HUNTER WATER

SUBMISSION TO IPART | REVIEW OF DEVELOPER CHARGES | FOR METROPOLITAN WATER AGENCIES | DECEMBER 2007

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SUBMISSION TO IPART'S REVIEW OF DEVELOPER CHARGES FOR METROPOLITAN WATER AGENCIES

December 2007

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Summary

Hunter Water has been applying the methodology for calculation of developer charges since its initial announcement by IPART in the 1996 price determination and its subsequent modification in 2000.

Overall, Hunter Water has few issues with the methodology, which is working well in the Corporation's area of operations.

Hunter Water believes it is preferable for developer charges to continue to be set by agencies with the requirement that agencies follow a methodology prescribed by IPART to fix maximum prices.

Hunter Water believes the current level of oversight is consistent with IPART's long-standing position on "light-handed" regulation and is appropriate. Hunter Water receives very little adverse feedback from developers about the application of the methodology, which suggests that the Corporation's application of the methodology is "about right".

Hunter Water supports clarity, transparency and consistency in application of the methodology.

The modifications to the 2000 developer charges methodology introduced with the 2006 recycled water determination are considered to be appropriate to developer charges more generally. Overall, a single determination - covering recycled water as well as conventional water, sewer and drainage infrastructure - is simpler to administer and the consistency in approach makes explanation of the process to customers easier.

The principles for establishing DSP boundaries discussed in the report accompanying IPART's 2000 Developer Charges Determination are supported by Hunter Water and, if reflected in the new determination, would provide the flexibility for balancing the user pays (asset nexus) principle with price signalling and administrative efficiencies.

The assessment of asset costs currently undertaken by Hunter Water is considered to be transparent and appropriate. Hunter Water applies the principle that only assets provided to meet population growth are recovered via developer charges. Where a specific asset provides for growth and other objectives, such as an improvement in service to existing customers, only the proportion attributable to servicing growth is included.

Hunter Water believes that, in general, the existing determination allows water agencies to match the growth profile with the specific circumstances of the DSP area. Hunter Water has adopted a "moving window" approach to the inclusion of existing assets by rolling forward the starting date for inclusion by 5 years at each 5-yearly DSP review. Hunter Water does not necessarily believe that this roll forward approach needs to be mandated as part of the methodology but the flexibility to follow such an approach should be retained.

Demand can vary substantially with end use, time, climate and location of the user, necessitating a consumption parameter specific to the water agency's area of operations. The consumption parameter could be calculated when DSPs are reviewed, based on 5 – 10 years of metering data. At this stage insufficient data exists to adjust the consumption parameter for the effects of BASIX.

In principle, the discount rate for each agency should reflect the target real pre-tax rate of return in the agency's most recent determination of periodic prices. This discount rate would be adopted in the subsequent periodic revision of DSPs.

Hunter Water cannot see significant benefits to standardising calculation worksheets across water agencies. Such a standardisation may present difficulties in uploading existing electronic data sources to the spreadsheet because each agency's electronic data sources are configured differently. However, Hunter Water does see merit in standardising the way data is presented in the DSPs to aid developers in reviewing the charges.

In principle, Hunter Water supports the current dispute resolution process. The process could be strengthened by IPART seeking powers to arbitrate developer charges disputes.

Hunter Water would prefer adoption of revised DSPs and charges no earlier than 1 July 2009, to align with implementation of new periodic prices. Hunter Water also suggests Section 3.2 of the determination is amended to allow for more frequent reviews of DSPs if necessary (due to significant changes in demographic assumptions or asset requirements).

1 Introduction

1.1 This Submission

This submission provides Hunter Water's views on possible improvements to the current developer charges determination. It also responds to the Independent Pricing and Regulatory Tribunal's (IPART) November 2007 issues paper outlining the Tribunal's key issues for the current review of developer charges.

The submission draws on Hunter Water's experience in applying the methodology for calculation of developer charges initially determined by IPART in 1996, its subsequent modification in 2000 and the recent addition of a methodology for calculation of recycled water developer charges in 2006.

This submission is structured as follows:

1. Introduction	Includes background information on the services provided, asset types, DSP areas and developer charge ranges in the Hunter. Later parts of the submission draw on this information to explain Hunter Water's position on various issues.
2. General principles	Outlines principles that Hunter Water believes should underpin the Tribunal's decisions related to regulation of developer charges.
3. New issues	Addresses issues raised in IPART's issues paper (issues 2-6) on new matters that have arisen since the 2000 Developer Charges Determination.
4. Issues covered by the Existing Water, Sewerage and Stormwater Determination	Addresses issues raised in IPART's issues paper (issues 8-34).
5. Issues covered by the Recycled Water Determination	Presents issues on which Hunter Water is seeking clarification.
6. Other considerations	Presents views on implementation practicalities and items where Hunter Water is seeking clarification.

1.2 The Hunter Water Context

Hunter Water Corporation is a State-owned Corporation and the water and wastewater provider to over 500,000 people in the urban communities in five local government areas in the lower Hunter Valley, New South Wales. The area of operations has recently expanded to include parts of the Shire of Singleton[1] and will soon include the areas currently serviced by Dungog Shire Council's water and sewer business[2].

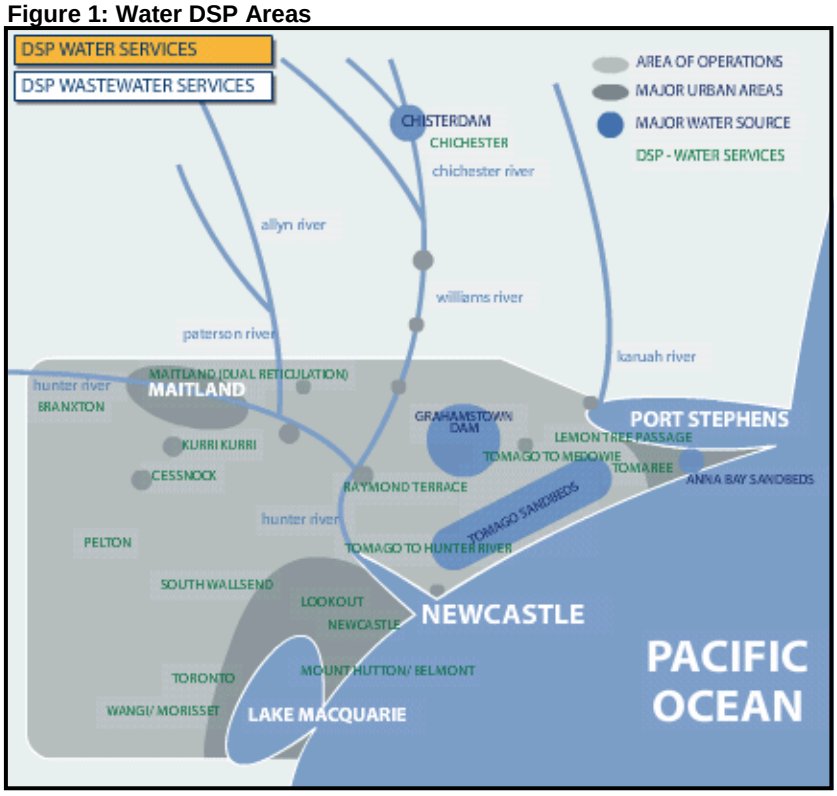
1.2.1 Water Services

Hunter Water has a large interconnected water supply distribution system for drinking water across the lower Hunter's urban areas, with over 200,000 properties connected to the water network.

Hunter Water's water service developer charges are made up of two components:

- A water headworks charge, and
- A water supply system charge.

Figure 1: Water DSP Areas



The "headworks" charge covers the cost of augmenting the Corporation's raw water sources, water treatment facilities and headworks delivery systems. The Corporation's raw water sources are Grahamstown Dam, Chichester Dam, Tomago Sandbeds and Anna Bay Sandbeds. In the next few years, Hunter Water will be augmenting its raw water sources by building Tillegra Dam near Dungog, as directed by the NSW Government. Headworks also include major water treatment facilities at Grahamstown (supplied by Grahamstown Dam and the Tomago Sandbeds) and Dungog and minor groundwater treatment facilities serving the Port Stephens area. All these sources are interconnected and, to a degree, can supplement each other or can be used interchangeably.

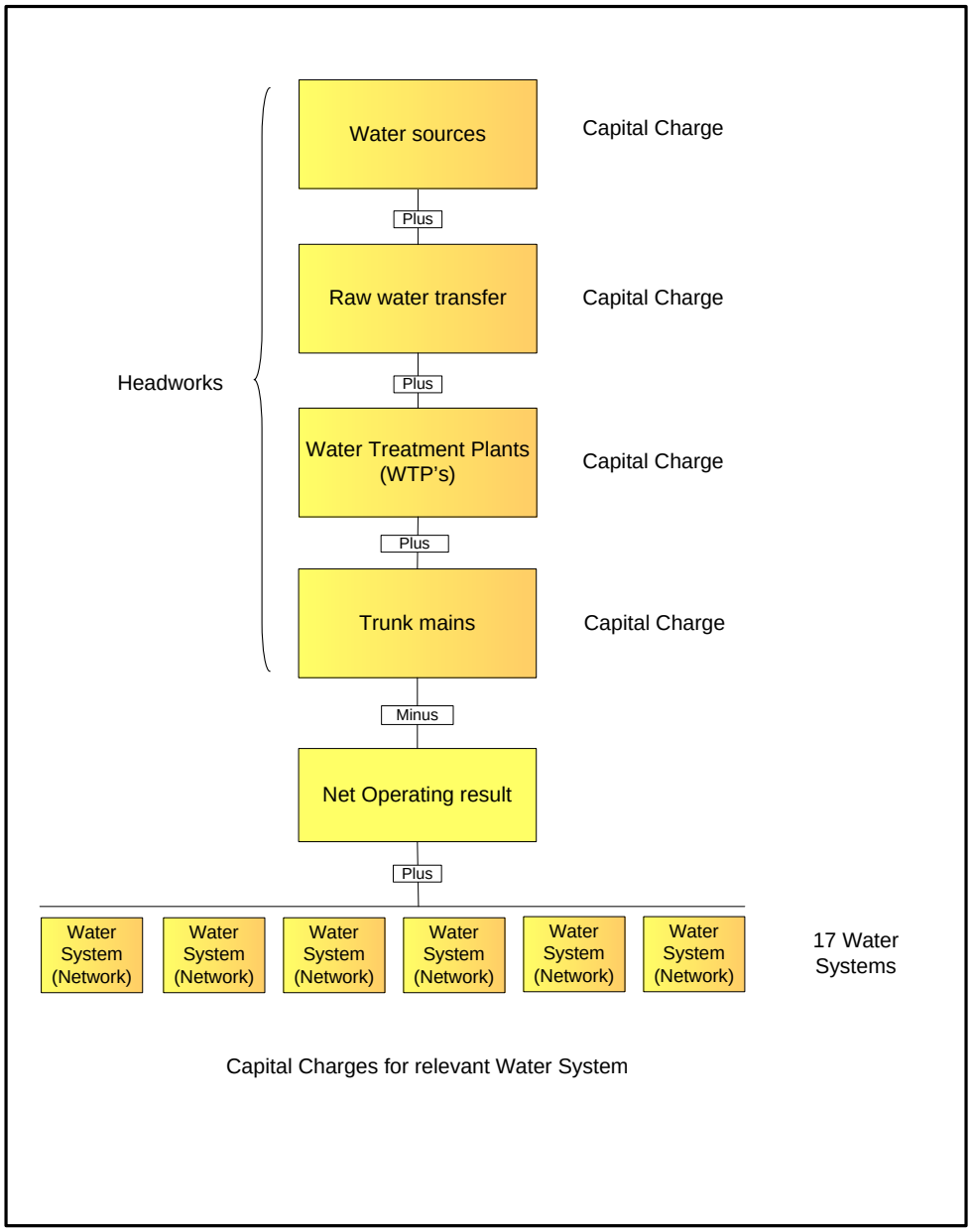
[1] See IPART, 2000 (a), Schedule 1

[2] Dungog Shire Council resolved at its general meeting on 16 October 2007 to transfer its water and sewer business to Hunter Water Corporation. This decision provides a range of benefits to the Shire's water and sewer customers including receiving lower charges and defined high standards of service in accordance with Hunter Water's operating licence.

