## Supplementary Submission to the Independent Pricing & Regulatory Tribunal of NSW

## 'Step Pricing' and Related Issues

### 1. Introduction

As part of the current review of metropolitan water agency prices, the Tribunal has sought a supplementary submission from Sydney Water in relation to the following:

- "... the possible introduction of 'step pricing' for bulk water sold by the Sydney Catchment Authority to Sydney Water."
- "... the advantages and disadvantages of a step price in bulk water charges, within the context of broader demand and supply issues."
- "... retail water prices (both structure and level) and how they may influence the demand for water, particularly in combination with the non-price measures recommended recently to the Minister."

Sydney Water would firstly like to put consideration of these issues in some context.

## 2. A Perspective on Sustainable Water Supply

In its submission of 30 Sept 2002 to the Tribunal, Sydney Water acknowledged revised estimates indicating that the safe yield from Sydney's available potable water supply sources is not as high as previously thought. These yields are likely to be further reduced once environmental flow regimes for river systems downstream of existing supply dams are established. In combination with the additional water demands from projected population increases, this means that sustainable water supply is becoming a critical issue for urban communities within the Sydney Basin.

Rainfall patterns and catchment run-offs are the critical factors in the SCA's supply model. Similarly, the key determinate of year to year demand is the weather.

Sydney Water's considerable investment in demand management is aimed at encouraging better use of available resources. However, its success depends, to a large degree, on the community adopting the technology and water use behaviour Sydney Water seeks to promote.

The reality at this point in time is:

- the sustainable safe yield from existing supply sources has not been firmly established. It will also depend on further review of climatic and inflow data as well as determination of environmental flow regimes; and
- Sydney Water's demand management initiatives, while achieving results, may not be sufficient to reduce projected demand to levels commensurate with a safe yield.

These two uncertainties significantly influenced Sydney Water's decision to retain existing price structures and seek only CPI related price movements for the two years to 30 June 2005.

The intervening period should allow time for clarification of issues and assessment of the extent to which water demand can be catered for or managed. Strategies for long term sustainable provision of water related services in the Sydney Basin will require a whole of water cycle approach and appropriate integration of a number of initiatives, including:

- further expansion of demand management strategies;
- grey water (treated sewage effluent) reuse, initially for non potable applications and/or augmentation of environmental flows;
- harvesting and use of stormwater;
- innovative approaches to service provision in new developments;
- desalination; and
- pricing.

To consider any one of these initiatives in isolation, even once the extent of the supply/demand issue is defined, seems at odds with development of a coordinated strategy.

However, as the Tribunal has sought to focus on some aspects of pricing at this time, Sydney Water offers the following comments.

# 3. Introduction of 'step pricing' for bulk water sold by the Sydney Catchment Authority (SCA) to Sydney Water

Based on the Tribunal's June 2002 Issues Paper, this concept appears to be driven by the perception that Sydney Water has little financial incentive to pursue demand management programs. The concept's primary consequence is the transfer from Sydney Water to the SCA of any "revenue windfall" that results when, despite Sydney Water's best endeavours, its customers' water demands exceed the forecasts on which Sydney Water's prices were set.

The proposal fails to acknowledge that, due to wet weather or other influences, customer demand may fall below forecast levels. Without additional revenue in times of higher demand, Sydney Water is denied the ability to manage the business risk associated with demand fluctuations.

#### 3.1 Sydney Water's multiple objectives

Sydney Water is not solely focussed on financial outcomes. As well as being a successful business, its objectives include protection of public health and the environment, complying with principles of ecologically sustainable development and exhibiting a sense of social responsibility. These objectives are enshrined in Sydney Water's enabling legislation (Sydney Water Act and Operating Licence).

As a water services provider, Sydney Water has a responsibility to ensure adequate supply to its existing customers as well as catering to the needs of new customers seeking to connect. Traditionally, as demand increased to a level approaching existing supply capacity, supply was augmented by construction of a new dam. With a new dam having been indefinitely deferred, and in recognition of supply constraints, Sydney Water is actively pursuing demand management as one alternative to supply augmentation. Demand management is a key element in Waterplan 21, which sets Sydney Water's long term strategic direction.

