Compliance (MZC) for iron performance is good although the number of iron failures varies from year to year. We have a large number of old galvanized iron customer service pipes and experience occasional failures due to these breaking down and producing a high iron result.

However, it can be seen from the chart below that there has been a significant improving trend over the last 15 – 20 years. As a small company with a small number of drinking water quality zones, some of which are sampled for iron only a few times each year (as required by the regulations) means that single failures can increase the mean zonal failure rate very significantly. MZC at company level is a mean of the means of individual zones. Therefore, a failure in a small zone has a disproportionate effect on the company level mean zonal performance.

This measure does not readily reflect the performance of the network as failures are always investigated and are generally as a result of deficiencies in customers' plumbing.

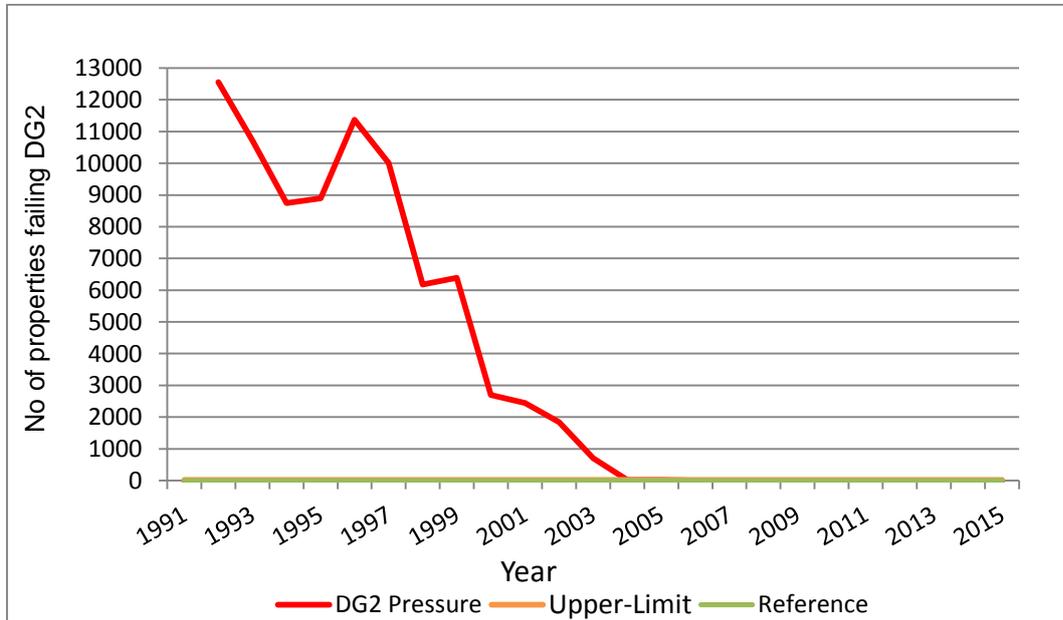
Our performance during AMP5 reflects good serviceability performance.



DG2 (pressure): excellent performance

We have been no properties on our DG2 Register since 2006 and we will maintain this performance.