There is currently a single water headworks DSP area, reflecting the interconnectivity of the water sources. Hunter Water applies the net operating result[3] required under the developer charges methodology to the headworks component of the developer charge. For headworks, the net operating result currently exceeds the capital charge.

There are currently 17 water supply system Development Servicing Plan (DSP) areas (see Figure 1). The composition and calculation of Hunter Water's water developer charges is illustrated in Figure 2.

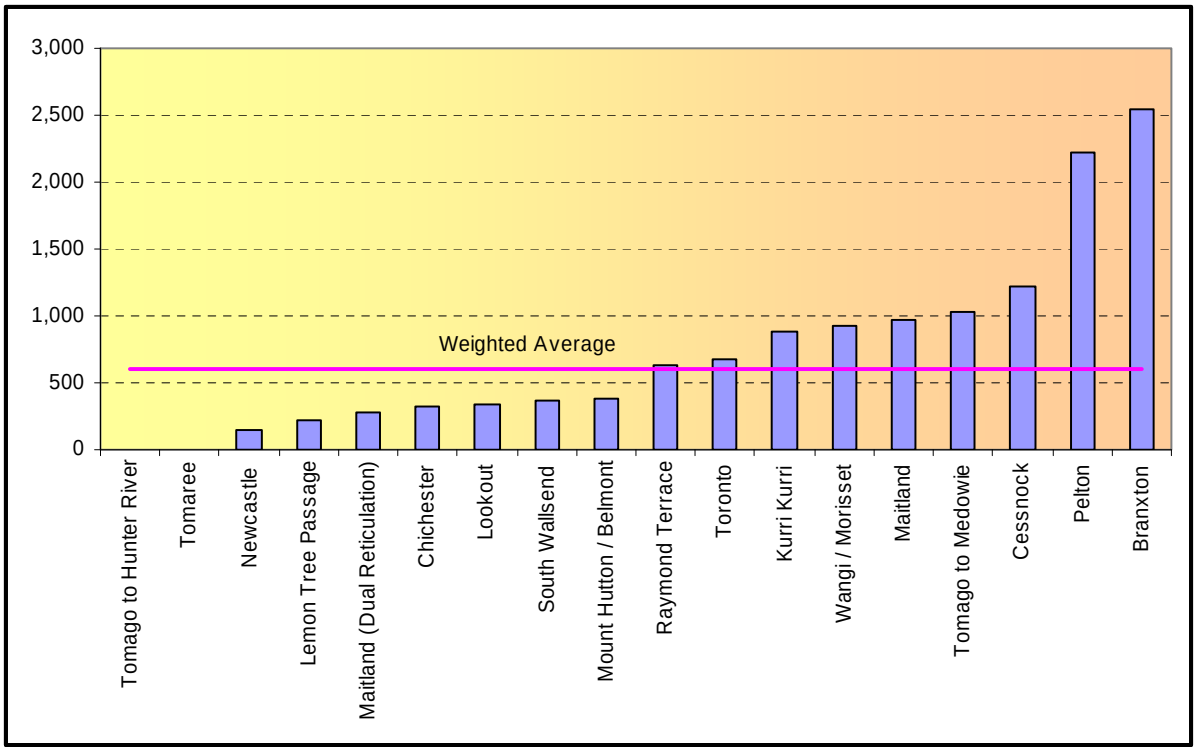
Figure 2: Composition of water developer charges



When the headworks developer charge and the water supply system charges are added together, the total water charge (i.e. headworks and supply system charges), ranges from $0/ET to $2,543/ET for the single residential property classification (see Figure 3). This total takes account of the fact that the net operating result for headworks is currently greater than the capital charge.

[3] As defined in Schedule 4 of the 2000 Developer Charges Determination, is the net present value of the future net operating profits (or losses) expected to be derived from providing the services to the DSP area divided by the net present value of the number of ET in the DSP area.

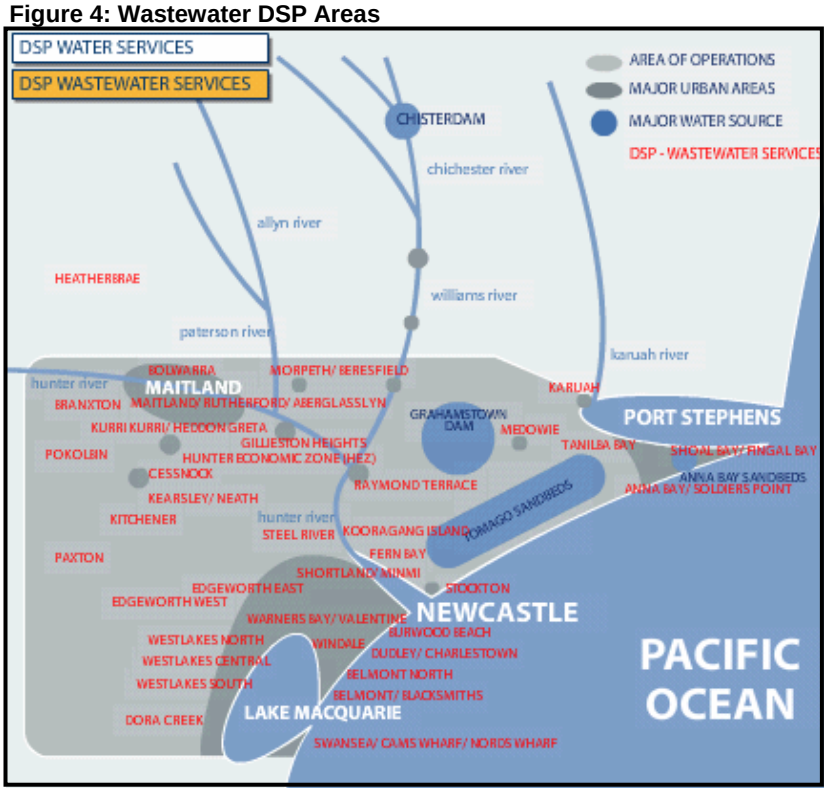
Figure 3: Water DSP charges – single residential (2007/08$)



1.2.2 Wastewater Services

Hunter Water collects and transports wastewater from over 200,000 properties connected to the wastewater network. There are currently 37 sewerage system (network) DSP areas (see Figure 4). In some cases, a number of these systems may discharge to the same wastewater treatment plant.

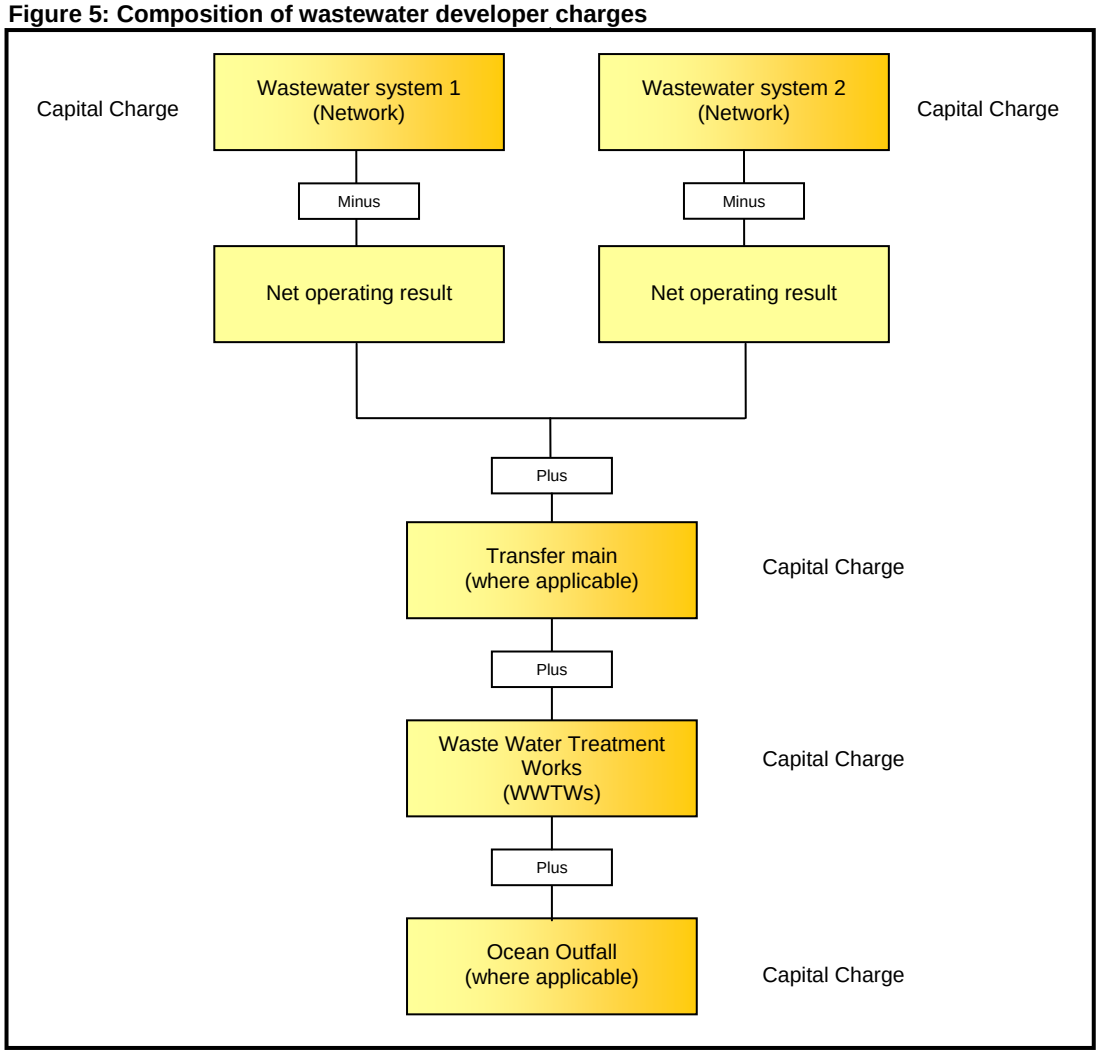
Figure 4: Wastewater DSP Areas



Hunter Water treats and disposes of the region's wastewater via 17 wastewater treatment plants. Five of these are large ocean discharge plants. Three plants discharge to the lower Hunter River or its estuary, one plant discharges via infiltration beds to coastal sandbeds and six smaller plants discharge to inland creeks. Treated effluent from the remaining two plants is fully recycled.