Sydney Water rejects the inference that, without additional financial incentive to do otherwise, it will continue to provide water at above the sustainable supply capacity. Sydney Water will not pursue short-term financial gain when the likely long term consequence is that supplies will inevitably fail and regulatory requirements and customer expectations for sustained service provision will not be met.

#### 3.2 Step pricing objectives v/s likely outcomes

The Tribunal's stated objective for step pricing of bulk water is to provide the necessary incentive for Sydney Water to reduce demand. The only demand directly controllable by Sydney Water is that resulting from water losses in the distribution system (leakage etc) and its own operational use of water. These elements have been reduced from 13% of total demand to 10% over the past three years and Sydney Water is seeking further improvements. The bulk of demand (currently 90%) is generated by Sydney Water's customers and, as stated earlier, while Sydney Water can seek to influence, if customers do not respond then demand will remain high.

In the form proposed by the Tribunal, a step price:

- provides no additional incentives to end users to reduce demand because they are quarantined from its effects;
- is merely an input tax to remove from Sydney Water any additional revenue that results from higher than anticipated customer demand; and
- affords additional income to SCA that is not commensurate with costs. This, in itself, is a form of monopoly profit. Depending on what SCA would be required to do with the additional revenue, this potentially provides a price incentive for higher SCA sales to Sydney Water.

The assumption that the introduction of step pricing will encourage Sydney Water to make additional investments (on demand management etc) is not correct. The reality is that if demand continues to exceed targets, Sydney Water would undertake additional investments, regardless of the step price, because of broader sustainability issues. In these circumstances Sydney Water would be forced to seek a new price path for this additional investment. The step price is counter productive because it takes away from Sydney Water additional income that might otherwise have been applied to additional demand management initiatives without the need for price increases.

#### 3.3 Single dimension focus

Step pricing as proposed focuses on a single dimension - taxing Sydney Water for not pursuing demand management. However, this approach neither addresses the real issue of setting up a long term sustainable water pricing framework nor an integrated approach to water management.

As outlined in its September 2002 submission to the Tribunal, Sydney Water's preferred position is to explore manageable pricing arrangements that support and encourage a total water cycle approach to efficient water service provision, in consultation with other stakeholders.

#### 3.4 Implementation issues

Should a step price be introduced along the lines proposed, IPART will need to acknowledge that demand targets are set on the basis of long term sustainable supplies. Short term demand may exceed desired levels from time to time without affecting sustainability. Penalising these short term demand fluctuations makes no contribution to achieving long term sustainability. Year on year application of a step price should therefore include a buffer to accommodate acceptable fluctuations around the long term sustainable trend.

## 4. Advantages and disadvantages of a step price in bulk water charges, within the context of broader demand and supply issues.

Sydney Water does not necessarily reject the notion of some form of step price for bulk water, although as stated earlier, it should not be considered in isolation to other supply/demand initiatives.

A step price may be difficult to justify in terms of SCA's cost structures, however scarcity value and externality costs need to be carefully considered as potential price justifications, particularly where there are supply constraints. It is essential that the true resource costs are fully evaluated from a total water cycle perspective, and that the issue is looked at by Sydney Water and the Tribunal in terms of long term sustainable water services provision. This is one element in determining the appropriate average price for bulk water, rather than a factor to be used to create a supply price curve with rising prices at various volumetric steps.

Restructuring of tariff arrangements between Sydney Water and the SCA will not, of itself, impact on demand, irrespective of whether costs manifest themselves in bulk water charges through a step price or some other tariff arrangement. The real impact in the context of broader demand and supply issues will only be realised if Sydney Water can pass on costs to its customers as part of a package of initiatives aimed at influencing end user behaviour.

