

## Glossary

<b>1991 Act</b>	Water Industry Act 1991.
<b>Adjustment factor</b>	The amount (known as <b>K</b> ) by which the weighted average charges for the supply of water is allowed to increase relative to the <b>RPI</b> as determined by or under Condition B of the <b>appointment</b> . <b>K</b> can be positive, zero or negative.
<b>Appointed business</b>	An expression defined in the <b>appointment</b> . It essentially means the business of the carrying out by the company of the regulated activities of a water undertaker. Among the declared purposes of Condition F of the <b>appointment</b> (accounts and accounting information) is ensuring that the financial affairs of the appointed business can be assessed and reported on separately from other business and activities of the company.
<b>Appointment</b>	The instrument by which the Secretary of State or the <b>Director</b> (with a general authorization given by the Secretary of State) appoints a person under the <b>1991 Act</b> to be the water undertaker for the area described in that instrument. The word ' <b>licence</b> ' is used interchangeably with ' <b>appointment</b> '.
<b>Asset beta</b>	The <b>beta factor</b> that would apply if the company had no debt.
<b>Available headroom</b>	The difference between water available for use and demand at a given time.
<b>BE</b>	Broad equivalence. The <b>Director</b> 's proposal that the <b>capex</b> to maintain the serviceability of a group of <b>non-infrastructure assets</b> should be broadly in line with the current cost depreciation charged on those assets over an appropriate period of time.
<b>Beta factor</b>	This is a coefficient (ie a number) which reflects the risk relative to the equity market as a whole, of investing in a company's equity. In the <b>CAPM</b> , beta measures the sensitivity of returns on a company's equity to returns for the market as a whole. A beta of 1 indicates that returns on a company's equity go up or down pro rata with returns on the market, a beta of more than 1 indicates that returns on the company's equity go up more than pro rata with the market, while a beta of less than 1 indicates that the returns on the company's equity go up less than pro rata with the market.
<b>Bottom-up</b>	A bottom-up approach to assessing the costs needed to provide a service is one that seeks to set out in detail the activities and operations that the company needs to undertake to carry out its functions effectively, assesses the resources required for each to be carried out efficiently in each year; and then aggregates the results to provide the levels of <b>opex</b> and capital investment required.
<b>BP</b>	Business plan. The submission to the <b>Director</b> in April 1999 which sets out the company's view of the price limits needed for the period 2000 to 2005 and its reasons for them.
<b>Capex</b>	Capital expenditure.
<b>Capital maintenance</b>	Planned work carried out by companies to replace and repair water assets to provide continuing services to customers.
<b>Capital programmes</b>	Planned construction work to be carried out by companies to maintain, replace or enhance assets such as water mains.
<b>CAPM</b>	Capital asset pricing model. An economic model which may be used to provide an estimate of the expected rate of return on a company's equity (the cost of equity). The CAPM states that this is equal to: $r+\beta \cdot ERP$ where 'r' is

the risk-free rate,  $\beta$  is the beta factor and ERP is the equity risk premium. A simple explanation of the CAPM is that risk may be divided into two components: specific risk, which can be eliminated by diversification, and market risk, which cannot. Only market risk, which is measured by beta, is relevant to the cost of equity.

