



REVIEW OF SA WATER'S PRICES: 2013/14 - 2015/16 GUIDANCE PAPER

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TABLE OF CONTENTS

| | | |
|----------|---|----------|
| | Glossary of Terms | 1 |
| 1 | Background | 1 |
| 1.1 | Principles for review | 1 |
| 2 | Regulated Services | 4 |
| 2.1 | Background | 4 |
| 2.2 | Direct Control and Excluded Services | 4 |
| 3 | SA Water Performance | 6 |
| 3.1 | Process for setting initial set of service standards | 6 |
| 3.1.1 | Commission's Request for Information | 6 |
| 3.2 | SA Water's submission on service standards for 2013/14-2015/16 Prices | 7 |
| 4 | Expenditure Review | 8 |
| 4.1 | Introduction | 8 |
| 4.1.1 | General information requirements | 8 |
| 4.1.2 | Development of Expenditure Templates | 9 |
| 4.1.3 | Prudence & Efficiency | 9 |
| 4.2 | Capital Expenditure | 9 |
| 4.2.1 | Reporting period | 10 |
| 4.2.2 | Longer Term Investment | 10 |
| 4.2.3 | Reporting Requirements | 10 |
| 4.2.4 | Project Information | 11 |
| 4.2.5 | Subjective Analysis | 11 |
| 4.2.6 | Price Base & Efficiency/Cost Escalation assumptions | 11 |
| 4.2.7 | Direct control/Excluded/Non-Regulated Services | 12 |
| 4.2.8 | Review of Project Delivery | 12 |
| 4.2.9 | Capital Expenditure by Asset Class | 12 |
| 4.3 | Operating Expenditure | 12 |
| 4.3.1 | Reporting period | 13 |
| 4.3.2 | Reporting Requirements | 13 |
| 4.3.3 | Subjective Analysis | 14 |
| 4.3.4 | Adelaide Desalination Plant (ADP) | 14 |



| | | |
|----------|---|-----------|
| 4.3.5 | Cost Allocations | 15 |
| 5 | Asset Related Charges | 16 |
| 5.1 | Introduction | 16 |
| 5.2 | Asset roll forward | 16 |
| 5.3 | Asset classes | 17 |
| 5.4 | Legacy assets | 18 |
| 5.5 | New investments | 18 |
| 5.6 | Contributed assets | 18 |
| 5.7 | Regulatory rate of return | 18 |
| 6 | Tax Expense | 19 |
| 7 | Sales Forecasts and Customer Numbers | 20 |
| 7.1 | Demand forecasting methodology | 20 |
| 7.2 | Drivers of Demand | 21 |
| 7.3 | Customer number forecasts | 21 |
| 7.3.1 | Drinking Water | 21 |
| 7.3.2 | Sewerage | 22 |
| 7.4 | Sales volume forecasts | 22 |
| 7.4.1 | Drinking Water | 22 |
| 8 | Revenue and Pricing | 24 |
| 8.1 | Pricing | 24 |
| 8.2 | Proposed form of price control | 25 |
| 8.3 | Tariffs | 25 |
| 8.4 | Proposed Tariff Structures | 26 |
| 9 | Customer Impacts | 27 |
| 9.1 | Customer Impact Analysis | 27 |

GLOSSARY OF TERMS

| | |
|----------------------------|--|
| ADP | Adelaide Desalination Plant |
| CAPM | Capital Asset Pricing Model |
| COMMISSION | Essential Services Commission of South Australia |
| CPI | Consumer Price Index |
| ESC Act | Essential Services Commission Act 2002 (SA) |
| FTE | Full-time Equivalent |
| GL | Gigalitre (one billion litres) |
| LRMC | Long-Run Marginal Cost |
| NPR | National Performance Report |
| NPV | Net Present Value |
| NWI | National Water Initiative |
| RAB | Regulated Asset Base |
| WACC | Weighted Average Cost of Capital |
| WATER INDUSTRY BILL | Water Industry Bill 2011 |

1 BACKGROUND

The Treasurer has requested the advice of the Essential Services Commission of South Australia (the Commission), pursuant to section 5(f) of the Essential Services Commission Act 2002 (ESC Act), on the development of a framework for economic regulation of SA Water. As part of that request, the Treasurer has sought advice on the development of information requirements for the Commission's first determination of SA Water's drinking water and sewerage prices.

This Guidance Paper sets out the Commission's requirements on the minimum information to be provided by SA Water, to enable the Commission to make a price determination of SA Water's prices to apply from 1 July 2013.

To provide SA Water with sufficient time to collate the information requested by the Commission, this Guidance Paper was provided to SA Water in February 2012, prior to the enactment of the Water Industry Act 2012.

The information to be provided by SA Water, which will form part of its pricing submission for the 2013/14 – 2015/16 period, is required information for the purposes of section 29 of the ESC Act. The Commission intends to publish all information provided by SA Water in its pricing proposal for public consultation, except where the Commission accepts a claim that certain information is confidential. In this regard, it should be noted that a key object of the Water Industry Act is the provision of mechanisms for the transparent setting of prices within the water industry.¹

All information provided to the Commission in SA Water's pricing submission must be authorised by the board of SA Water.

SA Water's pricing submission must be provided to the Commission by Friday 28 September 2012.

