HUNTER WATER CORPORATION

PRICING SUBMISSION FOR
2005/06 TO 2008/09

September 2004

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1 THIS SUBMISSION

1.1 Introduction

The Independent Pricing and Regulatory Tribunal (IPART) has stated its intention to make a price determination to commence from 1 July 2005 for all metropolitan water agencies in New South Wales. This will enable IPART to determine prices for all metropolitan water agencies concurrently and allow the water agencies and other stakeholders to frame their submissions in a more focussed and efficient manner.

As with all previous submissions, this submission has been based on two fundamental strategic pricing objectives. These are to:

- Generate a revenue stream sufficient to ensure the continued financial viability of Hunter Water, and
- Revision of tariff structures so that the component prices are efficient and effective signals – in particular, increasing the emphasis on pay-for-use water pricing to provide a water conservation signal. Tariff structures also need to be equitable in the way the costs of service are passed on to customers. This submission proposes a continuation of improvements to sewer and stormwater charging aimed at achieving more equity in the way prices impact on customers.

In making price determinations under the *Independent Pricing and Regulatory Tribunal Act 1992,* IPART is required to consider a range of matters including financial viability, consumer protection, service delivery, environmental standards, demand management and competition.

To address IPART's interests and Hunter Water's objectives, as outlined above, this submission is structured as follows:

Section 1 - Provides some **background information** on Hunter Water's area of operations and a brief outline of the current charges.

Section 2 - Provides an **overview of Hunter Water's performance** in the areas of consumer protection and service delivery, environmental standards and organisational efficiency.

Section 3 - Discusses the factors relevant to consideration of **revenue requirements.**

Section 4 - Outlines Hunter Water's proposals for **water prices** for the proposed four-year price path period.

Section 5 - Outlines Hunter Water's proposals for **sewer prices** including achieving a target for charging home units and flats.

Section 6 - Outlines Hunter Water's proposals for further structural reform of **stormwater drainage prices**.

Section 7 - Summarises the combined Water-Sewer-Drainage price package from the **customer perspective**.

Section 8 - Outlines Hunter Water's proposals for **trade waste charges** for the proposed price path.

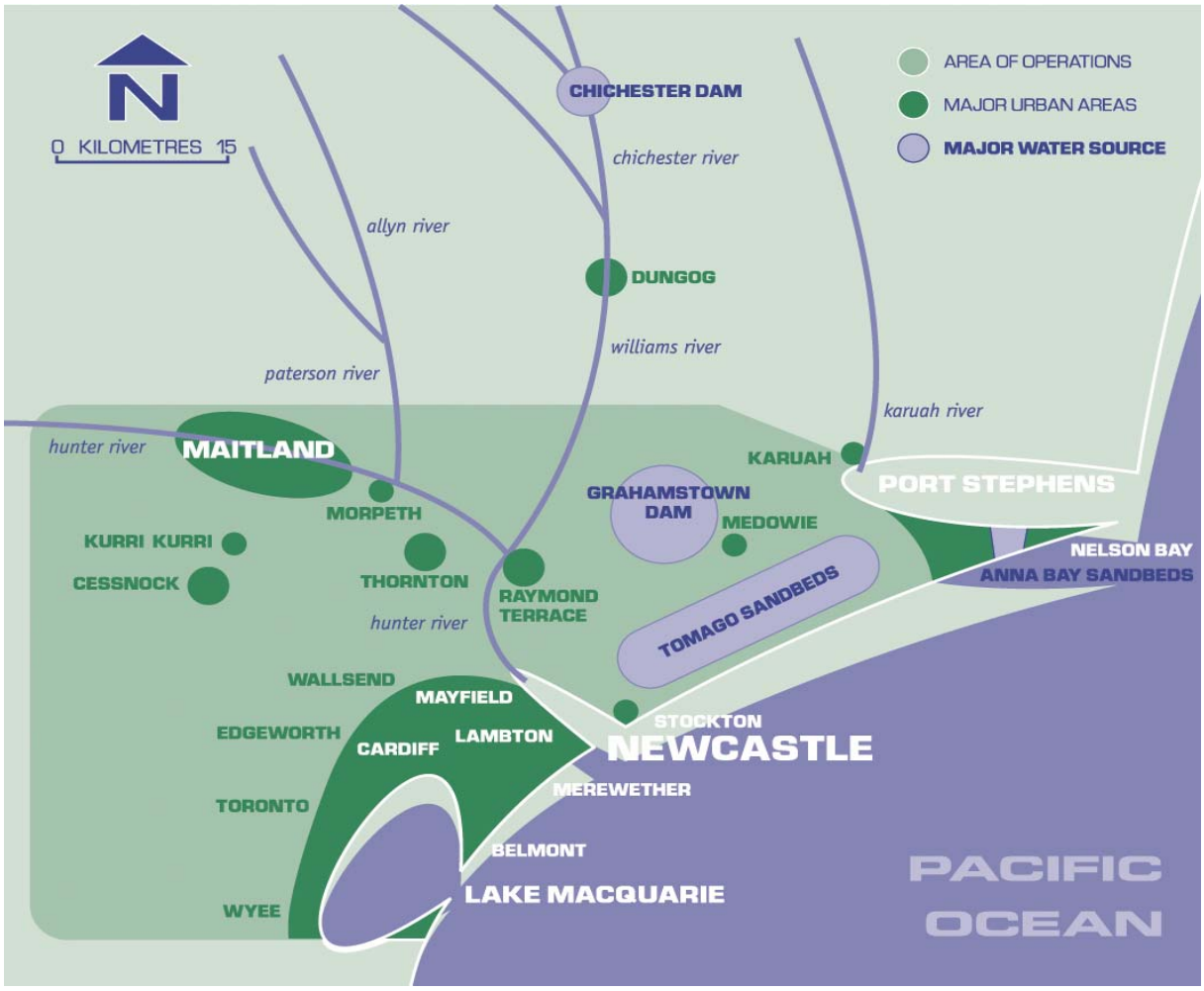
Section 9 - Outlines Hunter Water's proposals for **miscellaneous charges** for the proposed price path.

This submission deals with matters raised in IPART's 2004 *Review of Metropolitan Water Agency Prices Issues Paper* in the section most relevant to the matter raised. For example, questions raised in the Issues Paper relating to the operating expenditure, capital expenditure and regulatory asset base are all covered in Section 3 relating to Revenue Requirements. Hunter Water will provide IPART with supplementary information on request where further information is required on a topic. This submission also addresses the recommendations for water pricing structures in the Tribunal's July 2004 *Investigations into the Price Structures to Reduce the Demand for Water in the Sydney Basin* report.

1.2 Snapshot of Hunter Water Corporation

Hunter Water Corporation is a State-owned Corporation, which provides water and sewerage services to the lower Hunter region centred on Newcastle. Hunter Water serves a population of nearly 500,000 people and covers five local government areas of Maitland, Cessnock, Port Stephens, Lake Macquarie and Newcastle.

Figure 1.1 Area Served by Hunter Water



The Corporation was formed in 1992 from the Hunter Water Board and its predecessor statutory agencies, which have existed since the late 19th Century. Creation of the Corporation from the previous statutory board was part of an evolutionary reform process that has been in place since the early 1980s with new approaches to pricing, commercial management, productivity, service standards and environmental management.

Since the early 1980s, Hunter Water Corporation and its predecessor organisations have established a record of leadership in water industry reform. Hunter Water has continually improved the standard of service that it provides to customers, enhanced its overall environmental performance and, at the same time, achieved a rate of efficiency improvement that exceeds Australian water industry averages.

Today Hunter Water Corporation is a much smaller and highly skilled organisation. The Corporation has been divested of many of the former Board's regulatory and other functions not related to the efficient provision of water and sewerage services to the community. It has evolved into an organisation that provides effective exposure of service delivery to competition while ensuring that standards for customer protection and environmental protection are met. Major operating cost reductions have also been achieved through work efficiencies, elimination of outdated work practices and ensuring that any work undertaken is necessary to either minimise the total costs of our water and sewer systems or to ensure standards of service meet regulated obligations. In light of this performance record, the Corporation's business objectives centre on a theme of continuous improvement which includes continuing to pursue further efficiencies and operating cost reductions.

A summary of key business indicators is shown in Table 1.1 below.

Table 1.1 Business Snapshot

Key Indicators		1996/97	2000/01	2001/02	2002/03	2003/04	2004/05
Real Prices (residential)	*index 1991/92 = 100*	86	76	75	74	76	77
Tariff Income	*Group $ million*	115.4	115.4	117.3	127.0	129.9	131.2
Operating Costs	*Group $ million*	52.1	52.3	53.3	56.4	57.7	62.5
External Sales [(a)]	*Group $ million*	5.0	4.8	5.5	9.3	11.9	10.7
HWC Capital Expenditure	*$ million*	16.2	44.4	52.9	48.2	51.3	78.6

(a) Excludes the former subsidiary Hunter Watertech, but includes HWA and RLMC from 5 March 2003

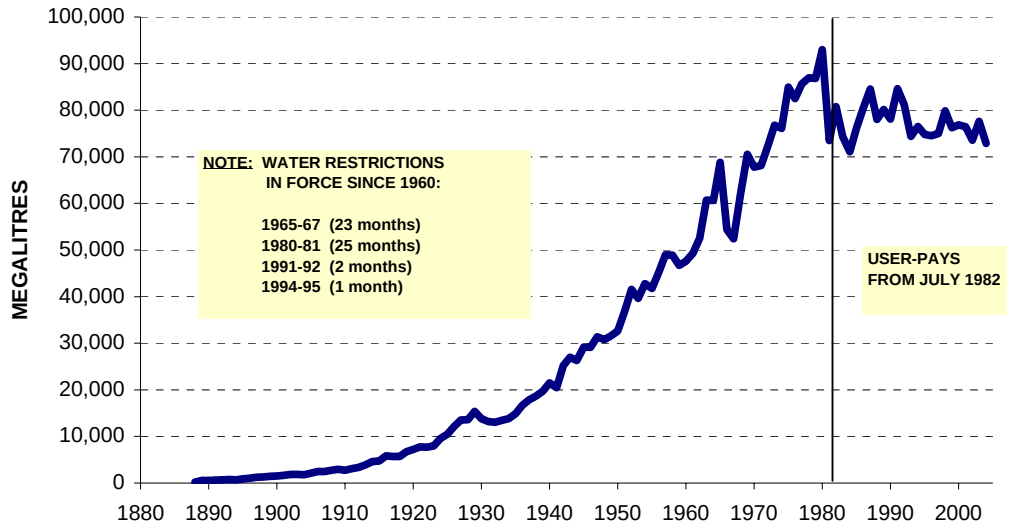
1.3 Water, Sewerage and Drainage Charges

Hunter Water Corporation, and its predecessor authorities, have moved progressively from a property-value based rating system for water and sewer to a consumption-based charging system with no relationship to property value.

Since its introduction in 1982, pay-for-use pricing has been a very successful demand management tool with Hunter Water achieving an initial 30% reduction in water demand that has been sustained to this day. Figure 1.2 below shows the growth in total demand from 1893 to 1982 and the sustained demand reduction since then, which is attributed to pay-for-use pricing, together with a wide range of demand management and recycling initiatives, community education programs etc.

The average residential consumption per dwelling since 1982 has fluctuated between 200 and 235 kilolitres per year. This is one of the lowest of the major Australian water authorities and is 15% lower than the average across Australia.

Figure 1.2 Total Supply from the Sources 1888 to Date



To date, pricing reform in the Hunter has been addressed in four stages:

1. 1982 – introduction of a **two-part tariff** comprising a service charge and a usage charge for all water consumed. A similar two-part tariff was applied to sewer with sewer usage implied from water usage.
2. 1990 to 1994 – progressive **elimination of the property-value** basis for water and sewer service charges. The valuation basis was completely removed for residential customers in 1990/91 and for the industrial and commercial group in 1994/95.
3. 1995 – **removal of cross subsidies** in pricing and of other discriminatory elements in the application of prices. This included:
   - Removal of charges on vacant land
   - Removal of fire service charges, and
   - Uniformity of charges for all customers – residential and non-residential (sewer usage charge equalised effective 2002/03).
4. 2001 - introduction of **location-based pricing** for large water users to accommodate an emerging demand for cost-reflective pricing for major customers. This third tier price reflects the economies that are achieved when supplying large volumes of water to individual customers close to our water treatment facilities and is in accordance with National Competition Policy.

Hunter Water invested considerable effort in reviewing its pricing strategies in the lead up to the 2000 Price Determination. The 2000 Price Determination introduced new price structures for very large volume consumers in locations close to source / treatment facilities. There is a sound basis for this structure in the context of cost reflectivity and national competition policy principles and, as a result, this approach is considered to be still relevant for the coming price period. The 2000 determination also introduced new measures to bring more equity to residential sewer charges and to reduce the dependence of stormwater drainage charges on property-value based charges.

This submission builds on these reforms however, new pressures have also emerged. The most significant is the drought that affected much of Australia over recent years and which is now manifested by seriously depleted water storages in many parts of the east coast of

NSW. The widespread drought conditions have led the NSW Government to look at a wide range of options to address both the demand and supply of water to urban areas. In September 2003, the Government asked IPART to investigate alternative structures for retail water prices and to assess their potential to reduce the demand for water in Sydney. This submission incorporates the recommendations of the IPART report in ways that are relevant to the demand and supply situation in the lower Hunter.

Today, Hunter Water's water, sewerage and drainage charges are made up of:

- **Water service charge** – a fixed charge that varies only according to meter size. Most domestic customers have a standard 20mm diameter meter and therefore currently pay a uniform water service charge. Consumers with larger meters pay higher service charges.
- **Water usage charges** – these charges are applied to measured consumption at the customer's meter. Three rates apply:
  - A basic rate for all consumption up to 1,000 kilolitres per year
  - A lower "second tier" rate for consumption greater than 1,000 and up to and including 50,000 kilolitres per year. The second tier rates generally only affects non-residential customers, and
  - A location-based rate for consumption greater than 50,000 kilolitres per year *in specific areas only*. The location-based rate was introduced from 1 July 2001 onwards and passes on, to some very large industries, the economies of using less of Hunter Water's substantial water distribution infrastructure.

- **Sewer service charge** – a fixed charge to meet the capital and fixed operating costs of the sewerage system. This is the dominant charge in a typical residential customer's sewer bill, making up around 80% of the average household sewer bill. These charges vary according to water meter size, as for water-service charges, and are adjusted by a "discharge factor". Discharge factors are an estimate of the proportion of water supplied that is subsequently discharged to the sewer.

  Hunter Water has removed reference to the discharge factor for the typical residential house with a standard 20mm water service, and now charges a flat rate that is equal to 50% of the base sewer service charge. This was designed to assist domestic customers with high external water usage to separately meter external water use and not incur sewer usage charges on external use.

  However, industrial and commercial customers have varying discharge factors depending on the nature of water use and discharge eg an office building with no external use may have a 100% discharge factor.

  With the 2000 Price Determination, the sewer service charge was made more equitable for customers placing similar demands on the system. In particular, minimum charges were introduced to address inequalities between home units and flats and other residential customers. The minimum charge for home units and flats started at $60 in 2001/02 and had increased, in $20 per year increments, to $120 in 2004/05. This minimum charge will be capped at two-thirds of the level applying to a typical house.

- **Sewer usage charge** – these charges are imputed from the level of measured water consumption and are intended to reflect the small variable cost component in sewage transport and treatment, mainly power and chemicals. The level of sewer usage is imputed by applying a "discharge factor" to measured water use. The discharge factor represents the amount of metered water consumption notionally discharged to

the sewer. For example, a domestic customer consuming 200 kilolitres of water would have an imputed sewer use of 100 kilolitres (200 kilolitres of water x 50% discharge factor = 100 kilolitres sewer use). Sewer usage charges are then applied to this level of imputed sewer use.

- **Stormwater drainage charges** – these apply only in areas where Hunter Water maintains stormwater drainage networks. These drainage networks are in parts of Newcastle, Lake Macquarie and Cessnock Council areas. Charges comprise a service charge for residential customers and, a service and property value charges for non-residential customers. Since 2000, Hunter Water has been scaling down the emphasis on valuation-based charges for non-residential customers. This has been funded by increasing service charges for all customers.
- **Environmental Improvement Charge** – this is a $48.95 (as at 1 July 2004) levy on all sewered properties in Hunter Water's area of operations which is used to fund the Hunter Sewerage Project, a backlog sewerage program to provide sewerage services to over 20,000 properties. Under a funding package for this project established by the NSW Government, this charge continues until 2009 for most customers. The current charge also includes a small amount to cover the existing Priority Sewerage Program project at Fern Bay.

The water and sewer prices established by the 2003 IPART determination are summarised in Table 1.2 below.

Table 1.2 Water and Sewer Prices

Water	2003/04	2004/05
Fixed	$26.05	$25.37
Usage < 1,000 kL	$0.98 / kL	$1.01 / kL
> 1,000 kL	$0.90 / kL	$0.93 / kL
> 50,000 kL		
Kooragang / Stockton	$0.777 / kL	$0.802 / kL
South Wallsend	$0.783 / kL	$0.807 / kL
Tomago	$0.813 / kL	$0.839 / kL
Warners Bay / Valentine	$0.813 / kL	$0.839 / kL
Seaham / Hexham	$0.846 / kL	$0.872 / kL
Newcastle / Highfields	$0.855 / kL	$0.882 / kL
Raymond Terrace	$0.868 / kL	$0.896 / kL
Port Stephens	$0.870 / kL	$0.899 / kL
Kurri / Cessnock	$0.873 / kL	$0.902 / kL
Lookout	$0.873 / kL	$0.901 / kL
Edgeworth / West Wallsend	$0.896 / kL	$0.925 / kL
Dungog	$0.531 / kL	$0.548 / kL
Other	$0.90 / kL	$0.93 / kL
Sewer		
Fixed	$462.95	$478.69
Usage	$0.42 / kL	$0.42 / kL
Stormwater Drainage		
Fixed	$38.46	$42.31
AAV	$0.145 in $1	$0.125 in $1

2 HUNTER WATER'S OPERATING ENVIRONMENT AND PERFORMANCE

2.1 Introduction

Hunter Water's basic objectives are to provide drinking water and wastewater services to the urban communities of the lower Hunter region of New South Wales. This entails meeting the high standards set by Government and regulatory agencies for customer service and environmental protection while minimising costs to the community and providing a commercial return to the NSW Government for the large capital investment in the service infrastructure.

IPART's 2002 and 2004 Issues Papers have highlighted the link between customers' willingness to pay for services and their expectations about the quality of service. Since 2003, IPART has worked with the water agencies to develop a set of service quality indicators to inform the price setting process.

However, Hunter Water believes that the existing regulatory arrangements, particularly those established by its Operating Licence, already demonstrate a high level of service quality. For this reason, this submission opens with an overview of those regulatory arrangements and the relevant standards achieved by Hunter Water. The Issues Paper also raises questions of revenue requirements and this is discussed briefly below and in more detail in Section 3.

2.2 Regulatory Arrangements

The needs of Hunter Water's customers and the environment are looked after by a range of regulatory mechanisms put in place by the NSW Government. These are:

- **The Operating Licence** is the principal customer protection instrument which prescribes performance standards, obligations and reporting requirements for customer service, system performance and environmental protection. Standards of service Hunter Water must meet are in relation to drinking water quality, water supply continuity, water pressure and wastewater transport. As well as regulated standards, the Operating Licence requires Hunter Water to annually report on a range of system performance indicators including customer service indicators such as repeat water service interruptions and repeat sewage overflows.

  The Operating Licence also sets out conditions relating to:
  - Customer and consumer rights
  - Community consultation
  - Customer complaint and dispute handling
  - Managing water demand and supply
  - Environmental management strategies and plan
  - Publication of environmental indicators.

  An annual independent audit is required as part of the Operating Licence to assess Hunter Water's performance against these standards of service.

- **The prices** Hunter Water charges to customers are determined by IPART. In 1996, IPART decided that it would be more appropriate to set Hunter Water's prices for a period covering more than one year. Subsequent pricing determinations have variously covered periods of four, three and two years. Multiple year price paths provide Hunter Water with a stable price environment against which planning decisions can be made with greater certainty. The last price determination was in 2003 for two years. The main feature of the 2003 Price Determination was that price increases for each of the two years to 2005 were limited to around 0.5% more than the rate of inflation.

- **Environment Protection Licences** are issued by the Department of Environment and Conservation (DEC) for each of the 14 wastewater systems operated by Hunter Water. These licences are issued in accordance with the Protection of the Environment Operations Act (1997) and are reviewed every three years. The licences relate to the operation of both the wastewater treatment plant and the wastewater transportation network (the sewerage pipe system).

  The licences outline the conditions for the operation of the wastewater treatment plants by specifying the maximum volume of effluent that may be discharged from each plant together with a requirement for the effluent to meet specific quality standards. Additional conditions are currently being discussed with the DEC which specifically relate to how the performance of the wastewater transportation system are monitored and reported. The DEC can also place separate conditions on the licence such as Pollution Reduction Programs, which may require Hunter Water to undertake works or studies.

- **Water Access Authorisation** – The major responsibility of Hunter Water is to provide the water needs of its community while ensuring maximum protection for its source water catchments. Hunter Water does this by extracting water from natural sources under access arrangements administered by the Department of Infrastructure, Planning and Natural Resources (DIPNR).

  Depending on the water source, access is regulated under a Water Management Licence issued under the Water Act 1912 or Water Access Licences (and associated works and use approvals) issued under the Water Management Act 2000.

  The various licences and approvals define Hunter Water's rights and responsibilities regarding the extraction of water and set conditions for extracting water from Chichester Dam, the Williams River, Seaham Weir and groundwater from the coastal sandbeds. The Water Management Licence and Water Management Act approvals also require Hunter Water to undertake monitoring and reporting and to carry out further investigations related to resource security. In addition, DIPNR has legislative powers to direct Hunter Water to conduct remedial work should water extraction activities cause any adverse environmental impacts.

- **A memorandum of understanding with NSW Health** ensures prompt exchange of information between the two parties on water-related health matters and defines water quality emergency protocols.

This submission is based on the continuation of these existing regulatory requirements and the standards specified within them. Provision is also made for planned expenditure to provide for enhanced performance of the wastewater transport and treatment systems in line with DEC requirements. The following section discusses some of the risks and uncertainties associated with this projection.

2.3 The Organisation

2.3.1 Functional Structure

Hunter Water has developed a structure that ensures effective exposure of service delivery to competition while ensuring appropriate consumer and environmental protection. To achieve this, Hunter Water is structured into three groups: the *Core Group*, *Service Providers* and *Customer Services*.

The **core group** has a number of roles. In the most fundamental terms, it acts as the "owner and manager" of Hunter Water's assets. Its principal role is to ensure that Hunter Water's commitments to customers and the environment are met. It does this by translating the regulatory requirements for customer standards and environmental protection into the day-to-day running of Hunter Water and into capital investment decisions on new and replacement assets.

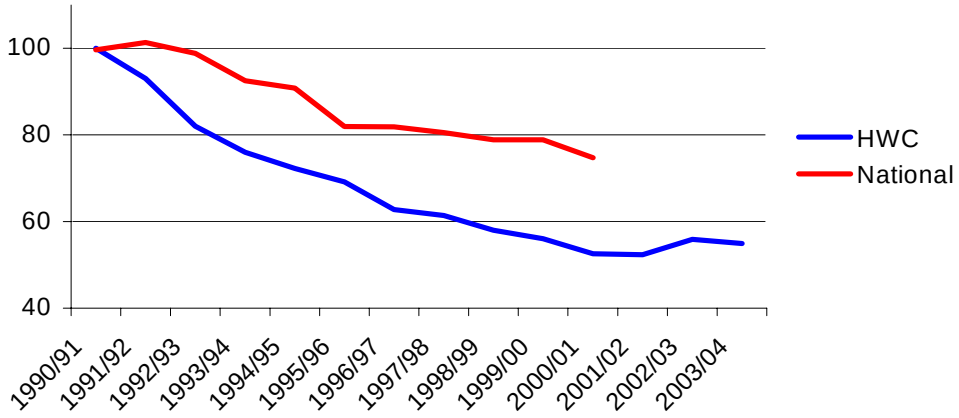
The **customer services** group operates closely with the core group to ensure that, in addition to the regulatory requirements, Hunter Water is responsive to the service needs of its customers.

The core group optimises its operating and capital decision making by ensuring the assets are managed to provide the right mix of operating, maintenance and capital expenditure. It does this using a comprehensive asset management process based on whole-of-life asset costs that trades-off annual asset costs against new capital expenditure. Where appropriate and measurable, social and environmental are also included in this analysis.

The core group competitively "buys in" day-to-day operational services from Hunter Water's own **service providers** and from the outside market place. It also competitively buys consultant and construction services from the market place for new assets.

This corporate structure evolved over the 1990s and has been instrumental in enabling Hunter Water to pursue a strategy of productivity and efficiency improvement. Since the early 1990s, Hunter Water has achieved productivity improvements at rates that more than offset increases in input costs (contracts, materials, labour, etc) while at the same time maintaining or increasing service levels and key expertise. As illustrated in Figure 2.1, there have been real reductions in operating costs per property of around 45% since 1991.

Figure 2.1 Index of Real Operating Costs Per Property



Source: Water Services Association of Australia (WSAA) and Hunter Water Corporation. WSAA ceased producing national trend figures after 2001.

The reducing trend in real operating costs since 1991 was achieved in large part by addressing pent-up productivity and labour adjustment from the previous decade of technology improvements, together with ongoing advances in technology and asset management practices. As can be seen from Figure 2.1 above, the index has now levelled off just above the lowest point reached in 2001/02.

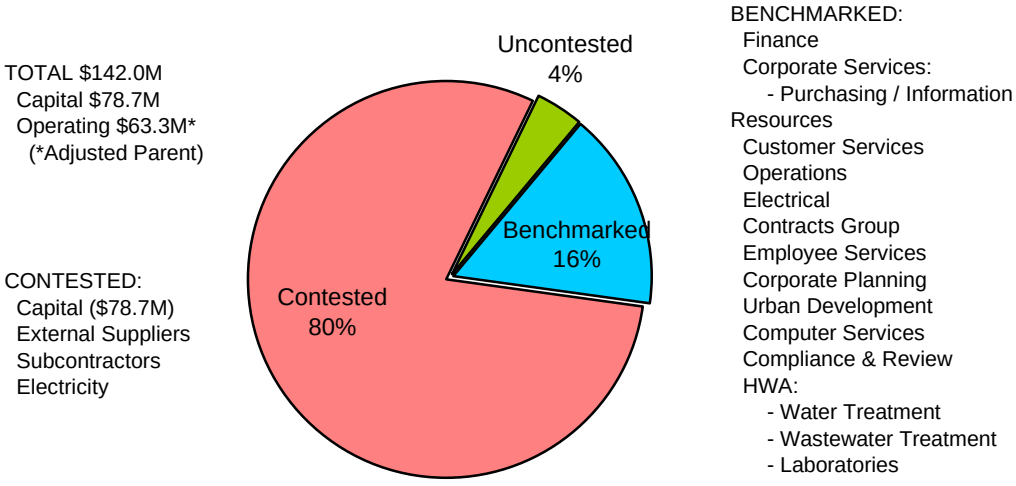
While further gains are anticipated, the substantial year-on-year productivity improvements of the 1990s cannot be repeated. However, Hunter Water will continue to aggressively pursue ongoing cost reductions. It is expected that this ongoing focus on productivity improvements will essentially maintain operating costs per property at current levels in real terms. These expectations are detailed in the Section 3.

The levelling off of operating costs per property is due to a number of adjustments to the operating cost base. These mainly reflect regulatory requirements relating to higher environmental standards and community expectations, costs associated with operating the new generation of wastewater treatment plants, wastewater discharge load fees payable to the DEC, higher costs for biosolids disposal, increased water quality monitoring, higher levels of regulatory compliance reporting and interface etc. These projected cost levels also incorporate a number of initiatives planned to reduce longer-term costs.

It is important to note here that the slow down in cost reductions is, in part, associated with gains to customers in terms of improved service standards and environmental standards through new regulatory requirements. Hence there is a trade-off – smaller cost reductions are in part the cost of community gain through service and environmental improvements.

Competition has been a key element in driving down Hunter Water's operating costs. Currently around 96% of Hunter Water's controllable costs (purchases of services and materials, salaries, wages, etc but excluding fixed items like depreciation) are subject to some form of market contestability or benchmarking. The remaining 4% of costs are attributable to corporate functions. These uncontestable functions, while not readily contestable, do provide an opportunity for future reductions in areas such as infrastructure investment and regulatory compliance. It is in these areas where it will be essential to maintain long-term cost reductions and containment via future management initiatives and strategies. The breakdown of expenditure in terms of market contested, benchmarked and uncontested outlays (including outlays currently being benchmarked) is shown in Figure 2.2.

Figure 2.2 Proportion of 2004/05 Parent Outlays Contested and Benchmarked



2.3.2 Operating Environment

In assessing the operating cost performance of any water business, it is difficult to standardise across the range of demographic and geographical characteristics of the respective regions.

For example, Hunter Water operates in a wide geographical area that consists of a lot of ribbon type development with isolated villages in outlying / fringe areas. This has specific cost impacts on Hunter Water's operating cost base. As shown in Table 2.1, Hunter Water has almost six times as many water treatment plants and almost double the length of water main per 100,000 properties served when compared with Sydney. Similarly, for sewer services, Hunter Water has significantly more wastewater treatment plants, pumping stations and sewer mains per 100,000 properties served.

This is because operating in a wide geographic area brings with it a higher ratio of assets per property and therefore more operational (labour, plant etc) and operating costs per property. Conversely, Hunter Water does not have to contend with the problems and costs of high population density faced in Sydney in commercial / built up areas (such as greater traffic congestion), which can complicate repair procedures.

While geographic spread is a key factor, it is also important to note that operating costs are also affected by the following:

- Age of assets – Hunter Water has an ageing infrastructure. A significant proportion was constructed between 1920 and 1950 and is still in service
- Soil type – Hunter Water has significant areas of reactive / aggressive clays (rather than sands) which stress underground pipelines through cycles of soil shrinkage / expansion or subject them to corrosive attack from acid soils, and
- Mine subsidence – the Lower Hunter is a mine subsidence area, where parts of the urban area overlie old underground coalmine workings. Ongoing ground subsidence from these workings impacts Hunter Water's assets, particularly water and sewer pipe systems.

Table 2.1 Comparison of Operational Characteristics per 100,000 Properties Served 2002/03

Agency	Water			Sewer		
	Treatment Plants	Pumping Stations	Mains (km)	Treatment Plants	Pumping Stations	Mains (km)
Sydney Water	0.6	8.8	1,251	2.0	41.1	1,436
Gosford City Council	1.5	30.8	1,440	3.2	293.6	2,234
Hunter Water	2.4	39.0	2,153	8.6	190.6	2,222

Source: WSAAfacts 2003

2.4 Subsidiary Operations

2.4.1 Hunter Water Australia

Hunter Water Australia Pty Limited (HWA) was established as a subsidiary of Hunter Water Corporation to pursue commercial sales in a range of technical services. HWA provides services throughout Australia in the fields of civil engineering, water and wastewater treatment, survey and land information, and water laboratory testing. It commenced trading in March 1998 and is expected to report a combined annual turnover of $15.0 million for 2003/04.