<b>Catch-up efficiency</b>	The annual efficiency improvements imposed on companies by <b>Ofwat</b> based on their performance relative to the most efficient companies. The most efficient companies will have no catch-up imposed.
<b>Coliform bacteria</b>	A group of bacteria found in the intestine and faeces of most animals. Coliforms can sometimes be found in untreated water. The treatment process removes them and disinfection prevents their reappearance in the distribution system.
<b>Communication pipe</b>	See <b>service pipe</b> .
<b>Comparative analysis</b>	The use of a number of different companies' performance in a given area to assess their relative performance.
<b>Comparative efficiency studies</b>	Comparisons of companies' operating and capital costs, taking into account factors outside management control which influence costs. Such factors include the make-up of inherited asset stock (outside short-term control), economies of scale, population density and the nature of the terrain. From these comparisons it is possible to rank or band companies by relative efficiency and to assess relative scope for reducing costs.
<b>Corporation tax</b>	The tax payable by a company in the UK on its profits and chargeable gains. The standard rate of corporation tax for 2000/01 is 30 per cent.
<b>Cost base</b>	Part of the <b>BP</b> submission to <b>Ofwat</b> in which companies give prices for a series of standard projects. Used as part of the assessment of each company's relative <b>capex</b> efficiency.
<b>Cost of capital</b>	The minimum return that providers of capital require to induce them to invest in or lend to a business, given its risks (also <b>WACC</b> ).
<b>Cryptosporidium</b>	A waterborne parasitic micro-organism, believed to originate from livestock. Cryptosporidia have been identified as responsible for a number of acute diarrhoea cases (cryptosporidiosis).
<b>CSC</b>	Customer Service Committee. A committee appointed by the <b>Director</b> under section 28 of the <b>1991 Act</b> in respect of one or more water or sewerage undertakers and having the duties set out in section 29 of the <b>1991 Act</b> in respect of the customers and potential customers of those undertakers.
<b>Demand management</b>	By increasing the efficient use of water by both companies and customers, the need for new water resources to meet increases in demand can be deferred. Demand management strategies, such as selective metering, appropriate tariff structures, leakage reduction and promoting efficiency measures by customers, play an important role in maintaining a company's supply/demand balance.
<b>Depreciation</b>	Depreciation is a measure of the consumption, use or wearing out of an asset over the period of its useful economic life.
<b>Determination</b>	In the context of the <b>Periodic Review</b> , the setting by the <b>Director</b> or the CC of <b>K</b> and the standard amount of infrastructure charges for a water undertaker.
<b>DETR</b>	Department of the Environment, Transport and the Regions.

<b>Director</b>	Director General of Water Services.
<b>DMA</b>	District Metering Area—typically 500 to 1,000 properties, the total supply to which is (or can be) continuously monitored for leakage control purposes.
<b>Dumb meter</b>	Domestic water meter for billing purposes with dial/counter which has to be visually read.
<b>DWI</b>	Drinking Water Inspectorate. The DWI, on behalf of the Secretary of State for the Environment, Transport and Regions and the Welsh Assembly, ensures that the water companies are fulfilling their obligations with regards to quality of drinking water supplies.
<b>EA</b>	Environment Agency. The Agency's principal aim, subject to other statutory provisions and taking into account likely costs, is to discharge its functions so as to protect or enhance the environment taken as a whole as to make a contribution towards achieving sustainable development.
<b>Econometrics</b>	The application of mathematical and statistical techniques to economic problems and theories. In water price determinations, the applications of econometrics have consisted mainly of using regression analysis to develop statistical models relating operating and capital costs to various explanatory variables. These models have then been used to assess companies' relative efficiency.
<b>Economic leakage level</b>	The point at which further leakage control activity would cost more than alternative means to bridge the gap between supply and demand. In determining this it is important to include consideration of environmental and social costs as well as other costs.
<b>Enhanced service levels</b>	Permanent, identifiable and measurable improvements in service levels that are above the most recently established company-wide base levels of service and which are additional to improvements resulting from expenditure in other purpose categories.
<b>ERP</b>	Equity risk premium. The difference between the rate of return in the equity market as a whole and the <b>risk-free rate</b> .
<b>Frontier efficiency</b>	The annual efficiency improvements imposed equally on all water companies by the <b>Director</b> , based on the improvements expected of even the most efficient company in the industry.
<b>Gearing</b>	A company's net debt expressed as a percentage of its total capital (ie the ratio of net debt to net debt plus equity).
<b>Gilts</b>	Securities issued by the UK Government. In this report the term 'gilts' is used to refer to such securities with a repayment date at least one year after the date of issue.
<b>Historical trend projection</b>	The <b>Director's</b> procedure for setting the starting point for future capital maintenance projections, based on historic expenditure. In their <b>BPs</b> , companies were required to report average level of actual capital maintenance expenditure over the period 1992/93 to 1997/98 (six years). Final data for 1998/99 were available to the <b>Director</b> when making his final determinations, and hence the <b>Director's</b> projections were generally based on seven years' data. Final data for 1999/2000 were available to the CC during the inquiry, and the CC projections are based on eight years' data.
<b>Imported water</b>	Water imported from another water company or from another water resource zone within the company.

