ESSENTIAL SERVICES COMMISSION

MELBOURNE WATER PRICE REVIEW 2016

Draft Decision

March 2016

An appropriate citation for this paper is:

Essential Services Commission 2016, *Melbourne Water Price Review 2016*, Draft Decision, March.

PREFACE

In October 2015, Melbourne Water submitted its price submission to the Essential Services Commission (the Commission) for assessment. The price submission sets out the prices that Melbourne Water proposes to charge for its bulk water, sewage treatment, recycled water and waterways and drainage services for a five year period commencing 1 July 2016.

This draft decision sets out the Commission's assessment of Melbourne Water's price submission against the requirements of the Water Industry Regulatory Order (WIRO) 2014 and our guidance.[1] The guidance paper is consistent with the Commission's powers and functions under the WIRO, which sits within the broader context of the *Water Industry Act 1994 (Vic)* and the *Essential Services Commission Act 2001 (Vic).*

The Commission considers Melbourne Water's price submission to be well-presented and customers appear to have been widely consulted. Melbourne Water also proposed a reduction in bulk water and sewerage charges. We propose some further cost reductions. We disagree on some issues in Melbourne Water's price submission and consider these issues are not financially material to Melbourne Water but may be important to some customers.

Consultation with stakeholders is an important part of the Commission's decision-making process. Customers and other interested parties are invited to comment on our draft decision before we release the Commission's final decision in June 2016.

Dr Ron Ben-David
Chairperson

[1] Essential Services Commission 2015, *Melbourne Water 2016 Price Review — Guidance paper*, April. The WIRO was amended in 2014.

RESPONDING TO THIS DRAFT DECISION

We invite comments from interested parties on this draft decision. The Commission will consider those comments before making its final decision.

Interested parties can provide feedback on this draft decision in two ways.

Come to a public meeting

We will hold a public forum in April 2016. The forum will provide an opportunity for interested parties to understand and comment on the key features of this draft decision. We will publish details of the forum on our website at www.esc.vic.gov.au.

Provide written comments or submissions

Written comments or submissions in response to this draft decision are due by 26 April 2016. We would prefer to receive them by email at water@esc.vic.gov.au.

You may also send comments and submissions by mail to:
Essential Services Commission
Level 37, 2 Lonsdale Street
Melbourne VIC 3000

We usually make all comments and submissions publicly available on our website. If you do not wish some information to be disclosed publicly, please discuss with Commission staff.

If you cannot access our website, please contact Commission staff to make alternative arrangements to view copies of the submissions.

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SUMMARY

BACKGROUND – THE PRICE REVIEW PROCESS

In October 2015, Melbourne Water provided its price submission to the Essential Services Commission (the Commission) for a five year regulatory period commencing 1 July 2016.

In February 2016, we held a public forum to discuss Melbourne Water's pricing proposal with approximately 40 attendees. We also received 103 written submissions which are available on our website at www.esc.vic.gov.au.

The Commission made its draft decision on Melbourne Water's price submission after considering a range of information sources: Melbourne Water's price submission and responses to queries; written submissions from interested parties; comments by attendees at our public forum; and reports prepared by Deloitte Access Economics (Deloitte)[2] on its assessment of Melbourne Water's operating and capital costs, and Incenta Economic Consulting[3] (Incenta) on Melbourne Water's proposed cost of debt using the trailing average approach.

Melbourne Water's response to Deloitte's draft findings were considered in Deloitte's final report. In making our draft decision we had regard to Deloitte's final expenditure report, which is available on our website. Incenta's final report is also available on our website. The Commission had regard to Incenta's findings in making its draft decision.

[2] Deloitte Access Economics 2016, *Melbourne Water Expenditure Review – final report*, February.

[3] Incenta Economic Consulting 2016, *Melbourne Water – trailing average cost of debt*, February.

REVENUE REQUIREMENT

For this draft decision, the Commission proposes to approve a benchmark revenue allowance for Melbourne Water for a five year regulatory period commencing 1 July 2016.[4] It proposes revenue for Melbourne Water of $7762.8 million, which is $92.0 million (1.2 per cent) lower than Melbourne Water's proposal (see table below).

