

Three Valleys Water Final Business Plan

Our Final Business Plan is in three parts. Part A describes the strategy that shapes and is supported by the detailed plans set out in Parts B and C. Each part includes relevant rationale, methodologies, analysis, proposals, tables and table commentaries.

The overall structure and sections of our Final Business Plan are shown below:

- A1** Executive Summary
- A2** What we are Achieving in 2005 -10
- A3** The Post 2010 Environment
- A4** Listening to Our Customers and Meeting their Needs
- A5** Competition
- A6** The Main Components of the Strategy
- A7** Implementing the Plan
- A8** Income, Opex and Financing the Plan
- A9** Board Endorsement
- A10** Tables
- Abbreviations, glossary and index*

Section B The Company Environment

- B1** The Post 2010 Environment and the Longer Term
- B2** Improving Efficiency
- B3** Maintaining Service and Serviceability
- B4** Quality Enhancements
- B5** Maintaining the Supply-Demand Balance
- B6** Consumer Services Strategy and Changes to Service
- B7** Financial Projections
- B8** Revenue Projections
- B9** Overlap Programme
- B10** Large Projects
- B11** Capital Expenditure Incentive Scheme
- Abbreviations, glossary and index*

Section C Value for our Customers

- C1** Consumers' Views
- C2** Cost Base, Benchmarking and Efficiency Studies
- C3** Asset Inventory
- C4** Supply - Demand Appraisal
- C5** Supplementary Information On Proposed Work – The PR09 Project Database
- C6** Sewer Flooding – *not required for this plan*
- C7** Tariffs and Revenue Forecasts
- C8** Supplementary Information – CBA and Carbon Accounting
- C9** Financial Modelling Dataset
- Abbreviations, glossary and index*



Contents

A1	Executive Summary	5
A2	What we are achieving in 2005-10	7
A3	The Post 2010 Environment	11
A4	Listening to our customers and meeting their needs	15
	Customer service	15
	Customer opinion and priorities	16
	How our bills compare	19
	Summary	20
A5	Competition	23
A6	The main components of the strategy	25
	Balancing supply and demand	25
	The case for metering	26
	Approach to metering	26
	Maintaining the twin-track approach	27
	Leakage	27
	Water efficiency.....	27
	Planning for new resources.....	28
	Comparison of our proposed supply-demand programme with AMP4	28
	Quality and resilience	29
	Serviceability of above-ground assets	29
	Pollution risks	29
	Flooding risk and Security	30
	Comparison of our proposed quality programme with AMP4	30
	Care for the environment	31
	Corporate responsibility.....	31
	Abstraction	31
	Carbon emissions and energy use.....	32
	Waste materials.....	32
	Minimising disruption to supply	33
	Network serviceability.....	33
	Trunk mains renewal.....	33
	Comparison of our proposed infrastructure renewal programme with AMP4	33
A7	Implementing the Plan	35
	Key outputs	35
	Training and motivating our people	35
	Implementing our capital plan	36
	Maintenance Infrastructure.....	37
	Maintenance Non-Infrastructure.....	38
	Supply-demand	38
	Drinking Water Quality	39
	Security and Resilience.....	39

Environmental Programme.....	39
Overlap programme	39
Sustainability Appraisal	39
Corporate and Social Responsibility	39
A8 Financial Projections: income, opex and financing the Plan.....	41
Overview of the drivers of K	41
Income	42
Operating expenditure.....	42
Infrastructure renewals charge.....	44
Current cost depreciation	44
Return on capital	44
Dividends	45
Interest.....	45
Financing the plan	45
Gearing, Taxation and allowed rate of return	46
A9 Board Endorsement.....	49
Introduction.....	49
Involvement of the Board from SDS to FBP.....	49
Process for completing the business plan	50
Directors' statement	54

A1 Executive Summary

In the next five years, we plan to achieve major improvements. We want to raise the bar significantly in terms of customer services, operational performance and the management of our resources.

We are entering 2010-15 in a stronger position than for earlier pricing periods. Consequently we are well placed to achieve what is set out in our Plan. The key areas and issues are in summary:

- We have striven to take full account of the fact that the recession is putting pressure on customers and have made a number of changes which significantly reduce price pressures. Our proposed charges are no higher than they need to be to provide the essential service levels our customers expect.
- We have improved customer service markedly without increasing costs and are rolling out a programme which puts our people and customers and their requirements at the heart of the business. This will further improve customer satisfaction and value for money but will not add to costs.
- Our customers are now benefiting from a supply-demand balance which we predict to be in surplus during the next period. Investment in increasing resources has been deferred until after 2026.
- We will concentrate on containing demand rather than increasing abstraction. We will do this mainly by continuing to reduce leakage coupled with a metering programme at a rate linked with house moves. We believe this will be cost-beneficial in the wider sense and our customers expect it.
- We have a fuller understanding of our above ground assets which has enabled us to optimise our investment decisions based on risk. Our analysis clearly indicates that we need to increase investment in this vital area.
- We propose to continue with mains renewals at the same rate as in 2005-10 because it is having a positive effect on asset Serviceability. We need more time in practice to establish whether it is appropriate in the longer term.
- We plan to invest in schemes which will improve water quality and have a direct benefit for customers.
- We propose to improve resilience and increase security in all aspects.
- Operating costs have been consistently higher in this AMP than assumed at PR04. We have made significant efficiency gains but these have been eroded by costs beyond our control, such as energy and bad debts.
- Entering the next quinquennium we shall have to pay increased council charges, licence fees, permits and pension contributions at a time of reduced demand and lower income.
- Tender prices for capital expenditure show unit-costs are increasing.
- We will work with our customers to identify added value services they would like to see for AMP6.
- We will ensure that we mitigate greenhouse gas emissions and adapt to the effects of climate change.

We have sought prudently to balance risk against cost in drawing up this challenging Plan which we are confident we can implement. Given this wider picture, the cost of our capital programme is relatively low.

This Plan differs in some significant respects from our *Draft Business Plan*, notably leakage reduction, the pace and method of metering and the rate of mains renewal. We

have listened attentively to feedback on the draft plan, carefully reassessed the position, and made changes as appropriate.

We have, in the past, sought the views of customers but sense there has been an element of 'we know best' in our response. We are seeking to change and are heightening the importance of emotionally engaging with our customers. Customer services have already improved as a result of our 'customer experience' programme, where our people are encouraged to understand customers' circumstances, engage with them more and address their needs at the first opportunity. Recent research shows that more than 90% of our customers are now satisfied with the service we provide.

The recession will put significant pressure on our plans and our customers – especially on the ability of some of them to pay for water. We have taken account of the recent Ofwat-led *Understanding Customer' Views* customer survey and of our own parallel surveys of customer opinion, and believe we can maintain and improve value for money for our customers while keeping price increases to a minimum.

We have taken significant steps to increase metering, renew the network, and reduce leakage. However, having sufficient water and maintaining stable serviceability still pose significant risks. We have worked hard to balance those risks against the need for increased investment and the implications for customers.

We have sought to make this *Final Business Plan* bolder, more customer-friendly, relevant to them and more coherent than our *Draft Business Plan*. It is also a Plan which will leave the company able to adjust direction – if necessary – at the next price review to respond to a changing world in uncertain times. Above all, it will provide a springboard for us to begin to lead the industry in some key areas rather than simply following it.

To maintain performance levels, quality and resilience, as proposed in our Plan, requires an increase in our net capital investment from £408 million in 2005-10 to £456 million in 2010-15 (at 2007/8 prices). The main components are:

- asset maintenance £354 million
- supply-demand £68 million
- water quality £23 million
- security and resilience £24 million
- environment £8 million
- contributions from developers £21 million

We forecast that operating expenditure in 2010/11 will be £115.3 million, falling to £112.9 million in 2014/15, (compared to the base year of £108.3 million). Of the 13% increase in charges in 2010/11, more than 8.3% is due to additional costs incurred in AMP4 that were not included in AMP4 price limits and 1.6% from future increases in indirect taxation. Only 1.6% of the price increase is from new activity and 3.5% from our capital investment programme to maintain serviceability. However, we also plan efficiency savings of £21 million by 2015, which reduces the first year factor by 2.1%.

Our average household bill will rise in the first year by £19.55 but will then fall each year so that in 2014/15 the average bill will be only £12.69 higher than 2009/10.

Table A1 : 1 Forecast of average household bill and K factors for AMP5

2009/ 10 prices	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	Av. AMP5
Av. Bill	157.04	176.59	175.91	174.46	172.06	169.73	173.75
K	-	12.9	-0.4	-0.5	-1.0	-0.9	2.0

A2 What we are achieving in 2005-10

We supply water to more than three million people in north London and the Home Counties, north and west of London. The area has four key characteristics:

- water consumption per customer amongst the highest in the industry
- an environment that is classified as water stressed and which is vulnerable to pollution
- the pipe network in the most populous areas is in aggressive soil
- high local costs, for example, of labour and construction

Our priorities in AMP4 have been to overcome a deficit in the supply-demand balance and to maintain serviceability of the network.

We believe we have been effective in applying our strategy, having achieved outputs beyond those forecast in the present five-year period. Compared to previous periods, we have increased substantially the rate of mains renewal and metering. We have also invested to make better use of our limited water resources, and have improved our operational performance in response to the challenges faced by the severe drought in 2006. As a consequence we are now forecasting a surplus of water over the next five years, and our customers are experiencing less disruption from bursts and interruptions to supply.

We have begun to transform our customer service in the past 18-months through our 'customer experience' programme. We have already made tangible progress, which is changing the way customers feel about the service they receive. The number of telephone contacts received in 2008-09 is set to be 10% lower than the prior year, which was already 6% lower than the year before that. In parallel, customers' satisfaction with our services, and their perception of value for money have increased. This is a long-term programme, still in its infancy. We expect further improvements to the 'customer experience' to be made throughout the next five years at no additional cost.

Since 2005 we have managed our capital investment programme effectively. We are confident that by March 2010, all of the investment targets and defined outputs specified in the 2004 Determination and the Monitoring Plan will have been achieved, with the exception of domestic metering volumes.

We have doubled our mains renewal rate to 0.8% of network assets per annum, particularly in the area of London Clay which is a more aggressive environment for iron pipes, the predominant material of our network. To 31 March 2009, we have renewed more than 500km of distribution mains, consistent with our PR04 Monitoring Plan. Customers are seeing the benefit, through reductions in mains bursts and supply interruptions. These improvements also indicate that our system is operating at a level consistent with 'stable Serviceability'.

We have continued to reduce leakage, and to date have achieved the leakage targets set out in our Monitoring Plan. We are confident that our target for 2008-09 will also be met, despite exceptionally challenging winter conditions experienced in January and February. Meeting the target in such circumstances would demonstrate our enhanced response capability and the improved serviceability of our infrastructure network, as noted above.

In April 2005 we introduced compulsory 'change of occupier' metering for all customers, to supplement the continued promotion of optional metering. This was to encourage water saving and generate the margin to satisfy demand from additional customers. In the first three years of the quinquennium we installed or had in progress 99% of the Monitoring

Plan target level for selective and optional meters. However, the significant slowdown in the housing market over the past 12-months will cause us to fall short of our target programme for the five years as a whole. We forecast that by 2010, 38% of all domestic properties will be metered, from 23% in 2005.

To inform our future metering and tariff strategies, on 1 April 2009 we commenced a seasonal tariff trial covering 1,000 properties in Bishops Cleeve, utilising automated meter reading (AMR) technology. As well as giving us an understanding of the demand effect of seasonal tariffs, we will gain experience in the logistics of managing an AMR network, and the infrastructure required to support it. Throughout 2008 we have been installing AMR devices at unsafe and difficult-to-access locations. From April 2009 we will be fitting AMR on all new housing developments of more than one property. We will now begin to gather the intelligence and evidence that will direct our future demand management strategy, regardless of the precise scenario we face. As part of this process we will be conducting trials of the next generation of metering technology.

In 2007 we reported that meter reading performance data in the four prior years had been stated incorrectly in the annual June Return submission. In acknowledgement of the inconvenience caused, and in the interests of customers, we corrected our prices so as not to benefit from the 0.1% discretionary award at PR04. In the year to March 2009 our meter reading performance has improved further from the recovery in 2007-08, and the highest standard has been achieved on both DG8 measures.

On the supply side, we have increased capacity since 2005 by 4% (34 Ml/d) after completing eight supply schemes and improving borehole performance through the lessons learned in the 2006-07 drought. Similarly, carefully targeted investment in our above ground assets has contributed to improved operational reliability, which has increased by 2% or 19 Ml/d.

