



# **Bristol Water plc Periodic Review 2004**

## **Final Business Plan**

### **Part D The Public Summary**

May 2004

## Part D The Public Summary

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## Section 1. The Overall Strategy – Executive Summary

### Overview

1. This Plan sets out our proposals for the 5 years 2005-10. In it we propose the following price limits and average domestic water bills in 2002/03 prices:

Year to 31 March	K factor %	Average domestic bill 2002/03 prices
2000		118
2004	0	106
2005	-1.9	103
2006	<b>20</b>	122
2007	<b>6</b>	128
2008	<b>6</b>	136
2009	<b>0</b>	136
2010	<b>0</b>	136

2. The average domestic bill for 2004/05 in current prices is £109 compared to £103 (at 2002/03 prices) in the table.
3. The proposed price limits and bills are higher than those we set out in our draft plan in August 2003. The draft plan identified areas where further analysis/information was required. The main changes are:

	Proposed average bills in	
	2005/06	2009/10
	£	£
<b>Draft Business Plan proposed bills (2002/03 price base)</b>	<b>114</b>	<b>116</b>
Net increase in costs of proposed security and quality schemes	1	3
Inland Revenue tax changes	4	4
Additional property rates	0	1
Additional abstraction charges payable to the Environment Agency	1	1
Increased pension costs	5	5
Other net changes including ensuring the financeability of the Plan	-3	6
<b>Proposed bills (2002/03 price base)</b>	<b>122</b>	<b>136</b>

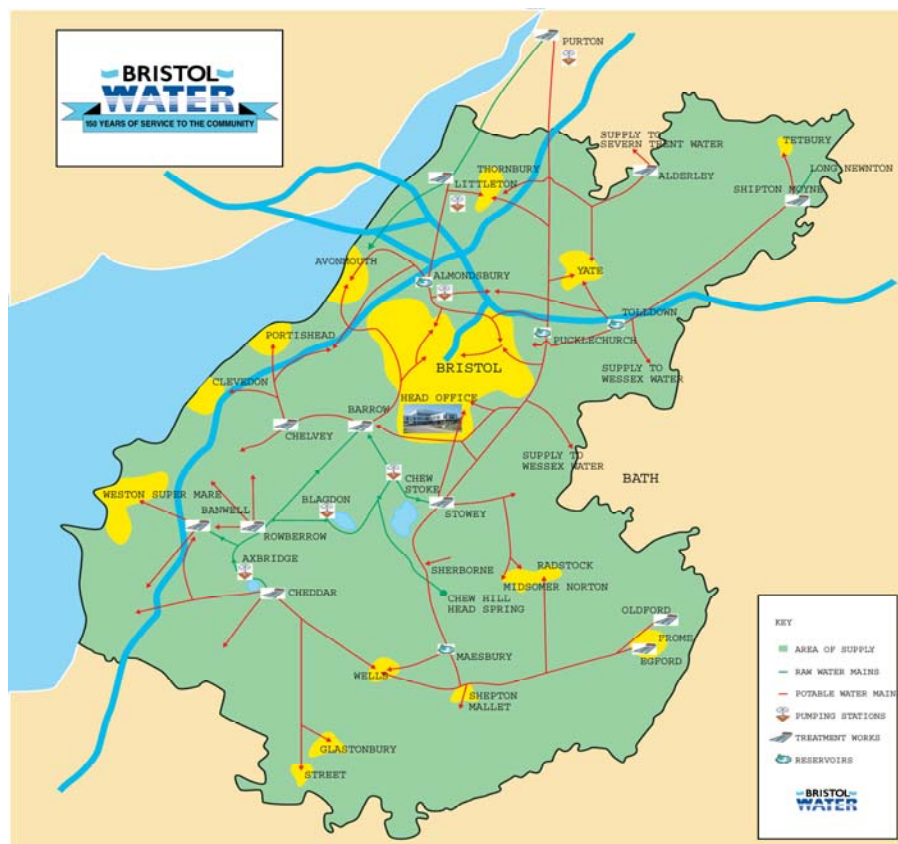
4. A significant element of the changes relate to the anticipated impact of externally imposed cost increases including those from government agencies.

5. We would like to keep customers' bills as low as possible. However these increases are needed to enable us to meet our obligations and customer requirements. Despite the price rises, by the end of 2010 in real terms average domestic bills will only be £18 higher than customers were paying in 1999/00. The average domestic bill of £136 in 2009/10 (2002/03 prices) represents around 37 pence per day for a 24 hour 365 day high quality service.
6. Since the last review of prices in 1999, we have continued to deliver high quality services to customers, reflected in our consistently high rankings in Ofwat's annual review of performance. We have also achieved consistently high levels of water quality.
7. Research shows that the key things that our customers want are: security and reliability of supply, safe drinking water, maintenance of current service standards plus improvements to the taste and appearance of drinking water.
8. Based on these requirements and guidance from Government, we plan:
  - A significant increase in the level of infrastructure maintenance albeit still lower than the long term requirement
  - Four schemes to provide a better level of security of mains water supply to large numbers of customers
  - Two new treatment works to provide increased security of access to supplies in adverse operating conditions
  - Improvements to the taste and appearance of water at customers' taps
9. In deciding which schemes to include in the Plan we have considered their impact on prices to customers and have removed or deferred many proposals in order to minimise the impact on prices in the period. This necessarily means that the level of risk will be higher than we would prefer. However, we fully recognise significant price increases are not appreciated by customers or Government and priorities have to be identified. We have therefore sought to balance risk against price impacts.
10. Delivering the Plan requires an investment programme for 2005-10, after efficiencies, of some £156m (2002/03 prices). This compares to projected investment in the current five year period 2000-05 of £109m.
11. In assessing the investment programme and the ongoing operating and financing costs of the business we have taken an integrated view of the risk profile of the business and the return on capital required to enable the business to operate effectively. Increasing the risk profile would change this balance.
12. We believe that the proposals set out in the Plan are balanced and in the best short and long term interests of customers.

## Finding a balance

13. In preparing this Plan we have considered carefully the balance between service standards, the need for further capital investment particularly on the maintenance of infrastructure assets and security related schemes, the risk profile of the business, the financing of the Plan and the impact on customers' bills.
14. The need for an appropriate balance is reflected in our vision statement of being **“a water company balancing all stakeholders’ interests, delivering world class performance at best value both now and in the future”**. The Company is determined to deliver this vision.
15. Throughout the Plan we have examined the potential for trade offs and consider that we are proposing a package that is fair and reasonable for both customers and investors.
16. Our draft plan in August 2003 explained that there were a number of factors that we had not fully taken account of and where further analysis/information was required. This Plan reflects new/improved information in a number of these areas and results in proposed increases in customer bills which are higher than those we set out in our draft plan. The main factors are:
  - Detailed costing information on major capital schemes
  - Additional information about likely increases in property rates effective from April 2005
  - Additional actuarial advice about the impact of equity and debt market movements on pension scheme liabilities
  - Greater clarity of the Inland Revenue taxation changes effective from April 2005
17. In forecasting forward some six years there is inevitably a wide range of uncertainties. Accordingly we have developed a Plan that represents an overall package of service delivery to customers together with the required price limits to deliver them. Over the period circumstances may change from those forecast and new pressures may emerge. Within reasonable limits we would propose to manage our investment plans within the overall package to address such changes.
18. Changes, however, that we cannot address within the overall package are:
  - Additional water quality requirements
  - Additional security requirements
  - Any impact of International Accounting Standards which adversely affects our debt ratings or ability to pay dividends
  - Increases in construction price inflation significantly above RPI
  - Increased costs in respect of property rates in excess of assumptions advised by Ofwat
  - Introduction of lane rental charges
  - Any unrecoverable costs related to a requirement to fluoridate supplies
  - A change in the abstraction licence charging regime for canals
  - Any increased requirements relating to customer supply pipes
  - Any additional tax payable as a result of FRED29