REVENUE - MELBOURNE WATER PROPOSED COMPARED WITH DRAFT DECISION

2015-16 $ million

	Average over the third regulatory period	2016-17	2017-18	2018-19	2019-20	2020-21	Total
Melbourne Water's proposed revenue requirement	1 705.5	1 559.5	1 575.9	1 587.6	1 570.3	1 561.4	7 854.7
Draft decision on total revenue requirement	-	**1 509.2**	**1 533.1**	**1 560.0**	**1 574.5**	**1 585.9**	**7 762.8**

The Commission's adjustment to Melbourne Water's proposed revenue requirement reflects our assessment of the efficient costs of delivering services. The major areas of adjustment in this draft decision include:

- a $112.4 million reduction (over the five years from 2016-17) to forecast operating expenditure, mainly reflecting our review of Melbourne Water's proposed energy costs (chapter 3)
- a $355.5 million reduction to Melbourne Water's forecast capital expenditure mainly reflecting reduced or deferred capital programs (chapter 4)
- financial assumptions (the cost of capital and tax) which had an upward impact of around $60 million (chapter 5).

[4] Our guidance proposed to approve a five year regulatory period, subject to any alternative and justified proposal by Melbourne Water. Melbourne Water's price submission proposed a five year regulatory period.

The Commission notes that Melbourne Water's proposed revenue requirement on an average annual basis is around 7.9 per cent lower than in the current regulatory period (2013-14 to 2015-16).[5] The reduction reflects savings identified by Melbourne Water during the 2014 efficiency review undertaken by all Victorian water businesses and coordinated by the (then) Department of Environment and Primary Industries.[6]

The savings identified by Melbourne Water contributed around $40 to the $100 bill rebate provided to metropolitan residential water customers in 2015. The remainder of the rebate was accounted for by savings identified by metropolitan water retailers during the 2014 efficiency review.

Note that Melbourne Water provides wholesale water and sewerage services to the metropolitan water retailers. As such, the bill for an end-use water and sewerage customer reflects costs incurred by Melbourne Water and the retail businesses.

The Commission's draft decision captures savings arising from Melbourne Water's 2014 internal efficiency review, therefore some of the cost reductions proposed by Melbourne Water and reflected in our draft decision have already been reflected in end-use customer bills. The impact of our decision on end-use water and sewerage customer bills will depend on how Melbourne Water responds to our draft decision, and how much of these savings is passed on by water retailers to end-use customers.

BULK WATER AND SEWERAGE TARIFFS

For this draft decision, the Commission proposes to approve Melbourne Water's proposed changes to the structure of its bulk water headworks and transfer tariffs.

Melbourne Water proposed to shift from a fixed and variable water headworks tariff to a fully fixed tariff for each metropolitan water retailer and some regional water businesses, reflecting the government's bulk entitlement reform in 2014. We consider

[5] In 2013, the Commission approved prices for a three year period from 2013-14 to 2015-16. In the current price review, Melbourne Water proposed that the Commission approve prices for a five year period from 2016-17 to 2020-21.

[6] Now the Department of Environment, Land, Water and Planning.

the proposed changes provide for greater transparency because tariffs will reflect the different costs of accessing Melbourne's three bulk water supply systems.

The Commission proposes to approve Melbourne Water's proposal to shift from a fixed and variable water transfer tariff to a single variable tariff (that is common across all water retailers). A single variable tariff will be easier to understand and there is broad support among water retailers for the changes.

For this draft decision, the Commission proposes to approve Melbourne Water's proposed changes to its bulk sewerage tariff structures. We consider the proposed tariffs are cost reflective.

WATERWAYS AND DRAINAGE TARIFFS

The Commission proposes to approve Melbourne Water's proposed waterways and drainage tariffs for residential and rural customers.

We propose not to approve Melbourne Water's proposed reforms to non-residential waterways and drainage tariffs.

Melbourne Water proposed to transition non-residential customers from a charge rate linked to property value, to a flat charge (for all but the largest 50 non-residential customers by revenue – "largest 50") by 2021-22.