Over the five year period from 2002 we have maintained a consistently high level of water quality performance. In our June Return 2009 we will report a mean zonal compliance rate of 99.99% and an average annual performance of 99.98% for AMP4.

In 2000, we identified widespread bromate pollution of groundwater in our operational area. We have been working with the Environment Agency (EA) since that time to ensure the polluter pays for the consequences of their actions. A public inquiry was held in 2007, but two years have elapsed without a decision from the Government.

In December 2005, the Buncefield Fuel Storage Depot Fire occurred in our operating area. It was the largest peacetime fire in history which resulted in a strategically important groundwater source being taken out of supply. We have been working with the EA since 2005 and expect to re-commission the source in April 2009.

As well as responding to specific pollution events, we have continued to develop our understanding of wider pollutants in the environment. We have prepared Water Safety Plans to assess and manage the risk of pollution at all our sources so that we can preserve the quality of water. Emerging pollutants such as metaldehyde represent a particular challenge and we monitor developments like these with much care. We expand on this topic in Sections A3 and A4.

Operating expenditure has risen throughout the quinquennium, and since 2006-07 costs have been above the levels assumed when prices were last determined. Significant operating efficiencies have been achieved annually since 2005, but these have been eroded by considerable, real term increases in costs relating to power, bad debt, abstraction licences, insurance, metered account maintenance and production chemicals. Power costs (up 70% between 2002-03 and 2007-08 in real terms) and bad debts (up

130%) alone account for over £10 million of the £11 million increase in total operating expenditure experienced between 2002-03 and 2007-08 (2007-08 prices). The gap between actual operating expenditure and that which is currently funded will be corrected in charges from 1 April 2010, and this is one of the main pressures on price limits at PR09.

Protecting the health and safety of our employees and members of the public is an essential part of what we do, and a barometer of our overall effectiveness. It reduces costs by improving productivity, reduces the risk of disruption, improves our reputation with stakeholders and provides better motivated and engaged employees. Our attention to health and safety is led by the Board, and since 2005 our performance has improved. In 2005-06, 15 reportable accidents were suffered by our employees and over 230 days lost as a result. In the year to March 2009 our performance has improved to 7 reportable accidents and less than 170 days lost. Although this represents significant progress we will not be satisfied until we are operating with zero accidents.

Our improved performance has changed customers' perceptions of the service we provide. This is illustrated in the results of our continual programme of customer research over the past five years, from December 2003 to our most recent survey in December 2008. 91% of customers are currently satisfied with the overall service, up from 78% in 2003, and satisfaction with water quality has risen to 81%, from 58% in December 2003. Furthermore, 76% of customers believe that the services provided represent good value for money, up from 62% five years ago. When prompted with information about the real cost, 92% of customers rated our current service as representing good value for money.

However, the proportion of customers which considers metering charges to be fair has remained unchanged at 62%. We intend to improve this proportion in future.

We have made significant progress since 2005, both in addressing the challenges we face and improving the service we provide to customers. The net result of our achievements is that we will enter the next pricing period in a more resilient and responsive position than we did in 2004-05, which ensures that future price limits will be lower than they would otherwise have been.



A3 The Post 2010 Environment

In our *Strategic Direction Statement (SDS)* we described changes that are likely to affect the way we provide water services during the next 25 years. We have considered the challenges from five key areas:

- Our customers' opinions and behaviour relating to the service we provide.
- The social and economic context of our plan.
- The legal and regulatory framework in which we operate.
- How our activities will be influenced by market competition.
- The challenges of the environment in which we operate.

Customer views and behaviour

Customers' opinions are changing. They are demanding higher standards of service in all respects. We recognise that we need to change to meet and exceed their expectations.

Although we can – and should – do more, our customers are now better informed than ever about where their water comes from, how it is abstracted, treated and distributed. Our research reveals growing interest in water but more needs to be done to convince customers that metering is the fairest way to pay for water.

Our customers understand that better and timelier information about saving water and their consumption can help them use it more carefully and so mitigate the environmental effects associated with their demand for it.

Social and economic context

The economic downturn is having effects on customers' ability to pay for their water, especially those on lower incomes and at risk of unemployment. This must be taken into account when making judgements about the affordability of charges. However, the critical long term need to maintain and improve our services to customers should not be determined by the circumstances of those least able to pay.

The recession is affecting housing completions, the rate of metering and reducing non-household demand and revenues. Our forecasts since our *Draft Business Plan* reflect these latest trends. We expect new housing numbers to be lower through AMP5 and to return to 2007/08 levels only by 2015. Home moves are much lower than previously forecast, although we expect the rate will respond more rapidly to an upturn in market conditions during AMP5. Lower regional economic growth will, however, have a long term effect on non-household demand for water and this will contribute to our baseline supply surplus until 2026.

We expect the population in our area to continue to increase after 2010. But the number of occupants per household will fall – reflecting a national trend. Real incomes will broadly double during the next 25 years and these growth factors are likely to be amplified in the South-East of England. Our medium term forecast is that total demand for water is likely to increase.

We expect that despite the recession the South-East will remain an area of above average economic growth in the longer term. Competition for labour will remain strong. Neighbouring water companies will seek similarly skilled labour to us as mains renewals,

AMR and meter installation are all vigorously promoted. We will have to compete with them, and others, to secure the skilled support we need.

Demand for these services will keep contractor prices high, despite the effects of the recession. We will also have to compete with the Government's investment in public sector infrastructure programmes to stimulate the economy. Short-term demand for skilled labour to prepare for the Olympics in 2012 places pressures on the same workforce. Input prices are likely to remain higher than average and will affect wage rates, contractor prices, fuel, materials and waste disposal charges. We see no evidence that these general trends will change.

Our close proximity to London means it will continue to be more expensive and more difficult to carry out street works than in other parts of the country. We will find better ways of working to minimise these difficulties but it will continue to be a problem.

It is likely we will need to trade carbon dioxide permits in the future and make use of the financial values of greenhouse gas emissions for investment and operational purposes. The introduction of a financial value for carbon, as the shadow price of carbon, allows us to compare the relative costs and benefits of different investment options. As the shadow price of carbon changes over time the relative benefits of different options will be considered.

Legal and regulatory framework

Longer term, the *Water Framework Directive* should have a beneficial effect on the quality of raw water in our catchments. We support much of what is proposed in *River Basin Management Plans* (December 2008) and are keen to see the use of water protection zones to safeguard public water supplies. We will continue our pro-active stance on minimising pollution threats to our resources by working with the EA and third parties which use and store chemicals, both to encourage enhanced stewardship but also to ensure the 'polluter pays' wherever possible.

Our area has been designated as being under severe water stress and there are limited opportunities to develop new resources. We expect to continue to be challenged by the EA and local groups over the effects of abstraction from our groundwater sources on the flow in local chalk rivers. We have been working with these groups since 1992 and have commissioned a number of research projects. We have been asked to undertake seventeen more projects in AMP5 under the National Environment Programme which embrace 30% of our groundwater licences at a cost of £7.4 million. Also, we have been notified that abstraction licences relating to 14.8 Ml/d are to be revoked "as soon as possible". We have advised the EA that the timing of the licence changes must allow us to evaluate the full cost of the proposals and to carry out the capital investment needed to replace the lost resources. We have suggested 2015 for this to come into effect.

We are concerned that future licence changes would place unjustifiable upward pressure on customers' bills. Licence changes incur substantial costs even when in a period of supply surplus. Operating plant may become redundant and low cost, local supplies have to be replaced by more expensive water from other areas. We will urge the EA to maintain an appropriate balance between environmental benefits and bills.

We are concerned that future Catchment Management Plans and River Basin Plans may propose more licence changes to meet *Water Framework Directive* targets, but no measures are included in the draft plans post 2015. We are not permitted to include the effect of such potential changes directly in our investment plans. This means we could invest in assets that may become disused before the end of their useful life – which would be wasteful.

The EA has declined to provide guidance on the long term prognosis for our groundwater licences, so we have considered the effect of potential changes on our plans using our own estimates. There remains significant uncertainty over the future cost of access to water resources. This risk will increase if proposals to convert all licences to a time limited basis between 2021 and 2027 – indicated in *Future Water* and the latest consultation on abstraction charges – are accepted.

Market competition

After 2010 competition is expected to grow and new legislation is likely to be introduced to provide a greater degree of choice to a larger proportion of our customer base. We are already considering how to prepare separate accounts and expect that choice of supplier will soon be extended to all non-household customers.

Medium to longer term we anticipate more competition for abstraction rights as sustainability reductions limit the amount of water available for public water supply and trading of abstraction licences develops.

Our view of market competition is covered further in section A5.

Environment in which we operate

Since there are few cost-effective options for increasing supply in the next five to 10 years, the post 2010 environment will be very different. Our twin-track approach to balancing supply and demand will rely more heavily on demand-side measures than at any time in the past. To maintain our long term strategy to manage demand we need to continue metering, leakage control and water efficiency measures where these are beneficial in a wider context.

We are predicting that much of the demand-side savings achieved will be maintained in the longer term, but we must have other options in case they prove transient. We are working with other companies in the South-East to explore the optimum use of resources in the future and to prepare for the development of new regional resources.

At the same time, we need to respond to the effects of climate change. It will alter rainfall and consumption patterns, reduce the amount of water available for supply, result in extreme weather events and cause significant variability in the quality of our source water. We will need to monitor hydrological patterns for an early warning of droughts and floods. Our adaptation plans address responses to flooding, potential temperature increases and on the consequences for water quality and treatment.

We have re-appraised risks and developed a programme of work needed to complete physical security improvements and tackle flood risk. The flooding in summer 2007 caused us to reflect on whether planning standards used in the past will remain appropriate after 2010. As part of our continuous programmes for improving water quality, we are monitoring how changes in temperature can affect different treatment processes to ensure this can continue to be managed effectively. We do not anticipate that water quality will be affected by saline ingress, but we are monitoring our sources to ensure we are aware of all risks.

Our mitigation programmes, where we seek to increase the energy efficiency of equipment and processes to reduce the carbon footprint of each unit of water we produce, are compatible with our plans to manage demand. There is a direct correlation between energy consumed and water used, so water efficiency savings will equate to energy and carbon dioxide savings.

Water resources in our area have suffered from pollution for many years. Our experience in recent years is that one groundwater source is lost annually due to pollution and it takes on average five years to restore the source – often only following substantial investment. We have real concerns about the discovery of the pesticide, metaldehyde, in raw water supplies. The only known treatment method is Reverse Osmosis, which is extremely costly and not currently in use in our area. This emphasises the importance of curtailing the use of this pesticide at source. We consider the implications of metaldehyde pollution further in Section A5.

Emerging quality issues mean the traditional ‘end of pipe’ treatment solutions may not be viable. So we plan to increase our activities within our catchments. We will work with the Environment Agency, farmers and local authorities to encourage robust standards of stewardship and thereby reduce the risk of pollution. This approach is compatible with *Future Water*, River Basin Management Plans and Water Safety Plans.

At all times we must have regard for the most cost-effective way of managing pollution and will maintain a watchful eye. In the immediate post 2010 environment our risk assessment work and water safety plans demonstrate the need for a continuing programme of investment in water quality treatment improvements.

A4 Listening to our customers and meeting their needs

Customer service

Customers' expectations are changing. They are demanding higher standards of service and want improved access through a variety of engagement points. Customers expect our people to be knowledgeable, to understand their circumstances and to be able to capture their feedback. During the next five years the experiences we create for our customers will inform our thoughts and underpin everything we do.

Some customers are concerned about being able to afford their water bills. We have taken this into account when considering our plans and ensured charges will rise no higher than they need to be to maintain Serviceability. Improvements in customer-facing services are being made by changing the way we work. This will be achieved at zero cost to the customer, but will lead to an improved sense of value for money.

Customers have a variety of sources – including the internet – from which they can obtain information or which enable them to voice their opinion very publicly. Technology is providing us with exciting opportunities to transform the way we interact and engage with our customers.

Our customers are now better informed than ever about where their water comes from; how it is abstracted, treated and distributed. Contact with customers presents opportunities to build on this, e.g. to promote the efficient use of water, and we will continue to improve our dialogue with them to ensure they have the information they need to inform the way they choose to use it.

We want to hear what our customers think of the service we provide. We survey them twice a year and our most recent research reveals:

- 91% are satisfied with the overall service provided
- a growing interest in the role of water in the environment
- customer satisfaction levels with the quality of drinking water are at 81%
- 62% recognise that metering is the fairest way to pay for water.
- increasing numbers of customers are positive about automated call handling
- 76% spontaneously rate the service as representing good value for money
- all would prefer no increase in water bills.