## Map of Bristol Water area



## Review of performance in the current 5 year period

19. During the current five year period 2000-2005, to date we have delivered, and intend to continue to deliver, high quality services to customers. This is reflected in our consistently high rankings in Ofwat's annual review of performance. We have also delivered consistently high levels of water quality.
20. The efficiency targets that Ofwat set for the period were extremely challenging. To date we have managed to reduce costs in line with these targets by a radical restructuring of the business in 1999/00 and the creation of a joint billing venture with Wessex Water. We see the scope for such cost reductions in the future being very much more limited without substantially increasing the risk profile of the company and its services to customers.

## Proposals for 2005-10 – balancing outputs with prices

21. Research indicates that the key requirements from our customers are:
  - Security and reliability of supply
  - Safe drinking water
  - Maintenance of current service standards
  - Improvements to the taste and appearance of water
  
22. In summary, based on these requirements and guidance from Government, our Plan proposes the following:
  - A significant increase in infrastructure maintenance from the current level of £6.2m pa to approximately £9.0m pa (2002/03 prices). This will allow a doubling of mains replacement (excluding for water quality reasons). Our detailed analysis shows that a further doubling of the element related to mains replacement is required to maintain current levels of service to customers. However, as a deliberate affordability trade off we propose limiting expenditure during PR04. We forecast that this will lead to a modest increase in the level of interruptions to supply of around 6% by 2009/10.
  - Four engineering schemes to provide an improved level of security of mains water supply to large numbers of customers, in line with government requirements and customer expectations, should individual key assets become unavailable for an extended period. The schemes do **not** extend to protecting against circumstances when more than one key asset is unavailable for an extended period, nor will they meet 100% of normal demand requirement.
  - Two new treatment works to ensure full access to water resources in adverse operating conditions, thereby securing supplies to customers when required. The proposed schemes have DWI support.
  - Several individual modest schemes to improve the taste and appearance of water at customers' taps. Again the proposed schemes have DWI support.
  - Providing appropriate returns on the capital employed to ensure that the capital programme can be financed.

More details of the proposed schemes are provided in subsequent sections.

23. We have made numerous assumptions in preparing this Plan, most importantly the inter-relationship between risk retained by the Company and the cost of capital. Our plan is integrated and consistent. Any increase in the risk profile would require an appropriate adjustment to the required cost of capital.

## Price impacts

24. The increase in bills from 2003/04 to the average of £136 for 2009/10 (2002/03 prices) can be analysed as follows:

	Proposed average bills in	
	2005/06	2009/10
	£	£
<b>Average bill 2004/05 (2002/03 price base)</b>	<b>103</b>	<b>103</b>
<b>Proposed service and customer enhancements</b>		
Increased maintenance of the infrastructure network	4	4
Schemes to maintain and increase the security of supply	1	5
Schemes to maintain the supply/demand balance	1	2
Schemes to deliver the quality programme	1	5
Efficiency gains passed to customers	-3	-6
Other net changes including ensuring the financeability of the Plan	-2	5
<b>Proposed bill before changes in externally driven factors</b>	<b>105</b>	<b>118</b>
<b>Externally driven factors</b>		
Inland Revenue tax changes	4	4
Additional property rates	0	1
Additional abstraction charges payable to the Environment Agency	1	1
Increased power costs and government climate levy	2	2
Increased bad debts following Government change re domestic disconnection rules	2	2
Increased pension costs	5	5
Increased insurance premiums	1	1
Loss of major customer	1	1
Increased construction prices 2000-05 previously absorbed by Bristol Water	1	1
<b>Proposed bills (2002/03 price base)</b>	<b>122</b>	<b>136</b>

25. Significant price drivers are either already happening or are due to take effect from April 2005. These include:
- Changes planned to the tax allowances the Company can claim for its investment expenditure that increase the amount of tax payable and cause average bills to increase by some £4 per annum.
  - The ban on the threat of disconnection of households for non-payment has led to a significant increase in bad debt experience and is adding a further £2 to average bills.

- The Company has previously closed its defined benefit pension schemes to new entrants, but there have been adverse changes to the pension scheme funding because of reduced returns from investments and changing actuarial assumptions. This leads to a need for increased contributions equivalent to £5 per customer. This reverses the position at the last price review when pension costs benefited from strong Stock Market returns that are reflected currently in lower customer bills.
26. Other drivers of price increases relate to enhancement to services. For example, the increase in infrastructure maintenance, particularly mains replacement, will add approximately £4 to average bills throughout the period. Over the period water quality and security of supply schemes will add some £10 to bills in line with the profile of expenditure incurred.
  27. Efficiency gains will contribute to abating the level of price increases needed to fund the business. However, these will not be able to contribute as much as in previous price reviews.
  28. Given the significant increases being sought, we have considered carefully the profile of proposed price increases. Research shows customer preference is for progressive phased increases rather than a large rise in 2005/06. In our Plan, as well as trying to minimise price pressures by challenging all proposed expenditures, we have profiled the K's as far as we believe is possible. A consequence is that financial ratios, particularly in 2005/06 where the effect is significant, are weaker than is properly desirable.

## Financial effects

29. We have evaluated carefully what we believe is an appropriate cost of capital for the company and conclude that, against an appropriate Regulatory Capital Value (RCV), a real post tax return of 6.0% is required inclusive of small company and embedded debt factors.
30. We have also considered carefully the appropriate level of financial ratios, including an assessment of the appropriate minima/maxima consistent with maintaining investment grade ratings. The Plan sets out details of the key ratios we have considered.
31. Applying the 6% real cost of capital against the forecast RCV results in a financial profile that does not satisfy the minimum financial ratios required, even by 2015. We believe this results from the Company's opening RCV being too low. We have previously provided information to Ofwat that clearly shows that Bristol Water has a low regulatory capital value relative to other companies and this is a matter we will wish to continue to discuss.
32. We have therefore proposed K's based primarily on financial ratios. The proposed K's produce an average return on RCV of 6.9% compared to our calculation of an appropriate post tax cost of capital of 6.0%. The degree of financial ratio protection required is however considerably lower than for PR99.