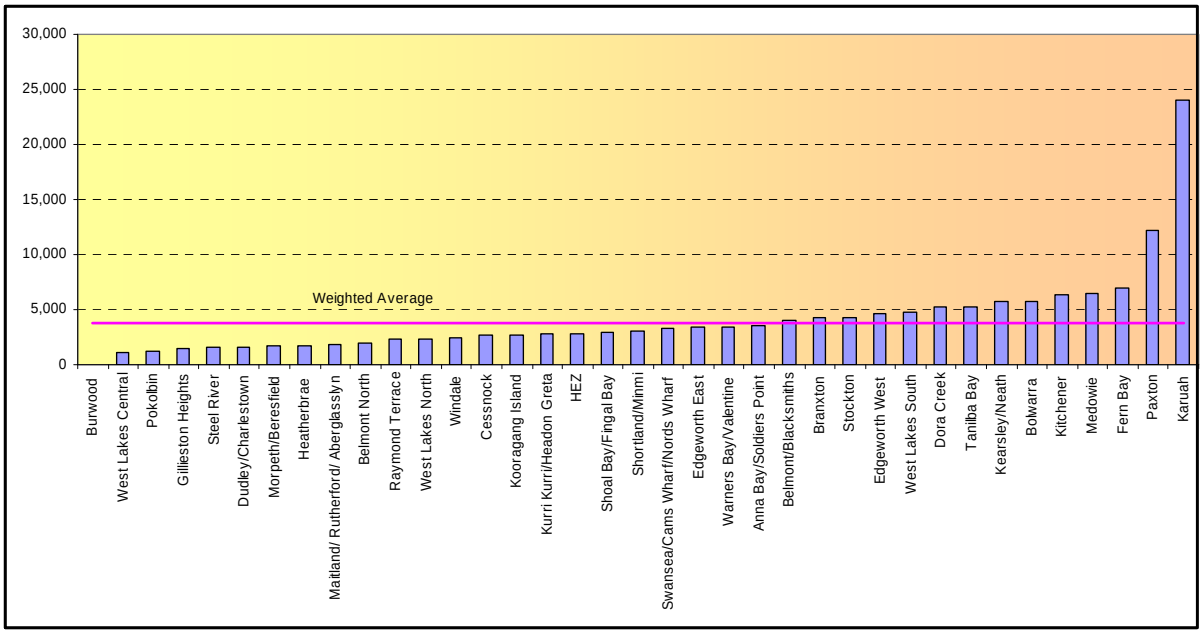
There are currently 17 wastewater treatment works DSP areas. Transfer main and ocean outfall charges also apply where relevant. There are currently only two wastewater transfer main DSP areas and one ocean outfall DSP area. The composition and calculation of Hunter Water's wastewater developer charges is illustrated in Figure 5.

Figure 5: Composition of wastewater developer charges



For wastewater, the net operating result is deducted from the relevant wastewater system (network) capital charge. Adding together all applicable elements, the total wastewater charge payable ranges from $0/ET to $24,031/ET for the single residential property class, with most being below $5,000/ET (see Figure 6).

Figure 6: Wastewater DSP charges – single residential (2007/08$)



1.2.3 Stormwater Services

Hunter Water also provides some stormwater services to the lower Hunter, with 100km of stormwater channels in Cessnock, Lake Macquarie and Newcastle. Hunter Water's stormwater systems are only the major trunk drainage channels that are fed by the stormwater systems owned and managed by the various local government authorities.

Currently, there are no developer charges associated with Hunter Water's stormwater services because there are no post-1975 assets and Hunter Water's responsibilities under the *Hunter Water Act 1991* require the Corporation to maintain the hydraulic capacity existing at that time. As a result, no major augmentations have been made or are planned.

Within Hunter Water's area of operations, local government has responsibility for requiring new developments to take steps to control any increased flows as a result of the development. Councils generally require new developments to install mitigation and control system such as detention basins. Such measures are a structural alternative to Hunter Water imposing developer charges to augment capacity in the trunk network.

1.2.4 Recycled Water Services

Hunter Water provides recycled water services under a wide range of conditions and circumstances. At this time, supply of recycled water is a small but growing component of the Corporation's core services. In the longer term recycled water services will eventually become its own business stream.

Hunter Water does not consciously set out to provide recycled water as a universal service across the whole, or even parts, of its area of operations but rather seeks to find environmentally sensitive recycling opportunities that can be serviced in a cost-effective way from existing wastewater treatment facilities. Currently, recycled water as a product is very much in a development stage and new opportunities, such as reticulated residential recycling, are rapidly presenting themselves as new residential subdivisions displace agriculture around some inland treatment plants and drivers such as BASIX strengthen demand.

The Corporation is currently preparing to exhibit DSPs for its first reticulated recycled water residential development areas - an area where some development activity is already underway and other areas that are imminent prospects of development. For Hunter Water, this has necessitated fast-tracking design, particularly of the additional treatment required.

As a courtesy to the developers with interests in these areas, Hunter Water has used preliminary design work to calculate interim developer charges for recycled water. This has generally been appreciated by the developers concerned but has also caused some difficulties. This matter is discussed further in Section 6.1.

The difficulties also result from problems with IPART's definition of "mandated schemes" for recycled water. In fact, IPART's Determination No. 8, 2006 for recycled water developer charges does not in itself define mandated schemes. However, the accompanying report provides different pricing guidelines for "mandated" and "voluntary" schemes. This issue is discussed more fully in Section 5.1.

2 General Principles for Developer Charges

Hunter Water believes that developer charges should achieve the key objectives followed by IPART in the setting of other prices. In particular, developer charges should be economically efficient, ensure revenue adequacy, be transparent and administratively simple and be equitable in the allocation of charges to customers. Accordingly, developer charges should:

- Be **cost reflective** so as to send **efficient resource allocation signals** i.e. developer charges should recover the incremental costs incurred by Hunter Water to service developments at different locations and using different infrastructure.
- Complement periodic charges so as to ensure revenue adequacy by **full cost recovery** of capital and operating costs with mechanisms to take account legitimate cost offsets (e.g. whole-system avoided costs[4] and government grants).
- Be presented to customers in a form that is **simple and easily understood**. The derivation of developer charges should be **accessible** and based on **supported cost data and forecasts**.
- Be derived using a methodology that is **robust** and sufficiently **flexible** to deal with different circumstances.
- Be **equitable** and minimise cross-subsidies between customer groups and locations.

[4] "Whole-system" refers here to the total water supply and wastewater systems of the agency, including potable water, wastewater and recycled water. It recognises that avoided costs from investing in infrastructure for one service may show up as a saving somewhere else in the system.

3 New Issues

3.1 Single determination

Issue 2: Is there benefit in having one developer charge determination covering both recycled water services and water, sewerage and stormwater services?

Hunter Water supports the view that a single determination would be appropriate. While recycled water developer charges are currently covered by a separate determination, the cost recovery concepts and the resultant methodology are essentially the same as that used for potable water and sewerage services. There are some refinements in the application of the calculation methodology in the recent recycled water determination and, as outlined in the following section, these are appropriate to the calculation of developer charges more widely.

Overall, a single determination is simpler to administer and the consistency in approach makes explaining the process to customers easier.

IPART's 2006 recycled water determination recognised that providing recycled water often leads to savings in investments in the water and wastewater system – i.e. investment in one system (recycled water) can result in savings in another (e.g. potable water supply). For example, providing recycled water to large residential subdivisions and industry may result in the significant deferral of the need to invest in source infrastructure to supply potable water. The investment savings from such a deferral are referred to as "avoided costs". A single determination would also enable any avoided costs that need to be taken into account in setting recycled water charges to be linked more clearly to the relevant water and wastewater development servicing plans.

Hunter Water supports the concept of a single determination.

3.2 Applying changes introduced in recycled water developer charges determination

Issue 3: Should the changes introduced in the recycled water developer charges determination be applied more broadly to developer charges for water, sewerage and stormwater services?

As indicated in the previous section, Hunter Water considers that the changes in the recent recycled water determination are appropriate to developer charges more generally.

Hunter Water supports:

- **Taking account of cost offsets:** IPART's 2006 report, *Pricing Arrangements for Recycled Water and Sewer Mining* (the IPART recycled water report) included guidelines for the treatment of avoided costs and any other costs recovered from parties other than the direct beneficiaries of the development.[5]

  While avoided costs are not common in the provision of general water and sewer infrastructure, it is conceivable that other cost offsets may arise from time to time. This is particularly so given the emergence of State and Commonwealth government programs providing financial assistance for water infrastructure. In this context, it is desirable to have explicit guidance on how cost offsets should be handled.
- **Varying the discount rate:** In the past, Hunter Water has argued that a consistent discount rate should be applied to the determination of all its charges. However, it is desirable to ensure that changes to the discount rate are transparently linked to the rates used in setting periodic charges and to avoid any confusion that may arise from applying different discount rates over time.

  A straight-forward approach may be to require agencies to apply the discount rate equal to real pre-tax rate of return set in the currently-applying periodic charges determination. This rate is

[5] See IPART, 2006 (b), Appendix C

currently 6.5%.[6] Thus any review of developer charges for a specific development servicing plan area would have charges set using a discount rate equal to the target real rate of return set in the prevailing periodic charges determination. Using this approach, discount rates would be set once every four years (i.e. the length of the periodic price period) so minimising any potential confusion that may arise from changing discount rates. The discount rate would be adopted in the subsequent 5-yearly revision of DSPs. This may result in some DSPs applying different discount rates if a rolling program of DSP revision is adopted.

Hunter Water supports taking account of offsets and varying the discount rate.

3.3 Regulatory oversight

Issue 4: Are there advantages or disadvantages if IPART was to provide additional regulatory oversight either before or after adoption of the DSPs and charges?

Hunter Water believes the current level of oversight is consistent with IPART's long-standing position on "light-handed" regulation and is appropriate. Hunter Water receives very little adverse feedback from developers about the application of the methodology, which suggests that the Corporation's application of the methodology is "about right". In other words, further regulatory oversight would just come at a cost to the Corporation (which needs to be funded in some way by customers) for little perceived advantage to developers.