We will continue to listen to our people and use information gained from customer conversations to make changes to our processes, products and services. We will welcome and respond quickly to customer feedback from any source and model our company around their needs. In particular, we will work with our customers and provide more information about how we work to improve perception of 'value for money'.

But we know our customer service will only ever be as good as the degree to which our people are willing to commit to it. This is why we have made significant changes to the way we train, motivate and reward our people during the past 18 months.

We began a new programme to improve 'customer experience' through our customer-facing teams in 2008 and we will build on the improvements we have already achieved during AMP5.

Our customers no longer accept reactive service and are intolerant of errors and delays. They want to trust that we will install their meter with minimal inconvenience; read their

meter accurately; and provide bills at a frequency, and by a payment method, that suits them.

Through our 'customer experience' programme we are confident that we can reduce repeat and avoidable contacts, and complaints. We are aiming to reduce both written and telephone complaints by 25% from the 2008/09 level between 2009/10 and 2014/15. Similarly, we are planning to curb avoidable contacts by 25% from the 2008/9 level between 2009/10 and 2014/15.

During the next five years we will investigate and develop services associated with metered customers and advanced meter reading to develop products and services customers will want. The aim will be to provide a service which is so attractive it encourages customers to ask for a meter.

Customer opinion and priorities

Our formulation of this *Final Business Plan* has been influenced by the views of customers and other stakeholders. We have carried out research from a number of sources, namely:

1. TVW Customer research (routinely, twice a year, most recent Dec 08).
2. TVW Willingness to pay for our business planning (focus groups Jul 07 and main survey Oct 07).
3. TVW Consultation on our *Strategic Direction Statement* (Dec 07).
4. TVW Consultation on our *Draft Water Resources Management Plan* (Aug 08).
5. Stakeholder feedback on our Draft Business Plan (Nov 08).
6. Ofwat: *Understanding Customers' Views* (Feb 09).

The process in preparing our business plan began with customer consultation on their willingness to pay (WTP) for changes in levels of service for the business plan. This showed that their priorities for investment were:

- | | |
|--------------------|---|
| Highest WTP | <ul style="list-style-type: none">• save water through water efficiency and reducing leaks• reduce greenhouse gas emissions• improve the aesthetic quality of tap water• reduce disruption to supply• reduce water hardness• reduce the number of water quality failures |
| Lowest WTP | <ul style="list-style-type: none">• maintain the flow in low-flow rivers• make hosepipe bans more infrequent. |

Consultation for our *Strategic Direction Statement (SDS)* took the form of a number of focus groups. Stakeholders indicated:

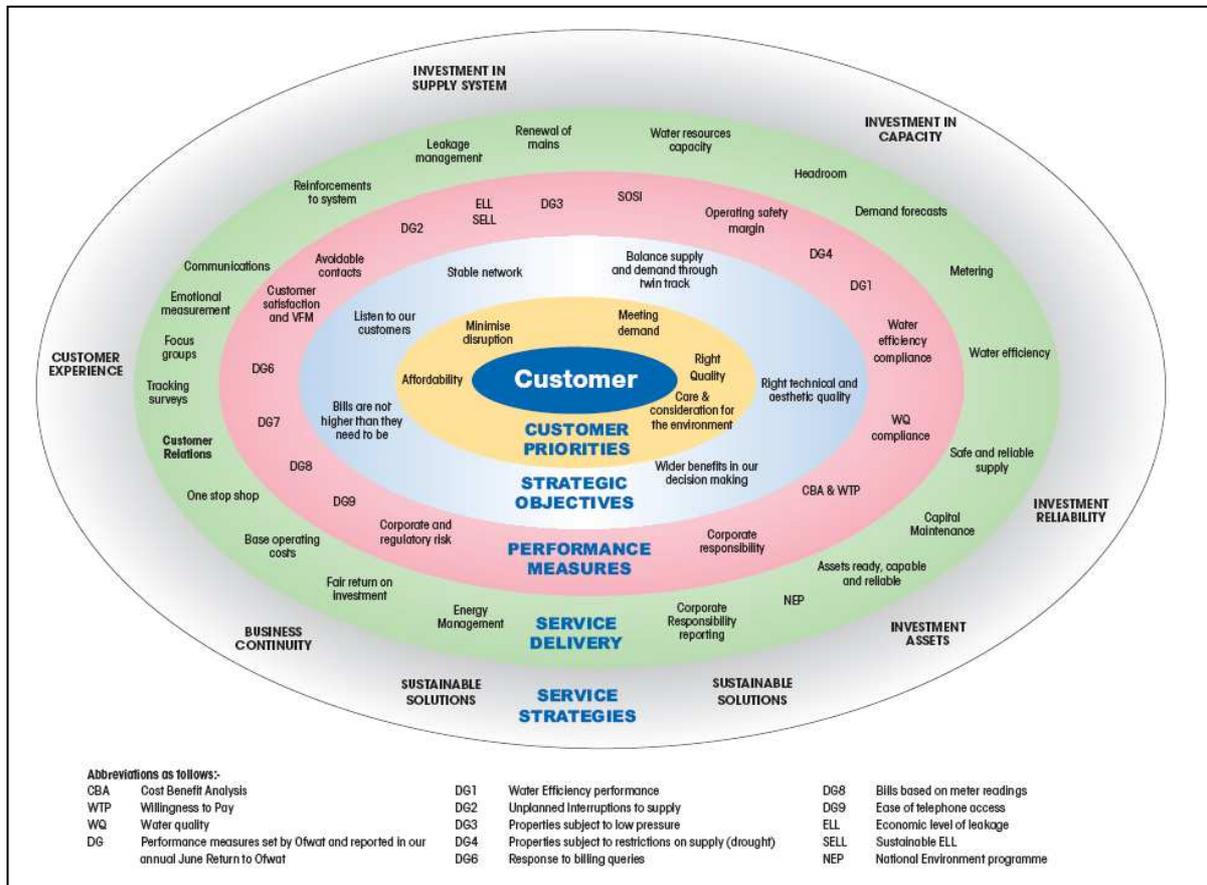
- support for metering and the use of appropriate tariffs
- bad debt was unacceptable
- support for water savings
- that housing development should take account of water availability
- new homes should be water efficient
- further leakage reduction was fair if householders are to save water
- little knowledge of the regulatory process
- that more communication was essential.

The outcomes from this consultation defined our objectives for our business plan to align with customer priorities:

- enough water will be available to our customers by normal means in all but extreme circumstances
- water will be of the right technical and aesthetic quality
- we will have the right care and consideration for the environment in what we do
- there should be minimal disruption to supply in the course of our normal operations
- water should remain affordable for customers.

The figure below shows how our business strategy model addresses these priorities. It includes our strategic objectives and shows how our standards of achievement are defined by our performance indicators.

Figure A4 : 1 Visualisation of how customer priorities relate to our business functions



Our *Draft Water Resources Management Plan (DWRMP)* took account of our stakeholders' preferences and priorities as well as their feedback during the drought of 2006. Our plan was published for stakeholder consultation between May and August 2008. The 38 responses we received addressed a number of technical and strategic points, notably:

- the twin track approach was supported, with emphasis on demand management
- metering was favoured, subject to it being cost-beneficial and affordable
- innovative tariffs

- further leakage reductions
- water efficiency and water reuse
- efficient use of existing resources
- a need for improved clarity in how risk affects plans
- more co-operation in regional resource management
- the effects of climate change
- the environmental effect of abstraction
- the 'polluter pays' principle

These points were reflected in our *Statement of Response* to the Secretary of State in January 2009.

The outcomes from the *DWRMP* stakeholder consultation reinforced the priorities developed from our *Strategic Direction Statement*. However the *Final Business Plan* must take account of overall customer views of the service they receive. Our regular programme of quantitative research surveys is important here. Surveys are presently undertaken twice a year.

The views of our customers have been researched twice in recent months; firstly, as part of our continuing bi-annual survey and second, in *Understanding Customer Views*, research commissioned by DEFRA.

The methodologies followed in these surveys were very different. Most importantly, *Understanding Customer Views* surveyed customers simultaneously on both water and sewerage services. Some of the results suggest that customers have difficulty differentiating the two, and the results are near identical.

Notwithstanding, the survey results are very similar. Both recorded high levels of customer satisfaction overall with the water service (TVW survey: 91% / *Understanding Customer Views*: 88%) and agree that safe water supply is the most important aspect of service. (TVW survey: 81% / *Understanding Customer Views*: 88%).

24% of customers in our survey spontaneously rated our service as representing poor value for money. This fell to just 8% when informed of current actual charges. In *Understanding Customer Views*, 35% of customers spontaneously rated the water service as poor value for money. This fell to 26% when informed of service standards.

We believe the difference in value for money ratings is a function of the different methodologies used and the type of information provided to enlighten the 'uninformed' customer. Both illustrate the importance of providing clear information to customers about the service they receive. Both surveys also highlight that customers are reluctant to pay more for an improved service. Our survey showed that 79% of customers want service levels maintained with no price change. In *Understanding Customer Views*, 64% of customers said that the effect on bills of our *Draft Business Plan* proposals was unacceptable. We have since looked hard at the Plan and made extensive revisions.

Given the current high satisfaction levels, and the present economic environment, we understand why customers do not want to pay more for an improved service. We have reflected this in our *Final Business Plan*. The 'customer experience' related improvements are free to customers, which we expect to increase the perception of value for money. The other improvements that we propose derive from compliance with regulatory obligations and investment in our assets to maintain their serviceability.

Table A4 : 1 Comparison of Customer Research Studies

	Three Valleys' own research			Understanding Customers' Views Sept – Nov 08
	Willingness to Pay Sept – Oct 2007	Tracking Survey (wave 1) July 2008	Tracking Survey (wave 2) Nov 2008	
Sample size	524	500	500	250
Service surveyed	Water only	Water only	Water only	Mixed water and sewerage services
Method	Interview – Structured choice experiment	Telemarketing	Telemarketing	Structured interviews
Most important aspect of current service	N/A	N/A	81% Tap water quality	88% Clean, safe reliable drinking water
Satisfaction	N/A	81%	91%	88%
Uninformed water service considered to be not poor VFM	66%	61%	76%	65%
Informed water service considered to be not poor VFM	N/A	87%	92% with value benchmark	74% with service standards

N.B. Where percentages are not provided, this reflects the differences in methodology between studies as questions were asked on different bases.

Both our own research and *Understanding Customers' Views* explored views about willingness to pay / priorities for investment. They showed that customers place a high priority on managing resources and demand. Minimising disruption was closely followed by preferences for managing the appearance, taste and smell of water and water safety. A relatively low priority was given by customers in both cases to further investment for managing extreme events and the frequency of supply restrictions.

The proposals in our Plan reflect these preferences and we believe they will have the support of our customers.

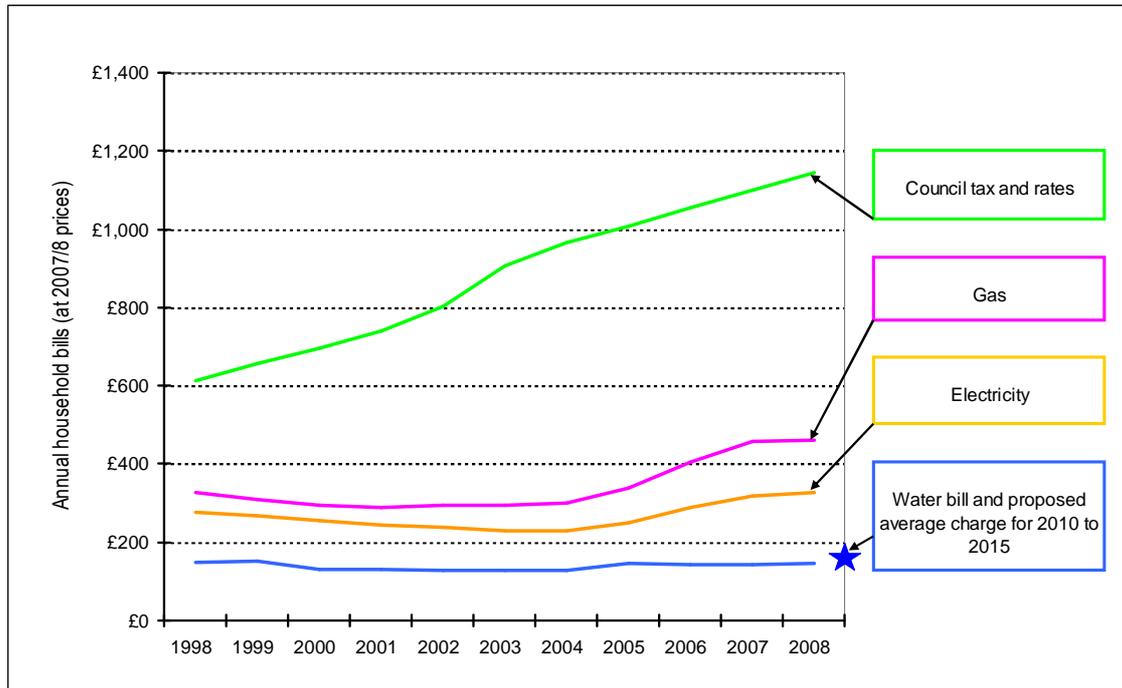
Stakeholder opinion

Throughout the Business Planning process we have engaged with our stakeholders formally through such forums as the four quadripartite meetings and informally, through one-to-one briefings. We have opened our propositions and arguments to third party challenge and sought to reflect their responses constructively in our submission. The EA has been consistent in promoting demand-side measures and would like to see universal metering to all homes as soon as possible. CC Water has wanted to test the appropriateness of our proposals in the present climate and to ensure that price increases are kept to a minimum. It has also urged for increases to be smoothed over the AMP, thereby deferring some of the burden to later years when the economy has recovered and customers' ability to pay has improved.

