The Strategic Review of Charges 2006-10: The draft determination

Economic regulation of the public sector water industry in Scotland

volume 4

WATER INDUSTRY COMMISSIONER FOR SCOTLAND

Contents

Executive summary

Introduction

This chapter provides further information about the framework for this draft determination. We explain:

- how we have adapted incentive-based regulation for use in the public sector;
- how we have introduced regulatory accounts;
- how we define the critical split between wholesale and retail activities; and
- how we have taken account of Ministerial Guidance and of Scottish Water's first and second draft business plans.

These factors have had an important influence on this draft determination of charges.

Incentive-based regulation in the public sector

Background

In the private sector the regulator has a duty to ensure that an efficient company can meet its licence obligations. As the regulator of a public sector corporation we have to ensure that Ministers' objectives are delivered for the lowest reasonable overall cost.

Incentive-based regulation

All of the UK economic regulators have used price cap (RPI-X) regulation. It is generally accepted that RPI-X price cap regulation has led to lower prices and higher levels of service for customers. Some commentators, however, have suggested that the approach is not consistent with a long-term investment strategy.

RPI-X regulation limits the prices that companies are allowed to charge their customers. The regulated company has to decide how to deliver the required level of service for the revenue that is available to it. This focuses management's attention on reducing costs.

Under the RPI-X framework, companies benefit if they can provide the required level of service for a lower cost than was allowed by the regulator. This difference increases returns to shareholders.

Customers benefit in the medium to long term because the regulator is able to set prices at a lower level in future regulatory control periods to reflect the lower reported costs of the regulated organisation. In the next regulatory control period, the regulated company will have to work harder to out-perform its regulatory contract.

In 'not-for-profit' private sector companies[1] the extra returns available from out-performing the regulatory contract may be available to customers more immediately. The company's managers have to determine how best to use any such extra return. They are likely to consider the following options:

- Improving the financial strength of the company, for example by building reserves or by undertaking spending that will facilitate future improvements in efficiency. Such action would benefit customers in the medium to long term.
- Investing to improve the levels of service to customers.
- Delivering price cuts for customers.

In July 2001, Frontier Economics[2] concluded that RPI-X creates a strong incentive to achieve efficiency gains. In their view, incentives are at their strongest when the regulator can identify good external benchmarks to estimate an efficient level of costs. This is consistent with our view that external benchmarking of Scottish Water against the privatised water companies in England and Wales is key to establishing the level of performance that should be required of Scottish Water.

In this draft determination, we have used a tailored version of RPI-X, which has been designed to take account of the public sector status of the water industry in Scotland.

1 This includes companies such as Glas Cymru, a 'not-for-profit' company that owns Dwr Cymru Welsh Water, and Network Rail Ltd.
2 Frontier Economics, 'Incentives', published in July 2001 and included as Appendix 5 in the National Audit Office report 'Pipes and Wires'.

In this regard we have sought to learn from the experience of the Postal Services Commission (Postcomm), the only other UK regulator of a public sector company. Postcomm has indicated that it wants Royal Mail to have strong incentives to make efficiency savings, but notes the need to take account of market uncertainties as competition develops.

There are clearly close parallels between Postcomm's decisions on price limits and this draft determination. In particular, we have both needed to take account of the impact of the likely introduction of increased competition in our respective industries. In addition, we have both had to consider how to adapt the incentive-based framework to the circumstances of the public sector post and water industries.

Our analysis suggested that the framework for the water industry in Scotland needed to take account of the following:

- The objectives of the Government as the owner: the Government is primarily interested in the efficient delivery of its objectives.
- A reduced incentive to out-perform the regulatory contract because the Government is a different type of owner.
- Sensitivity concerning management bonuses: public sector businesses are relatively rare. It is difficult to reconcile the pressures of a public sector pay policy with the need to create a real incentive for out-performance.
- Access to government funding: in the private sector the providers of finance require a return on any capital provided. The public sector may not be as rigorous in its allocation of capital and as a result the regulated company may not face a truly hard budgetary constraint.

This last factor is particularly important. Price cap regulation seeks to establish a tight budgetary constraint which requires the company's management to reduce the costs that it incurs. In the public sector it is important that the owner does not accept a lower level of performance than that set in the regulatory contract. In this regard we are encouraged by the February Ministerial Guidance on the principles of charging.

If Scottish Water does not meet the level of performance set out in its regulatory contract, it will be for Scottish Ministers (as the de facto owner) to decide on an appropriate course of action. In our view their response should not have an adverse impact on customers.

Recent developments in the UK utility sector

RPI-X regulation has developed significantly in the past 20 years. It now appears that regulators initially underestimated the scope for efficiency. More recently, however, regulators have set tougher price controls. Companies have responded by attempting to 'sweat their assets' and reduce their cost of capital, but most have at least matched the improvement in efficiency required by the regulator.

The price reviews in 1994 and 1999 undertaken by the Office of Water Services (Ofwat) illustrate the development of RPI-X regulation. In its 1994 price review, Ofwat set efficiency targets that averaged between 3.3% and 4.3% for maintenance and enhancement expenditure for both water and waste water services. Ofwat[3] has indicated that the companies delivered efficiency savings of 20% for water and of more than 10% for waste water capital investment.

In 1999, Ofwat set efficiency targets that ranged from 6% to 11.5%. Our analysis suggests that the companies have continued to improve efficiency faster than their regulatory contracts required. Current figures show that the companies have achieved efficiencies in water services of around 5% and for waste water services of around 10%[4].

In recent years, industry commentators have made a number of criticisms of the RPI-X mechanism. These fall into four main categories:

- the impact on investment;
- the strength of incentives;

3 Ofwat publication 'Financial performance and capital expenditure of the water and sewerage companies in England and Wales 2003-04', page 46.
4 Based on performance up to 2003-04.

- financing of investment; and
- the impact of risk.

Each of these criticisms was addressed in the National Audit Office (NAO) report ‘Pipes and Wires’. The NAO found that price cap regulation was fit for purpose. In particular, it found no evidence of underinvestment or of a lack of incentives to improve performance.

Some regulated companies responded to the tougher regulatory settlements at the end of the 1990s by focussing on the cost of capital. These companies sought to lower their effective weighted average cost of capital (WACC) by increasing their level of debt.

The two highest profile examples are the Yorkshire Mutual proposal and the creation of Glas Cymru. The Yorkshire proposal involved establishing a community ‘not-for-profit’ mutual company that would be 100% debt financed. It was envisaged that the mutual company would award all of the initial operating contracts to the Kelda Group plc (the pre-split holding company) and that competitive tendering procedures for the contracts would be introduced on a phased basis. Ofwat required the mutual to be made completely independent of its former owner and also required safeguards to be put in place that would protect members of the mutual company. The Kelda Group withdrew the proposal.

Glas Cymru and the Post Office

The experience of Glas Cymru

In November 2000, Glas Cymru agreed its purchase of Welsh Water from Western Power and Distribution (WPD). In structuring this transaction, senior managers at Glas Cymru took detailed account of the conditions set out by Ofwat for the creation of the Yorkshire Mutual. Glas Cymru was able to satisfy Ofwat that the proposal was consistent with customers’ interests.

It appears that the ‘not-for-profit’ debt-funded Glas Cymru has reduced the cost of capital and improved the level of service provided to customers. We believe that Scottish Water could learn some useful lessons from the structure and governance of Glas Cymru. Both companies are expected to match or exceed the levels of service provided by comparator companies.

Glas Cymru represents an interesting case study for three reasons:

- the way risk is managed;
- the company’s emphasis on transparency; and
- the use of incentives.

An additional factor that reduces the risk to customers is that Ofwat added a condition to Welsh Water’s licence which prevents it from diversifying beyond its core activities of providing water and waste water services in Wales.

One of Glas Cymru’s most striking features is the transparency that surrounds its operations. The company’s website contains all of the important financial information. This transparency allows public and regulatory scrutiny of all of the company’s operations. Such scrutiny may replace (at least to some extent) the scrutiny of shareholders and investment analysts. It also reassures customers that senior managers deserve the bonus payments that have been made. We believe that a similar commitment to transparency would benefit Scottish Water’s customers.

Glas Cymru has created a financial buffer (a reserve of £350 million representing the excess of the regulatory capital value over the outstanding debt) to protect customers from any operational or financial shock. This replaces the normal equity ‘cushion’. This buffer also reduces Glas Cymru’s cost of capital. If there were to be an unexpected event, such as a drought[5], the cost of that event could be met from reserves rather than by an immediate increase in prices.

Welsh Water’s performance appears to have improved significantly since its purchase by Glas Cymru:

- the level of service to customers has improved;

[5] As occurred in Yorkshire in 1995, and which is estimated to have cost Yorkshire Water £250 million.

- prices have been cut; and
- operating cost efficiency has improved.

Glas Cymru represents a good example of how incentive-based regulation can be effective in a non-equity environment. A strong governance framework and the creation of a financial buffer seem to have played an important role in this success.

The experience of the Post Office

The Post Office provides another interesting example, within the public sector, of the importance of establishing a financial buffer. In recent years this buffer has helped ease the transition to a competitive postal services market.

The Post Office (including the telephone and mail services) became a public corporation as a result of the 1969 Post Office Act. The Government required a proportion of any retained profit to be used to purchase government securities or ‘gilts’. These gilts remained on the balance sheet of the Post Office, but could only be used at the direction of UK Ministers.

The ‘Mails Reserve’ was endorsed by the 1999 White Paper on postal reform[6]. This White Paper set a target that 40% of retained earnings should be invested in gilts[7]. There is also a minimum value of gilts that the Post Office is required to purchase each year. This limit has been set so that public expenditure planning is not affected by fluctuations in the Post Office’s trading. The White Paper also set out the circumstances in which Ministers would use the financial reserve that has been accumulated.

The current value of gilts held by the Post Office is well over £1 billion. This is a very significant sum relative to any financial or operational risk that the Post Office is likely to face. It would seem sensible to adopt a similar approach in the way in which the public sector water industry in Scotland is funded.

We agree with Ofwat’s view that, in the absence of an equity cushion, the creation of a financial reserve can play an important role in insulating customers from operational or financial shocks. We also believe that the requirement to create such a financial buffer may encourage Scottish Water to become more efficient. It would certainly help make it clear that the company should not look to the public purse in the event of any shock. Until such a buffer has been fully designed, we believe that a tight budgetary constraint requires any out-performance to be returned to customers in lower prices eg by Scottish Water foregoing some of the revenue that it could collect from customers. We propose to measure Scottish Water’s out-performance with reference to the expected performance against the financial ratios in that year (after any adjustments to ensure like with like comparison).

Our approach to incentives

We have shown how price cap regulation limits the budget that is available to a regulated company for delivering a specified level of service. If a company succeeds in reducing the costs that it incurs, it is able to retain the difference for a set period.

In the private sector model this allows shareholders to receive a greater return on their investment. Shareholders typically choose to align management bonuses with out-performance of the regulatory contract. The Glas Cymru case study demonstrated how out-performance of the regulatory contract can be returned to customers or can be invested to protect customers from any future operational shocks.

Our analysis of incentive-based regulation has led us to draw the following conclusions.

- There should be a tight budgetary constraint: price cap regulation will not be effective if the organisation believes that there could be an advantage from spending more than is absolutely necessary.
- There should be an incentive for the regulated company to out-perform the regulatory contract: the contract must be transparent and achievable and it must be monitored rigorously.

6 Entitled ‘Post Office reform: A world class service for the 21st century’ published 8 July 1999 and available via the DTI’s website at this link: http://www.dti.gov.uk/postalservices/white_paper.htm

7 In 2003 the Secretary of State for Trade and Industry, Patricia Hewitt, issued a direction under Section 72 of the Postal Services Act 2000, updating this gilt scheme and naming it ‘Mails Reserve’.

- The interests of management should be aligned with the level of performance that the regulated company needs to deliver under the regulatory contract.

- Incentive-based regulation benefits customers: in the private sector, out-performance will increase shareholder returns initially but this improved performance is passed on to customers at the next price determination. In not-for-profit companies (such as Glas Cymru) or in the public sector, out-performance can be used to bolster financial reserves, to cut prices or to improve the level of service.

Our review further highlighted that incentives for improving capital efficiency may have to be somewhat different in the public sector. In the private sector, reductions in capital spend from increased efficiency will bring benefits to shareholders and result in lower prices for customers. In the public sector there are potentially different pressures. High levels of investment are typically viewed as politically desirable, particularly where there are customer service and/or network performance issues. This could reduce the incentives on the regulated company to out-perform the regulatory contract on capital expenditure.

In the public sector context, this risk can be mitigated if any out-performance of the capital expenditure regulatory contract is invested in additional capital projects which improve customer service, the environment and/or public health.

The financial framework for stable prices

This Strategic Review of Charges sets maximum charges for customers which do not increase in real terms. The prospects for charges in the 2010-14 regulatory control period will depend on how Scottish Water improves its cost efficiency.

It is also important that we make progress in creating a financial buffer that would be capable of absorbing any operational shocks.

The importance of the tight budgetary constraint

Regulators set price or revenue caps in order to create a tight budgetary constraint for the regulated company. Most regulated companies are subject to pressure from shareholders to out-perform the regulatory settlement. In other words, the regulator is effectively setting a minimum acceptable level of performance. In the case of Scottish Water it is important that both the owner and the Board recognise that the regulatory settlement (or contract between the regulated company and its customers) is the minimum level of acceptable performance. We have proposed charges caps on this basis.

This draft determination also sets out a forecast of the likely new borrowing that will be required by Scottish Water. We have assumed that this level of borrowing should be increased only in exceptional circumstances and only if the new Water Industry Commission agrees that more borrowing is an appropriate response to exceptional circumstances. This is not wholly dissimilar from the stand-by credit that is available to Welsh Water.

Establishing a buffer to absorb operational shocks

At present, Scottish Water's customers are more immediately exposed than customers in England and Wales to the financial risks of the business. In England and Wales, the presence of private equity acts as a significant shock absorber, and as a result protects customers. The creation of the not-for-dividend company Glas Cymru required Ofwat to think more about corporate governance and about protecting customers from the impact of any such operational shocks.

We examined four ways to develop a buffer to withstand operational shocks. These involve using the revenue flexibility generated by out-performance of the regulatory contract to:

- improve financial ratios by borrowing less;

- buy a safe, liquid asset;

- pay dividends to a contingency fund held by the Scottish Executive; and
- accelerate the investment programme.

In the medium term, we believe that the creation of a financial buffer is important. In our view, the most effective way to create such a buffer would be through the purchase of a liquid security, such as index-linked gilts. We recognise that it may take some time to agree the details of this proposal. In the meantime, we believe that any out-performance by Scottish Water should be returned to customers by Scottish Water foregoing a portion of the revenue available to it. This is consistent with the need to maintain a tight budgetary control.

Background to the introduction of regulatory accounts

Regulators rely on being able to make like-for-like comparisons between companies or over time to form a view about the performance of a regulated company and ensure that customers receive value for money.

In order to be sure that the comparative analysis they carry out is reliable, regulators need accurate information. Most regulators rely on regulatory accounts to provide this information. These accounts provide detailed information that has been clearly and consistently defined.

Ofwat implemented regulatory accounts in 1992-93 in order to inform its first full price review of the water industry in England and Wales. We have introduced regulatory accounts for this draft determination in order to facilitate performance monitoring, the setting of the overall level of wholesale charge caps and to improve our understanding of the performance of the core business.

The introduction of regulatory accounts will ensure that the new Water Industry Commission complies with the amended remit that results from the Water Industry (Scotland) Act 2002 and the Water Services etc. (Scotland) Act 2005.

Core/non-core activities

Scottish Water's primary role is to provide water and waste water services to customers. These services are sometimes referred to as its core activities or as the core business. However, Scottish Water also seeks to provide customers with 'value added' services. Some of these are closely related to its core activities, others are quite separate.

Our advice to Ministers in the Strategic Review of Charges 2002-06 covered both core and non-core activities of the then three authorities. We expressed our concern about the lack of focus on the core business. In particular, we noted the potential increase in risk within the business caused by diversification into markets where competition existed, and questioned investment in non-core activities.

Even if non-core activities were profitable straight away, there is a danger that these profits are achieved at the expense of not realising the potential for efficiency in the core business. If management time is diverted away from improving efficiency in order to focus on new ventures, this may disadvantage customers. We therefore welcomed the Water Industry (Scotland) Act 2002 which limited our remit to promoting the interests of customers of the core business. This brought our remit more into line with that of Ofwat.

Protection of core customers in England and Wales

In England and Wales there is a clear separation of appointed (core) and non-appointed activities. The following factors are critical:

- The appointed water and sewerage business is ring fenced by means of licence conditions.
- There is effective accounting separation of the core activities.
- There are clear transfer pricing rules.

This regime has been effective. Even when holding companies have experienced difficulties (for example Hyder plc and Enron), these problems have not impacted on customers of the core water and sewerage business.

Practical implications of the Water Industry (Scotland) Act 2002

The change in our remit to promote the interests of customers of Scottish Water's core business has had a major impact on this Strategic Review.

In this draft determination we have set charge limits for Scottish Water's core activities – water and waste water services to household customers and all wholesale services to licensed retailers. In setting charges, we have considered only the costs incurred by Scottish Water in undertaking its core activities. We have not taken account of the funding needs of Scottish Water's non-core activities.

We have drawn on the experience of Ofwat in preparing a detailed description of core activities for regulatory accounting purposes.

We have treated the following activities as core activities for the purpose of the regulatory accounts[8]:

- Abstraction, treatment, storage, conveyance and distribution of potable water.
- Conveyance, treatment and disposal of waste water, including public septic tanks.
- Water and environmental quality management.
- Emergency planning and response.
- Physical disconnection.
- Household customer accounting and billing.
- Household customer credit management.
- Household customer contact management.
- Household customer billing complaints, enquiries resolution and Guaranteed Minimum Standards (GMS).
- Operational complaints resolution and GMS for all customers.
- Provision of water, sewerage and trade effluent services to non-household customers under ss. 17 and 20 of the 2005 Act.

The retail and wholesale separation

The Water Services etc. (Scotland) Act 2005 will introduce a framework for competition. Until recently there was little competition in the supply of water and sewerage services. There were a few small brokerage (retail)[9] deals and some larger users had made alternative arrangements outside the public network.

The Water Services etc. (Scotland) Act will allow retail competition for non-household customers. The Act will require the new Water Industry Commission to set both an overall level of wholesale charges and a retail charge cap.

We have used the regulatory accounts to define retail and wholesale activities in detail. In defining Scottish Water's retail and wholesale activities, our starting point was to define all customer-facing activities as retail. In this model, a non-household customer should only interact with their retailer. This is similar to the situation in other industries. We would not seek to return a faulty garment to the wholesaler or to the factory where it was made.

We identified the following retail activities:

- retail pricing and tariffs;
- the billing process;
- collection of charges;
- debt follow up and debt management;
- meter reading and customer meter operations;

8 This list also takes account of the retail/wholesale split described in Chapter 9.
9 Brokerage: a deal by which water is sold to customers by a third party, who is not responsible for anything other than the final supply of water to a customer's premises. Off-network: a privately owned water supply or waste water treatment and disposal system that reduces or eliminates the need for a connection to the public water and waste water system.

- call and correspondence handling;
- responses to customer enquiries, complaints or requests for information;
- key account management;
- liaison with the wholesaler to deal with customer issues;
- marketing;
- managing the connection/disconnection process;
- scheduling septic tank emptying; and
- supporting wholesale emergency responses.

The overall level of wholesale charges that we have set is consistent with this definition.

Licensing regime

Under the framework created by the Act, all new entrants and the retail subsidiary of Scottish Water will have to be licensed. Licences will govern the relationship between Scottish Water, its retail subsidiary and new entrants.

The 2005 Act will require the new Commission to administer the licensing regime. New entrants will be required to demonstrate that they have the necessary financial resources and managerial and technical competency to satisfy the licence conditions.

The principles of regulatory accounts

We introduced regulatory accounts to the Scottish water industry to:

- improve the transparency of our monitoring and comparisons of performance;
- separate core and non-core activities; and
- separate retail and wholesale activities.

We took account of a number of Scottish and UK-wide factors in finalising the regulatory accounts for the Scottish water industry. The key principles that we established were that they should be:

- consistent, where appropriate, with Ofwat's regulatory accounts;
- reconcilable with statutory accounts;
- auditable;
- in the interests of stakeholders;
- consistent with accepted regulatory accounting practice; and
- would facilitate the collection of information for monitoring performance and setting charge caps.

We also identified the following key principles that should underpin the separation of retail and wholesale activities:

- practicality;
- flexibility;
- cost recovery; and
- transparency.

We received general support for our view, expressed in our methodology consultation, that there should be a single definition of wholesale and retail activities. The overall level of wholesale charges will include all of the services that must be provided by Scottish Water (no matter how those are delivered to the retailer).

The retail margin (the difference between the retail charge and the wholesale charge) covers the costs of all of the activities that are the responsibility of the retailer (irrespective of whether the retailer chooses to undertake all of these activities itself or not).

We recognise that it is possible that some new entrants may want to expand the scope of retail activities further.

We have endeavoured to ensure that we have collected sufficient information about the costs of activities to respond to any such future development.

We also believe that our regulatory accounts have captured sufficient information about costs and activities to allow us to make a robust assessment of the overall level of wholesale charges. In their Ministerial Guidance, the Scottish Ministers have confirmed that charges should be broadly reflective of the costs of providing the service. This should apply equally to the wholesale and retail charges. It is important that overall wholesale charges are set at an appropriate level. If it is set too low, new entrants would benefit, but the core water and waste water treatment and network business would suffer. Ultimately this would affect the level of service provided to customers. If wholesale charges are set too high, there is a risk that new entrants would seek to challenge this price under the Competition Act 1998.

Calculation of the overall level of wholesale charges draws on information collected in the regulatory accounts. This should allow Scottish Water and new entrants to understand our calculations, and should reassure both new entrants and the incumbent supplier that the overall level of wholesale charges is fair.

The regulatory accounts

The regulatory accounts were prepared on behalf of this Office by Ernst & Young LLP, supported by Black and Veatch Consulting Limited.

The outputs of the project were as follows:

- A complete set of regulatory accounting guidelines designed specifically for Scottish Water, but consistent where appropriate with those developed by Ofwat.

- A set of regulatory returns (both definitions and tables) capable of detailing all of the required information for the core business, separated into wholesale and retail activities. These returns will be fully consistent within themselves, and reconcilable in principle to the statutory accounts.

- A set of detailed guidance to auditors and Reporters, to enable them to audit regulatory account submissions effectively.

- A series of draft versions of the above, enabling Scottish Water to provide feedback which, where possible, will be taken into account in developing final versions.

Ernst & Young outlined in a detailed report the process they had gone through to define the core and non-core separation and the wholesale and retail separation. The report also detailed both the issues that arose when undertaking the project and those which Ernst & Young believe may arise if an effective separation of Scottish Water is to be made in 2006. Copies of the report are available on our website at www.watercommissioner.co.uk

Review of the timeline

Our approach to this draft determination was based on a clear timeline which set out in detail:

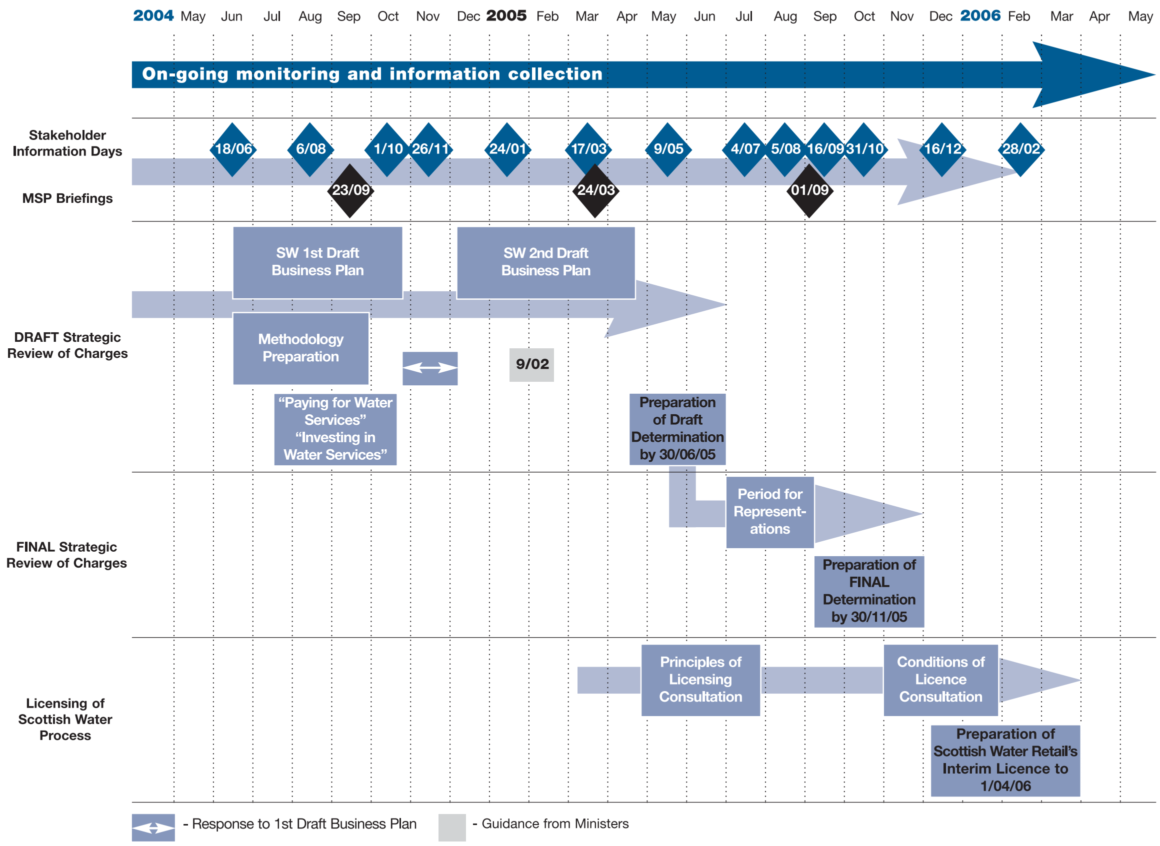
- the dates by which Scottish Water needed to provide information;

- the points at which stakeholders could influence the Review; and

- dates when we would comment on our progress.

The timeline for the Review process was originally outlined in Volume 1 of our methodology consultation, which was published in July 2004. We have published all information relating to this Review on our website (with the exception of Scottish Water's first draft business plan). This has helped to ensure that customers and stakeholders, including Scottish Water, have been kept up-to-date and fully informed about our progress in completing this Review.

Figure 1: **Timeline for the Strategic Review of Charges 2006-10**



A critical input to the Strategic Review process has been the guidance we received from the Scottish Ministers. In May 2004, Ministers provided high-level guidance which set out the principal factors that we were to consider when formulating our advice[10]. In February 2005, we received the detailed Ministerial Guidance on the Scottish Executive's objectives for this Review.[11] This detailed Guidance set the key customer service standards, investment and principles of charging parameters for Scottish Water.

Following publication of this draft determination, the new Water Industry Commission may receive further Guidance from Ministers. This will inform the final determination in November 2005.

Review of Scottish Water's first draft business plan

Customers and other stakeholders are entitled to expect Scottish Water to have clear, well-developed plans for the business. We asked for two draft plans to inform our Strategic Review of Charges.

The first draft business plan represented Scottish Water's first opportunity to advise us of its strategy for the future, both in terms of investment in the infrastructure and the charges it sought to impose on its customers.

We required Scottish Water to provide information about the level of operating and capital costs that it expected to incur. We also required Scottish Water to provide a detailed analysis of the investment programme and its impact on the level of service to customers.

[10] This initial guidance was contained in the commissioning letter of 26 May 2004 from the Minister for Environment & Rural Development, Ross Finnie MSP, to the Commissioner.

[11] This detailed guidance was contained in the letter of 9 February 2005 from the Deputy Minister for Environment & Rural Development, Lewis MacDonald MSP, to the Commissioner.

We issued detailed guidance to Scottish Water on the format and content of the plan to ensure that we would receive the information necessary for us to set charge limits.

Our guidance for the first draft business plan was similar to that which Ofwat uses for the companies south of the border. However, in framing our information requirements we took full account of the Scottish context. For example, we did not consider it necessary to include a detailed asset inventory and cost base analysis.