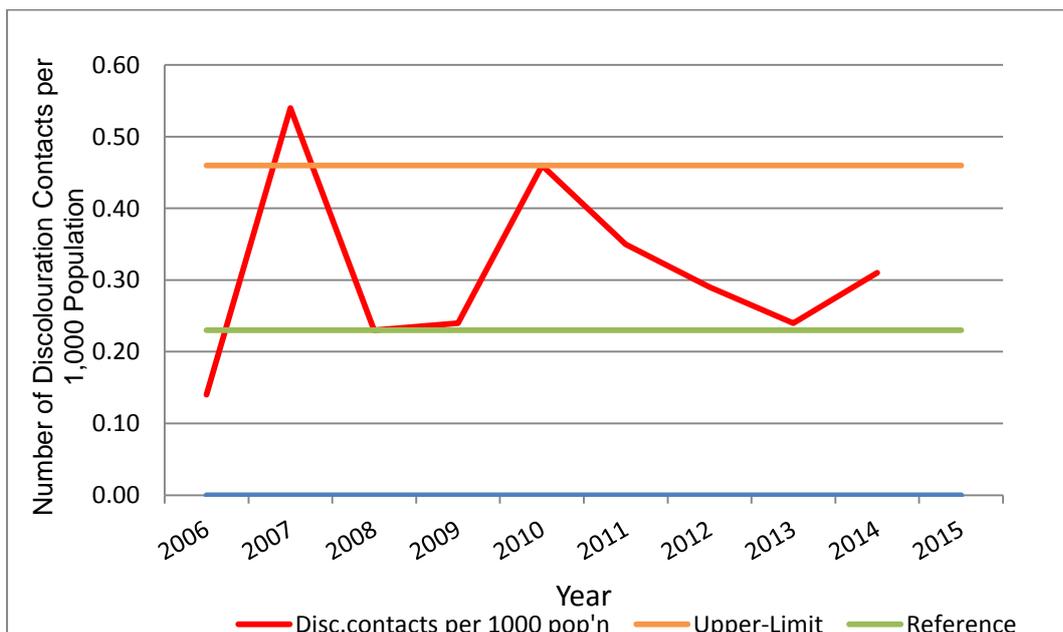
We have no failures in respect of pressure.



Customer contacts for discolouration: good performance

We do not get significant numbers of discolouration complaints and performance remains stable.

Numbers of discolouration contacts remain consistently between the upper and reference limits in AMP5



Distribution index TIM: stable performance

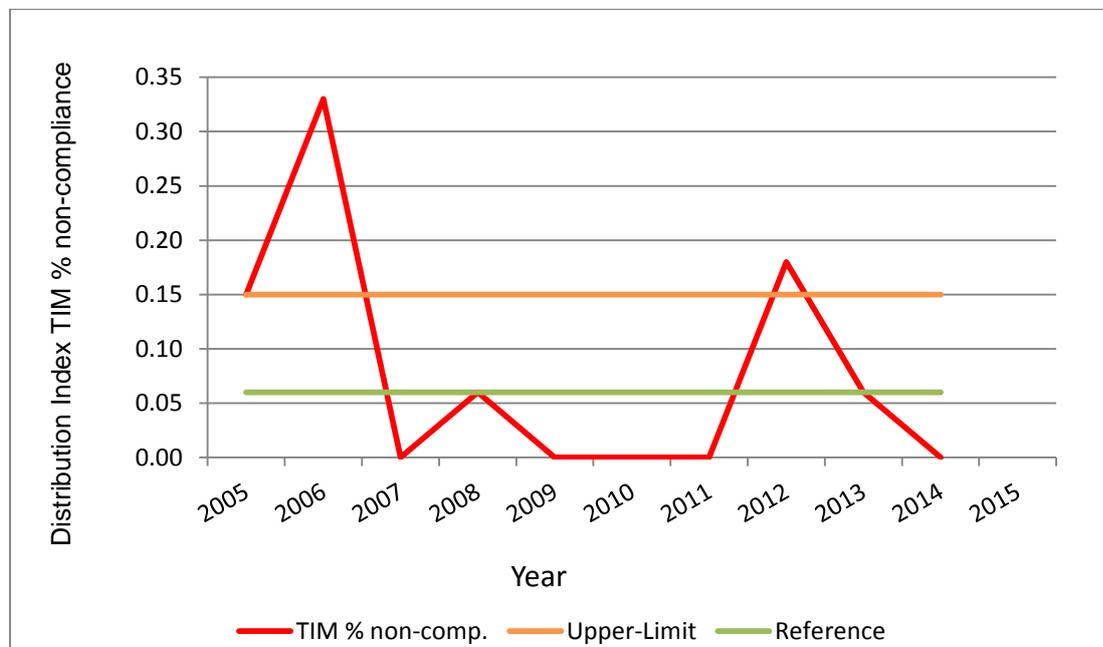
Distribution Turbidity, Iron and Manganese (TIM) non-compliance performance is stable.