How our bills compare

Figure A4:2 below shows that increases in our bills have been considerably lower than for gas, electricity, and local council tax. Bills have been largely stable in real terms over the last decade.

Figure A4 : 2 Comparison of Three Valleys' average water bill with other utilities



However, we are aware that rising water bills could create hardship for some customers. We have sought to keep the cost of water to a minimum, while meeting our obligations to provide safe and reliable supplies. Some customers are in 'water poverty' and we want to assist them. We will continue to offer a range of payment options and will increase access to our Water Sure tariff. We want to help our most vulnerable customers by developing special tariffs, providing more frequent billing, and offering flexible payment options.

We believe the growing problem of people who cannot pay their bills should not be cross-subsidised by those who are able to pay. Water poverty and people who are unable to pay should be dealt with through the Government's social policies.

Summary

We have listened to our customers and this *Final Business Plan* addresses their needs and their priorities. It also reflects the priorities listed in our *Strategic Direction Statement*.

Affordability – we should put our customers first, listen to their needs and meet or exceed their expectations, while ensuring water supplies remain affordable.

Customer service – we will aim to reduce avoidable contact and increase our emotional engagement with customers to always seeking to exceed their expectations in the service we provide

Meeting demand – water should be available to our customers by normal means in all but extreme circumstances

Quality – our water should continue to be of the highest quality

The environment – we should care for the environment in all we do, including by reducing emissions which contribute to climate change

Minimising disruption – there should be minimal disruption to supply in the course of our normal operations

These priorities have informed and directed us in agreeing this Plan. We have sought to balance a realistic view of the current economic climate from the customers' perspective with the activities and the pace at which we should proceed. We have used the results of our 'best practice' approaches to asset management, water resources planning, environmental assessment, cost benefit analysis and economic optimisation work.



A5 Competition

The company is part of a very large worldwide water group – Veolia Water. It has 150 years' experience of winning business in markets for water and wastewater services. Almost everywhere, this entails competition *for* the market, that is, competition for time-limited contracts to provide aspects of water service, rather than competition *in* the market to provide a service to individual customers. As the government, Ofwat and independent reviewers have recognised, in the water sector, while competition *for* the market is increasingly common across the world, competition *in* the market is rare.

Within the UK, Three Valleys Water is part of a subsidiary group (Veolia Water UK, Ireland and Northern Europe) which is one of main suppliers of competitively-obtained water service contracts. That group is aiming at least to double the size of that business in the next few years. While Three Valleys Water must always operate at arms length from its parent so far as its regulated business is concerned, its expertise is available to the wider business on reimbursement terms. In this way, we have a significant practical role in encouraging the development of competition in the water sector and in turn we are influenced by the competitive activities of our company colleagues: the educational value of this competition can be used to benefit the customers of our regulated business.

We are following closely the evolution of proposals for the encouragement of competition *in* the market. It seems to us that these are not likely to develop rapidly for political reasons, especially in a time of deep recession: the public is cautious about competition in water which current market difficulties are likely to have exacerbated.

As an incumbent company, we are preparing for extended competition, but the pace depends on the decisions of the Government and regulators. A major extension to competition seems unlikely in the next five years, and will in part depend on the outcome of the next election. It will begin with widening the scope for commercial customers to choose their supplier: we shall need to contest to retain these customers if we can. This is a risk to the volume of water currently sold to commercial customers, which is already tending to fall.

Longer term, once accounting separation has taken place, perhaps reinforced by legal separation, there is the possibility of contested retail services. Our intention to make a step change in the quality of customer service (as detailed above) has not been driven by the prospect of competition in retail services. But to the extent that we achieve the improvements which we are attempting to put in place, we shall be better placed to defend our existing market share in a competitive market on the one hand and also to enlarge it on the other.

The mechanics and politics (national and local) of developing markets in abstraction and abstraction rights are also difficult. Such developments could have significant implications for this company. We have already referred to the pressure on abstractions in our area, particularly from the chalk aquifer and there are significant risks that the EA will seek major reductions in our existing abstraction rights during the next 10 or 15 years.

If we were also at risk of having rights bid away, and/or of having to enter the market for replacement water, there could be considerable implications for the customers of our regulated business. Explicitly, the economic pricing of water resources in water-stressed areas could have the effect of driving up prices for consumers of a public water service by more than the gains resulting from a more economically-efficient allocation of the resource as agricultural, horticultural and industrial users may be in a position to bid up the price. (This is a different matter from competition in the mechanics of abstraction and treatment, which could be of benefit to water consumers, for example, through competition for providing these processes, as already referred to.)

Subject to properly carrying out our functions, we alive to opportunities for inset appointments near our territory. At the same time, we are watchful of the possibility of insets (whether green-field or comprising existing customers) within our area. We see the transformation of customer services, assisted by advanced technology, as an exciting area for us to build competitive advantage.

A6 The main components of the strategy

Balancing supply and demand

In the current period, we have tackled a longstanding resource deficit by investing in new resource capacity; by increasing source performance and reliability; and by containing demand, especially through metering and reducing leakage. As a result, we now have a supply surplus, reduced bursts and have lowered leakage.

In contrast to our Draft Plan, we have taken full account of this most up to date information and, in particular, have amended and reduced the pace of metering in order to reduce costs for customers in the shorter term. But, long term, uncertainties and challenges remain and this Final Business Plan takes this range of factors into account.

A key factor which we must never lose sight of is that our supply area is designated as suffering severe water stress.

By 2010, we expect that 38% of dwellings in our supply area will be metered. This is lower than we forecast at the previous Periodic Review in 2004 because of the present slowdown in house construction and home movers. We expect the pace to pick up again with improved economic conditions.

As projected by the Government, we expect that 250,000 new properties will be built in our supply area by 2030. We predict that the total demand for water from our customers will increase, mainly as a result of population growth of 360,000 (12%), by 2030. We need to monitor this carefully and amend our approach accordingly so that we can meet our statutory duties to supply the water our customers need.

Business customers have been affected by the recession. We are experiencing lower levels of demand and so have updated our long term forecasts in line with regional economic indicators and the latest Treasury forecasts.

Our forecasts indicate that even without any action on supply or demand, our supply-demand balance should remain in surplus until around 2025. The least-cost planning approach indicates that neither metering, nor leakage control, is cost-effective until 2035 and then in only one of our zones.

On this planning basis, the actions which seem likely to be cost-effective are:

First phase of investment required to maintain security of supply (2025-2030)

- water resource schemes in the Northern Zone.

Second phase of investment required to maintain security of supply (2030-2035)

- water resource schemes
- local community water efficiency
- local water re-use schemes

Third phase of investment required to maintain security of supply (post 2035)

- metering
- leakage
- regional resource schemes.

So the choice facing us is either to follow the least-cost planning route (which suggests only a supply-side approach to maintain the supply-demand balance) or to maintain the emphasis on the demand-side of the twin-track strategy as well, and continue to meter customers on some form of compulsory basis coupled with further reductions in leakage.

The case for metering

The case for placing the emphasis on the demand side, in particular through metering, is compelling and is supported by customers, regulators and Government because:

- there is continuity of strategy and policy
- the Government's policy paper, *Future Water*, strongly advocates a demand-side policy
- less water is taken out of the environment
- it is compatible with the long-term aims of the *Water Framework Directive*
- it is a sustainable approach using less energy, less carbon and less water
- it enables us to charge customers in a way they perceive to be fair as those with high consumption pay proportionately
- it encourages domestic and commercial customers to save water
- it provides future opportunities for changes in the structure of tariffs, so that customers can make their own choices on water use
- it reduces our vulnerability to licence reductions which are not allowable in our planning
- it creates opportunities for transforming improvements in customer services.

We are not yet able to ascribe accurate monetary benefits to each of these factors, but are confident that, as part of a demand-side strategy, it will prove to be cost-beneficial.

Approach to metering

The questions here are: how fast should we go? Should we stick to compulsory metering on change of occupier? Should we switch to compulsory street-by-street metering, selecting the most water stressed areas first?

A customer affected by compulsory street-by-street metering reduces his demand by the same amount as one affected by change of occupier metering. Street-by-street metering will be cheaper (though less than 10%), but these savings are offset by additional costs involved in overcoming customer resistance and disruption. It would also be inappropriate in the present recession, as the water-stressed areas likely to be selected for metering would most affect those least able to pay.

Our surveys show that, while the majority of our customers agree that metering is the fairest way to charge for water, just over half of non-metered customers are in favour of compulsory metering. We fear this level of support would fall away if we enforced street-by-street metering. As an alternative we propose to meter properties when there is a change of occupancy, as now. We believe this policy is sufficient to preserve the supply-demand balance at present, and it has the added benefit of not changing the level of bill for those who remain in the same dwelling.

The long-term resource deficit in the South-East is a major concern for all the water companies in this region. We are cooperating with each other and the EA to promote water efficiency and to create a climate of acceptance and support for universal metering.

We intend to explore vigorously the opportunities for 'smart metering' and the scope for innovation. We will pilot test next-generation meter reading equipment and explore collaborative arrangements to mitigate risk and costs. We will prepare for widespread implementation by ensuring our infrastructure will cope with the changes.

Maintaining the twin-track approach

In parallel to metering, we will continue to increase the amount of water available by optimising the use of existing resources, improving reliability of plant, and preparing to develop new resources in the longer term.

Both 'tracks' are essential because we need to adapt to the effects of climate change and population growth, and anticipate reductions in our ability to abstract water (to protect local environments). This strategy is explained in detail in our amended *Draft Water Resources Management Plan* published in January 2009. The key elements are:

Resources – make the best use of our existing resources

Leakage reduction – reduce leakage because it is a high priority for our customers.

Environment – continue to work with the Environment Agency, Natural England and local environmental groups to explore changes that are supported by good cost benefit cases

Water efficiency – continue to offer water efficiency advice and water saving services to customers and enhance activities where these are cost-effective or cost-beneficial

New customer services – investigate new methods, technologies and systems for charging for water in order to provide a more effective basis for encouraging sustainability and to offer services our customers want

Long term security of supply – maintain a rolling, comprehensive programme of studies to enable us to have sound long term plans for new strategic resources if they become necessary

Leakage

We have successfully reduced leakage in the current AMP and have achieved each annual 2 MI/d leakage target between 2005 and 2009. The steady rate of change has also been achieved using progressively fewer resources. We are on track to lower leakage by 10MI/d by 2010, compared to 2005 levels, and propose to continue this rate to 2015

This means that we will continue to operate below our economic level of leakage (ELL) and socially efficient level of leakage (SELL). Our longer term plan forecasts similar reductions in 2015 -2020 but lower savings in the following two periods.

As discussed in the 2008 *June Return* submission, we have agreed with Ofwat and the EA to adopt a new, improved method of leakage calculation from 2010. This Plan is presented using the new methodology. The earlier methodology will continue to be employed for consistency in *June Return* submissions until March 2010. The current and revised methods of calculation produce distinctly different assessments of the level of leakage. These are not comparable. The new figure is 40 MI/d higher than the old one. The actual rate of leakage from the network remains unchanged.

Water efficiency

We will continue with our water efficiency programme and, in particular, our award winning education and communications programmes. We have reported our activities to satisfy our

statutory obligations in our *June Return* each year. In light of our supply surplus, it is not cost-effective or cost-beneficial to increase these activities.