#### 5. Retail water prices and how they may influence the demand for water

There is considerable debate on just how price elastic (the degree to which demand will change in response to a change in price) water is, although the general consensus appears to be "not very". Given water is a basic necessity, that conclusion would also appear to be intuitively correct. It is, however, interesting to note the experience of water agencies that have replaced traditional rating/taxing systems

with user pays pricing arrangements. Almost invariably, there has been a demand response.

The Sydney Water experience is graphically presented in Annexure "A". Up to and including 1983/84, revenue was generated primarily through a property value based rating system, with a water allowance based on the amount of rates paid. Most properties did not incur a usage charge and total annual water demand trended upwards basically in line with population increase.

A higher step price for residential use above 500 kl/pa was introduced in 1984/85, overlayed with a flat 300 kl/pa water allowance for residential properties in 1986/87. The allowance was reduced to 250 kl/pa for all properties in 1989/90. Despite these measures, total demand still appeared to trend upwards, albeit at a perhaps reduced rate.

The real impact of pricing reform appears to have occurred from 1990/91 onwards. The water allowance was eliminated in 1990/91 and all water had a price, although a system of inclined block tariffs applied and the price for the first 219 kl/pa was very low. A flat price for all water was introduced in 1994/95 and the water price then increased in real terms over the period to 1999/2000. The effect of these measures on demand is partly clouded by the imposition of water restrictions between November 1994 and October 1996, however there appears to have been an overall demand reduction over the period, despite a continued upward trend in population.

Demand was slightly above the 1999/2000 level in 2000/01 and 2001/02, despite Sydney Water's demand management endeavours. It is difficult to determine at this time whether this is merely a consequence of external influences such as weather, or if a contributing factor was the real term decline in the price of water over that period.

Clearly, however, there is strong evidence to suggest that demand does respond to reforms to price structures and changes in the usage component of the tariff. Where price increases occur in conjunction with other demand management initiatives, the price signal may achieve results over and above the relatively low price elasticity effects of price changes made in isolation. Demand related prices therefore have a role to play in achieving sustainable provision of water related services in the Sydney Basin. There also seems to be general community acceptance of the equity of "the more you use, the more you pay". This should not be overlooked when considering appropriate mechanisms to distribute the costs of service provision across customers, particularly if resource constraints dictate rising costs.

### 6. Where to from here?

Introduction of step pricing and inclining block tariffs into Sydney Water's pricing arrangements are already being strongly advocated in some quarters. Sydney Water accepts that they are an option. Sydney Water also notes the views on inclining block tariffs expressed in the Tribunal's June 2002 Issues Paper.

The experience evidenced in Annexure "A", suggests that pricing reform, including user pays charges can influence broad changes in demand consumption. A key message in Sydney Water's original submission, and one which it carries into this supplementary document, is that the next two years provides time to clarify issues relating to sustainable water related service provision in the Sydney Basin and to develop integrated strategies to manage them. An important element in strategy development is pricing, both in terms of its ability to directly influence demand as well as to support non price elements. In this regard Sydney Water wishes to explore, in conjunction with other stakeholders:

- water, wastewater and stormwater cost drivers and appropriate cost recovery measures;
- the interaction of Sydney Water prices with those of the SCA and DLWC;
- pricing of bulk water, potable water, reuse water, wastewater and stormwater and how those pricing arrangements might best be structured to optimise use of limited resources;
- the role of developer charges in a sustainable water strategy; and
- the potential for and merit of targeting aspects of demand through:
  - overall usage price increases;
  - the mix between usage charges and fixed access charges;
  - step pricing and block tariff arrangements;
  - peak demand prices;
  - location specific prices; and
  - market segmentation and differential prices based on end use of water.

Sydney Water maintains the view, however, that piecemeal introduction of pricing changes at this time may ultimately be counter to an overall sustainable water strategy for the Sydney Basin. It therefore holds that, as per its original submission to the Tribunal, pricing is looked at as part of the development of that strategy over the next two years.



#### **Total Water Demand**