We do not experience turbidity and manganese failures and performance is dependent upon the iron measurement. As with iron, our reported performance is susceptible to one failure in a small zone due to the relative size of our zones, and a single failure in a small zone can have a significant effect where the same failure in a large zone would not.

As reported above for iron, we have a large number of old galvanized iron customer service pipes and experience occasional failures due to these breaking down and producing a high iron result.

Despite this, our performance during AMP5 shows good serviceability performance and we expect this to continue in 2014/15.

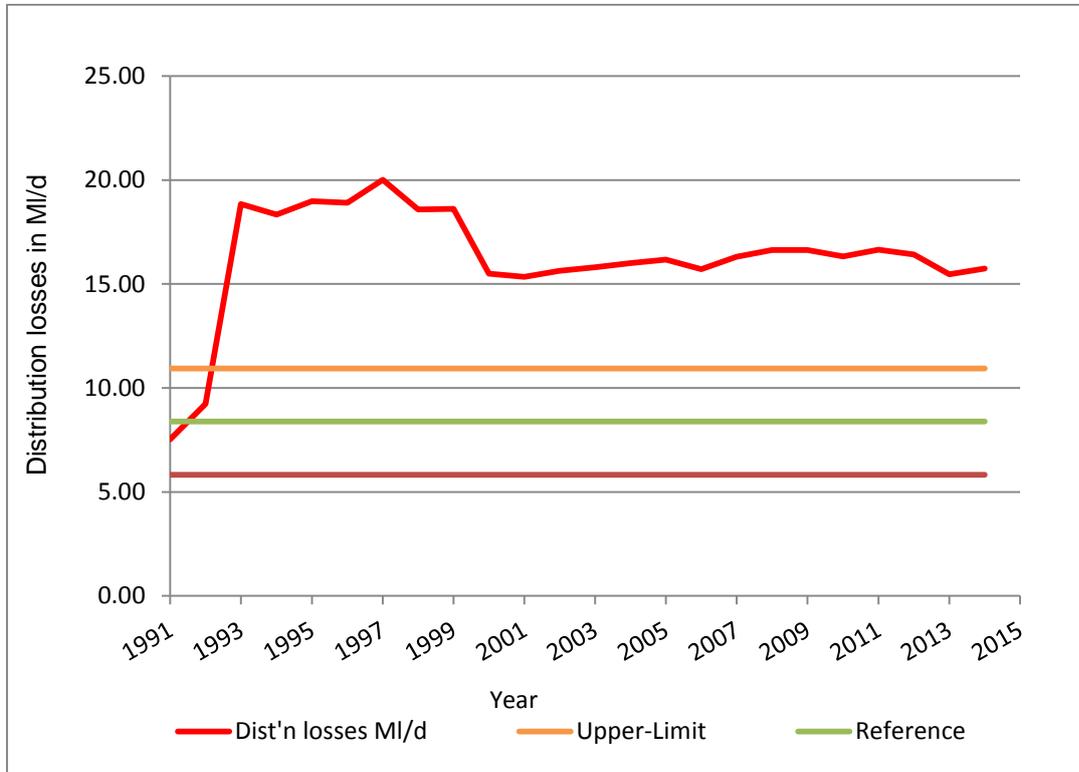
Our TIM non-compliance performance is stable over AMP5



Distribution losses remain stable in the AMP5 period

Our leakage performance is good and we perform consistently on or below our leakage target. Our distribution losses are stable.

Our distribution losses are stable over AMP5



Non-Infrastructure

Our overall assessment of the non-infrastructure assets is that they have a stable performance and serviceability to the customer is good.

Water treatment works coliforms: our performance is stable and disinfection processes at Alderney WTW have been upgraded.