1.1 Principles for review

The Commission will be making a determination of SA Water's drinking water and sewerage prices under Part 3 of the ESC Act, as authorised by section 35 of the Water Industry Act 2012.

In performing that function, the Commission must have regard to its objectives under section 6 of the ESC Act, including the Commission's primary objective, which is to protect the long term interests of South Australian consumers with respect to the price, quality and reliability of essential services. Section 6(b) of the ESC Act requires that the Commission must, at the same time, have regard to the need to:

- i. promote competitive and fair market conduct; and*

¹ Water Industry Bill 2011, section 3(c).



- ii. *prevent misuse of monopoly or market power; and*
- iii. *facilitate entry into relevant markets; and*
- iv. *promote economic efficiency; and*
- v. *ensure consumers benefit from competition and efficiency; and*
- vi. *facilitate maintenance of the financial viability of regulated industries and the incentive for long term investment; and*
- vii. *promote consistency in regulation with other jurisdictions.*

In addition to the section 6 requirements, when making a price determination the Commission must also have regard to the following factors specified in section 25 of the ESC Act:

- a) *the particular circumstances of the regulated industry and the goods and services for which the determination is being made;*
- b) *the costs of making, producing or supplying the goods or services;*
- c) *the costs of complying with laws or regulatory requirements;*
- d) *the return on assets in the regulated industry;*
- e) *any relevant interstate and international benchmarks for prices, costs and return on assets in comparable industries;*
- f) *the financial implications of the determination;*
- g) *any factors specified by a relevant industry regulation Act or by regulation under this Act;*
- h) *any other factors that the Commission considers relevant.*

Section 25(5) also requires the Commission to ensure that, when making a price determination:

- a) *wherever possible the costs of regulation do not exceed the benefits; and*
- b) *the decision takes into account and clearly articulates any trade-off between costs and service standards.*

The objects of the Water Industry Bill also provide guidance to the Commission's price determination. The objects that are most relevant to this task are:

....

- b) *to promote efficiency, competition and innovation in the water industry; and*

c) to provide mechanisms for the transparent setting of prices within the water industry and to facilitate pricing structures that reflect the true value of services provided by participants in that industry; and

....

e) to protect the interests of consumers of water and sewerage services; and

f) to promote measures to ensure that water is managed wisely.

These principles and factors contained in the ESC Act and Water Industry Bill will guide the Commission in its price determination and provide an important context to the information requirements set out in this Guidance Paper.

The information to be provided by SA Water in its pricing submission will form one input into the Commission's price determination. The Commission will be requesting submissions from interested parties and will be taking all relevant submissions into account.

The Commission is also likely to engage the assistance of expert consultants on certain matters and the advice from those consultants will form another input into the Commission's consideration.

2 REGULATED SERVICES

2.1 Background

The Water Industry Bill enables the Commission to make a price determination in relation to “retail services”, which are defined in the Bill as:

- ▲ *the sale and supply of water to a person for use (and not for resale other than in prescribed circumstances (if any)) where the water is to be conveyed (whether or not by the seller) by a reticulated system; or*
- ▲ *the sale and supply of sewerage services for the removal of sewage, (even if the service is not actually used) but does not include any service, or any service of a class, excluded from the ambit of this definition by the regulations*

Not all services provided by SA Water are retail services and, consequently, those services will not be subject to price regulation (referred to in this Guidance Paper as “non-regulated services”).

For those services that are retail services, the Commission is able to apply various forms of price regulation, as specified in section 25(3) of the ESC Act. The Commission intends to separate retail services into two categories: direct control services, which will be subject to a price/revenue cap and funded through water and sewerage tariffs, and excluded services, which will be subject to an alternative form of control (e.g. pricing principles or price monitoring).

2.2 Direct Control and Excluded Services

SA Water’s regulatory submission should clearly distinguish between “direct control” services and “excluded” services.

The determination of the services that will be classified as excluded services will be made having regard to the extent to which competition exists for those services, and the extent to which the services can be attributed to all customers or a broad class of customers.

In general, excluded services are those provided to specific customers and the cost of such services should therefore be recovered through specific charges to those customers (or potential customers) rather than being costs paid for by all customers through tariffs. Excluded services include:

- ▲ Non-standard connection (water)
- ▲ Non-standard connection (sewerage)
- ▲ Annual audit (sewerage)
- ▲ Miscellaneous minor services
- ▲ Recycled water audits

- ▲ Easement extinguishment services
- ▲ Fire plug flow testing services (for external parties)
- ▲ Network analysis (developer inquiries)

Direct control services are all retail services that are not excluded services. Direct control services are likely to include (but may not be limited to):

- ▲ The sale and supply of drinking water
- ▲ The supply of sewerage services
- ▲ Standard connection (water)
- ▲ Standard connection (sewerage)

In relation to recycled water services, the Commission will consider the costs of providing recycled water schemes to be part of the costs of providing direct control services, where SA Water can demonstrate that:

- ▲ The scheme is a prudent and efficient means of addressing environmental (discharge) obligations;
- ▲ The scheme forms part of a least cost mix of diversified water sources needed to achieve required security of supply; or
- ▲ The scheme is driven by the need to trial new technologies, with the aim of achieving more efficient means of delivering a secure supply of water.