33. Whilst we believe that our Plan is financeable, the key financial ratios are tight and provide only limited headroom to deal with the risks we face. The profile of K's means that the 2005/06 ratios are very weak and would not be sustainable at that level without the impact of the subsequent K increases.
34. In early 2004 the Company's ultimate parent returned capital to its shareholders. This was mainly funded by the Company providing an interest bearing inter-company loan to the parent and thereby increasing the gearing of the Company.
35. The Company's gearing level of net debt relative to RCV is now approximately 70% and is projected to remain at or below this level going forward. This level is in line with other companies in the sector and broadly in line with Ofwat's own normalised range. Ofwat has asked that the inter-company loan be effectively treated as a reduction in capital by the Company and projections have been prepared on this basis.
36. Customers can reasonably ask about the impact of the return of capital on proposed price limits. When setting price limits, Ofwat allows a post-tax return on the Company's RCV. The refinancing is simply a change in the mix of equity and debt used to finance the Company and has no impact on RCV. In fact, customers will gain some benefit as it is expected that the tax deductibility of the increased debt, which will reduce future tax liabilities, will be taken into account allowing prices to be lower in future than would otherwise be the case.
37. The Company has in effect changed the balance of the amount needed to finance the business by increasing the proportion of cheaper debt relative to more expensive equity. The return of capital has not used customers' money, as extra long term debt has been raised to replace a proportion of shareholder's investment.
38. In line with Ofwat guidance, we have ignored the anticipated impact of the introduction of International Accounting Standards (IAS) from April 2005 other than accounting for deferred tax on a full, rather than discounted basis. The other principal effects of IAS will be changes to the accounting for pensions and accounting for infrastructure renewals expenditure.
39. IAS do not affect cashflow. However, they will affect balance sheet reserves and historical cost ratios, which are important when considering the financial position and viability of the Company.

## **Conclusions**

40. We believe that our Plan represents a fair balance between all stakeholders. It is a challenging package for the Company to deliver.
41. We have recognised the clear signals from our customers and endeavoured to find cost-effective ways of meeting such challenges, having carefully considered the impact on prices and risk and other legitimate stakeholder requirements.
42. The Boards of both Bristol Water plc and Bristol Water Group plc have fully considered and endorsed this Plan.

## Section 2. Overall strategy – The detail

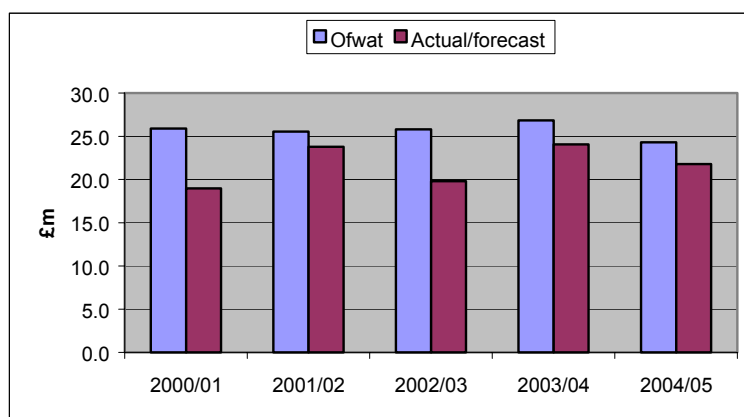
### Review of performance in the current regulatory period - 2000-2005

43. We have continued to deliver high quality services to our customers:
- We have maintained high service standards as reflected in our consistently high rankings in Ofwat's review of company performance:
    - 1999/00 - ranked 3<sup>rd</sup> of all companies in England and Wales
    - 2000/01 - no rankings published but believe we ranked 1<sup>st</sup>
    - 2001/02 - ranked 3<sup>rd</sup>
    - 2002/03 - ranked 6<sup>th</sup>
  - We have met or beaten our leakage targets for all years.
  - We have had no restrictions on water use
  - We have delivered consistently high water quality performance
  - We have established a joint billing venture with Wessex Water. Combined unmeasured bills were issued for the first time in March 2002 and combined measured bills were issued in November 2002. High service standards were maintained throughout the complex implementation process. Customers have welcomed the change and the added convenience it delivers. Customers also receive an ongoing direct financial benefit through reduced transaction and contact costs.
44. We have made good progress towards delivery of the outputs set as part of the 1999 Final Determination:
- We have completed the installation of eight ultrafiltration plants to act as *Cryptosporidium* barriers at high-risk groundwater sites. These include the original seven sites included at PR99, together with a further site at Chelvey, required as a result of the interaction of the change in monitoring regulations and the most cost effective method of meeting supply/demand issues.
  - We have completed schemes to control bromate formation at Purton and Littleton water treatment works.
  - In accordance with the DWI protocol for meeting lead standards we are continuing to optimise existing arrangements and have completed the installation of 4 additional orthophosphate dosing plants. Under current compliance sampling, present results show 99.5% compliance with the new 25 $\text{g/litre}$  standard, which came into force in December 2003, and over 96% compliance with the ultimate 10 $\text{g/litre}$  standard. We are therefore substantially achieving the purpose of the capital investment assumed in the 1999 Final Determination.

As a result, we have not incurred any significant capital expenditure on replacement of lead communication pipes. However we have incurred costs in respect of the new orthophosphate dosing plants and other changes required at existing treatment works, particularly Barrow.

- We have renovated a total of 251km of mains, compared to the 254km assumed in the Final Determination. The small reduction reflects a number of factors including the more efficient replacement of duplicate mains in some instances by a single main.
- We are close to completion of a major upgrade of Barrow Treatment Works at a cost of £14m.
- Included in the Final Determination were two schemes to address the risk of nitrate exceedances at Purton and Littleton treatment works. We have developed an alternative scheme to deal with this. The new scheme, which has DWI support, involves installation of a diversion on the River Cam and adding an extra 55Ml bankside storage at Purton. We estimate the cost at £5m.
- At 2002/03 prices we anticipate spending some £20m less than the Final Determination, reflecting the reduced level of spend on lead communication pipes offset by additional expenditure in other areas. By not carrying out the lead communication pipe programme we needed to spend more at Chelvey and on leakage reduction measures. In addition because of the differential inflation experienced, as measured by COPI rather than RPI, we will have absorbed additional inflationary costs of c £6m over the period.

PR99 Net capex at 2002/03 prices



45. The implications of financial and operational performance in the 2000-05 period for the period 2005-10 are:
- A service performance increment of 0.25% K
  - A capital expenditure incentive based on our assessment of net out-performance 2000-05

No 'credit' is obtained from these adjustments as they are both effectively 'absorbed' by the financial ratio basis on which proposed K's are calculated.

## Customer and external agency requirements

46. In preparing this plan, we have endeavoured to identify and reflect our customers' key priorities together with statutory requirements, while recognising the need for a balance between service levels and prices.
47. The Company carries out an annual customer survey addressing a wide range of issues. The key messages from these surveys are the extremely high importance customers attach to safe drinking water and security and reliability of supply. Over two thirds of customers rated these aspects as essential and over 95% as essential or very important.
48. Customers strongly believe that we provide value for money services.
49. Overall satisfaction with the Company's performance is high. In the small number of cases where customers were dissatisfied, the most common reason given was related to water quality issues, mainly taste and appearance.
50. We have taken account of the research into customers' views undertaken by MORI in August 2002. This survey indicates that broadly customers are happy with the level of service they currently receive from us, with tap water taste and smell the only area where some minor improvement was sought.
51. We have consolidated our views following the further research undertaken by MORI/WRC on behalf of Defra, Ofwat, WaterUK and others during Autumn 2003. This work concluded that the vast majority of Bristol Water's customers were satisfied with the service provided. It also confirmed earlier surveys, reinforcing customers' views that maintenance of the network, reliability and security of supply and the appearance and taste of the water were the most important issues to be addressed.
52. In general customers were more concerned about improving the reliability of supply and infrastructure maintenance than improving current service levels.
53. Based on this research we interpret that the four key requirements from our customers are:
  - Security and reliability of supply
  - Safe drinking water
  - Maintenance of current service standards
  - Improvements to the taste and appearance of water
54. We have taken account of the guidance from the Secretary of State issued in January 2003 and subsequent guidance issued in March 2004. Key points include:

- The Government wishes to see a secure supply of water of a quality safe for drinking
  - The Government wants to see a strategic approach to capital maintenance
  - The Government does not expect companies to allow leakage to rise
  - The Government expects companies not to over rely on mutual aid in the event of an emergency
  - Concerns over affordability
55. We have also taken account of the Security and Emergency Measures Direction (SEMD), which requires companies to provide alternative supplies of water in the event of single point failures of the network. It requires that where practicable and reasonable a mains water supply should be maintained in the event of such a failure.
56. Our plan reflects the concerns of customers and Government.