Our serviceability performance for coliforms is sensitive as two failures in any year will result in us reaching our upper limit.

We have experienced coliform failures at our treatment works during AMP5 and so have exceeded the upper serviceability limit. On each occasion we have discussed the issue with Halcrow Management Sciences who have concluded that serviceability remains stable.¹³

In 2011 we had a number of failures at our Alderney WTW which we believe were due to the failure of a sealed air vent allowing small quantities of treated, filtered water to partially bypass part of the contact tank. As a precaution the filter was taken out of service.

Our 2013 performance was affected by one failure at Stanbridge WTW and two at Alderney WTW:

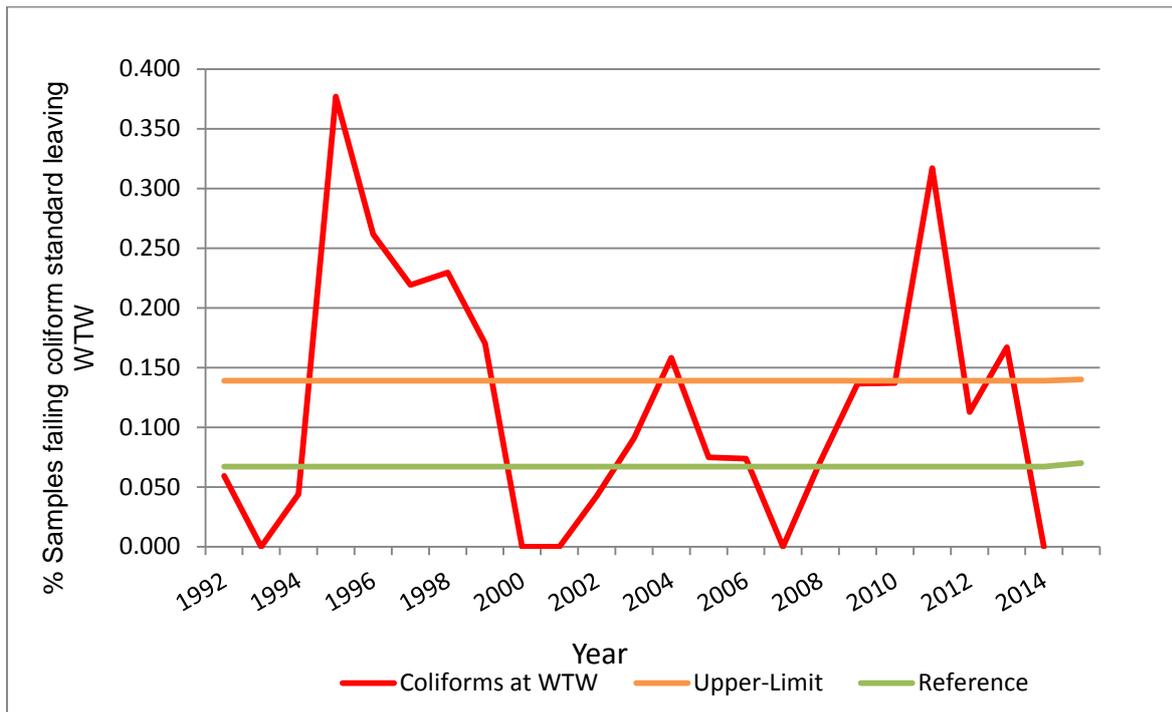
- The Stanbridge source is a pristine chalk borehole delivering high-quality water. The failure in this case was a one-off situation and not indicative of any underlying issue.
- The failures at Alderney occurred at the time of the UV plant construction when major pipework connections affecting the whole plant output were being undertaken. Therefore, this was a temporary situation rather than an indicator of underlying asset serviceability issues.

As discussed above, we have installed a UV disinfection system at Alderney, and further work to improve the disinfection process will be carried out in 2014/15.

There were no coliform failures during 2013/14 and we do not expect any in 2014/15.