We have serious reservations about proposals to increase investment in water efficiency. The cost is not currently included in prices and they have not been demonstrated as cost beneficial. Increasing activities in line with Ofwat's current expectation would significantly affect prices and overlooks the value of our extensive education and communications programmes. If we are required to meet arbitrary activity targets, it would put our current programmes at risk as there would be no incentive to retain them. 7,000 pupils visit our Education Centre each year and we teach 13,000 children in schools on our 'outreach' programme. All these children take part in memorable demonstrations of water efficiency and environmental sustainability, and we know from the positive feedback we receive that families and friends are also influenced. Hence, the effect reaches out beyond the children who participate. The children we educate are our future customers and we believe that continuing this programme is enormously constructive.

If the effectiveness of our education and communication programmes is properly acknowledged, we believe we can meet our water efficiency targets without further investment, and without affecting customer bills.

Planning for new resources

We have sought in our Plan to take a responsible and sustainable approach to managing the supply-demand balance. We will actively review, update and modify our plans in response to changing circumstances. We recognise the importance of effective long-range planning in respect of new schemes given the lead-times involved.

Comparison of our proposed supply-demand programme with AMP4

Table A6:1 below shows the key changes in both activity and cost for the key programme elements for AMP4 and AMP5.

Table A6 : 1 Key changes in our supply – demand programme

	AMP4 Detn. activity	AMP4 Detn. £ million	AMP5 activity	AMP5 £ million
Metering – optant and selective	201,000	44.4	137,000	33.6
New development	42,260 homes	37.0	27,822 homes	31.8
Long term studies	6	2.5	2	1.1
Total capex	-	83.9	-	66.5
Water efficiency	0.05 MI/d	1.2	6.2 MI/d *	8.7
Leakage	15,317 repairs	9.5	17,421 repairs	13.3
Total opex	-	10.7	-	22.0

* Education service recognised within targets

Quality and resilience

We intend to manage our physical assets so that we supply water that fully complies with the water quality regulations and meets our customers' wish for water of the right aesthetic quality.

The Drinking Water Inspectorate (DWI) supports our proposals to invest in new or modified treatment at four sites. These investments will cost £23 million and will ensure that our water continues to meet the required quality standards and is acceptable to our customers. Specifically, we plan to remove manganese at two sites and invest in a programme of mains cleaning in those areas to clear deposits from the pipes which have caused complaints of discolouration. We also need to invest to reduce the risk of cryptosporidium at one site and nitrate at another.

Serviceability of above-ground assets

We have extensive above-ground assets and it is essential they remain serviceable to provide an uninterrupted supply of high quality water. We have invested in surveying our assets and developing more accurate tools to model whole-life costs of operation and maintenance. Building our assessment from component level has provided a comprehensive and accurate assessment of the investment needed to maintain their condition. This in turn has significantly improved our understanding of these assets in support of future plans, while minimising pressure on customers' bills. Our assessment has also taken account of wider social and environmental benefits and a cost-benefit assessment has been carried out for all capital investment, even where this relates to baseline serviceability investment. We have also examined how critical schemes are in terms of the likelihood and consequences of failure, for example, where we need to replace large reservoir structures.

Our informed conclusions are that an increase in investment is needed in comparison with earlier years. However, we plan incremental increases in expenditure and activity, so that we can successively test the merits of individual schemes over the next five years and use these results in planning for the following five years. This is a prudent approach which has the benefit of reducing pressure on customers' bills. We propose to limit investment to £159 million to maintain our above-ground assets during AMP5.

Pollution risks

We have experienced a number of pollution events and threats in our operating area during the past 15 years. These have come from chemical spills, fertiliser applications and the use of pesticides and herbicides. Long lasting pollution incidents affect headroom because it must allow for pollution risks.

We will remain vigilant in our efforts to prevent these events. We undertake comprehensive risk assessment work in our catchments and have devised water safety plans. We also promote responsible behaviour, good stewardship and champion the 'polluter pays' principle and in AMP5 we intend to appoint two Catchment Management Officers. Reducing the risk of pollution and pollutant load will minimise operational costs and reduce carbon emissions. By increasing our resilience in this way, we expect to reduce the need for 'end of pipe' treatment solutions in the long term.

Metaldehyde

Metaldehyde is a new and serious pollution threat. It is the active ingredient in slug pellets. It is used by farmers to protect crops, and is finding its way into water courses and

reservoirs. It cannot be removed by our existing treatment methods. It has been detected at very low levels in water going into supply from treatment works which supply around 57% of our customers. There is no risk to health but water containing it does not comply with EU water regulations.

The problem is being dealt with by the Metaldehyde Stewardship Group (MSG) which is seeking to bring about significant reductions in the levels in raw water. Three Valleys' plan to deal with metaldehyde has two components. First, we will contact potential polluters to encourage better management of the pesticide. Secondly, if the risk to our sources rises to unacceptable levels they will be taken out of service. In the short-term this has been reflected in our headroom assessment but this is not sustainable in the longer term. The threat of metaldehyde is such that it must be eliminated at source.

Flooding risk and Security

We have reviewed the threat to our operational assets from flooding, as required following the Pitt Review. Approximately one-third of the water that we supply is abstracted from the River Thames and treated at sites on the Thames flood plain. The resilience of our surface water treatment systems is such that the additional investment required to protect against flooding is modest (£3.8 million). We will also improve security against vandalism and other threats.

Power outages

We are increasingly concerned by the unreliability of electricity supplies. In this current period we have experienced supply failures even at sites with two separate feeds. Furthermore, we are not convinced that the precautions being taken by the electricity companies are adequate to protect their assets from flooding. 30% of our water is produced on the Thames flood plain, and we propose to install on-site standby generation to 10 sites at a cost of £3.1 million.

Comparison of our proposed quality programme with AMP4

Table A6.2 below shows the key changes in both activity and cost for the key programme elements for AMP4 and AMP5.

Table A6 : 2 Key changes in our non-infrastructure and quality investment programmes

	AMP4 Detn. activity	AMP4 Detn. £ million	AMP5 activity	AMP5 £ million
Maintenance Non-Infrastructure	programme	123.4	programme	159.3
Drinking water quality (DWI)	5 sites	45.1	4 sites	22.9
Security and emergency	programme		programme	17.0
Environment programme	8 sites		18 sites	8.1
Flood risk	n/a	0	30 sites	3.8
Resilience	n/a	0	10 sites	3.1
Total	-	168.5	-	256.3

Care for the environment

Our customers place a high value on water efficiency and reducing climate change. Our commitment is evidenced by our *ISO 14001* certification for all of all our abstraction and treatment sites. We also take account of a wide range of social and environmental considerations in formulating our investment decisions for our *Final Business Plan*.

For AMP5 we will continue to assess, manage and reduce the effects of our activities on the environment and to preserve and enhance the biodiversity of our land holdings. Our existing education programme, aimed at current and future customers, will continue to concentrate on water conservation, reducing waste and sustainable development.

Corporate responsibility

We have a well established programme to manage our corporate responsibility and, in this Plan period, we aim to introduce a number of changes to our processes so that our decision-making is better informed. In particular, we are considering the wider social and environmental benefits when making decisions about our functions and investment decisions. Key processes in our decision making are detailed below.

Social and environmental assessment for our DWRMP. This process has helped us consider the wider consequences of our water resources strategy. All options for supply-demand investment will be considered in this context in the future.

Economics of supply and demand. The effect on wider social and environmental costs was considered in assessing all the options for managing the supply-demand balance and in assessing the economic level of leakage.

Common framework. All investments to maintain and renew our assets now include consideration of social and environmental costs.

Cost benefit analysis. We have carried out cost benefit analysis to explore how customer preferences and investment decisions will affect our carbon footprint.

Carbon reduction commitment. We have examined the likely implications of the new *Climate Change Bill* and have considered how we need to change our operations to minimise our carbon footprint. These are reflected in our Plan.

All these points and processes are being enshrined into our normal practice.

Abstraction

Abstracting water affects the natural environment. We believe that extending metering, rather than developing new resources, is less detrimental to the environment. We are working with the EA to identify where we can modify abstraction regimes to improve the water environment.

The EA proposes to reduce our abstractions at two sources by a total of 14.8 MI/d. We have challenged its proposals as we believe they are not cost-beneficial; significant extra costs will be incurred with uncertain benefits to the environment. We have included these changes in our FBP because the EA is able to revoke licences.

We plan to continue working with the EA on its programme of AMP5 studies. We estimate the cost to be £7.4 million for 17 studies, including projects to meet the requirements of the *Water Framework Directive*. We have reservations that some of this work will not

represent value for money. Furthermore, we are concerned that certain schemes appear speculative, could affect up to 30% of our resources, and be disproportionate in cost.

Carbon emissions and energy use

Reducing the amount of water we treat and put into supply will lead to less pumping, lower chemical and electricity usage and lower carbon dioxide emissions. We calculate that our Plan for AMP5 will reduce carbon dioxide emissions by 3,500 tonnes in 2015; or 10% from 2006-07 levels. There will also be consequential reductions in sewage treatment.

We are seeking to improve our energy management across the business. The relocation of the staff to new office headquarters in May 2009 from four regional sites will reduce business travel and allow more efficient use of energy in offices. In parallel we have introduced flexible working to reduce home-to-work travel, and are promoting more environmentally-friendly travel arrangements.

Our new head office building utilises harvested rainwater. Taps are low flow, sensor controlled, and the shower heads are water efficient. Solar panels on the roof will supply 60% of the hot water. Cooling, heating and ventilation will be provided via a system of chilled beams which keep the air in the office at a set temperature. The building makes maximum use of natural daylight and has energy-efficient lighting controlled by daylight and occupancy.

We will pursue opportunities to develop renewable energy although opportunities are limited because of the topographical nature of our area. However, we are exploring ways of achieving higher levels of energy efficiency. When we renew assets, we will seek to improve their wider environmental performance. As we upgrade water treatment facilities, we will substitute gaseous chlorine in favour of safer disinfectants and improve water efficiency in production.

Waste materials

Our programme of mains renewal and leakage control means that we will have to excavate large volumes of soil. Currently we recycle 53% of excavated materials, 33% more than in 2007-08. We would like to make even greater use of trenchless techniques to reduce the need for excavation, but are often hampered by local circumstances and the congestion of utilities in the ground. Where this is the case, we aim to raise the percentage of excavation waste that is processed and re-used.

Minimising disruption to supply

Network serviceability

Interruptions to supply are caused mainly by burst mains. They result in unplanned interruptions to our customers' supplies, disrupt traffic, and cause localised flooding and damage property. Our distribution network is more than 14,000 km in length. In our most populated regions, it lies in London Clay that is both aggressive to ferrous pipes which make up the majority of our network, and prone to movement from shrinkage and expansion. The effects of climate change will exacerbate these inherent weaknesses.

We strive to improve our responsiveness to these events. Burst frequency is a key indicator of network Serviceability and we regard it as imperative to reduce the rate of bursts. We must replace those mains most likely to fail.

There is a clear relationship between the rate of renewal and the certainty of meeting the target number of bursts used to assess Serviceability. In our *Draft Business Plan* we judged that we needed to be more certain that we would meet the targeted number of bursts and so proposed to renew our mains at the rate of 148 km/yr.

This has been a difficult judgement to make and one which has taken up considerable time in the Board's deliberations on the Plan. However, our modelling shows that a rate of 148 km/yr would give only a small increase in certainty for a relatively large increase in costs. In reality, customers are unlikely to see any material benefit in service unless there is a further, significant increase in renewal activity to above 200 km per annum. We have taken into account the current economic climate, and the fact that we have been running at our higher renewal rate only since 2005. We have concluded therefore that it would be appropriate to continue renewals at a rate of 126 km per annum over the next five years. By the time we prepare for PR14 we will be clear on the consequences of renewing at 126 km per annum and whether this is the correct rate.

Trunk mains renewal

We have completed extensive surveys of our trunk mains network to assess its condition and performance. At PR04 we justified uplift in trunk main activity but deferred this to allow us to focus on the increased distribution main programme. This change cannot be put off again if we are to maintain the integrity of our vital trunk main network. Our latest assessment shows we need to double the rate of renewal to 25 km every five years in order to prevent the risk of service failure rising beyond current levels. This programme will be targeted to renew specific sections of the network that have been problematical. These projects will be defined outputs. The increase in renewal will reduce the likelihood of major bursts which would otherwise disrupt supplies to large numbers of customers and commercial businesses. This table shows how the mix and cost of infrastructure renewals has changed compared with PR04.

The proposed programmes for trunk and distribution main renewal will target renewal on individual mains so as to have the greatest effect on Serviceability, as measured by Ofwat's Serviceability indicators (burst rate; unplanned interruptions; pressure; and iron in distribution).

Comparison of our proposed infrastructure renewal programme with AMP4

Table A6:3 below shows the key changes in both activity and cost for the key programme elements for AMP4 and AMP5.