HWA has been set up as a separate company with its own management structure, accounting system, financial reporting and Board of Directors. The activities undertaken by this company represent inputs into core water and sewer service provision. These services are specified under contractual arrangements between the parent and subsidiary company and agreement is reached, up front, on the level of service and contract values.

The subsidiary is managed and performance monitored entirely on a stand-alone basis and there are no cross subsidies between the parent and the subsidiary (see further discussion at 2.4.3 below). HWA is either required to tender for work from Hunter Water Corporation or establish its competitiveness in the marketplace by benchmarking or other justification.

Further details on the financial performance of the subsidiary can be provided to IPART as necessary.

2.4.2 The Regional Land Management Corporation

In March 2003, a new subsidiary of Hunter Water Corporation, the Regional Land Management Corporation Pty Ltd (RLMC), was incorporated. The RLMC was established by Government direction under section 20N of the State Owned Corporations Act 1989.

The RLMC is an interim entity to manage the day-to-day activities of the former BHP lands and other crown land on Kooragang Island. These management activities include administration of lease arrangements, environmental impact statement (EIS) processes, remediation options etc. In addition to this day-to-day management role, another key objective of the organisation will be to advise the Government on the development of a new specialist entity to develop the land in the longer term.

The NSW Government reimburses all costs associated with the operation of the RLMC.

2.4.3 Ringfencing the Subsidiaries

Ringfencing is a term used to describe the accounting separation of business activities to ensure that the costs and revenues are clearly and appropriately allocated between regulated and unregulated business activities.

In its 2003 Price Determination report, IPART asked Hunter Water to provide it with evidence that appropriate ringfencing is in place with the subsidiaries.

Hunter Water has conducted a review of its processes to ensure there is no inappropriate cross subsidisation occurring between the parent company and the subsidiaries. As part of this review, PricewaterhouseCoopers (PWC) was engaged to review the financial flows / processes between the entities and to provide advice on best practice in this area.

The review found that there are no material cross subsidies occurring between Hunter Water and its subsidiaries. Most importantly, appropriate arrangements were found to be in place for the identification and processing of necessary intercompany transactions and these arrangements are currently operating at an acceptable level of control. A full copy of the review report has been provided in confidence to IPART.

3 REVENUE REQUIREMENTS

Hunter Water's financial viability is maintained, in the long term, if revenue is sufficient to cover:

- *Efficient operations, maintenance and administration costs*
- *Consumption of capital, and*
- *Return on capital.*

Hunter Water has developed a financial model that incorporates all these components. The model includes estimates of future operating costs that take account of likely productivity improvements as well as known impacts of planned capital works, operational and regulatory changes etc. Return on capital is based on a Regulatory Asset Base (RAB) derived using the value established by IPART in the 2003 determination, rolled forward in accordance with a methodology previously prescribed by IPART.

This section outlines the drivers of Hunter Water's operating costs and capital program. Hunter Water has achieved real operating cost reductions (per property) of around 45% since 1991. This huge improvement was the result of aggressively targeting pent up structural adjustment pressures from earlier decades. Largely, these opportunities have now been taken. While there will not be opportunities for such substantial gains in future, Hunter Water will continue to pursue cost reductions. However, these reductions are expected to be offset largely by increased regulatory costs (such as complying with Operating Licence requirements). As a result, smaller annual cost reductions are projected into the future.

Hunter Water's capital program has remained on track for the 2003/04-2004/05 price path with spending averaging $65m per year. Over the next four years, this will increase to around $84m per year with major investment in wastewater system improvements.

Hunter Water's financial modelling indicates that an annual adjustment of prices by 5.5% real (ie CPI+5.5% annual adjustment) would deliver a real pre-tax rate of return on Hunter Water's rolled forward RAB of around 6.8% by 2009. This rate of return is consistent with an appropriate real weighted average cost of capital (WACC) for water utilities.

However Hunter Water has decided to adopt a staged approach to achieve a 6.8% rate of return target by 2013. A staged approach to achieve an appropriate rate of return has been chosen to avoid the incidence impacts of a substantial price increase for the coming price path combined with structural changes to water pricing to remove the declining block usage tariff.

Under a staged approach, Hunter Water's financial modelling indicates that an annual adjustment of prices by 3.0% real (ie CPI+3.0% annual adjustment) would deliver a real pre-tax rate of return on Hunter Water's rolled forward 2003 RAB of around 5.6% by 2009. This rate is significantly short of the assessed appropriate WACC range at this time of 6.1% to 7.5%.

3.1 Introduction

As stated in Section 1 of this submission, a fundamental objective of pricing must be to maintain a revenue stream sufficient to ensure Hunter Water's continued financial viability. In broad terms, long-term financial viability is maintained only if revenue is sufficient to cover:

- Efficient operations, maintenance and administration costs
- Consumption of capital – depreciation (or some other amount to maintain the service potential of assets)
- Return on capital – either as a return to equity holders or to lenders, and
- Tax obligations.

While traditional accounting methods record and measure each of these, there are factors that need to be considered in the price setting context. Operating, maintenance and administration costs are readily recorded and reported, but the definition of "efficient" costs is open to interpretation. These are discussed in turn in later parts of this section.

Revenue is also related to a number of physical parameters such as the level of water use and population growth. This section of the submission opens with Hunter Water's projections of water consumption and connections to the water and sewerage system for the period of the price path.

3.2 Length of the Price Path

Hunter Water notes that, in its July 2003 Issues Paper, the Tribunal states that it will determine the length of the price path based on a number of factors including agency input. Hunter Water's preference is for the price path to run for four years to 2008/09. Shorter paths impose considerable administrative costs in servicing the review period while a period longer than four years may tend to impinge on the need to adjust prices for changed and unforeseen circumstances.

The Corporation's experience with the four-year price period from 1996 to 2000 suggests that four years can be accommodated without undue disadvantage. The 1996 to 2000 price path did include a mid-term review although no changes were made to the 1996 determination as a result of this review. The Tribunal's objective in setting a four-year price path in 1996 was *"to provide a greater degree of certainty than in the past to the customers, owners and managers of Hunter Water regarding prices and revenues".*

On the other hand, the two price reviews in the last four years have imposed a significant resourcing cost on Hunter Water's regulatory administration. The current two-year price path represents a significant departure from the Tribunal's 1996 objective of providing greater medium-term price certainty to both customers and the Corporation.

Hunter Water's preference is for a price path of four years without a mid-term review. A mid-term review is also very resource demanding and effectively negates much of the certainty and advantage of the four-year price path. However, under a four-year price path, it is essential that the Tribunal discontinue the practice of fixing miscellaneous charges in current terms for the full term of the price path. Section 9 of this submission outlines Hunter Water's miscellaneous charges proposals including a requirement for annual indexation in line with the consumer price index (CPI).

This submission presents pricing proposals and cost data for the four years to 2008/09 in line with Hunter Water's preference for a four-year price path.

3.3 Consumption Projections

Revenue is a function of both the quantities sold and price. Billed water consumption in the late 1990s was around 64,000 megalitres per year. Since that time, a number of major industrial businesses in the lower Hunter have ceased operations and this has reduced total demand.

As shown in Table 3.1 below, annual billable water consumption over the coming price path is expected to be between 61,640 and 64,180 megalitres. It is important to note that the projections shown in the table are for **average seasonal conditions** and have not been adjusted to take account of expected restrictions or other seasonal influences on demand or supply. This approach taken by Hunter Water is entirely in accordance with the principle adopted by IPART as reported in the 2003 determination that "*the assumed level of consumption it uses for price setting purposes should reflect longer-term consumption patterns. It should not attempt to account for or predict the effects of shorter-term weather patterns. This may mean that in periods when water restrictions apply, water businesses will recover less revenue than forecast, while in periods when demand is high and no restrictions apply, they will recover more revenue than forecast.*"

Hunter Water uses a highly disaggregated analysis of consumption trends by various customer groups to project future consumption. The Corporation also projects consumption by major non-residential customers on a detailed review of individual customer's intentions. This individual customer approach for major customers is critical given that three of Hunter Water's six largest customers have ceased operations since 2000. In 2003, the Tribunal chose not to accept Hunter Water's projections and instead based the determination on a simple trend analysis of consumption over the previous nine years. Hunter Water believes that its approach is more rigorous than a simple trend analysis and has again based its projections on disaggregated analysis of trends in consumption and major customers' business planning.

Table 3.1 Consumption Projections

Water		2004/05	2005/06	2006/07	2007/08	2008/09
Meter Equivalents:	Residential	179,746	182,266	184,713	187160	189,607
	Non-Residential	29,399	29,494	29,585	29,677	29,769
Consumption:	Residential	37,910	38,390	38,850	39,320	39,790
(megalitres)	Non-Residential	22,020	23,250	23,400	23,900	24,400
Sewer						
Meter Equivalents:	Residential	85,366	86,626	87,849	89,073	90,296
	Non-Residential	17,323	17,418	17,509	17,601	17,693
Consumption:	Residential	17,850	18,050	18,270	18,490	18,720
	Non-Residential	7,790	7,820	7,850	7,880	7,920
Stormwater Drainage						
Serviced Properties:	Residential	54,164	54,374	54,584	54,794	55,004
	Non-Residential	3,602	3,602	3,602	3,602	3,602

However, water consumption is not the only basis for Hunter Water's charges. In addition to the consumption or usage charges, there are also fixed service charges for both water and sewer based on the size of the water service. Thus Table 3.1 also includes projections for growth in property numbers expressed in 20mm "meter equivalents".

The size of the water service (meter) serving the property is the basis for the water and sewer service charges. Hunter Water deems the service size to be the same as the water meter size at the point of connection, as it is the meter that effectively restricts the volume of water that can be passed at any given time. The charge for each different size water service reflects the potential capacity that the service has to extract water from the mains.

Hence, the water and sewer service charges are calculated on the “Base Charge” using a 20mm base size meter, and all others are given a factor relative to this base. That is, the base charge is multiplied by the applicable meter equivalent as per Table 3.2. The "meter equivalent" is the capacity of the meter relative to the 20mm base-size meter.

Table 3.2 Meter Equivalents for the Different Size Meters

Meter Size	20mm	25mm	32mm	40mm	50mm	80mm	100mm
Meter Equivalent	1.0	1.55	2.55	4.0	6.25	16	25
Meter Size	150mm	200mm	250mm	300mm	350mm	400mm	500mm
Meter Equivalent	56.25	100	156.25	225	306.25	400	625

The projections in Table 3.1 are based on total meter equivalents, which is a summary of the total number of properties with each size meter converted to a number representing an equivalent base size meter (20mm). The 20mm meter attracts a base charge of $25.37 for water and $478.69 for sewer (subject to discharge factor) for the current year 2004/05. The majority of residential properties are served by 20mm meters. The residential sewer meter equivalent is reduced by 50%, reflecting the fact that the base sewer service charge for residential properties is 50% of the base charge quoted above ($478.69). That is, the base charge for a residential house is $239.35.

3.4 Operations, Maintenance and Administration Costs

3.4.1 Operating Cost Reductions

As discussed briefly in Section 2, Hunter Water has achieved operating cost reductions that have more than offset increases in input costs while at the same time improving service levels to customers and protection of the environment. The efficiency improvement is reflected in a reduction in operating costs per property of around 45% since 1991.

At the same time, however, Hunter Water has estimated that there has been at least a 15%-20% real increase in costs related to meeting higher regulatory standards, particularly in wastewater services and drinking water quality. This means that overall, Hunter Water’s operating cost improvement per property for the period have been over 60% in gross terms (ie 45% reduction in reported costs plus at least 15% real increase in input costs).

These operating cost reductions have resulted from a range of initiatives that include major corporate restructuring, streamlining business processes, competitive tendering and asset management to achieve whole-of-life cost minimisation for a given level of performance. Savings have also come from relinquishing inappropriate regulatory functions, reducing Hunter Water’s monopolistic position in the provision of services, introducing competition and benchmarking to the acquisition of inputs and services, and substantially greater use of technology in operations, planning and customer services.

Since independent price setting began in the early 1990s, IPART has been keen to ensure productivity improvements are achieved. With the exception of the current two-year price path, which saw prices increase on average by 0.5%, IPART has always set annual price adjustments at less than the CPI so that lower real prices drive Hunter Water to continually seek out new opportunities for efficiency improvement and cost reductions.

However, as recognised by the Tribunal in its July 2004 Issues Paper, the water industry now faces additional cost pressures as a consequence of current environmental conditions and Government decisions. In general, cost pressures will arise from strategies to deal with long term supply / demand initiatives, possible changes to Hunter Water's surface water access rights, and changes to handling and transporting wastewater as well as a number of other regulatory requirements. As a result, the significant efficiency gains of the 1990s will not be achievable in the future.

Despite pressure for operating costs to increase as a result of improving customer service standards and regulatory requirements, Hunter Water is still vigorously pursuing opportunities to achieve further overall cost reductions. Real operating costs per property are expected to remain largely unchanged – decreasing by around 0.6% over the next four-year price path (2005/06 to 2008/09 inclusive). However, this result follows a forecast 4% real increase in operating costs per property projected for 2004/05.

While there are some operating cost increases identified in Hunter Water's 2004/05 budget, the 4% increase relative to the actual 2003/04 result is also attributable to the good result achieved in 2003/04. That is, the achievement of some "one off" major cost reductions in 2003/04 means that the increase for 2004/05 appears relatively larger.

The emerging pressures on operating costs are outlined in the following discussion.

3.4.2 Projected Operating Costs and Drivers

Hunter Water's projected real operating costs for the proposed price path period are shown in Table 3.3 below.

Table 3.3 Operating Cost Projections 2004/05 to 2008/09 *(2004$)*

	2004/05	2005/06	2006/07	2007/08	2008/09
Real Operating Costs	$67,980	$68,986	$69,483	$70,515	$71,469

As mentioned above, Hunter Water is striving for further improvements in efficiency to ensure operating costs are minimised while, at the same time, maintaining or enhancing service standards. There are a number of distinct "drivers" of operating costs and these are likely to influence the Corporation's total operating cost in different ways. These drivers are:

- Meeting customer service standards through compliance with the Operating Licence
- Administration of a wide suite of financial, corporate and performance regulatory arrangements
- Asset management to meet performance and environmental requirements and achieve whole-of-life cost minimisation
- Risk and issues management
- Improving customer interface, particularly through new technologies

- Business processes and administration, and
- Impacts of adoption of International Accounting Standards.

The expected future impact of these drivers on operating costs is shown in Table 3.4 as the likely direction of cost change in real terms. The foreshadowed cost changes also take account of likely offsets arising from trend productivity savings, size economies from population growth, use of new technologies and management initiatives.

Table 3.4 Impact on Total Operating Costs

Driver	Expected Future Impact
Customer Interaction	Technology will allow ↓
Business Processes / Administration	Technology will allow ↓
Compliance with Operating Licence – Drive operations / maintenance – Run systems, water / wastewater treatment plants, etc	Likely to ↑
Regulatory Interface (all licences and regulatory requirements) – Negotiating – Compliance – Reporting – Monitoring	Likely to ↑
Risk Management / Issues Management	Likely to ↑
Impact of International Accounting Standards	Likely to ↑
Planning / Contract Management – Identifying growth requirement – Designing – Modelling – Financial	Constant

As a result of a variety of structural changes during the 1990s, Hunter Water has substantially cleared the backlog of previous inefficiencies and, at this point, there appears to be very little scope for future adjustments to be as significant as they were in the early and mid 1990s.

However, there is a continuing emphasis on improvement and cost reductions and the likely savings from ongoing efficiency initiatives have been factored into the costs on which this submission is based. Despite generally increasing cost pressures, Hunter Water is projecting a further small net reduction in operating costs per property over the proposed four-year price path.

Technology is resulting in savings through the streamlining of direct interaction with customers. The development of a customer contact centre and the introduction of electronic mapping of assets has facilitated savings in these areas. Technology is also improving efficiency in business administration and further productivity gains are expected from new computer based-management systems such as a new customer information system and electronic data management system. The latter systems are being introduced over the next 12 months.

A number of “e-business” initiatives are being developed for future interaction with customers. Over time, these will allow Hunter Water to provide alternate means of paying bills and other customer interactions to enable assessment of the required level of traditional

customer service activities such as through “shopfront” customer centres. Technological and process efficiencies have already assisted the rationalisation of regional offices and allowed the adoption of other options – particularly greater use of co-locating shopfront activities with other compatible businesses. Several of Hunter Water’s shopfronts are now located within local government offices, which enables the Corporation to better meet the needs of builders, developers and tradespeople as well as provide traditional customer services to customers such as over-the-counter bill payment and customer inquiries.

A number of efficiencies are also expected as a consequence of Hunter Water’s planned relocation in late 2005 to a more effective Head Office building. Specifically, these efficiencies will flow from workforce consolidation in a single location, new work practices such as electronic data management, reduced building maintenance costs and energy and water savings.

A range of asset management and other process reviews are currently underway including a review of Hunter Water’s procurement processes (for other than capital works) and energy contracts. Innovative uses and arrangements for the disposal and / or reuse of biosolids and effluent continue to be identified and, in this area, efficiencies are being achieved in associated management and transport costs. Until recently, biosolids reuse contracts were let as single contacts covering both transport and end-use. Savings are being achieved by issuing separate contracts for transport and to end-users and there are now incentives in the end-user contracts to find local markets (and hence reduce transport costs).

The following discussion highlights a number of areas where there are new or increasing cost pressures. However, it is important to note that most of the spending in these areas is the result of regulatory pressures (for improved customer standards or environmental protection). Thus, while there are increasing cost pressures, these need to be considered in the context of the overall gains they bring to the community through improved performance.

The forecast capital program for 2005/06 to 2008/09 (see Section 3.5) will have an impact on operating costs in the short term. Expenditure in the wastewater area is a major component of the program, with the key drivers being growth, provision of service to backlog areas, higher treatment standards and the need to address the effect of wet-weather flows in the transport system (the sewer pipe network) on customers and the environment.

Upgrading of the wastewater transport system has direct implications for operating costs, particularly through pump station operating costs and odour / corrosion controls. Upgrading of the Lake Macquarie sewerage system will be completed over the next twelve months, construction for the upgrading of the Newcastle sewerage system is expected to begin late 2005 and upgrades in the Morpeth, Raymond Terrace, Cessnock and Dudley / Charlestown systems will also be undertaken over the next few years.

Hunter Water will also be constructing sewerage facilities at Fern Bay, Kitchener, Lochinvar, Millfield and Ellalong under the Government’s Priority Sewerage Program to provide sewer services to smaller communities in the lower Hunter. These are generally smaller, isolated systems and their operating costs display significant size diseconomies.

A new wastewater treatment plant is being constructed at Cessnock, under Hunter Water’s 1996 Inland Environmental Improvement Plan. The plant will cater for future population growth and incorporate higher treatment standards to meet DEC requirements. The coastal wastewater treatment plant at Belmont is also to be upgraded to cope with additional wet weather flows that will be received at the plant, from the upgrading of the transport system in Lake Macquarie, and to cater for population growth.

While most of the upgraded wastewater treatment plants incorporate more sophisticated technology and have higher ongoing operating costs for inputs such as electricity and chemicals, Hunter Water has evaluation strategies to ensure that it adopts the most cost-effective technologies that meet the standards set by the DEC. For example, at the proposed Cessnock wastewater treatment works, the feasibility of refurbishing and using the existing trickling filters and detention ponds is being pursued to deliver significantly lower operating and maintenance costs compared to other treatment options involving more sophisticated technology.

While some savings are being achieved through refurbishing the Cessnock wastewater treatment plant, overall treatment plant upgrades do lead to higher operating costs. These upgrades result in increases in electricity use in operating the new multi-process wastewater treatment plants. There will also be a higher level of chemical use at the treatment plants to achieve the higher standard of treatment and to address the issue of wastewater odours to which the community is becoming increasingly sensitive. Modern wastewater treatment processes also have a very high level of biosolids recovery and this leads to higher operating costs for disposal of the additional biosolids. Even though most biosolids are reused, reuse is at a net cost to Hunter Water, mainly for transport to the reuse location. Recent initiatives to contain this cost were outlined earlier.

A recurring theme over recent years has been the increasing costs due to changing regulation, new standards and higher general community expectations. The operating costs of complying with the current Operating Licence (which came into effect on 1 July 2002) for the water, sewer and stormwater drainage systems ramped up over 2002 and 2003. These costs are now expected to remain fairly constant in real terms.

During 2003, Hunter Water's water management licence underwent its first five-year review by DIPNR, as required by water legislation. One of the outcomes of this review is for Hunter Water to undertake a program of resource investigations over the next two years. These investigations are a licence requirement (and hence a regulatory requirement) and the estimated cost of this work, including salaries, is $310,000.

Similarly, regulatory management and reporting requires increasing levels of core management input. This covers all regulatory matters from pricing and financial issues through to health and environmental regulatory arrangements with the DEC and DIPNR. Some of the interface involves regular processes, such as the annual Operating Licence performance audit. Other regulatory arrangements involve regular formal interaction with regulators. For example, even though price paths cover a number of years, IPART has created a reference group in 2003 to consider pricing issues on continuous basis.

In other areas, particularly the relationship with customers and the community, Hunter Water is seeing significant increases in regulatory costs for community consultation, distribution of community information, administration of the customer contract and complaint and dispute management.

In light of the picture outlined above, the operating cost projections over the proposed four-year price period incorporate some increases for the level and cost of strategic asset maintenance considered necessary to deliver Operating Licence compliance and meet customer service expectations. Some examples follow below:

- **Wastewater systems** – As mentioned earlier, significant increases in operating costs are attributable to substantial capital works planned particularly for the wastewater treatment and transport processes.

Significantly higher-than-average operating costs will also be incurred in servicing the areas to be connected under the Priority Sewer Program (PSP). These systems generally have a lower density of connections and long pressurised rising mains to connect to the nearest available wastewater treatment plants. These factors mean that these PSP systems are characterised by significant diseconomies of size. Much higher-than-average operating costs will be incurred for these schemes from additional needs for odour / corrosion control, odour filter media renewal and pump station operation and maintenance.

Wider use of odour control in both treatment and transport systems is necessary to meet community expectations and reduce deterioration in sewer networks. Odour / corrosion control contracts are presently under review with emphasis on achieving improved performance in this area. It is likely that, in order to comply with the performance requirements in new contracts, contractors will need to rely more heavily on ferric chloride dosing rather than oxygen dosing. Because ferric chloride is more expensive than oxygen, it is expected that new contracts for odour / corrosion control will be at higher cost.

In addition, Hunter Water has requested that management of its wastewater treatment plants under contract by its subsidiary HWA be extended to include aeration tank diffuser cleaning, additional process audits and new quality control initiatives to ensure regulatory requirements are met.

Growth in the Burwood Beach wastewater catchment has resulted in some process limitations in the Burwood Beach treatment plant. A medium-term allowance has been made for the cost of chemical dosing at this treatment works to ensure effluent quality complies with DEC licence requirements until a cost-effective capital solution is identified**.**

- **Water supply security and conservation** – A range of additional expenditures are projected to assure Hunter Water's capacity to maintain critical water assets, and maintain a conservation focus, as follows:
  - Tomago Bores: Additional annual maintenance is being undertaken to ensure the drawing capacity from the Tomago borefields is maintained at a minimum 110 megalitres per day and to provide a higher level of source substitution flexibility and security should quality or supply problems occur in the surface water sources. Source substitution is an important element of Hunter Water's strategy to ensure that it complies with the drinking water quality requirements of the Operating Licence.
  - Trunkmain Maintenance: Additional inspections of water trunkmains are being undertaken with a particular emphasis on pipeline fittings. The aim is to identify and rectify instances of damage and corrosion and to replace malfunctioning fittings such as valves. These inspections will be ongoing over the next few years. This work is part of Hunter Water's asset management strategy to ensure it meets the Operating Licence standards for water supply continuity.
  - Conservation Campaign: An allowance has been made for the development and running of advertisements to reinforce the water conservation message consistent with Hunter Water's Integrated Water Resources Plan and summer conservation campaigns which has run over recent summers. This item previously has not been budgeted but is anticipated to be ongoing particularly in light of water storage issues being faced by neighbouring Sydney and Central Cost suppliers.

- **Other Operating / Licence Compliance / Asset Management**
  - Closed circuit TV inspection, chemical tree root treatment, and high pressure water jetting of the sewerage system: Additional costs have been budgeted to reflect increased volumes of this work required over recent years to ensure Operating Licence compliance. This estimate includes lower contract prices achieved following a new round of contracts recently being put to tender.
  - Sewer pump station pump overhauls: An increase has been allowed consistent with the trend breakdown levels in recent years. This increase also reflects growth in the sewer transport network as a result of new developments and consequent growth in the number of pump stations. This activity is also driven in part by Operating Licence requirements. Sewer pump maintenance is part of Hunter Water's strategy to minimise overflows from pump stations and upstream sewer mains in order to ensure Operating Licence compliance.
  - Customer service processes: A range of new actions are being undertaken over the coming years to address process inefficiencies in some areas of Hunter Water's interaction with customers. Resourcing these projects may initially increase operating costs but, in the longer term, these additional costs are expected to achieve cost savings or better revenue recovery. Specific projects include:
    - Implementing a strategy to audit and police the use of standpipes. This action is being taken to lower the theft of water, increase revenue recovery from water sold via standpipes and address some low pressure issues, possibly attributable to tanker operators filling illegally, and
    - Addressing problems with inaccessible meter water meters to reduce reading costs and improve the water conservation signal to customers.

- **Business Costs**
  - Land Tax and Rates: Land tax has increased significantly due to property values rising at rates significantly higher than the CPI even though this is partly offset by a reduction in the land tax rate from 1.7% to 1.4%. A further short-term increase in local government rate payments has been included because Hunter Water's new head office site will be held in addition to the current premises (during the new office construction and staff relocation) with appropriate reductions to be achieved when the surplus properties are sold.
  - IT Licence Fees: Increases have been, or will be, incurred by Hunter Water for the majority of IT licence fees currently paid. Increases are expected for the current Mincom system, new products such as Crystal Report Writer and other licensing costs generally such as those for the Oracle and IBM agreements. Licence fees will also be incurred in future for the new CIS and SCADA systems.
  - Electricity: Hunter Water has a retail electricity supply contract that is in force until mid 2008. Price increases in this period are quantifiable because they are specified in the contract. Electricity price trends in all States suggest that Hunter Water's price could increase by as much as 10% when the current contract expires. The Corporation has already commenced early negotiations to extend this contract in an attempt to limit possible increases. Hunter Water is also looking at the opportunity to incorporate additional small sites (eg pumping stations) into a contract, which is now possible under the deregulated electricity market.
  - International Accounting Standards: There are some future implications for Hunter Water in relation to the decision by the Financial Reporting Council (FRC) for

Australia to adopt International Financial Reporting Standards (IFRS) by 1 January 2005. A key issue that will impact on operating costs is the clear guidance within the new standard AASB138 *Intangible Assets* to the effect that it is no longer possible to capitalise research expenditure.

AASB138 clearly states that all research expenditure must be expensed as incurred. Hunter Water currently capitalises research and development expenditure that is expected to have future economic benefits. Hunter Water currently has approximately $5m (written down value) of such assets currently in the fixed asset register. While the value of these assets can be adjusted to retained earnings at 1 July 2004, all future expenditure on research will be required to be treated as an operating cost and so impact on profits (research being expensed immediately rather than depreciated over a period of time).

As identified in this section, there are a number of initiatives included in the financial modelling that will deliver savings despite future known cost increases for asset maintenance, electricity and the cost of running new and upgraded wastewater systems. A range of technical aspects and processes offer potential for further refinement and optimisation, and overhead costs are being subjected to a rigorous review. Further details of these measures and other information on benchmarking and competitiveness can be provided to the Tribunal as necessary.

3.5 Capital Expenditure Program

3.5.1 Capital Program 2003/04 to 2004/05

Capital programs in water utilities are characterised by 'lumpy' expenditure and large projects that generally take longer than one year to complete. As a result, Hunter Water's capital expenditure for the current two-year price path is discussed below in terms of total figures for 2003/04 and 2004/05.

IPART's May 2003 Price Determination for Hunter Water allowed $134.2m (real 2004$) capital expenditure over the price path and, to date, actual expenditure is forecast to be $130.0m. In real terms this represents a minor under-expenditure of $4.2m (3.1%) over the two-year period. This small variance is the net effect of expenditure variations (both timing and quantum) on many projects within Hunter Water's capital program that have occurred as a result of a range of factors. As with all capital programs of this size, some variation must be anticipated due to fluctuations in contract prices, timing in obtaining regulatory approvals, climatic influences, future changes to standards and so on.

Examples of some specific variances are:

- Higher expenditure than anticipated due to project timing eg +$3m on CIS Upgrade, +$2m on Grahamstown Dam Augmentation
- Higher expenditure than anticipated due to a budget increase eg +$2.9m on Head Office Relocation
- Higher expenditure due to new projects eg $0.8m for the Burwood Beach wastewater treatment works aeration upgrade
- Less expenditure than anticipated due to project timing eg -$11.9m on Cessnock wastewater treatment plant as a result of a change in the scope of work to achieve improved environmental benefits and a more cost-effective solution. This resulted in a revised procurement approach that has affected the timing of expenditure, and

- Less expenditure than anticipated due to cost savings eg -$1.3m decrease in the Chichester Dam remedial works.

The major outcomes from the capital program between 2003/04 and 2004/05 include:

- Construction of a new wastewater treatment plant at Kurri Kurri to meet DEC effluent discharge standards and to cater for growth (total project value $14.4m)
- Completion of remedial works at Chichester Dam to meet dam safety requirements (total project value $2m)
- Completion of upgrade works in the Pokolbin and Tenambit water supply systems to address low pressure problems and cater for growth (total project value $4m)
- Substantial completion of upgrade works in the Warners Bay-Valentine wastewater transport system to reduce wet weather overflow impacts and cater for growth (total project value $21.4m)
- Completion of upgrade works at Belmont wastewater treatment plant inlet works and outfall to provide greater capacity for wet weather flows that will be delivered to the plant (total project value $9m)
- Substantial completion of remaining works under the Grahamstown Dam augmentation project (total project value $16.7m)
- Commencement of upgrade works at Cessnock wastewater treatment plant (to meet DEC effluent discharge standards and to cater for growth), and at Cessnock No 1 wastewater pump station to reduce wet weather overflow impacts and to cater for growth (total project value $19.2m)
- Construction of a new 900mm diameter trunk water main across the Hunter River South Arm to cater for growth and improve security of supply (total project value $3.4m)
- Construction of a new 900mm trunk water main at Wallsend to cater for growth (total project value $2.15m)
- Construction of upgrade works in the Wallalong water supply system to address low pressure problems and cater for growth (total project value $2.5m)
- Commencement of the Fern Bay sewerage scheme under the State Government's Priority Sewerage Scheme (total project value $4.35m)
- Substantial completion of the Customer Information System upgrade project (total project value $5.1m), and
- Commencement of the construction of Hunter Water's new Head Office (total project value $20.5m).

3.5.2 Capital Program 2005/06 to 2008/09

Total capital expenditure of $337m is forecast for 2005/06 to 2008/09 as shown in Table 3.5 below. This is an average expenditure of $84m per year in 2004$ terms – a substantial increase on the average of $65m projected for the current (2003/04 to 2004/05) price path. Approximately 63% of the program is for wastewater facilities. This reflects the substantial investment to meet regulatory requirements for wastewater systems with increasing attention on emerging regulatory requirements and customer expectations for wastewater transport systems.