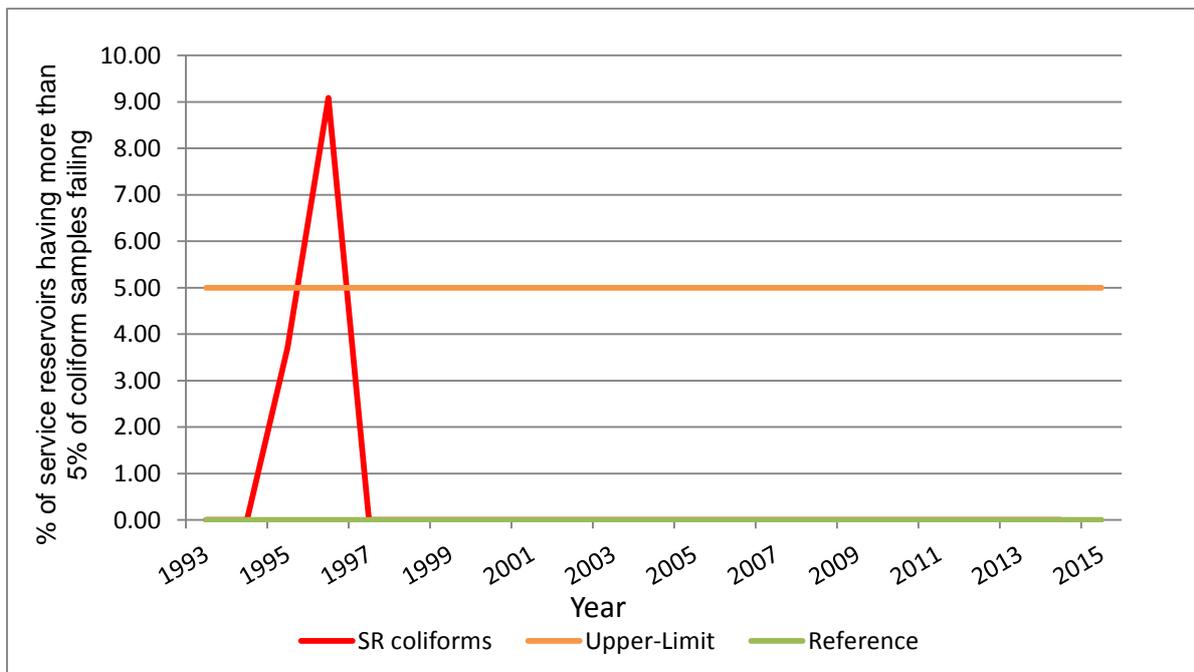
¹³ Halcrow Management Sciences Ltd Summary of audit findings Table 11a (for years 2010/11+2011/12 and 2012/13)