Scottish Water submitted its first draft business plan to this Office and to the Scottish Executive on 29 October 2004. It also provided a short public summary. The structure of the business plan was consistent with the guidance.

Scottish Water also provided a separate document entitled 'Special factors'. This document highlighted the areas in which Scottish Water considered that its operating costs were necessarily higher than those incurred by other water and waste water companies against which it might be benchmarked. The special factors document sought to justify Scottish Water's view that its allowed operating costs should be significantly higher than those predicted by direct comparisons with other water and waste water companies.

Key messages from Scottish Water's first draft business plan

The key messages from Scottish Water's first draft business plan were as follows:

- Scottish Water had sought to strike a balance between the level of charges that it would be seeking to impose on customers, the scale and pace of investment in the infrastructure and the level of additional borrowing that would be required from the Scottish Ministers.
- The key priorities identified by Scottish Water over the period 2006-10 were to maintain or improve existing services, reduce the risk of sewage flooding and improve drinking water quality.
- These priorities had been established after conducting independent customer research and by working closely with the Water Customer Consultation Panels.
- In order to meet these priorities, Scottish Water was proposing a substantial investment programme amounting to £2,211 million over four years. This equates to £229 per property in Scotland.
- This level of investment would require price increases of 5% (in real terms) over the period 2006-10.
- The level of borrowing would also need to increase by a further £712 million.

The role of the Reporter

A key element of the Reporter's role is to scrutinise the capital investment programme proposed by Scottish Water. The Reporter audited a sample of the programme, and challenged the scope of requirements, the proposed solutions and the basis of cost estimates for specific schemes. His key findings were as follows:

- A number of elements of Scottish Water's proposed investment programme had been over-costed (such as expenditure projections on waste water treatment works and leakage reduction works).
- Scottish Water's asset inventory and other related information was not fit for purpose and further work was required to enable accurate projections to be made.
- A number of Scottish Water's costings were not supported by sufficient documentary evidence, for example the property figures for the base capital maintenance expenditure projections.

Publication of public summary

On 3 December 2004 we issued a press release to accompany Scottish Water's publication of its summary business plan. We noted that although Scottish Water projected an increase in charges of 5% in real terms

(13.6% nominal), we did not believe that such an increase was likely to be required. This view reflected our detailed analysis of Scottish Water's first draft business plan.

Scottish Water's second draft business plan

The second draft business plan was particularly important since it presented Scottish Water with an opportunity to explain the costs that it would incur in delivering the Ministers' objectives set out in the February Ministerial Guidance on investment priorities. We amended the guidance for the first draft business plan to take account both of new information that we felt we required but also areas where we considered that the guidance needed to be more specific.

The main differences were in the following areas:

- more detailed tariff information;
- definition of retail costs;
- output performance improvements;
- definition of Quality and Standards II overhang; and
- taxation.

In our view the key points in Scottish Water's second draft business plan were:

- Scottish Water believed that the Ministers' objectives should be re-phased since delivering them within the 2006-10 regulatory control period would lead to unacceptable charge increases. Scottish Water also suggested dropping some objectives and increasing the available borrowing.
- Scottish Water had calculated the investment to meet the Ministers' essential and desirable investment objectives at £3.1 billion. The essential objectives were costed at £2.9 billion (both at 2003-04 prices). Scottish Water assessed its revenue need on the basis of just the essential investment.
- The plan states that a charge increase of 88% in real terms between 2006 and 2010 would be required. The plan states that lower investment in 2010-14 would allow charges to fall substantially during that period.
- The investment programme in the second draft business plan differed from that contained in its first draft business plan. This reflected the Ministers' objectives for improving drinking water quality and environmental compliance.

Scottish Water sought to justify a much higher level of operating and capital costs than comparisons with other water and waste water companies would suggest was appropriate. Operating costs were forecast to increase by over 30% in real terms.

Scottish Water also proposed the creation of a contingency fund by restricting the amount of available debt that it would borrow. This had a dual impact on charges. It increased directly the revenue (and surplus) required from customers. This in turn resulted in a higher tax charge, which further increased charges to customers. We believe that pending the decision to establish a buffer mechanism of the sort mentioned above, the interim determination process and the logging up/down process are capable of capturing variances in cost that are outside the control of management. If management cannot deliver the outputs required under the regulatory contract, it is for the Scottish Executive to take whatever steps it believes are necessary. The Ministerial Guidance makes it clear that customers should not be asked to pay twice for the same output.

The Reporter submitted his report to us in May 2005 and we have published this on our website. In general the Reporter raised concerns about the cost, scope and design of the investment programme. He also highlighted concerns about the approach that had been used and the proposal to commit large sums of money without proper analysis.

In response to concerns raised by the Reporter and our own analysis of the plan, we commissioned a more detailed review of the investment programme, including an increased number of site visits. This has helped to inform our draft determination.

Chapter 1: Introduction

Introduction

In this volume we outline some of the key elements of the framework that underpins the Strategic Review of Charges 2006-10.

It is important that customers and stakeholders fully understand how we have arrived at the targets set in the Review. In this volume we explain in detail:

- how we have adapted incentive-based regulation for use in the public sector;
- how we have introduced regulatory accounts;
- how we define the critical split between wholesale and retail activities; and
- how we have taken account of Ministerial Guidance and of Scottish Water's first and second draft business plans.

This volume is presented in three sections.

Section 1 explains incentive-based regulation and sets out how we have adapted this approach for use in the public sector.

- Chapter 2 discusses some important background issues. This includes the lessons that we can learn from regulation in other industries and why we have needed to tailor our approach for the public sector water industry in Scotland.
- Chapter 3 describes incentive-based regulation and the benefits it brings to customers and stakeholders.
- Chapter 4 discusses recent developments in the UK utility sector and their impact on the review.
- Chapter 5 contains a case study of Dŵr Cymru (Welsh Water), the not-for-dividend company, limited by guarantee, which provides water and waste water services in Wales. It also discusses the financing of the Royal Mail.

Section 2 covers the introduction of regulatory accounts and its impact on the Strategic Review of Charges 2006-10.

- Chapter 6 discusses the financial framework for stable prices.
- Chapter 7 outlines the background to the introduction of regulatory accounts for the water industry in Scotland.
- Chapter 8 discusses the separation of Scottish Water's 'core' and 'non-core' activities.
- Chapter 9 explains how we have met the requirement of the Water Services etc. (Scotland) Act 2005 to split Scottish Water's wholesale and retail activities.
- Chapter 10 describes the main features of the regulatory accounts.

Section 3 examines the Ministerial Guidance. It also reviews Scottish Water's business plan submissions.

- Chapter 11 briefly outlines the timeline for the Strategic Review of Charges 2006-10.
- Chapter 12 reviews Scottish Water's first draft business plan, submitted in October 2004.
- Chapter 13 provides the Reporter's view of Scottish Water's first draft business plan.
- Chapter 14 discusses the most important elements of the Ministerial Guidance.
- Chapter 15 contains a review of Scottish Water's second draft business plan, submitted in April 2005.
- Chapter 16 provides the Reporter's view of Scottish Water's second draft business plan.

Section 1: Incentive-based regulation in the public sector

Chapter 2: Background

Introduction

In Volume 2 we discussed the role of economic regulation. In the private sector, there exists a contractual relationship between the Government and the private utilities. Each utility has a licence to operate that requires it to meet standards of operation that are considered appropriate in terms of social, environmental and public health policy objectives. The economic regulator takes account of all such issues that arise from legislation or other government guidance when determining the outputs that are to be delivered, and then sets the charge limits accordingly. Thereafter, he depends on shareholder pressure to ensure that these are delivered as efficiently as management can achieve, and simply has to monitor performance to ensure that the defined standards are properly achieved.

In the public sector, the regulator has to assess the lowest reasonable overall cost of delivering the objectives set by the Scottish Ministers. He cannot rely on the presence of market forces to deliver efficiency.

In this chapter we discuss the mechanisms by which regulators can incentivise companies to achieve efficient costs. We outline the importance of building on the experience of other regulators in applying incentive-based regulation to monopoly businesses. In particular, we examine the approach that Postcomm is taking in regulating Royal Mail. Finally, we discuss how we have tailored our approach to the requirements of the public sector water industry in Scotland.

Lessons learnt from more than 20 years of RPI-X regulation in the UK

Price cap regulation (RPI-X) sets the maximum prices that companies can charge for their services for a period of years. This provides an incentive to a company to improve its efficiency. This is because it has to drive down costs in order to maximise profits.

The RPI-X methodology was first introduced in the early 1980s by Professor Stephen Littlechild. He suggested that a price cap would create an incentive for regulated firms to achieve and improve operational efficiency. He also asserted that this should reduce the amount of information required relative to 'rate-of-return' regulation.

RPI-X has subsequently been used in regulating all other privatised utilities in the UK – the gas industry from 1986, the airports (BAA) from 1987, the water industry from 1989, the electricity industry from 1991 and the railway industry from the mid 1990s.

There is, therefore, considerable experience of using price cap regulation in the UK. There has been widespread scrutiny of this approach by academia, industry experts and regulators. It is generally accepted that RPI-X price cap regulation has led to lower prices and higher levels of service for customers.

We have used a tailored version of RPI-X in the Strategic Review of Charges 2006-10. We believe that the revisions we have made have taken account both of the public sector status of the water industry in Scotland and the risks identified by industry commentators.

Experience of Postcomm

In adapting RPI-X to fit the situation of the public sector water industry in Scotland, it has been useful to review the experience of Postcomm, the only other UK regulator of a public sector company.

In March 2001, Postcomm became responsible, under the Postal Services Act 2000, for the independent regulation of the postal service market in the UK. While Postcomm's statutory duties and powers are similar to those of the other economic regulators in the UK, there are a number of important differences. These include the following:

- Postcomm has a duty to maintain the universal service. The universal service obligation ensures that letters are delivered anywhere in the UK at a uniform and affordable stamp price.

- Royal Mail remained a public sector company, wholly owned by the Government. It dominated the letter post market.

- A competition framework was introduced.

There are clear similarities with the public sector model for the water industry in Scotland.

In its January 2002 report[12] 'Opening the Post', the NAO considered the risks faced by Postcomm and recommended that these should be managed by:

- adhering to the principles of good regulation, promoted by the Better Regulation Task Force, of transparency, accountability, proportionality, consistency and targeting;

- being seen to act in an impartial and independent way, free from regulatory capture of vested interest groups;

- employing staff with sufficient experience and expertise of the postal market and economic regulation; and

- obtaining sufficiently robust and reliable information on the costs and performance of Royal Mail in a way that compensates for the asymmetry of information between the Royal Mail and Postcomm.

We consider that these recommendations are equally relevant to our role in regulating Scottish Water.

In particular, we have invested significant resources in ensuring that we have accurate information. This process has been further enhanced by the introduction of a Reporter.

The Postcomm price review

Postcomm has recently completed its analysis for the 2006 price control review of Royal Mail. It has consulted on:

- the length of the price control period;

- the use of RPI-X;

- the extent of tariff baskets;

- the use of a 'cash' or 'regulatory asset base' approach to financing; and

- which targets for quality of service and incentives are appropriate.

Postcomm has continued to use the RPI-X approach. It has indicated that it wants Royal Mail to have strong incentives to make efficiency savings, but notes the need to take account of market uncertainties as competition develops.

Postcomm's initial proposals were published in May 2005 and the final proposals are due in October 2005.

There are clearly close parallels between Postcomm's decisions on price limits and this draft determination. In particular, we have both had to take account of the impact of increased competition in our respective industries.

Making our approach appropriate in Scotland

Both Postcomm and this Office have had to consider how to adapt the incentive-based framework which is used to regulate private sector companies to the circumstances of the public sector post and water industries. We have considered the following issues:

- The objectives of Government: Government is primarily interested in the efficient delivery of its objectives.

- A reduced incentive to out-perform the regulatory contract: in the private sector, shareholders drive management to out-perform regulatory targets. An alternative approach needs to be found for the public sector.

- Sensitivity concerning management bonuses: public sector businesses are relatively rare. It is difficult to

12 'Opening the Post – Postcomm and postal services – the risks and opportunities', Report by the Comptroller and Auditor General, published by the NAO, 24 January 2002.

reconcile the pressures of a public sector pay policy with the need to create a real incentive for out-performance.

- Access to government funding: in the private sector the providers of finance scrutinise carefully requests for more capital. The public sector needs to establish a similar discipline.

We discuss these issues in more detail in Chapter 3.

Summary

Price cap regulation establishes a hard budgetary constraint. This is critical to improving the cost efficiency of regulated companies.

There is now more than 20 years' experience of applying RPI-X incentive-based regulation in the UK. We have learned from this experience and, by adapting the RPI-X regime to the situation of the public sector water industry, have set Scottish Water a challenging but achievable regulatory contract.

Section 1: Incentive-based regulation in the public sector

Chapter 3: Incentive-based regulation

Introduction

This chapter sets out how we have adapted incentive-based regulation to the public sector. We begin by outlining the key features of incentive-based regulation. We look at the benefits it brings and also at perceived shortcomings and how they can be addressed. We examine the rationale for incentive-based regulation in the private sector and look at how effectively it has performed in different industries. We then look at RPI-X implementation issues for the public sector and discuss why we have used incentive-based regulation in the Strategic Review of Charges 2006-10.

How does RPI-X incentive-based regulation work?

Where RPI-X regulation is used, regulators set prices for companies in periodic determinations. The determination of prices is a detailed analysis of the revenue required by the regulated company to deliver the appropriate level of service to customers. Prices are typically set for five-year periods and are linked to inflation. The price cap is calculated in two stages:

1. The regulator establishes the revenue that the regulated company is likely to require to run its business efficiently. The regulator has a duty to ensure that a well-managed company has sufficient funds to deliver its operational services, its investment programme and the required level of customer service. The regulator takes account of the following factors in determining the appropriate level of revenue:

- the degree of efficiency improvement that is achievable (from a consideration of the benchmark level of efficiency and an achievable rate of catch-up);
- the return on capital that investors in the industry would expect;
- tax obligations that the company will incur; and
- other factors that influence costs, such as changes in pension funding requirements.

2. The regulator then converts the required revenue into a price cap. In so doing the regulator takes account of the projected number of customers and consumption per property.

The company is allowed to increase its price every year by 'X' points less than the Retail Price Index in the previous year. In certain industries, such as the water industry in England and Wales, X can be negative and, as a result, the annual price increment could be above RPI. In the final determination of price limits for 2005-10, Ofwat allowed water and sewerage companies to raise its prices above the expected rate of inflation.

The regulated company has to decide how to deliver the required level of service for the revenue that is available to it. This focuses management's attention on reducing costs.

In the UK, it is generally agreed that price cap regulation has succeeded in encouraging utilities to improve their efficiency. For instance, since privatisation of the electricity industry in 1991, distribution network operators have reduced their operating costs by more than 30% in real terms[13].

Price cap regulation is widely understood by regulators, regulated companies and financial institutions. Our use of RPI-X regulation in Scotland will also allow more direct comparison with the industry in England and Wales.

How does rate-of-return regulation work?

In the rate-of-return regulation model, the regulator sets the return that a company can earn. A company therefore has no incentive to reduce costs.

The main advantage of rate-of-return regulation is that it is relatively transparent. Regulated companies understand the return they will earn on the costs that they incur. This helps with long-term planning and provides security for investors.

[13] Ofgem, 'Electricity Distribution Price Control Review Update', October 2003.

Rate-of-return regulation may also provide an incentive to over-invest. This will also increase customers' bills without a corresponding increase in the level of service.

Given its relative inefficiency, using rate-of-return regulation to regulate the Scottish water industry would likely lead to higher bills. There would be no obvious pressure on Scottish Water to reduce its costs.

Incentive-based regulation in the private sector

Under the RPI-X framework, companies benefit if they incur lower costs than the regulator allowed. This is because they retain the difference between the cost allowed by the regulator and the level of cost that they incur. In the private sector, this could be used to increase shareholder returns.

Customers benefit in the medium to long term because the regulator is able to set prices at a lower level in future regulatory control periods to reflect the lower reported costs of the regulated organisation. In the next regulatory control period, the regulated company will have to work harder to out-perform the target. Similarly, there are strong incentives to meet the level of performance set by the regulator since prices to customers are capped. The owners of the company would have to accept a reduced return on their investment if this level of performance is not met.

RPI-X incentivises both the management and the owner to out-perform the regulatory level of performance. Cost reductions can be achieved by:

- operating expenditure savings, through more effective management; and
- more prudent and efficient capital investment.

Regulators have been keen to ensure that the management and staff of not-for-profit companies are given the right incentives to out-perform the regulatory contract. This is particularly important in the absence of shareholder pressure to perform. The following examples illustrate the approaches that have been taken:

Glas Cymru[14]: the remuneration of Glas Cymru's executive directors is designed in such a way that a high proportion of the maximum potential pay is linked directly to company performance. Half of the maximum bonus is based on financial performance (measured by growth in financial reserves) and the other half is based on how well the company delivers services to customers.

Network Rail Limited: Network Rail's Management Incentive Plan (MIP) is designed to: "create the potential to reward outstanding performance based on individual contribution and the overall success of Network Rail in meeting the objectives of the Business Plan".[15]

Has incentive-based regulation worked in the private sector?

In 2002, the National Audit Office carried out a comprehensive review into the benefits and risks arising from RPI-X regulation in the regulated utilities. Its conclusions were published in April 2002 in the report 'Pipes and Wires'.[16]

Overall, the NAO report concluded that:

"The main challenge facing regulators is to create incentives for monopoly companies to deliver effective and efficient networks, but without creating distorted or unintended incentives, or imposing excessive burdens on regulated companies. There is evidence that the way that regulators have used RPI-X has been successful in achieving these objectives. Our analysis shows that customers have seen lower prices and higher quality of service, and regulated companies have been able to cut costs and invest in their networks, while continuing to finance their functions."

The report looked at the use of RPI-X price cap regulation in the telecommunications, electricity transmission, electricity distribution and water industries.

14 Source: Interim statement of Glas Cymru policy for the remuneration of directors, Glas Cymru Annual Meeting (2001).
15 Source: Management Incentive Plan Statement – 2002-03, Network Rail Limited.
16 'Pipes and Wires', Report by the Comptroller and Auditor General HC 732 Session 200102002: 10 April 2002, published by the National Audit Office.

The NAO report concluded that in all of these industries the companies have found ways to operate more efficiently. They have either reduced their costs or, in the case of water where costs have increased to deliver quality improvements, have incurred expenditure more efficiently. The report notes the following:

- In telecommunications, BT Network achieved a weighted average rate of reduction in real unit costs of 9.4% up to 1999-2000.
- National Grid Company has reduced controllable operating costs by 50% since 1990.
- The overall operating costs of electricity distribution businesses fell by around 25% in the period 1994-95 to 1997-98.

These reductions in costs have been accompanied by maintained or improved levels of service to customers. As an example, we can consider performance in the number of interruptions to these services:

- Interruptions in the supply of electricity have fallen since 1990.
- The number of water customers subject to unplanned supply interruptions has fallen since 1990.
- The percentage of successfully completed telephone calls has remained at a very high level.

The regulators have been able to pass on the benefits of efficiency gains to customers through lower prices.

- In telecommunications, charges for some services fell by 13% a year in real terms as a result of price control targets.
- The 2000-05 electricity distribution price review cut distribution charges on average by 24% in real terms. The recently finalised price limits for 2005-10 restrict rises to 1% on average in the first year and to no more than the rate of inflation thereafter.
- Ofwat reduced the average household bill by £35 in real terms between 1999-00 and 2004-05.

In July 2001, Frontier Economics[17] concluded that RPI-X creates a strong incentive to achieve efficiency gains. Incentives are at their strongest, in their view, when the regulator can identify good external benchmarks to estimate an efficient level of costs. This is consistent with our view that external benchmarking of Scottish Water against the privatised water companies in England and Wales is key to establishing the level of performance that should be required of Scottish Water.

Overall, it is clear that RPI-X regulation has been successful in encouraging companies to deliver efficiency improvements while maintaining or improving levels of service. The benefits of these improvements have been transferred to customers.

RPI-X implementation issues for the public sector

Scottish Water is a public sector organisation, which, by statute, has sole responsibility for providing water and waste water services to customers throughout Scotland. In this section we outline the factors that we have taken into account in tailoring RPI-X for use in regulating Scottish Water.

In our view, there are four principal risks that need to be addressed if customers are to receive value for money from a public sector company:

- the lack of a hard budgetary constraint;
- lack of accountability/monitoring;
- lack of competition; and
- incentivising performance.

A strong regulatory regime can minimise these risks for customers.

[17] Frontier Economics ‘Incentives’ published in July 2001 and included as Appendix 5 in the NAO Report ‘Pipes and Wires’.

Lack of a hard budgetary constraint

Price cap regulation sets a maximum level of revenue for a company. It seeks to establish a tight budgetary constraint which requires the company's management to reduce the costs that it incurs. In the private sector, the shareholder can increase their return only if the company reduces costs faster than the rate set in the regulatory contract.

In the public sector it is important that the owner does not accept a lower level of performance than that set in the regulatory contract.

The Ministerial Guidance on principles of charging makes it clear that Ministers intend to require Scottish Water to meet its obligations under the regulatory contract.

Lack of accountability/monitoring

In private companies, management are accountable to the shareholders through the Board. Shareholders are effective in monitoring management – they have a financial interest in the company and the power to dismiss senior management. Debt providers monitor the performance of private companies closely, as do investment analysts. For the water and sewerage companies, Ofwat, the Environment Agency and the Drinking Water Inspectorate also monitor and report on performance.

Scottish Water's performance is not scrutinised to the same extent. However, we expect the scrutiny exercised by Scottish Water's Board to increase in response to the strengthened regulatory and governance framework. The creation of a tight budgetary constraint will make the management of Scottish Water more accountable for delivery of the agreed cost efficiencies, water quality and environmental standards. The new Commission, the Drinking Water Quality Regulator and the Scottish Environment Protection Agency will monitor performance closely. This will serve to increase the accountability of management.

Lack of competition

Even the threat of competition can bring benefits to customers. However, most activities in the water and sewerage business are natural monopolies, and the impact of 'in-the-market' competition[18] is likely to be limited. The pressure of price cap regulation is likely to encourage a company to see best value in service delivery (whether contracted out or not) and in financing.

We have used comparative competition (ie benchmarking with the companies in England and Wales) to propose charge caps in this draft determination.

Scottish Water does not face competition for its financing, but the Water Services etc. (Scotland) Act 2005 does strengthen the regulatory regime. It also establishes a framework for competition in retail services – the one area of the water and sewerage business that can reasonably be made competitive.

Incentivising out-performance

It is important that the benefits of any out-performance, that is encouraged by RPI-X regulation are shared in an appropriate way. The periodic resetting of charges ensures that customers benefit in the medium term. We have to consider how to set appropriate incentives for Scottish Water to out-perform the regulatory contract.

In the private sector model, companies will seek to maximise shareholder returns. Regulators can therefore rely on the fact that companies will be subjected to pressure from shareholders to out-perform the regulatory contract.

In their Ministerial Guidance, Ministers recognised the importance of the tight budgetary constraint to the regulatory contract. This ensures that management are subject to a similar pressure to reduce costs.

Customers would expect the Scottish Water Board to link managerial incentives to the level of performance required under the regulatory contract. At the current time there is considerable stakeholder scepticism about management bonuses. While there may be a case for increases in performance related bonuses, this can only be implemented successfully in response to sustained improvements in performance and greater transparency in the award of the bonuses that are currently available.

[18] 'In-the-market' competition exists where there are genuine markets for the separate business activities that are conducted by a water and sewerage undertaker.

In our second open letter to the Scottish Ministers, we outlined our view that any out-performance should be returned to customers. We also suggested that bonuses should be linked to the extent of any such out-performance.

The letter also proposed that stakeholders consider using out-performance in the 2010-14 regulatory control period to create a financial buffer against operational shocks.

Why incentive-based regulation is right for the Scottish water industry

In the context of regulated utilities, incentive regulation has been defined as "the use of rewards and penalties to induce the utility to achieve desired goals where the utility is afforded some discretion in achieving goals".[19] It is important to emphasise that both rewards and penalties are critical to the success of charge cap regulation.

As part of its 2004 price review[20], Ofwat listed the general criteria that it considered should apply for incentive mechanisms. Ofwat stated that the mechanism should:

- be in the long-term interests of customers;
- offer meaningful and worthwhile rewards for genuine out-performance;
- offer adequate penalties for underperformance;
- provide timely rewards and penalties;
- stimulate continuous improvements;
- be known in advance;
- be straightforward in concept;
- follow simple rules;
- be simple to apply; and
- avoid retrospective changes.

We believe that these criteria are as relevant to the public sector as to the private sector water industry. Our use of an adapted RPI-X approach is consistent with these criteria.

Table 3.1: Criteria for an effective framework for incentives

Criteria	How well does RPI-X fit the criteria?
In the long-term interests of customers	Good. It is widely agreed that RPI-X works well in incentivising firms to improve efficiency in operation and investment. There are risks that firms may seek to cut corners in service delivery, but proper scrutiny from regulators and customer committees should reduce this risk.
Meaningful and worthwhile rewards for genuine out-performance	Good. Regulated companies in the UK have improved their efficiency. This suggests that regulated firms believe the benefits to be worthwhile. The context of 'rewards' for a public sector company may be different.
Adequate penalties for underperformance	We are not aware of any evidence that shows that the penalties for underperformance are inadequate.
Timely rewards and penalties	Acceptable. A regulatory period of four to five years ensures that the incentive framework can reward (or penalise) managers who are responsible for out-performance (or underperformance). The period is not so long that there is an inordinate delay in transferring the benefit to customers.
Stimulate continuous improvements	Good. This can be further enhanced by implementing a rolling incentive mechanism.
Known in advance	Good. The targets for the regulatory control period are set out in advance. The mechanism is well understood by all stakeholders.
Straightforward in concept	Good. The concept is relatively straightforward. Companies are motivated to meet and beat the targets set by the regulator.
Simple rules	Acceptable. In its initial form, simplicity was one of the merits of the framework. However, the rules have inevitably become increasingly complicated.
Simple to apply	Acceptable. No new information that is not already collected either during the initial price setting or through ongoing monitoring is required. The rules are well documented.
Avoid retrospective changes	The incentive framework relies on consistency and transparency. These are two of the Better Regulation Task Force Principles that we have adopted.

Summary

There is clear evidence that RPI-X has brought benefits to customers in private sector regulated industries. These benefits include lower prices and improved levels of service.

We have also explained how the incentives for out-performance of targets are different in the private and public sector models. We believe, however, that the strengthened governance and regulatory framework

[19] Lewis, Tracy and Garmon, Chris 'Fundamentals of incentive regulation'. PURC/World Bank International Training Program on Utility Regulation and Strategy, June 1997.
[20] Ofwat, 'A further consultation on incentive mechanisms: Rewarding future outperformance and handling underperformance of regulatory expectations', June 2003.

created by the Water Services etc. (Scotland) Act 2005 has ensured that the management of Scottish Water is under a similar pressure to perform.

The benefits of RPI-X incentive-based regulation in the water industry in Scotland are as follows:

- Customer benefits through reduced charges, increased investment and improved levels of service.

- Benefits to other stakeholders, for example through more efficient use of investment.

- Consistency with the approach for companies in England and Wales, allowing improved benchmarking of costs and assessment of the scope for further efficiency.

- It is a well understood and well regarded mechanism that is consistent with the Better Regulation Task Force's principles of transparency and accountability.

In Chapter 4 we examine recent developments in the use of RPI-X in the UK and their relevance to the water industry in Scotland.

Section 1: Incentive-based regulation in the public sector

Chapter 4: Recent developments in the UK utility sector

Introduction

In this chapter we explore how RPI-X regulation has developed in the past 20 years and how regulated companies have responded to RPI-X regulation. In particular, we review the Ofgem and Ofwat price reviews during the period 1995 to 2000.

It appears that in the earlier price reviews, the scope for cost reduction has generally been underestimated. More recently, however, regulators have set tougher price controls. Companies have responded by attempting to 'sweat their assets' and reduce their cost of capital.

It is important that we draw on this experience in setting an appropriate framework for regulating the public sector water industry in Scotland.

Developments in regulation in the second half of the 1990s

By the mid 1990s it became clear that some companies had overestimated the costs they would incur. In considering this issue, it is instructive to consider the events of previous price reviews. We summarise below the response by OFFER[21] to events concerning a takeover bid for Northern Electric in 1995, and examine the Ofwat price determinations of 1994 and 1999.