Melbourne Water did not propose either a maximum tariff or method for determining tariffs for the largest 50 non-residential customers. We cannot form a view on the cost reflectiveness of the proposed tariffs, and the extent to which the tariffs have regard to clause 11 in the Water Industry Regulatory Order (WIRO) 2014. For this reason, the Commission proposes not to approve Melbourne Water's proposed revenue cap form of price control for its waterways and drainage tariffs.

The Commission proposes not to approve Melbourne Water's proposed new Patterson Lakes tariff. The proposed maintenance costs are the subject of a private contract and the recovery of capital costs from the marina operator is inconsistent with the findings

of the Independent Review.[7] Melbourne Water has previously accepted the findings of the Independent Review.

FINANCING CAPITAL INVESTMENTS

For this draft decision, the Commission proposes not to approve Melbourne Water's proposed approach to estimating the benchmark cost of debt using the trailing average approach and Melbourne Water's proposed weighted average cost of capital (WACC).

Our guidance paper set out our process for estimating the cost of debt based on the approach used in past reviews. We stated that we are open to exploring a change in approach. But Melbourne Water must justify any proposed change on the basis that the new approach better meets clause 11 of the WIRO.

We consider Melbourne Water's trailing average approach to estimating the benchmark cost of debt and to immediately transition from the current on-the-day approach does not better meet the WIRO. Melbourne Water's proposal results in an inefficient benchmark cost of debt. The Commission proposes to use the on-the-day approach to estimate the benchmark cost of debt, the approach we used in past reviews, and approve a real WACC of 4.2 per cent.

The Commission suggests that Melbourne Water should consider submitting a revised trailing average approach to estimate the cost of debt.

TREATMENT OF DESALINATION COSTS

Melbourne Water proposed to capitalise (that is, treat some expenditure as capital expenditure rather than operating expenditure for pricing purposes) $20 million per annum of its forecast annual desalination security payments over the period from 2016-17 to 2020-21. The Commission's draft decision is to accept Melbourne Water's proposal. This has the effect of lowering prices for end-use customers.

[7] Patterson Lakes Independent Review 2013, *Management of Patterson Lakes Tidal Waterways & Quiet Lakes*, March.

Melbourne Water is invited to provide information to the Commission on further opportunities for capitalisation of desalination security payments given our draft decision on capital expenditure and finance costs, which potentially creates greater capacity on Melbourne Water's balance sheet.

Further, retail water businesses and some customer groups raised the prospect of whether it was desirable to capitalise amounts greater than what was proposed by Melbourne Water.

In the 2013 water price review, the Commission approved a mechanism to allow Melbourne Water's prices (and the prices of the metropolitan water retailers) to adjust if any desalination water is ordered. Melbourne Water proposed a similar adjustment mechanism for the period from 2016-17 to 2020-21 that allows it to pass on any costs associated with water orders to the metropolitan water retailers. We note that the Victorian Government has announced that it will place an order of 50 gigalitres of water for the desalination plant for 2016-17.

The Commission's draft decision is to approve a mechanism that allows Melbourne Water to adjust its prices upward (applying a standalone variable water tariff charged to the water retail businesses) to reflect the costs of desalination water orders, less any avoided costs, (noting that prices would initially be set on the basis of a zero water order). The current determinations for the metropolitan water retailers allow them to pass on the costs of water orders to end-use water customers.

OTHER MATTERS

The Commission proposes to accept Melbourne Water's forecast demand for bulk water (subject to minor amendments), bulk sewage and customer numbers.

The Commission seeks more information from Melbourne Water and the government to understand how the delivery of $28.4 million of capital expenditure on community projects (such as green spaces for shade and cooling near waterways) fall within the scope of prescribed services under the WIRO.

1 INTRODUCTION

The Essential Services Commission (the Commission) is Victoria's independent economic regulator. Our role in the water industry includes regulating prices and monitoring the service standards of the 19 Victorian Government owned water businesses.

This paper presents the Commission's draft decision on Melbourne Water's price submission for the regulatory period commencing 1 July 2016. The Commission's pricing powers and functions in Victoria's water industry are based on the Water Industry Regulatory Order (WIRO) 2014 which sits within the broader context of the *Water Industry Act 1994 (Vic)* and the *Essential Services Commission Act 2001 (Vic)*.

In April 2015, the Commission issued guidance to Melbourne Water to inform its price submission. The guidance paper sets out the criteria against which the Commission will assess compliance of Melbourne Water's price submission.