While different agencies may take a different approach to setting out the calculation spreadsheets, Hunter Water considers the approach it uses is consistent with the IPART methodology and this is confirmed through the existing process whereby IPART approves the calculation worksheets when agencies review their charges. This provides a high level of assurance that the methodology is being applied appropriately.

Also, the potential effect of further oversight on developers needs to be considered. The development industry is one that is frequently characterised by:

- competitive pressures in securing land,
- long lead times, and
- staged implementation over long periods.

In this context, developers can be disadvantaged by delays in reviewing developer charges, particularly where timely decisions are needed in securing land and staging development. Further regulatory oversight almost certainly will add to the time taken to review developer charges as part of the 5-yearly review process and such delays will add to uncertainty for developers.

Hunter Water cannot see significant benefits in IPART providing additional regulatory oversight.

Issue 5: Are there advantages or disadvantages for IPART to develop, in conjunction with the water agencies and peak development bodies, a standard calculation spreadsheet?

Hunter Water developed the current calculation spreadsheet after Determination No. 9 was adopted in 2000 and has used the spreadsheet in both the 2001 and 2006 reviews of DSPs carried out by the Corporation. The spreadsheet has been modified slightly between the DSP reviews to improve clarity and to standardise both calculations and presentation as much as possible across the various DSP areas (wastewater treatment works, water supply system etc). Using standard calculation worksheets from one DSP review to the next provides consistency and ease of review for both Hunter Water and developers.

A significant advantage of using spreadsheets developed in house by the agencies is that such spreadsheets can be built to link to the utilities existing databases. This provides the flexibility to efficiently and accurately integrate information from various electronic sources into the calculation

[6] See IPART, 2005, Section 7.3

worksheet. For example, existing asset information is sourced from Hunter Water's asset registers. The calculation worksheets have been formatted to allow direct electronic transfer of information from these registers to the calculation worksheet.

Hunter Water sources demographic and future asset information from its planning documents (servicing strategies and capacity reviews). Most of these planning documents are prepared by consultants. Hunter Water has established standard formats for these planning documents that generally allow direct inclusion of data into the developer charges calculation worksheet. This link between the strategies and the developer charges worksheets creates efficiencies for Hunter Water and provides transparency to developers.

Hunter Water cannot see significant benefits to standardising calculation worksheets across water agencies. However Hunter Water does see some benefit in standardising the way data is presented in the DSPs to aid developers in reviewing the charges.

If the Tribunal chooses to pursue a standardised spreadsheet, Hunter Water would expect that there would be extensive consultation with the agencies to ensure that any standard format does not compromise data transfer processes or reduce the flexibility available from the discretionary decision making now available in calculating charges.

3.4 Water Industry Competition Act 2006

Issue 6: What issues may arise in the application of developer charges in light of the Water Industry Competition Act 2006*?*

The emergence of retail competition possibly has potential to produce inconsistencies in the way source and tailwork development and augmentation costs are recovered by incumbent public utilities and new entrants.

Under the Water Industry Competition Act, 2006, (WICA), customers will be able to elect to change to a new retail supplier (if one is licensed to operate in the customer's area). The new retail supplier must have access to a source of water other than the public utility's source so that a customer electing to change retailer is notionally changing to a new water source.

The same situation applies where competitive retail arrangements are in place for wastewater services. Effluent from a retailer's wastewater customers notionally flows to a treatment/recycling facility (tailwork) that is not operated by the incumbent public utility.

The inconsistency in cost recovery will be highlighted when existing retail customers switch from the public utility to a new entrant retailer. In such a situation, the customers move from a situation where they (or a previous owner of the property) may have contributed to the cost of the public utility's source or tailworks infrastructure (through developer charges) to a situation where they potentially need to meet the infrastructure cost of the new retailer's source or tailwork provider, possibly through periodic charges. Thus, it could be argued that under competition, properties owned by customers who switch retailers will have contributed to the costs of two sets of source and/or tailworks infrastructure.

The present arrangements for cost recovery via a combination of periodic charges and developer charges work well and are efficient under a monopoly vertically-integrated supply situation. However, as illustrated above, the efficiency of the pricing becomes clouded under the competition model. This is especially so under the new competition arrangements where the existing public water supply agencies are expected to maintain postage stamp pricing[7].

Hunter Water believes that there are potentially issues for the current pricing model involving developer charges and periodic charges as the industry moves away from being comprised of single vertically integrated utilities. This may particularly affect the ways developer charges are set and collected for headworks and tailworks. This is a complex issue that may unfold in a number of ways and one that requires monitoring by IPART as competition emerges.

[7] See NSW Government, 2006, page 7.

4 Issues covered by the Existing Water, Sewerage and Stormwater Determination

4.1 Information to be included in Development Servicing Plans (Issues 8-12)

4.1.1 DSP Boundaries

Issue 8: Whether particular DSP boundaries result in distortion of the associated developer charge?

Issue 9: What principles for determining where DSP boundaries should be established?

Hunter Water supports the principle of cost reflectivity in sending appropriate location-based pricing signals for development. Hunter Water has established DSPs to the wastewater treatment plant catchment level and, where material cost differences occur, to the wastewater sub-catchment level. There are also 17 water DSPs corresponding with the 17 main water operational zones in the area of operations.

Smaller DSP areas lead to a tighter asset nexus and more cost-reflective charges. However, smaller DSP areas also often lead to:

- A large number of DSP areas.
- Greater variation between charges from one DSP area to another.
- Wider extremes between the highest and lowest charges.
- Significant changes in charges following a DSP review if there are significant increases in development-related capital required to service that area.
- Increased administrative burden.

Hunter Water's experience has been that, in general, charges in larger city areas are lower than in smaller regional areas. The larger, inner city areas have older assets, large numbers of existing ET connections and less growth. Lower charges result because relatively fewer assets are included in the charge calculation because of their age (and because there a fewer new assets) and costs of these assets are recovered over a greater ET base. Regional areas often do not benefit from legacy assets and economies of size, hence charges tend to be higher. This variance does not distort the associated developer charge but actually more accurately reflects the costs in providing infrastructure to service these communities. However, it does result in a large number of DSP areas.

Although smaller DSP areas are more cost-reflective, the difference between charges in areas that are geographically close, at times, may be too small to provide a pricing signal. While there may be administrative efficiencies in combining such DSP areas, geographic proximity may not equate to an asset nexus hence, under the current determination, combining such areas is not permitted. In the past, developers have expressed concern about inclusion in DSPs of assets that have no direct nexus to their development. DSPs are required to include sufficient information for nexus to be verified.

It would be advantageous if water agencies had greater discretion in defining DSP boundaries such that the user pays (asset nexus) principle can be balanced with effective price signalling and administrative efficiency. Although the report accompanying the 2000 Determination discusses establishing DSP boundaries and the need for nexus between developments and assets, the actual determination is silent on criteria for establishing DSP boundaries[8]. The principle of nexus of assets is sound but the boundary definition could be extended to include geographic location on the basis of growth profile, assets and similarity in the value of derived charges.

The principles of establishing DSP boundaries discussed in the 2000 report are supported by Hunter Water. However, some flexibility to amalgamate adjoining areas with similar capital charges, even where there is no asset nexus, would provide the flexibility that Hunter Water is seeking to rationalise the number of DSPs.

[8]See IPART, 2000 (b), sections 4.1.2 and 4.6.

4.1.2 Transparency of system capacity

Issue 10: What information do developers need on asset capacity to assess the calculation of charges?

Hunter Water sources the future asset information used in DSPs from its own servicing strategies and capacity reviews. These strategies and reviews are mostly produced for Hunter Water by consultants and are updated periodically. The frequency of update depends on the rate of growth in the area in question (i.e. strategies for areas with very low growth may be updated less frequently than high growth areas). The strategies assess the capacities of existing assets in order to determine required upgrades and augmentations. They include all relevant asset and population projection information that is required to determine asset capacity and the strategies are available for review by developers on request.

The capacity of headworks and tailworks is easily defined and is transparent in the existing process. The capacity of individual network assets is much more difficult to define and hence Hunter Water determines the capacity in the whole DSP area network rather than for individual assets. Assets larger than the minimum required (i.e. larger than the individual street reticulation assets) are generally included and recovered over the forecast ET growth profile. Hunter Water considers that this is simple, transparent and reflects the intent of the determination.

4.1.3 Transparency of MEERA values

Issue 11: What information on asset values is needed by stakeholders to improve the transparency of the process?

Hunter Water undertakes a rolling 5-yearly review of full MEERA valuations with one asset class being re-valued each year. That is, between 1% and 50% of assets are expertly revalued each year, depending on the asset class. The remaining assets values are adjusted by the Consumer Price Index (CPI) each year. These MEERA valuations are undertaken by consultants on behalf of Hunter Water.

The MEERA valuations are also used to value assets in Hunter Water's Fixed Asset Register (FAR). The FAR is subject to external review, providing a level of independent scrutiny on MEERA valuations.

Pre-1996 assets are valued on the MEERA valuation as at 1 January 1996. These valuations do not change between DSP reviews and are indexed by CPI.

Post-1996 assets are valued based on the latest MEERA valuation review and indexed by CPI to the time of the DSP review. As these valuations are done on a five-yearly basis, the values are between one and five years old at the time of the calculation of developer charges.

The MEERA valuation for each asset is shown in an appendix to the DSP together with the cost recoverable from growth in the DSP area. Supporting documents are available for review on request. It would be impractical to provide any further information in the actual DSPs due to the volume of information that would need to be included.

As described in Section 4.1.2, future asset needs and configurations are established in servicing strategies and capacity reviews. The cost estimates for these projected assets are calculated from Hunter Water's estimating guidelines. The estimating guidelines have been developed based on recent costs incurred by Hunter Water in providing infrastructure. The guidelines are indexed quarterly and reviewed prior to the commencement of a new round of servicing strategies and should therefore represent efficient costs. The servicing strategies and cost estimates are available for review on request.

While Hunter Water includes any new land needed for infrastructure in the estimated efficient costs of future assets, land is not included in the subsequent asset MEERA valuations because there is technically no equivalent asset. As a result, the cost of land occupied by assets such as dams,

service reservoirs, treatment plants and pump stations land becomes excluded from the commissioned assets component of the developer charge calculations.

To a large extent, inclusion of land value has not been an issue in the decade since the first determination because there have been few acquisitions of asset-related landholdings in that time. However, as asset configurations change over time, land will be acquired for new infrastructure. Maintaining a land value in the capital charge for Tillegra Dam will be important because land acquisition costs will account for a significant component of the capital cost of the dam. The 2000 Determination is silent on the treatment of land costs, particularly after MEERA asset costs are reviewed and revalued, and Hunter Water seeks clarification on the inclusion and valuation of land in DSPs as a legitimate asset class required to service future growth.