Table 3.5 Capital Expenditure 2005/06 to 2008/09 *(2004$m)*

Component	2005/06	2006/07	2007/08	2008/09	Total
Wastewater Treatment	$11.9	$20.2	$22.9	$4.7	**$59.7**
Wastewater Transport	$31.5	$39.3	$23.2	$30.3	**$124.3**
Water Supply	$19.1	$16.9	$27.2	$35.8	**$99.0**
Priority Sewerage Project	$8.8	$6.4	$8.5	$4.6	**$28.3**
Other	$11.7	$4.4	$4.7	$5.1	**$25.8**
TOTAL	**$83.1**	**$87.0**	**$86.5**	**$80.6**	**$337.1**

The major drivers for expenditure are as follows:

- **Growth** – Works to cater for growth (future development) in accordance with regulatory / statutory standards. Catering for growth is factored into most water and wastewater system upgrades. Expenditure is expected to be recovered over time through the developer charging process.
- **Regulatory and Statutory Standards** – Works to improve asset performance, levels of service for existing customers and to ensure compliance with mandatory regulatory and statutory standards. Expenditure in this area can occur to comply with existing standards or to meet new standards.
- **Business Decisions** – This includes items to enable us to effectively run our business such as IT, fleet, meters etc and capital expenditure that has an economic benefit by allowing Hunter Water to avoid ongoing operational, maintenance and risk costs (eg the watermain replacement program).
- **Government Programs** – This includes expenditure to meet specific Government Programs which may override other objectives such as commercial return eg Priority Sewerage Program.

Capital expenditure as a result of these main drivers results in one or both of the following asset outcomes:

- Additional assets eg new pipes to provide greater capacity, and
- The renewal or replacement of existing assets.

Most major upgrades to the water and wastewater systems will have both asset outcomes as part of the overall project solution.

The process of developing the capital program starts with these drivers. Where viable, works are then procured at best cost by competitive tender from the market place. Table 3.6 provides some examples of recent projects, their drivers and the process of procurement.

Appendix 1 provides an outline of some of the major individual projects with forecast expenditure greater than $1m between 2005/06 and 2008/09, and provides an overview of the purpose of each project. In many cases, expenditure on a project is for multiple purposes and in these cases the percentage breakdown is approximate only. Appendix 2 provides an overview of Hunter Water's capital approval process. A detailed listing of Hunter Water's forecast capital program between 2005/06 and 2008/09 has been provided separately to IPART on a commercial in confidence basis.

Table 3.6 Examples of Hunter Water Procurement Process

	Grahamstown Dam Stage 2 Augmentation	Cessnock WWTW & No 1 Pumping Station Upgrade	Morisset Water Supply Upgrade	Augmentation of Warners Bay to Belmont Wastewater Transfer System
Cost	$16m	$19m	$1.5m	$21m
Drivers	▪ Drought Security – extra capacity required	▪ Growth – capacity of old plant exceeded ▪ Higher DEC standards required for new plant	▪ Growth	▪ Reduce customer and environmental impacts (wet weather overflows) ▪ DEC licence ▪ Growth
Process	▪ Environmental Impact Statement (EIS) by selected tender[(a)] ▪ Detail design by selective tender[(a)] ▪ Construction through open tender process ▪ Completion expected late 2005	▪ EIS by selected tender[(a)] ▪ Detail design by specialist consultant ▪ Construction through competitive tendering process ▪ Site supervision by specialist consultant	▪ Design by selective tender[(a)] ▪ Construction through open tender process ▪ Completion expected early 2005	▪ Design by selective tender[(a)] ▪ Construction through open tender process. Completion expected early 2006 ▪ Work will be carried out under 3 separate contracts and sequenced over a 3 year period

(a) Selective tender process is based on competitive tendering from a panel of pre-qualified consultants.

For 2005/06 to 2008/09, expenditure in the **wastewater** area continues to be a major component of the program. In a program of around $337m, approximately $212.3m is nominated as expenditure on wastewater assets. The key drivers are growth, asset renewal, higher treatment standards, and to address wet weather customer and environmental impacts in the transport system.

The main focus of expenditure between 2005/06 and 2008/09 involves:

- Major upgrades to wastewater transport and treatment assets to address growth, and wet weather customer and environmental impacts. Major upgrades of treatment plants are planned for Belmont, Dora Creek, Raymond Terrace and Boulder Bay. Transport upgrades are occurring throughout the sewer network with major emphasis in the Lake Macquarie and Newcastle areas
- Completion of the inland treatment plants under the 1996 Environmental Improvement Plan to meet higher effluent quality standards required by DEC and to provide for growth. The main feature of this program is the upgrade of the Cessnock treatment plant with smaller upgrades at Branxton and Farley, and
- The provision of sewerage services to backlog areas at Fern Bay, Kitchener, Lochinvar, Millfield and Ellalong under the State Government's Priority Sewerage Program.

The major wastewater projects are listed in Appendix 1.

In addition to these specific projects, Hunter Water will spend approximately $17m during 2005/06 to 2008/09 on the replacement of assets in the wastewater system based on operational needs (eg to meet regulatory standards) or on business decision criteria (eg lowest whole-of-life cost).

On the **water** side of Hunter Water's business, it is expected that expenditure will be in the order of $28.3m between 2005/06 and 2008/09. Apart from the completion of the Grahamstown Dam augmentation project, the main focus of expenditure between 2005/06 and 2008/09 is associated with work in the water delivery system to cater for growth and to replace assets. These decisions are based on meeting Operating Licence standards and / or business case replacement versus maintenance criteria.

Major projects include completion of the Grahamstown dam spillway, replacement of the trunkmain from Chichester Dam between Tarro and Shortland and a new trunkmain on Kooragang Island to cater for growth. There is also a range of other reservoir and main upgrades to improve supply security (in relation to Operating Licence requirements), optimise asset whole-of-life costs and cater for growth.

The major water projects are listed in Appendix 1.

In addition to these major projects, Hunter Water will spend approximately $17.5m during 2005/06 to 2008/09 on the replacement of assets in the water supply system based on business decisions and / or operational needs.

Other major Corporate projects between 2005/06 to 2008/09 include:

- Fleet purchases – $6.8m
- Completion of the head office relocation – $4.6m
- Hardware and software purchases – $3.5m
- Meter replacements – $3m
- Completion of the Customer Information System upgrade – $1.8m.

The program has been put together based on best available information (recent contract prices, likely regulatory requirements etc) and current service standards. As with all capital programs, some variation must be anticipated due to fluctuations in contract prices, timing in obtaining regulatory approvals, climatic influences, future changes to standards and so on. However, the estimates used are realistic and the best available at this time.

3.6 Operating Risks and Uncertainties

3.6.1 Operational and Financial Risks

Over the last ten years, Hunter Water has introduced the concepts of risk management across the organisation. Today, this risk focus is an integral part of Hunter Water's operations and maintenance strategies with all policies and procedures stemming from risk management principles.

Hunter Water's core business is the provision of water and wastewater to the community. The provision of this service relies on how well Hunter Water manages and maintains its asset base ie the reservoirs, pumping stations, treatment plants and transportation systems, etc. Hunter Water has risk management plans that address the management of key assets and the costs associated with them. This includes extraordinary events and operational problems with infrastructure.

A detailed risk assessment of all Hunter Water activities has recently been completed which scales activities relative to each other from a financial, environmental and community perspective. The most recent risk assessment conducted by Hunter Water indicated that there are no areas that meet Treasury's criteria for a 'major risk'. This is due to the introduction of strong controls over an extended period of time. The activities that relate to high financial consequence at Hunter Water are highly controlled with strong risk indicators in place and therefore, the likelihood of an occurrence is generally low.

While the most recent assessment of Hunter Water's risk profile would suggest there are no major risk categories, it must be remembered that climate impacts can have a significant influence over operational performance and hence overall operating costs. In formulating forward cost and revenue projections, Hunter Water normally works on the basis of experiencing "average climate conditions". Therefore an extended period of abnormal climate conditions can impact on the overall financial situation. Some examples of potential risks that arise from climate impacts include:

- Taste and odour events – these can be generated through a range of risks such as algal blooms, storage levels falling significantly etc. Hunter Water has in place mechanisms to deal with such events so that they do not impact on customers but these strategies can significantly increase operating costs when such events occur - eg use of powdered activated carbon for treatment and substituting surface water sources with more energy demanding extraction of groundwater, and
- Extended dry periods can lead to drought scenarios and, in such circumstances, Hunter Water would introduce the sequential steps of its drought management plan. These include restrictions with increasing severity as storage continues to decline and this would result in a significant loss of revenue. Extended dry periods and / or extended wet periods can also impact on watermain break rates and sewer surcharges rates. This would impact both in terms of our operating costs to respond to an increased number of events and also potentially drive a higher level of capital rehabilitation / replacement costs.

The other area where there is a potential risk in a financial sense relates to water design standards. These design standards are currently being reviewed in the context of system performance over the last few years. Areas that will need to be considered include fire fighting standards and peak demands. Both of these issues can impact ultimately on future capital costs depending on the ultimate standards adopted.

3.6.2 Demand Management

In accordance with Hunter Water's Operating Licence, an Integrated Water Resource Plan (IWRP) has been developed. The underlying principle of this document is to enable Hunter Water to determine the lowest economic, social and environmental cost of providing water-related services. This requires demand and supply factors to be simultaneously examined to identify the optimum solution for meeting future water needs.

In developing the forecast base case demand for the IWRP, there are a number of uncertainties that may vary the forecast and thereby, impact operational costs. These uncertainties include residential demand patterns, non-residential demand patterns, climate change and community acceptance and response to the programs in the plan. These variables will be regularly reviewed and revised if necessary to allow the forecast to be updated. The IWRP needs to be sufficiently flexible to be able to accommodate the uncertainties associated with demand forecasts.

Initial demand reduction programs under the IWRP commenced in early 2004. The major initiatives in this area are residential refit programs. It is too early at this stage to assess the effectiveness of these programs and the longer-term impact of extending similar initiatives more widely. These options will be assessed in future years as programs are rolled out and analysis is completed over several years and different seasonal conditions.

3.7 Return on Capital and the Regulatory Asset Base

3.7.1 The Regulatory Asset Base

As mentioned previously, one component of long-term financial viability is return on capital. This is necessary to fund equity holders (in Hunter Water's case, the NSW Government is the only shareholder) and / or to meet costs of borrowed capital.

A large portion of the investment in the asset base was made on a commercial basis (ie prior to Corporatisation in 1992, some investment was made on subjective judgement and / or based on the perceived social objectives of earlier statutory agencies). It is inappropriate, therefore, to expect agencies to earn full commercial returns on this past investment. Hence, a clear delineation had to be made between these past investments and those made on a commercial basis. This has been achieved by what has become known as the "line in the sand" approach whereby a date is chosen after which all investments are required to earn a commercial rate of return.

The "line in the sand" concept is used in Hunter Water's financial modelling. The Corporation applies an historic real rate of return to investments made before the line in the sand date. New investments, net of developer funding, are required to earn a commercial return in the order of 7% in real terms.

Another way of applying this approach is to revalue the asset base such that it would, in total, earn a commercial real rate of return. IPART adopted this approach to set a "Regulatory Asset Base" (RAB) at the line in the sand date and which it now rolls forward for each price determination.

Hunter Water has used its RAB model to determine appropriate overall annual price adjustments for the four-year price path (2005/06 to 2008/09). The RAB has been derived by rolling forward the RAB from that used by IPART in the 2003 Price Determination.

3.7.2 Depreciation

Consistent with the 2003 IPART determination, the useful lives adopted for calculation of depreciation (return of capital) on the RAB are 100 years for new and future assets and 70 years for existing assets.

3.7.3 Weighted Average Cost of Capital

As discussed at the beginning of this section, Hunter Water's long-term viability will only be maintained if prices are sufficient to provide a revenue that covers the building blocks of efficient operating costs, the consumption of capital (as measured by depreciation) and a return on capital. Thus, the rate of the return on capital provided by regulators is an important parameter in terms of providing incentives for efficient investment in water infrastructure.

In its 2003 Price Determination, IPART provided prices that would yield a rate of return on the regulatory asset base of around 5.1% for 2003/04 and 5.0% for 2003/04. In setting prices to deliver these returns, the Tribunal *"considered further increases in Hunter Water's prices to generate a higher return but believed that the price increases necessary to achieve the benchmark return within the current regulatory return would have unacceptable customer impacts."* However the Tribunal went on to comment that *"In the longer term, the Tribunal will consider whether Hunter Water should earn a higher rate of return…"*

The Tribunal benchmarks the rate of return achieved by various price outcomes against the real pre-tax weighted average cost of capital (WACC). The Tribunal's preferred approach is to use the WACC to determine an appropriate range for the rate of return. In 2003, the Tribunal calculated a WACC range for metropolitan water agencies of between 5.2% and 6.7%. The rates of return estimated by IPART for Hunter Water fell outside the bottom of that range for 2003/04 and 2004/05, which means that the prices set for that period were not achieving the building block revenue target.

IPART's July 2004 *Issues Paper* does not specifically discuss the calculation of the appropriate WACC range for metropolitan water agencies. Rather, it refers to IPART's recent *Electricity Distribution Pricing Determination* for information on the Tribunal's preferred approach for calculating the rate of return on capital. In June 2004, IPART determined a 7.0% real pre-tax WACC for NSW electricity distributors. This is significantly above the equivalent rates of return on the regulatory asset base of around 5.0% previously allowed for Hunter Water.

Hunter Water does not believe there should be a material difference in the underlying WACC provided for electricity and water infrastructure assets. This view is supported in recent decisions by the Independent Competition and Regulatory Commission (ICRC), which applied a common WACC (7.0% real pre-tax) to both ACTEW / AGL's electricity and water businesses.

The building block regulatory approach dictates that a target rate of return (and hence the reference WACC) should be an input to the revenue determination process, not an output. As outlined above, the resultant rate of return adopted (of around 5.0%) was just below the low end of the WACC range that IPART calculated as being appropriate for water utilities. In the coming determination, Hunter Water believes that rate of return should be used as an input to determine revenue requirements and resultant water prices, not an output.

Hunter Water has calculated an appropriate real pre-tax WACC to establish a target rate of return and proposes a real pre-tax rate of return range of 6.1% to 7.5%. Appendix 3 of this submission provides details of this derivation of the appropriate real pre-tax WACC. Within this range, Hunter Water has adopted 6.8% for the purposes of establishing a rate of return on which to base overall price requirements. This point remains 0.2% below the 7.0% real pre-tax WACC recently adopted by IPART to set rates of return for NSW electricity network operators.

3.8 Price Cap for the 2005/06 to 2008/09 Price Path

In previous price determinations, IPART has set Hunter Water's prices in relation to inflation as measured by movements in the CPI.

Until the current price path, the Tribunal had always issued determinations that provided real reductions in prices – that is, determinations that, overall, adjusted prices by less than the prevailing rate of inflation. The intent of these determinations was to provide an incentive for further efficiency gains.

In the 2003 Price Determination, a real price increase of around 0.5% was allowed which recognised that the era of significant annual efficiency gains of 4% to 5% had passed. In addition, many of the new performance standards and regulatory requirements have resulted in additions to operating and capital costs and reduced the scope for further efficiency gains.

New performance standards and regulatory accountabilities (for example, as required by the Operating Licence in areas such as customer service performance monitoring, additional dispute resolution measures etc) come at a cost to the community. The inclusion of these requirements in the Operating Licence indicates a belief by the regulator that the community values these enhancements and, in this context, they should be paid for by customers.

Using the building block approach, Hunter Water has estimated the price adjustments necessary over the period 2005/06 to 2008/09 to cover the building block components of efficient operating costs, return of capital and return on capital. Return on capital has been calculated on a rolled-forward RAB using current estimates of operating costs and Hunter Water's foreshadowed capital program.

Hunter Water's financial modelling indicates that an annual adjustment of prices by 5.5% real (ie CPI+5.5% annual adjustment) would deliver a real pre-tax rate of return on Hunter Water's rolled forward RAB of around 6.8% by 2009. This rate of return would be consistent with Hunter Water's proposed real pre-tax rate of return range of 6.1% to 7.5%.

However, Hunter Water has decided to adopt a staged approach to achieve a 6.8% rate of return target by 2013. A staged approach to achieve an appropriate WACC has been chosen to avoid the incidence impacts of a substantial price increase for the coming price path combined with incidence effects on customers from the structural changes to water prices outlined in Section 4 of this submission.

Under the proposed staged approach, Hunter Water's financial modelling indicates that an annual adjustment of prices by 3.0% real (ie CPI+3.0% annual adjustment) would deliver a real pre-tax rate of return on Hunter Water's rolled-forward 2003 RAB of around 5.6% by 2009. This rate is significantly short of the assessed appropriate WACC range at this time of 6.1% to 7.5%.

As discussed earlier, Hunter Water is now seeing rises in actual and projected capital expenditure to provide for higher standards, particularly in the wastewater area, and a slow down in the reductions in operating costs per property. These factors are the underlying reasons for the need for price movements to maintain a reasonable return to reflect the cost of providing these services. It can be argued that this is a reasonable outcome for the community to ensure that the increased service delivery requirements imposed by the operating licence and community expectations continue to be met.

3.9 Recoverable Amount Test

Each year Hunter Water is required to apply accounting standards that require an economic assessment to be made of the future cash flows to be generated by the asset stock. To the extent the cash flows do not support the asset values as disclosed on the balance sheet, the assets are to be written down. This procedure is known as the "Recoverable Amount Test" (RAT). Under the new Australian equivalents to International Financial Reporting Standards, a test similar to the RAT will need to be undertaken to assess asset "impairment". It should be noted that if the revenue provided through pricing falls short of the revenue requirements of Hunter Water, an asset write down may be required. If price outcomes do not support the full replacement cost of the assets in an accounting sense, the value of the assets is written down.

4 WATER PRICING

Water pricing proposals for 2005/06 to 2008/09 include:

- *An overall price adjustments in line with CPI+3%*
- *Phasing out of the current declining block usage charge that applies to all customers using more than 1,000 kilolitres in a year, and*
- *Continuation of the location-specific water charges for very high volume industrial users prices that were introduced in 2001.*

4.1 Background

The most fundamental reform of water pricing in Australia has occurred over the last two decades. In the Hunter, this reform began in 1982 with the introduction of "pay-for-use" pricing and was completed in the mid 1990s when property value ceased to be used to calculate service charges.

Since then, a simple "pay-for-use" philosophy has guided continuing refinement of pricing leading to the current charging structure. The result is that today, Hunter Water has a largely pay-for-use pricing structure for its water services, with a strong demand management signal. For a typical household customer, usage charges make up around 90% of the total annual water bill. For industrial customers, usage charges can be more than 99% of the bill.

The 2000 IPART Price Determination introduced further reform of Hunter Water's price structure in line with the direction for more cost-reflective pricing that was emerging from the National Competition Reform process at the time. Competition reform drew particular attention to the desirability of having more cost-reflective charges for major industries facing national and international competition for their products.

Hunter Water introduced a new "location-based" water usage charge in July 2001 for industrial customers with very high water consumption. This tariff is referred to in this submission as the "location-based usage charge". The location-based charges apply only in areas close to water sources and reflect the lower costs of supplying water in these areas because less distribution infrastructure is used.

4.2 Current Fixed and Usage Charges for Water

Hunter Water prices water using a conventional monopoly service two-part tariff comprising a fixed service charge and a usage charge for each kilolitre of water consumed. In broad theoretical terms, such a pricing structure achieves the most efficient social outcome when the fixed service charge covers fixed capital-related costs and the usage charge covers costs related to the level of use of the service.

In 2004/05, the water service charge is $25.37 with usage charges of $1.01 per kilolitre for up to 1,000 kilolitres per year (the Tier 1 price) and $0.93 per kilolitre for an individual customer's consumption over 1,000 kilolitres during the year (the Tier 2 price). Very few residential customers benefit from the lower Tier 2 price for consumption over 1,000 kilolitres per year.

There is also a location-based water usage charges for consumption greater than 50,000 kilolitres per year. These charges only apply in areas close to the water source and treatment facilities and range from $0.802 to $0.864 per kilolitre, depending on location. In 2004, less than 30 industrial customers are eligible for this tariff.

Hunter Water has long argued that the emphasis on usage charges for water is appropriate given the community's expectations on resource management. On the basis of these expectations, the water usage charge has been progressively increased (in accordance with IPART's determinations) to convey a strong conservation signal, while the service charge has been wound back so that, in total, water charges stay within IPART's overall price cap (expressed as CPI±'X').

Until 2003, IPART applied a negative "X" factor to CPI±'X' and in 2003 a small positive factor of around 0.4% was applied. The long history of negative "X" factors in the price cap has resulted in progressive reductions in Hunter Water's overall prices, passing on to customers the benefits of the substantial real operating cost reductions achieved since the early 1990s (as outlined in Section 2 of this submission).

The combination of concentrating price increases on usage charges and the effect of IPART's negative "X" price cap has meant that only a very small amount of revenue is now recovered through the *water service* charges. As shown in Section 1, the introduction of pay-for-use pricing in the early 1980s resulted in a significant reduction in demand. This reduction has been maintained since the 1980s and thus the present price structure is seen as part of a suite of successful water conservation measures. This success is reflected by Hunter Water's residential customers having one of the lowest levels of annual consumption per household in Australia.

The trend of increasing usage charges and reducing service charges has impacted quite differently on household customers and large-volume (mostly industrial) customers, due to the larger proportion of usage charges in a large-volume customer's total bill.

Recognising this difference in impact and in the interests of "promoting competition in the supply of services" – one of the matters for consideration listed in IPART's legislation – Hunter Water introduced the location-based water usage charge in 2001. As outlined above, this lower usage charge only applies to customers who consume greater than 50,000kL per year and is only available for designated areas close to water sources. Further details on the rationale behind the location-based price structure are available in Hunter Water's 2000 pricing submission and IPART's resulting determination in 2000. It is important that the charges to industry for water supply services are cost-reflective and support existing and new industries because this benefits the whole Hunter region by contributing to employment opportunities and maintaining the region's base of exporting or import-competing industries.

A desirable objective for water pricing from 2005 is to maintain strong demand management signals and continue to provide a cost-reflective basis for charges through mechanisms such as location-based tariffs for large-volume users. This approach provides the benefits of competition in a transparent way and without the need to develop complex access or private treaty arrangements.

4.3 Price Proposals for 2005/06 to 2008/09

Hunter Water invested considerable effort in reviewing its pricing strategies in the lead up to the 2000 Price Determination. This included a major review of options (including new possibilities such as seasonal tariffs) in 1998 and detailed development of specific proposals in 1999 for the September 1999 submission to IPART.

The 2000 Price Determination introduced new price structures for very large volume consumers in locations close to source / treatment facilities. There is a sound basis for this structure in the context of cost reflectivity and national competition policy principles and, as a result, this approach is considered to be still relevant for the coming price period.

However, new pressures have emerged since the 2000 and 2003 price determinations. The most significant is the drought that has affected much of Australia over recent years and which is now manifested by seriously depleted water storages in many parts of the east coast of NSW. At the time of preparing this submission, the storages of the Sydney Catchment Authority were below 43% of total capacity – the lowest level for on record since the completion and filling of Warragamba Dam in the 1960s. The Central Coast region immediately to the south of Hunter Water's area of operations is also experiencing low and declining storage volumes and has severe water use restrictions in place. At the time of finalising this submission in late September 2004, Hunter Water's own storage levels were at 73% of capacity.

The widespread drought conditions have led to the NSW Government looking at a wide range of options to address both the demand and supply of water to urban areas. In September 2003, the Government asked IPART to investigate alternative structures for retail water prices and to assess their potential to reduce the demand for water in Sydney. While this report primarily focuses on the need to address the current imbalance between water demand and supply in Sydney, it is also to inform the development of the Government's broader water policy and to provide input to the current metropolitan water price review.

IPART issued its report on this investigation, *Investigation into Price Structures to Reduce the Demand for Water in the Sydney Basin: Final Report,* on 30 July 2004. The report's main recommendation was for the introduction of higher charges for homes in Sydney that use more than 400 kilolitres of water per year. This report is referred to in the rest of this submission as the "IPART Price Structures Report".

4.3.1 Applying the IPART Recommendations in the Hunter

Hunter Water currently has a water-charging structure that has a strong dependence on usage charges. However, unlike the recommendation in the IPART Price Structures Report, Hunter Water's current usage charges step down for consumption in excess of 1,000 kilolitres in any financial year. This structure does not influence demand by houses because only around 0.2% of houses ever achieve this level of consumption and only 1.6% of total usage by houses is charged at the lower rate.

However, the lower price for consumption in excess of 1,000 kilolitres per year applies to all customers – those in houses, home units and flats and to business and industry. The recommendations of the IPART Price Structures Report are aimed at sending a signal to the community to reduce the demand for water. In this context, Hunter Water acknowledges that maintaining the declining tariff structure for customers other than houses would appear to the community to be inconsistent with the intent of the IPART recommendation for stronger price signals.

Hunter Water has also considered the IPART recommendation that an inclining block usage tariff should be applied to houses using more than 400 kilolitres per year. However, there are a number of factors that suggest such a pricing structure would achieve much less in the lower Hunter than could be expected in Sydney.

The significant considerations are:

- Only around 10% of houses in the lower Hunter use more than 400 kilolitres per year and Hunter households already have a solid track record of demand reductions in response to demand management measures. Average household consumption in the Hunter is some 20% lower than the average of other major Australian water authorities and some 14% less than the average per property consumption in Sydney.

- Hunter Water has modelled the likely demand response from introducing an inclining block tariff in line with the IPART recommendations for Sydney. This modelling used the demand elasticities published by IPART in its December 2003 Issues Paper for the investigation into price structures to reduce the demand for water in the Sydney basin. The modelling also adopted IPART's recommended approach that the price for consumption above 400 kilolitres should be 50% or 100% above the price applying to consumption up to 400 kilolitres. The analysis shows that the consumer response to higher prices is modest. This is not an unexpected result given that only 10% of houses use more than 400 kilolitres per year.

- Unlike other regions, water demand in the Hunter does not exceed the Corporation's supply capacity. In 2003, Hunter Water produced an IWRP to serve as a blueprint for managing both demand and supply over the next decade. The only project in the IWRP to increase supply is the finalisation of larger capacity spillway works at Grahamstown Dam. Completion of this work in 2005 will provide an increase of around 40,000 megalitres in the available storage. This additional storage will increase the annual safe yield of all available sources to around 79 gigalitres per year, compared to a current demand in average climate conditions of around 73 gigalitres per year.

  Demand estimates for the next 10 to 20 years take into account a number of demand management initiatives outlined in the IWRP plus population growth. The resulting projected demand does not approach Hunter Water's annual safe yield until about 2013 or later. The IWRP will be reviewed at regular intervals to consider future demand management and supply options.

- For Sydney, the IPART Price Structures Report proposes that the 400-kilolitre threshold should be applied on a quarterly basis to each of the individual customer's quarterly bills. Hence customers who use more than 100 kilolitres in a quarter would move to the Tier 2 price for the consumption in excess of 100 kilolitres.

  Hunter Water does not read meters and bill customers quarterly but rather three times per year. A similar approach to that proposed by IPART for Sydney could be considered where the threshold is applied in relation to period billed. However, Hunter Water believes this would present equity problems because there are only three billing cycles of four months duration in the year and, for individual customers, these cover the same period each year. Thus some customers, whose billing period always spans the summer months, could be treated unfairly when compared with customers whose billing periods cover spring / summer and summer / autumn months.

For these reasons, Hunter Water has not included an option to introduce an inclining block tariff for households in this submission. However, such an option could be considered if IPART specifically requests this work to be carried out or if new demand pressures emerge during the course of the coming price path. As mentioned earlier, Hunter Water has carried out some modelling of the inclining block option and a brief description of this work is provided in Appendix 4.

While a new inclining block tariff is not proposed, Hunter Water's proposals do include a progressive phase out of the declining block usage tariff for all users. This proposal is outlined in detail in Section 4.3.2 below. It will involve real price increases for many customers, particularly non-residential customers using more than 1,000 kilolitres per year.

Hunter Water is proposing that the basic (Tier 1) usage charge only be increased by 2.25% per year in real terms. While this increase is less than the overall real price adjustment ('X' factor adjustment) of 3.0% proposed in Section 3, it needs to be considered alongside the real price increases that will be incurred by some users from the progressive phasing out of the declining block usage price.

4.3.2 Water Usage Charges

Hunter Water's proposal for usage charges has two elements. These are:

- Continue to apply a Tier 1 price to all consumption of 1,000 kilolitres per year or less. This Tier 1 price would be based on the current Tier 1 price with a 2.25% real increase applied each year of the price period, and
- Phase out the existing declining block Tier 2 price over the period of the price path so that, by 2008/09, there is a single flat tariff applying to all consumption other than consumption eligible for the location-based usage prices.

Hunter Water prefers the phased increase of the existing Tier 2 price to minimise the adverse impacts on the mainly business customers that use more than 1,000 kilolitres per year. The Corporation notes the Tribunal's view on page 48 of the IPART Price Structures Report that "*A quick transition to a new water price structure, rather than a series of minor price changes, might be useful in sending a strong signal to customers. However, it could create a price 'shock' for customers, especially if they have not had fair warning about the new prices…"*

Hunter Water believes that a phased increase is an entirely appropriate strategy for removing the declining block structure. The impact of removing the existing declining block structure falls mainly on non-residential customers because, as detailed above, few residential customers use more than 1,000 kilolitres per year. In addition to the phased increase in the Tier 2 prices, non-residential customers will also face the impact of the overall CPI+3% price adjustment, which will be reflected in their combined usage and service charge bill. Further, unlike residential customers, non-residential customers often have less discretionary demand and therefore less ability to respond to price increases by altering consumption behaviour.

The proposed Tier 1 and Tier 2 usage prices are shown in Table 4.1. As can be seen from the table, the Tier 2 price increases progressively from 2005/06 to reach $1.10 (the same as the Tier 1 price) in 2008/09. This effectively phases out the declining Tier 2 tariff regime over the proposed four-year price path.

Table 4.1 Proposed Water Usage Charges 2005/06 to 2008/09 ***($/kL 2004$)***

	Current 2004/05	2005/06	2006/07	2007/08	2008/09
Tier 1 Usage	$1.01	$1.03	$1.06	$1.08	$1.10
Tier 2 Usage [(a)]	$0.93	$0.96	$1.01	$1.06	$1.10

(a) Applies after 1,000 kilolitres

4.3.3 Location-Based Charges

As described above, Hunter Water introduced the new "location-based" water usage charge in July 2001 for industrial customers with very high water consumption. The 1999 submission identified 23 operational zones and proposed a location specific usage price for 11 of these zones.

The location specific charge provides a slightly lower usage charges for large volume industrial customers in designated operational zones. The lower usage charges apply only to consumption greater than 50,000 kilolitres per year and only in areas close to water sources. The charge reflects the lower costs of supplying water in these areas. As mentioned earlier in this section, there are less than 30 industrial customers eligible for the location-based price in 2004.

Hunter Water believes that offering these lower prices to this customer set does not erode the demand management signal. The location-based usage prices are volumetric charges and the customers that can take advantage of them are very large users so efficient water use is already an important consideration for these businesses. In a number of cases, the water used is a direct input to the final product and so a reduction in water use by these businesses can only be effected by reducing output the businesses' end product.