Table A6 : 3 Key changes in infrastructure renewal programme

	AMP4 Det. activity	AMP4 Det. £ million	AMP5 activity	AMP5 £ million
Distribution mains	630 km	109.0	630 km	126.1
Trunk mains	8 km	7.0	25 km	19.3
Communication pipes	23,000 no.	17.0	30,500 no.	26.0
Total	-	133.0	-	171.4

A7 Implementing the Plan

Key outputs

The objectives outlined in Section A1 are summarised below:

- increase customer satisfaction
- achieve service performance at 'good' levels and improve year on year from the 2007-08 base year value
- reduce both avoidable contacts and complaints (written and telephone) by 25% between 2009-10 and 2014-15
- complete our seasonal tariff trial
- pilot new generation meter technology
- develop a metering strategy which will provide new and improved services for customers
- increase household meter penetration by a third to 50% by 2015 (and 90% by 2030)
- maintain security of supply and a score of 100
- achieve stable Serviceability for both infrastructure and non-infrastructure assets
- achieve 100% mean zonal compliance for drinking water quality
- address discolouration and compliance risks through investment at four sites
- keep leakage at or below the economic level and reduce it by 2MI/d per annum
- provide domestic water supplies to 28,000 new homes
- reduce carbon emissions from 2007-08 levels by 3,500 tonnes by 2015.

We have a clear rationale for selecting these outputs and timings. We have planned our investments using Common Framework methods and optimisation techniques. Our water quality and resilience investments are based on careful risk assessments. Our cost benefit analysis work, validated by an independent academic expert, demonstrates that the Plan will generate net benefits to our customers, to the environment and society in general.

Training and motivating our people

We need the right blend of people and contractors with all the necessary skills and professionalism to implement the Plan. We attach great importance to well motivated, skilful and loyal people.

In 2009 we will have relocated our administration and engineering teams from the old headquarter buildings of our predecessor companies to a new purpose built site. This will improve communications and business efficiency generally.

In the last two years we have introduced a range of initiatives to improve collaborative working, motivation and engagement. These are proving effective as the most recent survey of October 2008 shows:

- *I feel that my contribution is valued: 69% (up 25% on the prior year)*

- *Management is able to communicate effectively with colleagues:* 69% (up 25%)
- *Colleagues are able to communicate effectively to management:* 76% (up 23%)
- *I get recognition for doing a good job:* 59% (up 20%)
- *I believe that the Company has a clear strategy:* 74% (up 19%)

It is important that we continue with our current programme and improve the level of engagement even further. Only when this is achieved can the 'customer experience' be enhanced to the full.

Implementing our capital plan

Net capital expenditure needed to achieve our objectives in the five years ahead is £456 million and details of our programme are shown in Table A7:1 below. Our *Final Business Plan* capital programme proposals are £48 million higher than the AMP4 programme but £71 million lower than our *Draft Business Plan*. New operating expenditure resulting from our capital investment will amount to £3.6 million by the end of 2015.

We will ensure that capital and operating costs are no higher than necessary to achieve our objectives. In assessing our programme we have sought to balance benefit, cost and risk.

We have carried out a 'whole-life' Cost Benefit (CB) appraisal of our capital programme except where investment is essential to meet regulatory requirements or to maintain the level of serviceability of our assets. 81 projects in our programme have a positive cost-benefit or are required to maintain serviceability. We have justified a further 18 projects based on wider non-financial benefits or as being essential to maintain serviceability. Details of our Cost Benefit Analysis (CBA) programme are reflected in Sections C8 (methodology), C5 (outputs) and C4 (metering and leakage) in particular.

Table A7 : 1 Comparison of FBP capital expenditure proposals with AMP4 and DBP

Capital Expenditure Category		AMP4 £ million 2007/8 prices	Draft Business Plan £ million 2007/8 prices	Final Business Plan £ million 2007/8 prices
MI	Maintenance Infrastructure	164.1	201.6	194.9
MNI	Maintenance Non-Infrastructure	123.4	160.1	159.3
Q	Drinking Water Quality	45.1	11.8	22.9
Q	Security & Emergency		16.4	17.0
Q	Environmental Programme		7.2	8.1
S/D	Supply Demand Balance	107.3	157.1	68.0
ESL	Flood Risk	0	2.3	3.8
ESL	Resilience	0	0.0	3.1
	Gross Capex	439.9	556.4	477.2
	Contributions	(31.8)	(29.3)	(21.5)
	Net Capex	408.1	527.1	455.7

The majority of changes from Draft to *Final Business Plan* reflect our responses to the Capital Incentive Scheme baseline assessment. This is covered in detail in Section B11. The main elements of the capital programme are described below.

Maintenance Infrastructure

This is the expenditure required to renew underground assets such as trunk mains, distribution mains, and communication pipes. In 2005-10 we have doubled the rate of renewal to 126 km of distribution mains per year. These renewals are targeted to reduce bursts. We believe we are already seeing some benefits from the higher renewal rate and we are expecting to remain within the assessment boundaries for 'stable' Serviceability despite the severe upsurge in burst mains during the two prolonged spells of very cold weather in early 2009.

We are planning a similar level of activity for the next period. Within the proposed £195 million programme we plan to renew 25 km of trunk mains, 126 km of distribution mains each year and replace 30,500 galvanised iron communication pipes. We have maintained our distribution mains renewal rate for AMP5 but the location of the work poses more challenges compared to AMP4. A higher proportion is in traffic sensitive streets or with high density of services. This limits the amount of cheaper, trench-less work we can do. Despite a rigorous competitive tendering process we are experiencing a sharp increase in contract tender rates for the renewals programme.

Renewing 126 km of mains each year would maintain a 95% probability of the burst rate remaining within defined limits for 'stable' Serviceability. Furthermore, we would have a 50% probability of achieving the reference level for bursts by 2015.

We have considered carefully the benefits of a higher mains renewal rate of 148 km a year. This would increase the confidence of achieving the bursts reference level in 2015. However, as we have only three years of data to assess the benefits of the higher rate of renewals since 2005, there is insufficient evidence to justify changing this now. We will monitor this situation closely during AMP5 and will determine whether a different rate of renewal is warranted at PR14.

Maintenance Non-Infrastructure

We are proposing investment of £159.3 million for our operational, management and general assets and IT systems. £117.2 million is required to maintain above ground operational assets such as service reservoirs, pumping stations, water treatment works and meters. This proposed investment is based upon sophisticated modelling techniques using detailed reviews and assessments of our assets at component level to predict the economic level of renewal and maintenance. We have looked carefully at this programme to ensure a proper balance is achieved between risk and benefit. Our approach is new and we need to ensure it is robust. We have therefore deferred some of the work suggested by the process until the next quinquennium, by which time we will have tested the efficacy of the technique. We have also deferred some specific projects, such as replacing service reservoirs, in order to limit the effect of our plans on customer bills.

£16.4 million is required for management and general assets needed for operations, such as vehicles, offices, depots and laboratories. £25.7 million is required for replacement of key IT systems, including our works management and billing systems to maintain essential serviceability.

Supply-demand

Supply-demand expenditure includes the resources and investment required to increase the amount of water available for use. It includes our investment in the infrastructure required to connect newly built properties to the existing water supply system.

Leakage. Work to produce leakage savings of 2 Ml/d per annum requires expert detection techniques as well as skilled repair crews. In 2009 we have negotiated a new contract covering the maintenance and repair of mains. The form was sufficiently flexible that we can extend the contract for the whole period 2010-2015.

Metering. We propose to invest £34 million on the meter installation programme. We will fit meters in an estimated 28,000 new homes, the majority of which will be with automatic meter reading (AMR) devices funded by the developers. The metering policy will be similar to AMP4, but volumes will be lower as a result of the recession. We expect to install 169,000 meters in 2010-15 compared with 201,000 in AMP4. This will increase penetration to 50% by 2015.

We will continue with our programme of consumption studies, including our large scale trial of more than 1,500 AMR units in conjunction with a seasonal tariff trial.

Other investment. £32 million relates to the costs of connecting new homes and businesses, of which we will recover contribution of £15 million from property developers. We are also proposing to carry out trials of next generation metering technology (NGMT) in developments of new homes. This will help us establish the best combination of systems to meet customers' future needs and confirm cost-benefits in preparation for a larger programme in succeeding years. In particular we have begun a joint study with Bellway Homes to evaluate the effect of the Code for Sustainable Homes on consumption and NGMT will provide the higher definition meter reading pattern needed to achieve accurate results.

The remaining expenditure relates to feasibility and planning studies to determine the need for a new regional reservoir in the upper Thames region. This would regulate the flow in the Thames so that we are able to abstract additional supplies at our intakes at either Iver, Egham, Chertsey or Walton.

Drinking Water Quality

Our water quality programme is similar in overall scale to that in 2005-10. The average cost per project is higher as the treatment schemes are more complex. The £23 million proposed for 2010-15 is for investment in new and upgraded water treatment facilities at four sites. This will deal with nitrate, cryptosporidium, and manganese. To ensure the manganese scheme is effective, we will need to also remove deposits in the neighbouring pipe network.

Security and Resilience

Of the £25 million planned expenditure, £17 million is to improve physical security at our operational sites in accordance with Government guidelines. We propose to invest £4 million improving flood defences to ensure continuity of supply in circumstances similar to summer 2007. We plan to spend a further £3 million installing standby generation to increase our resilience to electricity supply failures.

Environmental Programme

We propose £6 million to carry out detailed environmental studies into the effects of water abstractions on local rivers and biodiversity. The studies will determine whether we should change the volumes or locations at which we abstract water. The supply-demand investment programme includes £1.5 million for a new pipeline in preparation for notified licence reductions in 2015. We will consult the EA to ensure this is the most appropriate solution to local over-abstraction. Over £1 million is proposed to install new screens on main river intakes to protect young fish.

Overlap programme

Early commitment to the first two years of AMP5 will help to maintain the momentum of our capital programme. We propose overlap arrangements for our security and resilience works, and for the replacement of two service reservoirs.

Sustainability Appraisal

We recognise the need to develop further our investment and project planning to reflect the wider goals as identified within our own *Strategic Direction Statement* and the Government's Sustainable Development Principles.

We have been reporting against the Business in the Community (BiTC) Indices of Corporate and Environmental Engagement since their inception in the early 2000s. We incorporate this integrated approach into our activities and can demonstrate how we seek balance the conflicting needs of stakeholders. We plan to extend this framework to our investment planning.

Corporate and Social Responsibility

Our Corporate Responsibility Statement of Policy and Principles states that:

Our Business – In the interests of our stakeholders we will conduct our activities as efficiently, effectively, ethically and profitably as possible as a long term goal.

Our Workplace – We will act in a manner consistent with maintaining the welfare and interests of our people and where possible we will seek to make a positive contribution to them.

Our Community – We will act to maintain assets to ensure that high standards of service and benefit to stakeholders can be ensured both now and in the longer term.

Our Environment – We will seek to contain any negative environmental effects of our activities to the practicable minimum.

We are developing a methodology which will enable us to assess our projects and investments in the light of these guiding principles. Our assessments will allow us to:

- recognise the value of a project in environmental, social and financial terms
- identify how changes in the scope of a project may affect other stakeholders
- be alive to stakeholders changing interests
- demonstrate to others how and where additional value may be added to investments
- identify risks and opportunities
- further develop our corporate responsibility principles by showing their clear application to investments
- show how conflicting pressures affect decision making
- evaluate success against a broader range of criteria
- influence future decision making.

We believe the use of cost benefit analysis, carbon accounting and other social and environmental assessment tools will help responsible decision making.

A8 Financial Projections: income, opex and financing the Plan

Overview of the drivers of K

We have used Ofwat's Reservoir model (Version 2.9) to provide the financial projections, including price limits, in this *Final Business Plan (FBP)*.

The modelled price increase profiles are as follows:

Table A8 : 1 Forecast of average household bill and K factors for AMP5

2009/ 10 prices	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15	Av. AMP5
Av. Bill	157.04	176.59	175.91	174.46	172.06	169.73	173.75
K	-	12.9	-0.4	-0.5	-1.0	-0.9	2.0

There are three main drivers of the proposed changes in K. Broadly these are operating expenditure (which accounts for 2/5ths), current cost depreciation (CCD) (1/5th) and the loss of income (1/3rd).

Of the opex increase, 1/3rd is due to the rebasing required to the start of the next AMP period. This represents a 'catch-up' of the gap between current expenditure and that assumed at the last determination. A further half of the opex related increase is attributable to costs beyond our direct control, notably pensions, rates and abstraction charges. The final 1/6th relates to new proposed expenditure.