In the above cases, any income derived directly from the provision of recycled water should be used to offset the costs of providing those schemes.

3 SA WATER PERFORMANCE

The establishment of service standards is an important consideration when setting prices as it establishes the regulatory bargain between SA Water and its customers: the licensee is able to recover efficient costs, including a return on investment, in exchange for providing consumers with an agreed level of service.

The Commission acknowledges that SA Water has an array of existing internal key performance indicators in place that have been part of the consideration when setting prices in the past.

Customer willingness to pay is also important when setting service standards. The Commission has not undertaken a willingness to pay study for drinking water and sewerage services. It is therefore unclear as to whether or not customers are prepared to pay more for higher standards of service, or would prefer to pay less for lower standards. For the 2013/14 – 2015/16 price determination, the Commission will utilise the current standards SA Water has in place and it will establish targets at a level that is no worse than SA Water's average performance over the past 5 years.

3.1 Process for setting initial set of service standards

In determining the initial set of service standards and targets, SA Water will be required to provide the Commission with evidence of its past performance. This includes reviewing the types of standards and performance achieved in relation to those standards. The assessment of the past performance of SA Water will be conducted in early 2012 so that the Commission can determine the proposed initial set of service standards and targets.

3.1.1 Commission's Request for Information

The process for setting the initial set of service standards and target includes the following tasks:

- SA Water will be required to provide the Commission with information such as (but not limited to):
 - The current definitions in place for each of the proposed standards;
 - The last 5 years of data on each of the proposed standards (the proposed standards will be finalised and set out in the Final Advice to the Treasurer in March 2012);
 - Where SA Water considers that a proposed target for a specific service standard should be different to the average performance over the last 5 years, (for any reason) to provide detailed reasons for an alteration to the target (including any cost implications);

- In cases where 5 years of data is not available, to discuss options for alternative data and provide reasons why the data requested is not available; and
- An assessment by SA Water of its performance against its internal standards set for the last 5 years. In particular, reasons why specific targets were not achieved in any one year.
- The Commission will include the proposed set of service standards in a draft Water Retail Code, which will be release for public consultation. This will allow all stakeholders the opportunity to lodge submissions on the proposed standards and targets; and
- The Commission will consider all submissions when determining the final set of standards and targets, to be set out in the finalised Water Retail Code, which will be released by June 2012.

Data provided by SA Water must be accompanied by evidence that the data has been verified, is accurate, and can be relied upon by the Commission in establishing the service standards (e.g. assurance provided by the Chief Executive Officer).

3.2 SA Water's submission on service standards for 2013/14-2015/16 Prices

For the purposes of SA Water's submission on 2013/14 – 2015/16 prices, the Commission will require SA Water to provide information on forecast costs based on achieving the service standards and targets as set out in the draft Water Retail Code.

If there is a variation to the standards resulting from consultation on the draft Water Retail Code, the Commission will consider a further submission from SA Water, prior to the release of its Final Decision on prices for 2013/14 – 2015/16.

4 EXPENDITURE REVIEW

4.1 Introduction

In determining SA Water's prices, the Commission must form a view on the efficient costs of providing direct control services. Ensuring that prices recover only efficient costs is consistent with the Commission's legislative objectives and is consistent with the requirements of the National Water Initiative (NWI) Pricing Principles².

4.1.1 General information requirements

The Commission will generally require both spreadsheet-based financial information and supporting written commentary.

Historic actual cost data is requested to provide context to forecast and plan data.

The commentary should demonstrate that the forecast levels of expenditure are both prudent and efficient. Further supporting information should be provided and may include the following:

- A description of the process for developing and seeking approval of new projects and associated expenditure
- Links between proposed expenditure and demand forecasts
- Evidence that asset management plans are in place and have been followed
- Impacts of new regulatory obligations on expenditure
- Details of consultation with external bodies during development of expenditure plans (e.g. Occupational Health and Safety issues, water quality issues)
- Any relevant cost benchmarking information (e.g. details of any benchmarking studies undertaken)
- Details of any emerging issues with asset populations (e.g. the accuracy of a particular meter population is deteriorating, leading to a requirement for early replacement)
- Details of any material issues that SA Water has identified which are likely to arise within the first price determination period
- Details of any capital/operating expenditure linkages within the plan. (e.g. Net Present Value (NPV) driven investment to reduce operating

² NWI Pricing Principles are available at - <http://www.environment.gov.au/water/publications/action/pubs/nwi-pricing-principles.pdf>

expenditure; any ongoing operating expenditure incurred to defer capital projects)

- Any further supporting information that SA Water wishes to present in support of its expenditure plans

4.1.2 Development of Expenditure Templates

The Commission has developed a series of draft expenditure templates (attached), to capture both capital and operating expenditure information. It is envisaged that these templates will be further developed over the first half of 2012. SA Water will be fully involved in the development of these templates, ensuring that they align as closely as possible to existing SA Water reporting systems and formats. This should minimise the requirement for data mapping/allocations and increase the ease and transparency of the process.

4.1.3 Prudence & Efficiency

The concept of prudence and efficiency is commonly used by regulators in assessing the expenditure plans of regulated entities. In testing the prudence and efficiency of capital expenditure, consideration will be given to the following factors:

- the requirement for the proposed project/program;
- the proposed timing and deliverability of the project/program;
- the alternative options considered in developing the project/program;
- the forecast costs of the planned project/program; and
- any further relevant considerations.