There were no coliform detections during 2013/14



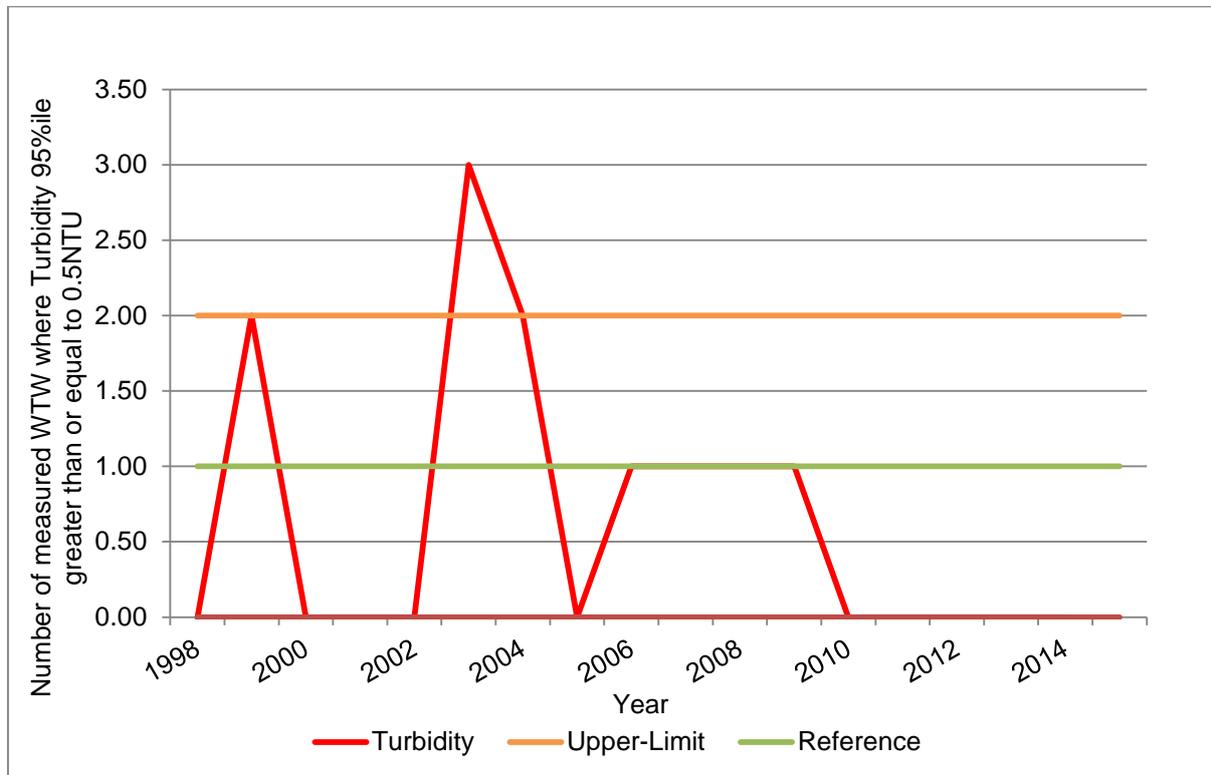
Service reservoir coliforms: excellent performance

No service reservoir has been measured as having more than 5% of coliform samples failing since 1995.