<b>Infrastructure assets</b>	Mainly underground assets, such as water mains and sewers but also dams and reservoirs.
<b>Interim determination</b>	A redetermination of <b>K</b> under Part 4 of Condition B of the <b>appointment</b> provided for in specified circumstances between <b>Periodic Reviews</b> . See paragraph 4.13.
<b>K</b>	The amount by which the weighted average charges for the supply of water services are allowed to increase relative to the <b>RPI</b> as determined by or under Condition B of the appointment. <b>K</b> can be positive, zero or negative.
<b>Levels of service</b>	Specific measures of service to customers.
<b>Licence</b>	See <b>appointment</b> . The word ‘licence’ is used interchangeably with the word ‘ <b>appointment</b> ’.
<b>Logging up</b>	<b>Capex</b> and <b>opex</b> incurred in the course of a <b>K</b> period (see <b>quinquennium</b> ), for which allowance was not made by the <b>Director</b> in setting <b>K</b> at the last <b>Periodic Review</b> (and has not been made at an <b>interim determination</b> ) is sometimes taken into account by the <b>Director</b> at the next <b>Periodic Review</b> . This practice is referred to as ‘logging up’.
<b>MLT</b>	Mandatory leakage target. Annual leakage targets set by the <b>Director</b> for each water company. These were set by the <b>Director</b> following the <b>DETR</b> Water Summit in 1997. If a company fails to meet its target without satisfactory explanation to the <b>Director</b> , regulatory action may be taken.
<b>MORI</b>	Market Opinion Research International, a market research company.
<b>NERA</b>	National Economic Research Associates. Economics consultants.
<b>Non-infrastructure assets</b>	Mainly surface assets such as water treatment works, pumping stations, company laboratories, depots and workshops but also wells and boreholes.
<b>Notified Item</b>	An item notified to a water or sewerage undertaker by the <b>Director</b> under Condition B paragraph 13 of the <b>appointment</b> as not having been allowed for in full or at all in making a determination of <b>K</b> .
<b>Notional P0</b>	Defined as that which would generate a given <b>NPV</b> of revenue for 2000/01 to 2004/05, assuming <b>K</b> of zero for 2001/02 to 2004/05 (where the <b>NPV</b> of revenue is calculated at the assumed <b>cost of capital</b> , see Chapter 8).
<b>NPV</b>	Net present value, ie the value of the cash flows arising in the future or past, discounted or increased to reflect its present value.
<b>Ofwat</b>	Office of Water Services. It is headed by the <b>Director</b> .
<b>Opex</b>	Operating expenditure.
<b>Opex incentive allowance</b>	An allowance that enables companies to retain the benefit of out-performance against the <b>opex</b> projections which the <b>Director</b> made at the 1994 <b>Periodic Review</b> .
<b>Outreader</b>	Device to enable a <b>dumb meter</b> to be read remotely or by some form of scanner, obviating the need to read the meter visually.
<b>P0 adjustment</b>	A component of the price limit. For the 1999 review (which commenced in June 1997 with the publication of a consultation paper) the percentage reduction in prices from 2000/01, the first year of the five for which price limits will be set. A P0 adjustment reflects efficiency gains and past returns greater than those for which allowance was made in the 1994 K2 price

review, which have been achieved by the company. The term 'P0' has been used publicly by **Ofwat** since late 1996 in relation to the 1999 **Periodic Review**.