## **Operational and quality objectives for 2005-10 and beyond**

57. Based upon customer and other stakeholder concerns we have set the following key objectives for AMP4 and beyond:
- Improvements to the **security of supply** for customers reflecting the importance they attach to this aspect of service and to reduce reliance on mutual aid.
  - Ensuring that water supplied meets statutory **water quality** requirements
  - Steps to improve the **taste and appearance** of water
  - Ensuring that **supply and demand** are appropriately matched
  - **Maintenance of current service standards** subject to:
    - We plan modest improvements to reduce the numbers of households at risk of low pressure (DG2)
    - We forecast a modest increase of around 6% in interruptions to supply as a result of limiting our proposed level of infrastructure renewals expenditure

## **Improvements to the security of supply**

58. Customers consistently rate a reliable supply of water as one of the most important aspects of their water supply service. Accordingly, we have carefully examined the impact upon customers of single point failures (for whatever reason) at various key locations throughout the supply system. Certain treatment works supply large populations. In many cases, customers can be supplied from alternative sources. However, in certain cases this is not possible.
59. In some cases, such failures would lead to the interruption of supply to customers for an unacceptably extended period. In the event of such interruptions, we have a duty to ensure an alternative supply of at least 10 litres per head per day. Where large numbers of customers are involved, the delivery of such alternatives becomes difficult and customer dissatisfaction and other issues could arise after only a short period without mains water supply.

60. We have identified a number of schemes to improve the security of supply for our customers by making the supply system sufficiently robust to cope with significant single point failures.
61. We have not provided for multiple point failures of the system where more than one key asset is unavailable for an extended period, nor to meet 100% of normal demand for single point failures. We believe that such schemes would not be cost effective.
62. We examined carefully the cost benefit balance of the various schemes and propose, in this Plan, four major schemes, together with additions to our emergency equipment fleet of £0.2m, at a total cost of £41m (2002/03 prices).
63. The schemes and their projected completion dates are:

<b>Scheme</b>	<b>Capital cost</b> £m	<b>Completion date</b>
Northern Strategic Scheme	24.1	2007/08
Southern Strategic Scheme	10.4	2008/09
Oldford support scheme	5.1	2009/10
Shipton Moyne support scheme	0.8	2009/10

64. These schemes will add approximately £5 to average bills over the period. We believe that this represents an acceptable cost for the increase in security provided and from the options available, represents the best balance between additional cost and security levels. The schemes will improve the security of retaining mains water supply for over 400,000 people and businesses.
65. The schemes will typically allow for approximately 80% of the normal demand of affected zones to be met for an extended period. We believe this level achievable with voluntary demand reductions by customers. Sustainability will depend upon season and rainfall levels. In a dry period, the increased demand on impounding reservoirs in the south of our area would place an upper limit on the period of around 6 months.
66. We believe that these proposed schemes are reasonable and practical and equalise standards of service across the customer base.

## **Quality Programme**

67. We propose nine quality schemes in the plan. All schemes have DWI support. The total proposed Quality Capital programme 2005-10 (at 2002/03 prices and before efficiency savings) is £18m.

	<b>Total capital cost before efficiencies</b>
	<b>£m</b>
Arsenic removal - Stowey treatment works	1.4
Raw water treatment - Blagdon	4.9
Raw water treatment - River Axe	5.4
Lead communication pipe replacement	1.6
Discoloured water improvements - 3 schemes	4.2
Chlorinous taste improvements - 2 schemes	<u>0.7</u>
<b>Total</b>	<b><u>18.2</u></b>

68. **Arsenic removal at Stowey Treatment Works (DWI scheme 173).** This is a scheme to add coagulation and effluent treatment at Stowey Treatment Works to keep arsenic levels below the permitted value. The scheme is planned for completion in 2006/07 at a capital cost of £1.4m
69. **Raw Water Treatment at Blagdon Reservoir (DWI scheme 175)**
- The quality of water from the reservoir has been deteriorating due to increasing levels of algae formation in warmer months. Since 1995, the underlying level of algal counts has increased threefold.
  - When algal blooms form, water can no longer be supplied from Blagdon to certain treatment works, as it leads to water quality problems, breaches of discharge consents and unacceptable reductions in the output from the works. This situation is already occurring for periods each summer.
  - To resolve this problem a number of options have been considered, and the optimum identified as installing a pre-treatment plant at Blagdon to remove algae before the water is pumped to existing treatment works. The cost of the scheme is £4.9m, with ongoing opex of £0.2m pa.
  - The plant is planned to be completed by 2007/08.
70. **Raw Water Treatment from the River Axe (DWI scheme 176)**
- Water from the River Axe can be abstracted between November and April and stored in Cheddar reservoir. The average dry weather yield of 12MI/d is included in our supply/demand balance, and without it there would be a significant shortfall in supply availability in a dry year.
  - The source is currently only used as a last resort, as the quality of river water is extremely poor and, based on past experience, would almost certainly lead to a significant deterioration in water quality within Cheddar reservoir and potentially the supply of unwholesome water from Cheddar Treatment Works.

- Following the prolonged dry weather spell during 2003 we installed temporary treatment facilities to treat the River Axe water. These facilities were completed in March 2004. They represent a temporary and partial solution and, as they do not include a filtration stage, will result in a substantial proportion of nutrients entering the reservoir when River Axe water is used.
- A number of permanent and complete solutions have been considered, the optimum of which is the installation of pre-treatment to remove nutrients from the river water before it enters the reservoir. The cost of the scheme is £5.4m with ongoing opex of £0.2m pa.
- The plant is planned for completion in 2008/09.

71. **Lead Communication Pipe Replacement**

- There are 247,000 lead communication pipes (CPs) within the Bristol Water supply area, about 53% of the total number of supply pipes.
- In line with latest DWI guidelines we have made no provision for the strategic replacement of lead CPs. We have, however, included provision for reactive replacement where sampling at customers' taps reveals a concentration of lead above the 25<sup>Ⓢ</sup>g/l limit. The estimated cost over the period is £0.3m pa.