As part of the business planning process we have completed a comprehensive revaluation of all our assets, to assess their condition, performance and remaining useful lives. This has led to an increase in the CCD charge which accounts for approximately 1/5th of the increase in K.

The third main category affecting K is the loss of income arising from the recession. This amounts to 1/3rd.

Our average household bill will rise in the first year by £19.55 but will then fall each year so that in 2014/15 the average bill will be only £12.69 higher than 2009/10

We would have preferred to profile the price increase so that the first year K would have been 11.6% with K zero in each of the following years but Reservoir would not support this change.

The various influences on K are shown below and are explained in more detail thereafter:

Table A8 : 2 Key financial factors influencing K

	PR04 Detn. 2009/10 £m 07/08p	FBP 2010/11 £m 07/08p	K%
Operating Expenditure	104.0	115.3	5.1%
Infrastructure Renewals Charge	32.0	35.3	1.5%
Current Cost Depreciation	35.9	41.9	2.7%
Tax	13.7	13.7	-0.0%
Return on Capital	45.6	45.1	-0.2%
Required Revenue	231.1	251.3	-
Base Revenue	-	223.7	3.3%
Base Year Revenue Growth	-	-1.3	0.6%
K Factor %			12.9%

Income

Our Plan seeks to recover only the revenues necessary to enable our appointed business to carry out its functions. Our average required revenue forecast for AMP5 is £249.1 million a year. The recession is having a marked effect on the regional economy and our commercial customer base in particular. Demand has reduced significantly during 2008 and we have reviewed our forecast of regional growth and commercial activity. This indicates a further long term reduction in demand. The very latest Treasury forecasts have been used to assess the depth and duration of the recession and the effects on commercial demand in particular.

Household consumption has also begun to fall and evidence suggests this will continue as unemployment and personal debt levels grow.

The main changes in our demand forecasts are shown in table A8:3 below.

Table A8 : 3 Changes in Total Demand Forecasts for 2010-15

	Total demand for 2010-15 as forecast at PR04 million m3	Total demand for 2010-15 as forecast at DBP million m3	Total demand for 2010-15 as forecast at FBP million m3	Difference in total demand FBP-PR04 million m3
Measured billed	800	816	661	-138
Unmeasured billed	577	522	650	73
Total demand	1377	1338	1311	-65

We have reduced our demand forecast from the draft resulting in lower income assumptions. The total effect on K of reduced income as a result of the recession is 3.9%.

Operating expenditure

Base operating expenditure in 2007-08 was £108.3 million, higher than the £105.9 million assumed and funded at PR04. The material increases from the PR04 determination were power, bad debt, abstraction licences, insurance, metered account maintenance and production chemicals. Whilst we have realised efficiency savings in many areas since 2002-03, they have been offset by these costs. Energy costs, up 70% in real terms since 2002-03 and bad debt, up 130%, have alone added £10 million to operating costs in five years. Roughly one-third of the contribution of opex to our first year K reflects the rebasing to actual costs.

Another third of the opex contribution to K comes from rising pension costs. Our pension funds have been adversely affected by the recession and mortality rates are higher in our area, increasing pension costs further. The result is that pension costs have risen by £5 million from the 2007-08 level.

We also face increases in costs originating from the Government and its agencies, such as business rates, abstraction charges and the carbon reduction commitment. Business rates are predicted to increase by £2.4 million to over £12 million in 2010-11, based on the Valuation Office's revised assessment. The exact increase will be known in advance of the Final Determination.

Three Valleys Water was formed in 1994 with the merger of three companies, and in 2000 merged with a fourth company. Throughout this time we have operated from the offices of the founding companies. In 2009 we are relocating to a new site, which we will lease, thus incurring a net opex charge of £1 million per annum. Section B3 of the Plan assesses the cost benefit of the relocation, which we deem to be positive. Customers will also benefit when the old buildings are sold.

By 2010-11 we predict that operating expenditure will be £115.3 million, up £7 million from 2007-08. By 2014-15 this will have fallen to £112.9 million as a result of efficiencies. The increase in operating costs in 2010/11 compared to 2009/10 corresponds to an average increase of 5% per household, adding around £8 to average bills. Thereafter, costs over the period of AMP5 will remain relatively static, the total forecast for 2010-2015 being £572 million.

We will, however, strive to improve our efficiency in terms of both our capital and operating expenditure. We have closely analysed our operating costs and compared ourselves with other companies in the industry. We have participated in an industry-wide study carried out by economics consultants and have commissioned our own efficiency investigations. When all relevant factors are taken into account, our operating expenditures are in line with the best performing companies. Nevertheless, we believe opportunities for efficiency savings remain and we are working vigorously to realise them.

We carried out an analysis of our costs identifying savings and improvements in re-organising how we work. Our move to a new headquarters in May 2009 will bring not only environmental benefits, but help realise efficiencies in communications and travel costs. The establishment of a 'shared service' company will create new opportunities for further efficiencies. And we expect our efforts in customer services, e.g. to reduce repeat calls and complaints, to realise savings.

Following these initiatives, we expect efficiencies to offset the increasing costs of council tax, abstraction charges and pensions. We have set a cumulative efficiency target of 1.2% per annum for operating expenditure for AMP5. This would reduce our costs by nearly 6% by 2015, a total of £21 million in AMP5 with a consequential reduction in bills.

Infrastructure renewals charge

The infrastructure renewals charge (IRC) is an accounting charge which pays for the investment needed to renew our underground network of pipes. We have set the charge to recover our forecast expenditure during the next 15 years and to unwind the infrastructure renewals prepayment as opposed to reflecting 5 years back and 10 years forward previously. This forward looking approach is in line with price setting methodology for companies setting their IRC on a medium term basis and sees an increase to £35.3 million for the first year of AMP5 against the PR04 determination of £32 million and represents 1.5% of the first year K.

Current cost depreciation

Distinct from previous reviews, when assets were sampled, we have carried out a comprehensive survey and revaluation of our entire asset stock. We have identified over 35,000 renewable items, and have assessed their condition, performance and remaining useful lives. The thoroughness of this approach gives us a high degree of confidence in the valuation of our assets and the current cost depreciation (CCD) charge.

We have applied consistent asset lives to calculate both the base depreciation charges and our forecast of maintenance non-infrastructure expenditure. We are satisfied that current cost depreciation in present value terms is broadly equivalent to actual and forecast capital expenditure on asset renewal over the long term. So there is no case for an adjustment to current cost depreciation

Return on capital

Our Plan proposes a rate of return necessary to attract investment and retain investor confidence. We have taken advice from economic consultants, NERA and conclude that our weighted average cost of capital is 6.00%. The components are summarised below.

Table A8 : 4 Cost of capital

Weighted average cost of capital	%	Key points
Risk-free rate	2.50	NERA assessed, Dec 08
Debt premium	2.50	Latest forecasts from our banking advisors
Pre-tax cost of debt	5.00	Output from other calculated inputs
Equity risk premium	5.40	NERA mid point assessment, Dec 08
Equity beta	0.67	NERA's beta adjusted for our gearing
Cost of equity	6.10	Output from other calculated inputs
Tax Rate	28%	Government quoted tax rate
Gearing	40%	Board reflection of gearing at end of AMP period
Small company premium on cost of debt	0.10	NERA assessment, Dec 08
Small company premium on cost of equity	0.50	Our assessment explained below
Weighted Average Cost of Capital	6.00	Output from other calculated inputs

Our assessment includes a small company premium of about 0.33%. We believe a small company premium remains appropriate for the following reasons:

- we understand the derivation of Regulatory Capital Values (RCV's) within the industry and the important part played by the small company premium in their

calculation for water only companies (WOC's). Water and Sewerage Companies (WASC's) were valued by reference to their market capitalisation immediately post privatisation. Good evidence such as this was unavailable for WOC's so their RCV's were set at a proportion of the indicative values used in the first price limit calculations. These represented comparable values to the WASC's. Clearly, that proportion of indicative value, being a proxy for market value, was influenced by the existence of a small company premium. It would transgress all principles of good regulation to disrespect, retrospectively the fundamental basis of valuation for WOC's by failing to preserve the existence of a small company premium.

- capital market evidence shows equity investors continue to differentiate between companies by demanding higher average returns from smaller companies
- evidence shows that annual rates of return for water-only companies are far more variable than for water and sewerage companies.

We conclude that a risk premium remains appropriate because the returns from water-only companies are more risky.

Dividends

We assume dividend payments equal to a 6.6% real rate of return on the RCV value of equity. This is equal to our valuation of the cost of equity, including the small company premium. During the planning period we aim to achieve a current cost dividend cover ratio of at least 1.0. This will ensure that the management of economic risks is rewarded without reducing the real value of the financial capital of the Company.

Interest

Our Plan assumes that the interest rate on new debt is equal to the cost of debt in our cost of capital calculation. Interest on our existing debt is calculated as the actual cost of debt on those borrowings.

Financing the plan

In order to finance the capital expenditure programme proposed in our *Final Business Plan* we will need to obtain additional finance of £50 million. We have access to sufficient debt finance to fund our planned activities at the cost of capital we propose provided there is no further worsening of credit market conditions.

We will seek to finance new investment through efficient sources of debt finance. This requires long-term commitment and upholding our 'investment grade' status with current and future debt providers. There is severe pressure in the current market demonstrated by the downgrading of current ratings.

Our analysis suggests that we will be able to maintain credit ratings outputs consistent with good quality investment grade, albeit below current ratings. This is dependent upon attaining a rate of return equal to the cost of capital, achieving the cash flows we have modelled, and maintaining the current level of gearing. The critical values for financial indicators are higher than for water and sewerage companies because credit rating agencies differentiate between water-only companies and water and sewerage companies.

However our financial projections are exposed to the following risks which we believe should be subject to notified item protection:

- The notified item for bad debts should be continued as bad debts continue to increase. It is likely they could worsen still further if the current economic downturn is protracted.
- Traffic Management Act (TMA) charges are uncertain and will not be reflected in base year (2008-09) reported Opex. While we will respond to the incentives in the TMA by finding better ways of working on public highways, actual costs are likely to be significantly higher than those in the base year.
- Adoption of FRED 29, an international financial reporting standard, which will require us to treat infrastructure maintenance investment within depreciation rather than as an expense during the year. This will increase the amount of tax payable well beyond the levels allowable under Ofwat's current approach to setting allowed tax.
- We operate in a designated water stressed area and our abstraction licences and those of our neighbours are at risk of variation and revocation. Therefore we are exposed to abstraction charge risks.

Our Final Business Plan assumes the continuation of the substantial effect clause, and that the materiality thresholds for individual components for interim determination remain at 1%.

We have dropped from the FBP the notified item relating to optant metering included in AMP4 as we believe the circumstances of the inclusion have now changed and the risk has now been mitigated.

Gearing, Taxation and allowed rate of return

We have set gearing at 40% and tax at 28%. This does not match Ofwat's proposed approach to assume a gearing level of around 55%, and fund the corporation tax arising from this assumption. Were the proposal to be implemented, we forecast that the resultant price limit would under-fund our tax charge by c.£4 million a year.

From discussion with Ofwat we understand that the rationale is to remove the advantage that would be gained by an appointee deliberately switching gearing to the parent company, to inflate the tax charge and hence price units. Whilst sympathetic to the reasoning for the proposed change, it unduly penalises us and our parent even though we have never exploited the mechanism. For avoidance of doubt, our current level of debt is £220 million (or 33% net debt to RAV) whereas our parent has no debt and in excess of £25 million in cash.

It is for the Appointee's Board to determine the most efficient financing structure to meet their circumstances and the interests of customers and shareholders within the price setting package. This is a principle to which our Board attaches great importance. It considers the Company's actual gearing and projected level of gearing, of 40%, are appropriate, and in the best interests of the Company.

The proposed change in approach provides an onerous financial disincentive for the Company to maintain its desired level of gearing, and encourages an increase in gearing at a time when additional debt is difficult and expensive to access, and when the national economy is suffering from excessive over-leveraging.

Furthermore if we decided to increase gearing beyond 45% net debt to RAV we would require an expensive balance sheet restructure due to the Company's level of historic cost reserves. We strongly believe it would be inappropriate for Ofwat to implement this change during the current global financial crisis, a crisis provoked by excessive leverage by corporates as well as households.

A 40% net debt to RAV gearing level has been the basis for our assumption for the allowed Weighted Average Cost of Capital (WACC) as well as the calculation for Corporation Tax within the Reservoir Model. We note that a 40% gearing level within the WACC provides a lower rate of return than the WACC at levels of 55% or 60% which are promoted by NERA for the industry. This reduction arises as a result of the lower levered beta required at lower levels of gearing which reduces the return on equity in the WACC calculation.