<b>Periodic Review</b>	The review of <b>K</b> by the <b>Director</b> at five- or ten-yearly intervals, provided for by Condition B of the <b>appointment</b> .
<b>Pre-tax WACC</b>	The <b>WACC</b> adjusted for tax payments by the company (see Appendix 8.3).
<b>Quality regulators</b>	See <b>DWI</b> and <b>EA</b> .
<b>Quinquennium</b>	A period of five years, for which prices are set by a <b>Periodic Review</b> .
<b>Rate of return</b>	The annual income and capital growth from an investment, expressed as a percentage of the original investment.
<b>RCV</b>	Regulatory Capital Value. The capital base used in setting price limits. The value of the <b>appointed business</b> which earns a return on investment. It represents the initial market value (200-day average), including debt, plus subsequent net new <b>capex</b> as assumed at the time of initial price setting in 1989 and including new obligations imposed since then.
<b>Regression analysis</b>	Correlation and regression techniques can be used to estimate the relationship between one variable and one or more others. The degree of correlation between variables is measured on a scale of zero to 1. Two variables with a strong correlation would be within the range of 0.8 to 1, while two weakly correlated variables would be in the range 0–0.2.
<b>Relevant Change of Circumstance</b>	An expression defined in paragraph of Condition B of the <b>appointment</b> (see Appendix 4.2).
<b>Reporters</b>	The <b>Director</b> requires each water undertaker to appoint an independent consultant, approved by the <b>Director</b> , to scrutinize (among other things) its <b>BP</b> . The consultant is known as a Reporter.
<b>Requisition charges</b>	Section 41 of the <b>1991 Act</b> enables a property owner or local authority to require a water undertaking to provide a water main. The undertaker can recover the costs from the owner or authority. The recoverable costs are known as 'requisition charges'.
<b>Risk-free rate</b>	The rate of return on an investment where the lender is certain to receive both payments of interest and repayment of capital on a fixed schedule.
<b>RPI</b>	Retail prices index.
<b>RPI-X</b>	Price regulation in some industries is expressed in the form RPI-X, indicating that in a particular year the movement in the average prices charged by a company compared with prices charged in the preceding year is governed by the movement in the <b>RPI</b> for the year, minus an adjustment factor of X, which is set by the regulator. The adjustment factor of X may be set by the regulator to be either negative or positive, depending on the cost trends and scope for efficiency in the particular company: in the latter case prices are allowed to increase by no more than the movement in the <b>RPI</b> plus the adjustment factor of X. In the water industry this price regulation process is generally referred to as RPI-K or RPI+K.
<b>Security margin</b>	The difference between the water available to customers for use (including <b>imported water</b> ) and demand at any time.
<b>Service pipe</b>	The small-diameter pipe between the water main and the building it serves. Divided into two elements: the communication pipe which runs from the

boundary of the highway in which the water main is laid and is the responsibility of the water company, and the supply pipe which runs from the boundary of the highway to the building and is the responsibility of the property owner or customer.

<b>Serviceability</b>	A long-run approach which considers the ability of the water and sewerage networks to maintain a standard of service to customers.
<b>Supply/demand balance</b>	The balance between the amount of a company's available water resources and the demand for water by customers. Any imbalance between supply and demand can be met via resource enhancement or <b>demand management</b> strategies (eg selective metering and leakage control).
<b>Supply pipe</b>	See <b>service pipe</b> .
<b>SWC</b>	Statutory water company. Under the Water Act 1989 SWCs were permitted to register as limited companies under the Companies Act 1985.
<b>Tariff basket</b>	The basket of charges to which the annual regulatory price limits apply comprising charges for unmeasured water supply and charges for measured supply.
<b>Tax shield (on debt)</b>	The effect of debt in reducing a company's <b>corporation tax</b> liability. This effect arises because interest payable on debt is treated as a cost when calculating taxable profits.
<b>Tax wedge</b>	The adjustment made to convert between a pre- and post-tax cost of capital and vice versa.
<b>Top-down</b>	A top-down approach to assessing the costs needed to provide a service is one that seeks to identify the overall level of <b>opex</b> and capital investment required, without paying regard to how this is allocated to individual activities or projects within the service. The requirement to ensure that the overall levels are efficient is met by comparisons with costs of companies carrying out the same sorts of activities and basing the overall costs allowed for on those of the most efficient company.
<b>WA</b>	One of the regional water authorities which were the predecessors of the <b>WaSCs</b> .
<b>WACC</b>	Weighted average cost of capital. For a company, the average of its cost of debt and cost of equity capital (see <b>cost of capital</b> ), weighted according to the balance of debt and equity which finances the company's assets. In this report we have not adjusted the cost of equity for tax payments by the company nor the cost of debt for the <b>tax shield</b> .
<b>WaSC</b>	Water and sewerage company. A company which is a water undertaker and a sewerage undertaker.
<b>WoC</b>	Water only company. A company which is a water undertaker but not also a sewerage undertaker.
<b>WSZ</b>	Water supply zone. An area of a distribution network served by a single source or group of sources forming a single integrated supply zone.