Hunter Water believes that its processes accord with the economic efficiency objective from Section 2 in that use of MERRA valuations aims at ensuring dynamic efficiency[9] and the processes are sufficiently rigorous for DSP development. There will always be a degree of uncertainty about future growth and the most efficient way of servicing this growth. Some of this uncertainty arises from uncertainty about population projections generally and the distribution of regional growth projections to specific DSP areas. Other uncertainty relates to technology improvements, the order of development within and among DSP areas and the optimisation of the asset mix to service the projected developments.

Issue 12: What is the most appropriate method that agencies can use to supply this information?

Hunter Water believes that the current method used as detailed in Issue 12 of IPART's Issues Paper is an appropriate method of supplying MEERA information.

4.2 Assessment of asset costs (Issues 13 – 24)

4.2.1 Asset information

Issue 13: Whether developers and other users of asset information are satisfied with the asset information currently being provided by water agencies?

Hunter Water has well-established feedback arrangements with the development community. Hunter Water conducts an annual Developer Forum with developers and meets regularly with the Newcastle chapter of the Urban Development Industry Association (UDIA). The Corporation has not received any specific feedback from developers on this matter through these channels and is not aware that it is an issue with local developers.

4.2.2 Apportionment of assets

Issue 14: What asset information is considered necessary but not currently provided by agencies to ensure that assets are apportioned correctly?

Hunter Water's DSPs include a classification of all assets as either "augment assets" or "upgrade assets, where:

- **Augment assets** are assets that were built predominantly to service growth. Existing customers may use the assets but they do not receive a higher level of service by doing so. The present value of the full cost of augment assets is recovered through developer charges.
- **Upgrade assets** are assets that were built to provide both capacity for growth and an improved level of service for existing customers. Examples of improved level of service include improved water pressure for low pressure customers, reduced wastewater overflows, improved effluent discharge quality and increased drought security. Only the portion of the present value of the full cost of upgrade assets constructed for growth is recovered through developer charges.

[9] See discussion of economic efficiency in IPART, 2006 (b), section 3.

This approach provides a relatively simple and easy to understand apportionment of assets that essentially relies on a simple classification of assets firstly into just two main categories and a second minor apportionment within the upgrade assets of the proportion of the asset assigned to meet growth.

Assets that service multiple DSP areas are classified as transfer assets (these in turn may be augment or upgrade assets). The costs of transfer assets are apportioned based on ETs in the areas that the asset services (in accordance with the methodology in the determination[10]). For example if a water trunk main services DSP_A with 2000 ET and DSP_B with 3000ET, then the cost apportioned to DSP_A will be 40% of the asset cost with the remaining 60% apportioned to DSP_B.

Hunter Water believes that the above processes accord with the principles outlined in Section 2. They are simple and easily followed and are sufficiently rigorous and transparent for DSP development.

4.2.3 Assets transferred free of charge

Issue 15: Are there arrangements in place for funding developments that fall outside IPART's current developer charge determination?

Hunter Water's systems need to be extended to provide water, sewer or recycled water services to development areas. All assets are configured to provide optimal outcomes to the community and are designed and constructed to Hunter Water's standards.

Funding mechanisms[11] for asset upgrades and augmentations vary depending on extent of growth to be served:

- **Large assets servicing a whole region or the whole area of operations:** Assets typically catering for large scale developments over broader geographical areas, multiple development fronts and long development horizons are identified in Hunter Water's servicing strategies (described in Section 4.1.2). *These assets are fully funded by Hunter Water, included in the Development Servicing Plans and recovered through developer charges.*
- **Local assets with potential to serve longer term growth in adjoining areas:** Hunter Water's servicing strategies are used as a strategic basis for "local" serving strategies produced by developers for each development that requires localised works to be built to enable connection to Hunter Water's systems. Local servicing strategies provide the detail necessary to confirm a preferred infrastructure arrangement, connectivity, asset sizes and area to be served by the infrastructure proposed. Hunter Water reviews developer's local servicing strategies to ensure that the associated services are optimal in configuration and whole of life costs are minimised.

  In some cases the assets identified are more economical from a whole of community perspective if sized to serve longer term potential growth as well as land currently being developed. *These assets are partially funded by Hunter Water (through developer charges) and partially funded by developers.*
- **Local assets serving a single development or potentially serving multiple proximate developments:** The infrastructure is typically local in nature but with capacity to serve up to 4 developments in close proximity to each other if/when development proceeds. *Applying the 'user pays principle' subsequent development, if benefiting from the provision of the infrastructure, is required to contribute to its cost and reimburse moneys to the lead developer that funded the works.*

  Hunter Water administers the process of reimbursements[12] on behalf of the lead developer for a period of 15 years from asset handover. Costs are indexed by CPI over this period and currently no administration costs are imposed on the lead developer.

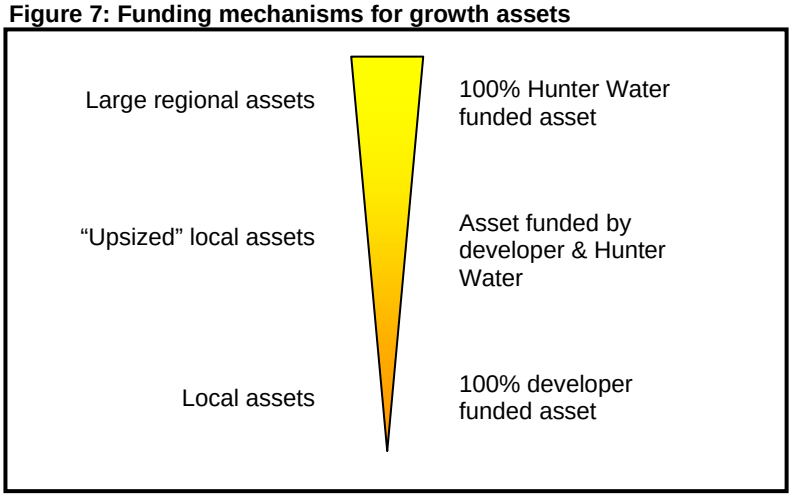
Assets created by developers are handed over to Hunter Water for no charge to then be owned, operated and maintained by Hunter Water. Hunter Water refers to these assets as 'Developer Funded

[10] See IPART, 2000 (b), Section 5.3
[11] Hunter Water Policy - Cost Sharing Arrangements Where Asset is Greater Than Minimum Size for Single Development.
[12] Hunter Water Policy - Reimbursements

Assets'. These assets are flagged in the Fixed Asset Register so that they are correctly treated in developer charges calculations and periodic pricing calculations.

Hunter Water has successfully administered cost sharing and reimbursement processes for many years and wishes to continue these practices.

Figure 7: Funding mechanisms for growth assets



4.2.4 Valuation of assets

Issue 16: What are the advantages and disadvantages of using MEERA as the method to value assets?

The use of MEERA values was originally included in the earlier determinations (1996 and 2000) to ensure that the cost of assets covered by developer charges reflected the most efficient asset set to provide the service. This inclusion was done at a time when new technology generally meant that new assets (i.e. the modern equivalent asset) provided the service at a lower real cost per unit of output.

IPART's issues paper notes that the use of MEERA values can result in significant increases in asset values and hence developer charges. However, Hunter Water has observed that MEERA values for most assets do not fluctuate significantly from one valuation to another. Hunter Water's MEERA valuations have strong links to its construction estimating processes. When assets are revalued to update MEERA values, the estimates are based on estimating values for equivalent assets rather than cost indexes. This ensures that market and other efficiencies are taken into account.

The advantages of using MEERA valuations are that MEERA values:

- Provide consistency in treatment between the developer charges calculations and the Corporation's Regulatory Asset Base (RAB).
- Reduce the likelihood of passing on inefficient infrastructure costs to developers as only the MEERA cost is used.
- Increase the likelihood of passing on efficient infrastructure costs to developers as MEERA values reflect market efficiencies derived by use of new technology.

The disadvantages of using MEERA valuations are that:

- MEERA valuations are trending upwards due to increasing infrastructure performance standards and a strong construction market (but remain the most accurate way to reflect the cost of assets).
- If utilities are efficient at delivering infrastructure, these efficiencies are not necessarily passed onto developers.

- Changes in MEERA valuation methodology can lead to large fluctuations in the cost of existing assets included in the developer charges calculations. This has not happened in Hunter Water's DSPs since the switch from MERA (Modern Engineering Replacement Asset) to MEERA.

Overall, as outlined earlier, ***Hunter Water considers*** that the MEERA approach satisfies the economic efficiency objective and is the most equitable way of adjusting the value of existing assets. MEERA valuation helps ensure that developer charges are based on the cost of the most effective infrastructure suite to deliver the required service outcome.

4.2.5 Identifying the growth component of water supply headworks

Issue 17: What methods or guidelines should be adopted to achieve an appropriate and consistent way of determining the drivers of proposed water supply headworks expenditure?

Water sources or headworks serve two main roles. First, they need to meet the annual water demands of the existing and future population. Secondly, they need to provide supply security in periods of prolonged drought.

Hunter Water applies the principle that only assets provided to meet population growth are recovered via developer charges. Where a specific asset provides for growth and other objectives such as an improvement in service to existing customers, only the proportion attributable to servicing growth is included in the developer charge (see Section 4.2.2).

Thus, in line with this principle, the cost of providing headworks assets to meet the annual demand from population growth should be met by growth customers through developer charges. However, supply security in times of drought benefits both existing and future customers and the cost of this proportion of headworks assets is therefore met by all customers through periodic charges.

The IPART's Issues Paper quotes Tillegra Dam as an example of an asset that has multiple objectives and thus the capital costs of this asset should be recovered from a mix of developer charges and periodic charges.

The population projections for the lower Hunter region have increased in recent years. The Draft Lower Hunter Regional Strategy, issued by the Department of Planning in November 2005, was based on a growth scenario that would see the population of the region increase by 125,000 persons to 630,000 persons by 2031. The final regional strategy, released a year later, increased this projection to 675,000 persons in 2031 – an increase from 2006 to 2031 of 160,000 persons and 35,000 more people over 25 years than the November 2005 draft projection.

Following this upward revision of the projections, the NSW Government announced in November 2006 that it would direct Hunter Water to bring forward the construction of Tillegra Dam on the Williams River to meet future growth and provide long-term drought security to the residents of the lower Hunter region and the Central Coast. Discussions are continuing with the Central Coast on the benefits of Tillegra Dam and options for contributing to its costs, whether through sales or capital contributions.

In this context, the proposed Tillegra Dam will supply water for 3 purposes:

- Supply to the Central Coast region (for drought security and to meet population growth in the longer term),
- Drought security for existing and future lower Hunter region customers, and
- Supply the needs of population growth in the lower Hunter region.

The Tillegra Dam costs to be included in developer charges would be only those related to supplying the needs of growth in the lower Hunter region. These costs would be determined by deducting any foreshadowed contribution to the dam costs from the Central Coast councils and apportioning the balance of the cost between growth and drought security.