Northern Electric

In August 1994, OFFER conducted a price review of the electricity distribution companies in Great Britain. The price review required price reductions ranging from 11%-17% in the first year (1995-96), followed by an average cut of RPI minus 2% over the following four years.

A few months after the price control results were announced, one of the distribution companies, Northern Electric, was the subject of a £1.2 billion takeover bid. As part of its response to this bid, Northern Electric proposed to issue special dividends and shares in the National Grid Company (which was owned by the distribution companies but about to be floated on the Stock Exchange) to shareholders. Northern Electric intended to finance this package by obtaining bank loans, which would have raised its level of gearing to 225%.

Northern Electric's reaction to the proposed takeover exposed the financial strength of the regional distribution companies. As a result, OFFER took the unprecedented decision to review the price control package that it had established less than a year earlier. In July 1995, OFFER announced that prices were to fall by a further 11%-14% and that the X factor was to increase from 2% to 3% for each of the three years until 1999-2000.

Ofwat price determinations

In its 1994 price review, Ofwat set price limits which allowed the water and sewerage industry to invest around £14 billion in the period 1995-2000. The efficiency targets that Ofwat set averaged between 3.3% to 4.3% for maintenance and enhancement expenditure for both water and waste water services. Ofwat further assumed that technical progress would allow the companies to deliver capital projects for 1% less each year.

Subsequent analysis by Ofwat[22] has indicated that efficiency savings in the period 1995-2000 were higher than 10% for water service capital investment and above 20% for waste water service.

In its final determinations for the period 2000-05, Ofwat allowed the industry to invest around £15.6 billion. Efficiency targets ranged from 6%-11.5%. Ofwat again assumed that technical progress would allow the companies to deliver capital projects for less each year. The scope for such improvement was estimated to be 1.4% per year for capital maintenance and 2.1% per year for enhancement expenditure.

A review of the performance of the water industry during the 2000-05 price control period suggests that the companies have continued to improve efficiency

21 Office for electricity regulation, later merged with the Office for gas regulation to create Ofgem.
22 Ofwat publication 'Financial performance and capital expenditure of the water and sewerage companies in England and Wales 2003-04', page 46.

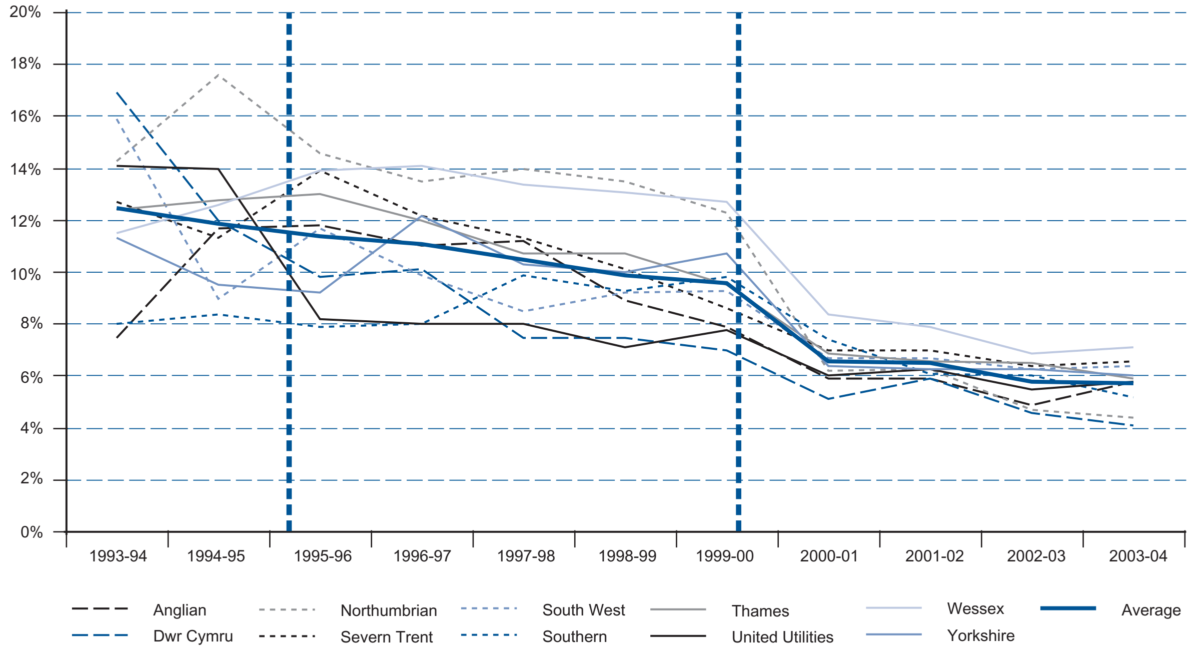
faster than their regulatory contracts required. Current figures[23] show that the companies have achieved efficiencies in water services of around 5% and for waste water services of around 10%.

It appears that before both of these price reviews the water and sewerage companies overstated their required capital spend. If Ofwat had not carried out a detailed assessment of the companies' investment requirements and set efficiency targets, then the companies would have out-performed by even more. This would have further increased returns to shareholders.

Both Ofgem and Ofwat set more challenging targets for companies in the second half of the 1990s. This reflected, at least in part, a response to the companies' performance in the first half of the 1990s.

The reduction in post-tax rates of returns for each of the water companies is illustrated in Figure 4.1.

Figure 4.1: Actual post-tax rates of return (operating profit/RCV) for water and waste water companies in England and Wales 1993-94 to 2003-04



[23] Ofwat publication 'Financial performance and capital expenditure of the water and sewerage companies in England and Wales 2003-04', pages 46-47.

The regulators' ability to set effective price controls requires a detailed understanding of the proposed capital investment programmes. Regulators have increasingly focused on defining the outputs that companies are required to deliver and have improved the way they monitor output delivery.

Criticisms of the RPI-X approach

In recent years, industry commentators have made a number of criticisms of the RPI-X mechanism for regulation. These fall into four main categories:

- the impact on investment;
- the strength of incentives;
- financing of investment; and
- the impact of risk.

The impact on investment

Some observers, for example Dr Dieter Helm[24], have raised concerns that the RPI-X mechanism promotes short-term planning by utilities. This is seen to be at the expense of long-term investment that would sustain efficiency improvements and, over time, be more beneficial to customers.

In its July 2001 report[25], the Better Regulation Task Force also voiced concerns about long-term investment in the regulated industries, noting that "there is a view that the financial incentives engendered by RPI-X may inhibit investment for the future".

The argument is that while companies can improve profitability immediately by cutting operating expenditure, it takes longer for the benefit of capital expenditure to feed through to higher profits.

It is important that companies have an appropriate incentive to invest in their networks. Without such incentives, companies may continue to focus on 'sweating their assets' and maximising the available short-term return. This could ultimately lead to reductions in customer service and may also increase the whole life costs of maintaining the network. It could take many years of high investment levels to recover network performance to a satisfactory level. Inadequate incentives for long-term investment may therefore lead to regulated utilities simply storing up problems for the future.

In the National Audit Office 'Pipes and Wires' report[26] it was noted that:

"The regulatory regimes in the UK appear highly successful in promoting reductions in operating expenditure and perhaps slightly less successful in promoting quality improvements and capital cost reductions."

It went on to state:

"Capital cost efficiencies can't be subject to effective incentive regimes while the size of investment alone, rather than the outcomes, is seen as the main leading indicator for quality provision. Both Ofgem and Ofwat have recognised this by focussing on output measures of investment performance."

The NAO review concluded that there was no evidence that investment had been inadequate or that the networks had deteriorated as a consequence of RPI-X regulation. The report did suggest, however, that there are "indications that the level of investment may have to rise in future to deliver the outputs the public expect". On the issue of the risk to investment, the report concludes that regulators should:

- "consider publicly identifying the improvements in outputs and outcomes that they are willing to allow companies to invest in; and
- encourage network companies to develop risk management models to assess the potential impact of deterioration in asset performance on future levels of service."

To address these issues, we have required Scottish Water to submit a detailed investment programme, outputs of which are defined at a project level.

24 Dr Dieter Helm 'Memorandum on environment, food and rural affairs' submitted to the UK Parliament, 17 October 2003.
25 Better Regulation Task Force, Economic Regulators, July 2001, Para 6.2.
26 NAO – Pipes and Wires: Report by Comptroller and Auditor General – HC723 – Session 2001-2002, 10 April 2002.

The strength of incentives

Under the RPI-X mechanism, regulated companies have an incentive to achieve efficiency gains because they can keep the benefits of out-performing their regulatory contract for a specific period. After that period, the regulator can pass the benefits of this out-performance to customers.

In the early years of utility regulation, regulators passed the benefits of out-performance to customers at the start of the next regulatory control period. This meant that incentives to improve were strongest in the early years of a review period and became less strong towards the end of the regulatory control period. This was because companies only obtained the benefit of efficiency gains for the remaining part of the regulatory control period. This issue is often referred to as the ‘periodicity’ problem.

Regulators have responded to this issue. They are increasingly allowing companies to keep the benefits of any out-performance for a fixed period of time, regardless of when those savings were actually realised. It is hoped that this will remove the incentive for companies to defer the implementation of proposed efficiency gains until after the next price review.

Ofwat sought to strengthen the incentives for the companies in England and Wales by introducing a ‘rolling incentive mechanism’. Companies are now allowed to keep the benefit of out-performance of their regulatory contract for a full five-year period, irrespective of when the savings are made. The benefit of any out-performance is passed to customers five years after they were first realised.

it is, however, not clear that these incentives would have a similar effect in either the public or the not-for-dividend sectors.

Financing of investment

It is important that price review settlements provide an appropriate return for owners and investors. If the allowed return is too high then customers will pay too much. If the return permitted is too low, investors will be discouraged from providing funds. Any uncertainty surrounding the level of return that the regulator will allow is likely to increase the returns that investors require in order to finance new investment.

Regulators seek to minimise uncertainty by ensuring that price reviews are transparent and that they do not hold any surprises for stakeholders. Regulators now routinely publish in advance the methodologies they will use for the price review and the financial models on which the price review calculations will be based.

The effect of uncertainty in the regulatory process was made clear by OFFER’s reaction to the Northern Electric situation. OFFER’s announcement that it was intending to amend the original price control package is said to have resulted in a £3.5 billion drop in the market value of the share price of the 12 distribution companies.

Market reaction is clearly not a consideration in regulating a public sector company. Nonetheless our approach to the Strategic Review of Charges 2006-10 has been fully transparent and we have sought to ensure that there are no surprises for customers, stakeholders or Scottish Water.

The impact of risk

The NAO recommended that regulators should take the following steps to minimise any risks associated with RPI-X regulation:

- specify clearly and well in advance which information they will need from companies during price reviews and gather as much of the information as is cost-justified on an annual basis; and
- publish an evaluation of their completed price reviews.

As part of the Strategic Review of Charges 2006-10, we have published a detailed methodology which included a comprehensive list of our information requirements from Scottish Water. The information that has informed our Review includes:

- the Annual Return submissions provided by Scottish Water;
- Scottish Water's business plans; and
- monthly and quarterly returns covering financial and investment information.

Attempts to lower the cost of capital

Some regulated companies responded to the tougher regulatory settlements at the end of the 1990s by focussing on the cost of capital. These companies sought to lower their effective WACC by increasing their level of debt. Interest on debt is an allowable expense for tax purposes and many companies felt that this allowed them to lower their WACC. Lower interest rates and more easily available debt finance in recent years have increased the attractiveness of this approach.

The Department of Trade and Industry prepared a report in October 2004 entitled 'The drivers and public policy consequences of increased gearing'. This provides a useful analysis of the changes in gearing ratios that have taken place across various utility sectors.

At the time of privatisation, the utilities were set up with zero, or very low levels, of debt on their balance sheet. This was intended to encourage the companies to borrow money to finance much needed investment in the networks in a way that would avoid increasing charges for customers.

After an initial modest increase in gearing in the early to mid 1990s, some of the regulated utilities increased their level of debt funding significantly in the late 1990s, such that average gearing ratios are now in the region of 60%.

The reasons why the companies chose to increase their debt levels, include the following[27]:

- A desire to create value for shareholders with extra resources, particularly after the early, easily achievable, efficiency gains had been made.
- For favourable taxation treatment – debt interest is a tax deductible expense and so helps to lower the effective cost of capital.
- To reduce business risk – it is believed that the existence of higher levels of debt may put pressure on regulators to reduce the severity of future price controls.
- For agency and information effects – the taking on of debt is considered to send a credible signal to the market that the company is confident that it can repay that level of debt.
- To reduce risk – in a sector with low technical progress, and with stable cash flows and expenses, debt may better match the liabilities incurred. This may help force management of a highly geared company to concentrate on core activities.

Both Ofgem and Ofwat now accept that gearing ratios of more than 50% are acceptable and can be consistent with maintaining investment grade status for debt.

Regulators have increasingly used financial ratios agreed with the credit rating agencies to ensure that their companies maintain investment grade status for their debt. Price cap regulation has therefore contributed to the development of more efficient (lower cost) capital structures.

The rise of 'mutuals' – Yorkshire Water and Welsh Water

In January 2000, the Board of Kelda Group plc (Yorkshire Water) proposed to separate ownership of its assets from operation of those assets. The proposal involved establishing a community 'not-for-profit' mutual company that would be 100% debt financed. It was envisaged that the mutual company would award all of the initial operating contracts to Kelda Group plc and that competitive tendering procedures for the contracts would be introduced on a phased basis.

After careful consideration of the proposals, Ofwat said that the following conditions needed to be satisfied before the mutual company could be established:

27 The benefits of increased gearing on the cost of capital for various water companies in England and Wales are noted at page 15 of the DTI's report.

- the complete independence of the proposed mutual from Kelda Group plc;
- adequate arrangements to achieve and maintain accountability to the members of the mutual;
- the contracts for services would have to be procured in such a way as to ensure that the prices achieved were truly competitive; and
- proper provision would need to be made for maintaining serviceability to customers.

Kelda Group plc's proposals were not consistent with these conditions and furthermore it may not have been in the interests of the Kelda Group to seek to satisfy these conditions. Although Kelda Group did not pursue its proposals, its process represented an important development in water regulation. Ofwat had now set out the conditions that companies would have to satisfy if they were planning to establish a wholly or mainly debt financed company.

In November 2000, Glas Cymru agreed its purchase of Welsh Water from Western Power and Distribution. In structuring this transaction, the senior managers at Glas Cymru had taken detailed account of the conditions set out by Ofwat for the creation of the Yorkshire Water mutual. Glas Cymru is a not-for-dividend private company which is wholly debt financed. The wholly debt financed company limited by guarantee was given the support of the Welsh Assembly and Ofwat in July 2001. The Glas Cymru model is considered in more detail in the next chapter.

Summary

This chapter has summarised the criticisms of RPI-X regulation that industry commentators have raised in recent years, particularly in relation to the incentives for capital investment. These criticisms have been the subject of detailed scrutiny, for example by the NAO. The benefits of RPI-X regulation have been found significantly to outweigh the disadvantages. We and other regulators have taken steps to improve incentives to invest appropriately. This is in line with the NAO's recommendations.

This chapter has also highlighted key developments in the UK utility sector:

- tougher price controls resulting from better regulatory information and closer scrutiny of performance;
- a move to detailed monitoring of capital investment outputs (and inputs) by regulators to ensure that claimed capital efficiencies are not at the expense of investment delivery;
- the introduction of a range of measures, such as rolling incentive mechanisms, to improve the incentive properties of RPI-X;
- increased transparency of the regulatory process to provide fewer surprises for regulated companies; and
- a greater use of 'highly geared' financial structures for regulated monopoly businesses – the increased use of debt funding has been mainly driven by the desire to reduce the cost of capital.

The impact of these developments on the Strategic Review of Charges 2006-10 is examined in later chapters.

Section 1: Incentive-based regulation in the public sector
Chapter 5: Case studies – Glas Cymru and the Post Office

Introduction

In previous chapters we discussed the use of RPI-X regulation in the UK. Under RPI-X regulation, the focus of the regulated company will be on minimising its costs, including the cost of capital.

It appears that the 'not-for-profit' debt-funded Glas Cymru (which owns Welsh Water) has reduced the cost of capital and improved the level of service provided to customers. The structure and governance of Glas Cymru could provide some useful lessons for Scottish Water. Neither company has shareholders, yet both are required to match or exceed benchmark levels of service.

In this chapter we examine the Glas Cymru model and its governance. Glas Cymru represents an interesting case study for three reasons:

- the way risk is managed;
- the company's emphasis on transparency; and
- the use of incentives.

The Post Office provides an interesting case study about the importance of a financial buffer.

First, it is interesting to consider a brief history of Welsh Water and the reasons which led to the creation of Glas Cymru.

Events leading up to the creation of Glas Cymru

At privatisation in 1989, water and waste water services in Wales were the responsibility of Welsh Water. In the early years after privatisation, the holding company (later renamed Hyder plc) diversified beyond its core business. Some of these activities, for example Hyder Consulting, were extensions of water services activities. Other diversifications, such as the purchase of hotels and a healthcare procurement company, demanded a different set of management competencies from the water industry. These other activities were partly funded by Welsh Water's core activities. They also distracted management attention away from delivering core water and waste water services.

The purchase of SWALEC, an electricity distribution company, in 1996 significantly increased Hyder plc's debt. Hyder had expected to make savings by combining the network operation and asset management of the two utility businesses. The two regulated businesses performed adequately but the level of debt significantly reduced the Group's ability to withstand financial or operational shocks.

The 1999 price determinations for both the electricity distribution and water industries were relatively demanding. These settlements, combined with the Government's decision to levy a 'windfall tax', placed Hyder in an untenable position.

In 2000 Nomura, a Japanese Investment Bank, made an offer to purchase the Hyder Group. Western Power Distribution, an American electricity company, also made a rival bid. After a long battle, the Panel on Take-overs and Mergers required the submission of sealed bids and, as a result, WPD acquired the Hyder Group.

Perhaps not surprisingly, WPD had no interest in the water business. It attempted to sub-contract these operations to United Utilities but the sub-contract was successfully challenged by Severn Trent. WPD therefore needed to find an alterative arrangement.

Two of the Board members of Welsh Water, Nigel Annet and Chris Jones, developed the idea of selling Welsh Water to a not-for-profit company limited by guarantee. Lord Burns of Pitshanger, former Permanent Secretary at the Treasury, agreed to chair the new company. Glas Cymru was established in March 2000. It bought Welsh Water from WPD for £1.85 billion, 95% of its regulatory capital value, in May 2001.

The structure of Glas Cymru

Glas Cymru's purchase of Welsh Water was supported by the Welsh Assembly but required approval by Ofwat. There were similarities between the Yorkshire mutual proposed by Kelda plc and Glas Cymru's purchase of Welsh Water.

In the previous chapter we explained how Ofwat had expressed a number of concerns about Yorkshire Water's proposal and ultimately did not allow it to proceed. Ofwat was concerned that a mutual company would not be subject to the same pressure to maximise profit. Customers have no real financial interest in the company, but they bear the risk of a financial shock or general corporate failure. Ofwat was concerned about how a mutual company would be able to protect customers from those risks.

Ofwat also had concerns about the effectiveness of management incentives in a not-for-profit company. Standard management incentives, which seek to align the interests of management and shareholders, do not apply in a mutual model.

Glas Cymru sought to learn from Ofwat's objections to the Yorkshire mutual and to reassure Ofwat in its own proposals to the regulator. It argued that its model was different and that the model addressed Ofwat's concerns about the mutual proposal[28]. Specifically, the Glas Cymru proposals included the following points:

- Ownership of Welsh Water would be vested in a company limited by guarantee. This avoided the requirement for customers to give their consent to the proposal.

- Its financial structure would create a financial buffer (increasing reserves and arranging an automatic stand-by credit) that would be sufficient to meet its residual risks. These reserves would be established before the company issued rebates of customers' charges. This would insulate customers from the impact of a financial shock.

- It would subject itself to the London Stock Exchange's reporting requirements, principles of good governance and code of best practice, and would act at all times as if it were a listed company.

- It would introduce a transparent, performance-dependent incentive scheme for both the executive directors and staff of Glas Cymru. This would draw on the principles of the Cadbury and Greenbury reports[29].

Ofwat issued a consultation on Glas Cymru's proposal to acquire Welsh Water. Although Ofwat recognised the benefits of increased customer and environmental focus from a not-for-profit structure[30], it continued to be concerned:

- about the risks that removing equity-based limited liability would bring[31];

- that the reserves which Glas Cymru proposed to establish would not provide a sufficient cushion to protect customers from any operational or financial shocks; and

- that a company which does not have to respond to shareholders' demands may not perform well in the long term.

Ofwat agreed to approve Glas Cymru's proposal to purchase Welsh Water if Glas Cymru could meet the following conditions:

1. Agree to licence modifications proposed by Ofwat, restricting it to operating core functions only.

2. Give a public commitment to reduce its charges for customers.

3. Make its management incentive scheme public.

28 See Glas Cymru's open letter to the Director General of Water Services, 3 November 2000.
29 Cadbury Report published 1992 and Greenbury Report published 1995.
30 Details of this consultation can be found on Ofwat's website at www.ofwat.gov.uk. See in particular Ofwat's position paper of 31 January 2001 at the following link: http://www.ofwat.gov.uk/aptrix/ofwat/publish.nsf/AttachmentsByTitle/glas_decision_31jan.pdf/$FILE/glas_decision_31jan.pdf
31 The benefits of equity based limited liability were revealed in 1995 when Yorkshire Water's shareholders, rather than its customers, bore the impact of £250 million of drought-related costs.

4. Provide a public statement on its commitment to limit its activities to the single purpose of providing water and sewerage services.

5. Give a public commitment to appoint its members on the basis of best practice.

6. Confirm that the rights proposed for bondholders would not impede the Director's duties under the Water Industry Act 1991.

Glas Cymru agreed to all of these conditions. It committed to build up reserves of £350 million, gave bondholders step-in rights and sub-contracted operational and customer service activities. Glas Cymru finally purchased Welsh Water in 2001.

Glas Cymru's key features

In this section we consider four key features of the Glas Cymru model which we believe are particularly relevant to Scottish Water:

- Welsh Water's focus on its core activities;
- the transparent performance-related incentive framework for executive directors;
- its focus on transparency; and
- the management of risk.

We believe that the Scottish water industry can learn from the apparent success of Glas Cymru's management incentive scheme and from the creation of a financial buffer.

Focus on core activities

Ofwat added a condition to Welsh Water's licence which prevents it from diversifying beyond its core activities of water and waste water services in Wales. This condition reflected the poor diversification record of Hyder plc, Welsh Water's former parent company.

The credit rating agencies believe that Welsh Water's focus on its core business has reduced its risk profile. This has an impact on its credit rating and on the cost at which it can borrow. The provision of water and waste water services is generally considered to be a low risk activity. This licence condition not only helps to minimise the risks to which Welsh Water's customers are exposed, but also reduces its cost of capital. This contributes to the creation of financial reserves and allows Welsh Water to offer customer rebates[32].

Management incentives

Welsh Water has two management incentive schemes, a short and a long term one. These schemes operate in parallel to one another and are both explained in detail below.

The management incentive scheme provides each director with the opportunity to earn a bonus of up to 80% of their base salary.[33]

In the short term, 50% of the annual bonus of up to 80% of basic salary is assessed against delivery of customer service targets and 30% is assessed against the annual financial performance of the company[34].

Customer service performance is measured by reference to the overall performance assessment that is published by Ofwat.[35] The award of a bonus is determined by the performance of Welsh Water relative to that of the other water and sewerage companies. The remuneration committee gives credit for both an improvement in the overall performance assessment score and in the relative performance score of Welsh Water. A deterioration in either the absolute or the relative performance of Welsh Water would be penalised.

32 For example, Welsh Water's Annual Report and Accounts for 2003-04 states that customers received bill rebates worth £12 million. These reports are available on Welsh Water's website – www.dwrcymru.co.uk
33 Details of the bonuses for Welsh Water's Directors can be found in the company's Annual Reports for 2003-04, which are available on its website at: www.dwrcymru.com.
34 All annual bonus payments are non pensionable.
35 Included within the overall service assessment are non-financial performance measures for: water supply - interruptions to supply, restrictions on supply and drinking water compliance; sewerage measures - sewage flooding incidents and quality of effluent discharges to the environment; and customer service performance - speed of response to telephone and written billing enquiries and handling of written complaints.

Financial performance is measured against EBDA (earnings before depreciation and amortisation) cash-flow targets. Each year, Welsh Water's remuneration committee determines appropriate cash-flow targets and the level at which the maximum bonus would be paid, and the level below which no bonus would be paid.

In September 2003, directors received an annual bonus for the year equivalent to 66% of salary. They received the maximum pay-out for customer service performance (50%), and received just over half of the bonus available for financial performance (16%).

The directors are also eligible for a long-term performance related bonus scheme. This is linked to the company's long-term financial performance. Bonuses are paid on the basis of two measures:

- increases in the company's level of 'reserves'; and
- changes in the rating of each class of the company's bonds.

We discuss the importance of reserves in the following section. Broadly speaking, however, improved performance and efficiency in the way the business is financed and operated will be captured by growth in its financial reserves. Glas Cymru has made a public commitment that the main use of reserves, over time, will be to deliver lower bills to customers of Welsh Water. The long-term incentive scheme therefore aligns the financial interests of the directors and senior managers with those of customers.

The long-term incentive scheme has operated over the four-year period to 31 March 2005. The size of the bonus that is awarded will reflect the average level of reserves over the six months prior to 31 May 2005. The award of a bonus will reflect a pre-determined sliding scale from a 'threshold' up to a 'maximum' level of performance. This award may then be adjusted (up or down) to reflect any change in the credit rating of each class of bonds.

Half of any award earned under the long-term bonus scheme will be payable in July 2005. The remaining half of the bonus will be deferred for two years. It will be paid on the second anniversary of the original award with no further performance conditions. If a director were to leave the company before that date (other than for retirement, redundancy, or for reasons of ill health) the unpaid part of any award would be forfeited.

The latest forecast of reserves at 31 March 2005 would, based on the latest rating of the company's bonds, result in directors receiving a long-term incentive bonus payment of around 100% of basic salary. This recognises Glas Cymru's achievements over the past four years.

This two-tiered bonus scheme clearly aligns the interests of executive directors with those of customers. The level of bonuses paid reflects objective measures of the service level provided to customers and improvements in Welsh Water's financial performance. Ultimately, improved financial performance will be passed back to customers in the form of lower bills.

We have consistently stated that the regulatory contract should be seen as a minimum acceptable level of performance. We consider that objectively measured, transparent management incentive schemes, such as the one that is operated by Welsh Water, are in the long-term interests of customers.

Transparency

One of Glas Cymru's most striking features is the transparency that surrounds its operations. The company's website contains all of the important financial information, including:

- statutory returns;
- the strategic business plan;
- the annual report;
- details of the directors' bonus scheme and amounts paid out under it;
- the procurement plan;
- information on bond issues;

- reports on the delivery of investment;
- reports on health and safety;
- information on billing and tariffs; and
- a code of practice.

This transparency allows public and regulatory scrutiny of all of the company's operations. Such scrutiny may replace (at least to some extent) the scrutiny of shareholders and investment analysts. It also reassures customers that senior managers deserve the bonus payments that have been made.

We believe that a similar commitment to transparency would benefit Scottish Water's customers. Glas Cymru's commitment to transparency is equally applicable to the public sector model. We continue to believe that the detail of Scottish Water's management incentive scheme needs to be published in advance so that stakeholders can understand the performance targets. These targets should be fully aligned with the regulatory contract.

Risk management

We have already described how Glas Cymru has sought to create a financial buffer to protect customers from any operational or financial shock. This replaces the normal equity 'cushion'. Glas Cymru has established a financial reserve of £350 million. This financial buffer reduces Glas Cymru's cost of capital by improving the company's credit rating. Even more significantly, however, it protects customers from the impact of a financial shock. If there were to be an unexpected event, such as a drought[36], the cost of that event can be met from reserves rather than by an increase in prices.

Review of Glas Cymru's performance

Welsh Water's performance appears to have improved since its purchase by Glas Cymru:

- the level of service to customers has improved;
- prices have been cut; and
- efficiency has improved.