At 1 July 2005, the location-based charges will have been in place for four years. While these charges do offer reduced usage charges for consumption in excess of 50,000 kilolitres in specific locations, there is a sound basis to continue offering these prices in the context of cost reflectivity and national competition policy principles. During this period the charges and the principles behind them have gained acceptance within the community and it is not intended to make any structural changes at this stage.

Further, the customers in zones eligible for the location charges will also face the increases in the Tier 2 price outlined in Section 4.3 above. Thus Hunter Water believes that it would be undesirable to make any changes to the structure of the location-based charges at this stage, other than to index the current prices at real 2.25% adjustment being applied to Tier 1 charges.

The proposed prices for the price path are shown in Table 4.2.

Table 4.2 Proposed Location-Based Prices 2005/06 to 2008/09 ***($/kL 2004$)***

Location	Current 2004/05	2005/06	2006/07	2007/08	2008/09
Kooragang / Stockton	$0.802	$0.820	$0.838	$0.857	$0.877
Tomago	$0.839	$0.858	$0.877	$0.897	$0.917
South Wallsend	$0.807	$0.825	$0.844	$0.863	$0.882
Warners Bay / Valentine	$0.839	$0.858	$0.877	$0.897	$0.917
Seaham / Hexham	$0.872	$0.892	$0.912	$0.932	$0.953
Newcastle / Highfields	$0.882	$0.902	$0.922	$0.943	$0.964
Raymond Terrace	$0.896	$0.916	$0.937	$0.958	$0.979
Port Stephens	$0.899	$0.919	$0.940	$0.961	$0.983
Kurri / Cessnock	$0.902	$0.922	$0.943	$0.964	$0.986
Lookout	$0.901	$0.921	$0.942	$0.963	$0.985
Edgeworth / West Wallsend	$0.925	$0.946	$0.967	$0.989	$1.011
Other locations	$0.930	$0.96	$1.01	$1.06	$1.10

4.3.4 Dungog Shire Council

Hunter Water has had agreements with Dungog Shire Council for bulk water supply since 1940. The 2000 Price Determination set prices for Dungog Council and the current contract between Hunter Water and the Council refers to prices determined by IPART.

The 2000 and 2003 determinations set the Tier 1 and Tier 2 usage prices for Dungog Council as the same as those applying to all other customers. These determinations also set a location-based price for all water supplied to Dungog Council in excess of 50,000 kilolitres per year. Calculation of the location-based price for Dungog Council reflects that this supply does not use any of the distribution infrastructure downstream of Hunter Water's Dungog water treatment plant for the Dungog township or the off-take points on the Chichester trunk main for supply to the Council's Paterson and Clarence Town systems.

As with the other location-based prices, the price applicable to Dungog Council has been indexed in line with the real increase of 2.25% applied to the Tier 1 prices. Under this arrangement, approximately 94% of Dungog Council's annual usage would be charged at the location-based rate.

Table 4.3 Location-Based Prices for Dungog Council 2005/06 to 2008/09 ***($/kL 2004$)***

	Current 2004/05	2005/06	2006/07	2007/08	2008/09
Tier 3 Usage	$0.548	$0.560	$0.573	$0.586	$0.599

4.3.5 Water Service Charges

The earlier discussion in this section has highlighted the emphasis placed on usage charges since the early 1980s so as to send a strong conservation signal to the community. IPART, in its July 2004 Price Structures Report, has confirmed that water pricing should be the vehicle for conveying the need to conserve water to all customers. The most effective way of using pricing to convey this message is through the water usage price. Thus, in developing water pricing proposals for this submission, Hunter Water has not sought to increase water service charges significantly. The current base water service charge is $25.37 per year and, under the proposed pricing arrangements, this would only increase by around $8 by $2008/09 to $33.25 (2004$). The proposed increments in service charges are shown in Table 4.4.

Table 4.4 Proposed Water Service Charge 2005/06 to 2008/09 ***($/year 2004$)***

	Current 2004/05	2005/06	2006/07	2007/08	2008/09
Base service charge	$25.37	$27.80	$29.30	$31.00	$33.35

4.4 Incidence Analysis

The effect of these changes on residential customers' total **water** bill is shown in Table 4.5.

Meter configurations for non-residential customers vary from business to business making it difficult to define a "typical" non-residential service charge. For most non-residential customers with consumption in excess of 1,000 kilolitres, usage charges are the main determinant of their total bill. However, in order to provide an incidence comparison, Table 4.5 uses the reference business sizes used by the Productivity Commission in its May 2002 publication *Trends in Australian Infrastructure Prices 1990-91 to 2000-01.* This report defines reference businesses as:

- Low water use business – 300 kilolitres per year and 20mm connection
- Medium water use business – 3,000 kilolitres per year and 40mm connection
- Medium / high water use business – 30,000 kilolitres per year and 40mm connection
- Large industrial use – 300,000 kilolitres per year and 300mm connection.

Table 4.5 indicates that the water bill for a typical residential customer (using 210 kilolitres per year) will increase by around 2.9% in real terms for each year of the price path. This is equal to an increase of just 13 cents per week for water (before inflation is considered). Details of combined water / sewer / drainage bill incidence are discussed in Section 7.

For non-residential customers, the impact of price changes can impact differently on different customers depending on the size of the water service and volume of water used. Water bills for non-residential customers will generally increase by around 4% per year although the increases vary between 2.8% and 4.5% depending on the mix of service and usage charges making up the bill. The impact is generally higher for customers using over 1,000 kilolitres because of the phasing out of the Tier 2 price. Again, combined bill incidence for non-residential customers is provided in Section 7.

Table 4.5 Incidence on Water Bill Payments *(CPI+3% Price Adjustment) (2004$)*

Water Bill	2004/05	2005/06	2006/07	2007/08	2008/09	Average Change pa
Residential						
- Low use 100 kL	$126	$131	$135	$139	$143	+3.4%
- Average use 210 kL	$237	$244	$252	$258	$264	+3.0%
- High use 400 kL	$429	$440	$453	$463	$473	+2.6%
Non-Residential						
- Low use 300 kL	$328	$338	$346	$355	$365	+2.8%
- Medium use 3,000 kL	$2,971	$3,064	$3,193	$3,324	$3,437	+3.9%
- Medium / High use 30,000 kL	$28,081	$28,984	$30,463	$31,944	$33,137	+4.5%
- Large industrial 300,000 kL[(a)]	$272,788	$279,782	$287,674	$295,711	$303,528	+2.8%

(a) Calculated using the location prices for the Newcastle Highfields zone – a mid range zone for location prices.

4.5 Pricing for Alternatives to Potable Water - Raw Water

In 2000, IPART introduced a discounted price for the supply of (untreated) raw water for customers serviced by the Chichester Dam pipeline who do not receive treated water from the Dungog treatment plant.

There are around 60 customers served by the pipeline upstream of Dungog water treatment plant. These customers are effectively buying a different product from that supplied to Hunter Water's other water supply customers. This water can vary in quality (particularly turbidity) after significant rainfall and runoff into Chichester Dam. These customers are outside the standard Operating Licence / Customer Contract provisions and generally have non-standard water service agreements that contain qualifying clauses for water quality.

Hunter Water proposes to continue this discount at the same level of $0.07 per kilolitre because the cost basis for this reduction remains largely unchanged.

5 SEWER PRICING

Sewer pricing proposals for 2005/06 to 2008/09 include:

- *Overall price adjustment in line with CPI+3%*
- *Continuation of the progressive introduction of minimum service charges for residential flats and home units. This continues the process begun in 2001 and endorsed by the Tribunal in 2003. It is proposed that the minimum service charge be increased from the current $120 in 2004/05 by nominal $20 per year until it reaches two thirds of the charge applying to residential dwelling*
- *The basic sewer usage charge would be held constant over the price period at $0.42 in 2004$ terms*
- *Continuation of the single fixed sewer charge for residential properties that are not connected to the water supply system but do connect to the sewer system. It is proposed that the notional usage component of this charge would be held constant over the price period at $20.00 in 2004$ terms*
- *The Environmental Improvement Charge and Sewer Service Access Charge be maintained in real terms for the proposed price path, and*
- *At this time, Hunter Water has potential to meet a much greater demand for recycled water. Recycled water pricing needs to be considered as part of the total water utility pricing arrangements, including the developer charges methodology.*

5.1 Background

Since the introduction of the pay-for-use pricing in 1982, sewer charges have been structured as a two-part tariff (in a similar way to water) comprising a usage charge and a service charge. The usage charge is determined by multiplying the unit price by the metered water usage and the applicable discharge factor. The discharge factor is 50% for residential customers and varies for non-residential users depending on the nature of their business.

For all properties other than single residential dwellings, the service charge is a function of the base rate, the discharge factor and the size of the water meter. This approach is based on the assumption the customers with a larger meter and a higher discharge factor use a relatively greater proportion of wastewater system capacity.

This section sets out Hunter Water's proposals for sewer service and usage charges for the 2005/06 to 2008/09 period.

5.2 Sewer Service Charges

5.2.1 Flats and Home Units

Hunter Water currently charges residential customers in flats and units a minimum wastewater service charge. This charge was introduced in the 2000 determination to ensure greater equity in wastewater charges between customers in single dwelling properties and residents in flats and units. Therefore, if a premises' proportionate share of the service

charge applying to the multi-premises property is less than the minimum charge, the owners of the premises would be required to pay the minimum charge. The charge was introduced in 2001/02 at $60 and increased to $80 in 2002/03.

In Hunter Water's 2002 Price Submission, the Corporation proposed to continue this gradual increase until the charge was equivalent to two thirds of the sewer service charge that applies to separate residential dwelling. In doing so it was proposed that the charge be increased to $100 in 2003/04 and $120 in 2004/05. In the 2003 determination, the Tribunal decided to increase the minimum wastewater charge by $20 per year in line with the Corporation's proposal.

With this submission Hunter Water proposes to continue the progressive increase in the flats and units minimum charges over the 2005/06 to 2008/09 period in accordance with the objective outlined above. This would entail a further $20 increase in the minimum charge each year until the target of two thirds of the residential dwelling is achieved in 2008/09. The proposed minimum charges for flats and units are shown in Table 5.1 below:

Table 5.1 Proposed Minimum Sewer Service Charge for Flats and Units 2005/06 to 2008/09 *($/year nominal$)*

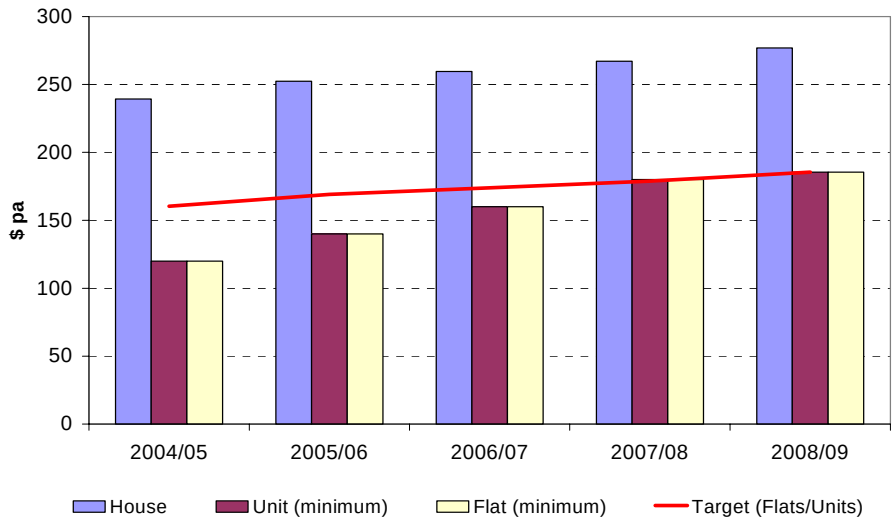
	Current 2004/05	2005/06	2006/07	2007/08	2008/09
Min. service charge per flat / unit	$120	$140	$160	$180	$185 [(a)]

(a) Approximately two-thirds of a residential dwelling

Incidence modeling for these minimum charges indicates that, for those flats or units that become subject to the minimum charge, the average increase per flat or unit is around $14 per year (about 27 cents per week).

The relativity of the sewer service charge for flats / units versus households over the phase-in period is shown in Figure 5.1 below, highlighting that the proposed minimum charge for flats / units is still substantially less than the charge for households. Under the proposed prices, the minimum charge for flats and units will reach the two thirds of a residential dwelling service charge by 2008/09.

Figure 5.1 Sewer Service Charges – Comparison for houses, Flats and Units for the Proposed Phase-in Arrangements



5.3 Sewer Usage Charge

Hunter Water proposes to retain the sewer usage charge for the 2005/06 to 2008/09 price path. Sewer usage charges would continue to be calculated using discharge factors to impute the volume of sewer discharge from actual water consumption. As stated in Hunter Water's 2002 Price Submission, the advantages of retaining sewer usage charges include:

- The concept of usage influencing costs is maintained, albeit as a relatively small component of sewer charges for typical households *(reflecting that only a small proportion of sewer costs is variable)*, and
- Future technology changes could make individual sewer usage metering more practical, with sewer usage charging being particularly relevant to customers with a relatively high discharge *(eg, this could arise from either a high proportion of water usage being discharged to sewer, or a high degree of infiltration or inflow of stormwater into the customer's house drains).*

The discharge factor for all residential customers has been set at 50% since pay-for-use pricing was introduced in 1982. Hunter Water is aware that some customers object "on principle" even though the sewer usage charges are relatively small compared with the sewer service charge component.

Hunter Water has data from separately metered internal and external water consumption by around 160 – 200 residential customers. This supports the view that for most properties, the 50% discharge factor is a conservative assessment of the volume discharged to sewer

As noted in previous submissions, the progressive reduction of the usage charge to around 42 cents per kilolitre over a number of years has been a key factor in reducing community concern about this charge.

With the widespread drought affecting eastern Australia, there is growing community and Government concern over water supplies and potential need to retain all possible water conservation signals. In this light, Hunter Water proposes retain the sewer usage charge and hold it constant at 42 cents per kilolitre for the proposed price path.

The basic service charge (in 2004$ terms) would rise from the current $478.69 to $540.08 in 2008/09, an annual average increase of $15.

For a residential consumer in a stand-alone dwelling, this would amount to a real increase of just under $8 per year and bring the service charge to $270.04 (2004$) in 2008/09. Hunter Water's proposal for the base sewer service and usage charges is shown in Table 5.2.

Table 5.2 Basic Sewer Charging Proposals *(2004$)*

	Current 2004/05	2005/06	2006/07	2007/08	2008/09
Base Service	$478.69	$492.41	$506.60	$521.07	$540.08
Base Service – Single Household	$239.35	$246.21	$253.30	$260.54	$270.04
Usage Charge ($ per kilolitre)	$0.42	$0.42	$0.42	$0.42	$0.42

For a typical residential user, these charges will result in a combined service and usage bill in 2005/06 of $290.31 in 2004 terms, which is a 2.4% real increase over the previous year.

5.3.1 Sewer Usage Charge – No water service connection

As noted in Hunter Water's 2002 Price Submission, in recent years there has been a small increase in the number of residential properties in sewered areas using alternative water supplies (mainly rainwater tanks) for water supply. This increase stems from a growing interest in water conservation and because sewer services are extending into backlog areas where customers may have an existing tank supply.

The Corporation argued that this presents a problem for sewer usage charging because there is no metered water usage on which to base the sewer usage bills. Therefore, Hunter Water proposed to charge these "sewer only" residential customers a new "sewer only" fixed charge. It was proposed that this would have been calculated as the normal residential fixed charge plus a "notional" usage amount equivalent to the sewer usage bill that would be paid by a "typical" household using 210 kilolitres of water per year.

IPART determined that, in the absence of specific evidence in support of the assumption that sewer only customers would use the same amount of water as "typical" customers, the notional usage charge should be limited to $20 per year.

In light of the number of households involved (approximately 50), Hunter Water's view is that it is not cost effective to collect the evidence sought by IPART. The Corporation therefore proposes to continue the $20 per year notional usage component from the 2003 determination. Table 5.3 shows the "sewer only" charge in relation to the basic service charge for the proposed price path period.

Table 5.3 Sewer Only Fixed Charge Proposal *(2004$)*

	Current 2004/05	2005/06	2006/07	2007/08	2008/09
Base Service – Single Household	$239.35	$246.21	$253.30	$260.54	$270.04
Notional usage component	$20.00	$20.00	$20.00	$20.00	$20.00
Proposed "Sewer Only" charge	$259.35	$266.21	$273.30	$280.54	$290.04

5.4 Hunter Sewerage Project Funding

The Environmental Improvement Charge (paid annually) and the Sewer Service Access Charge (paid on connection of vacant properties served by the Hunter Sewerage Project) are integral parts of the Hunter Sewerage Project finance package. This package was established by the NSW Government to fund the project from a balanced mix of State Government funds and local and user contributions. As such, it sends an important message that local communities must bear at least some financial responsibility for service improvement and environmental initiatives.

The Environmental Improvement Charge (EIC) is scheduled to continue until 2009 for most customers (the 20-year period of the EIC will extend beyond 2009 for a small number of areas that were added to the approved HSP service area after 1989).

As part of its 2002 Price Submission, Hunter Water undertook a review of the actual and projected costs for the Hunter Sewerage Project. That review indicated that an overall adjustment of both the EIC and Sewer Service Access Charge (SSAC) in line with the CPI would continue to yield a rate of return on the project of 4%. This was determined by the Tribunal in 1996 to be an appropriate return for the project.

The Hunter Sewerage Project was essentially completed in 2002 when the Karuah sewerage system was commissioned. Thus, the fundamental assumptions of the review for the 2002 submission remain unchanged.

Therefore, Hunter Water recommends that both these charges be maintained in real terms for the proposed price path to 2008/09. This will see completion of EIC funding for most properties and, for the price path commencing in 2009, new arrangements will be introduced in keeping with the Government's August 2003 decisions on funding for the most recent projects included in the Priority Sewerage Program.

The 2003 IPART determination included an additional amount of $4 (in 2002$) to cover the first project under the Government's Priority Sewerage Program at Fern Bay.

As mentioned above, the Government has agreed that new funding arrangements will come into place from 2009 for a new set of Priority Sewerage Program projects in the lower Hunter announced in 2003. These projects are to provide backlog sewer services to the small towns of Kitchener, Ellalong, Millfield and Lochinvar. Even though these projects are to be constructed during the period of the coming price path, the funding arrangements adopted by the Government commence in 2009/10. These arrangements entail extending the EIC to 2018/19 at a rate of $24 (in 2003$ terms). However, these new PSP funding arrangements do not include provision for Fern Bay because it is already underway and funding is included with the existing EIC.

Thus to maintain the arrangements determined in 2003, Hunter Water proposing that the existing EIC at $48.95 per year, which includes the provision for the Fern Bay PSP project, is maintained in real terms by annual indexation in line with the CPI.

The current (2004/05) SSAC is $3,107. As outlined above, this charge also funds Hunter Water's share of the capital costs of the Hunter Sewerage Project and the 2002 review of the EIC and SSAC was based on this charge also being indexed annually in line with the CPI.

5.5 Pricing Principles for Recycled Water

Hunter Water has a policy of promoting the use of recycled water where it is viable in economic and environmental terms. To date, the Hunter region's industrial base has made it practical to implement a number of very large scale recycling projects. The Corporation's approach is to make effluent freely available at its treatment plants at the discharge quality standards required by the DEC. The cost of further treatment, monitoring and transport to an end user's site is met by the end user.

However, there are a number of difficulties in establishing new recycling projects and stimulating interest within the community. The cost of recycling projects is often high, especially where small volumes are involved or the project site is some distance from the treatment plant source. There is also an increasing number of regulatory and monitoring requirements in relation to the use of recycled water and these add significantly to the cost of using recycled water, especially in small volumes or for low-value uses such as irrigation. Some industries also find that further treatment is required for their end use, which adds to the cost of recycling.

The value of returned flows to some waterways is also becoming an important consideration. If effluent from inland wastewater treatment plants is recycled instead of being returned to local waterways, issues of flow maintenance in the receiving river or creek can arise. Effluent returned to waterways can be valuable for both environmental purposes and for

extraction by downstream users, particularly agricultural irrigators. The potential value of returned flows is recognised by specific provisions in the Water Management Act 2000.

Hunter Water notes the Tribunal's desire to seek comment on the future regulation of recycled water. At this time, Hunter Water has potential to meet a much greater demand for recycled water. The main impediment is that suitable large-volume uses are not always available close to treatment plants. For this reason, the Corporation believes that a flexible, rather than a regulated, approach to pricing is needed to enable further recycling projects to be developed.

Hunter Water also notes the Tribunal's comments that spreading some of the costs of water recycling across the broader customer base may be warranted in order to address supply issues with recycled water. The eventual effect of providing financial assistance from the broader customer base for recycling schemes that replace potable supply is to defer further augmentation of potable sources and supply systems. Thus, such recycling schemes are effectively a form of supply augmentation.

While the concept of spreading costs more broadly obviously has merit in the context of demand / supply imbalances, it needs to be considered as part of the total water utility pricing arrangements, including the developer charges methodology. This may mean that demand management measures, including recycling, need to be considered in the same way as supply or system augmentations in the calculation of developer charges.

6 STORMWATER DRAINAGE

An ongoing theme in this revenue sector has been the removal of the last vestiges of valuation-based charges. This proposal continues to address this objective and, further proposes a revised service charge structure. Under the proposal, service charges for non-residential customers are differentiated into small, medium and large properties. As the property-value-based charge is removed, service charges increase and a mechanism to protect customers from price shocks is provided.

6.1 Background

Stormwater is rainwater that runs off buildings and land. In the natural environment, a large proportion of this water soaks into the ground or flows into waterways. In the cities, the proportion of stormwater run-off is higher due to the presence of hard surfaces such as roads and roofs. Stormwater is carried in stormwater channels and discharges directly into creeks, rivers, the harbour and the ocean.

There remains no single agency responsible for stormwater management within Hunter Water's area of operations. While stormwater drainage is predominantly managed by local Councils, Hunter Water owns and operates some trunk stormwater assets in the Newcastle, Lake Macquarie and Cessnock local government areas. Hunter Water has responsibility only for the major concrete channels and culverts through many of these catchments, and its role is to maintain the current capacity of these stormwater drains. Councils are responsible for the management of street drainage and any "natural" creeks upstream and downstream of the concrete channels and the Roads and Traffic Authority is involved in drainage from major roads and freeways.

Only around 57,200 (26%) of Hunter Water's total customer base of approximately 216,000 properties are liable for stormwater charges. The other 74% of properties are outside the catchments served by Hunter Water's drainage networks. Revenue from drainage charges accounts for only 2.2% of the Hunter Water's tariff revenue.

Hunter Water has reviewed stormwater charges in terms of both the revenue required to optimally manage these assets and the anomalies inherent in the present price structure. The aim of this review was to establish a more equitable tariff structure that, in part, reflects the volume of stormwater originating from larger properties and the costs of dealing with it.

6.2 Existing Stormwater Tariffs

Stormwater tariffs are charged to all property owners, where Hunter Water owns and operates stormwater drains within their catchments, to enable Hunter Water to undertake works on main drains and waterways. The existing stormwater pricing structure contains the last vestiges of valuation-based charges, and some anomalies that developed since Hunter Water ceased using property-value, expressed as Assessed Annual Values (AAVs), for new developments in March 1991.

As was indicated in Hunter Water's 2002 Price Submission, the Corporation has put in place a program to progressively address issues in the stormwater pricing structure. In 2000, the fixed service charge was standardised for residential and non-residential customers and the

valuation-based charge has progressively decreased each year since 1999/2000. This adjustment was achieved by simultaneously increasing the fixed service charge for all customers to ensure that sufficient revenue is received to cover the operating costs and return of capital.

The existing stormwater pricing structure involves:

- A service charge of $42.31 per year for all residential customers
- A service charge only of $42.31 per year for 1,027 non-residential customers who came on line after March 1991 (either as new customers or by redevelopment), and
- A service charge of $42.31 per year plus AAV charges for 2,575 non-residential customers who had developed before March 1991.

Thus, 96% of stormwater customers pay the fixed service charge only and the remaining 4% pay an additional valuation-based charge. The reliance on valuation-based charges has reduced substantially since 2000 and it is proposed to continue this trend.

While the objective of the removal of valuation-based charges is desirable, the removal of the AAV charge alone is not considered sufficient by the Hunter Water to rectify the inconsistencies in the charging regime. For example, the present system has properties of similar size being charged significantly different amounts depending on whether the entered the charging system before or after 1991. Further, neither of the two charging arrangements (for pre and post 1991 properties) reflects in any way the cost of stormwater management services associated with the property. There is a clear rationale for restructuring the pricing of stormwater. Continuing with the progressive removal of the AAV-based component is one part of the solution.

6.3 Stormwater Revenue Requirements

In considering possible changes to the charging framework, Hunter Water has reviewed stormwater revenue requirements. The total annual revenue requirement is approximately $3.3 million and is expected to remain around that level over the proposed four-year price path. These costs take account the programmed maintenance and refurbishment requirements based on detailed field inspections of asset condition. The costs also take into account additional depreciation associated with planned new capital investments over the price path period in the Winding Creek, Newcastle and Cessnock stormwater systems.

Current revenue from stormwater charges is around $3.0 million per year, with around $0.8 million derived from valuation-based charges.

6.4 Stormwater Pricing Reform

Hunter Water acknowledges that the retention of valuation-based charges perpetuates pricing distortions and anomalies. Property value based charges are generally recognised as the principal mechanism by which cross subsidies and pricing anomalies are maintained. In summary, valuation-based charges are not cost reflective, do not directly relate back to the cost of providing drainage services and are not transparent or easily explainable to customers.

Since the late 1980s, Hunter Water (and its predecessor) has been moving progressively from a property-value based charging systems for water, sewer and drainage services to

more cost-reflective pricing systems with an increasing focus on user charges. Valuation-based charges were eliminated for water and sewer prices in the early 1990s.

For Hunter Water's 2000 Price Submission, the Corporation considered other options for stormwater pricing and, in particular, looked at a comprehensive land-area based charging for non-residential customers to replace the property-value based charges. However, the 2000 investigations found this to be impractical at that time due to the incidence effects of transferring the revenue raised from property-value based charges to an area-based system. Consequently, IPART determined that, rather than replace valuation-based charges, Hunter Water should reduce their importance with a view to phasing them out over time. The 2000 determination introduced a phased reduction of valuation charges for stormwater offset by increases in the service charge, and provided for these to be increased by a small amount each year to offset reductions in the valuation rates.

The 2002 Hunter Water Price Submission again considered alternative options to pricing stormwater and concluded them to be inappropriate as the risk of creating new irregularities was too high. Therefore, Hunter Water proposed to continue the phased reduction of the AAV component in an incremental fashion towards an end point of having fixed charges only. This approach did not rule out eventually relacing the property-value charges with some form of area-based charges. The Corporation recognised that this would not be possible in 2003/04 and 2004/05 because revenue from the property-value charges was still very high and a transfer of this revenue to an area-based charge would still produce significant adverse impacts on some customers.

The 2003 IPART Price Determination for Hunter Water endorsed this approach and AAV rates were further reduced coinciding with an increase in the service charge.

6.5 Proposed Path Forward

The progressive reduction in the property-value based charge since 2000 and the proposal to phase it out altogether have now created an opportunity to begin a progressive replacement of the property-value charge with a simple area-based charge for non-residential customers.

In order to reduce the impacts to customers that currently only pay the service charge and who will experience increases in their stormwater charges, it is proposed that the current AAV rate will be halved by the end of the price period. The approach also calls for limits on the annual price increases as a further measure to mitigate price shocks (details are provided below). Hunter Water considered options of eliminating the AAV charge totally during the proposed price path. However, the price impacts on certain customers, in the Corporation's view, were unacceptable.

The proposed revised approach also includes a new service charge structure, which will classify non-residential properties into area bands. The approach embodies the principle that links customers' potential to generate stormwater runoff, as reflected by land area, to recovering Hunter Water's costs of stormwater management.

It is timely to establish a revised approach so that it is well understood by the time the AAV charge is finally eliminated. Under the proposal presented here, the AAV charge would be eliminated completely during the subsequent price path (beginning in 2009/10). With service charges set on a more cost-reflective basis via the introduction of a link to property area, Hunter Water will be better placed to manage the transition away from the valuation-based approach.

The key elements of the proposed stormwater pricing framework are summarised as follows and described further below:

- A continuation of the phased reduction of the AAV-based charge from the present level of 1.25c/$ to 0.63c/$ by 2008/09
- The classification of non-residential stormwater customers into three new service charge categories based on property area
- The establishment of a specific service charge for each category, and
- The use of maximum charge increases for each service charge category to manage "rate shocks".

6.5.1 AAV Component

It is proposed that the AAV component be reduced to half of its present level over the four-year price path proposed in this submission. This is consistent with the trends established in previous price determinations. At present 22% of the stormwater charge income is from the AAV component, this will be reduce to 10% by the end of the proposed price path. The decline in income derived from this component will be recovered mainly through increases in the new area-based service charges.

The proposed AAV charges for a four-year price path are shown in Table 6.1. The table shows the percentage real reduction and indicates that further reductions leading to the elimination of the valuation-base charge will occur thereafter.

Table 6.1 Proposed Changes to Valuation-Based Charges *(2004$)*

Year	Valuation Charge (c/$ of valuation in 2004$)	Real Reduction on Previous Year
2004/05 (current)	1.25	14%
2005/06	1.09	12%
2006/07	0.94	14%
2007/08	0.78	17%
2008/09	0.63	19%

6.5.2 Non-Residential Service Charge

The present non-residential customer base comprises 1,027 properties billed on the basis of a service charge only and 2,575 properties billed a service charge plus an AAV-based charge. The service charged levied is common to both groups and presently stands at $42.31 per year. Based on the assumption that property area is correlated to run-off potential and that larger properties should shoulder a higher proportion of the stormwater management costs, it is proposed that separate service charges be defined for three categories of non-residential customers as show below:

- **Small properties less than 1,000 m^2**. These properties are approximately twice the size of a typical residential block. A threshold area of 1,000 m^2 captures approximately 1,763 properties or 49% of all stormwater customers.
- **Medium properties greater than 1,000 m^2 and less than 45,000 m^2**. This band captures a further 1,333 stormwater customers or 36% of the total.

- **Large properties greater than 45,000 m^2**. The upper band contains 44 (2%) of the non-residential stormwater customers. This category includes larger commercial, sporting and infrastructure-related properties.
- **Minimum Charge**. This category represents properties assessed to have a low area of impermeable surface and that are often large in area, for example farms and parks. This category has been included to distinguish between these properties with little or no impermeable areas and the highly developed larger properties in urban areas covered by impermeable surfaces (eg factories, commercial properties, shopping centres etc). It is proposed that properties like farms and parks be assessed at the rate applicable to small properties.

Table 6.2 shows the breakdown of properties by the proposed service charge categories.

Table 6.2 Breakdown by Proposed Service Charge Category

Category	Area Class (m^2)	Number of Properties		
		Service Charge Only	Service Charge + AAV	Total
Minimum charge [(a)]	n/a	269	193	462 (13.6%)
Small	< 1,000	235	1,528	1,763 (48.7%)
Medium	1,000 to 45,000	507	826	1,333 (36.2%)
Large	> 45,000	16	28	44 (1.5%)
Total		1,027	2,575	3,602 (100%)

(a) Charged at the small property category

6.5.3 Service Charge Determination

A model was developed to recover the target revenue over the service charge categories defined above whilst reducing the AAV charge to 0.63 c/$ over the proposed price path. The proposed stormwater services charges derived from this modelling are shown in Table 6.3 below.