The apportionment between growth and drought security will be based on the opportunity cost of not building Tillegra Dam for drought security purposes. If Tillegra Dam is not built, drought security would have to be provided by development of further groundwater resources and/or desalination. The present value cost of these alternatives will be used as a proxy for the drought security component of the Tillegra dam capital cost. For example, if the present value of the alternative measures is equal to x% of the capital cost of Tillegra Dam (after deduction of any costs recovered from the Central Coast through sales or capital contributions), then this x% will be met by annual charges with the remaining 100 - x% allocated to developer charges for growth.

4.2.6 Projection of operating costs

The structure of Hunter Water's developer charges is shown in Figures 2 and 5 in Section 1.2. Hunter Water's approach to calculating the net operating result[13] for the developer charges calculation is described below.

- **Revenue**
  - A system wide revenue figure is applied to all DSP areas due to the postage stamp nature of periodic prices.
- **Operating costs**
  - **Water:** System wide average operating costs are used for water DSPs. For water, the full net operating result is deducted in the Headworks DSP only. Water supply system DSPs therefore do not require a net operating result adjustment.
  - **Wastewater:** Wastewater Transport System DSP areas. In this case the operating costs are average network operating cost plus the operating cost of the relevant WWTW. Each WWTW has unique operating costs as the costs of service provision are largely driven by the size of the plant and costs of complying with environmental regulatory obligations, which vary depending on the sensitivity of the receiving environment.

Issue 18: Why have operation and maintenance costs increased significantly in some DSP areas?

The Corporation has achieved strong productivity improvements over the last decade, but is now operating in a phase where increased environmental regulatory requirements are continuing to increase operations, maintenance and administration costs per property in real terms.

For example modern high-standard wastewater treatment processes are more demanding of consumable inputs such as power and chemicals. Modern plants also have much higher levels of biosolids recovery resulting in high costs for transporting biosolids from treatment plants to recycling locations. Most biosolids from Hunter Water's plants are used in coal mine site rehabilitation, necessitating transport to the upper Hunter Valley. Modern plants also have more electronic and electric and mechanical components (process controllers, pumps, blowers, augers and conveyors and biosolids dryers and presses) that require more frequent maintenance and have shorter asset lives.

At the same time, input prices such as electricity and land rates are increasing. All these factors have resulted in additional operating costs across all areas.

Hunter Water considers that in this overall context, with increasingly stringent regulatory requirements, continuing improvement of service performance standards and input price increases, it is reasonable for the community to bear that part of the increasing service provision costs that cannot be offset by productivity gains.

[13] As defined in Schedule 4 of the 2000 Determination the "net operating result" is the net present value of the future net operating profits (or losses) expected to be derived from providing the services to the DSP area divided by the net present value of the number of ET in the DSP area.

Issue 19: Are there alternative mechanisms for signalling differences between development areas?

Hunter Water believes that the current methodology is an appropriate way of signalling the location-based cost of providing services to new developments.

This is particularly so for inland regions serving relatively small and remote communities and discharging to sensitive inland waterways. These plants generally display size diseconomies and have very high discharge standards.

Augmentation of treatment plants generally requires "lumpy" investments of significant capital so it is important to signal these costs to potential developers. A large industrial development choosing to locate in these regions can trigger the need for significant capital investment to upgrade small regional treatment plants and it is therefore important that this cost is signalled to potential developers and is a factor in their location decisions.

4.2.7 Peak versus average ETs

Issue 20: How and why do agencies use ET peaking factors to calculate, and ultimately to allocate, the capital charge and reduction amount?

Peak ET simply refers to the relative demand that a category has on the design of water infrastructure. It reflects the fact that residential properties have a greater variation between peak day demand and average day demand than non-residential properties. This is because non-residential demand in aggregate is not weather or seasonally driven but governed by industrial processes with constant water use and demand by commercial properties (e.g. office water use is driven by the number of occupants rather than weather). On the other hand, residential properties have greater variation driven by weather and seasonal differences and outdoor water use. Peak ETs take account of this difference and its implications for infrastructure provision, particularly the sizing of assets like pipelines and pumping stations, so that residential developments pay proportionally higher water system charges compared to non-residential development.

The following is a summary of Hunter Water's treatment of peak ETs.

- **Water – Capital Charge**: Hunter Water recognises that different categories of development place different demands on the water treatment and water network infrastructure due to seasonal usage patterns. This is reflected in the peaking factors contained in HWC water pipeline design guidelines. Note that peak factors are applied only to network and treatment assets.
- **Wastewater – Capital Charge**: All properties have the same hydraulic effect on wastewater infrastructure; as such the capital charge is the same for all categories of development. Different biological loads are not addressed in the developer charge calculation and are covered separately by trade waste pricing[14].
- **Net Operating Result**: The net operating result (reduction amount) is calculated for both water and wastewater DSPs based on standard (i.e. non-peaked) ETs. This is because the operating cost to produce and deliver water and to transport, treat and dispose of wastewater is based on average volumes even though the infrastructure may be sized for peak volumes. That is, the operating cost included in calculating the net operating result reflects:
    - The cost of consumables, which is generally related to the volume passing through the treatment process, and
    - Wages, which are generally constant regardless of peak volumes.

Issue 21: Is a new definition of ETs and/or re-expression of the developer charges formula required to incorporate use of peaking factors?

Hunter Water considers that the current definition of an ET is acceptable. The Corporation has fielded some enquiries from developers as to the rationale behind the use of peaking factors and,

[14] See IPART, 2005.

when the above explanation is provided, developers are generally satisfied that the approach is sound.

The current IPART definition allows utilities the flexibility to reflect their respective design guidelines, including peaking factors as outlined above. However, re-expression of the developer charges formula to incorporate use of peaking factors may provide further assurance to developers that peaking factors are a legitimate way to apportion the impact of different development categories on the utilities' infrastructure.

4.2.8 Which ETs to include

Issue 22: What problems exist with the current treatment of ETs in DSPs?

The 2000 Determination does not provide direction on establishing the number of ETs to be used in the denominator of developer charge calculation set out in Schedule 4 of the determination.

However, the determination does define the existing assets for inclusion in the calculation as those commissioned after 1970. Hunter Water has therefore chosen to match the ET profile with the existing asset profile, that is, the existing ETs included in the calculation are new ETs since 1970.

Hunter Water has also decided to "roll forward" this asset profile with each five-yearly DSP review. Hunter Water initially used 1970 (as set in the determination) as the starting point for existing assets and ETs for inclusion in the calculation and, at its 2006 DSP review, rolled forward this starting point to 1975. Thus current DSPs have 1975 as a starting point for existing assets and ETs. This roll forward of the starting point maintains a constant 30 year window for existing assets and ETs.

Using this approach, existing ETs are taken from the later of the commissioning date of the system (for assets commissioned since 1975) or 30 years prior to the developer charge calculation. Historical population is sourced from Census data.

For future ETs, Hunter Water uses the same profile as for the net operating result calculation, which provides 30 years of future growth. Net operating results are calculated on wastewater system and water headworks growth profiles separately.

For assets with a defined capacity such as tailworks assets, the ET growth profile is taken as the date that capacity became available in the asset to the date that the asset is expected to reach capacity. For example, a DSP that includes a wastewater treatment plant that was constructed in 1995 and has capacity to 2015 will only include a growth profile from 1995 to 2015, if the cost to upgrade the plant in 2015 is not included.

Hunter Water believes its approach to setting ETs to match the period for including existing assets and to match the forward period for calculating the net operating result provides a simple and easy understood roll forward of both the asset profiles and included ETs. The approach also provides a means of linking included ETs with the asset profiles.

Issue 23: What improvements could be made to the methodology regarding the treatment of ETs?

Hunter Water believes that, in general, the existing determination allows water agencies flexibility to match the growth profile with the specific circumstances of the DSP area. Formal adoption of Hunter Water's "moving window" approach to asset and ET inclusion is considered a potential improvement over the rigid setting of a single date for asset inclusion – currently set at 1970 in the 2000 Determination[15].

[15] See IPART, 2000 (a), 5.1(b)

4.2.9 ET multipliers

Issue 24: How should agencies determine the ET multipliers for varying development types?

In Hunter Water's DSPs, developer charges are quoted on an ET basis for the customer classes (Single Residential, Multi Residential, Commercial/ Industrial and Other). Customer class descriptions are available on Hunter Water's website[16] .

Hunter Water has developed a detailed Customer Class Allocation and Equivalent Lot Assessment guide that allocates types of development into the relevant customer class and indicates the number of equivalent tenements that apply to each development type. The developer charge payable for a development is equal to the $/ET charge for the customer class factored by an ET multiplier that reflects the assessed demand of the development relative to a single ET.

For example, restaurants are categorised as "commercial/industrial", with a water multiplier of 0.0422 ET per seat. Thus a 20 seat restaurant would be equivalent to 0.844 ETs for water.

The Equivalent Lot Assessment guide was developed through monitoring actual demands and its application is audited internally for consistency. Hunter Water updates the guide periodically to reflect changes demand trends, such as increasing adoption of water efficiency measures.

Hunter Water acknowledges that there may be advantages in deriving a common listing of development types and customer class allocations for all the regulated utilities, particularly for ease of understanding by developers who are active within the areas of operations of several water agencies. It may also be possible to derive a common average annual demand for each development type.

However, varying ET multipliers (such as that quoted for a restaurant above) are unavoidably specific to each utility's area because the base single ET demand (average annual consumption for a single residential dwelling) is area specific. The base single ET demand is affected by area-specific factors such as climatic conditions and lot characteristics (e.g. garden size), as reflected in historical demands.

Hunter Water believes that its use of the ET multiplier methodology is logical, transparent and appropriate.

4.3 Defined parameters (Issues 25 – 30)

4.3.1 Discount rates

Issue 25: What are appropriate discount rates for pre-1996 and post-1996 assets?

Issue 26: Should the 1996 threshold roll forward over time?

In principle, as indicated in Section 3.2, the discount rate for each agency should reflect the target real pre-tax rate of return in the agency's most recent determination of periodic prices.

Hunter Water acknowledges IPART's reasons for adopting a lower discount rate for pre-1996 assets - that is, not imposing a commercial return on assets constructed prior to the introduction of a regulated developer charge methodology. Therefore, for logical consistency, Hunter Water recommends that both the date threshold and the discount rate of 3% are retained (i.e. no roll forward of threshold).

Assets commissioned after 1996 were constructed to achieve a rate of return of 7%. As IPART has stated in the report accompanying the 2000 Determination *"Applying different discount rates for existing and future assets would result in an asset achieving a lower return following a review."*[17] Hunter Water supports this statement and as such supports the notion that the 1996 threshold would not roll forward over time.

[16] http://www.hunterwater.com.au/files/Customer_Classes_Description.pdf .
[17] See IPART, 2000 (b), section 4.3.2.

In addition, it is also worth noting that if the concept of roll forward of the asset set is adopted (see Section 6.3), the 1996 threshold would eventually become irrelevant.

Hunter Water recommends that, if the Tribunal finds in favour of altering the discount rate or threshold, the discount rate be amended to a consistent value for all assets.