Level of service to customers

In its annual publication 'Levels of service for the water industry in England and Wales'[37], Ofwat presents an overall performance assessment of each company's customer service performance.

Table 5.1 shows the overall performance scores of the water and sewerage companies in England and Wales[38]. In 1999-2000 Welsh Water was ninth out of ten in this overall performance assessment. By 2001-02 it had jumped to third and was first in 2002-03. In 2003-04 it was in second place.

Table 5.1: Ofwat's assessment of customer service levels

	2001-02	2002-03	2003-04
Anglian	370	395	421
Welsh	381	405	419
Northumbrian	417	379	411
Severn Trent	371	394	408
South West	330	329	374
Southern	355	384	391
Thames	379	391	383
United Utilities	332	336	394
Wessex	351	403	411
Yorkshire	397	403	409

Price cuts

When it bought Welsh Water in 2001, Glas Cymru promised to reduce customers' bills once it had established sufficient financial reserves. Glas Cymru has made significant progress in building up its reserves because it has been able to reduce its cost of capital.

36 As there was in Yorkshire in 1995 which is estimated to have cost Yorkshire Water £250 million.
37 Which is available from Ofwat's website at: www.ofwat.gov.uk.
38 The methodology for calculating these scores was changed in 2000-01, so no information is available for that year or for previous years.

In its 2003-04 annual report, Glas Cymru reports a total interest cost of £142 million, against a regulatory capital value of approximately £2.6 billion. This gives it a nominal pre-tax total cost of capital of just under 5.5%. RPI in 2003-04 was around 2.5%. This suggests a post-tax real cost of capital for Welsh Water of less than 1.4%. This is considerably lower than the rate of return allowed by Ofwat, which was set at 4.75% real post-tax for the 2000-05 regulatory control period.

This saving has allowed Welsh Water to build up the £350 million reserve agreed with Ofwat. Continuing out-performance of the regulatory contract has allowed a £9 reduction in average household customers' bills in 2003-04, and again in 2004-05. Following Ofwat's announcement of water and sewerage price limits for 2005-10, Welsh Water announced that it intended to double the dividend by reducing the average household bill by £18 until 2010.

Efficiency improvements

Table 5.2 shows Welsh Water's relative efficiency compared with the other water and sewerage companies in the period since Glas Cymru acquired Welsh Water[39].

Table 5.2: Welsh Water's relative efficiency ranking

	2000-01	2001-02	2002-03	2003-04
Water service efficiency ranking				
Operating efficiency	22	22	20	16
Capital maintenance efficiency	9	6	13	12
Sewerage service efficiency ranking				
Operating efficiency	8	8	10	9
Capital maintenance efficiency	3	3	3	2

Performance in water operating costs has improved and the level of performance in other areas has been maintained.

The experience of the Post Office

The Post Office provides another interesting example, within the public sector, of the importance of establishing a financial buffer. In recent years this buffer has helped ease the transition to a competitive postal services market.

The Post Office (including the telephone and mail services) became a public corporation as a result of the 1969 Post Office Act. As a public corporation, it was not allowed to pay dividends to the Government. Instead, the Government required a proportion of any retained profit to be used to purchase government securities or 'gilts'. These gilts remained on the balance sheet of the Post Office, but could only be used at the direction of UK Ministers.

While incorporation of the Post Office into the Royal Mail Group plc in 2001 made distribution of the gilts to the UK Government possible, the reserve scheme remains. The 'Mails Reserve' was endorsed by the 1999 White Paper on postal reform[40]. This White Paper set a target that 40% of retained earnings should be invested in gilts[41]. There is also a minimum value of gilts that the Post Office is required to purchase each year. This limit has been set so that public expenditure planning is not affected by fluctuations in the trading of the Post Office. The White Paper also set out the circumstances where Ministers would use the financial reserve that has been accumulated.

Until relatively recently, the Post Office was highly profitable. The current value of gilts held by the Post Office is well over £1 billion. This is a very significant sum relative to any financial or operational risk that the Post Office is likely to face. The Post Office is a people-intensive (rather than an asset-intensive) business. This is likely to reduce the relative impact of any single risk on the business as a whole. The Post Office employed more than 210,000 people in 2004. The value of this financial buffer is relatively small in relation to the Royal Mail's turnover (£8.6 billion in 2004). It is also worth noting that this buffer has been accumulated over more than three decades.

39 Source: Ofwat's unit cost and relative efficiency reports 2002-03 and 2003-04.
40 Entitled 'Post Office Reform: A World Class Service for the 21st Century' published on 8 July 1999 and available via the DTI's website at this link: http://www.dti.gov.uk/postalservices/white_paper.htm
41 In 2003 the Secretary of State for Trade and Industry, Patricia Hewitt, issued a direction under Section 72 of the Postal Services Act 2000, updating this gilt scheme and naming it 'Mails Reserve'.

It is clear that the creation of this financial buffer over a large number of years has significantly reduced the impact of operational risks on the customers of the Post Office. It would seem sensible to adopt a similar approach in our funding of the public sector water industry in Scotland.

In our second open letter to Scottish Ministers we noted:

"it could also be desirable to develop a further mechanism which could allow some of the surpluses resulting from out-performance to be retained by Scottish Water. In a similar public sector context, the Post Office established the practice of building up a discrete and separate reserve by using part of its surpluses to buy index-linked gilts. (A summary of this practice is attached as a second annex to this letter.) In this regard, it will also be important to decide how the Ministers' objective that customers do not pay twice for the same output would be implemented in practice".

If Scottish Water does not meet the level of performance set out in its regulatory contract, it will be for Scottish Ministers (as the de facto owner) to decide on an appropriate course of action. In our view, such a course of action should not adversely impact on customers.

This draft determination also sets out a forecast of the likely new borrowing that will be required by Scottish Water. We have assumed that this level of borrowing would be increased only in exceptional circumstances and only if the new Water Industry Commission agrees that more borrowing is the appropriate response to the exceptional circumstance. This is not wholly dissimilar from the stand-by credit that is available to Welsh Water.

There is also much to commend the clear link between management incentives, overall financial and customer service performance, and charges to customers. The approach outlined in our second open letter would bring similar benefits to customers in Scotland.

Summary

Glas Cymru's purchase of Welsh Water is an interesting case study. Shareholder scrutiny has been replaced by a clear governance framework and a robust and transparent management incentive scheme. This incentive scheme aligns the incentives of management with the interests of customers. The scheme requires out-performance of the regulatory contract.

Glas Cymru's unique capital structure has successfully reduced the cost of capital. Out-performance of the regulatory contract (partly driven by the lowering of the cost of capital) has allowed a substantial financial reserve to be created. This reserve should help insulate the company's customers from the effects of any financial or operational shock. In the absence of such a shock, out-performance of the regulatory contract, once the targeted buffer has been reached, is available for rebates to customers.

The Post Office case study also reveals that creating a financial buffer has significantly reduced the impact of operational risks on its customers.

Section 2: The introduction of regulatory accounts

Chapter 6: The financial framework for stable prices

Introduction

This Strategic Review of Charges sets 2006-10 charges for customers which do not increase in real terms. At the same time, customers should benefit from an improvement in the underlying level of customer service and from improved public health and environmental compliance. This would require Scottish Water to improve its cost efficiency at least in line with the 2006-10 regulatory contract.

In our December open letter[42], we explained the importance of making progress towards a framework of incentive-based regulation. We have made progress towards this by ensuring that Scottish Water faces a tight budgetary constraint in this regulatory control period. It is also important that we make progress in creating a financial buffer that would be capable of absorbing any operational shocks.

Scottish Water's Board should respond to the tight budgetary constraint by aligning the key performance indicators that it sets for the executive management with the outcome of the Strategic Review of Charges. This would be consistent with the incentive schemes that have been put in place for the management of Network Rail and Glas Cymru. The Board should also be interested in developing a buffer that would protect the organisation from any operational shocks.

The importance of the tight budgetary constraint

Regulators set price or revenue caps in order to create a tight budgetary constraint for the regulated company. Most regulated companies are subject to pressure from shareholders to out-perform the regulatory settlement. In other words, the regulator is effectively setting a minimum acceptable level of performance. In the case of Scottish Water it is important that both the owner and the Board recognise that the regulatory settlement (or contract between the regulated company and its customers) is the minimum level of acceptable performance.

Ofwat allows the privatised companies an allowed rate of return on their regulatory capital value. A company Board may decide that it is content to increase the proportion of its regulatory capital value that is funded by debt. This may reflect the potential tax advantage of debt funding, or it may be that the owners are content to incur a higher risk and, consequently, to earn a higher return. The decision to increase debt to engineer a lower cost of capital is clearly different from a situation where the company has to take on more debt than planned (or to reduce dividends) to compensate for performance falling below the level that was agreed in the regulatory contract. The owner effectively has to decide whether to accept a lower return now or to accept a higher degree of risk for the same return while the performance issues are addressed.

It is important to note that Ofwat will not adjust prices upwards to compensate for a failure by the regulated company to meet its obligations under the regulatory contract. As a result, there is no danger that the customer will be asked to pay twice for the same promised improvements. Shareholders bear the risk. In the public sector model the risk is borne by the Scottish Executive as the de facto owner of Scottish Water. There is a clear commitment in the Ministerial Guidance on the principles of charging that they would not allow extra debt to be made available in the event of underperformance against the regulatory contract.

We have set charge caps such that if Scottish Water meets the minimum levels of performance that we set in the determination, it will be in a financially sustainable position. The levels of performance set out in the regulatory contract are mandatory, not aspirational. The Board must understand that there can be no recourse to customers in the event of a failure to deliver the agreed levels of service and investment outputs unless the causes were outside the control of management[43].

The regulatory capital value method of price setting does not require the regulator to fix the level of debt that the regulated company borrows. The regulator sets the conditions where a well-managed company can continue to finance its functions. A company can finance its functions by reinvesting post-tax surpluses or by adding long-term debt. However, an organisation cannot

42 Letter to Minister for the Environment & Rural Development, dated 2 December 2004 – available on our website www.watercommissioner.co.uk
43 In this case an interim determination would be appropriate.

routinely borrow if it does not meet the minimum levels of performance agreed in the regulatory contract. This would not be consistent with its long-term financial sustainability. It would have a material adverse impact on the prospects for future charges and could also reduce the size of the affordable investment programme in future regulatory control periods.

Establishing a buffer to absorb operational shocks

At present, Scottish Water's customers are more immediately exposed than customers in England and Wales to the financial risks of the business. In England and Wales, the presence of private equity acts as a significant shock absorber, and as a result protects customers. A good example of this is the cost of the Yorkshire drought in 1995 (approximately £250 million), which had to be absorbed by the equity holders of Yorkshire Water. Other companies have experienced similar operational shocks, the cost of which has had to be borne by shareholders.

The creation of the not-for-dividend companies Glas Cymru and Network Rail required Ofwat and the Office of the Rail Regulator to think more about corporate governance. In particular, it required them to consider how to protect customers from the impact of any such operational shocks. Both Glas Cymru and Network Rail are funded by a combination of debt and retained earnings. It is critical that they maintain a robust financial position as a weakening of their financial position is likely to lead to an increase in their funding costs and a reduction in their ability to withstand an operational shock.

The options for establishing a tight budgetary constraint in a public sector model

To be fully effective, the tight budgetary constraint requires detailed scrutiny of the level of service and investment outputs that are actually delivered, as well as a limit on the resources that are available to deliver that level of service. The regulatory regime south of the border recognises this. Ofwat would adjust prices downwards for the next regulatory control period if it believed that the agreed level of service or the agreed investment outputs had not been delivered. Such an adjustment would reduce the return available to equity holders.

In the public sector industry Scottish Water's regulatory contract sets out a minimum acceptable level of performance. This limits not only the charges that are paid by customers but also the debt that Scottish Water can access automatically.

We commissioned a report from the leading investment bank, ING Barings on how private sector disciplines could be applied to public sector lending in the Scottish water industry. ING Barings outlined the importance of debt draw-down procedures. We would advise that each time Scottish Water asks to borrow (within its agreed facility), the Scottish Executive should seek assurances that it is on track to at least match the regulatory contract. It may also be appropriate to seek confirmation (perhaps annually) from the Commission and the quality regulators that the agreed level of service and the investment outputs have been delivered.

We would also advise the Scottish Executive to consider having regular meetings with non-executive Directors at which they seek confirmation that the non-executive Directors believe that Scottish Water is on track to meet its obligations.

Options to establish a buffer to withstand operational shocks

There are four ways in which we could develop a buffer to withstand operational shocks. These are to use the revenue flexibility generated by out-performance of the regulatory contract to:

- improve financial ratios by borrowing less;
- buy a safe, liquid asset;
- pay dividends to a contingency fund held by the Scottish Executive; and
- accelerate the investment programme.

Rigorous monitoring would be essential in each case. Customers want to be assured that good performance in one year is not likely to be followed by a less committed effort in subsequent years of the regulatory control period. It would be important to emphasise that this out-performance stays as customers' money and that it is in effect an insurance policy against an unexpected operational shock. The extent of out-performance should be measured by the regulators and confirmed by the Reporter. This out-performance should be ring-fenced to create the buffer.

We suggest that a clear target for this buffer should be established (at perhaps around £300 million). We also suggest that it is made clear that any further out-performance would be distributed to customers in the form of lower charges than would otherwise have been necessary. Until there is broad agreement on the terms for establishing this buffer, we believe that any out-performance by Scottish Water should be returned to customers. This would most easily be achieved by Scottish Water foregoing an appropriate amount of the revenue available to it under the agreed charge caps. This would be consistent with maintaining a tight budgetary constraint.

Improve financial ratios by borrowing less

In the Strategic Review of Charges 2002-06, we sought to begin the process of making Scottish Water financially sustainable. Our approach was to target financial ratios that were consistent with a well-managed regulated company. This approach has had some success. In 2001, the combined enterprise value of the three water authorities was less than the outstanding debt. In 2005, the enterprise value of Scottish Water is substantially greater than the outstanding debt and Scottish Water has made significant progress towards achieving financial sustainability.

Advantages of this approach

This would be the cheapest way to create and maintain a buffer. The improvement in the debt to regulatory capital value ratio would be quite transparent. The financial strength of Glas Cymru would be an immediate comparator.

Disadvantages of this approach

Some stakeholders have questioned why debt, if it is available, should not be used to reduce current charges. As we have explained previously, such an approach increases future charges unnecessarily. An increase in lending in response to an operational shock in the future would directly increase charges. Responding to a pressure to lower charges and increase borrowing would inevitably be more difficult if significant progress had been made in building up a buffer of an appropriate size.

A second disadvantage of this approach is that it would require the Scottish Executive to be able to make (potentially substantial) borrowing capacity available at relatively short notice in the event of an operational shock.

Buy a safe, liquid asset

It would be possible to buy an index-linked gilt with the revenue flexibility generated by out-performance. These investments would only be sold to cover the cost of any operational shock. Although the buffer would clearly belong to Scottish Water (and its customers), it would be important for the decisions to release some or all of this reserve to be taken by Ministers. It may also be appropriate for Ministers to consult the new Water Industry Commission prior to taking a decision to release funds from the buffer.

There is a precedent for this as the Post Office invests a proportion of its operating surplus in Government gilts.

It is clear that the creation of this financial buffer over a large number of years has significantly reduced the impact of operational risks on the customers of the Post Office. It would seem sensible to adopt a similar approach in our funding of the public sector water industry in Scotland.

Advantages of this approach

This approach has the advantage that Scottish Water retains these funds. Increasing the size of this financial buffer is likely to have a significant incentive effect on Scottish Water. It could also represent a highly transparent way to measure management performance.

If there is an operational shock, this option is the only one where a response is likely to be relatively painless. Each of the other options would entail either the Scottish Executive finding funding at short notice or taking difficult decisions about delays in investment.

Disadvantages of this approach

This is a very slightly higher cost option for customers since the yield on an index-linked gilt is very slightly lower than the cost of public sector borrowing for an equivalent term.

Pay dividends to a contingency fund held by the Scottish Executive

A third option would be for revenue flexibility generated by out-performance to be paid in dividends to the Scottish Executive. This option would require the Scottish Executive to hypothecate any dividends such that they could be used to cover the cost of any future operational shock.

Advantages of this approach

The payment of dividends would mean that the Scottish Executive is remunerated for the risk that it runs as owner of Scottish Water.

Disadvantages of this approach

This option is less transparent than the first two. It may also be more expensive for customers and it places the onus on the Scottish Executive to manage the contingency fund.

Accelerate the investment programme

A fourth potential option would be to accelerate the delivery of the agreed investment outputs in the baseline programme.

Advantages of this approach

There are clear benefits from improving the levels of service to customers or environmental and public health compliance more quickly.

Disadvantages of this approach

This may reduce the transparency of the capital programme baseline. It is therefore not clear that it is in the customer interest to allow phasing of the capital programme to be the buffer against operational shocks.

Moreover, this option may be difficult to implement. It is possible to conceive how out-performance in delivering investment outputs may reasonably increase or accelerate the capital programme. However, it is difficult to see how out-performance in operating costs could be added to the capital programme. We will have already required Scottish Water to undertake the largest capital programme that can be efficiently delivered. There may therefore be no scope to accelerate investment without incurring a cost in efficiency terms.

Proposed way forward

In the medium term, we believe that the creation of a financial buffer is important. The most effective way to create such a buffer would be through the purchase of a liquid security, such as index-linked gilts. In this regard, this option has clear advantages over the other three possibilities.

We recognise that it may take some time to agree the details of this proposal. In the meantime, we believe that any out-performance by Scottish Water could return any out-performance to customers. This would be consistent with the need to maintain a tight budgetary constraint.

Conclusion

Ensuring that customers receive the best possible value for money in future regulatory control periods requires us to set Scottish Water a tight budgetary constraint in the period 2006-10. We should seek to make progress in agreeing the terms of a buffer against operational shocks.

Section 2: The introduction of regulatory accounts

Chapter 7: Background to the introduction of regulatory accounts

Introduction

Regulators rely on being able to make like-for-like comparisons between companies (or over time) to form a view about the performance of a regulated company and ensure that customers receive value for money.

In order to be sure that the comparative analysis they carry out is reliable, regulators need accurate information. Most regulators rely on regulatory accounts to provide this information. These accounts provide detailed information that has been clearly and consistently defined.

During the past four years there have been a number of changes in our remit[44]. These have had an impact on the kind of information we now need in order to be able to regulate in an effective way. This has led us to introduce regulatory accounts. This chapter discusses the background to, and the design and implementation of, regulatory accounts.

Background to regulatory accounts

Regulatory accounts are a series of financial reporting submissions that are designed to provide regulators with specific information about the performance and financial health of the companies and industries they regulate. They are usually accompanied by a series of guidelines or rules which underline the principles and accounting conventions by which regulators require the accounts to be completed.

Ostensibly, regulatory accounts are similar to the statutory financial accounts that most companies complete as a requirement of the Companies Act 1985[45]. Like regulatory accounts, statutory accounts are completed according to a series of accounting guidelines. These accounting standards are universally used by companies in the UK (FRS, UKGAAP)[46]. Accounting standards are increasingly becoming international (IFRS)[47].

The principles and rules of statutory accounts apply to all industries. Regulatory accounts, however, are tailored to provide the specific information required for effective regulation of that industry. They are designed to take account of the economics of the particular regulated sector.

The development of regulatory accounts in the UK

Over the last decade, regulatory accounts have played an increasingly vital role in fulfilling the information requirements of many economic regulators in the UK.

Ofwat implemented regulatory accounts in 1992-93 in order to inform its first full price review of the water industry in England and Wales. Over time, the value of regulatory accounts has been recognised by other economic regulators. In the UK, they have been introduced in the following regulated industries:

- civil aviation;
- electricity;
- gas;
- postal services;
- rail; and
- telecommunications.

In 1998, the Government published a Green Paper which recommended that regulators should require monopoly utility businesses to publish regulatory accounts and to do so in more standard formats[48]. The Government suggested that this would facilitate wider understanding of regulatory issues.

Following the Green Paper, the offices responsible for economic regulation in the UK established a regulatory

44 These are discussed in Volume 2.
45 All limited companies have a duty to keep accounting records and to prepare annual accounts. The Companies Act specifies the form these annual accounts must take.
46 Financial Reporting Standards (FRS), United Kingdom Generally Accepted Accounting Practice (UKGAAP).
47 International Financial Reporting Standards (IFRS).
48 A fair deal for consumers – Modernising the framework for utility regulation, Department of Trade and Industry, proposal 7.7.

accounts working group. The group comprised representatives from the gas, electricity, water, telecommunications, rail, aviation and postal services industries. The group's aim was to develop areas of consistency within published regulatory accounts. The group's conclusions were published in April 2001[49].

The following extracts set out the purpose of regulatory accounts:

"In essence, the main purpose of regulatory accounts should be to provide financial information about regulated businesses for use by the regulator, industry, investors, consumers and other stakeholders. This would enhance the information available within the industry and aid in the assessment of the stewardship of management and informing economic and financial decisions."[50]

In addition, it was stated that regulatory accounts could be useful in:

- "monitoring performance against the assumptions underlying current price controls;
- informing future price control reviews and other regulatory decisions that require financial information such as determining prices;
- assisting in the detection of certain anti-competitive behaviour in the relevant markets, such as unfair cross-subsidisation and undue discrimination at the appropriate level within the business concerned;
- assisting in comparative competition;
- assisting in monitoring financial health; and
- improving transparency in the regulatory process as regulatory accounts are the main source of regular, published and audited financial information about regulated companies."[51]

We have introduced regulatory accounts to facilitate performance monitoring. The use of regulatory accounts should reduce the need to make adjustments to reported information in order to ensure that our comparisons are robust.

Development of regulatory accounts for the Scottish water industry

In 2004 we undertook a comprehensive project to develop regulatory accounts for the Scottish water industry.

We commissioned Ernst & Young LLP to set out clear definitions and formats for the regulatory accounts. These had to reflect our need to separate core and wholesale activities from non-core and retail activities[52]. Ernst & Young were supported by Black and Veatch Consulting Limited who are experts in the water industry. They ensured that the proposed accounting separation was practical.

The regulatory accounts will rely on the quality of Scottish Water's financial systems. We consulted with Scottish Water throughout the process and are grateful for its co-operation.

Project objectives

The project had a number of key objectives:

- To identify and define the core and non-core activities carried out by Scottish Water.
- To identify and define retail and wholesale activities.
- To design a series of information tables that captured the information required to analyse and regulate retail and wholesale activities in the core water industry.

49 The Water Industry Commissioner for Scotland was not represented on this working group.
50 The role of regulatory accounts in regulated industries. A final proposals paper by the Chief Executive of Ofgem; Director General of telecommunications; Director General of water services; Director General of electricity and gas supply (Northern Ireland); Rail Regulator; Civil Aviation Authority; and Postal Services Commission. (April, 2001) p.3.
51 Ibid p.3.
52 Requirements of the Water Industry (Scotland) Act 2002 and Water Services etc. (Scotland) Act 2005.

- To develop a set of regulatory accounting guidelines, which clearly explain the information required in each information table.

In order to achieve these objectives, we sought to build on the experience of regulatory practice south of the border and from other industries.

Experience in other industries

We have sought to maintain consistency between our regulatory accounts and those which Ofwat use.

In England and Wales, water and waste water companies complete regulatory accounts for their 'appointed' business only. Appointed activities are those that the companies are licensed to carry out as water and waste water service providers. As such, they are broadly analogous to Scottish Water's core activities. We have used Ofwat's regulatory accounts and the guidelines that underpin these accounts to distinguish between core and non-core costs.

Ofwat does not distinguish between retail and wholesale costs, whereas the gas and electricity industries have separated retail and wholesale activities. Both the gas and electricity industries have an extensive network that is a natural monopoly. The network elements of the business have been separated from those where competition is possible. In the electricity industry, there is competition in generation and supply (retail). In the gas industry, there is competition in gas exploration and production, gas shipping, and supply (retail). We have drawn on the experience of these industries in capturing costs.

The experience of other industries shows that the definition of wholesale and retail activities used in the regulatory accounts will develop over time. For example, in the electricity industry some £264 million (6% of electricity distribution costs) were reallocated to retail after initial separation. We have not sought to pre-empt the form that the competitive market for the Scottish water industry might take. The definition of retail costs must be sufficiently flexible to respond to changes in the retail market.

Project implementation

We implemented this project in two phases. The first was substantially completed within this Office. Ernst & Young and Black and Veatch led the second phase of the work.

Preparatory work to develop regulatory accounts by this Office consisted of the following steps:

- An initial review of the Ofwat regulatory accounting guidelines (RAGs) in order to determine how applicable they are to the Scottish water industry, and to highlight possible areas of comparability.

- Preliminary discussions with Scottish Water to identify core and non-core functions based on the legal definition provided by the Water Industry (Scotland) Act 2002[53].

- Development of two draft regulatory accounting tables to capture operating costs for core and non-core functions, further subdivided into retail and wholesale activities.

- Issue of draft tables for operating costs to Scottish Water for comment and completion with information for 2003-04.

This preparatory work defined the scope of the project.

The second phase of the work was completed in the last quarter of 2004. Ernst & Young held workshops to develop a detailed understanding of core and non-core activities and retail and wholesale activities.

They also designed a series of information tables that would capture the necessary information. They wrote the regulatory accounting rules (RARs), which set out guidance for Scottish Water. Where appropriate, these rules are similar to Ofwat's RAGs, but have been tailored to take account of the current situation in Scotland. For example, Ernst & Young included implementation guidance to assist Scottish Water.

[53] Our initial interpretation of core/non-core was outlined in the second volume of our methodology series, Our work in regulating the Scottish water industry: Background to and framework for the Strategic Review of Charges 2006-10, p.122.

Conclusion

The introduction of regulatory accounts has ensured that we have had the information we needed to complete this draft determination. This brings the regulation of the water industry in Scotland in line with most UK monopoly infrastructure businesses. In the following chapters, we discuss the outputs of the project in more detail and how they have been used in this Review.

Section 2: The introduction of regulatory accounts

Chapter 8: Core/non-core activities

Introduction

Scottish Water's primary role is to provide water and waste water services to customers in the exercise of its 'core functions' as defined in section 70(2) of the Water Industry (Scotland) Act 2002. These services are sometimes referred to as its core activities or as the core business. However, Scottish Water also seeks to provide customers with 'value added' services. Some of these are closely related to its core functions, others are quite separate.

In this chapter we discuss:

- the development of non-core activities;
- the potential impact of these non-core activities on customers of Scottish Water's core business;
- how legislative changes require us to distinguish between core and non-core functions;
- the role of regulatory accounts in distinguishing core and non-core activities; and
- the implications for non-core activities.

The Strategic Review of Charges 2002-06

The growth of non-core activities

The three regional water authorities were established in 1996. They developed a range of additional services that they could offer to existing commercial customers. Many of these activities were related to the traditional service provision of water and waste water services, such as waste minimisation and consultancy. Others made good use of the authorities' existing assets, such as tankering waste or offering laboratory services. However, the authorities also offered a number of services that appeared to have a less compelling business logic.

The authorities hoped to generate extra income and reduce unit costs in the core water and waste water service. They also believed that these additional services might help retain large customers.

Our advice to Ministers in the Strategic Review of Charges 2002-06 covered both core and non-core activities of the then three authorities. Our remit at the time was to promote the interests of customers of the three authorities. Although we were not required to distinguish between core and non-core activities, we expressed our concern about the lack of focus on the core business.

Potential impact of non-core activities

We also expressed concern at that time that customers' bills could be higher as a result of the focus on non-core activities. In particular, we noted the potential increase in risk within the business caused by diversification into markets where competition existed, and questioned investment in non-core activities.

The financing of any new ventures in the Scottish water industry – whether it is a small opportunity for a start-up with potential for organic growth, or an acquisition – must ultimately be obtained from customers of the core business or from taxpayers. This means that customers bear all of the financial risk. Furthermore, should these new ventures initially make a loss, revenue from core customers' bills would have to be used to cover them. This would divert funds away from the core business. Only if a new venture made a profit could core customers benefit from the expansion of a non-core business. It was also possible that there could be longer run costs (such as costs to exit an activity) that would impact on future costs.

Even if non-core activities were profitable straight away, there is a danger that these profits are achieved at the expense of not realising the potential for efficiency. We highlighted in the Strategic Review of Charges 2002-06 that the most important objective was to reduce inefficiency. The risks of pursuing new ventures have to be viewed both in terms of the capital invested and the management time dedicated to pursuing them. If management time is diverted away from improving efficiency in order to focus on new ventures, this would disadvantage customers.