The efficiency of planned capital expenditure will be tested both at a project/program level and on a 'whole of system' basis, taking account of a long-term horizon.

For operating expenditure, the efficiency of planned expenditure will be tested, considering whether the proposed operating expenditure represents the most efficient solution to delivering the relevant services.

It is likely that the Commission will engage experienced water industry consultants to provide expert advice on the prudence and efficiency of SA Water's expenditure proposals.

4.2 Capital Expenditure

The following notes provide detail on the format and level of capital expenditure information required from SA Water.

4.2.1 Reporting period

The reporting period should cover both historic and plan information –

- 2006-07 to 2011-12 (actuals)
- 2012-13 (forecast year)
- 2013-14 to 2015/16 (first price determination period)

The capital expenditure requirement should comprise a list of specific named and costed projects, grouped by investment strategy.

All project cost estimates should be mid-point estimates, that is based on an equal chance of under-spending or over-spending. Estimates should be based on an appropriate split of risk between SA Water and third party contractors.

4.2.2 Longer Term Investment

For the following price determination period (2016/17-2019/20), SA Water should provide an indicative view of capital expenditure requirements, with a supporting narrative detailing the rationale behind the level of investment requirements.

It is important to collect this longer term information in order to view the investment plans for the forthcoming price determination period in the context of longer term investment strategies.

4.2.3 Reporting Requirements

Draft templates have been developed to capture capital expenditure on an SA Water Investment Strategy basis, with individual projects above a \$4m threshold to be specified within each strategy. SA Water should provide a narrative definition/description of each Investment Strategy.

Total investment on projects <\$4m will initially be captured at an Investment Program level within each strategy.

For each project/program, gross capital expenditure should be reported, and capital contributions separately identified in order to derive net capital expenditure. The source of contributions (e.g. Customer, Commonwealth Government), should be identified in the supporting commentary.

For each named project a split of costs between Drinking Water/Sewerage/Recycled Water/Corporate and Metropolitan/Country/Other is required. At a total level, a split of costs on these bases is also required for each year.

A schedule of asset disposals should be provided.

A schedule of gifted assets should be provided.

4.2.4 Project Information

For all projects above \$11m (gross capital expenditure) with any spend in the forthcoming price determination period (2013/14-2015/16), the following information is required:

- narrative description of project covering scope, drivers, costs, phasing of spend.
- copies of all relevant project authorisation papers. Depending on the maturity of the project, this may comprise (but is not limited to) the following - project development funds submission; project brief; external consultants reports; detailed feasibility studies; project authorisation papers (SA Water Board/Public Works Committee/Cabinet); re-submissions; post-investment appraisal papers.

A full listing of projects between \$4m-\$11m should also be provided, detailing planned phasing of spend, and supported by a short descriptive narrative. It is likely that a sample of these projects will be subject to further examination.

For projects below \$4m, only summary information by Investment Program will initially be required. Depending on the materiality of planned investment on projects <\$4m within each investment strategy, it may prove necessary to examine a sample of these projects in more detail.

4.2.5 Subjective Analysis

A subjective analysis should be provided for each identified project and for investment totals for actual and plan years – (i.e. costs split by direct labour, contract labour, materials, other costs). Please note that it would not be sufficient to simply allocate all costs to a single category on the basis that works are provided under a single Service Delivery contract. Where systems do not hold this information, an indicative view should be provided.

4.2.6 Price Base & Efficiency/Cost Escalation assumptions

All actual capital expenditure (up to and including 2011/12) should be presented at nominal (money of the day) prices.

Forecast capital expenditure (from 2012/13 onwards) should be reported at real (constant dollar) prices, using actual CPI up to March 2012 (All Groups, weighted average 8 capital cities) as published by the Australian Bureau of Statistics.

Further information should be provided on the different drivers impacting on the subjective cost areas going forward (e.g. assumptions of real price movements, wages growth, productivity assumptions, application of new techniques/technology) and how these have been applied to the proposed projects.

Any external evidence in support of these assumptions (e.g. forecasts of construction price or materials cost indices) should also be provided.

4.2.7 Direct control/Excluded/Non-Regulated Services

In setting drinking water and sewerage prices, the Commission will incorporate prudent and efficient capital expenditure that relates only to direct control services. SA Water should identify in its submission any projects that may be partially or entirely related to excluded or non-regulated services (e.g. certain elements of recycling projects may be considered to fall outside direct control services).

4.2.8 Review of Project Delivery

A key issue for the review of forecast capital expenditure is whether the proposed timing for delivery of major capital projects over the first price determination period is realistic.

In order to test this, it is proposed to analyse SA Water's project delivery record on recent projects.

For the top twenty largest completed projects over the 2006/07 to 2011/12 period, a statement should be provided detailing the original phasing of expenditure (as at the time of Cabinet/Public Works Committee sign-off), the revised phasing as at each annual capital expenditure plan update during construction, and the final profile of actual spend to completion.

A commentary of any material variances in project phasing and/or total expenditure should also be provided.

4.2.9 Capital Expenditure by Asset Class

SA Water must provide a mapping of actual and planned capital expenditure into asset register groupings (asset classes), reconciling to gross and net capital expenditure.