Table 6.3 Proposed Stormwater Service Charges 2005/06 to 2008/09 *(2004$)*

	Current 2004/05	2005/06	2006/07	2007/08	2008/09
Residential	$42.31	$42.96	$43.63	$44.30	$44.98
Non-Residential					
- Small properties and minimum charge	n/a	$50.00	$66.67	$83.33	$100.00
- Medium properties	n/a	$100.00	$133.33	$166.67	$200.00
- Large properties	n/a	$3,874.00	$3,807.00	$3,741.00	$3,674.00

The proposal to introduce the area-based service charge for non-residential customers does not affect the charges for the residential sector. The residential stormwater annual charge is proposed to increase in real terms by only $2.67 or 6.3% over the four years of the proposed price path to $44.98 (2004$) in 2008/09.

The small non-residential properties and properties qualifying for the minimum charge initially would be charged at $50.00 per year increasing to $100 (2004$) by the end of the four-year period. Medium sized properties would be charged initially at $100.00 per year increasing to $200 (2004$) by the end of the four-year period.

Note that in relation to the non-residential service charge only customers, the above charges are subject to the charging rules described in Section 6.5.4 below. These rules limit the annual bill increase for these customers to reduce price shocks from the change from valuation-based charges to the simplified area basis. For the all other non-residential customers, an AAV based charge would be added to the charge above to determine the final annual bill. As outlined above, this AAV charge is reducing in real terms for each year of the price path.

6.5.4 Service Charge Application

Given that over 1,000 non-residential customers who came on line after March 1991 are currently paying only $42.31 annually (see Table 6.2), incidence analysis of the price shocks resulting from the revised service charge structure proposed above was carefully examined.

To manage the price shocks from introducing the area categories and reducing the valuation-based charges, a series of rules were developed to restrict the maximum annual bill increase per customer. These limits are shown in Table 6.4 below and only relate to those post-1991 (service charge only) customers.

As shown in Table 6.4, no limits are proposed for the maximum increase for small properties. Hunter Water believes that the level of these prices is reasonable and that the businesses should be able to bear the proposed increase in charges.

For the medium property category, the maximum increase for the first year of the price path is set at $50 (2004$), thereafter the increase in charges indicated in Table 6.3 is considered acceptable.

For the 16 large properties currently charged $42.31 per year (ie service charge only), a maximum increase of $500 (2004$) for each year of the price path is proposed.

Table 6.4 Maximum Annual Increase for Non-Residential Stormwater Customers *(2004$)*

Non-Residential Category	2005/06	2006/07	2007/08	2008/09
Small properties and minimum charge	n/a	n/a	n/a	n/a
Medium properties	$50	n/a	n/a	n/a
Large properties	$500	$500	$500	$500

7 THE WATER / SEWER / DRAINAGE PACKAGE

This section summarises the total pricing picture for each year of price path, including a discussion of the impact on a typical household customer.

7.1 Summary of Key Features

Hunter Water's proposals for the structure of its prices build on the pricing structure changes made in 2000 and 2003. As outlined in Section 3, this submission presents pricing proposals the four years to 2008/09 in line with Hunter Water's preference for a four-year price path.

The main features of the Hunter Water's combined water and sewer prices for the period from 2005/06 to 2008/09 are:

Water

- Overall price adjustments of CPI+3% for each year of the price path
- An annual increase of CPI+2.25% in usage prices to maintain the conservation signal in the usage charge
- Gradual increases in the current Tier 2 water price so that it is phased out by 2008/09, and
- Continuation of the location-based water prices introduced in 2001.

Sewer

- Overall price adjustment in line with CPI+3% for each year of the price path
- Continuation of the progressive introduction of minimum service charges for residential home units and flats. This continues the process begun in 2001 and foreshadowed in Hunter Water's submission to the 2000 price review to continue over more than one price path

  It is proposed that the minimum service charge be increased to $140 in 2005/06 rising to $185 in 2008/09. At this time the minimum charge will have reached the target of being equal to two-third of the charge applying to a standard residential house.

  As in the previous determinations, the annual increments would be a nominal $20 per year, except in the final year when the increment would be limited to that needed to achieve the target limit
- The sewer usage charge would remain unchanged in real terms at $0.42 per kilolitre. Hunter Water has decided to maintain the usage charges to act as part of the overall water conservation signal given the widespread concern over water supplies in the light of the ongoing drought, and
- Increasing the current Environmental Improvement Charge (EIC) and Sewer Service Access Charge (SSAC) in line with the CPI. These charges fund the backlog sewer program known as Hunter Sewerage Project and the Priority Sewerage Program work at Fern Bay. The existing EIC will be finish in 2008/09.

Stormwater Drainage

- A continuation of the phased reduction of the property-value based charge from the present level of 1.25c/$ to 0.63c/$ by 2008/09
- The classification of non-residential stormwater customers into three new service charge categories based on property area
- The establishment of a specific service charge for each category, and
- The use of maximum charge increase limits for each service charge category to manage "rate shocks".

7.2 Impact on a Typical Household Customer

The impact on a typical household customer consuming 210 kilolitres per year is summarised in Table 7.1 for a CPI+3% price cap. There would be an increase of around $13.50 (2.3%) in the first year of the price path (2005/06) due to the overall price adjustment of CPI+3%. This $13.50 increase is approximately 26 cents per week.

The typical household customer does not see the full 3% real adjustment of the price cap because some of the 3% increase is absorbed by the phased increase of the Tier 2 price. Over the four-year price path, the average residential bill would increase by 2.5% in real terms each year. After four years, the average residential bill will have increased by only $1.12 per week in real terms.

Table 7.1 Impact on a Typical Household Customer using 210 kilolitres per year *(2004$)*

	Current 2004/05	2005/06	2006/07	2007/08	2008/09
Water					
Service	$25.37	$27.80	$29.30	$31.00	$33.35
Usage	$212.10	$216.30	$222.60	$226.80	$231.00
Sewer					
Service	$239.35	$246.21	$253.30	$260.54	$270.04
Usage	$44.10	$44.10	$44.10	$44.10	$44.10
EIC	$48.95	$48.95	$48.95	$48.95	$48.95
Total	**$569.87**	**$583.36**	**$598.25**	**$611.39**	**$627.44**

Around 30% of the customer base live in areas serviced by Hunter Water's stormwater assets, and hence they also pay for stormwater services. Total bills in real terms for residential customers liable for stormwater charges will increase by around $2.70 in total over the four years of the proposed price path.

7.3 Impact on Non-Residential Customers

It is difficult to generalise about the incidence impacts of price changes on non-residential customers. This is because not all these customers are connected to the sewer system and because of the wide range of variations in connection size, water use, sewer discharge factors and trade waste composition – all of which are key parameters in determining the final bills of non-residential customers. However, Section 4 of this submission does include incidence analysis for water bills based on customer profiles used by the Productivity

Commission in its 2002 report on trends in Australian infrastructure prices. This report defines reference businesses as:

- Low water use business – 300 kilolitres per year and 20mm water connection
- Medium water use business – 3,000 kilolitres per year and 40mm water connection
- Medium / high water use business – 30,000 kilolitres per year and 40mm water connection, and
- Large industrial use – 300,000 kilolitres per year, 300mm water connection with no sewer connection.

For sewer services, all businesses are assumed to have an 80% discharge factor with the exception of the large industrial use group. Few high-use customers are connected to the sewerage system and therefore sewerage charges are not included for this group.

The incidence on this reference group is shown in Table 7.2.

Table 7.2 Non-residential Incidence (Water and sewer only) *(2004$)*

	Total Bill 2004/05	Total Bill 2005/06	Total Bill 2008/09	Real Average Annual Increase
Low use 300 kL	$812	$832	$896	+2.6%
Medium use 3,000 kL	$5,511	$5,645	$6170	+3.0%
Medium / high use 30,000 kL	$39,693	$40,637	$44,942	+3.3%
Large industrial 300,000 kL [(a)]	$272,788	$279,825	$303,504	+2.8%

(a) Water only - large industrial customers are generally not sewer customers so only water bills are included for this group. Calculated using the third tier prices for the Newcastle Highfields zone – a mid range zone for third tier prices.

As described in Section 6 of this submission, a number of changes are proposed to stormwater drainage pricing to remove the property valuation basis and correct other inequitable anomalies that have arisen over a number of years.

The incidence of the proposed charges on customers depends on:

- Whether the property is in a drainage area and therefore liable for charges
- Any pre-1991 property value attached to the property, and
- The size of the property in question.

The effect of the new stormwater proposals is generally to reduce charges for non-residential customers due to reductions in the property-value basis for these charges. However, some non-residential properties that have only been paying the basic service charge will be liable for increases in the drainage service charge as outlined in Section 6. Where properties are liable for increases, a maximum annual increase will apply in order to limit the effect of any price shock. The limits are detailed in Section 6.5.4.

8 TRADE WASTE CHARGES

The trade waste charges proposed for the period 2005/06 to 2008/09 are based on the same methodology as adopted in the current price path.

Overall, there are reductions to the basic trade waste charge in eight of Hunter Water's 17 wastewater treatment plant catchments.

Trade waste charges represent a total income of around $2.1m. While there has been some increases and decreases for different components the overall income has essentially reduced by 4%.

There are two components to trade waste charges:

1. *Recovery of treatment capacity and treatment costs at Hunter Water's wastewater treatment plants. This represents around 82% of the total trade waste charges, and*
2. *Recovery of administration costs in managing trade waste customers, contracts, invoicing etc. This represents about 18% of the total trade waste charges.*

The proposed trade waste charges do not include any new charges associated with treating waste. We have taken the opportunity however to repackage how we recover the administrative costs. This is to ensure greater transparency and that the recovery of administrative costs is better aligned with service delivery.

The derivation of the charges outlined in this section is on the understanding that trade waste charges will be subject to the CPI increases over the proposed price path.

8.1 Background

Trade waste charges were initially determined in 1994 and were based on a cost-reflective fee being set for the receipt and treatment of waste to standards acceptable for discharge.

The calculation of trade waste charges for individual wastewater treatment plants is a function of a number of factors, which can vary over time. These factors include treatment plant operating costs, the capital costs of the wastewater treatment works, and to a lesser extent, administration costs and load-based licensing (LBL) fees that are charged by the DEC and are increasing over time.

The philosophy underlying the DEC's LBL fees is that water agencies will either need to pay the costs of treating wastewater to high standards and avoid paying higher LBL fees or have lower standards of treatment and pay higher LBL fees. Trade waste customers therefore need to either pre-treat their waste to a high acceptable discharge standard and reduce the load on Hunter Water's system or contribute to the costs of Hunter Water achieving higher levels of treatment, including a portion of the LBL fee, where this is applicable.

Due to the generally high level of treatment in Hunter Water's wastewater treatment plants, the LBL fees applicable to the Corporation will be minimised, therefore the DEC's LBL fees, although generally increasing, have a only a small direct effect on trade waste customers.

Because the inputs to the determination of trade waste charges can vary over time, it is necessary to review and update trade waste charges regularly, particularly where wastewater treatment plants are upgraded or new ones are built and others are decommissioned. Later discussion in this section outlines changes to charges from a review carried out for this submission.

Hunter Water's trade waste functions are now managed as part of the Business and Urban Development Group. As part of this change, the Corporation has taken the opportunity to repackage the fees to recover administration costs associated with trade waste. The redefined administration fees are now more transparent and better aligned with actual service delivery.

8.2 Approval of Trade Waste Charging Methodology

In 1994, Hunter Water developed the trade waste charging methodology based on trade waste costing and pricing principles outlined in the report titled *National Water Quality Management Strategy for Acceptance of Trade Waste, August 1992.* This methodology was reviewed externally by the Hunter Valley Research Foundation and, following some minor changes, trade waste charges were developed from the methodology and submitted to IPART. Based on that methodology, the trade waste charges were determined by IPART and adopted by Hunter Water.

Although some enhancements were made to the original methodology in 2000, it remained essentially the same and is based on the costs of accepting and treating trade waste at Hunter Water's wastewater treatment plants.

By far the most significant costs associated with accepting trade waste are the operating and associated capital costs for each wastewater treatment plant. As previously stated, it is necessary to review and update trade waste charges on a regular basis due to changes in the operating costs of our wastewater treatment plants and the regulatory environment in which Hunter Water operates. In particular, the upgrade of wastewater treatment plants to comply with DEC licence conditions and pollution reduction programs have significant impacts on the costs of accepting and treating trade waste at these plants.

Because Hunter Water has almost completed a program of upgrading its wastewater treatment plants, there are less new capital cost impacts than in previous years leading to less significant changes in the charges. However, a number of amplifications will continue into the future and the relevant costs are incorporated into the charge rates.

The methodology includes provision for the following trade waste charges:

- BOD / NFR
- Heavy metals
- Phosphorus
- Tankered waste, and
- Miscellaneous administration fees.

The total income from trade waste charges for the next price path is estimated to be around $2.1 million per year. While the total overall income is about the same as that currently received, there are some increases and decreases for individual component charges. This reflects variations in actual costs associated with individual treatment plants. Hunter Water has reviewed the charges and does not consider that they will result in significant impacts on individual customers.

8.3 Overview of Proposed Charges

8.3.1 BOD / NFR Strength Charges

The basic component of Hunter Water's trade waste charging arrangements is the biological oxygen demand (BOD) / non-filtrable residue (NFR) charge. Separate BOD / NFR charges apply to each of Hunter Water's 17 wastewater treatment plant catchments reflecting treatment cost differences.

BOD / NFR charges apply when the strength of the waste load exceeds that which is typical of residential (domestic) waste. The cost of treating that load is passed on to the trade waste dischargers via the treatment charge identified as BOD / NFR. The BOD / NFR charge is applied to whichever of either the BOD or NFR makes up the higher load in the waste from an individual customer.

Hunter Water proposes that no major changes be made to the BOD / NFR methodology. However, there have been some increases and decreases for individual treatment works reflecting changes in their cost structure. There increases to the proposed BOD / NFR charge for nine catchments, with reductions the proposed charge for the other eight catchments.

The movement in costs and loads affects the unit rate applied in each catchment. Not all of these catchments have trade waste dischargers and a total BOD / NFR trade waste income assessment shows a 6.3%, or $85,355, reduction on the 20004/05 current charges when using the same load projections.

In the catchments where charges will increase, the increases are due in part to the upgrade of a number of wastewater treatment plants in recent years to comply with DEC licensing conditions to achieve higher effluent quality standards.

As mentioned above, the high level of treatment achieved at Hunter Water's wastewater treatment plants means that the LBL fees charged by the DEC have a small but increasing effect on trade waste customers. The methodology for trade waste charges includes DEC LBL fees and allocates these fees on a treatment plant catchment basis. These LBL fees have increased overall in comparison to those applying at the time of the previous submission. However, for some plants, there have also been reductions due to the increased performance of the upgraded works.

The proposed charges to apply from 1 July 2005 are shown in Table 8.1. This table also compares the proposed charges with those currently applying in 2004/05. The derivation of the charges listed in Table 8.1 makes no allowance for the effect of inflation and the charges should be increased annually in line with the CPI.

8.3.2 Heavy Metal Charges

The current heavy metal charge has been calculated using the established methodology as previously approved by IPART. The charge is based on the costs associated with environmental monitoring, sludge and effluent / influent heavy metal monitoring, a portion of the LBL fees and the administration costs for wastewater treatment plants and the Corporation's trade waste staff. These latter costs are only for those administration costs associated with accepting heavy metals.

The charge is based on the total mass of heavy metals discharged into Hunter Water's sewerage system from local industries. Due to the low level of metals discharged to sewer from local industries, and the high level of treatment at the Corporation's wastewater

treatment plants, the DEC load-based licensing metal fees are generally low and have reduced when compared to those applying at the time of the last pricing submission.

It is proposed to continue with the structure of two metal fees, one for the Burwood Beach treatment plant catchment and one for all other catchments. This difference is due the different treatment process at Burwood Beach and difference in DEC load-based licence fees between the Burwood Beach plant and other plants.

The proposed trade waste metal charges represent a net decrease of in revenue of $1,670 when compared on the same load basis with the current charges. The price variation has resulted from various factors with the main one being a reduction in metal LBL fees at Burwood Beach.

The proposed charges are shown in Table 8.2. The derivation of the heavy metal charges makes no allowance for the effect of inflation and the charges should be increased annually in line with the CPI.

8.3.3 Phosphorus Charges

Phosphorus charges were included in the trade waste charges determined for Hunter Water in 2000. Recent requirements by DEC to reduce phosphorus levels discharged from inland wastewater treatment plants have resulted in additional costs in treating and removing phosphorus. The costs associated with treating phosphorus discharges from industries are made up of the following components:

- Capital costs of chemical dosing facilities and operating costs of these facilities
- The use of chemicals and administrative costs associated with accepting the discharge of phosphorus into the sewerage system, and
- Costs associated with DEC load-based licensing fees (where applicable).

LBL phosphorus fees are relatively low for most inland wastewater treatment plants because phosphorus removal facilities are part of the treatment process.

The phosphorus charge has reduced slightly when compared with the 2004/05 rate and represents a relatively small component of the total trade waste income.

The proposed charges to apply from 1 July 2005 are shown in Table 8.2. This table also compares the proposed charges with those applying in 2004/05. The derivation of the charges makes no allowance for the effect of inflation and the charges should be increased annually in line with the CPI.

8.3.4 Sulphate Charge

In 2003, IPART determined a new charge for non-domestic customers who discharge sulphate. This charge applies in all catchments. Trade waste dischargers of sulphate contribute to the production of sewerage gases and odours within the sewer transport system (ie the sewerage pipe and pump station network). Most sewer odour problems are due to the presence of hydrogen sulphide.

The concentration of the gaseous hydrogen sulphide is related to the level of dissolved sulphides present in the sewage. Sulphates are converted to sulphides under anaerobic conditions. The presence of these gases can lead to customer complaints about odours and Hunter Water spends over $1 million each year on odour control due to gas production.

Furthermore, sulphides lead to corrosion of fittings in pump stations and treatment works while attacking concrete structures within the sewerage system overall. Sulphides not only cause considerable damage and lead to significant maintenance costs but also pose occupational health and safety hazards for Hunter Water's operators.

Since the production of these gases is generated under a range of conditions, which vary with pH, flows and temperature, it is difficult to develop an accurate cost-reflective charging methodology. It is more appropriate to adopt an incentive charge to encourage dischargers to minimise sulphate levels in their wastewater. The IPART approved Sydney Water sulphate incentive charge was adopted as Hunter Water's charge rate in 2003. The proposed charge is as follows (2004$ terms):

$\{0.11 \times (SO_4/2000)\}$/kg

This sulphate price applies to trade waste dischargers who discharge higher sulphate concentrations than domestic customers. The charge incorporates a nominal minimum price at the sulphate (SO_4) concentration equal to the national acceptance standard of 2,000 mg/L and this charge increases as the sulphate concentration increases. The converse is the result when the concentration is lower than the national standard. This charge only applies to a small number of customers.

As with other charges, the sulphate charge should be increased annually in line with the CPI. That is, for 2005/06 the 0.11 factor in the formula above would be increased by the CPI.

8.3.5 Tankered Waste Fees

In 2000, IPART also approved tankered waste fees. Currently a number of different types of waste are transported to Hunter Water's wastewater treatment plants for treatment, including septic tank effluent and sludge, portable toilet waste and tankered industrial waste. The tankered waste charges are made up of the following components:

- A portion of the capital and operating costs of the treatment plants, which takes into account the strength of the waste received at the plants
- The capital costs of specific equipment installed to accept tankered waste, and
- Administration costs associated with managing tankered waste.

In the 2002 submission, Hunter Water completely revised the tankered waste charges. A standard charge for accepting septic tank waste and portable toilet waste at all wastewater treatment plants was adopted rather than a differential charge for each catchment.

Septic tank waste is essentially domestic waste in a more concentrated form. It is therefore considered in a similar way to the acceptance of domestic sewage from customers connected directly to the sewerage system, except that it incurs higher charges due to its higher strength. A recent review of sample results from tankered wastes has found slightly reduced levels of contaminant concentrations when compared with samples taken in 2002. For this submission, the contaminant concentrations on which the tankered waste charges are based have been reduced to the typical values found in the recent review. As a result, the charges have decreased.

Currently, all tankering fees are volume-based and these volume charges include a component to cover administration costs. This approach does not reflect the actual nature of the administration costs. For the new price path, Hunter Water is proposing to move some administrative costs from the volume-based waste charges to new, separate administration fees.

The new administration fees are a fixed “monthly tanker invoicing fee” of $20 and a “docket delivery fee” of $2 per tanker delivery to a treatment plant. This approach introduces a two-part tariff approach to invoicing for the administration of tankered waste. The monthly tanker invoicing fee covers the basic invoicing costs, ensuring that the cost of invoicing operators who only make a small number of deliveries each month are covered. The docket delivery fee introduces a transaction volume component to administration fees by adding a charge for each delivery. Using this fee structure, operators who make many deliveries each month pay a greater proportion of the administration costs than those who only make a small number.

These new fees have been included to better align the costs with service delivery and the fees charged to other trade waste customers. This is expected to have minimal impact overall on the tanker customers.

8.3.6 Permit Establishment and Inspection Fees

Trade waste permit fees cover the cost of negotiating and administering trade waste permits for over 2,200 customers. A detailed review has been undertaken of all trade waste administration costs along with a complete review of charges for the actual business functions undertaken. As a result, the administration charges have been repackaged to achieve greater transparency and to more accurately align the recovery of actual costs with service delivery.

The existing permit fee is low when compared to other major metropolitan water authorities, because Hunter Water’s permit fee does not include auditing/monitoring and analytical costs. A number of other water authorities incorporate a monitoring and analytical cost component in the permit fees, which significantly increases this fee. However, Hunter Water charges for monitoring separately with analytical costs also separately charged on a per-service basis.

In this submission, the Major Permit annual fee is reduced due to the introduction of a new once only individual Major Permit establishment fee. The new establishment fee is single fee charged only when a new permit is issued and to cover the costs of generating a new permit.

The new establishment fee also replaces an existing “do-and-charge” hourly rate for establishment negotiations, when these take more than 10 hours. Many of the major permits are for industries with complex processes that generate unacceptable contaminants. These sites require considerable effort to establish the permit with acceptable conditions for both the customer and Hunter Water. However, the do-and-charge negotiation fee was difficult to administer and the new establishment fee represents an average cost and is considered easier to manage.

Also, until now, the costs associated with renewal of Major Permits were also included in the annual fee. A lesser fee for renewal is now proposed and will be charged only when the permit is renewed. Permits are only renewed on change of business ownership or business activity.

A new “Inspection Charge” is proposed as a single fixed charge per inspection replacing a time-based, do-and-charge rate. This change will save costs now incurred in input processing and billing the individual times of the inspections. Because the majority of inspections are longer than 30 minutes, the new single fee will mean that inspection costs for most customers will be reduced.

A similar fee structure applies for the Minor Permit annual fee and represents a slight increase to reflect the costs in administering minor permits. The are no inspection fees for

minor permits because the proposed annual permit fee for minor trade waste customers assumes a random inspection per year for 25% of minor permit holders.

The proposed trade waste permit fees described above are summarised in Table 8.2. It is assumed the charges will be indexed by the CPI each year during the proposed price path.

8.4 Customer Impacts

Overall, there will be minimal adverse impacts on customers due to the proposed changes to trade waste charges. In relation to heavy metals and phosphorus fees, in particular, the impact on individual customers will be insignificant.

Table 8.1 and Table 8.2 show a comparison between the current fees and those proposed. It should be remembered that not all of the wastewater catchments have trade waste customers to incur high strength charges. Of the catchments that do, eight will have reduced charges and only four will increase.

For BOD / NFR fees, a significant number of customers will gain a reduction in their fees while others will be subject to a minimal increase. Sulphate and phosphorus charges are only applied to a small number of customers. Septic tank waste fees will decrease across all waste types. For portable toilet waste, the slight increase will have little impact due to the small volume involved.

Table 8.1 Trade Waste Strength Charges for BOD / NFR (whichever has the highest load) *($/kg 2004$)*

WWT Plant Catchment	Current 2004/05	Proposed 2005/06 – 2008/09
Belmont	$2.31	$2.09
Boulder Bay	$2.44	$2.63
Branxton	$3.58	$3.80
Burwood Beach	$1.93	$1.81
Cessnock	$2.12	$2.43
Dora Creek	$2.83	$2.31
Edgeworth	$2.32	$2.10
Farley	$2.25	$1.88
Karuah	$10.33	$12.39
Kearsley	$3.35	$3.75
Kurri Kurri	$3.14	$3.28
Morpeth	$2.39	$2.29
Paxton	$6.78	$6.80
Raymond Terrace	$2.95	$2.73
Shortland	$2.64	$2.70
Tanilba Bay	$2.37	$3.25
Toronto	$2.30	$2.22

Table 8.2 Trade Waste Charges *(2004$)*

Trade Waste Fee	Description	Current 2004/05	Proposed 2005/06 – 2008/09
Major Permit	Establishment Fee	Included as part of Annual Permit Fee. Additional for negotiation >10hrs at $88.59 / hr	$790.00
	Renew Permit	Previously included in Annual Permit Fee	$585.00
	Annual Permit Fee	$388.32	$312.00
	Inspection Fee	$67.58 for the first 30mins or part thereof and $39.24 for each additional 30mins or part therefore.	$91.00
Minor Permit	Establishment Fee	$117.04	$143.00
	Renew Permit	Previously included in Annual Permit Fee	$106.00
	Annual Permit Fee	$94.05	$101.00
	Inspection Fee	When done, same as for Major Permit Fee	n/a – Included in Annual Permit Fee random inspection
Heavy Metal Charge	Burwood Beach WWTW Catchment	$36.46 / kg	$28.84 / kg
	All other Catchments	$23.85 / kg	$23.64 / kg
Phosphorous	All WWTW Catchments for concentrations >11mg/L	$3.80 / kg	$2.77 / kg
Sulphate		{$0.11x($SO_4$/2000)}/kg	{$0.11x($SO_4$/2000)}/kg
Tankering Permit	Establishment Fee	Previously recovered via volume charges	$143.00
	Renew Permit		$106.00
	Monthly Tanker Invoicing Fee		$20.00
	Delivery Processing Fee (per delivery docket)		$2.00
Portable Toilet	All WWTW Catchments	$13.63 / kL	$14.41 / kL
Septic Effluent		$3.33 / kL	$3.02 / kL
Sludge*	* Sludge is defined as septic waste which has a BOD / NFR >7500 mg/L ie >50% sludge	$37.26 / kL	$27.87 / kL
High Strength Waste	All WWTW Catchments Volume Charge	$2.75 / kL	$2.55 / kL
	Plus	+	+
	BOD / NFR Strength Charge based on load	Individual WWTW Strength Charge	Individual WWTW Strength Charge

WWTW = wastewater treatment works

9 MISCELLANEOUS CHARGES

Hunter Water's miscellaneous charges are set to recover costs of providing administrative and other services that are monopoly or non-contestable services provided exclusively by Hunter Water.

Miscellaneous charges fall broadly into two categories:

- *Administrative and application processing services provided by the **Customer Services** Group relating to a range of activities at individual properties eg water / sewer connection fees, meter tests, service location diagrams etc, and*
- *Administrative and application processing services provided by the **Business and Urban Development** Group relating to new developments eg advice on servicing requirements, available pressure statements, design reviews etc.*

In preparing the fee structure for the next four years, Hunter Water has taken the opportunity to review its business processes to ensure costs are aligned with service delivery. This has identified the need to:

- *Include some additional time and associated costs for some services. For example, it has been identified that input from technical specialists from other areas within Hunter Water has not previously been fully recovered for some services, and*
- *Introduce some new fees to reflect changes expected in service delivery over the term of the proposed price path.*

In summary the total annual income expected from the proposed miscellaneous charges is:

- *$0.9m from Customer Services charges (19.8% overall increase), and*
- *$2.9m from Urban Development charges (13% overall increase).*

The majority of Customer Services related charges are relatively low dollar value fees for service and while there have been increases in some, the proposed charges are still relatively low.

For the Urban Development related charges, the increases primarily reflect the recovery of technical input on design type reviews. It is considered the new charges will not significantly impact individual customers.

The price submission is framed in 2004$ and assumes that the charges will be increased by the CPI during the term of the proposed price path.

9.1 Introduction

This section of Hunter Water's submission relates to miscellaneous charges, which constitute around $3.8m or 2.7% of Hunter Water's total annual revenue. In line with the user-pay philosophy, they have been reviewed to reflect the current services provided and the cost structures associated with providing these services.

As part of the last determination, IPART defined a pricing model to ensure a consistent approach across all of the water agencies for miscellaneous charges. The pricing model contains the following components:

- Direct labour hours including oncost
- Business unit overheads, and
- Materials where material costs are incurred.

Also as part of the last price determination, a common set of core services provided by all four agencies was developed to achieve a higher level of commonality between the miscellaneous services provided by the four agencies. As a result, there are now 20 services that are commonly defined across the four agencies. The common numbering system derived by IPART has been used in this submission.

Hunter Water's miscellaneous charges proposed for the price path commencing in 2005/06, including the derivation of each individual charge, are outlined in Appendix 5. In accordance with the IPART pricing model, the proposed charges are essentially based on a cost-reflective methodology, with an hourly rate for the level of officer considered necessary to carry out the task. The charges also include salary and business unit overheads and material costs.

The proposed charges in this section are quoted in 2004 terms and should be increased annually in line with the CPI.

The miscellaneous charges fall broadly in two areas:

- Customer Services – these are charges for largely administrative services with individual properties such as special meter readings, provisions of sewer location diagrams etc. The Customer Service charges are summarised in Appendix 6, which shows the existing and proposed charges as well as the predicted income for each charge, and
- Urban Development – these are charges to cover the administrative costs associated with managing potential new developments. They are not recovered through developer charges. The Urban Development charges are summarised in Appendix 7, which shows the existing and proposed charges as well as the predicted income for each charge.

The key elements of Hunter Water's submission on miscellaneous charges are as follows.

9.2 Customer Service Charges

When compared to the current list of customer services miscellaneous charges, there are a number of changes proposed for this upcoming price path, as follows:

- 5 new charges which introduce a new revenue stream of around $80,000 per year
- The existing charges have been reviewed with the following outcome:
  - 14 charges have increased
  - 3 charges have decreased
  - 3 charges have components within that have increased and decreased
  - 2 charges have remained the same, and
  - 2 existing charges have been deleted.

In a few cases, there is a significant increase in the projected quantity of some functions resulting in an increase in predicted revenue. The increases in quantity result from process improvements to ensure better capture of some miscellaneous services. It is also worth noting that that, in some cases, a new lower charge is proposed for delivering some services electronically. Overall, the net revenue increase is around $80,000.