We did not argue that the authorities should be precluded from pursuing non-core ventures, but we did suggest that they should approach any such venture with caution.

Situation in the water industry in England and Wales

As part of the Strategic Review of Charges 2002-06, we also examined the situation south of the border, where customers' money is not used to fund non-core business. In England and Wales, companies are licensed to provide water and waste water services to customers. These are the services they are 'appointed' to perform. While they are able to undertake non-appointed activities (which we would term non-core) Ofwat's responsibility extends only to customers of the appointed business. Ofwat does not in any way regulate the activities of the privatised companies outside of the appointed business (except in the most extreme case where an activity could threaten the company's ability to fulfil an appointed business licence condition).

Ofwat regulates the revenues of the appointed business and determines the allowable return on capital for the assets employed in the appointed business. There can be no question that a failed venture outside the appointed business could impact on customers' charges in the appointed business. Non-appointed activities are funded through private loans or equity. In this way, shareholders, not customers, bear the financial risks.

Equally, it is not likely that a successful venture by the privatised company of the appointed business would impact on customers' bills. This would only happen if the Board of the company were to decide to reduce the return allowed by the regulator, because of the profit generated elsewhere.

Protection of core customers in England and Wales

Ofwat has established a regulatory framework which ensures that there is a clear separation of appointed and non-appointed activities.

- The appointed water and sewerage business is ring fenced

The ring fence protects the assets and resources of the regulated business from other activities of the Group. This is achieved by means of licence conditions and accounting rules. Licence Condition F requires Directors of the appointed business to provide an annual statement that the ring fenced business has adequate financial and managerial resources to carry out the regulated activities. Moreover, if the appointed business (or an associate business) is proposing to embark on any activity that might be material to its ability to carry out regulated activities, it must notify Ofwat.

- Accounting separation

The company's auditors and Reporters scrutinise the accounts of the ring fenced business. They ensure that the accounts are consistent with the regulatory accounting guidelines.

These audited regulatory accounts are quite separate from the holding company accounts.

- Transfer pricing rules

A transfer price is the price charged for goods and services (including staff and consultancy) between two related companies. Ofwat examines the price paid for goods and services to ensure that price limits are set on the basis of the actual costs of providing water and sewerage services to customers and not costs inflated by high prices charged for services by a related company. This could be an attempt to divert funds from the non-appointed business, which could benefit shareholders at the expense of customers.

The rules for transfer pricing are set out in Ofwat's regulatory accounting guidelines (RAG 5.03). The guiding principles are that:

- the appointed business pays a fair price for services and products received;

- prices should be set at market prices or less – where no market exists, transfer prices should be based on cost;
- market testing should be used to establish market prices for supplies, works and services provided to the Appointee; and
- costs are allocated in relation to the way in which resources are consumed.

Ofwat requires the licensed companies to demonstrate, through the application of these principles, that the appointed business is not over-paying for services provided by related companies.

Ofwat monitors carefully the companies' compliance with the guidelines. It has the power to examine transactions between the appointed business and other group companies.

How effective is the ring fencing?

Ofwat closely monitors the application of ring fencing by the companies south of the border. The licence conditions and Ofwat's monitoring regime protect customers from any trading problems in the companies' unregulated activities.

This monitoring regime is important in England and Wales because of:

- the creation of multi-utilities, such as United Utilities;
- ownership of water and sewerage companies by other concerns, such as Thames Water by RWE; and
- diversification as undertaken by South Staffordshire Water and Severn Trent Water for example.

The ring fence has protected the interests of customers and provided stability for the appointed business in the event of takeovers, mergers and diversification. Its effectiveness was demonstrated very clearly when the collapse of Enron, which owned Wessex Water, had no impact on core business customers.

Legislative changes in Scotland

The Water Industry (Scotland) Act 2002 merged the three water authorities to create Scottish Water. The Act defined Scottish Water's core functions and gave it wide-ranging commercial powers.

Scottish Water's core functions

The 2002 Act defines Scottish Water's core functions[54] by reference principally to the:

- Sewerage (Scotland) Act 1968; and
- Water (Scotland) Act 1980.

In practice this means that Scottish Water's core functions comprise a wide range of defined statutory functions.

Scottish Water's commercial powers

Section 25 of the 2002 Act also allows Scottish Water to pursue commercial activities, subject to Ministerial Guidance. It provides that Scottish Water can:

- form or promote (whether alone or with others) companies (within the meaning of the Companies Act 1985);
- subscribe for share or loan capital of any person;
- guarantee the discharge of any obligation (whether financial or not) of any person;
- form partnerships, enter into arrangements or agreements and co-operate in any way with any person; and
- enter into a contract with any person for the provision or making available of assets or services, or both (whether or not together with goods) whether by Scottish Water or by that person.

[54] Scottish Water's core functions are defined in section 70(2) of the 2002 Act as its functions under or by virtue of the Sewerage (Scotland) Act 1968 and the Water (Scotland) Act 1980.

Section 25(1) of the 2002 Act requires non-core activities to be "not inconsistent with the economic, efficient and effective" exercise of its core functions.

The Act does not define non-core activities. If an activity is required by statute it is core, if not, it is non-core.

Change to the remit of the Water Industry Commissioner

The 2002 Act also altered the Commissioner's remit so that it was consistent with the powers and duties conferred on Scottish Water. At the time of the Strategic Review of Charges 2002-06, our remit, as defined in statute, was to promote the interests of customers of the three former water authorities.

The 2002 Act limited the remit of the Commissioner to the promotion of the interests of customers of Scottish Water's core business.

The Water Industry (Scotland) Act 2002 sets out the Commissioner's role:

"The Commissioner has the general function of promoting the interests of customers of Scottish Water in relation to the provision of services by it in the exercise of its core functions."[55]

Also, the Commissioner's advice on charges is to have regard to:

"The economy, efficiency and effectiveness with which Scottish Water is using its resources in exercising its core functions."[56]

This was an important change to the Commissioner's remit, bringing it more into line with that of Ofwat in England and Wales. As we have noted above, Ofwat's responsibilities extend to customers of the appointed business only.

Separation of core and non-core activities in Scotland

Practical implications of the Water Industry (Scotland) Act 2002

The change in our remit to promote the interests of customers of Scottish Water's core business has had a major impact on this Strategic Review.

In this draft determination we have set charge limits for Scottish Water's core services – water and waste water services to household customers and all wholesale services to licensed retailers. As discussed in the next chapter, the new Commission will regulate retail charges until that market is fully competitive.

In setting charges, we have considered only the costs incurred by Scottish Water in providing core services. We have not taken account of the funding needs of Scottish Water's non-core activities.

We have used many of Ofwat's tools to ensure that we distinguish between core and non-core costs. These include the introduction of regulatory accounts and clear rules on transfer pricing. This has enabled us to describe core functions at a more detailed level than is provided for in the legislation. It has also improved the transparency of the charge setting process. We are able to ensure that Scottish Water's core costs are allocated in an accurate way.

The definition of core and non-core activities

The core functions that Scottish Water performs are defined in statute at a high level. This has been our first point of reference. However, in order to fulfil its core functions, Scottish Water undertakes many activities which are not defined in statute. The picture is further complicated because Scottish Water also employs some of its assets to provide non-core services. For instance, Scottish Water is required to test the quality of water supplied to customers, but it may choose to own laboratories and to provide scientific services to commercial customers. The transfer pricing rules are

55 Water Industry (Scotland) Act 2002 section 1.
56 Water Industry (Scotland) Act 2002 section 33.

important as they will ensure that Scottish Water's core business pays a fair price for laboratory services.

The definition of core activities must be based on statute, but must also be sufficiently detailed to allow appropriate accounting separation. Ernst & Young has helped us to arrive at a working definition of core activities for accounting purposes. This work followed a three-stage process:

- **An examination of the statutory definition of core functions** – conducted with reference to those enactments, principally the Water (Scotland) Act 1980 and Sewerage (Scotland) Act 1968, imposing duties on Scottish Water.
- **Reconciling the activities undertaken by Scottish Water with the appointed activities undertaken by the companies in England and Wales** – Appendix 3 of Ofwat's RAG 4.02 ('Guidelines for the analysis of operating costs and assets') provides a set of comprehensive descriptions of the activities it expects a water and waste water undertaker to perform to fulfil its licence conditions. Activities that were not directly identified in statute as core were matched, where possible, with Ofwat's definition.
- **Consultation with Scottish Water** – where activities were not identified in statute, or could not be conclusively reconciled with Ofwat's definition, we consulted Scottish Water on its view of whether an activity was core or non-core.

We used this process to establish a comprehensive understanding of core activities. Where an activity undertaken by Scottish Water could not be identified as core, it was assumed to be non-core.

We have defined the following activities as core for regulatory accounting purposes[57]:

- Abstraction, treatment, storage, conveyance and distribution of potable water.
- Conveyance, treatment and disposal of waste water, including public septic tanks.
- Water and environmental quality management.
- Emergency planning and response.
- Physical disconnection.
- Household customer accounting and billing.
- Household customer credit management.
- Household customer contact management.
- Household customer billing complaints, enquiries resolution and Guaranteed Minimum Standards (GMS).
- Operational complaints resolution and GMS for all customers.
- Provision of water, sewerage and trade effluent services to non-household customers under ss. 17 and 20 of the 2005 Act.[58]

Implications for Scottish Water's non-core activities

Although Scottish Water's non-core activities are now not within our remit, we have to ensure that they do not affect the core business. In order to minimise this risk, Scottish Water and the Scottish Executive will need to consider:

- sources of funding for the non-core business; and
- the extent of legal separation between core and non-core activities.

Funding

The costs or investment needs of non-core activities have not been included in the charge limits for customers determined by this Review. Scottish Water may not use any of the resources made available in this draft determination to fund non-core activities.

Consequently, Scottish Water will have only two sources of capital for new and existing non-core activities;

57 This list also takes account of the retail/wholesale split described in Chapter 10.
58 These provisions require Scottish Water to continue to supply water, provide sewerage (or, as the case may be, dispose of sewage) and provide trade effluent services to the occupier of premises where arrangements between that occupier and a licensed provider have come to an end in specific circumstances.

retained income from non-core activities and, perhaps, borrowing from the Scottish Executive.

Any such lending should be at commercial rates since the majority of the non-core services Scottish Water provides are open to competition. If non-core activities are funded with public debt at preferential rates, Scottish Water would be vulnerable to challenge. There would be a particularly high risk of challenge if a significant capital outlay were required.

The future funding of Scottish Water's non-core activities is a matter for the Board of Scottish Water and the Scottish Executive as its de facto owner. Our remit does not extend beyond the need to ensure that these non-core activities do not impinge on core activities. In this regard, the introduction of regulatory accounts has been critical.

Formal separation

At present, Scottish Water has both core and non-core activities. These are only separated by the audited regulatory accounts. There is no formal legal separation.

Scottish Water may choose to form a separate legal entity to be responsible for any non-core activities. A number of the privatised water companies in England and Wales, and other public sector organisations such as Royal Mail, have separated non-core activities. There are a number of possible advantages to be gained from this greater degree of separation:

- **It would reduce the risk of distraction** – if Scottish Water's non-core business(es) had its own board of directors and management, the directors of the core business would be able to focus on the core business alone.

- **It would ease the policing of transfer pricing** – as two separate legal entities, Scottish Water and the non-core business would need to formalise any working arrangements or shared services in legal contracts. This would simplify the monitoring of transfer pricing.

- **It would provide greater transparency** – legal separation of core and non-core activities would reduce the likelihood that customers of the core business are disadvantaged by expansion into non-core activities.

Equally, it could help the non-core business to demonstrate that it does not enjoy an unfair advantage because of its relationship with Scottish Water.

Conclusion

In the last Strategic Review of Charges we noted that non-core business is more risky, and that the focus of Scottish Water should be on its core activities. This remains our view.

The change in our remit in 2002 was an important step towards ensuring that Scottish Water's core customers are not disadvantaged as a result of Scottish Water's non-core activities. We have used regulatory accounts and transfer pricing rules to distinguish between core and non-core costs and to monitor the allocation of costs. This ensures that charges to core customers only reflect the costs of providing core services.

Section 2: The introduction of regulatory accounts

Chapter 9: The retail and wholesale separation

Introduction

In this chapter we outline the likely impact of the Water Services etc. (Scotland) Act 2005 and, in particular, the framework for competition that is introduced by the Act. We also examine this framework in the light of the benefits that have accrued to customers from the introduction of retail competition in the gas and electricity industries.

Introduction of retail competition in the Scottish water industry

Competition law

Until recently there was little competition in the supply of water and sewerage services. There were a few small brokerage (retail)[59] deals and some larger users had made alternative arrangements outside the public network. The Competition Act 1998 came into force in March 2000. It prohibits agreements, business practices and conduct that damage competition in the UK. The Act prohibits:

- anti-competitive agreements (known as the Chapter I prohibition); and
- abuse of a dominant market position (known as the Chapter II prohibition).

The Scottish Executive has also recognised that, subject to safeguards which ensure that broader policy objectives can be delivered, it may be beneficial to introduce some competition into the water and sewerage industry in Scotland.

The Water Services etc. (Scotland) Act 2005

The Water Services etc. (Scotland) Act 2005 received Royal Assent in March 2005. It contains provisions that establish a framework for retail competition in the Scottish water industry. This separates Scottish Water's retail activities from its network and treatment activities. More specifically, the Act includes the following provisions:

- It prohibits common carriage. Scottish Water will remain responsible for operating the public network, abstracting and treating water, and treating and disposing of waste water.
- Retail competition is restricted to non-household customers. Scottish Water will continue to provide all aspects of the water and waste water service to household customers.
- Scottish Water is required to establish a retail subsidiary.
- Retailers, including Scottish Water's subsidiary company, will be licensed. They will be held accountable for their performance through their licences.
- It establishes a Water Industry Commission to replace the Water Industry Commissioner. The Commission will administer licences to retailers and monitor compliance.
- The Commission is required to set charges for Scottish Water's wholesale services.

The introduction of competition in other utilities

In the fixed-line telecommunications, gas and electricity industries, there is a clear natural monopoly. This is because the distribution networks are expensive to build and maintain so it would be difficult and expensive for a competitor to replicate them. There are other activities, such as the retail element of the supply chain, where the economic rationale for a monopoly is less persuasive.

During the 1980s and 1990s, both the gas and electricity industries underwent significant changes. They are no longer statutory, vertically integrated[60] monopolies. Government and regulators have separated off the elements of the supply chain that were not a natural monopoly and have allowed competition in those areas.

59 Brokerage: a deal by which water is sold to customers by a third party, who is not responsible for anything other than the final supply of water to a customer's premises. Off-network: a privately owned water supply or waste water treatment and disposal system that reduces or eliminates the need for a connection to the public water and waste water system.

60 A vertically integrated company carries out the functions of production, distribution and supply.

Development of competition in the gas industry

Until 1982, the British gas industry operated in a similar way to the way in which the Scottish water industry operates today. British Gas was a publicly owned monopoly which abstracted, conveyed and sold gas to household and non-household customers across the UK. In 1982, the Oil and Gas Enterprise Act introduced an element of competition into the industry by permitting large users (those with an annual usage of 25,000 therms or over)[61] to buy their gas from other suppliers. Under the framework, however, any new suppliers into the market had to rely on British Gas to transport gas. No new suppliers entered the market.

In 1986, the Gas Act (1986) privatised British Gas and established Ofgas as the economic regulator. The Act required three separate activities in the gas supply chain to be licensed: shipping, transportation and supply. However, British Gas retained its vertically integrated structure. It acted as producer, transporter and supplier of gas. Moreover, British Gas was the only transporter.

In 1987, Ofgas referred British Gas to the Monopolies and Mergers Commission (MMC) for abuse of its monopoly position. Ofgas believed that, as the seller of gas and owner of the transportation system, British Gas had too much scope to prevent competition from developing in the supply market. The MMC made a series of recommendations to encourage the growth of competition. In 1989, a more accessible framework for common carriage was introduced. In 1991, a report by the Office of Fair Trading (OFT) suggested that these changes had been largely ineffective.

The Competition and Services (Utilities) Act 1992 included provisions to facilitate greater competition in the supply of gas. It provided for the reduction of British Gas' existing monopoly threshold from 25,000 therms to 2,500 therms, essentially opening up to competition all but the smallest non-household customer[62]. Under the provisions of the Act, British Gas retained two separate monopolies, one for the transportation and storage of gas, the other for the supply of household customers.

British Gas' competitors were, however, almost completely dependant on British Gas to provide storage and transportation services. In 1992, the MMC recommended a full legal and physical separation of British Gas' distribution and trading functions by 1997, with accounting separation to be introduced by 1994. The Secretary of State allowed all activities to remain part of British Gas, conditional on a full accounting separation and open access to the entire gas market by 1998. Transco was established in 1996 as a separate business unit of British Gas to operate the distribution business.

The introduction of the Gas Act (1995) provided for full liberalisation of the supply market, for both household and non-household customers. It removed the 2,500 therms threshold set in the 1992 Act.

Development of competition in the UK electricity industry

The electricity industry in England and Wales has followed a similar path.

The electricity supply chain comprises four main components: generation, transmission, distribution and supply. In England and Wales the supply chain was divided into two main components; generation and transmission, and distribution and supply (retail). Until 1989, generation and transmission was the responsibility of the Central Electricity Generating Board (CEGB). Distribution and supply was the responsibility of 12 regional electricity boards, each of which was a local monopoly. In Scotland, the North of Scotland Hydro-Electric Board (NSHEB) and the South of Scotland Electricity Board (SSEB) were vertically integrated and were responsible for generation, transmission, distribution and supply in their respective areas.

The Electricity Act 1989 restructured the industry. It divided the CEGB generation between three companies: National Power, PowerGen and Nuclear Electric. The CEGB's transmission responsibilities were transferred to a new company, National Grid. The 12 regional boards became independent companies

61 1 therm is approximately 2.9 kWh.
62 In 1992, 2,500 therms was about equivalent to an annual bill of at least £1,200. See Stoppard, M., Competition and Regulation in the Gas Industry: An Evaluation of the MMC Report on Gas in the UK (Oxford Institute for Energy Studies, 1993), p.6.

(Public Electricity Suppliers, or PESs), which were licensed to distribute and supply electricity within a geographic area. They remained monopolies in supplying customers with a demand of less than 1 Megawatt (MW). The public electricity suppliers jointly owned the National Grid Company.

In Scotland, the industry remained largely vertically integrated, with the responsibilities of the NSHEB and the SSEB passing to Scottish Hydro-Electric, Scottish Power and a nuclear generating company, Scottish Nuclear. As in England and Wales, customers with a demand higher than 1MW were able to choose from a range of licensed suppliers; for those customers with demand below 1MW the regional licensed supplier retained its monopoly.

In 1994 the threshold for competition was reduced to 100KW and in 1998 competition was extended to all customers.

The Utilities Act (2000) completed the separation of the supply and distribution functions of the PESs. It required the full legal separation of the PESs' supply and distribution functions. The integration of distribution and supply functions limited the opportunity for new suppliers to enter the market.

The 2000 Act also introduced the New Electricity Trading Arrangements (NETA). NETA replaced the existing electricity pool, and was designed to place a further downward pressure on electricity wholesale prices. A study by Ofgem on the effects of NETA appears to confirm its success. NETA has now been replaced by the British Electricity Trading and Transmission Arrangements (BETTA) which has put in place new arrangements as from 1 April 2005 which apply across Great Britain, in essence, extending the methodology that applied to England and Wales to Scotland also.

Telecommunications

British Telecom (BT) was privatised in 1984 as a fully vertically integrated company. At that time, Mercury (a subsidiary of Cable and Wireless) was also licensed as a supplier of telecommunications services. Britain pursued this policy of duopoly from 1984 until 1991. Despite there being some degree of competition in the market, Oftel[63] continued to set retail prices.

Although competition has gradually increased, the structure of the telecommunications industry appears to have reduced the scope for effective competition. For example, some operators require customers to have a BT connection. These customers therefore receive two bills, one for the fixed charge line rental and the other for their call charge. This situation arises because BT had been two separate businesses, with the wholesale business selling to its retail business (as well as other retailers).

Competitors have made a number of complaints alleging that other BT activities have subsidised BT's retail services. This would possibly have been an abuse of its dominant position. It appears that some of these complaints reflect a perceived lack of transparency in pricing for various services. There have also been a number of allegations that the BT retail business had a first-mover advantage over other retailers.

Most of the complaints against BT have not been upheld[64]. However, the number of complaints highlights the importance of a transparent pricing system and of the arm's length relationship between the wholesaler and its retail business.

Benefits to customers

Both the gas and electricity industries have significantly improved their efficiency.

Industrial gas prices fell by more than 40% in real terms between 1992 and 1996. In 1999, industrial gas prices were some 45% lower than in 1990. Industrial prices for electricity in 1999 were 22% lower in real terms than in 1994. They were 26% lower than in 1990.

63 The Office for Telecommunications (Oftel) was the economic regulator. Its functions have now been transferred to Ofcom, the office for Communications Regulation.

64 An example of a complaint that was upheld was when BT moved to introduce a caller display promotion involving three months' free service and use of BT's caller display equipment. Complaints were made regarding the time between the announcement of the intention to provide this offer and the offer sart date. Competitors felt that there was insufficient time for them to ensure thay had sufficient stock to compete with BT for the expected demand. It was upheld that BT was in breach of its licence obligations.

Household prices have also fallen. By 2002, the average annual household electricity bill had fallen from £268 to £238 (a reduction of 11%) and the average annual household gas bill from £375 to £308 (18%)[65]. By 2004, 47% of gas customers and 51% of electricity customers had switched supplier at least once. The available evidence suggests that customers from all social groups and across the country are switching suppliers at similar rates[66].

Levels of service have not been adversely impacted. Ofgem raised the expected standard of service that is required of energy companies, and analysis suggests that suppliers' performance has improved. The number of failures to meet guaranteed standards per 100,000 electricity customers has fallen consistently from more than 50 in 1991-92 to under 10 in 1998-99[67]. In 1996, British Gas responded to 76% of letters within five days; by 1999 this was 100%.

A paper by Professor Stephen Littlechild[68] electricity regulator at the time of the introduction of competition in electricity. He noted that large customers benefit from better prices, value-added service and terms. The benefits of such competition for smaller customers include bundling with other utilities and more flexible tariffs and payments terms.

He also noted that a dynamic retail market exerts pressure on the wholesaler to be more responsive and efficient. There is a keener wholesale market, offering lower prices and greater responsiveness. Such lower prices and better service result from greater efficiency and innovation in reponse to customer demand.

The District Network Operators (DNOs) have a natural monopoly in the local distribution of electricity. The Cambridge Economics Policy Associates (CEPA) conducted a study for Ofgem in November 2003[69]. The study looked at total factor productivity (TFP) for DNOs.

TFP measures the efficiency of a producer in using all of the inputs in its production processes to produce valued outputs. It includes capital, labour and raw materials. Measures of partial factor productivity (PFP) can be used to determine the efficiency of a single input such as capital expenditure or operating expenditure.

Table 9.1 shows the volume adjusted trend productivity growth astimates for UK DNOs[70]. They are volume adjusted to allow for any economies of scale.

Table 9.1: Volume adjusted trend productivity annual growth estimate for UK DNOs

	1991-92-1996-97	1996-97-2001-02
TFP	2.6%	5.2%
TFP including quality	2.7%	5.2%
PFP, operating expenditure only	4.9%	9.2%
PFP, capital [expenditure] only	0.6%	1.8%

This study found that the DNOs had made significant improvements in their productivity following privatisation. As Table 9.1 also shows, there was an even greater improvement in productivity after the introduction of full competition to the electricity industry.

The role of regulatory accounts in the Scottish Water industry

Defining retail and wholesale activities

The Water Services etc. (Scotland) Act 2005 has required us to set both the overall level of wholesale charges and a retail charge cap.

We used the regulatory accounts to define retail and wholesale activities in detail.

The definition of retail and wholesale activities at a high level is relatively straightforward:

- Retail is the selling of goods or services directly to consumers; it is usually in small quantities and the goods or services are not for resale.
- Wholesale is the selling of goods or services to merchants, usually in large quantities and for resale to consumers.

65 Ofgem, Competition in electricity and gas supply – separating fact from fiction (2002).
66 Ofgem, Domestic Competitive Market Review (2004).
67 Quoted in DTI, The Social Effects of Liberalisation: the UK Experience (Lisbon, 2000).
68 Stephen C Littlechild, 'Competition in retail electricity supply', Journal des Economistes et des Etudes Humaines, September 2002.
69 Cambridge Economic Policy Associates, 'Productivity improvements in distribution network operators', November 2003, available at www.ofgem.gov.uk.
70 Cambridge Economic Policy Associates, 2003.

Many markets make a distinction between wholesale and retail activities. Retailers specialise in knowing and understanding customers: what they want to buy and how they would like it to be provided. They benefit from economies of scale by buying the product wholesale, and from economies of scope by selling the products and services of different suppliers to their customers.

In defining Scottish Water's retail and wholesale activities, our starting point was to define all customer-facing activities as retail. In this model, a non-household customer should only interact with their retailer. This is similar to the situation in other industries. We would not seek to return a faulty garment to the wholesaler or to the factory where it was made.

We identified the following retail activities:

- retail pricing and tariffs;
- the billing process;
- collection of charges;
- debt follow up and debt management;
- meter reading and customer meter operations;
- call and correspondence handling;
- responses to customer enquiries, complaints or requests for information;
- key account management;
- liaison with the wholesaler to deal with customer issues;
- marketing;
- managing the connection/disconnection process;
- scheduling septic tank emptying; and
- supporting wholesale emergency responses.

The overall level of wholesale charges that we have set is consistent with this definition.

Transfer pricing

We will scrutinise the transfer prices for goods and services between Scottish Water and its associate companies. The prices should be based either on actual costs or market prices.

On 1 April 2006 the new Commission will license the retail subsidiary of Scottish Water. Scottish Water will be expected to record details of all transactions between the wholesale and retail companies.

A failure to implement transfer pricing effectively could result in undue cross-subsidy. For instance, if Scottish Water chooses to outsource some of its functions to its retail subsidiary, and pays a price which is higher than the cost of providing the service itself, then household customers would effectively be subsidising the operations of the retail subsidiary. Transfer prices should be based on the market price for the service provided.

It is a stated objective of the Scottish Executive that no customer group should be adversely affected by the introduction of the competition framework. By asking Scottish Water to provide information on transfer prices in its regulatory accounts, we can ensure that no customer group is disadvantaged.

Licensing regime

Licensing will play an important role in the new market. It will govern the relationship between Scottish Water, its retail subsidiary and new entrants.

New entrants wishing to supply non-household customers will be required to apply for a licence. This should ensure that all companies in the market operate on a level playing field.

New entrants to the market may apply for either or both of the following types of licence:

- Water – establishes a right for the holder to supply non-household customers with water services.

- Waste water – establishes a right for the holder to supply non-household customers with waste water services.

New entrants will be required to demonstrate that they have the necessary financial resources and managerial and technical competency to satisfy the licence conditions.

Significant preparatory work and consultation with stakeholders will be required before Scottish Water's retail subsidiary can be licensed in 2006. In April 2005 we issued our first consultation paper on licences. This discussed the principles that should underpin the licensing regime. In October 2005 we will issue our second consultation paper, which will cover the draft licence conditions for Scottish Water's retail subsidiary.

While the exact nature and content of licences is still subject to consultation, we expect that licences will:

- define the service to be provided;
- govern relationships between:
  - wholesaler and retailer,
  - retailer and non-household customer,
  - regulator and retailer (particularly the provision of information to the regulator);
- govern participation in the market;
- set out expectations for behaviour by market participants; and
- provide a vehicle for enforcement, sanction or ultimately removal of the licence and expulsion from the market.

Licences will play a key role in governing the responsibilities that retailers have to both Scottish Water, as the wholesaler, and their non-domestic customers.

Retailers will be able to enter into separate agreements with Scottish Water. Such agreements may be for the provision of additional services which are not included in the overall level of wholesale charges.

Licences will specify the services that retailers must provide to non-household customers, and the wholesale services they can expect to receive from Scottish Water. In many instances, retailers may choose to outsource activities. However, ultimate responsibility for the provision of that service will lie with the retailer.