Asset classes will be developed in conjunction with SA Water over the first half of 2012 (see chapter 5.3 for further information on proposed Asset classes).

4.3 Operating Expenditure

Operating expenditure is a key component of SA Water's revenue requirements. As part of the expenditure review process, the Commission will consider the level of operating expenditure that it would expect an efficient water utility to incur over the 2013/14-2015/16 regulatory period.

The review will examine all operating expenditure relevant to SA Water's direct control business, both direct costs and overheads. The Commission does not consider benchmarking alone to provide an adequate basis for determining efficient expenditure benchmarks, but intends to use benchmarking of SA Water's current and proposed expenditure relative to other water utilities as one input into its assessment.

4.3.1 Reporting period

The reporting period should cover both historic and forecast operating expenditure as noted below.

- 2007-08 to 2011-12 (actuals)
- 2012-13 (forecast year)
- 2013-14 to 2015/16 (first price determination period)

4.3.2 Reporting Requirements

The following requirements should be addressed in SA Water's submission. It should be noted that this list is not exhaustive and SA Water should not limit its submission in this regard.

- Gross operating expenditure and contributions (subsidies) are required.
- It is appropriate to include a split of operating expenditure by:
 - category (water or sewerage);
 - service (direct control services, excluded services and unregulated services);
 - area (metropolitan or country); and
 - resource (direct labour, contract labour, materials and other).
- The historic and forecast operating expenditure figures provided by SA Water must be sufficiently disaggregated to allow detailed examination of individual costs.
- Information should be provided based on internal reporting categories i.e. aligned how the business is managed/reported internally, to a level of c.15-20 lines of disaggregation. Alignment to SA Water internal reporting/accounting systems will afford the ability to drill down into detail where necessary and reduce the burden of information provision.
- SA Water's submission must clearly articulate the methodology and rationale adopted to forecast operating expenditure for the first price determination period.
- Where operating expenditure have been allocated (i.e. between projects, categories, service or area) the submission should clearly state the basis of any allocations to demonstrate that the split is appropriate.

- The submission must include discussion on the drivers and justifications of expenditure, activities to be carried out and outcomes to be achieved. A supporting commentary should address year on year changes/trends in operating expenditure, for both historic and forecast operating expenditure. Variances must be fully explained.
- The submission should include detailed project information from business cases or board papers to support any change in operating expenditure. This includes cost increases, cost savings or deferment of costs.
- Labour cost forecasts should include a detailed breakdown and reconciliation of full time equivalent (FTE) staff. Wage increases greater than Consumer Price Index (CPI) should be discussed and linked to productivity improvements.
- The submission should identify and explain operating expenditure trends and scope for productivity improvements over the first price determination period.
- SA Water should provide details of SA Water efficiency programs and explain how the costs and benefits of these programs have been factored into operating expenditure forecasts.
- SA Water should explain the relationship between the level of its operating expenditure and the effect this has on the quality and quantity of customer service.
- The submission should note potential for changes to operating expenditure resulting from current or proposed capital program. In addition SA Water should disclose any significant changes in the levels of operating expenditure likely to eventuate during the following determination period.

4.3.3 Subjective Analysis

A subjective analysis should be provided for each reporting category for actual and plan years – (i.e. costs split by direct labour, contract labour, materials, other costs). The Commission notes that it would not be sufficient to simply allocate all costs to a single category on the basis that works are provided under a single Service Delivery contract. Where systems do not hold this information, an indicative view should be provided.

Further information should be provided on the different drivers impacting on these cost areas going forward (e.g. assumptions of real price movements, wages growth, productivity assumptions).

4.3.4 Adelaide Desalination Plant (ADP)

Given the scale of works related to the construction of the ADP, it is appropriate to deal with this project separately.

A schedule is required separately identifying the additional operating, maintenance & administrative costs related to the desalination plant.

A supporting commentary is required covering –

- full details of all testing and warranties which are included in the construction contract(s).
- how operating, maintenance & administrative costs related to the desalination plant will be optimised, given that it forms part of a portfolio of water supply sources.
- what assumptions have been made on desalination plant usage versus other infrastructure over the plan period. Explanations of the manner in which the plan reflect compensatory savings in other cost areas.
- full details of penalties under the contract, and details of the amounts expected to be recovered by way of penalty payments.

4.3.5 Cost Allocations

An accurate split of costs between metro and country is key to setting prices. Currently, approximately 70% of operating expenditure is allocated to segments using drivers. Whilst cost allocation model outputs were part of the annual financial audit until 2007/08, they have not been audited since that date.

SA Water should arrange to have an external assurance audit carried out, reviewing its cost allocation processes, prior to providing its pricing submission to the Commission. This would identify any issues with cost allocations, and provide the Commission with comfort that the plan is underpinned by accurate segmental reporting. The audit report should be provided to the Commission as part of SA Water's pricing submission.

5 ASSET RELATED CHARGES

5.1 Introduction

Asset related charges comprise:

- Return on Assets, which is a function of the value of the Regulatory Asset Base (RAB) and the Regulatory Rate of Return; and
- Return of Assets, which is the regulatory depreciation of the RAB.