In June 2016, the Commission will make a final price determination on the maximum prices that Melbourne Water may charge for prescribed services (or the manner in which prices are to be calculated, determined or otherwise regulated).[8]

If the Commission considers that the price submission satisfies the criteria in our guidance paper, it must approve Melbourne Water's price submission. Otherwise, the Commission has the discretion to specify maximum prices.[9]

[8] WIRO, clause 10(a). The prescribed services are listed at clause 7(b) of the WIRO.

[9] WIRO, clause 14.

1.1 OUR APPROACH TO REVIEWING PROPOSED PRICES

Our guidance paper noted we would use the 'building blocks' method to determine the revenue that will provide Melbourne Water with a reasonable opportunity to recover the efficient costs of providing regulated services, and to comply with health, safety, environmental, social and other regulatory obligations.

The 'building blocks' method involves three steps:

- First, the Commission determines the regulatory period.
- Then, we assess service outcomes for each of the regulated services that Melbourne Water proposes to deliver. This assessment reviews whether those outcomes reflect government (including regulator) obligations or demonstrated customer needs.
- Finally, we forecast the following 'building blocks':
  - an efficient level of operating expenditure
  - an efficient level of capital expenditure
  - the regulatory asset base
  - a rate of return to apply to the regulatory asset base
  - the tax allowance.

These 'building blocks' determine the forecast required revenue for Melbourne Water to deliver on its service outcomes and obligations. The Commission approves prices to achieve the required revenue and we also review demand.

In responding to this draft decision, Melbourne Water must provide an updated financial template which reflects the Commission's draft decisions.

In this draft decision, all values are presented in $2015-16, unless otherwise stated.

1.2 THE STRUCTURE OF THIS DRAFT DECISION

This draft decision outlines our review of Melbourne Water's proposals, and summarises the amendments that Melbourne Water needs to make to gain the Commission's approval. It is structured as follows:

- Chapter 2 sets out our views on the revenue required by Melbourne Water to set the prices that will apply over the regulatory period
- Chapter 3 sets out our views on Melbourne Water's proposed operating expenditure
- Chapter 4 sets out our views on Melbourne Water's proposed capital expenditure
- Chapter 5 sets out our views on Melbourne Water's financing of capital investments
- Chapter 6 sets out our views on Melbourne Water's demand forecasts
- Chapter 7 sets out our views on Melbourne Water's proposed tariff structures for the provision of water and sewerage services
- Chapter 8 sets out our views on Melbourne Water's proposed waterways and drainage services, diversion services, miscellaneous services and proposed developer contributions
- Chapter 9 sets out our views on how Melbourne Water proposes to adjust prices during the regulatory period and its proposed form of price control
- Appendix A lists the written submissions that we received on Melbourne Water's price submission.

2 REVENUE REQUIREMENT

2.1 INTRODUCTION

This chapter sets out the revenue requirement that the Commission proposes to approve for Melbourne Water for 2016-17 to 2020-21.[10] The Commission must be satisfied that maximum prices are set at a level that generates sufficient revenue for Melbourne Water to recover the known efficient costs of delivering services. The approved revenue does not represent the approval of any particular projects or items of expenditure. Rather, Melbourne Water should allocate its revenue depending on the most efficient spending options (which may change) during the regulatory period.

2.2 APPROACH TO ASSESSING REVENUE REQUIREMENT

The Commission uses the 'building blocks' approach to estimate the revenue that Melbourne Water requires to deliver its services. Under this approach, the revenue requirement reflects operating expenditure and a return on the regulatory asset base (RAB) that is updated each year to reflect any additional capital expenditure and regulatory depreciation, and a tax allowance. This draft decision reviews these elements in separate chapters.

[10] That is, the regulatory period from 1 July 2016 to 30 June 2021 as proposed by Melbourne Water and accepted by the Commission.

2.3 MELBOURNE WATER'S PROPOSED REVENUE REQUIREMENT

Melbourne Water proposed a revenue requirement of $7854.7 million (an annual average of $1570.9 million) over a five year regulatory period from 1 July 2016. This compares to $5116.5 million (an annual average of $1705.5 million) approved by the Commission for Melbourne Water's current three year regulatory period to 30 June 2016.