Compliance regime

The 2005 Act places a duty on the new Commission to monitor compliance with the terms and conditions of licences and, where necessary, to take action to ensure compliance.

We discussed the introduction of a compliance regime in our April consultation.

As part of the compliance regime, we will have to develop processes to monitor compliance. We will also require Scottish Water to develop appropriate systems to demonstrate compliance. The nature of the compliance regime will in part depend on the extent to which Scottish Water and Scottish Water's retail subsidiary continue to share costs. It is possible that Scottish Water and its retail subsidiary may initially continue to share personnel, facilities and human resources functions. Scottish Water must ensure that these activities are properly documented, and that transfer pricing rules are observed.

Funding

The retail subsidiary of Scottish Water will be operating in a competitive market and, as such, will have to pay a market rate for capital.

This should not preclude the Scottish Executive from being a source of these loans. However, it will be important that the Scottish Executive can demonstrate that the costs of funds reflect the market rate.

Conclusion

The framework for competition for the Scottish water industry introduced by the Water Services etc. (Scotland) Act 2005, has many similar characteristics to that employed in the energy supply industries. It involves the liberalisation of one part of the value chain, while the remainder stays a monopoly. The requirement for Scottish Water to establish a retail subsidiary to operate in the competitive market will do much to ensure that, as the incumbent, Scottish Water is not provided with an unfair advantage in that market. This is consistent with lessons learned from the disaggregation of the energy supply activities.

Regulatory accounts will prove to be a vital means by which to monitor this separation in the future and to demonstrate that there is no preferential treatment. They have allowed us to collect the information necessary to determine an overall level of wholesale charges that reflects the true costs of Scottish Water. We have ensured not only that all participants in the new market pay a fair charge, but also that Scottish Water has the revenue it requires to continue to provide services to all of its customers.

Section 2: The introduction of regulatory accounts

Chapter 10: Proposed regulatory accounts

Introduction

In this chapter we discuss the form of the regulatory accounts for the Scottish water industry. These were prepared on behalf of this Office by Ernst & Young LLP, supported by Black and Veatch Consulting Limited.

The outputs of the project were as follows:

- A complete set of regulatory accounting guidelines designed specifically for Scottish Water, but consistent where appropriate with those developed by Ofwat.
- A set of regulatory returns (both definitions and tables) capable of detailing all of the required information for the core business, separated into wholesale and retail activities. These returns will be fully consistent within themselves, and reconcilable in principle to the statutory accounts.
- A set of detailed guidance to auditors and Reporters, to enable them to audit regulatory account submissions effectively.
- A series of draft versions of the above, enabling Scottish Water to provide feedback which, where possible, will be taken into account in developing final versions.

The regulatory accounts project

Business activity separation

Ernst & Young outlined in a detailed report the process they had gone through to define the core and non-core separation and the wholesale and retail separation. The report also detailed both the issues that arose when undertaking the project and those which Ernst & Young believe may arise if an effective separation of Scottish Water is to be made in 2006. Copies of the report are available on our website at www.watercommissioner.co.uk

Regulatory returns – tables and supporting definitions

Ernst & Young developed a series of tables specifically for the Scottish water industry. They are accompanied by definitions which clearly outline what must be reported in each cell of the table. These M and N tables will now form part of the Annual Return submission completed by Scottish Water each year.

The tables are shown in Table 10.1.

Table 10.1: The M and N Tables

M1/M2	Analysis of operating costs for water and waste water respectively.
M1A/M2A	Analysis of turnover for water and waste water respectively.
M1B/M2B	Analysis of fixed assets for water and waste water respectively.
N1/N2	Summary of transfer pricing – capital expenditure and profit and loss respectively.

Regulatory accounting rules (RARs)

The RARs developed by Ernst & Young are broadly the same as Ofwat's regulatory accounting guidelines. They follow the same structure but are tailored to reflect the legal situation in Scotland.

In addition, Ernst & Young also wrote an introduction to the RARs, which summarises the five main RARs, and provides a summary glossary of terms.

We summarise the content and the purpose of the RARs in Table 10.2.

Table 10.2: The regulatory accounting rules

	Title	Purpose
	Introduction to RARs	Provides a brief overview of each RAR and a glossary of terms compiled from all five RARs.
RAR 1	Accounting for current costs and regulatory capital values	Discusses the requirements for current cost accounts, limitations on uses and various simplifications adopted for application in the Scottish water industry.
RAR 2	Classification of expenditure	Classifies expenditure by purpose category.
RAR 3	The contents of regulatory accounts	Covers the requirements for accounting information, and the rules by which regulatory accounts should be completed each financial year.
RAR 4	Analysis of operating costs and assets	Covers the form, content and principles of the analysis of operating costs, revenues and tangible fixed assets.
RAR 5	Transfer pricing	Provides guidance on the procedures and methodologies to be followed when completing transactions between the core and non-core activities and associate entities.

Section 3: Business plans and guidance
Chapter 11: Review of the timeline

Introduction

We are committed to the principles of the Better Regulation Task Force of transparency, accountability, proportionality, consistency and targeting. Our approach to the Strategic Review of Charges 2006-10 was based on a clear timeline which set out in detail:

- the dates by which Scottish Water needed to provide information;
- the points at which stakeholders could influence the Review; and
- dates when we would comment on our progress.

This chapter reviews the key dates in the timeline.

We were fortunate that Scottish Ministers commissioned the Strategic Review of Charges in May 2004 and that the Quality and Standards III process had already begun a year earlier. Although there were still likely to be time constraints if Scottish Water was going to have the time to supply two draft business plans, commissioning the Review in May allowed us to adopt a staged approach.

The timeline for the review process was originally outlined in Volume 1 of our methodology consultation, which was published in July 2004.

We have published all information relating to this Review on our website (with the exception of Scottish Water's first draft business plan). This has helped to ensure that customers and stakeholders, including Scottish Water, have been kept up-to-date and fully informed about our progress in completing this Review. We hope that stakeholders have found this useful.

We have collected a wide range of investment performance, customer service and financial information from Scottish Water. For example, Scottish Water has submitted two drafts of its business plan for the 2006-10 period. These drafts supplemented the standard regulatory returns and set out Scottish Water's strategy and objectives for the coming period. As such, they were a key element of the process for the Strategic Review of Charges 2006-10.

We have recognised from the start that we are considering issues that have important implications for stakeholders. We have therefore held a series of stakeholder information days. At these meetings we provided information about our progress, listened to representations from stakeholders and explained our approach. We have taken full account of the comments of stakeholders in this Strategic Review.

We have held these stakeholder meetings approximately every six weeks since publication of Volume 1 of our methodology consultation.

A critical input to the review process has been the Guidance we received from the Scottish Ministers. In May 2004, Ministers provided high-level Ministerial Guidance that set out the principal factors that we were to consider when preparing the draft determination.[71] In February 2005, we received detailed Ministerial Guidance on the Scottish Executive's objectives for this review.[72] This detailed Guidance set the key customer service standards, investment and principles of charging parameters for Scottish Water. We have assessed the lowest reasonable cost of delivering these objectives.

Following publication of this draft determination, the new Water Industry Commission may receive final Guidance from Ministers. This will inform the final determination in November 2005.

We are content that the timeline we developed for the Review has provided customers and stakeholders with sufficient opportunities to consider the relevant issues and provide input to the process.

Key dates

The detailed work plan for the Strategic Review of Charges 2006-10, published in July 2004, provided

[71] This initial guidance was contained in the commissioning letter of 26 May 2004 from the Minister for Environment & Rural Development, Ross Finnie MSP, to the Commissioner.
[72] This detailed guidance was contained in the letter of 9 February 2005 from the Deputy Minister for Environment & Rural Development, Lewis MacDonald MSP, to the Commissioner.

information about more than 180 events[73]. These ranged from relatively minor information submissions to major events such as the publication of this draft determination. We review below the key dates in the timeline after the publication of the Ministers' objectives.

9 February 2005 – detailed Ministerial Guidance

On 9 February 2005 we received detailed Ministerial Guidance with regard to the objectives and standards that Ministers require Scottish Water to deliver during this regulatory control period. This Guidance superseded the initial Guidance contained in the commissioning letter. It included the conclusions from the Scottish Executive's consultations on the principles of charging and the investment priorities for the water industry in Scotland[74].

The Scottish Executive set out the following principles of charging:

- charges should be harmonised, ie customers in any given group should continue to pay the same rate for the same services, wherever they are in the country;
- the 25% discount on charges for single adult households should be maintained;
- a new 25% discount for low-income families should be introduced;
- the discount for second homes should be abolished; and
- the imbalance between the charges levied on non-household and household customers should be reduced (by £44 million), but in a manner which is best calculated to minimise the impact on household charges.

The Quality and Standards III process[75] was designed to identify Scottish Water's investment priorities for the period 2006-14. The detailed Ministerial Guidance contained the Executive's conclusions on this investment programme and their assumptions about the level of borrowing that would be available to Scottish Water between 2006 and 2010. This was vital information which underpins our draft determination of Scottish Water's charges for the period 2006-10.

The Ministerial Guidance identified the following three broad objectives:

- to achieve the maximum affordable improvements in public health and environmental protection standards;
- to support housing and economic growth across Scotland through investment in new infrastructure capacity; and
- to ensure that charges are affordable, stable and sustainable across the period.

The investment objectives were then split into two separate categories: 'essential' objectives and 'desirable' objectives. The essential objectives are:

- to improve the quality of 530 kilometres of rivers and coastal waters;
- to improve the quality of drinking water for 1.5 million people across Scotland;
- to tackle constraints on new development by allowing an estimated 120,000 new homes and more than 4,000 hectares of land for commercial development, to be connected to public networks;
- to take action on odour from 35 waste water treatment works; and
- to remove more than 1,100 homes from the risk of sewage flooding.

We were asked to ensure that Scottish Water's charges were set in such a way as to allow these 'essential' objectives to be achieved irrespective of their impact on customers' charges. In addition, Ministers asked us to

73 The timeline is published in full in our document 'Our work in regulating the Scottish water industry: Setting out a clear framework for the Strategic Review of Charges 2006-10', Volume 1.
74 Scottish Executive consultations 'Investing in Water Services 2006-14' and 'Paying for Water Services 2006-2010' both published in July 2004 by the Scottish Executive.
75 See Volume 5, Chapter 5.

determine how many of their 'desirable' objectives could be delivered without compromising the goals of efficient delivery of investment and stable charges[76].

23 February 2005 – second draft investment plan passed to Reporter

Scottish Water was required to submit its investment proposals for the second draft business plan to the Reporter. This investment programme had to be fully consistent with the detailed investment objectives set out in the Ministerial Guidance.

Our guidance required the capital investment programme to be defined at a project level. For each project, we asked for information about forecast costs and outputs.

20 April 2005 – second draft business plan issued

The second draft business plan was Scottish Water's final opportunity to communicate its strategy, objectives and resource requirements to this Office ahead of the draft determination. The second draft business plan was required to reflect the guidance that we issued in December 2004 and the Ministerial Guidance that was provided in early February 2005.

June 2005 – draft determination published

This draft determination is published as scheduled on 30 June 2005. This contains our draft determination of charge caps for the next regulatory control period. The determination comprises seven volumes:

- Volume 1 The proposed charge caps – an executive summary,
- Volume 2 Introduction and background,
- Volume 3 Our approach to setting charge caps,
- Volume 4 Economic regulation of the public sector water industry in Scotland,
- Volume 5 Financing delivery of the investment objectives of the Scottish Ministers,
- Volume 6 Setting an appropriate level of operating costs,
- Volume 7 Setting charge caps.

We have made our draft determination available on our website. We are keen that they take the opportunity to comment on this draft determination. This is a final chance to influence Scottish Water's charges for the next four years.

August 2005 – final guidance from Scottish Ministers

In August, the Scottish Ministers may provide final Guidance on the Strategic Review of Charges 2006-10 in the light of our draft determination. We expect this guidance to build on the detailed Ministerial Guidance provided in February 2005.

23 September 2005 – closing date for representations on draft determination

The response deadline for representations on this draft determination is 23 September 2005.

November 2005 – publication of final determination

This final determination will set charge caps for Scottish Water for the period April 2006 to March 2010. The final determination will be the responsibility of the new Water Industry Commission. The new Commission will take account of the representations of stakeholders.

Under the new regulatory framework, established by the Water Services etc. (Scotland) Act 2005, Scottish Water may require the new Commission to refer the determination of charges to the Competition Commission.

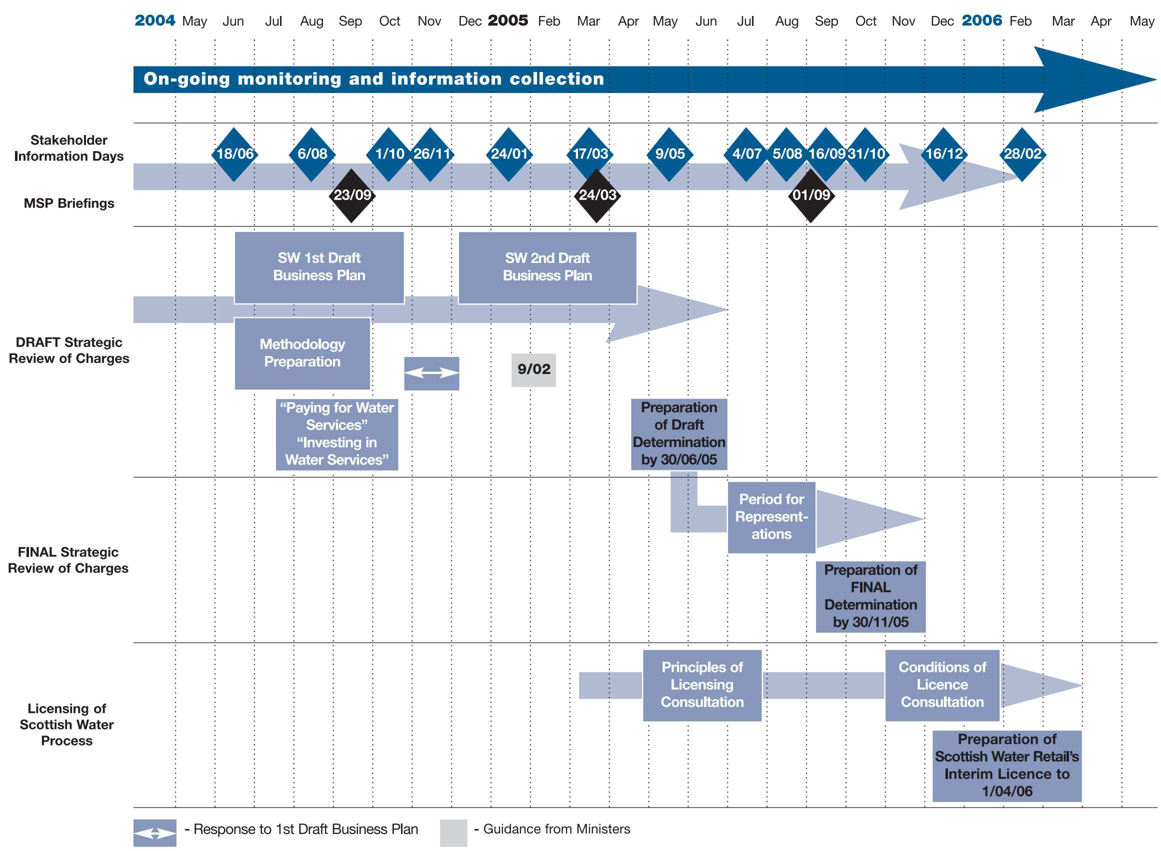
Summary

This chapter provides an overview of the timeline that we followed for the Strategic Review of Charges 2006-10. Our approach has taken account of the Better Regulation Task Force principles of transparency, accountability, proportionality, consistency and targeting. We set the key dates in the timeline well in advance and ensured that stakeholders were properly informed.

76 These desirable objectives and the priority order in which they should be implemented can be found in the ministerial statement on water industry objectives and charging of 9 February, via this link: http://www.scotland.gov.uk/Topics/Environment/Water/17583/Investment

Figure 11.1 (originally published in Volume 1 of our methodology document, in July 2004), provides a useful overview of our work plan.

Figure 11.1: **Timeline for the Strategic Review of Charges 2006-10**



Section 3: Business plans and guidance

Chapter 12: Review of Scottish Water's first draft business plan

Introduction

This chapter reviews Scottish Water's first draft business plan. We first outline the role that the business plan plays in the review process. We then explain the purpose and scope of the plan. The business plan supplements the information contained in the standard regulatory returns and sets out Scottish Water's strategy and objectives for the coming period.

This chapter provides a brief summary of some of the key messages from Scottish Water's first draft business plan.

The chapter concludes with a summary our initial response to Scottish Water's first draft business plan. The plan informed the early stages of the Strategic Review and allowed more detailed analysis of Scottish Water's funding requirements. We also took account of the business plan in developing our guidance for the second draft business plan.

The overall purpose and scope of the first draft business plan

Customers and other stakeholders are entitled to expect Scottish Water to have clear, well-developed plans for the business. We asked for two draft plans to inform our Strategic Review of Charges 2006-10.

The first draft business plan represented Scottish Water's first opportunity to advise us of its strategy.

The main aims of the business plan can be summarised as follows:

- To communicate Scottish Water's long-term strategic plans.
- To allow us to calculate charge limits for 2006-10.
- To allow us to assess the scope for efficiency.
- To reassure us that there is effective stewardship of the assets.
- To reassure us that Scottish Water can maintain its services to customers.
- To allow us to fund the agreed requirements of the Scottish Environment Protection Agency and the Drinking Water Quality Regulator.

We required Scottish Water to provide information on the level of operating and capital costs that it expected to incur. We expected Scottish Water to provide a detailed analysis of the investment programme and its impact on the level of service to customers.

The business plan process

Volume 1 of our methodology consultation, published in July 2004[77], set out the key dates for both the first and second draft business plans. These are shown in Table 12.1.

Table 12.1: Key dates for first and second draft business plans

Date	Event
First draft business plan	
25/06/2004	WICS issues guidance on first draft business plan
05/07/2004	Scottish Water's initial issues to WICS
08/07/2004	Workshop on guidance
16/07/2004	Scottish Water's final issues to WICS
21/07/2004	Guidance to Reporter issued by WICS
28/07/2004	WICS' clarification of Scottish Water issues
01/09/2004	Draft investment plan to Reporter for audit
29/10/2004	Scottish Water submits first draft business plan to WICS
15/11/2004	Workshop on clarification of issues
23/11/2004	Scottish Water Board presentation on key strategic issues
03/12/2004	WICS' response to first draft business plan
Second draft business plan	
8/12/04	Publication of guidance for second draft business plan
14/12/04	Scottish Water's initial issues to WICS
17/12/04	Workshop on guidance
17/12/04	Guidance to Reporter issued by WICS
23/12/04	Scottish Water's final issues to WICS
20/04/05	Scottish Water submits second draft business plan to WICS
5/05/05	Workshop on detail of second draft business plan
12/05/05	Scottish Water Board presentation on key strategic issues
16/05/05	Publication of high-level summary of second draft business plan
30/05/05	WICS' response to business plan and implications for customers

[77] Our publication 'Our work in regulating the Scottish water industry: Setting out a clear framework for the Strategic Review of Charges 2006-10', Volume 1.

In this chapter we focus on the first draft business plan.

Guidance issued to Scottish Water on the first draft business plan

We issued detailed guidance to Scottish Water on the format and content of the plan in order to ensure that we would receive the information necessary for us to set charge limits.

Our guidance for the first draft business plan was similar to that which Ofwat uses for the companies south of the border. However, we took full account of the Scottish context in framing our information requirements. For example, we did not consider it necessary to include a detailed asset inventory and cost base analysis.

The guidance divided the business plan into the following parts:

Part A: Overview
Part B: Detailed supporting information

B1: The business environment and the longer term
B2: Improving efficiency
B3: Maintaining service and serviceability
B4: Quality enhancements
B5: Supply/demand
B6: Service delivery
B7: Financial (including financial model outputs)

Investment plan

We provided specific guidance to Scottish Water for each section of the business plan.

Our guidance included a number of tables and definitions that specified the information required. This information covered the full range of costs that Scottish Water was likely to incur.

Submission of the first draft business plan

Scottish Water submitted its first draft business plan to this Office and to the Scottish Executive on 29 October 2004. It also provided a short public summary. The structure of the business plan was consistent with the guidance. Scottish Water also provided a few additional sections.

In Part B of the business plan (which contains the detailed supporting information) Scottish Water added an additional section (B9). This section provided information about the anticipated effect of the introduction of a framework for retail competition on Scottish Water's operations. Scottish Water believed that this information could be helpful.

Scottish Water also provided a separate document entitled 'Special factors'. This document highlighted the areas in which Scottish Water considered that its operating costs were necessarily higher than those incurred by other water and waste water companies against which they could be benchmarked.

The overview in the business plan contained a summary of Scottish Water's proposed investment strategy and its pricing proposals. It also contained the key assumptions that underpinned the level of charges it believed was required.

Key messages from Scottish Water's first draft business plan

Scottish Water included the following in its first draft business plan. These were summarised in Part A: Overview (entitled Strategy in the business plan).

- Scottish Water had sought to strike a balance between the level of charges that it would be seeking to impose on customers, the scale and pace of investment in the infrastructure and the level of additional borrowing that would be required from the Scottish Ministers.

- The key priorities identified by Scottish Water over the period 2006-10 were to maintain or improve existing services, reduce the risk of sewage flooding and improve drinking water quality.

- These priorities had been established after conducting independent customer research and working closely with the Water Customer Consultation Panels.

- In order to meet these priorities, Scottish Water was proposing a substantial investment programme amounting to £2,211 million over four years. This equates to £229 per property in Scotland.

- This level of investment would require price increases of 5% (in real terms) over the period 2006-10.

- The level of borrowing would also need to increase by a further £712 million.

Part B of the business plan then provided the detailed supporting information.

The special factors document sought to justify Scottish Water's view that its allowed operating costs should be significantly higher than those predicted by direct comparisons with other water and waste water companies. The special factors that Scottish Water identified were as follows:

- The Scottish population is spread over a wide geographic area, including many islands. This requires increased travel and a higher number of assets to service smaller communities.

- General overheads for utilities, materials and services are greater. This reflects the fact that the operating costs of companies providing these services in rural Scotland are higher.

- There are higher levels of household debt due to the poor collection records of local authorities and high levels of unemployment.

- Historically there have been lower levels of investment in the water and waste water assets.

The role of the Reporter

The Reporter is the independent auditor of information submissions from Scottish Water[78].

The Reporter and his team play a significant part in the business plan process. The Reporter's role is to review, audit and verify the information submitted in Scottish Water's first draft business plan. This mirrors the situation in England and Wales, where the Reporter has played an important role in establishing a robust regulatory regime.

We asked the Reporter to ensure that Scottish Water's overview in Part A of its business plan was consistent with the detailed information in Part B of its business plan. We also required the Reporter to conduct a detailed audit of the costs and information in the first draft plan and a review of the overall soundness of Scottish Water's proposed strategy.

The Reporter prepared an audit plan which detailed how he proposed to carry out his review of Scottish Water's business plan. This audit plan was discussed with Scottish Water to ensure that the audit process would be as efficient as possible.

A key element of the Reporter's review is to scrutinise the capital investment programme proposed by Scottish Water. The Reporter audited a sample of the programme. He challenged the scope of requirements, the proposed solutions and the basis of cost estimates for the specific schemes.

The Reporter submitted his report to us in January 2005. The key findings of the Reporter were as follows:

- A number of elements of Scottish Water's proposed investment programme had been over-costed (such as expenditure projections on waste water treatment works and leakage reduction works).

- Scottish Water's asset inventory and other related information was not fit for purpose and further work was required to enable accurate projections to be made.

- A number of Scottish Water's costings were not supported by sufficient documentary evidence, for example the property figures for the base capital maintenance expenditure projections.

[78] For a full explanation of the Reporter's role see Volume 2, Chapter 15 of our methodology consultation.

The conclusions on special factors were reached by comparing Scottish Water's position with those of four companies in England and Wales. The Reporter considered that this was not a sufficiently representative sample.

Response to the first draft business plan submission

In the timeline for the Strategic Review, which we published in our methodology document[79], we included the following events after receipt of the first draft business plan:

- a workshop to clarify our understanding of the plan;
- an opportunity for the Scottish Water Board to present its first draft business plan; and
- publication by Scottish Water of a summary of its business plan.

At the time of submitting its first draft business plan, Scottish Water asked for further clarification about the role of the workshop and the format of both the Board presentation and the published summary. Our letter to Scottish Water on these issues is available on our website[80].

First draft business plan workshop

The business plan workshop was organised to allow us to discuss areas of Scottish Water's business plan which we did not fully understand or where additional information would be useful. This included the size of its proposed capital investment programme, the deliverability of this programme given the likely overhang from Quality and Standards II, and its customer research.

Scottish Water Board presentation

The Board of Scottish Water presented its business plan to the Commissioner in Stirling on 23 November 2004. We had asked that the presentation should:

- reflect the thinking behind Scottish Water's overall business plan strategy;
- prioritise presentation of the information according to its relative importance to the review of charges;
- address Scottish Water's role in ensuring that incentive-based regulation worked in the public sector; and
- address the Reporter's concerns regarding Scottish Water's investment programme.

Following the presentation, we asked a number of questions to clarify our understanding of Scottish Water's proposed strategy.

Publication of public summary

On 3 December 2004 we issued a press release to accompany Scottish Water's publication of its summary business plan. We noted that although Scottish Water projected an increase in charges of 5% in real terms (13.6% nominal), we did not believe that such an increase was likely to be required. This view reflected our detailed analysis of Scottish Water's first draft business plan.

Summary

Scottish Water's first draft business plan represented Scottish Water's first opportunity to advise us of its strategy for the future, both in terms of investment in the infrastructure and the charges which it sought to impose on its customers. It was therefore an important input to the Strategic Review of Charges 2006-10.

In its first draft business plan, Scottish Water proposed an investment programme of more than £2.211 billion. It was said that this level of investment would require charge increases of 5% (in real terms) over the period 2006-10. The level of borrowing would also increase by a further £712 million.

Our analysis of the first draft business plan led us to conclude that customers' bills would not have to increase by more than the rate of inflation.

79 See our publication, 'Our work in regulating the Scottish water industry: Setting out a clear framework for the Strategic Review of Charges 2006-10', Volume 1 of our methodology consultation.
80 www.watercommissioner.co.uk

Section 3: Business plans and guidance
Chapter 13: The Reporter's views on Scottish Water's first draft business plan[81]

Introduction

As part of the Strategic Review process, the Reporter for the water industry in Scotland, Mr David Arnell of Black and Veatch, has carried out a review of Scottish Water's business plans.

The Reporter is an independent auditor who reviews most aspects of Scottish Water's information submissions. This includes auditing both Scottish Water's Annual Return and its Business Plan submissions, as well as scrutinising the costing, scope and content of the proposed investment programme. Scrutiny by Reporters has played an important role in improving the quality and reliability of information provided to Ofwat by the companies in England and Wales.

This chapter starts by explaining the role of the Reporter. It goes on to detail the Reporter's findings from his review of Scottish Water's first draft business plan, which was submitted in October 2004.

The role of the Reporter

The role of regulatory Reporter was first created in 1989 at the time of privatisation of the water industry in England and Wales. As part of the privatisation process, it was decided that water companies would submit business plans and annual returns to the economic regulator. These submissions provide the financial, customer service and asset performance information that underpins the regulatory process. To ensure the integrity of this information, the role of regulatory Reporter was established with the remit of auditing much of the information provided to the regulator by the companies and highlighting any issues or inaccuracies.

The Reporter's role was first described in the 1990 Water Act. Over the years the role has been extended. The current remit in England and Wales is described more fully in Ofwat's publication 'The Reporters Protocol'[82]. The document states:

> "The reporters act as professional commentators and certifiers on the regulated activities of the companies. They ensure that company regulatory information is consistent, comparable, reliable and accurate.
>
> The reporter's role is to assist Ofwat to fulfil its statutory duties. The reporter's primary duty of care is to Ofwat. The reporter also has a duty of care to the company."

The Reporter is usually a consultant engineer with many years of experience in the water industry. The Reporter employs a team of experts, depending on the work to be done. Typically these are water and waste water process and conveyance specialists although the Reporter may employ other experts such as statisticians or market research specialists when needed. As a technical person the Reporter does not review the financial accounts, which remain the domain of the financial auditors. However, he does review aspects such as depreciation policy, where he works closely with the financial auditors.