5.2 Asset roll forward

Principle 5 of the NWI Pricing Principles is relevant for the purposes of rolling forward the value of the asset base. It states that:

The RAB comprising prudent new investments and legacy investments should be rolled forward each year in accordance with the following formula, which can be expressed in nominal or real termsⁱ:

RAB t = (RAB $t-1$ + Prudent Capital Expenditure t – Depreciation t – Disposal t (discarded assets)). (Where t = the year under consideration).

Where assets are optimisedⁱⁱ, they should not be subject to further optimisation unless there are relevant changes in market circumstances.

Where DRC or DORC is used as a basis for asset values, the RAB comprising new investments and legacy investments should be re-valued through an independent appraisal on a rolling basis in accordance with Accounting Policy Standards.

Where a renewals annuity is used, asset values should not be depreciated.

Notes:

- When applicable, CPI or other relevant indexation factor may be used.*
- The RAB should be adjusted for ‘unplanned’ excess capacity through optimisation (that is, delivery of an equivalent service that reflects least cost planning reflecting prudent engineering and technological advancements), where ‘unplanned’ excess capacity is capacity which is not the result of a planned level of utilisation.*

The asset roll forward methodology employed by SA Water must be consistent with the above roll-forward methodology. If SA Water proposes any revaluation of legacy investments, it should explain the rationale for any such revaluation. Further, SA Water should explicitly state any assumptions regarding:

- ▲ The treatment of inflation used to update asset values (by incorporating actual inflation).

- ▲ The timing associated with rolling capital expenditure into the regulated asset base and recognising depreciation (e.g. it is assumed that all capital expenditure is incurred evenly throughout each year).
- ▲ In past pricing decisions, regulatory depreciation has been calculated on a straight line basis, and work in progress has been depreciated from the time the assets are completed and have been commissioned for operation. The Commission believes that the continuation of that approach is reasonable.
- ▲ An estimate of the proceeds from asset disposals and the nature and type of assets to be disposed.
- ▲ An estimate of the expenditure on other asset acquisitions and the nature and type of assets to be acquired.

5.3 Asset classes

A key factor in developing a detailed multi-year financial model of the RAB (as well as for other financial modelling purposes) is to determine asset classes that directly map with SA Water's capital expenditure program. Underlying the asset categories is the length of the life associated with those asset categories for accounting, tax and regulatory purposes.

With respect to the selection of appropriate asset lives, it is noted that the capital intensive nature of SA Water's operations is reflected in the large spread of asset lives used to depreciate fixed assets for accounting purposes. Specifically, those lives range from 2 years through to 170 years.

SA Water should provide the Commission with information to enable it to roll forward each class of asset in the regulated asset base, based on the relevant useful lives of those assets. Asset classes are likely to include the following:

- | | |
|-----------------------------------|--------------------------------------|
| ▲ Dams & weirs | ▲ Customer connections |
| ▲ Water storage | ▲ Customer metering |
| ▲ Treatment plants - water | ▲ Communications – SCADA |
| ▲ Treatment plants – sewerage | ▲ Plant & equipment – major |
| ▲ Treatment plants – recycling | ▲ Plant & equipment – minor |
| ▲ Pumping stations | ▲ IT assets |
| ▲ Water infrastructure structures | ▲ Office equipment |
| ▲ Major pipelines | ▲ Office furniture |
| ▲ Network trunk mains | ▲ Vehicles |
| ▲ Network reticulation mains | ▲ Buildings |
| ▲ Network pumping mains | ▲ Land – freehold |
| ▲ Network main ancillaries | ▲ Land – easements |
| | ▲ Customer (and other) contributions |



It is noted that this initial listing of asset classes will be developed in conjunction with SA Water over the first half of 2012.

5.4 Legacy assets

SA Water should explain the basis for determining the value of the RAB prior to the commencement of the first price determination period. Each class of assets within the RAB should be assigned a value and remaining useful life.

5.5 New investments

Prudent and efficient forecast capital expenditure will be rolled into the RAB based on relevant asset classes and depreciated in accordance with the useful lives of each class.

5.6 Contributed assets

SA Water must ensure that all forecast capital expenditure separately identifies any forecast contributed assets (from customers, governments and others). The Commission will exclude such capital contributions from the RAB in accordance with the requirements of the NWI pricing principles.

5.7 Regulatory rate of return

The Commission will derive the regulatory rate of return to apply to SA Water using the weighted average cost of capital (WACC) methodology, where the cost of equity is calculated using the Capital Asset Pricing Model (CAPM).

Currently, the Commission is of the view that the price determination will be based on a post-tax, real WACC. Information should be provided by SA Water to enable the Commission to determine a post-tax WACC (see also chapter 6).

The Commission's determination of the regulatory rate of return will be based on the latest evidence on the prevailing cost of debt and equity, as at the time of the Final Decision.

6 TAX EXPENSE

The Commission intends to use a post-tax real WACC methodology, which will include tax liability as a building block component. It is expected that the Commission will consider:

- ▲ Tax liability to be calculated on the revenues and costs of the regulated business activities;
- ▲ Tax depreciation to be based on the regulated business activities;
- ▲ Interest payments to be based on the regulated business activities;
- ▲ Expected tax losses to be based on the regulated business activities.

The Commission is currently considering publishing a basic financial model, setting out the approach to estimating tax liability and the post-tax weighted average cost of capital.