The details of the new charges are as follows:

Service No	Function	Description
28	Application for a Metered Standpipe	This is a new fee that is designed to recover the significant costs associated with managing the application process and approval to use a metered standpipe. Standpipes are issued by Hunter Water to approved operators for the purpose of operating their own business eg road works, landscaping, construction, water cartage etc. Following a recent review of standpipe management, Hunter Water has implemented improved systems to manage the hire and use of standpipes by private operators across the Corporation's area of operations. The introduction of this fee separates the one-off application processing fee from the ongoing standpipe hire charges.
29	Meter Affixture	Hunter Water plans to introduce a new system for installing 20 and 25mm water meters on customers' properties (new connections) towards the end of 2005. Currently, meters are collected from Hunter Water's Customer Centres by the customer or their agent for installation / affixing at individual properties. Problems arise when the issued meters go missing, don't get affixed, are affixed to the wrong property etc and this leads to rectification costs, further administration and customer complaints. Under the new system, meters will be installed at the property by Hunter Water.
30	Inspection of non compliant meters	This relates to the inspection of properties to assess requirements for making a meter accessible and / or where a second inspection is required for strata metering (where initial application was non-compliant). Note, this is a separate fee to miscellaneous charge number 25 'Water Meter Re-Read'.
31	Special Inspections	Cost recovery to inspect rainwater tanks and water cartage storage tanks to ensure there is adequate backflow protection for Hunter Water's supply system. Also for inspecting temporary toilet connections to the sewer system at large building sites to ensure connection in accordance with plumbing code and for public health purposes.
32	Connection to or building over / adjacent to a stormwater channel for a single residence	Processing of applications from customers connecting a single residence to a stormwater channel or erecting a single residence over a stormwater channel held by Hunter Water.

In summary, taking into account the new charges and the changes in existing charges, there is a net increase of approximately $150,000 in predicted revenue from miscellaneous charges associated with customer service function of which approximately $80,000 is from the new charges. Total income from the customer services miscellaneous charges for 2005/06 is projected to be around $900,000 (see Appendix 6 for details).

9.3 Urban Development Charges

There are 29 development related charges proposed, of which 5 are within the group of services commonly defined by IPART in consultation with the four agencies. Income from these charges is projected to total $2.88m, which is around 2% of Hunter Water's total revenue. The common numbering system derived by IPART has been used.

The structural base for the urban development miscellaneous charges reflects the recovery of costs for the administration of development applications and associated services. Core, high volume charges have been kept similar in real terms to the current charges, while some low volume services have been adjusted to more accurately reflect the time and effort required to provide these services. Charges represent services provided for an average application.

When compared to the current list of charges, there are:

- 2 new charges
- 2 charges that have been repackaged by being split into 2 separate charges each, and
- 24 existing charges that have been reviewed.

9.3.1 New Charges

The new charges are as follows:

Service No	Description
54	Indicative Requirements Fee
55	Strategy Review

Some developers require advance advice of a development proposal. A proposed new "Indicative Requirements Fee" would cover techncial assessment of a proposed development and general advice on the level of developer servicing plan charges. To process a preliminary application, advice is often sought from the Planning section of Hunter Water regarding available system capacity and the requirement for augmentation works to the existing systems.

A lot of new development is occurring on urban fringes and, in these areas, there may be a number of options for connection to the existing water and sewer systems. In these situations, Hunter Water requires developers to provide a servicing strategy covering options for connection to the Corporation's systems. The strategies are detailed engineering documents and Hunter Water needs to review the strategies before agreeing to connection. A new fee for a "Strategy Review" is proposed to recover the cost of specialist technical input in reviewing strategies prepared by developers.

9.3.2 Repackaged Charges

Two previous charges (hydraulic assessment and application fees) have been repackaged to offer more equitable fees for more routine processes compared to the more complex processes.

The repackaged charges are as follows:

Service No	Description
Repackaged Hydraulic Assessment Fees:	
34	Hydraulic Assessment Application (Less than 80mm service)
56	Hydraulics Assessment Application (80mm service or above)
Repackaged Application Fees:	
41	Application Fee – Section 50
53	Remote Application Fee

It is proposed that the current hydraulic design assessment fee be repackaged into 2 separate charges to better reflect the different level of work and modelling required for small (less than 80 mm) and large diameter water services.

Large proportions of some of the local government areas that make up the Corporation's area of operations are not physically served by Hunter Water's water and sewer systems. Nevertheless, local government planning regulations require all new developments to obtain a compliance certificate (Section 50) from Hunter Water regardless of whether the property will or will not connect to the Corporation's water and / or sewer system. Currently Hunter Water has a single standard application fee for all developments – both those that connect to water and sewer systems and those that are required to obtain a certificate for local government approval purposes only.

It is proposed to repackage this fee to recognise that, in addition to standard applications, there are applications for development remote from Hunter Water's services and for developments still subject to approval processes by councils. Thus, it is proposed to repackage the current "Application Processing Fee – Section 50" as an "Application Fee – Section 50" and a "Remote Application Fee" attracting a lower charge.

9.3.3 Activity levels

Over the past two years, since the previous submission, there has been a significant increase in development activity. This high level of activity is expected to continue over the next three to four years. The charges estimated in the proposal are based on a higher level of applications, compared to last submission (1,886 compared to 1,477 applications). The base activity level used is however about 5% lower than the most recent high levels.

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MAJOR PROJECTS WITH FORECAST EXPENDITURE >$1m 2005/06 to 2008/09

Project	Total Project Cost ($m)	Expenditure ($m)					
		2005/06	2006/07	2007/08	2008/09	Total 2005/06 to 2008/09	Subs. Years
Wastewater Treatment							
Upgrade of Cessnock WWTW	16.6	8.0	5.0	-	-	**13.0**	-
Upgrade of Belmont WWTW	12.0	1.0	8.0	3.0	-	**12.0**	-
Upgrade of Dora Creek WWTW	9.1	0.31	2.2	6.4	-	**8.91**	-
Dora Creek WWTW Effluent Pipeline	8.1	-	0.2	5.9	2.0	**8.1**	-
Upgrade of Ray Terrace WWTW	4.33	0.23	1.5	2.6	-	**4.33**	-
Upgrade of Boulder Bay WWTW	3.38	0.38	2.0	1.0	-	**3.38**	-
Upgrade Edgeworth WWTW Inlet Works	1.5	-	0.5	1.0	-	**1.5**	-
Upgrade of Branxton WWTW	1.62	-	-	0.54	0.88	**1.42**	0.2
Farley WWTW DAF Plant	1.07	-	0.05	1.02	-	**1.07**	-
Wastewater Transport							
Newcastle System Upgrade Works	74.0	9.96	16.0	7.0	3.3	**36.3**	37.7
Priority Sewerage Program	30.1	9.03	6.39	8.5	4.64	**28.5**	-
Beresfield System Upgrade Works	23.6	0.7	11.08	1.4	1.2	**14.4**	9.2
Warners Bay-Valentine System Upgrade Works	21.4	8.11	0.5	-	-	**8.61**	-
Dudley-Charlestown System Upgrade Works	11.0	0.15	0.5	1.83	3.5	**5.98**	5.02
Cardiff No 1 System Upgrade Works	10.5	1.15	0.35	0.75	2.0	**4.25**	5.9
Dora Creek System Upgrade Works	9.9	0.03	0.37	1.04	2.0	**3.44**	6.5
Cessnock System Upgrade Works	3.41	0.1	0.49	0.98	1.17	**2.74**	0.67
East Maitland System Upgrade Works	4.37	-	-	0.5	1.95	**2.45**	1.92

Project	Total Project Cost ($m)	Expenditure ($m)					
		2005/06	2006/07	2007/08	2008/09	Total 2005/06 to 2008/09	Subs. Years
Upgrade of Cessnock No 1 WWPS	2.6	2.4	-	-	-	**2.4**	-
Edgeworth/Killingworth System Upgrade Works	4.62	0.65	0.85	0.8	0.06	**2.36**	2.1
Ray Terrace System Upgrade Works	1.9	0.12	0.41	0.79	0.46	**1.78**	0.12
Redhead WWPS Upgrade	1.8	0.35	1.0	0.4	-	**1.75**	-
Boat Harbour No 4 WWPS Upgrade	1.61	-	0.15	0.66	0.8	**1.61**	-
Belmont-Blacksmiths System Upgrade Works	2.19	0.41	0.36	-	0.67	**1.44**	0.67
Medowie System Upgrade Works	1.85	0.05	0.26	0.22	0.78	**1.31**	0.54
Toronto System Upgrade Works	5.5	-	-	0.6	0.61	**1.21**	3.1
Swansea East System Upgrade Works	3.07	-	0.21	0.05	0.85	**1.11**	1.96
Water Supply							
CTGM Replacement Tarro to Shortland	10.4	0.4	1.0	6.0	3.0	**10.4**	-
Kooragang Island 1350 trunk main	10.8	-	0.3	1.0	6.5	**7.8**	3.0
New 30 MLD Tomago WPS	4.0	-	0.2	0.8	2.0	**3.0**	1.0
Grahamstown Dam Augmentation	16.7	2.9	-	-	-	**2.9**	-
Boat Harbour Reservoir	2.5	0.05	0.15	0.5	1.8	**2.5**	-
Buttai to Telarah trunk mains	10.0	-	-	0.15	2.0	**2.15**	7.85
Upgrade of Wallsend WPS	2.03	-	0.82	1.21	-	**2.03**	-
Stoney Pinch to Ashtonfield trunk mains	2.04	0.1	0.87	1.07	-	**2.04**	-
Harpers Hill Reservoir	2.02	-	0.1	0.61	1.31	**2.02**	-
Speers Point/Macquarie Hills System Upgrade	2.0	0.1	0.8	1.1	-	**2.0**	-
Four Mile Creek to Thornton North trunk mains	1.53	0.1	0.5	0.93	-	**1.53**	-
Augment Lookout Reservoir or Lambton WPS	1.53	-	0.1	0.51	0.92	**1.53**	-
Cameron Park Reservoir	1.43	0.4	0.93	0.1	-	**1.43**	-
CTGM Replacement Tarro to Beresfield WPS	4.59	0.15	0.2	-	1.0	**1.35**	3.2

Project	Total Project Cost ($m)	Expenditure ($m)					
		2005/06	2006/07	2007/08	2008/09	Total 2005/06 to 2008/09	Subs. Years
Mt View Rd WPS Upgrade	1.02	-	0.1	0.61	0.31	**1.02**	-
Weston Booster Upgrade	1.0	-	0.1	0.41	0.9	**1.0**	-
Anna Bay 300mm trunk main	1.01	0.08	0.3	0.63	-	**1.01**	-
Dora Creek WPS	1.0	0.05	0.6	0.35	-	**1.0**	-
Dungog WTP Organic Removal	1.52	-	-	0.02	1.0	**1.02**	0.5
Other							
Fleet Purchases (annual provision)		1.7	1.7	1.7	1.7	**6.8**	1.7 pa
Head Office Relocation	20.5	4.62	-	-	-	**4.62**	-
IT – Hardware and Software Purchases (annual provision)		0.95	0.85	0.85	0.85	**3.5**	0.85 pa
Meter Replacements (annual provision)		0.75	0.75	0.75	0.75	**3.0**	0.75 pa
IT – CIS Upgrade	5.1	1.83	-	-	-	**1.83**	-

MAJOR PROJECTS WITH FORECAST EXPENDITURE >$1m 2005/06 to 2008/09 – OVERVIEW OF PURPOSE

Project	Total Exp. 05/06 to 08/09 ($m)	Purpose				Comment
		Growth	Mandatory Standards *	Business Decisions	Government Programs	
Wastewater Treatment						
Upgrade of Cessnock WWTW	**13.0**	25%	75%			To meet higher DEC effluent quality standards and to cater for growth.
Upgrade of Belmont WWTW	**12.0**	100%				To cater for growth.
Upgrade of Dora Creek WWTW	**8.91**	100%				To cater for growth.
Dora Creek WWTW Effluent Pipeline	**8.1**	100%				To cater for growth.
Upgrade of Ray Terrace WWTW	**4.33**	100%				To cater for growth.
Upgrade of Boulder Bay WWTW	**3.38**	100%				To cater for growth.
Upgrade Edgeworth WWTW Inlet Works	**1.5**	100%				To cater for growth.
Upgrade of Branxton WWTW	**1.42**	100%				To cater for growth.
Farley WWTW DAF Plant	**1.07**	50%	50%			To meet DEC effluent quality standards and to cater for growth.
Wastewater Transport						
Newcastle System Upgrade Works	**36.3**	10%	90%			To reduce wet weather overflow impacts on customers and the environment, and to cater for growth.
Priority Sewerage Program	**28.5**				100%	Provision of backlog sewerage under the State Government's Priority Sewerage Program
Beresfield System Upgrade Works	**14.4**	30%	70%			To reduce wet weather overflow impacts on customers and the environment, and to cater for growth.

Project	Total Exp. 05/06 to 08/09 ($m)	Purpose				Comment
		Growth	Mandatory Standards *	Business Decisions	Government Programs	
Warners Bay-Valentine System Upgrade Works	**8.61**	37%	63%			To reduce wet weather overflow impacts on customers and the environment, and to cater for growth.
Dudley-Charlestown System Upgrade Works	**5.98**	33%	67%			To reduce wet weather overflow impacts on customers and the environment, and to cater for growth.
Cardiff No 1 System Upgrade Works	**4.25**	37%	63%			To reduce wet weather overflow impacts on customers and the environment, and to cater for growth.
Dora Creek System Upgrade Works	**3.44**	100%				To cater for growth.
Cessnock System Upgrade Works	**2.74**	60%	40%			To reduce wet weather overflow impacts on customers and the environment, and to cater for growth.
East Maitland System Upgrade Works	**2.45**	30%	70%			To reduce wet weather overflow impacts on customers and the environment, and to cater for growth.
Upgrade of Cessnock No 1 WWPS	**2.4**	60%	40%			To reduce wet weather overflow impacts on customers and the environment, and to cater for growth.
Edgeworth/Killingworth System Upgrade Works	**2.36**	37%	63%			To reduce wet weather overflow impacts on customers and the environment, and to cater for growth.
Ray Terrace System Upgrade Works	**1.78**	80%	20%			To reduce wet weather overflow impacts on customers and the environment, and to cater for growth.
Redhead WWPS Upgrade	**1.75**	30%	70%			To reduce wet weather overflow impacts on customers and the environment, and to cater for growth.

Project	Total Exp. 05/06 to 08/09 ($m)	Purpose				Comment
		Growth	Mandatory Standards *	Business Decisions	Government Programs	
Boat Harbour No 4 WWPS Upgrade	**1.61**	100%				To cater for growth.
Belmont-Blacksmiths System Upgrade Works	**1.44**	37%	63%			To reduce wet weather overflow impacts on customers and the environment, and to cater for growth.
Medowie System Upgrade Works	**1.31**	100%				To cater for growth.
Toronto System Upgrade Works	**1.21**	37%	63%			To reduce wet weather overflow impacts on customers and the environment, and to cater for growth.
Swansea East System Upgrade Works	**1.11**	100%				To cater for growth.
Water Supply						
CTGM Replacement Tarro to Shortland	**10.4**			100%		Replacement of an above ground 900 mm locking bar trunk water main based on a business case.
Kooragang Island 1350 trunk main	**7.8**	100%				To cater for growth.
New 30 MLD Tomago WPS	**3.0**	100%				To cater for growth.
Grahamstown Dam Augmentation	**2.9**	100%				To cater for growth and provide greater security against drought.
Boat Harbour Reservoir	**2.5**	100%				To cater for growth.
Buttai to Telarah trunk mains	**2.15**	100%				To cater for growth.
Upgrade of Wallsend WPS	**2.03**	75%	25%			To improve security of supply to existing customers and to cater for growth.
Stoney Pinch to Ashtonfield trunk mains	**2.04**	100%				To cater for growth.
Harpers Hill Reservoir	**2.02**	100%				To cater for growth.
Speers Point/Macquarie Hills System Upgrade	**2.0**	60%	40%			To address low pressure problems affecting existing customers and to cater for growth.

Project	Total Exp. 05/06 to 08/09 ($m)	Purpose				Comment
		Growth	Mandatory Standards *	Business Decisions	Government Programs	
Four Mile Creek to Thornton North trunk mains	**1.53**	100%				To cater for growth.
Augment Lookout Reservoir or Lambton WPS	**1.53**	100%				To cater for growth.
Cameron Park Reservoir	**1.43**	100%				To cater for growth.
CTGM Replacement Tarro to Beresfield WPS	**1.35**			100%		Replacement of an above ground 900 mm locking bar trunk water main based on a business case.
Mt View Rd WPS Upgrade	**1.02**	50%	50%			To address low pressure problems affecting existing customers and to cater for growth.
Weston Booster Upgrade	**1.0**	100%				To cater for growth.
Anna Bay 300mm trunk main	**1.01**	100%				To cater for growth.
Dora Creek WPS	**1.0**	100%				To cater for growth.
Dungog WTP Organic Removal	**1.02**	50%		50%		To reduce taste and odour impacts for existing and future customers.
Other						
Fleet Purchases (annual provision)	**6.8**			100%		Annual provision for the replacement of vehicles/plant based on a business case.
Head Office Relocation	**4.62**			100%		New Head Office that will provide improved OH&S and customer service.
IT – Hardware and Software Purchases (annual provision)	**3.5**			100%		Annual provision for IT hardware and software purchases based on a business case.
Meter Replacements (annual provision)	**3.0**			100%		Annual provision for the replacement of domestic meters based on a business case.
IT – CIS Upgrade	**1.83**			100%		Upgrade of the Customer Information System based on business case.

* *Components of projects required to meet Growth and Mandatory Standards are included in developer charge calculations in accordance with IPART's Price Determination.*

CAPITAL APPROVAL PROCESS

The following table outlines the duties of the various committees within Hunter Water that are relevant to the capital works approval process.

Committee	Duties
Planning Review Committee (PRC)	▪ To provide a senior planning forum for review of projects. ▪ To ensure that all projects have appropriate evaluation. ▪ To ensure that all solutions are technically sound and all reasonable options have been examined.
Expenditure Review Committee (ERC)	▪ To monitor capital and recurrent budgets and assess variances. ▪ To assess projects recommended by the PRC and determine if funds can be made available.
Capital Works Committee (CWC)	▪ Sub committee of the Board of Directors. ▪ To review and endorse the capital budget for the next financial year prior to approval by the full Board of Directors. ▪ To review projected long-term capital works expenditures. ▪ To review capital expenditure against the definite budget.
IT Steering Committee	▪ Overview the implementation of information technology within Hunter Water. ▪ Endorse specific purchases that are in line with the information technology strategy.
Probity Review Committee	▪ To independently review tender assessments and to ensure probity in the tendering process.

Submissions for capital funding are prepared in the form of a project development plan (PDP) which outlines amongst other things, background, objectives, data, options (including the "do nothing" option) and a description of the proposed works and program. PDPs canvas various solutions from a whole of life benefit / cost perspective to ensure that the right option is chosen and costed, and represents good value for Hunter Water. A PDP may include a cost/benefit analysis which has been audited and "pink slipped" by Hunter Water's Management Accounting section. Hunter Water's commitment to ecologically sustainable development (ESD) also requires that the PDP consider ESD issues.

Capital works submissions for the next financial year are reviewed by the Planning Review Committee (PRC). These submissions are made by the respective Business Unit Managers between November and April each year and are referred to the Capital Works Committee (a sub committee of the full Board) in April for approval and endorsement by the full Board in May. The approved works are authorised and form the **definite capital program**.

Projects that are initiated during a financial year but are not included on the definite capital program require approval under delegated authority as **new works** to proceed at the appropriate time. In essence, all projects greater than $75,000 need to be endorsed by the PRC and require approval from the Board. Projects less than $75,000 require approval from the Manager Planning and Development (for projects less than $40,000) or the Managing Director (for projects between $40,000 and $75,000). Variances to budgets are handled under delegated authorities.

The ERC monitors progress of each year's capital budget. Status reports are also provided to the Capital Works Committee in November and April on major projects and progress against the definite budget.

WEIGHTED AVERAGE COST OF CAPITAL PARAMETERS

The parameters used to generate the weighted average cost of capital (WACC) are presented in table below.

The resultant real pre-tax range is 6.1% to 7.5%. Hunter Water proposes that IPART consider a WACC close to the mid-point of this range in order to determine the 'return on asset' building block revenue requirement. This should ensure that Hunter Water is able to cover its true cost of funds and provide the appropriate incentive to invest in essential water infrastructure services.

	Lower Range	Upper Range
Nominal Risk Free Rate	5.5%	5.5%
Real Risk Free Rate	2.9%	2.9%
Inflation	2.5%	2.5%
Market Risk Premium	6.0%	6.0%
Debt Margin	1.025%	1.225%
Debt to Total Assets	50%	50%
Gamma	50%	30%
Tax Rate	30%	30%
Equity Beta	0.63	0.89
Cost of Equity	9.3%	10.8%
Cost of Debt	6.5%	6.7%
WACC (nominal post-tax)	6.1%	7.2%
WACC (real pre-tax)	**6.1%**	**7.5%**

Hunter Water has sought advice from NSW Treasury in developing its position on WACC parameters and an appropriate WACC on which to reference the target rate of return on the regulatory asset base. The following discussion has been prepared in consultation with NSW Treasury.

The formula used to compute the nominal post-tax WACC incorporates the tax benefits of debt and the potential value of dividend imputation franking credits into the WACC specification. Therefore, the post-tax nominal WACC is defined as:

$$WACC = R_e * (1-t)/\{1-t*(1-\gamma)\} * E/V + R_d*(1-t)*D/V$$

Where:

- *Re = cost of equity*
- *Rd = cost of debt*
- *T = the statutory tax rate*
- γ *= imputation tax credits*
- *E = proportion equity in capital structure*
- *D = proportion debt in capital structure*
- *V = total debt plus equity*

The cost of equity (Re) is calculated using the capital asset pricing model (CAPM). The CAPM formula states that the required return of an investor is equal to the risk free rate available in the market, plus a premium above the risk free rate, commensurate with the risk taken by the investor. Therefore, the CAPM asserts the required rate of return on a risky asset is a function of the risk free rate (Rf), plus a risk premium that reflects the return on a well–diversified portfolio of assets over the risk free rate, (Rm-Rf), where Rm is the return on the market), scaled by the beta (ße). Beta is a measure of the risk of the asset relative to the equity market index.

R_e = *Risk free rate + Risk premium*

$R_e = R_f + \beta_e * \{R_m - R_f\}$

Hunter Water notes that IPART has historically adopted a real pre-tax WACC formulation, as the RAB is rolled forward in real terms and return is measured in pre-tax earnings. The nominal post tax WACC is converted to a real pre-tax formulation by adjusting firstly for tax (t) and secondly for inflation (i):

Nominal Pre-tax WACC = Nominal Post tax WACC / (1-t)

Real Pre-tax WACC = (1+Nominal Pre-tax WACC) / (1+i) - 1

Hunter Water supports the WACC framework and formulation outlined above, consistent with that adopted by IPART in previous determinations.

Risk Free Rate

In recent decisions, IPART has adopted the 10-year government bond as the appropriate benchmark for the risk free rate. Consistent with the long-lived nature of water assets, this is the longest dated bond in Australia for which a market of some size exists. Adoption of a 10-year benchmark is also consistent with historical estimates of the market risk premium that are measured relative to the 10-year government bond.

Rather than using a single spot price to derive the estimated rate, IPART takes an average yield over a 20-day period. Hunter Water supports adoption of a 20-day average in order to reduce the potential impact of short-term volatility often associated with spot interest rates.

The current yield on Treasury Capital Indexed bonds with a maturity of August 2015 is around 2.9%. The equivalent yield on 10-year nominal bonds is around 5.5%. The implied inflation forecast, using the Fisher formula, is 2.5%. Hunter Water recognises that these parameters are market based, and are likely to change prior to IPART's final determination.

Market Risk Premium

The measurement of the market risk premium (MRP) is subject to large standard error and a high standard deviation. However, given the strong regulatory precedence established by interstate regulators, Hunter Water considers that determination of MRP should not be a contentious issue.

In its recent *Electricity Distribution Pricing Determination*, IPART determined a MRP estimate of 5.0% to 6.0%, based on historical studies. As shown in the table below, 11 of the 12 studies referred to by IPART suggest an historic MRP average of greater that 6.0%.

Source	Methodology	Period	MRP
AGSM	Arithmetic Avg, incl Oct 87	1964 – 1995	6.2
	Arithmetic Avg, excl Oct 87	1964 – 1995	8.1
	Arithmetic Avg	1964 – 1998	4.8
	Arithmetic Avg, incl Oct 87 *	1964 – 2000	6.2
	Arithmetic Avg, excl Oct 87 *	1964 – 2000	7.7
Officer	Arithmetic mean	1882 – 1987	7.9
	Arithmetic mean *	1882 – 2001	7.2
	Arithmetic mean	1946 – 1991	6.0 - 6.5
Hathaway	Arithmetic mean *	1882 – 1991	7.7
	Arithmetic mean *	1947 – 1991	6.6
Gray	Arithmetic mean *	1883 – 2000	7.3
Dimson, Marsh and Staunton	Arithmetic mean *	1900 – 2000	7.6

** Denotes most recent study from each source*

Further, the only study showing a historic MRP of less than 6.0% (AGSM 1964 – 1998) was updated two years later (AGSM 1964 – 2000) with a resultant MRP range of 6.2% to 7.7%. If the MRP is derived using only the most recent study from each source, the resultant range is 6.2% to 7.7% (with a mid-point of just under 7%).

Further, Hunter water is advised that other Australian regulators universally adopt a MRP value of 6.0%.

Therefore, consistent with historical estimates of the MRP and regulatory precedence in other jurisdictions, Hunter Water has adopted a MRP value of 6% for estimating WACC and recommends that 6% should be adopted by IPART in the calculation of the Corporation's revenue requirements.

Debt Margin

Hunter Water supports an approach that benchmarks the debt margin against capital markets based on an investment grade credit rating, 10-year debt maturity and 50% gearing assumptions. This is consistent with Treasury's Capital Structure policy that requires Government businesses to maintain a commercial capital structure and investment grade 'stand alone' credit rating. Standard and Poors defines 'investment grade' as BBB minus and above.[1]

Hunter Water considers that a debt margin range of 0.9% to 1.1% is appropriate, plus an additional 0.125% for debt issuance costs. This range is consistent with that adopted by IPART in its recent *Electricity Distribution Pricing Determination*.

Debt Gearing

Debt gearing should be estimated with reference to efficiently financed commercial benchmarks, rather than the actual level of debt for the individual regulated utility. In past determinations, IPART has adopted a gearing ratio of 60% for regulated water utilities, despite actual gearing levels of NSW water utilities being substantially lower.

[1] Standard and Poors, Corporate Rating Criteria, 2002

Hunter Water understands that overseas water utilities generally have lower gearing levels than 60% although, in some countries, there are various regulatory and other incentives that may influence the debt position taken by utilities.

Hunter Water believes that a debt gearing level of 50% be adopted by IPART for the purposes of calculating the regulatory WACC. This is also consistent with debt gearing level adopted by the Queensland Competition Authority (QCA) in recent determinations. It should be noted that adoption of a 50% versus 60% gearing assumption has very little impact on the final WACC calculation.

Gamma

In previous water determinations, IPART has adopted a range of 0.3 to 0.5 for gamma (0.4 midpoint) noting the inconclusive nature of available research. In IPART's *Draft Electricity Distribution Pricing Determination*, the Tribunal adopted a 0.5 single point estimate for gamma, stating that:

> *'there does not seem to be any conclusive evidence that the gamma is lower than 0.5 rather than higher than 0.5' and 'the Tribunal could not find any evidence that the value of gamma should be lower than this range.'* [2]

However in the same draft determination, IPART acknowledges that most market-based valuations assign a zero value to gamma.

> *'The Tribunal in past decisions has adopted a gamma range of 0.3-0.5 in its cost of capital calculations. By choosing this range, the Tribunal has recognised the uncertainties surrounding the true value of gamma and chooses a conservative estimate. The lower bound of the range is consistent with the view that most market-based valuations assign a value of zero to gamma.'* [3]

Given these differences, Hunter Water does not believe that there is justification for IPART to increase gamma from the 0.3 to 0.5 range (0.4 mid-point) adopted in previous water determinations, especially given market evidence suggesting that if anything, gamma should be closer to zero.

Asset Beta

The appropriate asset beta for Australian water utilities has been reviewed in various Australian regulatory decisions over the past few years. In this regard, the asset beta range previously adopted by IPART is at the low end of ranges used by Australian regulators.

Regulation	Year	Asset Base	Mid-Point
IPART	2000	0.30-0.45	0.375
QCA	2002/2003	0.35-0.45	0.40
IPRC	2004	0.40	0.40

[2] NSW Electricity Distribution Pricing 2004/05 to 2008/09, Draft Determination, Jan 2004, p236
[3] NSW Electricity Distribution Pricing 2004/05 to 2008/09, Draft Determination, Jan 2004, p236

There are numerous areas of risk that may impact on the commercial viability of water utilities, including:

- Drought, which adversely impacts cashflow both on the demand and supply side, eg:- restrictions and water conservation measures reduce revenues while the need to supplement supply infrastructure increases costs
- Changes in environmental conditions, eg possible changes to raw water access or new standards for wastewater transport and disposal may impact on operating and capital costs
- Significant price structure change such as the introduction of inclining block tariffs may increase consumption forecast uncertainty with potential impacts on revenue and profit outcomes
- Raw water quality issues, such as the Sydney Water cryptosporidium outbreak, may increase the costs of supply reduce available supply and reduce demands in specific areas
- Change in future development patterns and slower uptake than predicted in new growth areas may reduce payback periods on asset investments;
- Infrastructure events, involving failure of key assets, may threaten continued service delivery and wider urban functions such as transport or other utilities, and
- Major customer closure, where this represents a significant percentage of the revenue stream of the business. Hunter Water has seen three of its major industrial customers close operations in the last 5 years.

IPART's Issues Paper identifies the potential revenue volatility associated with consumption forecasting and medium term price setting in the current environment of continued drought and water restrictions. Future demand management initiatives (including changes in price structures) could further increase revenue volatility over the next regulatory period. Given that underlying costs are largely fixed, this translates to a potential earnings risk for Hunter Water.

These risks were identified by the ICRC in its recent draft water determination for ACTEW:

> *'In the past, there has been a general view amongst practitioners that asset betas in the water industry are less than those in energy industries such as natural gas and electricity. The comparison of historic asset betas in these industries in the United Kingdom and the United States tends to support this view, although the differences appear small. However, recent droughts, the imposition of restrictions on water use, greater trends towards pay-for-use pricing, and the emergence of environmental issues, together mean that the water industry may not be as immune to movements in the general economy and volatility in returns as has previously been the case. Unfortunately, as noted above, at present there is no empirical evidence in Australia to prove or disprove this theory. Nevertheless, recent asset betas awarded by regulators in the gas and electricity industries are not inconsistent with the range of asset betas in the water industry, suggesting that this theory has some broader support.'* [4]

Based on this evidence, ICRC adopted a common asset beta of 0.40 and real pre-tax WACC of 7.0% for both ACTEW / AGL's electricity and water businesses. Submissions made by both ACTEW (water) and ACTEW / AGL (electricity) proposed an identical asset beta for the electricity and water / wastewater functions.

[4] ICRC, Draft Report: Prices for Water and Wastewater Services in the ACT, December 2003, Page 93

Hunter Water has therefore adopted an asset beta range of 0.35 to 0.45, consistent with both the asset beta range adopted for water utilities by interstate regulators and with the range adopted by IPART for electricity networks.