4.3.2 Consumption per ET and BASIX

Issue 27A: For each agency, what is the current consumption (in kilolitres) for both pre- and post-BASIX average residential dwellings?

The average annual demand varies each year depending on climatic conditions. However, the long-run average annual demand for residential properties in Hunter Water's area of operations is 210 kL/ET/year. This takes into account historical demand data for all existing housing stock and is consistent with demand determined by IPART for use in developer charges calculations[18]. The 10-year rolling average is consistently in the range of 205 – 215 kL/ET/year.

The 10-year average demand for new customers (properties connecting to Hunter Water's water supply systems within the last ten years) is around 265 kL/ET/year.

It is too early to confidently provide a robust estimate of demand for BASIX-compliant dwellings.

Hunter Water has commenced monitoring demands for a sample of BASIX-compliant dwellings. However, insufficient data has been acquired to date to perform rigorous statistical analysis. BASIX came into effect in the Hunter region in July 2005, a year after Sydney. Less than 2 years of data is available on water habits (taking into account the lead time to construct dwellings). The short time series of data would not be representative of long-run trends as demands are highly influenced by weather variations from one year to the next and home establishment needs. In addition, the sample size of BASIX-compliant housing is still small.

For planning purposes, Hunter Water has estimated water demand for post-BASIX residential dwellings. The Corporation anticipates customers who meet BASIX through installing rainwater tanks will have an average annual demand of 195 kL/ET/year. Similarly, customers who meet BASIX through connecting to reticulated recycled water schemes are anticipated to have an average annual demand of 165 kL/ET/year[19]. Based on a 70:30 split between meeting requirements with rainwater tanks versus reticulated recycled water, the estimated weighted average annual post-BASIX residential demand is about 185 kL/ET/year.

Issue 27B: In addition, on what basis should the consumption parameter be calculated when DSPs are reviewed?

Each water agency should calculate the consumption parameter based on actual average annual consumption observed through metering over at least 5 years, but preferably 10 years. A longer period of data allows for smoothing the effects of climatically driven variations. For example, peak day demand occurs about 1 in every 2 years and extreme day demand occurs about 1 in every 10 years.

A longer period of data would also enable collection of more representative data for post-BASIX dwellings. The use of a longer period would result in less variability in developer charges when DSPs are reviewed, thereby providing developers with more certainty for making investment decisions.

[18] See IPART, 2000 (a), Schedule 5.

[19] The variation in estimated demands for customers with rainwater tanks versus dual reticulation arises due to the weather dependent nature of rainwater tanks. Rainwater tanks are configured such that supplies are supplemented from the reticulated potable water system when the rainwater level is low.

Issue 28: Should there be two consumption parameters: one for pre-BASIX ETs and one for post-BASIX ETs or a post-BASIX only?

Only consumption parameters for post-BASIX ETs are relevant in Hunter Water's developer charges calculations because the capital charge component is calculated using design demands and the net operating result component is calculated using average annual demands for new ETs (i.e. post-BASIX). In addition, two consumption parameters would add an extra level of complexity to DSPs, potentially confusing customers.

Issue 29: Has reduced consumption in post-BASIX developments been reflected in the allocation of assets in water systems and therefore reflected by reduced capital charges?

Hunter Water's design of water network assets and headwork treatment and delivery assets (i.e. excluding sources such as dams) is based on peak demand conditions, rather than average annual demand conditions. While Hunter Water is anticipating a reduction in average annual demands for post-BASIX dwellings, only a negligible reduction in peak water consumptions is expected from customers with rainwater tanks and slightly larger reduction in peak water demand from reticulated recycled water customers (see response to Issue 27A).

The reduced peak water demands anticipated from dual reticulation customers is reflected by reduced capital charges in water DSPs through a new customer class, "Residential dual reticulation", and an associated peak factor (see also Section 4.2.7).

Because only a negligible reduction in peak water demand is anticipated from rainwater tanks, no reduction in capital charges for the water supply delivery system has been applied. Hunter Water will review this position when sufficient data has been acquired to validate the peak demand characteristics of BASIX-compliant dwellings.

Average annual demand conditions are used for the design of source augmentations (e.g. dams). Hunter Water has taken into account post-BASIX demands and this will be reflected by lower 'Headworks' capital charges when DSPs are reviewed. It should be noted that while these capital charges will be lower than would otherwise have been the case with pre-BASIX properties only, headworks capital charges will increase over time as new sources such as the proposed Tillegra Dam and water treatment plant upgrades are included in the charge.

Hunter Water considers that the currently defined consumption of 210 kL/ET/yr accurately reflects the long-run average annual demand for residential properties in its area of operations. The reduced peak water demands anticipated from dual reticulation BASIX-compliant customers is already reflected by reduced capital charges in water DSPs through a new customer class. Hunter Water further considers that a 5 to 10 yearly review of the consumption parameter by water agencies would present an appropriate opportunity to make adjustments based on the actual demand characteristics for rainwater tank BASIX-compliant dwellings.

4.4 Demographic assumptions

Issue 33: What methods are used by agencies to estimate existing and growth ETs from demographic data?

Hunter Water undertakes a rolling program of updating servicing strategies and capacity reviews. Servicing strategies are developed to determine existing and future loadings on the water and sewerage infrastructure and identify required upgrades and augmentations where current assets cannot meet these loadings. Theses planning documents identify specific development areas and the type of development and, from that information, determine the likely development profile (rate and timing).

Department of Planning data, including projections from the Lower Hunter Regional Strategy, is used in conjunction with Hunter Water's planning documentation and discussions with local councils to

provide growth projections in specific areas. This information is collated and compared with recent and current developer activity from Hunter Water's Sales and Business Development Group to develop an adopted growth profile for individual DSP areas.

Existing ETs are sourced from Hunter Water's Customer Information System, which provides an accurate count of all water and wastewater connections.

Capital works programs are developed based on providing infrastructure with sufficient capacity to cater for future growth and existing system deficiencies. However only the growth component is recovered through developer charges, with the cost of upgrades to meet existing system deficiencies covered by existing customers through periodic charges.

4.5 Dispute resolution

Issue 34: Is the dispute resolution process working satisfactorily, and if not, what changes are required?

The 2000 Determination states *"A developer who is dissatisfied with the way an Agency has calculated its Developer Charges may have the dispute arbitrated under section 31of the IPART Act".*[20]

The dispute resolution process outlined in Section 31 of the *Independent Pricing and Regulatory Tribunal Act, 1992* essentially encourages dialogue between the developer and water agency through the Chief Executive (or Managing Director). An unresolved dispute may be escalated to arbitration at the request of the developer.

Fortunately, the dispute resolution process has not been invoked in relation to any of Hunter Water's developer charges. Stakeholders are provided ample opportunity to scrutinise the application of the prescribed methodology during the DSP exhibition period at the time DSPs are created or reviewed. Hunter Water assumes that, since no disputes have been raised after DSP registration with IPART, all concerns have been addressed during this period.

Although untested, in principle Hunter Water supports the current dispute resolution process. In particular, Hunter Water supports negotiation as the first step in the process, as it encourages maintenance of amicable relationships between providers and customers.

Hunter Water believes that the process could be further strengthened by providing clarity on who will arbitrate when arbitration is required. The Corporation notes that Report Nos 8 and 9, 2006[21] clarifies that for recycled water *"…the Tribunal may arbitrate…".*

It is also noted that the Tribunal intends to seek powers to arbitrate disputes on pricing for voluntary recycled water schemes, sewer mining and third party access[22]. In keeping with the Tribunal's key principle of consistency of pricing frameworks between water, sewerage and recycled water[23], Hunter Water would welcome IPART seeking powers to arbitrate developer charges disputes.

In principle Hunter Water supports the current dispute resolution process. The process could be strengthened by IPART seeking powers to arbitrate developer charges disputes.

[20] See IPART, 2000 (a), Section 12.
[21] See IPART, 2006(b), Section 5.9.
[22] See IPART, 2006(b), Pages 4 and 64.
[23] See IPART, 2006(b), Page 26.

5 Issues covered by the Recycled Water Determination

5.1 Definitions and interpretation (Issues Paper Item 3.13)

The report accompanying IPART's 2006 Determination in relation to recycled water pricing[24] details the Tribunal's pricing framework, which divides recycled water projects into two groups:

- Mandated schemes
- Voluntary schemes

The division of recycled water projects into two categories has implications for allowable pricing structures and the form and extent of regulatory oversight. It is therefore important that clarity is provided on how to categorise projects.

The pricing framework for mandated schemes consists of guidelines for establishing total recoverable costs and the different price structures available for recovering the costs. One cost recovery mechanism is through levying a Recycled Water Developer Charge for provision of recycled water infrastructure serving new developments. The Tribunal notes it has some powers in relation to pricing decisions for mandated recycled water schemes[25].

The pricing framework for voluntary schemes consists of a set of principles for cost recovery to guide negotiations between water agencies and customers. The Recycled Water Developer Charge Determination is not binding for voluntary schemes but water agencies are able to negotiate an equivalent capital contribution from customers to offset periodic charges. The Tribunal notes it will not have a regulatory role in pricing arrangements for these customers[26].

Hunter Water seeks clarification of the definition of the circumstances in which dual reticulation schemes are classified as mandated schemes. Section 7 of IPART's report states that *"…mandated schemes are defined as recycled water schemes to which customers are required to connect due to government policy (such as BASIX or the Metropolitan Water Plan). The key criterion for determining whether a scheme fits into this category is whether there is an obligation on someone other than the water agency (such as the customer or the developer) to connect to the scheme…"*.

This definition is problematic for Hunter Water. The requirement to meet BASIX is a weak justification for a mandated scheme because there are alternative ways (to recycled water) of meeting BASIX requirements, mainly by installation of rainwater tanks. As a result, developers may be of the opinion that BASIX does not compel connection to a recycled water scheme because compliance can be achieved through installation of rainwater tanks. Furthermore, the Metropolitan Water Plan only applies in the Greater Sydney region and Hunter Water's area of operations does not have a Department of Water and Energy (DWE) instrument similar to the Metropolitan Water Plan. The most similar document is Hunter Water's Integrated Water Resources Plan required under the 2007-2012 Operating Licence[27]. While other instruments may compel connection, they are arguably not currently endorsed in the 2006 Determination and Report.

Hunter Water believes it is appropriate for IPART to broaden and strengthen the definition of mandated schemes so that it is not reliant on instruments that apply solely in other regions (such as the Metropolitan Water Plan) or BASIX, which can be met in other ways.

[24] See IPART, 2006(b)
[25] See IPART, 2006(b), Page 3.
[26] See IPART, 2006(b), Page 4.
[27] See HWC, 2007, Clause 9.2.

6 Other Considerations

6.1 Interim developer charges

Hunter Water must issue developers with a Notice of Requirements for their development within 60 calendar days of application[28]. Obligations can include payment of developer charges.