7 SALES FORECASTS AND CUSTOMER NUMBERS

Establishing reliable demand forecasts is important for the purposes of setting efficient water prices, as it has a direct impact on the ability of SA Water to recover the revenue requirement established in any particular year. Further, it assists the Commission in determining a set of fair and reasonable prices wherein customers would pay no less or more than the costs incurred by SA Water in the provision of water services.

This section provides guidance on the Commission's expectations regarding the demand forecasting methodology adopted by SA Water, factors to be considered, and the level of information required by the Commission in assessing those forecasts. This should minimise the likelihood and scope of additional information requests. The Commission has developed a template to capture the necessary numerical information requirement and SA Water should complete this template as part of its pricing submission.

7.1 Demand forecasting methodology

The Commission is of the view that any methodology used to forecast demand will, where possible, adopt the following broad principles:

- ▲ be free from statistical bias;
- ▲ recognise and reflect key drivers of demand;
- ▲ be based on sound assumptions using the best available information;
- ▲ be consistent with other available forecasts and methodologies;
- ▲ be based upon the most recently available data;
- ▲ reflect the particular situation and the nature of the market for services; and
- ▲ be based upon sound and robust accounts of current market conditions and future prospects.

Irrespective of the methodology adopted by SA Water, the Commission will require SA Water to support the outcome of the demand forecasting process by providing detailed information on the following:

- ▲ Detailed explanation of the methodology and assumptions used to drive demand forecasts. Links between forecast demand and key demand drivers should be clearly explained.
- ▲ Details of the testing and validation exercises carried out, including the results and outcomes.
- ▲ Details of any actual and potential weaknesses, uncertainties, and risks in the demand forecasting process and outcomes.
- ▲ Details of the accuracy of its previous forecasts against actual historical data (including reasons for variances), and any implications this may have for future forecasts

The abovementioned information requirements should be presented to the Commission in both written and tabular forms, with the latter predominately in spreadsheet format.

Information on actual demand/customer numbers should be consistent with that reported for National Performance Report (NPR) purposes. Any differences between the two should be clearly explained by SA Water.

7.2 Drivers of Demand

A starting point in any demand forecasting exercise involves the business analysing actual historical data to better understand its customer base (e.g. customer characteristics), trends in usage and, more importantly, identify factors (e.g. population growth) which might have affected both its customer numbers and sales volumes. Such information may then be used as a starting point to forecast into the future.

SA Water should provide information on actual demand for 2009/10, 2010/11 and 2011/12. For 2012/13, forecasts should be based on the latest available billed data along with best forecasts for any remaining period. The basis of these forecasts should be clearly explained and evidenced.

The Commission also requires SA Water to have undertaken an assessment of key drivers that are likely to affect demand over the forecast period. These drivers will include but are not limited to the following:

- ▲ Demographic forecasts (households / businesses).
- ▲ Price elasticities. SA Water should provide its current estimates of price elasticity of demand (by usage tier and customer classification. Details of current studies and methodology should be provided as supporting evidence.
- ▲ Average consumption assumptions.
- ▲ Demand management initiatives, their impact to date, and forecast future impact.
- ▲ Climatic forecasts / assumptions. SA Water should provide information as to the source of any assumptions made (e.g. Water for Good, internal data analysis and forecasting etc).

The Commission, therefore, requires SA Water to provide written information documenting key drivers of demand, and how those drivers will affect demand over the first price determination period.

7.3 Customer number forecasts

7.3.1 Drinking Water

Due to the inherent difficulties associated with forecasting customer numbers based on population (e.g. accuracy of population growth and per capita demand

assumptions), the Commission requires that the forecast for drinking water customers to be forecast based on a “per connection” basis.

As a minimum, SA Water should provide forecasts of customer numbers for the following customer groups:

- Residential (single dwellings)
- Residential (other)
- Non-residential
- Commercial
- Other

These forecasts should be provided at year end for 2013/14, 2014/15 and 2015/16, and must be linked to key drivers that are likely to affect the number of connections over the forecast period.

Additionally, each of the above forecasts should be further disaggregated by metro / country location.

7.3.2 Sewerage

The Commission also requires that sewerage customers be forecast on a “per connection” basis.

As a minimum, SA Water should provide forecasts of customer numbers for the following customer groups:

- Residential (if applicable)
- Non-residential

The forecasts should be linked to key drivers that are likely to affect the number of connections over the forecast period, and should be provided at year end for 2013/14, 2014/15 and 2015/16.

Additionally, each of the above forecasts should be further disaggregated by metro / country location.

7.4 Sales volume forecasts

7.4.1 Drinking Water

As noted, the Commission does not intend to prescribe the methodology which SA Water should use to prepare its sales volume forecasts as there are many approaches that can be used by SA Water to forecast drinking water sales (e.g. multiplying customer number forecasts against their respective consumption profiles, or multiplying water sales in the previous year by growth assumptions).

However, SA Water must submit detailed information on the methodology adopted and the assumptions underpinning those forecasts. This will allow the Commission to examine the robustness of the sales forecasts.

As a minimum, SA Water should provide forecasts of drinking water sales (GL) for the following customer categories:

- Residential (single dwellings)
- Residential (other)
- Non-residential
- Commercial
- Other

These sales forecasts should be split by usage tiers and should be provided at year end for 2013/14, 2014/15 and 2015/16. Additionally, each of the above forecasts should be further disaggregated by metro / country location.