Debt Beta

Hunter Water has adopted a debt beta range of zero to 0.6, consistent with that adopted in IPART's recent *Electricity Distribution Pricing Determination*. If the debt beta is used consistently in the de-levering and re-levering process, debt beta assumptions should not impact on the final equity beta adopted.

Equity Beta

The equity beta is computed by levering the asset beta while controlling for the debt beta.

Hunter Water supports the continued use of the Monkhouse formula to calculate the equity beta. Based on our proposed gearing, asset beta and debt beta assumptions, the resultant equity beta is 0.63 to 0.89.

INVESTIGATION OF INCLINING BLOCK TARIFF FOR HOUSES

As discussed in Section 4 of this submission, widespread drought conditions in eastern Australia have led to the NSW Government to look at a wide range of options to address both the demand and supply of water to urban areas. In September 2003, the Government asked the Independent Pricing and Regulatory Tribunal (IPART) to investigate alternative structures for retail water prices and to assess their potential to reduce the demand for water in Sydney. While this report was primarily focused on the need to address the current imbalance between water demand and supply in Sydney, it was also to inform the Government's broad water policy development process and to provide input to the 2005 metropolitan water price review.

IPART issued its report on this investigation, *Investigation into Price Structures to Reduce the Demand for Water in the Sydney Basin: Final Report*, on 30 July 2004. The report's main recommendation was for the introduction of higher charges for homes that use more than 400 kilolitres of water per year. This report is referred to in the rest of this Appendix as the "IPART Price Structures Report".

Hunter Water carefully examined the recommendations of the IPART Price Structures Report as part of the preparations for the 2004 price review. The Corporation examined the simultaneous introduction of an inclining block usage tariff for houses and a progressive phase out of the declining block tariff for other users. These proposals would involve real price increases for many customers, particularly non-residential customers using more than 1,000 kilolitres per year.

The principles that Hunter Water adopted in developing these proposals broadly followed the recommendations of the IPART Price Structures Report. These principles were:

- The Tier 1 price would be based on the current Tier 1 price. Annual real increase would be sought for the Tier 1 price. The size of these increases would depend on the overall price cap (CPI+X) and an assessment of the total water bill (service and usage charges) on customers
- The Tier 2 price would apply to consumption by individual houses above 400 kilolitres in any financial year
- Setting the Tier 2 price would take account of the existing volumetric sewer charge because the sewer usage charge serves as a price signal for households, and
- The Tier 2 price would be set at a level that approximates a 50% increase on the Tier 1 price with an offset that recognises the existence of the sewer usage charge.

The 400-kilolitre threshold was for the step between the Tier 1 and Tier 2 prices. Approximately 10% of houses in the Hunter use more than 400 kilolitres per year. Hunter households already have a solid track record of lower consumption in response to demand management measures. Average household consumption in the Hunter is some 20% lower than the average of other major Australian water authorities and some 14% less than the average per property consumption in Sydney. Thus, there would be a serious inequity if Hunter households were subjected to the Tier 2 usage price at a lower threshold than that applying in Sydney (ie lower than 400 kilolitres).

The existence of the higher Tier 2 price is expected to produce a demand response from customers. Hunter Water modelled this impact using the price elasticity of demand estimates for marginal prices published in IPART's December 2003 Issues Paper for the investigation into price structures to reduce the demand for water in the Sydney basin. However, given that only 10% of houses in the Hunter use more than 400 kilolitres each

year, this demand response was found to be modest. This was the case regardless of whether the Tier 2 price was based on a 50% or a 100% increase on the Tier 1 price.

Further, in setting the level of the Tier 2 water price, it is appropriate to consider Hunter Water's current sewer usage charge. Because the sewer usage charge is linked to metered water consumption, it also serves as a demand management signal. Thus, to achieve some parity in the application of the principles of the IPART pricing structures report between Sydney and Hunter households, it is reasonable to take into account this volumetric sewer charge in setting the Tier 2 price for Hunter households.

An example of possible Tier 1 and Tier 2 charges for houses is shown in Table 1 below.

Table 1: Example of Inclining Block Water Usage Charges for Houses *($/kL 2004$)*

	Current 2004/05	2005/06	2006/07	2007/08	2008/09
Tier 1 Usage	$1.01	$1.03	$1.05	$1.08	$1.10
Tier 2 Usage	$0.93 [(a)]	$1.33 [(b)]	$1.36	$1.39	$1.42

(a) Applies after 1,000 kilolitres (b) Applies after 400 kilolitres from 2005/06.

For Sydney, the IPART Price Structures Report proposes that the 400-kilolitre threshold should be applied to each quarterly bill. Hence, customers who use more than 100 kilolitres in a quarter would move to the Tier 2 price for the consumption in excess of 100 kilolitres for that quarter.

Hunter Water does not read meters and bill customers quarterly but rather three times per year. A similar approach to that proposed for Sydney could be considered where the threshold is applied in relation to period billed. However, Hunter Water believes this would present equity problems because there are only three billing cycles in the year and, for individual customers, these cover the same periods each year.

With Hunter Water's four-monthly billing, customers whose billing period spans mostly summer months would be at a disadvantage compared to those whose billing periods span a mix of spring / summer or summer / autumn months. This would be a long-term disadvantage to these customers because the meter reading cycles and billing periods remain largely unchanged from year to year. Thus customers who have a billing period of summer months only are more likely to regularly consume more water in that billing period than customers who use the same amount of water annually but have billing periods that cover only part of the summer. In light of this potential inequity, Hunter Water favours annual accounting of consumption for the purposes of charging the Tier 2 price.

Alternatively, Hunter Water could adopt more frequent meter reading and billing. This would result in a significant increase in operating costs and it is doubtful whether the very modest water savings produced from more frequent billing would justify the additional costs.

Nevertheless, Hunter Water believes that it would be important to provide an ongoing signal to customers about their water consumption relative to the 400-kilolitre threshold between Tier 1 and Tier 2 pricing. If an inclining block tariff were to be adopted on an annual basis, this "signalling" could be achieved by providing information on the bill about the customer's cumulative consumption in the current year, average daily consumption and comparison with previous years. Hunter Water is also examining the proposal in the 2004 Inter-government Agreement on Water to include on bills comparative consumption information for individual customers with other similar water users (eg comparison against the average for others in the same suburb, postcode etc).

MISCELLANEOUS CHARGES

1. Conveyancing Certificate
2. Property Sewerage Diagram
3. Service Location Diagram
4. Special Meter Reading Statement
5. Billing Record Search Statement
6. Building Over or Adjacent to Sewer Advice
7. Water Reconnection – after restriction
8. Workshop Test of Water Meter
9. Application for Water Disconnection
10. Application for Water Service Connection – up to and including 25mm
11. Application for Water Service Connection – 32 to 65mm
12. Application for Water Service Connection – 80mm or greater
13. Application to Assess a Watermain Adjustment
14. Standpipe Hire – security bond
15. Standpipe Hire – annual, quarterly and monthly fees
16. Standpipe Water Usage Fee
17. Backflow Prevention Device Application and Registration Fee
18. Backflow Prevention Device Annual Administration Fee
19. Major Works Inspection Fee
20. Statement of Available Pressure and Flow
21. Application to Connect / Disconnect Sewer or for a Special Internal Inspection Permit
22. Application to Connect / Disconnect Water and Sewer Services – combined application
23. Irregular and Dishonoured Payments
24. Request for Separate Metering of Strata Units
25. Water Meter Re-Read
26. Wyee East Water Contribution
27. Determining Requirements for Building Over / Adjacent to Hunter Water Sewer or Easement
28. Application for a Metered Standpipe
29. Meter Affixtures
30. Inspection of Non-Compliant Meters
31. Special Inspections
32. Connecting to or Building Over / Adjacent to a Stormwater Channel for a Single Residence
33. Stormwater Channel Connection
34. Hydraulic Assessment Application – less than 80mm service

35. Pump Station Design Assessment
36. Application to Assess Sewermain Adjustment
37. Indicative Developer Charge Application
38. Revised Notice Letter Application
39. Bond Application
40. Bond Variation
41. Application Fee – section 50
42. Application for Water / Sewermain Extensions
43. Assessment of Minor Works
44. Assessment of Major Works
45. Connection to Existing Water System – major works
46. Insertion or Removal of Tee and Valve – shut down and charge up
47. Application for Additional Sewer Connection
48. Tee and Valve Connection
49. Minor Works Inspection Fee
50. Major Works Inspection and WAE Fee
51. Application to Assess Encroachment on Hunter Water Land, Easement Right or Assets
52. Fee per Hour
53. Remote Application Fee
54. Indicative Requirements Fee
55. Strategy Review
56. Hydraulics Assessment Application – 80mm service and above

1. Conveyancing Certificate

Current Charge:

a)	Over the Counter	$14.00
b)	Electronic	$9.20

Function Overview: a) Over the Counter

Over the counter statement of outstanding rates and charges at a specific date which is issued to solicitors, conveyancing companies and individuals as a requirement for buying and selling property.

Procedures:

- Open mail and stamp cheques
- Identify property
- Computer entry (applicant details, queue procedure)
- Banking procedures
- Post printing procedures (collection, checking)
- Mailing procedures (address envelopes, insert certificate)
- Follow up telephone call to check balance on date of settlement

Total time for function = 18 mins

Proposed charge = $19.10

Function Overview: b) Electronic

Electronic statement of outstanding rates and charges at a specific date. Issued to solicitors, conveyancing companies and individuals as a requirement for buying and selling property.

Procedures:

- Property and vendor details are supplied electronically by solicitors, conveyancing companies or individuals to a Broker nominated by Hunter Water
- The details are electronically forwarded to Hunter Water
- The appropriate Hunter Water customer account for the details provided is automatically identified, and the statement of rates and charges is electronically complied and sent to the broker
- Investigation of exceptions where electronic advice cannot be provided and is handled manually
- Electronic update of charges on the date of settlement – provided free

Hunter Water costs = $4.50

Broker charges = $3.00

Proposed charge = $7.50

2. Property Sewerage Diagram – up to and including A4 size (where available)

Current Charge:	a) Certified	Not available
	b) Uncertified:	
	i. Over the Counter	$10.00
	ii. Electronic	Not available

Function Overview: b) i. Uncertified - Over the Counter

Where available, issue a copy of a diagram showing the location of the house-service line, building and sewer for a property.

Procedures:

- Identify property
- Locate and photocopy plan
- Return plan to file
- Fax / mail copy of plan

Total time for function = 13 mins

Proposed charge = $13.80

3. Service Location Diagram

Current Charge:

a)	Over the Counter	$10.00
b)	Electronic	$9.20

Function Overview: a) Over the Counter

Over the counter plan of Hunter Water's services and connection points in relation to a property's boundaries or a statement that no sewermain is available.

Procedures:

- Open mail and stamp cheques
- Identify property
- Computer entry (applicant details, queue procedure)
- Banking procedures
- Post printing procedures (collection, checking)
- Mailing procedures (address envelopes, insert certificate)

Total time for function = 13 mins

Proposed charge = $13.80

Function Overview: b) Electronic

Electronic plan of Hunter Water's services and connection points in relation to a property's boundaries or a statement that no sewermain is available.

Procedures:

- Land parcel details are supplied electronically by solicitors, conveyancing companies or individuals to a broker nominated by Hunter Water
- The details are electronically forwarded to Hunter Water
- The appropriate land parcel for the details provided is automatically identified, compiled and sent electronically to the broker
- Investigation of exceptions where electronic advice cannot be provided and is handled manually
- Provide large diagrams – locate, print, package and post

Hunter Water costs = $5.00

Broker charges = $3.00

Proposed charge = $8.00

4. Special Meter Reading Statement

Current Charge: $45.00

Function Overview:

Provide a statement of account where customers request a special meter reading.

Procedures:

- Receive application and identify property and schedule reading
- Receipt application and bank cheque
- Travel allocation
- Locate and read meter
- Enter reading on computer
- Prepare letter and mail results to applicant

Total time for function = 57 mins

Proposed charge = $60.50

5. Billing Record Search Statement – up to and including 5 years

Current Charge: $37.00

Function Overview:

Customer requested search of Hunter Water's archived financial reports providing account details for up to 5 years. Account details for the current and previous financial year are free of charge.

Procedures:

- Receipt application
- Identify property
- Find historical records and photocopy appropriate records
- Type summarised reply
- Mail

Total time for function = 46 mins

Proposed charge = $48.85

6. Building Over or Adjacent to Sewer Advice

Current Charge: $20.00

Function Overview:

Attaching conditional requirements, Statement of Approval Status for Existing Building Over or Adjacent to Sewer.

Procedures:

- Receive application, receipt and bank cheque
- Search for existing application and retrieve
- Prepare a letter and attach a copy of existing conditions or a letter that there was no such previous application
- Mail to applicant

Total time for function = 22 mins

Proposed charge = $23.35

7. Water Reconnection – after restriction

Current Charge:
a) During Business Hours (9.00am to 3.00pm) $32.00
b) Outside Business Hours (3.00pm to 6.00pm) $74.00

Function Overview: a) <u>During Business Hours</u>

Initial restriction / disconnection of the water supply for non payment of rates and charges plus restoration of the water supply when payment has been received, during normal business hours (9am to 3pm).

Procedures:

- Prepare notices, issue to contractor and update account history of status

Total Hunter Water time for function = 15 mins $15.95

- Contractor cost to restrict / disconnect $18.50
  (includes customer notification, travel to/from site, installing the inhibiting device and notifying Hunter Water)
- Contractor cost to restore water supply $18.50
  (includes customer notification, travel to/from site, installing the inhibiting device and notifying Hunter Water)

Proposed charge = $52.95

Function Overview: b) <u>Outside Business Hours</u>

Restoration of the water supply by contractor outside business hours to a property disconnected or restricted for non-payment of rates and charges.

Procedures:

- Notification to contractor
- Update status on account records

Total Hunter Water time for function = 10 mins $10.60

- Contractor cost to restrict / disconnect $18.50
  (includes customer notification, travel to/from site, installing the inhibiting device and notifying Hunter Water)
- Contractor cost to restore water supply $130.00
  (includes customer notification, travel to/from site, installing the inhibiting device and notifying Hunter Water)

Proposed charge = $159.10

8. Workshop Test of Water Meter

Current Charge:	20mm	$186.40	50mm	$243.60
	25mm	$186.40	80mm	$268.60
	32mm	$220.50	100mm	$313.70
	40mm	$220.50	150mm	$313.70

Function Overview:

Removal and full mechanical test of meter by an accredited organisation at the customer's request to determine the accuracy of the water meter. This involves dismantling and inspection of meter components.

Procedures:

- Identify property and process application
- Receipt fees
- Arrange removal and replacement of meter
- Prepare meter for transportation
- Assessment of results and preparation of reply to customer

Total time for function = 32 mins

Hunter Water costs = $34.00

Proposed charges = Refer to table below

= Strip Test upon request – 20mm meters = $50.00

– >20mm meters = At cost

External Costs				Internal HWC Test Costs	Total Costs / Proposed Charge
Meter Size (mm)	Contractor Costs (remove & Replace)	Freight Costs	Brisbane Water Test Costs		
20	$12.50	$28.00	$97.00	$34.00	$171.50
25	$12.50	$28.00	$97.00	$34.00	$171.50
32	$12.50	$34.00	$132.80	$34.00	$213.30
40	$17.50	$45.00	$132.80	$34.00	$229.30
50 (light)	$17.50	$45.00	$157.00	$34.00	$253.50
50 (heavy)	$180.00	$94.00	$157.00	$34.00	$465.00
65	$180.00	$94.00	$157.00	$34.00	$465.00
80	$180.00	$98.00	$157.00	$34.00	$469.00
100	$200.00	$110.00	$204.50	$34.00	$545.50
150	$200.00	$110.00	$204.50	$34.00	$545.50

9. Application for Disconnection – all sizes

Current Charge: $24.00

Function Overview:

Process applications to disconnect an existing water service – all sizes.

Procedures:

- Complete application
- Identify property on Hunter Water's customer database
- Receipt payment
- Enter application details on computer
- Update meter details on computer
- File application

Total time for function = 26 mins

Proposed charge = $27.60

10. Application for Water Service Connection – up to and including 25mm

Current Charge: $24.00

Function Overview:

Process applications to connect a new water service. This covers the administration fee only.

Procedures:

- Complete application
- Identify property on Hunter Water's customer database
- Identify property on plan to determine the size and type of main
- Receipt payment
- Meter handling (issue / collection)
- Enter application details on computer
- Update meter details on computer
- File application

Total time for function = 30 mins

Proposed charge = $31.85

11. Application for Water Service Connection – 32 to 65mm

Current Charge: $217.00

Function Overview:

This covers administration and system capacity analysis as required including hydraulic assessment. Assessment and in-principle approval of water meter sizes and services is provided. This charge also includes a fee for connection to service.

Explanation:

The costs for this service are primarily related to technical assessment. It is considered that existing charge does not fully reflect the time taken or expertise required to provide this service. Therefore the proposed charge is an increase compared to the previous submission. This proposed fee also includes the connection fee for a service provided by Hunter Water's Customer Services section.

Procedures:

- Determine hydraulic design assessment
- Complete residential hydraulic assessment (if required)
- Complete non-residential hydraulic assessment (if required)
- Prepare hydraulic design assessment letter
- Approve hydraulic design assessment letter
- Forward hydraulic assessment letter to consultant
- Complete connection application

Total time for function = 177 mins

Proposed charge = $277.00

12. Application for Water Service Connection – 80mm or greater

Current Charge: $363.00

Function Overview:

This service covers administration and system capacity analysis, as required. This includes hydraulic assessment and processing, and assessment of tee and valve requirements. Assessment and in-principle approval of water meter sizes and services is provided. This charge also includes a fee for connection to service.

Explanation:

The total cost of these charges is higher than the previous submission ($363 compared to the proposed $510 charge). This increase reflects the considerable extra time taken to carry-out technical assessment for large watermain connections. This fee applies where an applicant requires a new meter and connection, and includes the connection fee for a service provided by Hunter Water's Customer Services section.

Procedures:

- Determine hydraulic design assessment
- Complete residential hydraulic assessment
- Complete non-residential hydraulic assessment
- Prepare hydraulic design assessment letter
- Approve hydraulic design assessment letter
- Forward hydraulic assessment letter to consultant
- Complete connection application
- Prepare tee and valve techncial report and letter

Total time for function = 319 mins

Proposed charge = $507.00

13. Application to Assess a Watermain Adjustment – Moving and fitting and / or adjusting a section of watermain up to and including 25 metres in length

Current Charge: $322.00

Function Overview:

This covers preliminary advice as to the feasibility of the project and will cover either:

1) A rejection of the project - in which case the fee covers the associated investigation costs, or
2) Conditional approval - in which case the fee covers the administration costs associated with the investigation and record amendment.

Explanation:

This application process is similar to the processing of development applications and therefore, it is appropriate to apply the same charge. The same fee will also apply to applications to assess sewermain adjustments.

Procedures:

- Register Application
- Determine requirement for additional capacity
- Complete technical report
- Prepare advice
- Review advice
- Approve advice
- Issue advice

Total time for function = 226 mins

Proposed charge = $343.00

14. Standpipe Hire – security bond

Current Charge:	20mm standpipes	$300.00
	32mm and 50mm standpipes	$700.00

Function Overview:

Moneys paid by standpipe hirers and held in a public moneys account, refundable upon return of the standpipe in an undamaged state and upon payment of all outstanding hire and usage charges.

Proposed charge:	**20mm standpipes**	**=**	**$300.00**
	32 and 50mm standpipes	**=**	**$700.00**

15. Standpipe Hire – annual, quarterly & monthly fees

Current Charge:	Annual Fee	Not available	
	Quarterly Fee (4 monthly)	- 20mm	$34.00
		- 32mm	$66.00
		- 50mm	$71.00
	Monthly Fee (or part thereof)	- 20mm	$21.00
		- 32mm	$29.00
		- 50mm	$31.00

Function Overview:

Provide a portable metered standpipe to extract water from Hunter Water's watermains.

Procedures:

- Updating monthly reading on accounts
- 4-monthly physical inspection of standpipes
- 4-monthly review and assessment of consumption log book

Total time for function = 75 mins

Annual charge = $79.65

Monthly charge = $6.65

Return on Asset:

Purchase price 20mm standpipe	$236.00
Purchase price 32mm standpipe	$740.00
Purchase price 50mm standpipe	$805.00

Asset life = 5 years

Required Monthly Return on Asset:

20mm standpipe	=	$236 / 5 / 12	=	$3.93
32mm standpipe	=	$740 / 5 / 12	=	$12.33
50mm standpipe	=	$805 / 5 / 12	=	$13.41

Proposed charges

Quarterly Fee (4 monthly):	**20mm**	**= $6.65 + ($3.93* 4)**	**= $22.40**
	32mm	**= $6.65 + ($12.33* 4)**	**= $56.00**
	50mm	**= $6.65 + ($13.41* 4)**	**= $60.00**
Monthly fee (or part thereof):	**20mm**	**= $6.65 + $3.93**	**= $10.60**
	32mm	**= $6.65 + $12.33**	**= $19.00**
	50mm	**= $6.65 + $13.41**	**= $20.00**

16. Standpipe Water Usage Fee

Current Charge: As per water usage tariff per kilolitre

Function Overview:

Charge per kilolitre of measured consumption on a standpipe.

Proposed charge: As per approved water usage price per kilolitre

17. Backflow Prevention Device Application & Registration Fee

Current Charge: $10.00

Function Overview:

This is for the initial registration of a backflow prevention device.

Procedures:

- Identify property
- Receipt payment
- Check pressure test parameters
- Enter initial test on computer
- Register a record on Hunter Water's backflow prevention database and file

Total time for function = 18 mins

Proposed charge = $19.10

18. Backflow Prevention Device Annual Administration Fee

Current Charge: $16.00

Function Overview:

This charge is for the maintenance of backflow prevention device records including logging of inspection reports.

Procedures:

- Issue permit, fill out receipt and process payment
- When permit is returned, identify property on database
- Check pressure test parameters
- Register a record on the backflow prevention database and file

Total time for function = 12 mins

Proposed charge = $12.75

19. Major Works Inspection Fee

Current Charge:

Inspection and Work-as-Executed

Watermains	= $6.10 per metre
Gravity Sewermains	= $9.30 per metre
Rising Sewermains / CEP	= $6.10 per metre

Function Overview:

This fee is for the inspection for the purpose of approval of water and sewermains constructed by others that are longer than 25 metres and / or greater than 2 metres in depth.

Proposed charge:

Inspection and Work-as-Executed

Watermains	**= $6.30 per metre**
Gravity Sewermains	**= $9.50 per metre**
Rising Sewermains / CEP	**= $6.30 per metre**

20. Statement of Available Pressure & Flow

Current Charge: $176.00

Function Overview:

Water pressure report detailing relative water pressures in Hunter Water's watermains. This fee covers all levels whether modelling is required or not to investigate available pressure and flows at specific flow rates from Hunter Water's main. This service is limited to the calculation of up to three flow rates for a single point of connection.

Explanation:

This charge reflects an average for all levels of flows including those that require computer modelling. It also includes a revised estimate of the time taken to process and assess these applications, particularly the input for modelling pressure levels within the water network.

Procedures:

- Determine flow requirement
- Complete nodes method analysis
- Receive Staement of Avaialble Pressure (SAP) response from Hunter Water's Planning Branch
- Prepare SAP letter
- Approve SAP letter
- Forward SAP to consultant / applicant

Total time for function = 191 mins

Proposed charge = $280.00

21. Application to Connect / Disconnect Sewer or for a Special Internal Inspection Permit

Current Charge: $26.00

Function Overview:

Process applications to connect a new sewer service or to disconnect an existing sewer service or apply for a special internal inspection permit.

Procedures:

- Complete application
- Identify property on Hunter Water's customer database
- Identify property on Hunter Water's geographic information system – SWIMS
- Receipt payment
- Prepare sewer junction details
- Enter application details on computer
- File application
- Update property records and adjust appropriate charges

Total time for function = 33 mins

Proposed charge = $35.05

22. Application to Connect / Disconnect Water & Sewer Services – combined application

Current Charge: $28.00

Function Overview:

Process combined application to connect a new water and sewer service or to disconnect an existing water and sewer service.

Procedures:

- Complete application
- Identify property on Hunter Water's customer database
- Identify property on plan, determine the size and type of main on SWIMS
- Receipt payment
- Meter handling (issue / collection)
- Update meter details on computer
- Prepare sewer junction details
- Enter application details on computer
- File application

Total time for function = 35 mins

Proposed charge = $37.20

23. Irregular & Dishonoured Payments

Current Charge:

Banking Authority:

Irregular / Dishonoured cheques	=	$26.00
Direct debit decline	=	$19.00

Australia Post:

Irregular / Dishonoured cheques	=	$31.00

Function Overview:

Functions relating to cheques returned by banking authorities as irregular or dishonoured and direct debit payment declines.

Procedures:

- Identify property, prepare and process journal entry on property to reverse payment
- Prepare letter to customer
- Update details on computer

Total time for function = 10 mins

Banking Authority Charges:

- Irregular / Dishonoured cheques = $10.00
- Direct debit decline = $2.50

Australia Post Charges:

- Irregular / Dishonoured cheques = $15.00

Proposed charges:

Banking Authority:

Irregular / Dishonoured cheques	**=**	**$20.60**
Direct debit decline	**=**	**$13.10**

Australia Post:

Irregular / Dishonoured cheques	**=**	**$25.60**

24. Request for Separate Metering of Strata Units

Current Charge:	Up to 4 units	$54.00
	5 to 10 units	$62.00
	> 10 units	$70.00

Function Overview:

Process a request by a Body Corporate for separate sub-metering of individual units within a registered Strata Plan.

Procedures:

- Process application and create file
- Identify property
- Review application details and log details on Hunter Water's database
- Prepare letter of approval
- Amend property data
- Administration to update account details:
  - Up to 4 units 10 mins
  - 5 to 10 units 20 mins
  - > 10 units 30 mins

Total Hunter Water admin time for function:

- **Up to 4 units 43 mins**
- **5 to 10 units 53 mins**
- **> 10 units 63 mins**

Hunter Water Costs:

- Up to 4 units = $45.65
- 5 to 10 units = $56.30
- > 10 units = $66.90

Contractor cost for site inspection @ $42.00 per hour

- Up to 4 units 30 mins = $42.00 / 60 * 30 = $21.00
- 5 to 10 units 40 mins = $42.00 / 60 * 40 = $28.00
- > 10 units 60 mins = $42.00 / 60 * 60 = $42.00

Proposed charge:	**Up to 4 units**	**= $66.65**
	5 to 10 units	**= $84.30**
	> 10 units	**= $108.90**

25. Water Meter Re-Read

Current Charge: $33.00

Function Overview:

Re-read a water meter because a customer has not returned a self-read card that was left during the normal cycle reading because the meter was inaccessible. This also applies to standpipe re-reads when the licensee has not made the standpipe available for reading and a special reading is required.

Procedures:

- Travel allocation
- Locate and read meter
- Enter reading on computer

Total time for function = 37 mins

Proposed charge = $47.25

26. Wyee East Water Contribution

Current Charge: $1,293.00

Function Overview:

Special fee to connect to Wyee East Water Reticulation System. The connection fee was introduced in 1991, following community consultation. Its purpose was to continue towards the costs of providing reticulated services to make the project economically viable.

Proposed charge = $1,293.00

27. Determining Requirements for Building Over / Adjacent to Hunter Water Sewer or Easement

Current Charge: $46.00

Function Overview:

Attaching conditional requirements to Council approved building plans to safeguard Hunter Water assets.

Procedures:

- Take application at counter
- Prepare file
- Prepare a plan and determine conditions
- Type a letter and mail
- Record details on computer

Proposed charge = $55.75

28. Application for a Metered Standpipe

Current Charge: Not charged

Function Overview:

Process applications for the hire of a portable metered standpipe.

Procedures:

- Initial assessment of application and confirm completed check list
- Process fee for application and issue receipt
- Register file and attach documentation
- Undertake company checks of applicant
- For tanker opertors, arrange inspection of storage tank and backflow prevention
- Log details on standpipe register
- Prepare notification of approval
- Finalise paperwork and issue standpipe
- Receipt / refund security bond
- Establish account record and input initial meter reading
- Account management
- Annual notification of hydrant locations

Total time for function = 105 mins

Proposed charge = $111.50

29. Meter Affixtures

Current Charge: Not charged

Function Overview:

Installation of meters for new connections.

Procedures:

- Contractor cost = $20 per meter

Proposed charge = $20.00

30. Inspection of Non-Compliant Meters

Current Charge: Not charged

Function Overview:

Inspection of properties to assess requirements to make a meter assessable and / or where a second inspection is required for Strata metering (where initial applications was non-compliant).

Procedures:

- Log request to contractor to inspect site
- Update status on records and notify customer

Total Hunter Water admin time for function = 10 mins

Hunter Water cost = $10.60

Contractor cost for inspection of Home Units @ $42.00 per hour

▪ Up to 4 units	30 mins	=	$42.00 / 60 * 30	=	$21.00
▪ 5 to 10 units	40 mins	=	$42.00 / 60 * 40	=	$28.00
▪ > 10 units	60 mins	=	$42.00 / 60 * 60	=	$42.00

Contractor cost for site inspection of inaccessible meters @ $42.00 per hour

▪ 30 mins		=	$42.00 / 60 * 30	=	$21.00

Proposed charge:

Up to 4 units	**=**	**$31.60**
5 to 10 units	**=**	**$38.60**
> 10 units	**=**	**$52.60**
Inaccessible meters	**=**	**$31.60**

31. Special Inspections

Current Charge: Not charged

Function Overview:

Inspection of rainwater tanks and water cartage storage tanks to ensure adequate backflow for protection of Hunter Water's supply (where this inspection is carried out other than as part of an application for a standpipe), and inspection of temporary toilet connections to the sewer on large building sites for public health reasons.

Procedures:

- Identify property, prepare and process application
- Receipt fees
- Book inspection
- Inspection
- Update Hunter Water's database

Total time for function = 57 mins

Proposed charge = $60.55

32. Connecting to or Building Over / Adjacent to a Stormwater Channel for a Single Residence

Current Charge: Not charged

Function Overview:

Process applications from customers connecting a single residence to a stormwater channel or erecting a single residence over / adjacent to a stormwater channel held by Hunter Water.

Procedures:

- Take application at counter
- Prepare file
- Prepare letter of reply
- Inspect job for compliance
- Record details on database
- Finalise file

Total time for function = 52 mins

Proposed charge = $65.10

33. Stormwater Channel Connection

(previously 'Application to Connect to Corporation Stormwater Channel')

Current Charge: $140.00

Function Overview:

New developments unable to drain to the street drainage system may be serviced by a Hunter Water stormwater channel if available. The fee covers the cost of assessment.

Explanation:

This fee applies where developments are required to drain to stormwater channels rather than normal street drainage system. This revised charge more accruately reflects the time taken to conduct a technical assessment, which is similar to the work required to provide a basic notice letter response.

Procedures:

- Determine impact on stormwater system
- Complete stormwater technical assessment and letter
- Prepare stormwater channel connection letter

Total time for function = 158 mins

Proposed charge = $258.00

34. Hydraulic Assessment Application – Less than 80mm service

(previously 'Hydraulic Design Assessment')

Current Charge: $193.00

Function Overview:

The *NSW Code of Practice: Plumbing and Drainage* requires developments with large domestic or fire water demands and / or trade waste discharges to lodge hydraulic designs for Hunter Water's approval. This service is normally provided to redevelopments using an existing meter.