Given resource limitations, the Reporter typically carries out sample audits of the regulatory submissions, usually selected on the basis of materiality. This means that certain parts of the submission may not be reviewed at all. The samples selected do, however, provide sufficient information to allow the Reporter to give an informed view of the quality of work that has gone into the submission.

The objective of the Reporter's work in Scotland is primarily to understand the quality of the data underpinning Scottish Water's conclusions, as well as the methods and procedures it has used. This allows the reporting team to comment on the quality of the work that has been undertaken and how this impacts on the reliance that can be placed on the information by the regulator. Given the limitations of the work that can be done by the reporting team the Reporter cannot state that any quantitative information given in the submission is without error or is 'correct'.

The Reporter prepared an audit plan which detailed how he proposed to carry out his review of Scottish Water's

[81] This chapter was written by the Reporter although purely textual edits were agreed with the Reporter. WICS had no further input into the content of this chapter.
[82] See Ofwat publication MD 185 'The Reporter's Protocol' which is available on its website at www.ofwat.gov.uk

business plan. This audit plan was discussed with Scottish Water to ensure that the audit process would be as efficient as possible.

A key element of the Reporter's review was scrutiny of the capital investment programme proposed by Scottish Water. The Reporter audited a sample of the projects in this programme. He challenged the scope of requirements, the proposed solutions and the basis of cost estimates for specific schemes.

The Reporter's findings

This section provides the findings of the Reporter's review of Scottish Water's first draft business plan. The Reporter's views form an important part of the assessment of the validity of Scottish Water's regulatory submissions. It should be emphasised, however, that the Commissioner, in coming to the conclusions set out in this draft determination, has used a number of information sources to assess Scottish Water's business plans. These include the views of the Reporter. No one information source has been used to the exclusion of others.

Categorisation of capital investment

Capital investment can be broadly categorised as:

- **Capital maintenance:** investment needed to maintain Scottish Water's existing assets. Examples include replacement of worn out pipes and sewers and maintaining structures and plant in treatment works.

- **Management and general:** investment needed to provide for the administration of the organisation and to maintain its non-operational assets. Examples are investment in IT systems and vehicles.

- **Quality:** investment needed to meet improvements in the quality of drinking water and waste water discharges to the environment. Examples would include new and improved treatment works.

- **Supply demand balance:** investment needed to meet growth in demand for water or waste water services or to meet restrictions in supply. Examples would include new reservoirs or treatment works which are required to meet increases in demand.

- **Enhanced levels of service:** investment needed to fund improvements in the levels of service provided to customers. Examples would include investment on reducing sewer flooding or odour control.

Investment can also be split between investment needed for the water service and for the waste water service. A further allocation is between investment needed for underground pipe systems used to distribute and collect water and waste water (infrastructure assets) and other assets (non-infrastructure assets).

These categories are used to summarise the Reporter's findings.

Capital maintenance expenditure needed to maintain water infrastructure assets

Scottish Water has used a complex optimising tool to estimate both its water and waste water needs. The model is based on a number of failure relationships, the most important of which are age-failure relationships for different types of water pipe. The Reporter noted that the model used was a high-level strategic model and not asset-specific. When work is more accurately targeted during implementation this could result in fewer pipes needing replacement than was estimated by the model. However, it was also recognised that the proposed replacement rate was reasonable and was lower than in recent years.

Scottish Water has included expenditure for reducing leakage to levels where the costs of leakage control are the same as the operating costs needed to produce additional water (this is known as the 'short run economic level of leakage'). This methodology is correct where new water resources are not required immediately. The Reporter noted that the calculation of the short run economic level of leakage was uncertain because of a lack of appropriate information and that the unit cost rate that Scottish Water used was not well supported.

Capital maintenance expenditure needed to maintain waste water infrastructure assets

Scottish Water's estimates under this heading are based on:

- the cost of maintaining sewers;
- the cost of reducing levels of sewer flooding; and
- the cost of maintaining combined sewer overflows (overflows that operate at times of high rainfall and which are sometimes called unsatisfactory intermittent discharges).

The cost of reducing levels of sewer flooding has been apportioned between capital maintenance and enhanced levels of service as newly flooded properties would require expenditure even if work to reduce flooding incidents was not undertaken.

Scottish Water calculated the cost of maintaining its sewers using the same model that it used for water mains, but using relationships between age, blockages and collapses derived from historical records. The outcome of this analysis suggested that Scottish Water should be focussing its efforts on replacing small diameter sewers, including sewer laterals. This is very different to Scottish Water's current strategy and is also different to common practice across the industry in recent years. Normally, waste water capital maintenance is focussed on maintaining large diameter sewers in sensitive areas such as town centres.

The Reporter therefore suggested that Scottish Water should review this strategy. In particular, it was suggested that the practicalities of developing a major strategy based on identifying those sewer laterals at risk of blockage without undertaking pilot studies should be carefully considered. The Reporter also suggested that Scottish Water should consider the possible increase in risks following lower levels of maintenance on larger diameter sewers.

Following the review of sewer flooding it was concluded that Scottish Water's costs were reasonable. It was suggested that Scottish Water should obtain additional information on rates of emerging properties in order to reduce the uncertainty in this aspect of its estimate.

Scottish Water assessed the maintenance costs for combined sewer overflows and other sewer structures on the basis of asset valuation and asset lives. This assessment assumed an average rate of expenditure over the life of the assets based on the assumption that the assets are evenly distributed by condition and age. It was suggested that this assumption should be justified by condition surveys or by comparison with historic levels of expenditure.

Capital maintenance expenditure needed to maintain water and waste water non-infrastructure assets

The capital maintenance requirement of Scottish Water's water treatment works is a significant part of its capital spend. Scottish Water has based its estimates on a detailed review of requirements at the largest 36 works and, for the smaller works, on a generic model that uses relationships between age and condition and replacement needs. The latter method depends on an accurate record of the extent, age and condition of the relevant assets (the asset inventory).

The Reporter's review identified a number of shortcomings in both methods. The first method did not fully take into account the overlap between currently proposed work and future work or between the quality programme and the capital maintenance programme. The scope of work was sometimes unclear and was therefore wrongly interpreted by the cost estimators. The second method was considered to be inaccurate due to deficiencies in the asset inventory. It was recommended that both methods should be reviewed and improved for the second business plan submission.

Expenditure on management and general items

Management and general requirements comprise capital investment on vehicles, health and safety, property, information technology, telemetry (automatic transmission of operational information from assets located over a wide geographic area back to a central control room), scientific systems such as laboratories, as well as the expenditure needed to obtain asset information. In total, the expenditure in these areas can be significant.

Following the review of Scottish Water's estimates the Reporter concluded that in some areas the estimates were not supported by good quality records and therefore the estimates were subject to significant uncertainty in those areas. It was also noted that Scottish Water's estimate of the expenditure needed to obtain better quality information was significant. While it was accepted that Scottish Water did need to improve the quality of its data in many areas it was suggested that Scottish Water should endeavour to improve the support of its estimates where possible and consider benchmarking its expenditure against other water utilities.

It was noted that Scottish Water proposed to change its current policy of running its vehicle fleet's vans for five years to a policy based on a three-year life. It was suggested that Scottish Water should justify this change of policy using standard appraisal techniques.

It was noted that Scottish Water intended to increase its telemetry coverage to many of its smaller assets. While it was accepted that much of this was driven by the requirements of the quality regulators it was suggested that Scottish Water should put forward a robust business case for those elements not driven by regulation.

Expenditure on quality improvements in the water distribution system

Scottish Water proposed to implement a number of projects to improve certain water quality parameters in some zones where the condition of its water mains was affecting water quality. It was noted that Scottish Water was still developing its methods for estimating this work and the initial estimates were not large. The decision was therefore taken not to review this work for the first draft business plan.

In addition to these projects, the Scottish Environment Protection Agency (SEPA) proposed to reduce Scottish Water's allowable water abstractions in some areas to meet the requirements of the Birds and Habitats Directive and Water Framework Directive of the European Union. The Reporter noted that while SEPA had confirmed that Scottish Water had interpreted the guidelines correctly, until SEPA had undertaken its own river modelling and defined its exact requirements at each site the estimates were subject to uncertainty. He also noted that Scottish Water had not undertaken detailed studies at each site to define the exact requirements but had applied an average cost per million litres of water required. Whilst accepting that detailed feasibility studies could not be expected at this stage of planning it was noted that this approach added to the uncertainty of the answer.

Expenditure on quality improvements in the waste water system

Expenditure under this heading relates to work needed to rectify a large number of unsatisfactory combined sewer overflows (CSOs) that overflow waste water from the sewerage system in time of high rainfall and can, in some cases, cause environmental damage. The technical solution, where environmental impact justifies the expenditure, typically comprises the provision of storage at the CSO to capture the overflows and return them to the sewers following the storm, together with the provision of additional 'compensation' storage at sewage treatment works.

The calculation of storage requirements requires a computer 'hydraulic model' to be constructed. Hydraulic modelling is usually carried out at the detailed design phase of the project. For the high-level estimates in its business plan, Scottish Water developed an 'algorithm' relating storage volume to population in the catchment. The Reporter had a number of concerns which, in total, indicated that the overall cost estimates might be high. He recommended that:

- the principles regarding consents should be agreed with SEPA;
- more analysis was required to demonstrate the need for compensation storage at sewage treatment works;
- the algorithm used to calculate storage was checked; and
- the effect of some work being undertaken during the Quality and Standards II period was assessed.

Expenditure on quality improvements at water and waste water treatment works

The quality programme for water treatment works comprises a significant part of Scottish Water's capital programme. Because of the numbers of water treatment works involved in the programme Scottish Water applied standardised solutions to common problems. The cost estimates were built up from cost-capacity relationships of process elements, based on past projects.

The Reporter's review concluded that the resulting cost for the programme significantly over-estimated the actual likely cost. It was recommended that Scottish Water should review its costs in relation to:

- the correlation of the standard solutions and actual site conditions;
- the relationship between capital maintenance and quality expenditure; and
- the applicability of some cost-capacity relationships to the sizes of Scottish Water's water treatment works.

The review of waste water treatment works reached similar conclusions.

A significant part of the waste water costs also related to the expenditure needed to treat additional sludge, mainly arising from the need to add ferric salts to the main process units. Again, the Reporter concluded that the sludge programme was likely to be over-estimated. He also recommended that Scottish Water should produce a full business case to support the need for additional sludge treatment in order to minimise sludge tanker movements.

Expenditure to maintain the supply/demand balance

Expenditure to maintain the supply/demand balance comprises two parts:

- Expenditure to remove a lack of capacity in some of Scottish Water's assets in order to allow new household and commercial development to proceed.
- Expenditure in some resource zones (geographic areas which are supplied by a number of resources linked such that the risk of supply failure to all customers in the zone is similar) to meet an agreed minimum standard of resource availability in drought years.

In order to assess the expenditure for development constraints, Scottish Water developed a database of potential developments. It then estimated the additional water and waste water needs arising from the developments and related these to the current capacity of the existing treatment works. The calculations made a number of assumptions about the number of developments that would actually take place, the true capacity of the treatment works, the costs of adding new capacity to the works and the amount of waste water that could be treated at existing PPP plants. The PPP plants currently treat significant amounts of Scotland's waste water.

The Reporter considered the assumptions made and reached the conclusion that the resulting estimates were very uncertain. He also concluded that the uncertainty was such that a reasonable estimate would probably only become possible when the programme had been running for some time.

Scottish Water's estimates for meeting supply/demand balance deficiencies in some water resource zones were based on hydrological water resource yield calculations, projections of future water and waste water demands, and calculations of the resulting supply/demand gap and the cost of rectifying the gap. The latter was based on a simple cost per million litres of additional resource provided, rather than detailed engineering solutions.

The Reporter concluded that generally the yield calculations had been competently done. He also concluded that the unit rates of providing new resource were reasonable. However, the Reporter's review concluded that calculations to decide on the optimal point at which the cost of additional resource is less than the cost of additional leakage control had not been carried out. In some cases additional leakage control might be advantageous.

It was also noted that the costs were based on average unit costs rather than site-specific solutions and that Scottish Water had not allowed for any possible additional treatment. While it was accepted that in the latter case it was not possible to undertake detailed feasibility studies, the Reporter's overall conclusion was that the final costs were subject to uncertainty.

Expenditure on enhanced levels of service

This investment category, which is generally relatively minor in nature, was not reviewed for the first draft business plan.

Additional operating expenditure

As directed in the guidance, the Reporter carried out a brief review of Scottish Water's assessment of the additional operating costs resulting from the proposed investment. He concluded that Scottish Water should re-appraise the estimates of new operating expenditure to ensure that they were consistent with current operating costs.

Scottish Water also prepared a submission on the special factors that it believed resulted in higher operating costs in Scotland than in England and Wales. The Reporter's review of this submission concluded that Scottish Water had undertaken analysis work as described in the submission. However, the Reporter suggested that Scottish Water should address a number of material points with regard to this submission prior to producing the second draft business plan.

Section 3: Business plans and guidance
Chapter 14: Review of the Ministerial Guidance

Introduction

This Strategic Review of Charges is being undertaken at a time of legal transition. It was, like the previous Review, commissioned by Ministers under the Water Industry (Scotland) Act 2002. However, unlike that Review, it is expected to result not in advice to Ministers on charges but rather in a charge determination made under the Water Services etc. (Scotland) Act 2005. In this section, we set out a description of the transitional regulatory framework under which we have undertaken the current Review.

Given that the relevant provisions of the 2005 Act are only expected to be commenced at the beginning of July, the legal basis for the Strategic Review of Charges, and for this document, continues to be the 2002 Act in its current form. However, Ministers have expressly instructed the Commissioner to undertake this Review in a manner consistent with the planned introduction of the new statutory regime and the making of a charge determination by the new Commission.

We have interpreted this requirement to mean that we should produce a draft determination which, as closely as possible, resembles the draft which the new Commission would itself produce under the incoming legal framework. In particular, we have sought to apply the decision-making standards of new section 29C in reaching our conclusions and, in doing so, have also had due regard to the proposed section 29D statement and section 56A directions published by Ministers (described collectively in this draft determination as the 'Ministerial Guidance') in February 2005.

It is important to highlight how this Guidance fits into the overall framework for the Strategic Review of Charges 2006-10. Having received the Ministerial Guidance in February 2005, Scottish Water then set out in its second draft business plan its view of the resources it needed to deliver the ministerial objectives. This draft determination sets out our view of the lowest reasonable overall cost of delivering the Ministers' objectives.

Overview of the Guidance

In December 2004, we wrote an open letter to Scottish Ministers which explained that our preliminary analysis suggested that customers could look forward to both a further significant increase in the investment programme and to stable prices.

In February 2005, Ministers published proposed texts of a section 29D statement and of a set of section 56A directions which they intended formally to make following enactment of the 2005 Act.

The proposed section 29D statement sets out two objectives, namely, that Scottish Water should achieve the maximum affordable improvements in public health and environmental protection, and support housing in communities across Scotland through investment in new water and sewerage capacity. The new Commission should determine charge limits that will enable Scottish Water to achieve its objectives and improvements in its operating performance on the basis of charges that are affordable and stable across the review period and sustainable in the long term. In particular, Ministers have indicated that an objective for the Commission is to keep average charges constant in real terms during the review period. However, stable charges are not to be secured at the expense of Scottish Water's longer-term financial stability: Scottish Water's financial strength should be maintained over the period 2006-10, or if possible improved slowly over that time.

The proposed statement also provides that the maximum sum that Ministers have set aside for lending to Scottish Water in each of the years 2006-10 is £182 million, pending the charge determination and the new Commission's decision on the sustainable level of borrowing required to underpin the determination and Scottish Water's investment programme. In addition, it states that public expenditure support to Scottish Water in the provision of its core services throughout the period 2006-10 will take the form of lending alone and that no grant will be paid in respect of these services during the period.

In their proposed section 56A directions, Ministers require Scottish Water to be funded to enable it to deliver a series of essential investment objectives during the period 2006-10. Ministers have also established a further series of desirable objectives which they require Scottish Water to deliver to the extent that it is reasonable to expect that they can be delivered efficiently and without projected charges to customers in the period to 2010 rising by more than levels of inflation.

Principles of charging

The Ministerial Guidance included information about the principles of charging that we needed to take into account in preparing our Strategic Review. We provide below a summary of the key points raised in the Ministerial Guidance, starting with two of the most significant principles in the Guidance, points 20 and 21 of the proposed section 29D statement.

20. The WIC has stated his belief that customers should not be asked to pay twice for the same benefit. The Executive endorses this principle on the basis that customers should be asked to meet additional costs beyond those allowed for in a charges determination only where these have arisen as the result of external factors beyond the control of Scottish Water. The Water Services etc. (Scotland) Bill provides a mechanism whereby a determination can be reviewed in such circumstances.

21. This approach protects the position of customers. To provide similar protection for public expenditure, the Executive confirms that it will not increase its lending to Scottish Water to meet the costs of objectives already funded by a determination. This will ensure that the determination will provide Scottish Water with firm financial limits for the regulatory period in question. The Executive will work with the WIC and the quality regulators to monitor Scottish Water's performance against agreed targets to ensure that any threat to the financial limits or to the achievement of the Executive's objectives within these limits is identified and addressed satisfactorily at an early stage.

Point 20 is fundamental to achieving value for money for customers. It expresses a clear view that customers should not be asked to pay twice for the same benefit unless the matter is subject to a material change as envisaged in the procedure set out in section 29F of the 2005 Act. Apart from this, however, recent history includes many examples where customers of the Scottish water industry have paid twice for the same benefit. Publishing the detailed investment plan (including on our website) will ensure that customers can understand the benefits that ought to be delivered.

Point 21 is also key. The Scottish Executive has now said very clearly that it has placed a limit on Scottish Water's overall borrowing. As recently as the last Strategic Review of Charges in 2001, Scottish Water could seek to access additional borrowing even if this was not consistent with customers' interests. Such additional borrowing would add to the level of charges faced by future customers without improving customer service or quality.

In point 23 of the proposed statement, Ministers make it clear that when they talk about charges not increasing in real terms, they are referring to the average of all charges.

23. Achieving constant average charges in real terms could be consistent with some charges rising above the rate of inflation and others falling in real terms, for example where tariff rebalancing is justified. Where this is necessary, the Executive requires the Commission to minimise the impact on those customers affected by any increase. It should set charge limits that deliver the most regular and smooth charges profile possible in the circumstances. In particular, the Executive requires the Commission to avoid reductions in charges one year if such a reduction could not be sustained, or if they would need to be followed in subsequent years by an increase in real terms. The Commission should ensure, where a permanent increase in a given tariff is necessary, that the increase is phased over the review period unless there is a more effective means of minimising the impact of the increase.

This principle is further developed in the Ministerial Guidance where it discusses the method by which cross-subsidy between households and non-household should be unwound. As an illustration of the effect of point 23, it is possible that metered water charges could have increased in real terms and standing charges could fall slightly. On average there would be no change.

We are not aware, however, of any material imbalances within our tariff baskets. We will therefore require Scottish Water to justify changes to individual tariffs within a tariff basket that are not the same as the overall charge cap for the basket.

Point 24 of the proposed statement, re-emphasises the principle that stable prices should not be achieved at the expense of future customers.

24. The Executive does not wish stable charges in the period 2006-10 to be secured at the expense of Scottish Water's longer term financial sustainability. That is to say, it does not wish charges to be kept low in the medium term by building up debt whose servicing costs would add to Scottish Water's cost base and would result in charges in the longer term being higher than would otherwise have been the case. To safeguard the position of customers in the longer term, the Executive considers, as a minimum, that Scottish Water's financial strength should be maintained over the period 2006-10, and that, if possible it should be improved slowly over that time. Most respondents to Paying for Water Services who commented on this point, and the majority of those consulted by MRUK, appeared to agree with this approach.

This is an important point. As recently as in 2000, West of Scotland Water Authority used to highlight the fact that its charges were lower than that of Thames Water, and the lowest in Great Britain. This was, however, only achieved by borrowing at a rate that was not sustainable.

In point 25 of the proposed statement, the Scottish Executive states that it will make debt available of up to £182 million each year in terms of new borrowing.

25. The level of borrowing that would be consistent with long-term financial sustainability will be dependent on the maximum size of the capital programme that the Commission judges Scottish Water to be capable of delivering efficiently. Therefore, the Executive wishes the Commission to determine the amount of lending from the Executive in each year of the review period that would be necessary to support a capital programme of the scale set by the Commission and that would be consistent with a gradual and steady improvement in the long-term financial sustainability of Scottish Water. This requirement is subject to the amount of lending by the Executive in any one year in support of these objectives being no greater than £182 million, which is the maximum sum that the Executive has set aside for lending to Scottish Water in each of the years 2006-10, pending the charge determination and the Commission's decision on the sustainable level of borrowing required to underpin the determination and the investment programme.

In point 26 the Executive also makes available any unused borrowing from the 2002-06 regulatory control period. The Executive has made it clear that the Commission should set price caps that should require only a prudent level of borrowing. This means that not all of the £182 million that is made available should necessarily be used. The actual level of borrowing will depend on the size of the investment programme and on the mix between genuinely new incremental investment and replacement investment as determined by the Commission.

In point 32, the Executive lays out its plans to make water charges more affordable. We believe that these changes will have a material impact on the affordability of water charges and that they should also help reduce the bad debt costs incurred by Scottish Water.

32. The Executive has reflected carefully on these concerns. It has concluded that the risk to some of the most vulnerable in the community from ending the single adult discount is significant and there is no feasible means of addressing it. Consequently, it has decided to retain this discount and to modify its proposed new discount to reflect this. The intention now is to introduce a matching 25% discount, which will be available to households that comprise two or more adults and which receive CTB. The cost of this discount will be met by proceeding as proposed with the abolition of the discount on water charges for second homes.

In point 37, the Executive identifies the extent to which cross-subsidies should be unwound.

37. The consultancy work undertaken for the Executive by Stone and Webster was intended to establish and analyse the evidence of any imbalances between the two sectors and to recommend what, if any, action should be taken to address them. Stone and Webster's report concludes that Scottish Water over-recovers costs from non-household customers. The most robust estimate that the report provides is that the over-recovery results in households paying £44 million a year less for water supply services than it costs to provide them with these services.

The relatively complex analysis which underpins this work is available on the Executive's website. It concludes that there is likely to be at least £44 million of cross-subsidy. It is therefore appropriate to unwind this cross-subsidy over the regulatory control period.

Non-households will, in general, see charge increases that are lower than those faced by households. In point 41 the Executive comments on the impact of unwinding the cross-subsidy.

41. The Executive has discussed the matter with the WIC, who has advised that it should be possible to rectify the imbalances identified by Stone and Webster as most suitable for addressing in the period 2006-10 without average household charges having to increase in real terms. In light of this advice, the Executive requires the Commission to determine charge limits for 2006-10 in such a way that these imbalances are corrected without causing average household charges to increase in real terms. In doing so, the Commission should have regard to the requirement that any change in tariffs is phased over the review period unless there is a more effective means of securing the change while maintaining stability in household charge levels.

This was a signal that non-household charges were going to decrease in real terms over the regulatory control period.

Point 42 confirms that the benefit from unwinding the cross-subsidy of £44 million should be spread equally amongst non-household customers.

42. The counterpart to this exercise will be a reduction in the amount paid by non-household customers. The Executive requires the Commission to allocate the benefits of this reduction equally across all non-household customers.

In point 44, the Executive makes it clear that it does not want there to be any further increase in the incentive for higher banded households to move to a meter.

44. In the meantime, the Executive requires the Commission to set charges in such a way that any costs of retaining the link between household water charges and Council Tax bands, and the Executive's proposals for a new water charges discount, are both funded out of the generality of charges.

It is already attractive for many higher banded properties to switch to a meter and any further increase in this incentive could accelerate the switching of higher banded households to meters. This has had a negative impact on household rateable value customers in England and Wales. The switch to meters has pushed up bills for customers who are charged on the rateable value of their property in England and Wales.

Point 49 highlights a change in the arrangements for paying for the costs of local connections.

49. The effect of the regulations in respect of Part 3 costs means that from April 2006 there will be a requirement, where an enhancement to a Part 3 asset is required, for developers to fund the excess costs of the enhancement above the contribution that Scottish Water will make in respect of the income that it will receive for the development. Consistent with that policy objective, the Executive requires the Commission to ensure that the level of borrowing that it sets for Scottish Water is sufficient to enable Scottish Water to fund the costs that it will incur in these cases through borrowing, rather than charge income, with reference to the cost of funds to

Scottish Water and the period over which the contribution is to be amortised.

This change brings Scotland into line with the rest of the UK. In effect, the developer will have to pay the costs of connecting to the network. The part 4 costs (which relate to any capacity constraint at water treatment works, sewage treatment works, the source, etc) will remain social costs. These rules are similar to the approach that is used by other utilities. Scottish Water will still make a contribution to the developer, but the sum will reflect the benefit that Scottish Water will receive from that additional customer coming onto the network.

Point 55 sets out the Executive's approach to metering of non-household customers.

55. Responses in respect of un-metered premises were much less positive. Many non-household customers argued that metering, despite the costs associated with it, was the only effective means of giving adequate transparency to the charging regime and of providing a worthwhile incentive to conserve water resources. The Environment and Rural Development Committee of the Parliament echoed this point in its stage 1 report on the Water Services etc. (Scotland) Bill. The Committee recommended that the introduction of metering generally across the non-household sector should become a long-term objective for the Executive. The Executive accepts the strength of these arguments and agrees that a commitment to achieving full metering of non-household premises is appropriate.

The responses described in the proposed statement are perhaps slightly surprising. It seems that there is significant scepticism about how fair the rateable value system is as a method of charging for water. Many customers suggested that metering would ensure that there was a level playing field for businesses. The Executive has made a commitment to metering of non-household customers in the long-term. We doubt that this can be fully implemented by 2010. The Water Services etc. (Scotland) Act 2005 establishes a framework for retail competition, which is timetabled to be implemented from April 2008. The separation of the retail function should create an incentive for retailers to offer value added services such as smart metering to non-household customers.

Guidance on investment objectives

The guidance on investment objectives contained in the Ministerial Guidance reflects the outcome of the Scottish Executive's consultation, *Investing in water services 2006-14*.

A key element in the Guidance is the distinction that is made between the outcomes of investment that Ministers have determined to be 'essential' and those that are 'desirable'. Table 14.1 from page 2 of the guidance on investment objectives identifies the Executive's areas of investment and over-arching objectives. The table is repeated as Table 14.1.

Table 14.1: Essential investment objectives for Scottish Water 2006-14

Issue	Objective
Capital maintenance	Maintain service standards for customers to levels forecast for March 2006
Improving the environment	Contribute to the improvement in the quality of water in 530 kilometres of water bodies[83]
Improving drinking water	Improve drinking water quality for 1.5 million people across Scotland
Development constraints	Provide sufficient strategic capacity to meet the requirements of all estimated new development
Tackling malodour at waste water treatment works	Minimise odour nuisance at 35 waste water treatment works
Addressing sewer flooding[84]	Remove a net 1,140 properties at risk from internal sewer flooding

The Ministerial Guidance is much more specific about the outcomes to be delivered by Scottish Water than the guidance which was provided by Defra to Ofwat for its determination of prices in 2004.

One of the difficulties in measuring the outputs of investment is that any asset intervention will typically result in marginal improvements to the asset beyond, say, improving compliance with public heath standards. It is a misrepresentation, for example, to say that the Quality and Standards II programme did not improve the assets

83 Water bodies include lochs, rivers, estuaries and burns. SEPA looks at each specific discharge to a water body and assesses what is required to ensure compliance with legislation. It has undertaken a great deal of work to identify the areas where it believes that Scottish Water is a major polluter.
84 The issue of general flooding is not within Scottish Water's ambit, it is partly a national issue and partly a local issue.

of the water industry in Scotland. Quality and Standards II allowed sufficient funding for capital maintenance to ensure that had there been no other investment during Quality and Standards II, we would have had the same level of service in 2006 as in 2002. However, Quality and Standards II also committed some £800 million to improve the quality of the assets. The assets should therefore be in much better shape than they were in 2002.

This is illustrated in Table 14.2, which establishes the base position for a range of 'serviceability' indicators for the Quality and Standards III period.[85] These serviceability indicators describe Scottish Water's performance on a range of key performance measures which affect the service to customers.