8 REVENUE AND PRICING

8.1 Pricing

The NWI contains a set of principles aimed at promoting best practice water pricing, which includes the need to:

- ▲ promote efficient and sustainable use of water resources, infrastructure assets and government resources devoted to the management of water;
- ▲ ensure sufficient revenue streams to allow efficient service delivery;
- ▲ facilitate the efficient functioning of water markets;
- ▲ apply the principle of users pays; and
- ▲ drive price transparency whilst avoiding perverse or unintended pricing outcomes.

With these pricing principles in mind, the Commission requires SA Water to demonstrate how its pricing submission complies with these principles, and provide explanation where a tariff departs from any of those principles.

Additionally, SA Water should provide detailed information on its approach to tariff setting, including:

- ▲ a description of the pricing model(s) in use, including details of inputs, assumptions and outputs;
- ▲ the principles it has adopted for setting tariffs, including a discussion on cost reflectivity between customer groups, and any tariff rebalancing strategies;
- ▲ the significance of long run marginal cost (LRMC) in pricing derivation, (consistent with NWI Principles). As a minimum, this should include details of:
 - LRMC forecasts for the first price determination period.
 - Details of the LRMC derivation and of methodology used.
 - The assumed future supply mix for the period over which LRMC calculations are based,
 - The future demand forecasts that underpin the LRMC calculation. (Any discrepancies between these demand forecasts and those requested in section 7, should be highlighted and an explanation provided.)
 - The future climatic modelling / assumptions that SA Water has made.
 - The sensitivity testing that has been carried out during the LRMC study.
 - Details of any external validation that been carried out during the LRMC study.
 - The risks and uncertainties associated with the LRMC study and the reasonableness of measures that have been put in place to mitigate these.

- Where an LRMC range has been estimated, SA Water should explain any method it has applied in deriving a point estimate.
- ▲ the principles underpinning the derivation of the fixed and variable elements to a tariff structure. The relative weighting of fixed and variable charges should show consideration for the underlying costs of service provision;
- ▲ the principles for recovering the costs of water planning and management;
- ▲ derivation of tariff bands and thresholds, along with the application of these to differing customer groups, residential types etc. (e.g. apartment blocks).

8.2 Proposed form of price control

The SA Water pricing submission should clearly propose its preferred form of price control that should be applied to its drinking water services over the first price determination period.

8.3 Tariffs

SA Water should provide details of the proposed tariffs that it is intending to implement for each of its services (including miscellaneous services) over the first price determination period. This should include each element of the proposed tariff structure and, where possible, distinguished by the following customer groups:

- ▲ Residential
- ▲ Non residential
- ▲ Commercial

SA Water systems may dictate a split that differs to this request. Under these circumstances, please provide details of the capability to split by customer type.

To assist the Commission in assessing the proposed tariffs, SA Water should:

- ▲ provide details of the impacts that consumption levels have on pricing;
- ▲ establish a clear link between price changes and their drivers (costs);
- ▲ provide detailed information on the projected behavioral impact on customers of pricing policies, in particular, SA Water's estimates of price elasticity of demand.
 - SA Water should provide details of its derivation of price elasticity of demand forecasts, and how these have been applied in deriving its proposed tariffs.
- ▲ provide details on any policies that may impact on billing / metering services;
- ▲ provide detailed information on the costs of administering a price / tariff change – compared to the additional revenue it may bring (e.g. possible changes to billing and / or metering). SA Water should also include details of any marketing / communication costs associated with a price change;

- ▲ provide details on how those proposed tariffs meets the requirements of its preferred form of price control; and
- ▲ provide an overview of any stakeholder consultation that has taken place in derivation of pricing, including consultation with consumer representatives.

8.4 Proposed Tariff Structures

SA Water should provide details of the proposed tariff structures that it is intending to implement for each of its services over the first price determination period. This should be distinguished by the following customer groups:

- ▲ Residential
- ▲ Non residential
- ▲ Commercial

SA Water systems may dictate a split that differs to this request. Under these circumstances, SA Water should provide details of the capability to split by customer type.

To assist the Commission in assessing the proposed tariff structures, SA Water should:

- ▲ Provide detailed information on the underlying cost justification for particular structures, including:
 - Ensuring revenue recovery and stability
 - Facilitate maintenance of financial viability of regulated industries
 - Reflecting marginal costs
- ▲ Provide a view on the ability of the proposed tariff structures to change customer behaviour (i.e. price signaling); and
- ▲ Provide information on implementation and customer impact issues (i.e. transitional costs)

9 CUSTOMER IMPACTS

The Commission requires SA Water to consider the effects of its proposed tariffs on its customers.

9.1 *Customer Impact Analysis*

To clearly articulate the impact that SA Water's proposed tariffs and tariff structures has on customers over the first price determination period, SA Water must provide an analysis of the price movement in average bills (for water, sewerage and total), having regard to:

- ▲ the proposed structure of the fixed and variable components;
- ▲ the range of customer types, distinguishing between residential, commercial and other business;
- ▲ respective consumption profiles of different customer types, including commentary on how they might change over the first price determination period;
- ▲ forecasts of movements in property values, where prices are linked to these values.