2.4 COMMISSION'S REVIEW

The Commission proposes to approve a five year regulatory period, consistent with our guidance to Melbourne Water.[11]

We reviewed the 'building blocks' in Melbourne Water's price submission and adjusted the proposed revenue requirement to reflect the Commission's draft decision:

- to reduce Melbourne Water's proposed operating expenditure by $112.4 million. This reduction mainly reflects adjustments made to proposed renewable energy and electricity network costs (chapter 3)
- to reduce Melbourne Water's proposed capital expenditure program by $355.5 million (chapter 4)
- on financial assumptions (the cost of capital and tax) which had an upward impact of around $60 million (chapter 5).

Table 2.1 sets out the Commission's draft decision on the revenue requirement. The Commission's draft decision revenue of $7762.8 million is less than Melbourne Water's proposal by $92.0 million or 1.2 per cent over 5 years.

[11] Essential Services Commission 2015, op. cit., April, p.14.

TABLE 2.1 DRAFT DECISION ON MELBOURNE WATER'S REVENUE REQUIREMENT
2015-16 $ million

	2016-17	2017-18	2018-19	2019-20	2020-21	Total
Operating expenditure	926.3	920.6	920.3	910.8	900.6	**4 578.5**
Return on assets	421.7	431.9	441.8	450.0	456.2	**2 201.5**
Regulatory depreciation	163.8	180.0	195.3	208.1	220.2	**967.5**
Tax liability	0.4	3.6	5.7	8.7	11.9	**30.4**
Non-prescribed revenue offset of revenue requirement	-3.0	-3.0	-3.0	-3.0	-3.0	**-15.1**
Draft decision on total revenue requirement	**1 509.2**	**1 533.1**	**1 560.0**	**1 574.5**	**1 585.9**	**7 762.8**

The Commission notes that Melbourne Water's proposed revenue requirement on an average annual basis is around 7.9 per cent lower than for the three year period from 2013-14 to 2015-16. The reduction largely reflects savings identified by Melbourne Water during the 2014 efficiency review undertaken by all Victorian water businesses and coordinated by the (then) Department of Environment and Primary Industries.

The savings identified by Melbourne Water contributed around $40 to the $100 bill rebate provided to metropolitan residential water customers in 2015. The remainder of the rebate was accounted for by savings identified by metropolitan water retailers during the 2014 efficiency review.

Note that Melbourne Water provides wholesale water and sewerage services to the metropolitan water retailers. As such, the bill for an end-use water and sewerage customer reflects costs incurred by Melbourne Water and the retail businesses.

The Commission's draft decision captures savings arising from Melbourne Water's 2014 internal efficiency review, therefore some of the cost reductions proposed by Melbourne Water and reflected in our draft decision have already been reflected in end-use customer bills. The impact of our decision on end-use water and sewerage customer bills will depend on how Melbourne Water responds to our draft decision, and how much of these savings is passed on by water retailers to end-use customers.

2.5 DRAFT DECISION

The Commission proposes to approve a five year regulatory period from 1 July 2016.

The Commission proposes to specify the total revenue amount set out in Table 2.1 of the draft decision.

3 OPERATING EXPENDITURE

3.1 INTRODUCTION

This chapter reviews Melbourne Water's operating expenditure. Melbourne Water recovers operating expenditure through tariffs charged directly to end-use customers (waterways and drainage) and to the retail water businesses (bulk water and sewerage services). Operating expenditure generally comprises the majority of Melbourne Water's revenue requirement, so it is a key element for review.

3.2 APPROACH TO ASSESSING OPERATING EXPENDITURE

We assessed Melbourne Water's forecast operating expenditure for the 2016-17 to 2020-21 period against the requirements of the Water Industry Regulatory Order (WIRO) 2014 and the criteria in our guidance to the water business.

Section 4.4.1 of our guidance paper sets out how we would establish operating expenditure benchmarks:

> *The forecast operating expenditure to be included for the purposes of determining the required revenue is operating expenditure which would be incurred by a prudent service provider acting efficiently to achieve the lowest cost of delivering on service outcomes over the regulatory period, taking into account a long-term planning horizon* ***(prudent and efficient forecast operating expenditure)****.*[12]

[12] Essential Services Commission 2015, op. cit., April, p.17.