Table 14.2: Capital maintenance serviceability indicators 2006-14

Serviceability indicators	National base position 2006-14 (measured annually)
Water serviceability indicator	
% Compliant zones for iron	83*
% Compliant zones for manganese	94*
Number of microbiological (total coliform) failures at water treatment works	90*
Number of properties on the low pressure register	12,957*
Number of properties with unplanned interruptions to supply > 12 hours	16,184*
Number of bursts per 1,000 km of mains	204*
Waste water serviceability indicator	
Number of properties at risk of sewer flooding[86]	1,603*
Number of properties internally flooded due to other causes	366
Number of failing waste water treatment works[87]	45*
Number of unsatisfactory intermittent discharges	867*
Number of pollution incidents[88]	555*
Management and general	
Fleet, scientific, property, IT, telemetry	Maintain to standards to be secured[89] by Q & S II
Health and safety compliance	Secure compliance with all existing and known new legislation
Asset data	Enhance Scottish Water's data to a sufficient level to support the operation of the common framework approach and other aspects of the investment programme

These serviceability indicators will show an improvement over the period 2006-14, derived from drinking water quality, environment, growth or customer enhancement programmes.

Point 14 of the proposed section 56A directions makes clear the view that Scottish Water should be held to account for meeting asset performance levels that reflect both capital maintenance and enhancement investment.

14. Enhancements to the above service standards will be secured through additional water quality, environmental and other investment in improving services that also form part of the Ministers' objectives. In putting forward detailed plans for the delivery of their objectives, Ministers expect Scottish Water to quantify enhancement in service standards derived from other aspects of the programme, and thereby to establish in conjunction with the Water Industry Commission, biennial targets of asset performance throughout the period on the basis of the above types of measure.

The enhancements to levels of service on both the water and waste water services are clearly set out in paragraphs 15 to 31 of the proposed directions.

The Executive has set out a clear policy that should eliminate development constraints, as point 34 states:

34. Taking these matters into account, Ministers consider it essential to provide sufficient "strategic capacity"[90] to meet all estimated new housing developments and the domestic requirements of commercial and industrial developments. Estimates of the scale of new development have been calculated drawing upon analysis of Scottish Executive Housing Trends data and an assessment of the likely development anticipated by local authorities. This analysis estimates a need to allow for an additional 120,000 new homes and 4,050 hectares of new commercial land over the SRC [Strategic Review of Charges]

85 Extracted from the Scottish Executive's statement of 9 February 2005 "Investing in water services : objectives for 2006-14".
86 The number of properties at risk of sewer flooding at least once in 10 years.
87 Based on the Control of Pollution Act – look-up table compliance (see http://www.sepa.org.uk/guidance/water/index.htm).
88 Baseline subject to clarification by the Scottish Environment Protection Agency.
89 Standards achieved by the end of Quality and Standards II.
90 Strategic capacity or part 4 assets refer to Scottish Water's 'primary assets'; raw water intakes, water impounding reservoirs, water aqueducts, water pumping stations, water treatment works, waste water treatment works.

period. The Executive will review these estimates in light of any new or improved data that emerges subsequent to the review. If this results in the estimate being revised, the Executive will restate this objective in terms of the revised estimate. It will notify the Commission and Scottish Water of the restated objective, so that, for their respective functions, they can consider whether the restatement requires the Commission to conduct a review of its determination.

The Executive makes it clear that it intends to ensure that funding for Scottish Water will be sufficient to meet the relief of constraints at the strategic level. This means that if a developer is prepared to pay the cost to get connected then money will be available to ensure that any strategic bottleneck is resolved.

Odour has become an increasingly high-profile issue in recent months. This is addressed in point 45 of the proposed directions, which details the outcomes that are to be delivered:

45. In line with the recommendations made by the Quality and Standards Board and pending finalisation of the voluntary code of practice on odour control, Ministers require that action be taken to minimise odour at 35 existing waste water treatment works.

    In accordance with this objective Ministers require that, during the period 2006-10, measures be implemented to minimise odour nuisance at a minimum of 14 waste water treatment works taking into account the principle of the best practicable means over the period 2006-10. The 14 sites to be decided by a forum comprising the Executive, Scottish Water, the WIC, local authorities and WCCP [Water Customer Consultation Panels] by reference to those causing the greatest impact and on which agreement exists on the required remedial action.

    Similarly, Ministers require that during the period 2010-14, control measures be implemented to minimise odour nuisance at a minimum of 21 waste water treatment works taking into account the principle of best practicable means. The 21 sites to be decided by a forum comprising the Executive, Scottish Water, the WIC, local authorities and WCCP by reference to those causing the greatest impact and on which agreement exists on the required remedial action.

We agree that odour is an important issue. Addressing odour fully may require renegotiation of the Public Private Partnership (PPP) contracts. We will return to the issue of PPP in Volume 5.

It is likely that the investment outlined in point 53 will be important for those who live in rural communities.

53. Ministers recognise the inconvenience, which can be caused by unplanned interruptions in the water supply. Accordingly, they consider that it would be desirable if there was a net reduction of 850 in the number of properties affected by unplanned interruptions in non-trunk mains by 2014. In establishing this objective, Ministers wish that by 2006-10 there will be a net reduction of 425 properties affected, and that by 2014 there will be a further net reduction of 425 properties affected. It is expected that delivery of this investment will improve the standard of service experienced by a number of smaller communities in the north west of Scotland.

The final key point raised in the Ministerial Guidance is covered in paragraph 56 of the proposed section 56A directions.

56. Ministers recognise that planning investment over an eight year period will promote value for money in the use of customers' and taxpayers' resources. Ministers also attach considerable importance to the establishment of effective monitoring and review mechanisms in order to ensure that the programme is delivered efficiently, "on time", and that it is sufficiently flexible to accommodate changes that may become necessary over time. For this reason, Ministers require that prior to commencement of the investment programme in 2006:

    - An investment monitoring group will be established to monitor the delivery of the investment programme. This Group will be made up of Scottish Executive, SEPA, Drinking Water Quality Regulator, Water Industry Commission and Scottish Water who will meet on a regular basis to review progress on the capital programme, and that regulators will undertake detailed monitoring of those elements of the programme that fall under their auspices.

- Arrangements for making changes in the investment programme should be put in place that will allow Scottish Water and its regulators to utilise better information or respond to unanticipated or unpredictable events. These arrangements should allow Scottish Water, in discussion with its regulators, within the overall terms of the investment programme and costs, to change the means by which these objectives are to be secured – all to the benefit of customers. Where Ministers consider changing the investment objectives or wish to incorporate a new requirement, they will normally consult the parties to these arrangements.

Conclusion

Ministers have provided detailed guidance on their investment objectives for Scottish Water and on the charging principles to be applied in ensuring that Scottish Water is properly funded to meet those objectives. We have ensured that this draft determination complies with the Ministers' charging principles and sets out charges which enable Scottish Water to deliver all of the Ministers' essential investment objectives and as much of their desirable objectives as is compatible with the constraints on charges set out in the Ministerial Guidance.

Section 3: Business plans and guidance

Chapter 15: Review of Scottish Water's second draft business plan

Introduction

This chapter reviews Scottish Water's second draft business plan. We described the importance of Scottish Water's business plans to the Strategic Review of Charges 2006-10 in Chapter 13. The second draft business plan supplements the information contained in the standard regulatory returns. Scottish Water sets out its strategy and objectives for the coming period in the second draft business plan. It supersedes the information contained in the first draft business plan.

The second draft business plan was particularly important since it represented Scottish Water's principal opportunity to explain the costs that it would incur in delivering the Ministers' objectives for the water industry. We have analysed this plan carefully in completing this draft determination.

In this chapter we first outline the process we have used to improve our understanding of Scottish Water's second draft business plan. We then provide a brief summary of some of the key messages from the second draft business plan. The chapter then concludes with a summary of our response to the plan.

Guidance for the second draft business plan

We issued detailed guidance to Scottish Water on the format and content of the second draft business plan. We amended the guidance that we had provided for the first draft business plan to take account not only of new information that we required but also areas where we considered that the guidance needed to be more specific.

The guidance also included work on accounting separation which had been undertaken for us by Ernst & Young LLP[91]. The main differences between the guidance for the first and second draft business plans were as follows:

- Tariff information – in the guidance for the second draft business plan we included a new section (B8) to collect detailed information on revenue and tariff issues. In particular, we were keen to understand Scottish Water's forecasts of changes in customer numbers and tariffs. This information would inform our development of the tariff baskets which we use to translate revenue caps into charge caps.

- Definition of retail costs – the guidance required Scottish Water to produce regulatory accounting tables, including the split of activities between core and non-core, and between wholesale and retail. This requirement affected a number of the sections for submission including:

  - B4: Quality enhancements;

  - B5: Maintaining the supply/demand balance;

  - B6: Service delivery; and

  - B7: Financial projections and financial model input sheets.

- Output performance improvements – we included a second new section (B9) which was designed to allow Scottish Water to explain an increase in total allowed operating expenditure to improve the level of service to customers. We asked Scottish Water to specify both the costs and benefits, including the improvement, the timing of the improvement and the means of measuring the improvement. We also sought evidence that customers were willing to pay for these improvements in the level of service.

- Definition of Quality and Standards II overhang – we also expanded the guidance to collect information on the Quality and Standards II overhang. Part E required information relating to unfinished projects from the preceding period. The guidance required Scottish Water to complete a table showing agreed WIC18 projects that would incur expenditure after 31 March 2006.

- Taxation – we asked for detailed information about the tax treatment of the investment programme and operating expenditure.

[91] This report is available on our website www.watercommissioner.co.uk

Opportunity for Scottish Water to clarify issues arising from the guidance

We recognise that our guidance required Scottish Water to provide a significant amount of information. However, we set out to collect only the minimum amount of information that we needed in order to establish the lowest reasonable overall cost to deliver the Ministers' objectives. In the main, the information we requested was consistent with that which Ofwat required from the companies for its price review. The main difference in the guidance we required reflected the fact that we need to establish both wholesale and retail charge caps. We also sought to remove any duplication in the guidance.

Scottish Water raised a number of issues in response to the guidance. In particular, it had concerns about providing the required project-level definition of the investment programme. We held a workshop for Scottish Water to clarify the guidance for the second draft business plan.

Scottish Water submitted its second draft business plan to this Office and to the Scottish Executive on 20 April 2005.

Key messages from Scottish Water's second draft business plan

In our view, the key points raised in Scottish Water's second draft business plan were as follows:

- Scottish Water believed that the Ministers' objectives should be re-phased, as delivering them within the 2006-10 regulatory control period would lead to unacceptable charge increases. They also suggested removing some outputs or increasing the level of borrowing available.

- Scottish Water calculated that the investment necessary to meet the Ministers' essential and desirable investment objectives was £3.1 billion. The essential objectives were costed at £2.9 billion (both at 2003-04 prices). Scottish Water assessed its revenue need on the basis of the essential investment alone.

- The plan stated that a charge increase of 88% in real terms between 2006 and 2010 would be required. It also stated that lower investment in 2010-14 would allow charges to fall substantially during that period.

- The investment programme in the second draft business plan differed from that contained in its first draft business plan. This reflected the Ministers' objectives for improving drinking water quality and environmental compliance.

In its second draft business plan, Scottish Water sought to justify a much higher level of operating and capital costs than would appear appropriate when compared with other water and waste water companies. Operating costs were forecast to increase by more than 30% in real terms.

Scottish Water also proposed to create a contingency fund by restricting the amount of available debt that it would borrow. This had a dual impact on charges. It directly increased the revenue required from customers. This in turn resulted in a higher tax charge, which further increased charges to customers. We believe that the interim determination process and the logging up/down process can capture variances in cost that are outside the control of management. If management cannot deliver the outputs required under the regulatory contract, it is for the Scottish Executive to take whichever steps it believes are necessary. The Ministerial Guidance makes it clear that customers should not be asked to pay twice.

The role of the Reporter

One of the Reporter's tasks is to review, audit and verify the information submitted in Scottish Water's draft business plans[92].

In his review of the second draft business plan, we asked the Reporter to:

- review and clarify the material assumptions and policies that underpinned the information provided by Scottish Water;

- explain the scope and extent of the Reporter's challenge of Scottish Water's second draft business plan;

[92] For a full explanation of the Reporter's role see Volume 2, Chapter 15 of our methodology consultation.

- report any significant differences of view;
- explain changes in the information submitted from that contained in previous returns; and
- provide an opinion on the accuracy and reliability of the information provided.

A key element of the Reporter's review is to scrutinise the capital investment programme proposed by Scottish Water. The Reporter audited a sample of the programme. He challenged the scope of requirements, the proposed solutions and the basis of cost estimates for the specific schemes.

The Reporter submitted his report to us in May 2005. In general, he raised concerns about the cost, scope and design of the investment programme. He also highlighted concerns about the approach that had been used and the proposal to commit large sums of money without proper analysis. The next chapter, which was written by the Reporter, provides an overview of his findings.

In response to concerns raised by the Reporter and our own analysis of the plan, we commissioned a more detailed review of the investment programme, including a greater number of site visits. This helped inform our draft determination.

Our response to the second draft business plan

In the timeline for this draft determination we planned:

- a workshop to clarify our understanding of the plan;
- an opportunity for the Scottish Water Board to present its second draft business plan; and
- publication by Scottish Water of a summary of its business plan.

Second draft business plan workshop

On 5 May 2005 we held a workshop to improve our understanding of Scottish Water's second draft business plan. We were keen to discuss areas of Scottish Water's business plan where we felt additional information would be useful or that some clarification was required. This included the method of calculating current cost depreciation. This workshop also gave Scottish Water an opportunity to provide us with any further information that it felt could support its case.

Scottish Water Board presentation

The Board of Scottish Water presented its business plan to the Commissioner, his senior advisors and his directors on 12 May 2005.

Publication of the second draft business plan

We published Scottish Water's second draft business plan on 16 May 2005. We published our second open letter to the Scottish Ministers at the same time.

Summary

The second draft business plan was Scottish Water's primary opportunity to explain the resources it required to deliver the objectives set by the Scottish Ministers.

We provided Scottish Water with guidance on the format and content of the second draft business plan in December 2004. This was followed by a workshop to clarify our requirements. Scottish Water submitted its second draft business plan in April 2005.

In its second draft business plan, Scottish Water costed the delivery of the essential and desirable objectives of Scottish Ministers at £3.1 billion. It said that it would require a charge increase of some 88% in real terms to deliver only the essential objectives (costed at £2.9 billion). Scottish Water proposed a re-phasing of the objectives.

The Reporter identified a number of concerns with regard to the approach to the investment programme's design, scope and costings. An overview of the Reporter's findings, written by the Reporter, is provided in the next chapter.

Section 3: Business plans and guidance

Chapter 16: The Reporter's views on Scottish Water's second draft business plan[93]

Introduction

The Reporter is an auditor who reviews the technical aspects of Scottish Water's business plan and reports his findings to this Office. In Chapter 13 the role of the Reporter is fully explained. Chapter 13 also summarises the Reporter's findings for the first draft business plan, which was submitted by Scottish Water in October 2004. This chapter briefly explains the Reporter's continuing role for the second draft business plan, together with his findings.

The Reporter's role for the second draft business plan

For the second draft business plan the Reporter continued to review Scottish Water's work as it was updated following submission of the first draft business plan and receipt of the Minister's statement. Scottish Water made many changes in all areas of its work; as a result the Reporter has continued his wide-ranging review. The Reporter's findings in relation to the second draft business plan are reported using the same headings that were used in Chapter 13.

The Reporter again spent the majority of his time reviewing Scottish Water's capital expenditure proposals. A relatively small amount of time was spent reviewing how Scottish Water calculated depreciation and how it had developed its demand projections. Time was also spent reviewing updates to Scottish Water's claims that special circumstances (or 'special factors') in Scotland resulted in it spending additional operating expenditure and capital maintenance expenditure compared with the water companies in England and Wales.

The Reporter's findings for the second draft business plan

Capital maintenance expenditure needed to maintain water infrastructure assets

Infrastructure assets comprise water mains and reservoirs that can have very long lives. For its second draft business plan, Scottish Water continued to use the same optimising tool as described in Chapter 13. The Reporter's conclusions remained very much as for the first business plan; while the strategic nature of the optimising tool inevitably leads to some uncertainty the proposed replacement rate was reasonable and lower than in recent years. The Reporter considered that the level of investment was reasonable and should allow Scottish Water to maintain current levels of service.

Capital maintenance expenditure needed to maintain waste water infrastructure assets

Scottish Water calculated the cost of maintaining its sewers using the same model that had been used for water mains, but using relationships between age and blockages and collapses derived from its records. An initial assessment suggested that Scottish Water should focus its efforts on smaller diameter sewers, including sewer laterals. This outcome was very different to Scottish Water's current strategy and to common practice across the industry in recent years, which is based on the maintenance of large diameter sewers in sensitive areas such as town centres. Scottish Water reviewed the assessment to consider critical and non-critical sewers separately. The Reporter concluded that the revised strategy is a better balance of interventions on large and small sewers over the Quality and Standards III period. Scottish Water reviewed its proposals for work on sewer laterals to take account of the potential benefits of targeting high frequency defects and the risks of developing an intervention strategy in an area where there is little industry experience. The Reporter concluded that the programme of work on sewer laterals proposed for the Quality and Standards III period is reasonable. He also noted the need to monitor work on laterals carefully to build experience in this area and to provide the information necessary to develop effective intervention strategies.

Scottish Water assessed the maintenance costs for combined sewer overflows and other sewer structures on the basis of asset valuation and asset lives. Expenditure on reactive maintenance was included on the basis of historic expenditure.

[93] This chapter has been edited by our textual editor and a final version agreed with the Reporter. This office had no other involvement in the writing of the chapter.

The waste water infrastructure maintenance programme includes investment to alleviate property flooding due to overloaded sewers. It was concluded that the cost per property proposed by Scottish Water was reasonable. The asset maintenance investment addresses new problems which might emerge in future. Scottish Water does not have robust records which would allow the number of emerging problems to be projected with confidence. There is a risk that the number of emerging problems will be higher or lower than that projected in the business plan.

Capital maintenance expenditure needed to maintain water and waste water non-infrastructure assets

The Reporter's review of the first business plan identified a number of shortcomings in the methods used to estimate the expenditure needed to maintain water and waste water non-infrastructure assets. Following the Reporter's comments, and as part of its ongoing process, Scottish Water re-appraised its previous work. In particular, Scottish Water completely updated one part of its estimate using a revised asset inventory. The Reporter found that Scottish Water had significantly improved its estimates which included a much improved asset inventory. Despite the significant improvements, some deficiencies remained. These were still significant enough to cause some concerns about the reliability of the estimate. However, the Reporter noted that the proposed capital maintenance spend was below that indicated by a reasonable depreciation provision. This gave the Reporter some concern that there may be areas of expenditure that had not been adequately identified by Scottish Water.

Expenditure on management and general items

Management and general requirements comprise expenditure needed on vehicles, health and safety, property, information technology, telemetry (automatic transmission of operational information from assets located over a wide geographic area back to a central control room), scientific systems such as laboratories as well as the expenditure needed to obtain information about Scottish Water's assets. In total the expenditure in these areas can be significant.

Scottish Water had developed its estimates reasonably thoroughly for its first draft business plan. Following his review of that submission, the Reporter concluded that in some areas the estimates were not supported by good quality records and therefore the estimates were subject to significant uncertainty in those areas. Because the records were not available, there was little that Scottish Water could do to improve its estimates for the second draft business plan. However, Scottish Water did employ an IT consultant to review and benchmark its IT estimates, review possible labour savings to justify extending its telemetry system and reconsider the planned operating life of its vehicle fleet.

These changes were reviewed by the Reporter who concluded the following:

- Significant uncertainty remained in some areas of the estimates.
- The benchmarking carried out by the IT consultant provided some reassurance that the IT costs were not unreasonable.
- Scottish Water's work to review the most economic vehicle fleet age was sound and it justified Scottish Water's decision to return to its current policy. However, the Reporter accepted that a longer average age of the fleet increased Scottish Water's compliance risk. The Reporter recommended that Scottish Water should improve its records and review the policy again at the next business plan.
- The economic justification for extending the telemetry system to Scottish Water's smaller facilities was finely balanced. However, the ability to have real time information would allow Scottish Water to improve the reliability of its service and to react more positively to emergencies.
- Scottish Water's programme for obtaining information on its assets was very extensive, with commensurately high costs. While of the opinion

that some economies might be possible in a number of areas, the Reporter noted that Scottish Water had some catching up to do when compared with the water companies in England and Wales. He also noted that the average spend between 1998 and the end of the Quality and Standards III period was less than the benchmark of 2% of turnover which some consider desirable for asset intensive companies.

Expenditure on quality improvements in the water distribution system

Scottish Water proposed to implement a number of projects to improve certain water quality parameters in some zones where the condition of its water mains was affecting water quality. Scottish Water proposed to renovate a proportion of the mains in those zones affected. Scottish Water had not carried out detailed studies to define the work needed. The Reporter concluded that the estimates were very uncertain.

In addition to the above projects, the Scottish Environment Protection Agency (SEPA) proposed to reduce Scottish Water's allowable water abstractions in some areas to meet the requirements of the Birds and Habitats Directive and Water Framework Directive of the European Union. For the second draft business plan Scottish Water reviewed its initial estimates. However, without undertaking detailed studies in each of the water resource zones affected the Reporter accepted that there was little further improvement that Scottish Water could make. The Reporter's previous opinion that the estimates were uncertain remained.

Expenditure on quality improvements in the sewerage system

Expenditure under this heading mainly relates to work needed to rectify a large number of unsatisfactory combined sewer overflows (CSOs) that spill waste water from the sewerage system in time of high rainfall and thereby cause environmental damage. The technical solution where quality is affected generally comprises the provision of storage at the CSO to capture the overflows and return them to the sewers after the storm, together with the provision of some 'compensation' storage at sewage treatment works. The calculation of storage requires a computer 'hydraulic model' to be constructed. This is usually undertaken during detail design. Therefore for the high-level estimates in the business plan Scottish Water developed an 'algorithm' relating storage volume to population in the catchment.

After reviewing estimates in the second draft business plan, the Reporter continued to have a number of concerns resulting from the review which, in total, indicated that the overall cost estimate might be high. Key concerns were that:

- the estimated cost of screened overflows has not been benchmarked with experience from the Quality and Standards II programme;
- there is some duplication of work included in the programme;
- pipework costs have been over-estimated; and
- each CSO has been considered individually, without assessing potential savings which might be realised by integrating solutions.

Scottish Water has based some estimates of storage volumes in Quality and Standards III on a storage algorithm developed from another programme of work. The Reporter remained particularly concerned about the use of the algorithm for 'agglomerated' storage for discharges to shellfish water and bathing waters, which generate a significant part of the estimated expenditure in the Quality and Standards IIIa[94] period. A better estimate of the cost in the relevant catchments can only be produced when detailed modelling of the interaction of the sewerage system and the receiving water has been completed. In the absence of this work, the Reporter was not convinced that an optimum solution could be delivered efficiently within the Quality and Standards IIIa period. The Reporter concluded that there was a strong case for deferring investment in these catchments until a more robust solution and estimate has been developed.

94 Editor's note: Q+S IIIa is the first half of Q+S III covering the period 2006-10.

Expenditure on quality improvements at water and sewage treatment works

The quality programme for water treatment works comprises a significant part of Scottish Water's capital programme. Because of the numbers of water treatment works involved in the programme, Scottish Water applied standardised solutions to common problems. Following his review of the first draft business plan the Reporter concluded that the cost for the programme significantly overestimated the actual likely cost.

Following this conclusion Scottish Water undertook a series of reviews and adjusted its estimates. These were again reviewed by the Reporter. The Reporter concluded that Scottish Water had improved its estimates, meeting a number of his concerns. However, he also concluded that the standardised solutions which continued to provide the basis of the revised estimates still did not take into account site-specific factors. While considering that the new estimates were not so extreme, the Reporter considered that they still overestimated the true cost of the programme.

The waste water quality programme is based on indicative new standards provided by SEPA for the Quality and Standards III period. Scottish Water prepared estimates for each new consent using standardised solutions which reflect current practice. The Reporter concluded that the estimates for the Quality and Standards IIIa period were reasonable, although he had some minor concerns about the estimates for small treatment works. The Reporter concluded that some of the estimates for work at large treatment works in the Quality and Standards IIIb period had been over-scoped, resulting in them being over-estimated.

A significant part of the waste water quality programme relates to the expenditure needed to treat additional sludge, mainly arising from the need to add ferric salts to the main process units. Most of this expenditure occurs in the Quality and Standards IIIb period. Scottish Water has not prepared a sludge strategy which would demonstrate that the investment included in the business plan provides an optimum solution based on cost, environmental impact and sustainability. The Reporter remained concerned by some of the cost estimates and the economic justification for the solutions costed for the business plan. Because the expenditure does not occur until Quality and Standards IIIb there is an opportunity for Scottish Water to develop both its sludge strategy and its cost estimates.

The additional process units required to meet the quality programme at both the water and sewage treatment plants result in additional operating costs. Following his review, the Reporter concluded that while a comparison with Scottish Water's existing costs indicated that the estimates might be slightly high, they were probably not unreasonable.

Expenditure to maintain the supply demand balance

For the first draft business plan Scottish Water included two programmes of work under this heading:

1. A programme of work to remove a lack of capacity in some of Scottish Water's assets in order to allow new household and commercial development to proceed.

2. A programme of work in some resource zones (geographic areas which are supplied by a number of resources linked such that the risk of supply failure to all customers in the zone is similar) to meet an agreed minimum standard of resource availability in drought years.

Following Ministerial Guidance, the second programme was dropped, although some limited work remained within the quality programme. The Reporter's views have already been given on this item in the section above, entitled 'Expenditure on quality improvements in the water distribution system'.

The Reporter reviewed the expenditure that was estimated to be needed to remove development constraints for the first draft business plan. As a result of this work the Reporter concluded that the assumptions that had been made meant that the resulting estimates were very uncertain. The review also concluded that the uncertainty was such that a reasonable estimate would probably only become possible when the programme had been running for some time.

In February 2005 the Minister gave additional guidance that the household contribution of more potential commercial developments should be removed than had initially been allowed for by Scottish Water. He also stated that Scottish Water should make a contribution towards additional costs arising from increasing the capacity in the distribution system. Scottish Water also noted that it might have to develop some additional water resources for developments in some water resource zones where security of supply was limited. Although these items were added to the final estimate, Scottish Water maintained its basic methodology. The Reporter noted that some very small developments could generate quite large sums of money, when in reality they would probably be accommodated within the existing water or waste water treatment works. Scottish Water reacted positively to this comment and did not cost for very small developments. Given that the methodology had not changed, the Reporter maintained his opinion that the estimates remained very uncertain.

Expenditure on enhanced levels of service

Following the first draft business plan the Minister required Scottish Water to cost the possibility of increasing the level of service relating to customer interruptions in those areas of the country when such interruptions were greater than normal. Scottish Water undertook this work using the same optimisation model that had been used to estimate its needs to maintain its existing levels of service (see the section above, 'Capital maintenance expenditure needed to maintain water infrastructure assets').

Given that the same method had been used, the Reporter again considered that the level of investment was reasonable to meet the assumptions made by Scottish Water. Any investment up to the amount suggested would cause some improvement to levels of service.

Depreciation

For the second draft business plan the Reporter was asked to review the asset lives used by Scottish Water to estimate its depreciation provision for its existing assets. The Reporter noted that the same lives had been used and that they were similar to industry norms. He suggested that as more information on its assets was collected by Scottish Water, Scottish Water should review its asset lives to ensure that they matched engineering reality.

Demand projections

Demand projections are needed to test the capacity of Scottish Water's assets over the period of the business plan and also for revenue projections. The demand projections were reviewed by the Reporter who noted that the population projections were based on the recent census and government projections and so should be robust. He noted that Scottish Water had assumed that per capita household consumption was assumed to stay constant. Because Scottish Water did not maintain a household consumption monitor it was difficult for Scottish Water to estimate trends in per capita growth in Scotland. He noted that consumption had been rising slowly in England and Wales but that seasonal effects could have significant impacts in dry years. He also noted that non-household consumption was projected to fall over the business plan period. This fall was predominately from a number of large users. This aspect of the projection was the most uncertain.

The Reporter recommended that Scottish Water should set up a domestic consumption monitor to ensure that future projections were soundly based.

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