Explanation:

This is the stand alone fee for hydraulic design assessment. It represents an average fee to cover the costs of time taken to provide the range of assessments including those requiring computer modelling for a single connection point on a nominated watermain. This fee is included in the applications for water service connection 32mm or greater.

Procedures:

- Determine hydraulic design assessment
- Complete residential hydraulic assessment (if required)
- Complete non-residential hydraulic assessment (if required)
- Prepare hydraulic design assessment letter
- Approve hydraulic design assessment letter
- Forward hydraulic assessment letter to consultant

Total time for function = 152 mins

Proposed charge = $245.00

35. Pump Station Design Assessment

Current Charge:

Water Pump Station	=	$2,407.00
Sewer Pump Station	=	$2,643.00

Function Overview:

Pump station designs prepared by consultants are audited to ensure compliance with Hunter Water standards.

Explanation:

This revised charge includes an updated estimate of the actual time taken to provide an in-depth audit and technical assessment. The charge for a sewer pump station assessment includes the cost of assessing a rising main design. The costs of reviewing designs for water and sewer reticulation mains have been incorporated into the assessment of major works charge.

Procedures:

- Recepit charges
- Complete preliminary assessment
- Techncial design assessment
- Planning review
- Compile and review comments
- Detailed design review
- Planning review
- Compile and review comments
- Prepare works contract
- Prepare rising main design review

Total time for function = 1,889 mins

Proposed charge:

Water Pump Station	**=**	**$2,552.00**
Sewer Pump Station	**=**	**$2,808.00**

36. Application to Assess Sewermain Adjustment

Current Charge: $322.00

Function Overview:

This covers preliminary advice as to the feasibility of the project and will cover either

1) A rejection of the project in which case the fee covers the associated investigation costs, or
2) Conditional approval in which case the fee covers the administration costs associated with the investigation and record amendment.

Procedures:

- Register application
- Determine requirement for additional capacity
- Complete technical report
- Prepare advice
- Review advice
- Approve advice
- Issue advice

Total time for function = 226 mins

Proposed charge = $343.00

37. Indicative Developer Charge Application

(previously 'Application for Preliminary Developer Charge')

Current Charge: $134.00

Function Overview:

Applicants lodge preliminary details of their developments to enable a developer charge to be calculated. This fee covers assessment of the proposed development and determination of developer charges. The developer charge is indicative only and a formal application is required if the developer wishes to proceed to purchase capacity.

Explanation:

This fee provides a short cut to the full development application process. It provides advice on developer charges only. The proposed charge is more reflective of the time to process a preliminary application.

Procedures:

- Register application
- Calculate developer charges
- Prepare notice letter
- Review notice letter
- Approve notice letter
- Issue developer charge advice

Total time for function = 117 mins

Proposed charge = $227.00

38. Revised Notice Letter Application

(previously 'Fee for Revision of Notice of Requirements')

Current Charge: $286.00

Function Overview:

When a notice is forwarded to an applicant, the requirements, which are generally a developer charge and works to be constructed, are valid for a fixed period. If an applicant allows the requirements to lapse and then subsequently decides to proceed, a revision fee is payable. The revision fee covers the cost of recalculating the developer charge and reviewing the construction requirements.

Explanation:

Most notice letter revisions require a reassessment of all aspects of the development, both financial and technical.

Procedures:

- Assign application
- Calculate developer charges
- Determine requirements of additional capacity
- Determine reimbursement
- Complete technical report
- Prepare revised requirements letter
- Review revised requirements letter
- Approve revised requirements letter
- Issue revised requirements letter

Total time for function = 172 mins

Proposed charge = $289.00

39. Bond Application

(previously 'Bond Assessment and Lodgement Fee')

Current Charge: $658.00

Function Overview:

This fee covers the lodging and release of a bond, and an estimation of the cost of outstanding works, where a developer wishes to provide security in lieu of constructing works to facilitate early release of Hunter Water compliance certificates.

Explanation:

On occasions, Hunter Water is requested to accept a bond to cover the costs of outstanding works to allow early release of the Compliance Certificate for a development application. Current charges do not cover the extensive work involved in assessing a bond application including technical assessments, preparing an estimate of works, preparing a bond agreement and approving the bond. The proposed fee covers assessment and lodgement.

Procedures:

- Approve scope of bond requirements
- Determine design / construction phase of bond
- Approve bond amount
- Draft bond letter
- Approve bond letter
- Sign-off bond letter
- Forward bond letter
- Bond lodgement
- Bond release

Total time for function = 670 mins

Proposed charge = $1,122.00

40. Bond Variation

(previosuly 'Application to Vary a Bond')

Current Charge: $147.00

Function Overview:

This charge covers Hunter Water's administration cost for the adjustment of securities.

Explanation:

It is estimated that less than 4 bond applications will be received each year.

Procedures:

- Bond Variation

Total time for function = 120 mins

Proposed charge = $163.00

41. Application Fee – Section 50

(previously 'Application Processing Fee')

Current Charge: $322.00

Function Overview:

Applications for both properties which are being proposed to be developed and unserviced properties proposing to connect for the first time, are subject to the same assessment procedure. Applications cover a wide variety of proposals ranging from minor developments, such as boundary adjustments for which there may be no requirements, up to major developments, such as large subdivisions. The application fee covers the basic processing of each application to determine if there are any requirements such as developer charges or the construction of works. Once requirements are met, a Certificate under Section 50 of the Hunter Water Act 1991 is issued and properties are permitted to connect to water and / or sewer systems. If there are works requirements additional fee(s) are payable dependent on the specific nature of the requirements.

Procedures:

- Register application
- Calculate developer charges
- Determine requirement for additional capacity
- Obtain capacity response from Hunter Water's Planning Group (if required)
- Approve reimbursement
- Complete technical report
- Prepare notice letter
- Review notice letter
- Approve notice letter
- Issue notice letter

Total time for function = 226 mins

Proposed charge = $343.00

42. Application for Water / Sewermain Extensions

Current Charge: $322.00

Function Overview:

Unserviced property owners can apply for approval to extend water and / or sewermains. Hunter Water calculates appropriate developer charges and extension options based on system capacity and topographical constraints.

Explanation:

This is essentially the same as processing a development application for connection to services and therefore the same charge adopted.

Procedures:

- Register application
- Determine requirement for additional capacity
- Complete technical report
- Prepare advice
- Review advice
- Approve advice
- Issue advice

Total time for function = 226 mins

Proposed charge = $343.00

43. Assessment of Minor Works

Current Charge: $474.00

Function Overview:

Some applications require relatively minor works to extend services. These applications are typically 1 into 2 lot subdivisions in urban areas where water and sewer facilities are connected to the lot being subdivided. The resources required to assess minor works designs are considerably less than those required for large developments.

Procedures:

- Assess minor works design
- Advise minor works design amendments
- Await minor works amendment response
- Approve minor works design / execute contract
- Attach executed minor works contract and plan
- Forward executed contract
- Send minor works information to Hunter Water's Contracts Group

Total time for function = 233 mins

Proposed charge = $542.00

44. Assessment of Major Works

Current Charge: $1,783.00

Function Overview:

This category consists principally of works required to service large subdivisions or 'greenfield' sites. As a result of the works being large scale, including not only reticulation systems but also lead-in works, pump stations and rising mains, applicants are required to engage consultants to prepare the designs. Following approval of the designs, construction is supervised by Hunter Water which also carries out the work-as-executed survey and connections to live watermains. These fees are separately charged.

Procedures:

- Receive and review design assessment plans
- Send water design plans to Hunter Water's Strategic Operations for review
- Receive water design response from Strategic Operations
- Complete major works design assessment
- Approve design assessment and marked-up plans
- Forward amended design assessment to consultant (customer)
- Check final plans
- Create instrument of agreement
- Sign contract and stamp final plans

Total time for function = 555 mins

Proposed charge = $1,948.00

45. Connect to Existing Water System – Major Works

Current Charge: $555.00

Function Overview:

This fee covers shut down to allow connections to existing fittings and recharging the main.

Procedures:

- Hunter Water identifies the shutdown area
- Advises customers of the service interruption
- Shutdown of the watermain
- Audit of the contractors work
- Restoration of water supply by Hunter Water

Proposed charge = $614.00

46. Insertion or Removal of Tee & Valve - Shut down and Charge Up

Current Charge:	Shutdown and Charge Up	$555.00
	Shutdown Insert Tee & Valve and Charge Up	$695.00
	Operations to do whole job	Quote

Function Overview:

Hunter Water is required to identify the shutdown area, issue pre-shutdown notices to affected customers, shutdown the water system to allow the contractor to connect new water systems and restore the water supply following connection.

Explanation:

Hunter Water's Operations Group carries out this work. It is proposed that the charge be increased to cover the actual cost of this work.

Procedures:

- Hunter Water identifies the shutdown area
- Advises customers of the service interruption
- Shutdown of the watermain
- Audit of the contractors work
- Restoration of water supply by Hunter Water

Proposed charge:	**Shutdown and Charge Up**	**= $614.00**
	Shutdown Insert Tee & Valve and Charge Up	**= $769.00**
	Operations to do whole job	**= Quote**

47. Application for Additional Sewer Connection

Current Charge: $140.00

Function Overview:

Development requiring alternative sewer connection points must make an application to Hunter Water. Review of options and assessment of drawings or designs.

Explanation:

This applies where an alternate sewer connection point is required. The fee covers processing of application and advice to applicant. This process is similar to an application for stormwater connection. Tthe proposed fee more cost reflective for the service being provided.

Procedures:

- Register application
- Determine requirement for additional capacity
- Complete technical report
- Prepare advice
- Review advice
- Approve advice
- Issue advice

Total time for function = 226 mins

Proposed charge = $258.00

48. Tee & Valve Connection

(previously 'Application for Large Watermain Connection - Tee and Valve')

Current Charge: $146.00

Function Overview:

Water services greater than 80mm diameter require special connection arrangements to Hunter Water's mains and are covered by an agreement and technical specification prepared on application.

Explanation:

This fee applies to the processing of an application for Tee and Valve connection in a large watermain. It is included in the application for water service connection (80mm or greater), where required, as part of new meter and connection.

Procedures:

- Forward tee and valve application to Hunter Water's Strategic Operations Group for review
- Prepare tee and valve techncial report and letter
- Approve tee and valve letter
- Forward tee and valve letter

Total time for function = 92 mins

Proposed charge = $149.00

49. Minor Works Inspection Fee

Current Charge: $147.00

Function Overview:

Auditing of works constructed under minor works contracts to ensure that specified quality is being achieved.

Procedures:

- Administration of the contract
- On-site auditing to ensure materials and construction methods meet Hunter Water standards including follow-up checks during the 12 month maintenance period.
- Work-as-executed information detailed for inclusion Hunter Water plans and GIS.

Total time for function = 240 mins

Proposed charge = $147.00

50. Major Works Inspection & WAE Fee

Current Charge:	Water Pump Stations	$3,600.00
	Sewer Pump Stations	$5,150.00

Function Overview:

Comprises inspection / audit of works constructed under major works contracts to ensure that specified quality is achieved. Work-as-executed comprises survey of the constructed work and modifying plans to detail the precise location of the work for inclusion in Hunter Water's GIS (SWIMS) database.

Explanation:

Both minor and major works inspection fees are applied by Hunter Water's Contracts Group for the management of major and minor works undertaken by developers. For the most part contract management includes:

1) Review of the contractor's safety management plans, and
2) Regular inspection / audit of works to ensure that only approved materials are used and that the works comply with Hunter Water's standards.

Inspection fees for major and minor works also include components for collection of work-as-executed (WAE) data and subsequent survey information to ensure that the works are accurately updated on Hunter Water's GIS. The fees are approximately 4% of the estimated value of the assets constructed. This percentage compares favourably with contract management costs for capital works, which may range from 4% to 10%.

Procedures:

- Management of the contract
- On-site auditing to ensure materials and construction meet Hunter Water standards including follow-up checks during the 12 month defects period
- Pre-commissioning and commissioning inspections
- Work-as-executed information detailed for inclusion in Hunter Water GIS.

Proposed charge:	**Water Pump Stations**	**=**	**$3,950.00**
	Sewer Pump Stations	**=**	**$5,350.00**

51. Application to Assess Encroachment on Hunter Water Land, Easement Rights or Assets

Current Charge: $203.00

Function Overview:

This fee is for a first pass review of an application to allow Hunter Water to advise requirements to be met and a quote for additional, more detailed assessment.

Procedures:

- Process application
- Refer to Hunter Water's Property Management Group for comment
- Review by Hunter Water's Strategic Operations Group (plan inspection etc.)
- Preliminary assessment of proposal

Total time for function = 160 mins

Proposed charge = $251.00

52. Fee per Hour

Current Charge: $101.00 per hour

Function Overview:

This fee provides an hourly rate for additional technical work to be undertaken as agreed up-front with the client / applicant.

Procedures:

- Agreed work as required.

Proposed charge = $91.00 per hour

53. Remote Application Fee

Current Charge: $322.00

Function Overview:

This application fee covers applications made for a compliance certificate in an area remote from Hunter Water services. The application fee covers the basic processing of each application to issue a certificate.

Explanation:

This fee has been introduced to provide a more equitable charge for remote applications that only require a compliance certificate to be issued.

Procedures:

- Register applications
- Property management response
- Prepare section 50 certificate
- Review section 50 certificate
- Issue certificate (Certificate sent)

Total time for function = 83 mins

Proposed charge = $207.00

54. Indicative Requirements Fee

Current Charge: $322.00

Function Overview:

Some developers require advance advice of a development proposal. This charge covers techncial assessment of a proposed development and general advice on the level of developer servicing plan charges. To process a preliminary application advice is often sought from Hunter Water's Planning Group regarding available system capacity and the requirement for augmentation works to the existing systems.

Explanation:

This is a new charge for this submission. It is proposed that a standard fee be introduced for all preliminary applications. This charge does not cover the considerable work involved in processing these requests.

Procedures:

- Register application
- Identify DSP areas and charges
- Determine requirements of additional capacity
- Obtain capacity response from the Planning Group
- Complete technical report
- Prepare preliminary servicing advice
- Review preliminary servicing advice
- Approve preliminary servicing advice
- Issue preliminary servicing advice

Total time for function = 227 mins

Proposed charge = $343.00

55. Strategy Review

Current Charge: Not charged

Function Overview:

Major developments often require the preparation of a servicing strategy for the whole development. Consulting engineers are engaged to prepare this strategy on behalf of a developer of the proposed development. Hunter Water undertalkes to review these strategies to ensure they are consistent with current planning guidelines. These reviews require considerable technical and engineering time and effort to review and provide a response.

Explanation:

This is a new charge for this submission. It covers the costs of both Business and Urban Development and Planning Group employees in reviewing and providing a response. This process also involves considerable negotiation with external consultants in updating stratergy review inputs and findings.

Procedures:

- Receive comment from the Planning Group
- Review Planning Group's comments and strategy
- Prepare consultant response
- Await consultant comments
- Negotiate aspects of strategy
- Review final comments from consultant
- Approve strategy

Total time for function = 345 mins

Proposed charge = $516.00

56. Hydraulics Assessment Application – 80mm service and above

Current Charge: $193.00

Function Overview:

This service covers administration and system capacity analysis, as required. This includes hydraulic assessment and processing. Assessment and in-principle approval of water meter sizes and services is provided.

Explanation:

The total cost of this services reflects the considerable extra time taken to carry-out technical assessment for large watermain connections. This fee applies where an applicant requires cut-in to a large watermain.

Procedures:

- Determine hydraulic design assessment
- Complete residential hydraulic assessment
- Complete non-residential hydraulic assessment
- Prepare hydraulic design assessment letter
- Approve hydraulic design assessment letter
- Forward hydraulic assessment letter to consultant

Total time for function = 203 mins

Proposed charge = $327.00

PROPOSED CUSTOMER SERVICE MISCELLANEOUS CHARGES SUMMARY

Service No	Function	Description	Existing Charge 2004/05	Proposed Charge (2004$)	Predicted Quantity	Predicted Income
1	Conveyancing Certificate	Statement of outstanding rates and charges: a) Over the counter b) Electronic	 $14.00 $9.20	 $19.10 $7.50	 4,000 16,000	 $76,400 $120,000
2	Property Sewerage Diagram	Diagram showing the location of the house-service line, building and sewer for a property a) Certified b) Uncertified i. Over the counter ii. Electronic	 Not available $10.00 Not available	 $13.80	 800	 $11,040
3	Service Location Diagram	Diagram showing the location of sewer and / or water mains in relation to property's boundaries a) Over the counter b) Electronic	 $10.00 $9.20	 $13.80 $8.00	 3,000 9,000	 $41,400 $72,000
4	Special Meter Reading Statement	Provide a statement of account where customers request a special meter reading.	$45.00	$60.50	100	$6,050
5	Billing Record Search Statement	Customer requested search of Hunter Water's archived financial reports up to and including 5 years.	$37.00	$48.85	15	$730
6	Building Over or Adjacent to Sewer Advice	Statement of approval status for existing building over, or adjacent to, sewer.	$20.00	$23.35	200	$4,670
7	Water Reconnection - after restriction	Initial restriction / disconnection of water supply for non-payment of rates and charges plus restoration of water supply: a) During business hours b) Outside business hours	 $32.00 $74.00	 $52.95 $159.10	 4,500 2	 $238,275 $320

Service No	Function	Description	Existing Charge 2004/05	Proposed Charge (2004$)	Predicted Quantity	Predicted Income
8	Workshop Test of Water Meter	Removal and full mechanical test of meter by an accredited organisation at the customer's request to determine the accuracy of the water meter. This involves dismantling and inspection of meter components.	20mm - $186.40 25mm - $186.40 32mm - $220.50 40mm - $220.50 50mm - $243.60 65mm - Not available 80mm - $268.60 100mm - $313.70 150mm - $313.70 Strip test: 20mm - Not charged >20mm - Not charged	$171.50 $171.50 $213.30 $229.30 50mm (light) - $253.50 50mm (heavy) - $465.00 $465.00 $469.00 $545.50 $545.50 $50.00 At cost	15 4 2 4 4 2 2 15	$2,570 $686 $427 $917 $1,860 $938 $1,091 $750
9	Application for Water Disconnection - all sizes	Process applications to disconnect an existing water service.	$24.00	$27.60	250	$6,900
10	Application for Water Service Connection - up to and including 25mm	Process applications to connect a new water service. This covers the administration fee only.	$24.00	$31.85	500	$15,925
14	Standpipe Hire - security bond	Moneys paid by standpipe hirers and held in a public moneys account, refundable upon return of the standpipe in an undamaged state and upon payment of all outstanding hire and usage charges.	20mm - $300.00 32 and 50mm - $700.00	$300.00 $700.00	-	Not Income

Service No	Function	Description	Existing Charge 2004/05	Proposed Charge (2004$)	Predicted Quantity	Predicted Income
15	Standpipe Hire - annual, quarterly & monthly fees	Hire of a portable metered standpipe to extract water from Hunter Water's watermains.				
		Annual Fee	Not available			
		Quarterly Fee – 3 monthly – 4 monthly	Not available 20mm - $34.00 32mm - $66.00 50mm - $71.00	 $22.40 $56.00 $60.00	 110 170 20	 $2,464 $9,520 $1,200
		Monthly Fee (or part thereof)	20mm - $21.00 32mm - $29.00 50mm - $31.00	$10.60 $19.00 $20.00	20 20 20	$212 $380 $400
16	Standpipe Water Usage Fee	Charge per kilolitre of measured consumption on a standpipe.	As per water usage charge per kilolitre	As per water usage charge per kilolitre	-	-
17	Backflow Prevention Device Application & Registration Fee	The initial registration of a backflow prevention device.	$10.00	$19.10	320	$6,110
18	Backflow Prevention Device Annual Administration Fee	Maintenance of backflow prevention device records, including logging of inspection reports.	$16.00	$12.75	1,000	$12,750
21	Application to Connect / Disconnect Sewer or for a Special Internal Inspection Permit	Process applications to connect a new sewer service or to disconnect an existing sewer service or apply for a special internal inspection permit.	$26.00	$35.05	500	$17,525
22	Application to Connect / Disconnect Water & Sewer Services - combined application	Process combined application to connect a new water and sewer service or to disconnect an existing water and sewer service.	$28.00	$37.20	2,500	$93,000

Service No	Function	Description	Existing Charge 2004/05	Proposed Charge (2004$)	Predicted Quantity	Predicted Income
23	Irregular & Dishonoured Payments	Functions relating to cheques returned by banking authorities as irregular or dishonoured, and direct debit payment declines.	**Banking Authority:** Irregular / dishonoured cheques - $26.00 Direct debit decline $19.00 **Australia Post:** Irregular / dishonoured cheques - $31.00	$20.60 $13.10 $25.60	170 1,200 50	$3,500 $15,720 $1,280
24	Request for Separate Metering of Strata Units	Process a request from a Body Corporate for separate sub-metering of individual units within a registered Strata Plan	Up to 4 units - $54.00 5 to 10 units - $62.00 > 10 units - $70.00	$66.65 $84.30 $108.90	60 20 15	$4,000 $1,686 $1,633
25	Water Meter Re-Read	Re-read a water meter because a customer has not returned a self-read card left during the normal reading cycle because the meter was inaccessible. This charge also applies to standpipe re-reads.	$33.00	$47.25	80	$3,780
26	Wyee East Water Contribution	Special charge to connect to Wyee East Water Reticulation System.	$1,293.00	$1,293.00	2	$2,586
27	Determining Requirements for Building Over / Adjacent to Hunter Water Sewer or Easement	Attaching conditional requirements to Council approved building plans to safeguard Hunter Water assets.	$46.00	$55.75	1,300	$72,475
28	Application for a Metered Standpipe	Process applications for the hire of portable metered standpipes.	Not charged	$111.50	40	$4,460
29	Meter Affixtures	Installation of meters for new connections.	Not charged	$20.00	4,000	$80,000

Service No	Function	Description	Existing Charge 2004/05	Proposed Charge (2004$)	Predicted Quantity	Predicted Income
30	Inspection of Non-Compliant Meters	Inspection of properties to assess requirements to make a meter accessible and / or where a second inspection is required for strata metering (where initial application was non compliant)	Not charged	Up to 4 units - $31.60 5 to 10 units - $38.60 > 10 units - $52.60 Inaccessible meters - $31.60	50 30 25 100	$1,580 $1,158 $1,315 $3,160
31	Special Inspections	Inspection of rainwater tanks and water storage tanks to ensure adequate backflow for protection of Hunter Water supply and inspection of temporary toilet connections to the sewer on large building sites.	Not charged	$60.55	100	$6,055
32	Connect to or Building Over / Adjacent to Stormwater Channel for a Single Residence	Process applications from customers connecting a single residence to a stormwater channel or erecting a single residence over / adjacent to a stormwater channel held by Hunter Water.	Not charged	$65.10	20	$1,302
Total Income						**$952,200**

PROPOSED URBAN DEVELOPMENT MISCELLANEOUS CHARGES SUMMARY

Service No	Function	Description	Existing Charge 2004/05	Proposed Charge (2004$)	Predicted Quantity	Predicted Income
11	Application for Water Service Connection - 32 to 65mm	This covers administration and system capacity analysis as required including hydraulic assessment. Applicable where a new meter connection is required. Also includes fee for connection to service.	$217.00	$277.00	Included with Statement of Pressure & Flow (no. 31)	Included with Statement of Pressure & Flow (no. 31)
12	Application for Water Service Connection - 80mm or greater	This covers administration and system capacity analysis as required including hydraulic assessment and processing and assessment of tee and valve requirements. Applicable where a new meter connection is required. Also includes fee for connection to service.	$363.00	$507.00	Included with Hydraulic Assessment Application – 80mm and above (no. 58)	Included with Hydraulic Assessment Application – 80mm and above (no. 58)
13	Application to Assess a Watermain Adjustment - Moving and fitting and / or adjusting a section of watermain up to and including 25 metres in length	This covers preliminary advice as to the feasibility of the project and will cover either: 1) A rejection of the project in which case the fee covers the associated investigation costs, or 2) Conditional approval in which case the fee covers the administration costs associated with the investigation and record amendment.	$322.00	$343.00	Included with Application Fee (no. 43)	Included with Application Fee (no. 43)
19	Major Works Inspection Fee	This fee is for the inspection for the purpose of approval of water and sewermains constructed by others that are longer than 25 metres and / or greater than 2 metres in depth.	Watermains - $6.10 / metre Gravity Sewermains -$9.30 / metre Rising Sewermains / CEP - $6.10 / metre	$6.30 / metre $9.50 / metre $6.30 / metre	44,655m 60,388m 6,908m	$898,533

Service No	Function	Description	Existing Charge 2004/05	Proposed Charge (2004$)	Predicted Quantity	Predicted Income
20	Statement of Available Pressure & Flow	Water pressure report detailing relative water pressures in Hunter Water's watermains. This fee covers all levels whether modelling is required or not to investigate available pressure and flows at specific flow rates from Hunter Water's main.	$176.00	$280.00	218	$61,040
33	Stormwater Channel Connection	New developments unable to drain to the street drainage system may be serviced by a Hunter Water stormwater channel if available. The fee covers the cost of assessment.	$140.00	$258.00	12	$3,096
34	Hydraulic Assessment Application - less than 80mm service	The *NSW Code of Practice: Plumbing and Drainage* requires developments with large domestic or fire water demands and / or trade waste discharges to lodge hydraulic designs for Hunter Water's approval. This service is normally provided to redevelopments using an existing meter.	$193.00	$245.00	156	$38,220
35	Pump Station Design Assessment	Pump station designs prepared by consultants are audited to ensure compliance with Hunter Water standards.	Water Pump Station - $2,407.00 Sewer Pump Station - $2,643.00	$2,552.00 $2,808.00	10 10	$53,600
36	Application to Assess Sewermain Adjustment	This covers preliminary advice as to the feasibility of the project and will cover either: 1) A rejection of the project in which case the fee covers the associated investigation costs, or 2) Conditional approval in which case the fee covers the administration costs associated with the investigation and record amendment.	$322.00	$343.00	Included with Application Fee (no. 43)	Included with Application Fee (no. 43)

Service No	Function	Description	Existing Charge 2004/05	Proposed Charge (2004$)	Predicted Quantity	Predicted Income
37	Indicative Developer Charge Application	This fee covers assessment of the proposed development and determination of indicative developer charges.	$134.00	$227.00	6	$1,362
38	Revised Notice Letter Application	The revision fee covers the cost of recalculating the developer charge and reviewing the construction requirements.	$286.00	$289.00	178	$51,442
39	Bond Application	This fee covers the lodging and release of a bond, and an estimation of the cost of outstanding works, where a developer wishes to provide security in lieu of constructing works to facilitate early release of Hunter Water compliance certificates.	$658.00	$1,122.00	10	$11,220
40	Bond Variation	This charge covers Hunter Water's administration cost for adjustment of securities.	$147.00	$163.00	0	$0
41	Application Fee - section 50	The application fee covers the basic processing of each application to determine if there are any requirements such as developer charges or the construction of works.	$322.00	$343.00	1,852	$635,236
42	Application for Water / Sewer main Extensions	Unserviced property owners can apply for approval to extend water and / or sewer mains. Hunter Water calculates appropriate developer charges and extension options based on system capacity and topographical constraints.	$322.00	$343.00	Included with Application Fee (no. 43)	Included with Application Fee (no. 43)
43	Assessment of Minor Works	Some applications required relatively minor works – typically 1 into 2 lot subdivisions in urban areas where water and sewer facilities are connected to the lot being subdivided. The resources required to assess minor works designs are considerably less than those required for large developments.	$474.00	$542.00	542	$293,764

Service No	Function	Description	Existing Charge 2004/05	Proposed Charge (2004$)	Predicted Quantity	Predicted Income
44	Assessment of Major Works	This category consists principally of large subdivisions or 'greenfield' sites. As a result of the works being large scale applicants are required to engage consultants to prepare the designs. Following approval of the designs, construction is supervised by Hunter Water, which also carries out the work-as-executed survey and connections to live watermains. These fees are separately charged.	$1,783.00	$1,948.00	262	$510,376
45	Connection to Existing Water System - major works	This fee covers shut down to allow connections to existing mains and recharging the main.	$555.00	$614.00	128	$78,592
46	Insertion or Removal of Tee & Valve - shut down and charge up	Hunter Water is required to identify the shutdown area, issue pre-shutdown notices to affected customers, shutdown the water system to allow the contractor to connect new water systems and restore the water supply following connection.	Shutdown and charge up - $555.00 Shutdown, insert tee & valve, and charge up - $695.00 Operations to do whole job - Quote	$614.00 $769.00 Quote	115	$70,610
47	Application for Additional Sewer Connection	Development requiring alternative sewer connection points must make an application to Hunter Water. Review of options and assessment of drawings or designs.	$140.00	$258.00	n/a	n/a
48	Tee & Valve Connection	Water services greater than 80mm diameter require special connection arrangements to Hunter Water's mains and are covered by an agreement and technical specification prepared on application.	$146.00	$149.00	92	$13,708

Service No	Function	Description	Existing Charge 2004/05	Proposed Charge (2004$)	Predicted Quantity	Predicted Income
49	Minor Works Inspection Fee	Auditing of works constructed under minor works contracts to ensure that specified quality is being achieved.	$147.00	$147.00	374	$54,978
50	Major Works Inspection & WAE Fee	Comprises inspection / audit of works constructed under major works contracts to ensure that specified quality is achieved. Work-as-executed comprises survey of the constructed work and modifying plans to detail the precise location of the work for inclusion in Hunter Water GIS database.	Water Pump Stations - $3,600.00 Sewer Pump Stations - $5,150.00	$3,950.00 $5,350.00	0 4	$21,400
51	Application to Assess Encroachment on Hunter Water Land, Easement Rights or Assets	This fee if for a first pass review of an application to allow Hunter Water to advise requirements to be met and a quote for additional, more detailed assessment.	$203.00	$251.00	0	$0
52	Fee per Hour	This fee provides an hourly rate for additional technical work to be undertaken as agreed up-front with the client / applicant.	$101.00 / hour	$91.00 / hour	n/a	n/a
53	Remote Application Fee	This fee covers applications made for a compliance certificate in an area remote from Hunter Water services and includes the basic processing of each application to issue a certificate.	$322.00	$207.00	34	$7,038
54	Indicative Requirements Fee	This charge covers technical assessment of a proposed development and general advice on the level of developer servicing plan charges.	$322.00	$343.00	100	$34,300

Service No	Function	Description	Existing Charge 2004/05	Proposed Charge (2004$)	Predicted Quantity	Predicted Income
55	Strategy Review	Major developments often require the preparation of a servicing strategy for the whole development. Consulting engineers are engaged to prepare this strategy on behalf of a developer and Hunter Water reviews these strategies to ensure they are provide optimal connection options and are consistent with current guidelines.	Not charged	$516.00	30	$15,480
56	Hydraulics Assessment Application - 80mm service and above	This service covers administration and system capacity analysis, as required. This includes hydraulic assessment and processing. Assessment and in-principle approval of water meter sizes and services is provided.	$193.00	$327.00	92	$30,084
Total Income						**$2,884,079**