As set out in our guidance to Melbourne Water, we assess efficient and prudent expenditure by:

- establishing a baseline business-as-usual (BAU) controllable operating expenditure. This baseline is based on the last full year of actual data (2014-15), adjusted to:
  - remove any non-controllable costs
  - remove inefficient expenditure
  - remove material once-off or non-recurring costs incurred in the baseline year, including efficiency commitments made by Melbourne Water following its 2014 efficiency review[13]
  - add any normal recurring costs that were not incurred in the baseline year.
- assessing, for each year from 2016-17 to 2020-21, the prudency and efficiency of Melbourne Water's proposed changes from the BAU estimate for 2014-15. Our guidance noted an efficiency adjustment factor of 2 per cent per year must be applied to the 2014-15 baseline operating expenditure.[14]

3.3 MELBOURNE WATER'S PROPOSED OPERATING EXPENDITURE

For the 2016-17 to 2020-21 period, Melbourne Water proposed total operating expenditure of $4690.9 million. This amount is a 12 per cent increase on the $4181.8 million spent in the preceding five years (actual for 2011-12 to 2014-15, and forecast for 2015-16). However, the full impact of the desalination security payments did not appear in operating expenditure until 2013-14.

Melbourne Water's price submission shows actual and forecast operating expenditure for the current period well below the benchmark expenditure allowed in the 2013 price determination. This reflects the significant efficiencies and cost savings realised by Melbourne Water during this period.

[13] In 2014, the (then) Department of Environment and Primary Industries (DEPI) conducted a review of all Victorian water businesses on behalf of the shareholder to identify cost savings and efficiencies in both operating expenditure and capital expenditure.

[14] Essential Services Commission 2015, op. cit., p. 20.

Table 3.1 shows a breakdown of Melbourne Water's proposed operating expenditure, as provided in its price submission, while Table 3.2 presents the same proposal broken into controllable and non-controllable expenditure categories which align with our assessment approach.

A large proportion of Melbourne Water's operating expenditure is not within its direct control, including the desalination security payments and various regulatory charges.

The key components of Melbourne Water's proposed operating expenditure include:

- capitalisation of a portion of the desalination security payments, which reduces operating expenditure by $100 million over the five years ($20 million per year)
- a steady decline in the annual desalination security payments, which are $40 million lower by the last year of the period, producing an overall decrease in forecast operating expenditure
- a steady increase in the annual BAU costs ($18 million higher by the end of the period), after an initial $8.5 million drop (relative to the baseline year) in the first year
- new obligations requiring a further $70.9 million in operating expenditure over the five years.

For controllable costs, Melbourne Water identified the following drivers of the proposed increases:

- an escalation in contract prices for labour, energy, accommodation and maintenance costs
- forecast growth in both customers and assets.

These proposed cost increases are partly offset by ongoing efficiencies that Melbourne Water realised as part of the Victorian Government's efficiency review of water businesses in 2014, and by new operating efficiencies identified in its price submission.

TABLE 3.1 MELBOURNE WATER'S PROPOSED OPERATING EXPENDITURE, AS PER SUBMISSION

2015-16 $ million

	Third regulatory period			Fourth regulatory period					Total forecast opex
	2013-14 [a]	2014-15 [a]	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	
Victorian Desalination project	657.5	621.1	620.0	572.7	563.8	560.5	548.7	532.4	**2 778.1**
Water	66.1	60.9	80.8	82.8	83.9	84.4	84.9	85.8	**421.8**
Sewerage	107.5	102.1	110.3	113.4	114.6	116.6	116.7	117.1	**578.4**
Waterways and Drainage	84.2	72.5	86.3	85.6	86.7	90.0	91.1	95.0	**448.4**
Recycled Water	4.6	3.5	3.3	3.2	3.3	3.4	3.4	3.4	**16.7**
Corporate	122.9	127.2	88.6	87.5	89.0	89.3	90.0	91.7	**447.5**
Total	**1 042.8**	**987.3**	**989.3**	**945.3**	**941.3**	**944.0**	**934.8**	**925.3**	**4 690.9**

Source: Melbourne Water's price submission, p.18. Table contains minor rounding differences.

a 2013-14 and 2014-15 are actual operating expenditure amounts incurred by Melbourne Water.