We do not believe our proposal will lead to any outperformance of corporation tax. Companies have outperformed in the past when they have geared up subsequent to a price review. For clarity, we support Ofwat's proposal in PR09 to claw back the tax benefits resulting from a company gearing up as a result of capital restructuring during the forthcoming price review period. We are prepared to commit to a voluntary abatement of K in these circumstances in order that no tax outperformance can be gained.

We are requesting a relatively narrow amendment to Ofwat's PR09 proposals and one that would affect very few water companies.



A9 Board Endorsement

Introduction

This section details how as the Board of Three Valleys Water we have ensured our *Final Business Plan* (FBP) is of high quality, represents value for money for our customers, and that it provides an appropriate return on investment for our shareholders.

The Board comprises executive and non-executive directors with a range of expert knowledge and experience from within and outside of the water industry. Among us, we also have strong local links and extensive involvement with community activities.

We have had oversight of the process and methods used in formulating the elements of the Plan. We have both guided and critically challenged those responsible for developing the strategies and for their implementation. We have also consulted with our Reporter, Financial Auditor, Internal Audit and Quality Assurance Teams, and staff responsible for developing the various components of the Plan, to ensure the adequacy of:

- the processes which have generated the figures so that they produce appropriate results
- the assumptions and judgements which underlie the data
- the resources that we will need to give effect to the Plan
- the balance between the price which customers will be asked to pay and the risks of not properly carrying out our functions.

Based on the activities described and reasons given below, we confirm we have applied sufficient systems of control to meet our obligations for the provision of *Final Business Plan* information to Ofwat.

Involvement of the Board from SDS to FBP

Our *Strategic Direction Statement* (SDS) set out our high level perspectives on the issues material to business plans in the period to 2035. These were informed by the outcome of stakeholder research about our customers' and other stakeholders' priorities.

We have been informed about feedback from Ofwat and other stakeholders on the *SDS*, *Draft Business Plan* (DBP) and *Draft Water Resources Management Plan* (DWRMP). We have reviewed successive editions of the *FBP* and have considered how the *FBP* proposals advance the objectives in the *SDS*.

We believe that this *FBP* takes into account all current and prospective material issues and is consistent with the overall long term strategy set out in the *SDS*. Where there are inconsistencies between our *SDS* and the *DBP* on the one hand and the *FBP* on the other, we have identified them and provided explanations.

We have had extensive board discussions on the Plan during the past few months (as detailed below). These have focused on the key issues requiring review in the light of new data and analysis since the *DBP* was submitted and the implications for prices, in particular:

- the extent and probability of the supply-demand balance in the short and medium term, and the risks of not being able to maintain supplies in very dry periods
- the approach to and pace of metering in the light of new information on the supply demand balance and analysis of costs and benefits

- the opportunities for new generation metering technology and the pace at which the company should move towards it
- the pace of network and trunk mains renewal in order to have reasonable certainty of being able to maintain stable Serviceability as defined by Ofwat
- the extent of unavoidable price pressures
- questions relating to finance and financeability.

In total, non-executive directors have spent have spent considerable time on the preparation of the Plan, as indicated by the processes described below, quite apart from the time spent by executive directors.

We are satisfied that we have submitted an integrated plan. We have considered:

- the options for capital expenditure
- the interdependencies between planned activities and outputs expected
- wider benefits of policies and investments
- how the different options affect risk and the prices that customers pay

We have taken into account the *DWRMP*, the *DBP* and water quality submission to the Drinking Water Inspectorate. We have paid particular attention to the effect of price increases on customers in the context of the current recession and have carefully considered the balance between the need for investment and the effect that higher costs would have on customers' bills. Wherever possible, we have taken a prudent approach from the customer viewpoint.

Process for completing the business plan

The *Final Business Plan* has been developed as a formal project and the various steps are described below. We agreed the process in advance and made specific provision for our involvement throughout.

Project team

The Operations Director had Board level accountability for producing the *Final Business Plan* and led a Project Team that comprised a Project Manager, key members of the Regulation Team, and technical specialists including internal audit and quality assurance personnel.

Project executive governance

The project was supervised by the PR09 Project Group (PG) chaired by the Operations Director. This comprised senior managers of the company, including the Managing Director and other Executive Directors. It approved allocation of work to contributors and monitored and managed project outcomes, resources and project risks. The group was authorised to take actions needed to ensure that the objectives of the project were met. The Executive Management Committee, a sub-committee of the Board, oversaw the day to day progress of the project and received monthly reports from the PR09 PG.

Project management

The PR09 PG adopted sound project management practices. It reviewed the work of contributors and reached planning decisions on significant strategies, methodologies and the content of the *FBP* so that recommendations could be made to us. The PG meetings were programmed to be able to take into account the results of a number of 'director surgeries' at which non-executive directors had opportunity to review, explore and challenge contributors' work.

**Internal audit
and quality
assurance**

We insisted that particular attention was given to implementing a comprehensive system of quality control, building on the well established procedures for the June Return. The Internal Audit team was responsible for providing checks on whether the underlying data used for the *FBP* was reliable, accurate and complete. The Quality Assurance team was responsible for checking that the work was subject to quality procedures and that these were being complied with.

A quality assurance process was designed specifically for developing the *FBP*. Plans and data have been prepared in accordance with this process that include:

- documented procedures
- identification of risks
- controls to manage risk
- verification that procedures were being followed and controls applied
- monitoring and remedial action for any non-compliance
- internal Audit and Quality Assurance reporting to the Audit Committee
- non-executive Board member challenge meetings.

The majority of *FBP* contributors are also involved in the production of June Returns. They have therefore all had training to reinforce the Company's expected standards for information provision and legal and regulatory requirements. The training also covered our ethics and whistle-blowing policies. This informed contributors about what to do should they have any concerns about regulatory information.

The audit proposals were approved at the Audit Committee on 25 November 2008. The Head of Internal Audit was required to report the outcome of Internal Audit and Quality Assurance checks directly to the Audit Committee and Board.

**Responsibility
for outputs
and audit**

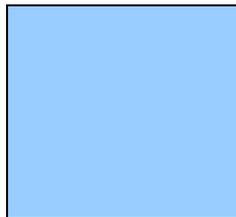
Section Lead Managers (SLMs) were appointed to be responsible for key elements of the Plan, to ensure the quality of our argument and that the business case was made in respect of each element. They challenged and reviewed outcomes from originating teams. Responsibility for completing tables and commentaries was allocated to contributors according to their roles and responsibilities. Originators were responsible for presenting their work to the Reporter, Financial Auditors and the Internal Audit and QA teams. They were also responsible for resolving any audit queries, for example by providing further evidence or information.

For water quality, we set up an expert team to develop and review projects on the basis of the Company's approach and methodology for risk assessment and drinking water safety plans.

**Verification of
compliance**

SLMs were responsible for ensuring key elements of the *FBP* were produced on time and for reviewing the information produced to verify that:

- it was produced in accordance with Ofwat's guidance



- it was reliable, accurate and complete
- material assumptions and judgements made in preparation of the information were exposed in the table commentaries.

There was a formal system of sign-off under which each SLM, or relevant senior manager of a contributor, was required to file a verification statement confirming this.

Business plan production

The Project Team was responsible for producing the draft document and completing data tables in the information capture system. Access was limited to a few individuals to retain control over the document and the information that was entered.

Board guidance following the Draft Business Plan

The non-executive directors participated in a number of workshops and discussions on key aspects of the Plan outside of Board Meetings. They reviewed the *DBP* and provided comments, input and advice to the project group in formulating policy proposals for consideration by the full Board.

In this way, the Board had the opportunity to identify strengths and weaknesses in the *DBP* and were instrumental in shaping preparations for the *FBP*. In particular, we were concerned that the *DBP* contained errors and the overall quality of some of the document sections did not satisfactorily convey the quality of the work carried out.

Key decisions on the strategy for the *FBP* such as metering, infrastructure investment and risk, were discussed with, and examined by us at each step. We critically evaluated and challenged proposals where we considered they were not adequately justified. We were particularly concerned that:

- we should have enough water available to meet demand in a dry year
- metering was carried out to maximise security of supply; and in an economical and effective manner
- leakage reduction performance should be maintained
- bulk supply imports reflected only a low risk of being curtailed by the originating company when they are in supply difficulties
- the rate of mains renewals should be adequate to meet the defined target boundaries for 'stable' Serviceability.

We approved and monitored action plans to ensure our concerns were resolved.

Executive review and challenge

Executive Directors reviewed the detailed work and projections made at PR09 PG meetings and at a series of workshops with our non-executive directors. They critically evaluated and challenged all strategies. They closely monitored the execution of the *FBP* programme. Executive Directors also reviewed the conclusions of all elements of work contributing to the *FBP* and required SLM's to validate and justify their proposals. The Executive Directors meticulously examined the tables and draft commentaries regularly until they were satisfied all their concerns were resolved. On the basis of this work, the executive directors were able to advise the Board as a whole that the information

meets the Company's expected standards for information provision as well as legal and regulatory requirements.

FBP strategic review

The key elements of the *FBP* strategy were discussed at Board meetings on 23 September and 2 December 2008. The Board scrutinised specific aspects of the *Plan* at a special Board meeting on 9th February 2009, dedicated to review the *Final Business Plan*, and challenged specific aspects of it. In particular, it reviewed the reliability and prudence of estimates of the supply/demand balance, the cost-benefit cases for metering and leakage reduction, and the rate of mains renewals. We were concerned whether the *FBP* provides :

- the highest rate of metering justified by the cost-benefit approach to ensure that we have sufficient water to meet demand at all times
- a rate of mains renewal which should be around 1% to ensure stable serviceability
- continuing leakage reductions
- investment in above ground assets that ensures 'stable' Serviceability.

To these ends, we agreed:

- that a good wider benefits case was made for continuing the existing demand management strategy (although with a lower rate of metering for the time being) plus further leakage reductions
- that 126km of mains re-laid each year would mean a continuing 95% probability of the burst rate remaining within defined limits for 'stable' Serviceability.
- that re-laying 126 km of mains per year would have a 50% probability of achieving the reference level for bursts by 2015 compared to 60% for 148 km per year. Customers would not be able to distinguish any difference in the level of service in the time frame and the lower rate would reduce bills
- that the margin of 'headroom' should be sufficient to protect customers from the twin risks of pollutants and bulk supplies being unilaterally suspended in dry conditions
- that the approach taken to assess the performance and renewal strategy for our above ground assets was reliable.

Document review

The Board has reviewed successive editions of the *Plan* and commentaries. It received a first draft of the *FBP* for review on 30 January 2009. Comments in workshops leading up to the Board Meeting on 9th February, which had the sole purpose of responding to the first draft, were taken into account. Subsequently, the Board received the second draft of the *FBP* in advance of the Board Meeting on the 12th March. Again, we critically evaluated and challenged the proposals before and at the meeting and a number of amendments were made.

**Board
engagement
with the
Reporter and
Auditor**

The Board received reports on internal audit procedures to seek to satisfy ourselves of the reliability, accuracy and completeness of the *FBP*.

We have received reports from the Reporter, Financial Auditor and our Internal Audit and Quality Assurance teams. The Reporter and Financial Auditor attended the meetings on 9 February and 12 March to answer questions on their work in reviewing the *FBP*. They also attended the Audit Committee meeting on 4 March.

The Audit Committee has received reports from the Reporter, Financial Auditor and our Internal Audit (IA) and Quality Assurance (QA) teams about their work on the *FBP* and the quality of the information provided to support the proposed strategy.

The Reporter confirmed his overall view that the Plan was of 'good quality'. The Head of Internal Audit presented her report and confirmed that overall the Plan was reliable, accurate and complete. Queries had been addressed by the contributors to their satisfaction and they had no reason to doubt that the remaining information required would be provided.

**Board
endorsement
of the *FBP***

We approved the *FBP* as a whole at our meeting on 12 March 2009 subject to resolution of a small number of then outstanding matters. These matters were subsequently resolved to our satisfaction, at a Board sub-committee held on 1st April 2009

Directors' statement

In the light of and as evidenced by the above description of what we have done, each director confirms that:

- So far as we are aware there is no audit information needed by the Company's Auditor or the Reporter to prepare their respective reports on the *FBP* of which the Auditor, or as the case may be, the Reporter is unaware.
- To the extent required by our duty to exercise due care, skill and diligence, we have made enquiries of our fellow directors, the Company's Auditor and the Reporter so as to make ourselves aware of the information needed by the Auditor and Reporter for that purpose and to establish that the Auditor and Reporter are aware of such information.