For growth within existing systems, the developer charges are based on assets and growth identified in Hunter Water's servicing strategies and captured within DSPs. Hunter Water is able to respond readily within the required timeframe.

Development today can be fast-paced, with developers reprioritising development of land parcels. Occasionally this results in unforeseen growth on the extremities of Hunter Water's existing systems or requires entirely new, self contained systems to be developed. This results in the need for creation of a new DSP or significant alteration of an existing DSP.

DSPs must be exhibited for at least 30 working days, with at least 10 days of prior notice given to peak development bodies[29].

The 60 *calendar* day Notice of Requirements issue period and 40 *working* day DSP notification and exhibition timeframe are sometimes incompatible with each other.

In such circumstances, to respond to developer enquiries in a timely manner while preparing a formal DSP, Hunter Water's practice has been to provide interim developer charges in the formal "Notice of Requirements" prior to the actual charge being exhibited in a DSP. This enables developers to complete obligations (including payment of developer charges), allowing issue of the Section 50 Compliance Certificate, which may be required for sub-division registration (i.e. completion of the development application process).

The interim charges are calculated based on the information available to Hunter Water at the time of preparation and audited to ensure a suitable standard of accuracy and consistency. Applicants are informed that the charge is subject to rise and fall, with Hunter Water either refunding or recovering the difference between the interim and registered charge. Hunter Water has supporting information available for inspection upon request.

Use of interim developer charges provides a valuable vehicle to both Hunter Water and the development community to assist the development process, with the following benefits: -

- Development is not delayed while Hunter Water continues its scoping and design of regional assets.
- The user pays principle is supported with the cost of growth infrastructure equitably recovered from beneficiaries.
- Risks are shared by Hunter Water and the developer by inclusion of the rise and fall provision prior to formal DSP registration.
- Firmer growth projections are able to be included in the new or updated DSP for calculation of the capital charge and net operating result.

Hunter Water would like formal recognition of interim developer charges as a practical way to prevent delays in development approval, make the DSP development process compatible with the time requirements of the Hunter Water Act and as an equitable basis for cost apportionment.

[28] See *Hunter Water Act 1991*, Sections 49 and 50.
[29] See IPART 2000(b), Section 4.1.2 and IPART 2006(a), Schedule 3.

6.2 Review of development servicing plans and charges (Issues Paper Item 3.3)

Hunter Water suggests that Section 3.2 of the determination is amended to allow for more frequent reviews of DSPs if necessary.

As mentioned earlier in Section 4.2.5, population growth projections for the Hunter region have been significantly increased in the last 2 years. In addition, community and developer interest in initiatives like recycling have grown. In this dynamic development environment, Hunter Water believes that the recalculation of DSPs if demographic or asset requirements change significantly would be beneficial to all customers.

Given the resources required to review and recalculate DSPs, Hunter Water would not expect to utilise this provision on a regular basis however it would assist in ensuring that charges are fair and reflective of expected growth and associated asset requirements.

6.3 Roll forward of the asset set

The 2000 Determination requires that assets constructed between 1970 and 1996 be valued at 1996 MEERA rates and be converted by real discount rate to present values. The determination further requires that assets constructed prior to 1970 must be excluded from the developer charges calculation.

As discussed in Section 4.2.8, the 2000 Determination required pre-1970 assets to be excluded, thereby only including 30 years of existing assets (i.e. assets commissioned between 1970 and 2000). Hunter Water has adopted an approach whereby the asset window rolls forward at each DSP review to include only assets constructed within the last 30 years. Thus at its 2006 DSP review, Hunter Water rolled forward the starting point to 1975. This maintains the 30-year period for the window for existing assets to be included and avoids assets being included for an indefinite period of time. This is particularly beneficial for network assets, which do not have capacity specified in terms other than the ETs they serve.

Hunter Water believes that it would be appropriate for the Tribunal to endorse this "rolling asset window" approach.

6.4 Implementing changes from this review

Issue 1: Preferred date for adoption of revised DSPs and charges

In setting the date for adoption of implementation of any changes arising from this review, it is recommended that the Tribunal have regard to:

- The interdependencies between developer charges and periodic prices. All water agencies covered by the developer determination will be subject to a new price path for periodic prices at various stages over the next 2 years. Introduction of revised developer charges should align with implementation of the newly-determined periodic prices.
- The nature and extent of changes, which will impact on the effort required to effect changes.

Taking these factors into account, Hunter Water would prefer that revised DSPs and charges are not adopted before 1 July 2009, when Hunter Water's periodic price determination comes into effect.

Furthermore, as the Corporation's latest round of servicing strategies will not be complete in time to significantly update the future assets and growth projections in the DSPs, the revised DSPs initially would only incorporate methodological changes arising from the determination. That is, these initial DSPs would not include full updates or revision of projected asset requirements and DSP specific population projections (because both these information sets are derived from servicing strategies). Such a full review of DSPs would only be possible when new servicing strategies are complete.

To encourage administrative efficiency and create investment certainty for developers, it is assumed that if the 5-yearly review clock is retained by this review and that it will be reset on the date of adoption of new charges.

Hunter Water would prefer adoption of revised DSPs and charges no earlier than 1 July 2009 to align with implementation of new periodic prices. This earliest review date assumes there are no significant changes to the existing determination.

7 References

[1] Department of Planning (NSW), 2005, **Draft Lower Hunter Regional Strategy**, DP 05_105, Sydney.

[2] Department of Planning (NSW), 2006, **Lower Hunter Regional Strategy**, DoP 2006_0034, Sydney.

[3] Hunter Water Act, 1991 (NSW).

[4] Hunter Water Corporation, 2002, **Operating Licence: 2002-2007**, Newcastle.

[5] Hunter Water Corporation, 2007, **Operating Licence: 2007-2012**, Newcastle.

[6] Hunter Water Corporation, Policy - *Cost Sharing Arrangements Where Asset is Greater Than Minimum Size for Single Development.*

[7] Hunter Water Corporation, Policy – *Reimbursements.*

[8] Independent Pricing and Regulatory Tribunal of NSW (IPART), 2000 (a), **Determination under the Independent Pricing and Regulatory Tribunal Act, 1992: Developer Charges,** Determination No. 9**,** Sydney.

[9] Independent Pricing and Regulatory Tribunal of NSW (IPART), 2000 (b), **Sydney Water Corporation, Hunter Water Corporation, Gosford City Council, Wyong Shire Council, Developer Charges from 1 October 2000,** Report No. 9**,** Sydney.

[10] Independent Pricing and Regulatory Tribunal (IPART), 2005, **Sydney Water Corporation, Hunter Water Corporation, Sydney Catchment Authority: Prices of Water Supply, Wastewater and Stormwater Services: Final Report,** Report Nos 5, 6 and 7, Sydney.

[11] Independent Pricing and Regulatory Tribunal of NSW (IPART), 2006 (a), **Recycled Water Developer Charges,** Determination No. 8, Sydney.

[12] Independent Pricing and Regulatory Tribunal of NSW (IPART), 2006 (b), **Pricing arrangements for recycled water and sewer mining: Sydney Water Corporation, Hunter Water Corporation, Gosford City Council, Wyong Shire Council,** Report Nos. 8 and 9, Sydney.

[13] Independent Pricing and Regulatory Tribunal (IPART), 2007, **Review of Developer Charges for Metropolitan Water Agencies: Issues Paper**, Sydney.

[14] NSW Government, 2006, **Consultation paper: Creating a dynamic and competitive metropolitan water industry,** Sydney.

[15] *Water Industry Competition Act, 2006* (NSW).

8 Glossary

Term	Meaning
Area of operations	As specified in Section 16 of the *Hunter Water Act 1991*, a description of which is included in Schedule 1 of Hunter Water's 2007 – 2012 Operating Licence.
Asset nexus	The 2000 IPART determination requires there to be an "asset nexus" (i.e. a close connection) between the development and the assets which are to serve that asset. These assets should be clearly identified in development servicing plans and the efficient costs should be taken from an asset register or other source acceptable to the Tribunal.
Avoided cost	Cost savings in the total water supply and wastewater system that result from investment in recycled water when compared with total costs for supply via the existing potable water supply only. Avoided costs include deferring or reducing the investment in capital works in the water and/or wastewater systems as a result of supplying recycled water.
BASIX	Building Sustainability Index. BASIX is a NSW Government initiative to ensure new and renovated (from 1 July 2006) homes are designed and built to use less potable water and produce fewer greenhouse gas emissions. The water use requirements are determined by the climate of the dwelling's location, not the type of dwelling. The target ranges from 40% to 0% across NSW.
The Corporation	Hunter Water Corporation
CPI	Consumer Price Index, as defined in Section 13 of the 2000 Developer Charges Determination, means the All Groups index number for the weighted average of eight capital cities as published by the Australian Bureau of Statistics.
DECC	NSW Department of Environment and Climate Change
Discounted cash flow	An investment analysis tool that takes account of the time in the future when specific expenditures and/or receipts occur and uses discount rates to calculate a single present value for total expenditures and/or receipts over a designated investment period.
Dual reticulation	Term used interchangeably with reticulated residential recycled water scheme
DWE	NSW Department of Water and Energy
Equivalent Tenement (ET)	As defined in Section 13 of the 2000 Developer Charges Determination and Schedule 5 of the 2006 Recycled Water Developer Charges Determination, is a measure of the demand a Development will place on the infrastructure in terms of the water consumption and discharge [and recycled water consumption, where applicable] for an average residential dwelling.
FAR	Fixed Asset Register
HWC	Hunter Water Corporation
IPART	Independent Pricing and Regulatory Tribunal of NSW
IPART Act or IPART Act,1992	*Independent Pricing and Regulatory Tribunal Act, 1992* (NSW)
MEERA	Modern Equivalent Engineering Replacement Asset, as defined in section 13 of the 2000 Developer Charges Determination, is an asset value calculated on the basis that the asset is constructed at the time of valuation in accordance with modern engineering practice and the most economically viable technologies, which provides similar utility functions to the existing asset in service.

Term	Meaning
Net operating result	As defined in Schedule 4 of the 2000 Developer Charges Determination, is the net present value of the future net operating profits (or losses) expected to be derived from providing the services to the DSP area divided by the net present value of the number of ET in the DSP area. This is also referred to as the "Reduction Amount" in some IPART papers and publications.
Reduction amount	Term used interchangeably with "net operating result".
Sewerage	Term used interchangeably with wastewater.
Source(s)	Sources are raw water sources such as dams, river extraction points, groundwater bores, desalination plants or other sources such as stormwater harvesting arrangements, recycling etc.
Tailworks	Tailworks are the wastewater treatment or recycling facilities and include discharge structures to oceans or inland waterways or land disposal facilities.
The Tribunal	Independent Pricing and Regulatory Tribunal of NSW
Wastewater	Term used interchangeably with sewerage.
WICA	*Water Industry Competition Act*, *2006* (NSW).
WWTW	Wastewater Treatment Works. Term used interchangeably with wastewater treatment plant.