Note: Melbourne Water proposed $20 million of the desalination security payments would be treated as capital expenditure in each year of the regulatory period (section 3.8). This proposal is reflected in a corresponding reduction in the Victorian Desalination project figures in the table.

TABLE 3.2 MELBOURNE WATER'S PROPOSED OPERATING EXPENDITURE, BY ASSESSMENT APPROACH

2015-16 $ million

	Third regulatory period			Fourth regulatory period					Total forecast opex
	2013-14[a]	**2014-15[a]**	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**	
Desalination payments	657.5	621.1	620.0	592.7	583.8	580.5	568.7	552.4	**2 878.1**
less desalination capitalisation				*(20.0)*	*(20.0)*	*(20.0)*	*(20.0)*	*(20.0)*	***(100.0)***
Land tax	20.1	20.7	21.6	21.7	22.2	21.8	22.3	22.7	**110.7**
Controllable business-as-usual (BAU)	363.2	343.0	344.3	335.7	339.4	345.0	346.8	352.8	**1 719.7**
New obligations			1.4	12.9	13.6	14.4	14.8	15.2	**70.9**
Regulator licence fees	2.0	2.4	2.3	2.3	2.3	2.3	2.3	2.3	**11.6**
Total prescribed operating expenditure	**1 042.8**	**987.3**	**989.6**	**945.3**	**941.3**	**944.1**	**934.8**	**925.3**	**4 690.9**

Source: Melbourne Water price submission financial template.

a 2013-14 and 2014-15 are actual operating expenditure amounts incurred by Melbourne Water.

3.4 OVERVIEW OF DRAFT DECISION

The Commission formed its draft decision on operating expenditure after considering:

- Melbourne Water's price submission
- additional information provided by Melbourne Water to support its forecast
- consultation with the relevant regulatory agencies
- the expenditure assessment report provided by the Commission's expert consultant, Deloitte
- customer and stakeholder submissions.

The Commission's draft decision proposes total operating expenditure over the five year period of $4578.5 million, which is $112.4 million (2.4 per cent) lower than the total proposed by Melbourne Water. This reduction comprises $111.6 million in controllable operating costs and $0.82 million in non-controllable regulator fees (Table 3.3).

We consider the proposed operating expenditure in this draft decision better reflects the expenditure that a prudent service provider would incur when acting efficiently to achieve the lowest cost in delivering the outcomes specified in Melbourne Water's price submission.

The benchmark operating expenditure that the Commission proposes to adopt for Melbourne Water does not represent the amount that Melbourne Water is required to spend or allocate to particular operational, maintenance and administrative activities. Rather, it represents assumptions about the overall level of operating expenditure (to be recovered through prices) that the Commission considers sufficient to operate the business and to maintain services over the regulatory period.

We address the following key areas in section 3.5:

- energy costs (network and renewable energy)
- chemicals costs
- fleet costs
- pollution response costs

- waterways and drainage costs
- labour costs.

We discuss how Melbourne Water's proposal addresses our efficiency improvement requirement in section 3.6.

We discuss the non-controllable fees imposed by regulatory agencies and government in section 3.7, and the treatment of the desalination security payments in section 3.8.