72. We have included three schemes aimed at reducing the number of **discoloured water complaints**.

- Installation of washouts at kept shut valves (**DWI scheme 180**) at a cost of £2.5m. This will allow the sections of pipe either side of the valves, which often contain stagnant and poor quality water, to be flushed prior to operation of the kept shut valves.
- A programme to flush all waste water meter districts over a period of 5 years (**DWI scheme 181**) at a capital cost of £0.8m and an opex cost of £0.3m pa.
- An investigation into the benefits and practicalities of cleaning trunk mains (**DWI scheme 182**) at a capital cost of £1.0m. This will provide considerably improved planning data for PR09.

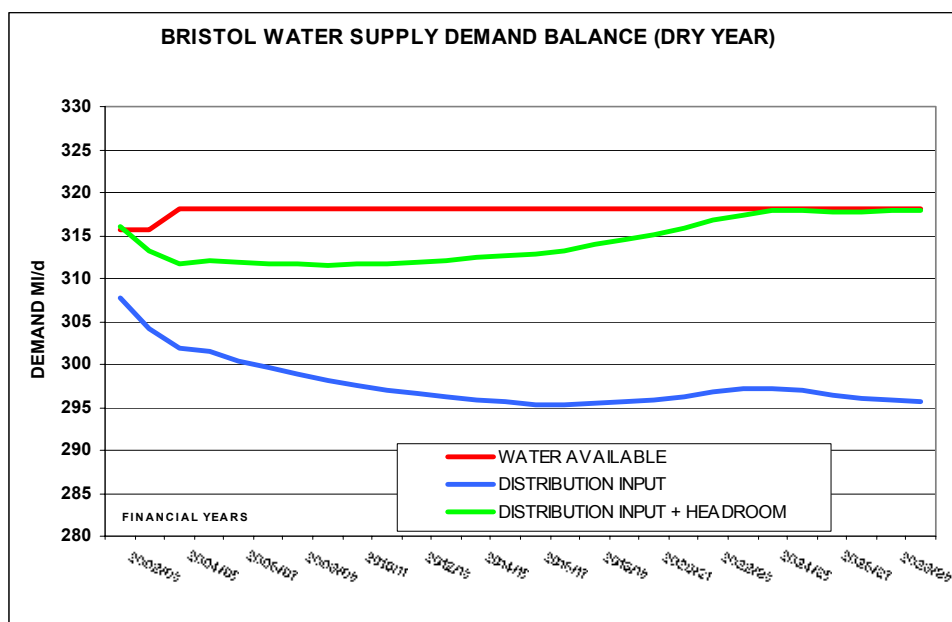
73. We have included two schemes aimed at reducing the number of **chlorinous taste complaints**, a concern to customers.

- Installation of booster chlorination at four sites (**DWI Scheme 178**) at a cost of £0.6m and extra opex of £0.1m pa. This will allow reduced levels of chlorine dosing at treatment works.
- Installation of chlorine monitors at 4 service reservoirs (**DWI Scheme 179**), to lower chlorination levels at treatment works, at a cost of £0.1m.

## Supply/Demand Balance and Leakage

74. Our supply/demand appraisal predicts that additional resource schemes will not be required during the next planning period to 2015 and that present water resources will provide water in excess of the headroom target until 2023/24. At this point extra water will need to be made available by reductions in leakage or redevelopment of existing resources or creation of new resources.
75. Overall demand is predicted to fall slightly over the next five years and, provided the key schemes in the Quality programme are delivered, water available will remain constant from 2004/05.
76. The baseline supply demand forecast reflects our current policies which have to date been effective in reducing demand and costs:
  - Free provision of meters to households opting for a change to a metered tariff
  - Metering of all new properties but not on change of occupier
  - Selective metering of household and non household customers
  - Maintaining leakage at or below the economic level of leakage (ELL)
  - Free service pipe repair policy
  - Water efficiency promotion
  - Using minimum number of sources to meet demand requirements
77. Socio-economic effects are expected to impact on customer demand for water as follows:
  - Continued decline in consumption by industrial sectors
  - Improved water use awareness and need to make cost savings in the service sector
  - Water efficiency improvements in the household sector
78. Household demand has been forecast using the EA/UKWIR best practice component methodology. Key points are:
  - Meter optants of 4,377 in 2005/06 declining to 3,136 in 2009/10. Optant demand assumed to be 65% of average unmeasured demand with a 5% reduction in demand on switching
  - New connections of 4,300 pa – approximately 1% pa growth
  - Population growth of 0.5% pa
  - Per capita and per household demand predicted to decline slightly
79. Non-household demand has been forecast on a sector by sector basis in line with EA guidance. Stone & Webster developed for us an econometric model that predicts demand for 30 separate sectors based on sector activity, employment, input and output prices. Forecasts were based on regional economic predictions. Key points are:
  - Demand has declined by 2.9% pa since 1993 to date
  - Demand is forecast to decline by 1.4% pa up to 2010
80. An important point to note is an increasing proportion of revenues from 40% in 2002/03 to approximately 45% by 2009/10 that will come from metered customers. This increases the risk profile of the revenue base.

81. The Company has three major sources of water; groundwater from springs and boreholes, surface water from the Mendip impounding reservoirs and River Severn water via the Sharpness canal. These groups of sources are used conjunctively to maximise yields by making the maximum use of raw and treated water transfer capacity within the resource zone.
82. The assessment of water available for supply was determined in line with EA guidance on ground and surface water yield assessment. Revised detailed catchment modelling of the Mendip sources has resulted in a reduction in assessed yield from these sources. However this is offset by a reduction in one customer's reservation of water from the Sharpness Canal. Overall water available for use is forecast to increase from 316MI/d to 318MI/d in 2004/05.
83. We understand from Wessex Water that they are no longer seeking additional supplies from us. The Plan reflects this.
84. The required headroom was determined as 8 MI/d in 2005/06 increasing to 22 MI/d by 2030 using the UKWIR/EA improved 2003 probabilistic methodology. This includes a modest allowance for predicted effects of climate change.
85. These elements along with leakage control costs and potential demand schemes were used to determine the economic level of leakage (ELL). This was calculated using guidance from the tripartite report on best practice. Key points are:
  - ELL slightly higher than current leakage target
  - Leakage target maintained at current level of 53.6 MI/d in line with guidance from DEFRA
  - Unrestricted distribution input predicted to decline from 292 MI/d in 2002/3 to 282 MI/d in 2018/19 and then increase to 287 MI/d by 2030.
  - Dry weather distribution input 15 MI/d higher on average during year
86. The graph below shows the main elements of supply demand balance based on the proposed capital investment programme:



## Maintenance

87. We have applied the UKWIR common framework methodology to assess ongoing capital maintenance needs. In line with our understanding of customer preferences we have based our analysis on the objective on maintaining current serviceability standards (except for a modest improvement in DG2 – low pressure). Consequently we have adopted the cost effectiveness objective.
88. The Company has maintained its DG2 performance at a roughly constant level since 1997/98 (435 properties at 31.3.98 to 423 at 31.3.03). However, over this period other companies have improved their performance and the Company has moved to ‘below average’. Work is currently being undertaken that will remove 207 properties from the register in 2004/05. We have identified a number of schemes for 2005-2010 that will further reduce the number of properties at risk of low pressure by 96 at a cost of £0.2m, resulting in a projected position in line with the industry average, as would be expected by our customers.
89. Application of the common framework to underground assets indicates that we need to increase the rate of mains replacement from 0.2% of total length to 0.87% per annum, or 55-60 km per year. At this increased rate it would still take approximately 115 years to replace the Company’s mains.
90. Overall, we have planned an increase in infrastructure maintenance expenditure for 2005-10 from the current level of c £6.2m to c £9.0m (before efficiency gains) per annum – a mains replacement rate of 0.45% per annum, equivalent to a full replacement cycle of over 220 years.
91. This will allow for the replacement of approximately 30km of mains pa. This is lower than our analysis indicates the medium term requirement to be. However on affordability grounds we believe that our proposal is in the overall interests of customers. At this level of maintenance, we forecast a modest increase of 6% in interruptions to supply by 2010.
92. Proposed average annual expenditure levels (at 2002/03 prices) are as follows:

	<b>1995 to 2000</b>	<b>2000 to 2005</b>	<b>2005 to 2010</b>	<b>2010 to 2015</b>	<b>Average 1995 to 2015</b>
	<b>£m pa</b>	<b>£m pa</b>	<b>£m pa</b>	<b>£m pa</b>	<b>£m</b>
Raw water reservoirs	0.3	0.8	0.6	0.5	0.6
Aqueducts	0.1	0.1	0.3	0.1	0.2
Water mains	3.3	2.2	3.5	7.4	4.1
Communication pipes	2.6	0.6	1.7	2.3	1.8
Mains repair, leakage and other	3.2	2.5	2.9	3.0	2.9
<b>Total</b>	<b>9.5</b>	<b>6.2</b>	<b>9.0</b>	<b>13.3</b>	<b>9.5</b>

The profile of expenditure over the 4 periods shows that proposed maintenance expenditure levels for 2005-10 are still below the 1995-2000 levels

93. Overall, non-infrastructure maintenance is required to increase from £7.5m per annum to £9.5m (2002/03 prices) per annum. The balance of expenditure is different to AMP3 reflecting changes in some asset categories due to the cyclical nature of expenditure on these assets. In particular this reflects planned activities at a number of our largest pumping stations leading to a significant increase in required expenditure. The programme of average annual expenditure levels (at 2002/03 prices) comprises:

	<b>1995 to 2000 £m pa</b>	<b>2000 to 2005 £m pa</b>	<b>2005 to 2010 £m pa</b>	<b>2010 to 2015 £m pa</b>	<b>Average 1995 to 2015 £m</b>
Raw water reservoirs	0.1	0.2	0.3	0.1	0.2
Treatment works	1.5	2.7	2.6	1.7	2.1
Meters	1.5	0.2	0.6	0.5	0.7
Pumping stations	0.7	0.3	2.1	1.3	1.1
Service Reservoirs and towers	0.4	0.4	0.4	0.3	0.4
ICA and telemetry	0.6	0.2	0.3	0.1	0.3
Security	0.1	0.4	0.6	0.5	0.4
Generators	0.1	0.1	0.1	0.1	0.1
Computers and business systems	1.1	2.4	1.9	2.7	2.0
Buildings	0.6	0.3	0.3	0.1	0.3
Vehicles	0.8	0.3	0.3	0.3	0.4
<b>Total</b>	<b>7.5</b>	<b>7.5</b>	<b>9.5</b>	<b>7.7</b>	<b>8.1</b>

## Overall Programme

94. To achieve the outputs set out the following capital expenditure programme, after reflecting efficiency assumptions, is required:

<b>Projected Capital Investment Programme</b>						
	<b>2005/06 £m</b>	<b>2006/07 £m</b>	<b>2007/08 £m</b>	<b>2008/09 £m</b>	<b>2009/10 £m</b>	<b>Total £m</b>
<b>2002/03 prices</b>						
Infrastructure maintenance	9.1	8.6	9.0	8.7	8.5	43.9
Non infrastructure maintenance	8.3	11.7	8.7	7.3	10.4	46.4
Quality inc security schemes	10.4	19.3	12.0	13.1	3.2	58.1
Enhanced services	0.1	0.1	0.1	0.0	0.0	0.3
Supply/demand balance	4.9	4.7	4.3	3.9	4.1	21.8
<b>Gross expenditure</b>	<b>32.8</b>	<b>44.4</b>	<b>34.1</b>	<b>33.0</b>	<b>26.1</b>	<b>170.4</b>
Grants and contributions	-3.1	-3.0	-3.0	-3.0	-3.0	-15.0
<b>Net expenditure</b>	<b>29.7</b>	<b>41.4</b>	<b>31.1</b>	<b>30.0</b>	<b>23.2</b>	<b>155.5</b>
<b>Totals at outturn prices</b>						
<b>Gross expenditure</b>	<b>35.3</b>	<b>49.0</b>	<b>38.6</b>	<b>38.3</b>	<b>31.1</b>	<b>192.3</b>
<b>Net expenditure</b>	<b>32.0</b>	<b>45.7</b>	<b>35.2</b>	<b>34.8</b>	<b>27.5</b>	<b>175.3</b>

## Financial and regulatory drivers

95. In determining charges to customers we have based our Plan on the following assumptions:

### Cost of Capital/Financial ratios

96. In our draft business plan we proposed an overall post tax cost of capital of 6.25%, including small company premium and embedded debt factors. We have reviewed this further and concluded that against an appropriate Regulatory Capital Base (RCV) a lower figure of 6.0% is appropriate. This reflects the following assumptions:

	Component %	Weight	Weighted %
Cost of debt	4.1		
less tax	<u>-1.2</u>		
Net cost of debt	2.9	60%	1.72
Cost of equity	10.7	40%	4.28
<b>Total post tax</b>			<u><b>6.00</b></u>

97. Our calculations reflect:
- A cost of debt which is slightly higher than the headline rate at which we have recently raised funds. This reflects
    - Cash carry costs associated with our recent fund raisings. These cash carry costs relate to requirements to hold debt service and operating cash balances and to build up a sinking fund prior to maturity. They therefore represent a real addition to the headline cost.
    - Markets for long term debt have been at historically low levels both in terms of gilt prices and margins and we do not see this as a good indicator of future cost.
  - A cost of equity which compares to the current ordinary dividend yield valuation of Bristol Water Group of 7.5%, a real dividend growth expectation of 2% pa and allowance for equity issuance costs
  - The weighting between debt and equity is based on the mid point of Ofwat's 55-65% of RCV for conventionally financed companies
  - Our calculation is consistent with a small company premium of approximately 0.7%

98. Our view on the appropriate cost of capital reflects a judgement on the risk profile of the business and its capacity to deal with uncertainty. If the risk profile is changed – for example by the assumption, when final K’s are set, of unrealistic efficiency targets or failure to recognise costs that the business will have to meet, then the required cost of capital would need to increase.
99. Financial ratios are a crucial part of the overall K setting process to ensure financeability. We have minimum criteria requirements as defined in our financing agreements plus the need to maintain shadow investment grade ratings with both Standard & Poors and Moody’s rating agencies.
100. Based on information from the rating agencies and a separate assessment from our financial advisers we believe that the approximate ratio ranges/ratings levels are as follows:

S&P Moody's	Rating levels		
	A- A3/Baa1	BBB+ Baa1/Baa2	BBB Baa2
<b>Interest cover ratio</b>			
FFO/Gross interest	3.0-4.0x	2.5-3.5x	2.0-3.0x
Adjusted interest cover	c1.6x		
<b>Dynamic leverage ratios</b>			
FFO/Gross Debt	14-18%	12-16%	10-14%
RCF/Gross Debt	9-13%	8-12%	7-11%
<b>Free Cashflow measure</b>			
RCF/Capex	min 60%	min 55%	min 50%
<b>Leverage ratio</b>			
Debt/RCV	60-65%	65-70%	70-75%

101. The precise definitions of ratios are important, particular points to note are:
- Adjusted interest cover is a measure of cash interest cover after deducting from post tax cashflows the proportion of capex required to maintain the asset base at a constant value (CCD and IRC). Moody's have publicly indicated that they believe that a minimum of 1.6x cover is consistent with A category ratings.
  - Aquarius models most cash interest cover ratios exclusive of indexation charges (on index linked debt), the rating agencies tend to include indexation charges in their assessments. In our assessment of the ratio position we have not therefore relied simply on outputs from Aquarius. As an approximation, with our current level of index linked debt, an adjusted interest cover of 1.7 calculated by Aquarius is equivalent to approximately 1.6 taking indexation charges into account.
102. Most rating information regarding the water sector relates to the WASCs. Generally the rating agencies are looking for slightly stronger ratios when considering WOCs because of the different risk profile inherent in a smaller business.
103. In preparing a plan it is important not to target minimum ratios as this provides no headroom for risk.

104. The rating agencies are clear that no single ratio should be considered in isolation and that it is the overall package together with other company specific factors that should be considered.
105. In our plan we have targeted rating levels of S&P A- and Moodys A3 which we believe are consistent with our current debt:RCV ratio of just over 65% supported by the structural financing enhancements/ringfencing we have put in place. We have therefore assumed the following minimum criteria on an average basis over the period 2005-10:

Minimum historic cost interest covers	2.25x
Minimum funds from operations (FFO) interest cover	3.5x
Minimum adjusted interest cover less CCD and IRC	1.6x
Minimum FFO after dividends to gross debt	15%
Minimum RCF to gross debt	10%
Minimum interest cover as defined in Artesian structure	1.5x

106. For the cash based interest cover ratios we have based our calculations on interest costs including indexation of index linked debt.
107. As agreed with Ofwat the financial projections and ratio calculations ignore the effect of interest receivable on the £47m intercompany loan to Bristol Water Group plc (see financing arrangements section). This is consistent with the way in which rating agencies will evaluate the Company's financial profile and with our banking covenants.
108. Whilst we believe that the Plan is financeable, the ratios are relatively tight and provide only limited headroom to deal with the risks we face. The profile of K's means that the 2005/06 ratios are very weak and would not be sustainable at that level without the impact of the subsequent K increases.

### **Regulatory Capital Value (RCV)**

109. Our calculations indicate a potential net log down of RCV in respect of the 2000-05 period of some £14m.
110. The key elements are a log down of £20m in respect of the originally planned lead communication pipe programme, where we have substantially achieved the purpose of the investment but incurred little capital investment, and a log down of £2m in respect of a lower level of meter optants. These are offset by logging up of some £8m in respect of changes to *Cryptosporidium* treatment requirements including, installation of an additional *Cryptosporidium* barrier at our Chelvey works, together with additional security related expenditure in line with SEMD guidelines and part of the investment in the joint billing initiative related to direct customer benefits.
111. The impact of differential COPI vs RPI inflation on capital investment in the period 2000-05 leads to an additional uplift in RCV at April 2005.

112. We have explained to Ofwat on a number of occasions that we believe that the base RCV for Bristol Water is simply too low, and has been a key factor in Bristol Water's K's being set based on minimum financial ratios rather than Cost of Capital at the last two Periodic Reviews. This issue was partially recognised by Ofwat at the 1999 review with a 15% uplift in RCV.
113. We believe that base RCV is still too low and we have previously provided information to Ofwat that clearly shows that Bristol Water has a low regulatory capital value relative to other companies. In particular we explained that Bristol Water's relatively low RCV:MEAV ratio of c10% (compared to the industry average of c15%) effectively increased the non diversifiable risk of the company, which should be reflected in a higher cost of capital.
114. MD190 refers to this argument but stated a clear Ofwat preference to apply a single cost of capital across the industry.
115. Applying the 6% real cost of capital against our forecast RCV post anticipated logging up/down adjustments results in a financial profile that does not satisfy the minimum financial ratios we require.
116. Therefore, as in our draft plan, we propose a pragmatic partial solution to this of leaving the published RCV in place at March 2005 without a net logging down adjustment.
117. This still does not satisfy the financial ratio criteria and we have therefore proposed K's based primarily on financial ratios. The proposed K's produce an average return on RCV of 6.9% compared to our calculation of an appropriate post tax cost of capital of 6.0%. The degree of financial ratio protection required is however considerably lower than for PR99.
118. To achieve the same financial effect with a post tax cost of capital of 6% would require a further uplift in RCV of approximately £37m in addition to the £14m arising from not applying a net logging down adjustment.

## **Financing arrangements**

119. Until May 2003 the Company had a debt portfolio based primarily on bank loans and leasing arrangements. The portfolio had a relatively short maturity profile.
120. In May 2003 the company established a new financing structure. The new facilities were £15m of index linked debt drawn through the existing Artesian Finance Plc monoline wrapped bond programme arranged by the Royal Bank of Scotland. An equivalent £30m financing was also drawn on a fixed interest basis through a new bond programme issued by Artesian Finance II plc. The facilities extend to 2032 and 2033 respectively.
121. The funds were used to repay an existing £20m bank loan and to provide finance for forthcoming debt maturities and to fund the ongoing capital programme.

122. During February 2004 we raised further funds, through the Artesian structures, of £26m index linked and £27m fixed rate. £47m of the funds were used to provide an interest bearing loan to the ultimate parent company. The balance is retained to provide finance for forthcoming debt maturities and to fund the capex programme.
123. The new financing arrangements have given us a better maturity profile by allowing us to access the capital markets for sums below the normal market size thresholds. However, given the nature of a pooled bond structure like Artesian there was no option to be selective on maturity periods.
124. The new financing is based on a ring-fenced structure and some existing lenders have entered into an intercreditor arrangement to share the ring fencing security package. The new financing arrangements impose a set of financial covenants and the requirement to maintain investment grade ratings from Standard & Poors and Moody's rating agencies.
125. The effect of the new arrangements is to increase Bristol Water's ratio of net debt:RCV from 41% in 2002/03 to approximately 68%. The Plan projects maintenance of the ratio within the range of 67-68% over the 2005-10 period.
126. We have assumed a borrowing cost of 6.5% in respect of new debt. The fixed rate element of our current Artesian financing is at an effective interest rate of just over 6%. However, since then gilt yields have increased and spreads in the index linked markets have widened.
127. Over the period of the Plan net debt increases from £141m in 2003/04 to £211m by 2009/10. The additional debt relates to the financing of the capex programme. Together with debt maturities during the period this means that we will need to raise approximately £105m of new debt over the period.