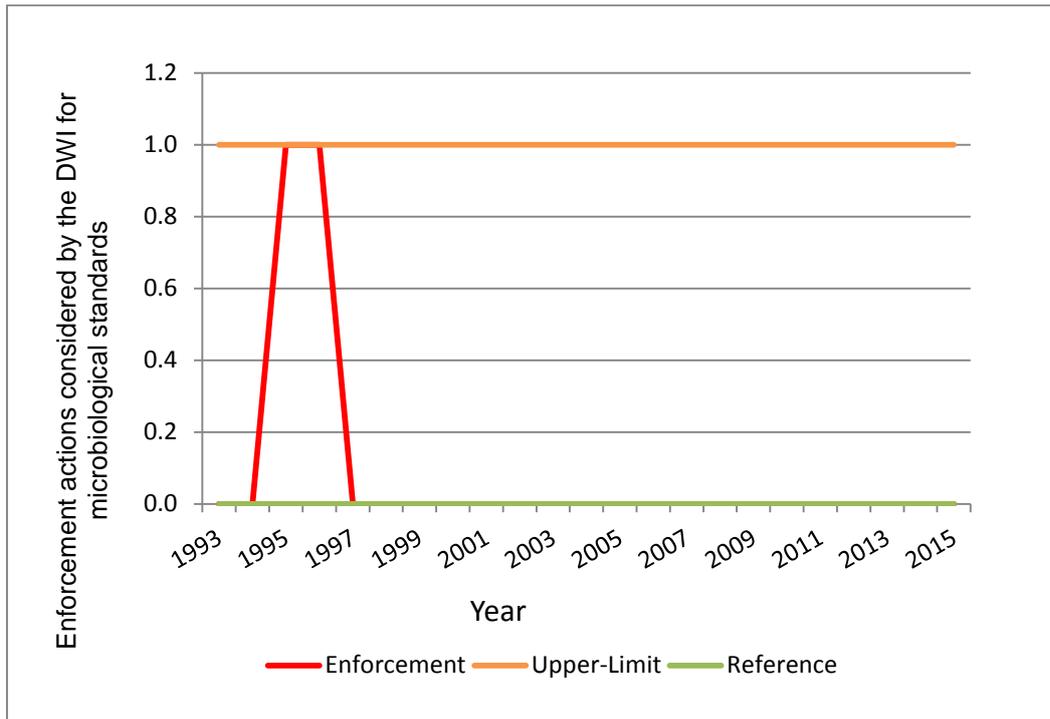
Turbidity: stable

There were no incidences of turbidity above 0.5NTU 2013/14.



Enforcement action

In June 2013, following an outbreak of cryptosporidiosis in the Alderney treatment works supply zone, we were issued a Notice by the Drinking Water Inspectorate under the terms of the Water Supply (Water Quality) Regulations. The Notice required us to put in place enhanced monitoring for cryptosporidium in the raw and treated water supplies, along with other requirements relating to the operation and survey of the treatment facilities. The Notice is still in force.

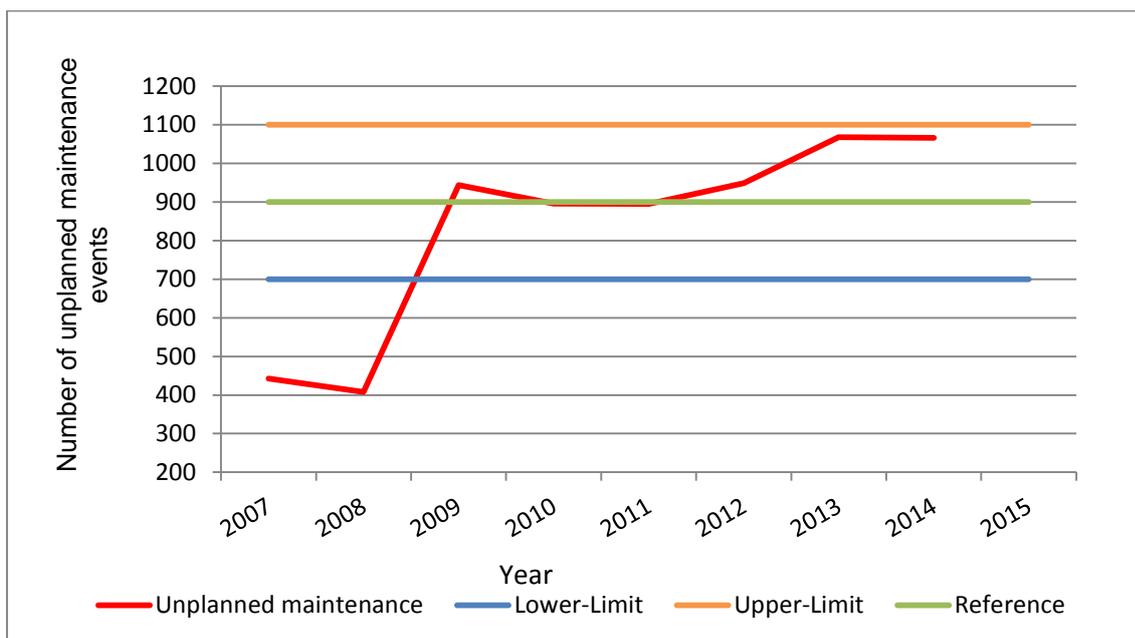


Unplanned maintenance - stable

Our performance has been stable over AMP5.

This measure takes no account of the impact and criticality of any maintenance activity and therefore there is no link to the customer service. While our performance has been relatively stable, we view this as a poor measure of serviceability.

Our performance during AMP5 has been consistently between the upper and lower limits



Conclusion

The overall assessment is that our serviceability for both infrastructure and non-infrastructure has remained stable over AMP5.

We forecast that both indicators will continue to be stable throughout AMP6.