## Efficiency targets

128. Ofwat's comparative efficiency methodology is clearly an important factor in the determination of future efficiency targets. We do not believe that the current methodology and published rankings reflect fairly our actual operational efficiency. We have had constructive discussions with Ofwat over the past two years about potential refinements and improvements to the methodology, but do not believe that the current published rankings fully address this issue.
129. We believe that our relative efficiency is better than Ofwat's assessment, and we assess Bristol Water's relative efficiency as:

Operating costs	Upper Band B
Capital maintenance	Band B

Our calculations supporting these assumptions have been submitted to Ofwat.

130. We have examined the potential for future efficiency gains with reference to:
  - Ofwat's published assessments of relative efficiency

- Our own econometric analysis of relative efficiency
  - The results of a process review and benchmarking studies undertaken by us
  - London Economics' report (commissioned by Ofwat) examining the scope for future efficiencies
131. Given the very substantial operating cost efficiency gains made over the past decade the scope for further savings is very limited. Although costs can be cut, the ability of the Company to manage risk effectively would become increasingly and unacceptably fragile and not in the best interests of customers.
132. Based on this analysis we have therefore assumed efficiency gains as follows:
- |  |                                  |
|--|----------------------------------|
| Operating costs – base costs           | 0.8% pa from 2005/06             |
| Capital maintenance                    | 1% pa from 2005/06 until 2007/08 |
| Capital enhancement infrastructure     | 1% pa from 2005/06 until 2007/08 |
| Capital enhancement non infrastructure | nil                              |
133. Capital enhancement non infrastructure efficiency assumption is set at nil as the forecast costs for these projects within the Plan are based on detailed project specific assessment of the costs of construction. It is unrealistic to apply a general efficiency assumption to such specific 'one off' schemes.

### **Current cost depreciation (CCD)**

134. In accordance with Ofwat guidance we have compared our CCD projections with projected Maintenance Non-Infrastructure (MNI) capital expenditure over the 28-year period from 1992/93.
135. On this basis we calculate that no 'broad equivalence' adjustment is required as the differences in time profile of CCD and MNI can be fully explained in line with Ofwat guidance.

### **Accounting Standards**

136. We anticipate a conversion to International Accounting Standards (IAS) from April 2005.
137. The key impacts are likely to be:
- Accounting for deferred tax on a full (non discounted) basis – this will have the effect of reducing the Company's net assets by c £14m
  - Changes to pensions accounting based on the, still to be determined, IAS version of FRS17
  - Possible change to the current basis of infrastructure renewals accounting
138. In this Plan we have accounted for deferred tax on the IAS basis.

139. In accordance with Ofwat guidelines, we have ignored the effect of IAS within this plan other than the change regarding deferred tax.

## **Pensions**

140. Pensions are an increasingly significant issue.
141. We have final salary defined benefit schemes, which are managed through the Water Companies Pension Scheme (WCPS). We closed these final salary defined benefit schemes a number of years ago. New employees are offered stakeholder pensions. This may become a recruitment issue in the medium term.
142. In the Company's 2002/03 statutory accounts the appropriate transitional disclosures required under FRS17, the new accounting standard on pensions, are made. These showed that the Company's section within the WCPS would be represented on the balance sheet as a deficit net of tax of £13.0m; this compares to an asset net of tax of £10.0m in 2001/02 under FRS17.
143. This adverse change reflects the negative and increasingly volatile movements of the equity markets and adverse movements in the bond markets. It should be noted that the earlier strong Stock Market returns giving rise to the pension scheme surplus have been reflected in historic contribution rates and hence the prices charged to customers.
144. The last actuarial review of the pension section was as at April 2002. This showed a surplus on an actuarial basis of £6.3m. This was prior to the very significant adverse movement in the equity markets during 2002 and 2003. Although the markets have improved from their low point, the funding position remains significantly worse than in the April 2002 review.
145. Following the review and subsequent market changes we accepted the actuaries/trustees requirements for a substantial increase in annual contributions to £1.3m pa from April 2003. We have subsequently agreed a further increase in contributions to £1.4m from April 2004.
146. Over the 5 year period 2000-05 we will have made cash contributions to the final salary scheme of approximately £0.6m more than assumed at PR99.
147. We asked the scheme actuaries to review the funding position of the scheme in light of market changes. This showed that to make good the current funding deficit, over the estimated average working lives of current active members, and to meet the future service cost of such members would require a contribution of approximately £3.6m pa from April 2005.
148. The pension position remains complex and volatile. The recovery of the equity markets is encouraging but in funding terms has largely been offset by adverse movements in the discount rates used to assess pensioner liabilities.

149. Our Plan reflects future contribution levels in line with the scheme actuary's calculations and hence is a driver of the price increases proposed with effect from April 2005.
150. The pension scheme is currently invested primarily in equities. In consultation with both the trustees and the actuary we have carefully examined the investment strategy and concluded that the appropriate long-term strategy is to reduce the proportion of equities with a corresponding increase in investments in bonds and other fixed income securities. Given the current equity market position, we have delayed the implementation of this change until we see some further recovery in equity market values.

## Taxation

151. We anticipate a number of changes to tax legislation and Inland Revenue interpretations effective from April 2005. The key elements are:
- Expenditure under the Entirety Agreement that is currently subject to a full deduction from taxable profit will only be allowable to the extent that it is depreciated in the accounts.
  - The infrastructure renewals charge (IRC) will no longer be an allowable deduction under Tax Bulletin 53 (TB53). The opex element of the charge and depreciation on infrastructure renewals expenditure (IRE) will be allowable instead.
  - TB53 also requires a change to the basis of capital allowances on infrastructure enhancements (such as the quality programme) where there is no increase in the capacity of the assets. The depreciation on these assets will be deductible rather than the current treatment as a 100% revenue deduction in the year of spend.
152. We calculate that the additional annual cost of these changes range from £3.0m to £3.9m pa in the period 2005-10 (outturn prices).
153. There is a further potential change under FRED29, which could result in allowing only the 'depreciation' element of the opex element of the IRC to be allowed as a deduction rather than the current full 100% deduction. This would increase the annual tax charge by a further £0.9m pa. In line with Ofwat guidance we have not incorporated this in our financial projections and have assumed that this element will be a Notified Item.
154. In line with Ofwat guidance we have accounted for deferred tax on a non-discounted basis. In our Statutory Accounts this change will not be made until 2005/06.
155. Over the period 2005-10 we calculate the average tax charges as:
- Current tax – 35%
  - Deferred tax – 5% credit – this is because under the anticipated changes to tax allowances described above the gross deferred tax liability reduces each year rather than the current position where it increases each year.

## Proposed K's and average bills

156. We propose K values and average bills (2002/03 prices) for domestic customers as follows:

Year to 31 March	K factor %	Average domestic bill 2002/03 prices
2000		118
2004	0	106
2005	-1.9	103
2006	<b>20</b>	122
2007	<b>6</b>	128
2008	<b>6</b>	136
2009	<b>0</b>	136
2010	<b>0</b>	136

157. Key elements of the tariff strategy are:

- Increase of the unmeasured/measured differential to approximately £27 by 2006/07. This reflects Ofwat requirements in RD 02/04.
- Major user tariffs increase in real terms by 5% in 2005/06 then in line with inflation only. This is cost reflective and consistent with condition E of the Licence of Appointment.
- Otherwise no tariff rebalancing is proposed in the Plan.