TABLE 3.3 DRAFT DECISION PRESCRIBED OPERATING EXPENDITURE BY SERVICE

2015-16 $ million

	Fourth regulatory period					Total draft decision opex	Total proposed opex	Difference
	2016-17	2017-18	2018-19	2019-20	2020-21			
Business-as-usual (BAU) operating expenditure	**923.6**	**917.2**	**916.2**	**906.0**	**895.2**	**4 558.1**	4 608.4	-50.4
Water	678.2	670.8	668.0	657.0	642.2	**3 316.3**	3 316.8	-0.5
Sewerage	119.6	119.8	119.6	119.7	120.0	**598.6**	637.3	-38.7
Recycled Water	4.2	4.4	4.4	4.5	4.5	**22.1**	22.5	-0.4
Waterways and Drainage	120.4	121.0	123.1	123.7	127.3	**615.6**	626.4	-10.8
Diversions	1.1	1.1	1.1	1.1	1.1	**5.4**	5.4	0.0
New obligations proposed by Melbourne Water	**0.6**	**1.3**	**1.9**	**2.6**	**3.3**	**9.7**	70.9	-61.2
Water - Renewable Energy	0.0	0.0	0.0	0.0	0.0	**0.0**	55.8	-55.8
Waterways and Drainage - Waterways Maintenance	0.6	1.3	1.9	2.6	3.3	**9.7**	9.7	0.0
Waterways and Drainage - Pollution Response	0.0	0.0	0.0	0.0	0.0	**0.0**	5.3	-5.3
Regulator licence fees	**2.1**	**2.1**	**2.1**	**2.1**	**2.1**	**10.7**	11.6	-0.8
Total prescribed operating expenditure	926.3	920.6	920.3	910.8	900.6	**4 578.5**	4 690.9	-112.4

3.5 COMMISSION'S REVIEW OF KEY OPERATING EXPENDITURE INPUTS

3.5.1 ENERGY COSTS

Melbourne Water has a long term power purchase agreement with its energy provider. Melbourne Water advised that the agreement defines a progressive increase in the proportion of renewable energy supplied, up to 100 per cent renewable energy by 2018. It stipulates a 50 per cent proportion of renewable energy in the 2014-15 baseline year.

In the 2013 price determination, the Commission took the view that water businesses should address greenhouse gas emission reduction through the Australian Government's carbon pricing mechanism, rather than individual actions by businesses. For this reason, the energy cost included in Melbourne Water's benchmark operating expenditure was based on a benchmark electricity price rather than Melbourne Water's actual contract prices.

In its current price submission, Melbourne Water's proposed operating expenditure includes costs associated with:

- an anticipated increase in energy network prices
- the premium for renewable energy, which increases as the proportion of renewable energy increases from 75 per cent in 2016-17 to 100 per cent from 2018-19.

Table 3.4 shows Melbourne Water's total proposed energy cost.

TABLE 3.4 MELBOURNE WATER'S PROPOSED ELECTRICITY COSTS
2015-16 $ million

	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21	Total
Net grid electricity cost[a]	17.4	25.8	28.3	28.7	30.7	29.7	29.3	**146.7**
Network and small sites	13.3	13.3	13.1	14.3	14.9	16.0	16.5	**74.8**
Total electricity costs	**30.6**	**39.1**	**41.3**	**43.1**	**45.7**	**45.7**	**45.7**	**221.5**

a Cost of energy purchased from the electricity grid, less income received from energy exported to the grid from Melbourne Water's own generation facilities.

APPROACH TO ASSESSING ENERGY COSTS

In light of the abolition of the federal carbon tax since the last price determination, it is reasonable for Melbourne Water to request we reconsider our position on renewable energy. Deloitte has put forward a range of options for determining an efficient wholesale energy cost allowance, but notes that ultimately it is a regulatory policy decision.[15] We agree with Deloitte's view that customers should not pay the entire price premium that Melbourne Water must pay for its energy contract, and that contractual prices being paid by Melbourne Water are substantially higher than current market rates.[16] We have adopted an approach that is closest to Deloitte's option 6. This involves us establishing the following benchmark components for electricity costs:

- an electricity network cost
- a wholesale energy price
- an allowance for retail margins and other costs
- a reasonable (prudent) proportion of renewable electricity to be recovered in prices
- a renewable energy certificate price.

Deloitte reviewed Melbourne Water's proposed annual forecasts for purchase of energy from the electricity supply grid, as well as the forecast export of electricity to the

[15] Deloitte Access Economics 2016, op. cit., p. 50

[16] Deloitte Access Economics 2016, op. cit., p. 44.

grid from Melbourne Water's own generation facilities. Deloitte did not recommend any changes to these energy use forecasts. We agree with Deloitte's view, and used Melbourne Water's own figures to calculate the total energy cost allowance for each year.

Network costs

Melbourne Water forecast an average annual growth in electricity network costs of 7.6 per cent across the 2016-17 to 2020-21 period. Deloitte noted the Australian Energy Regulator (AER) recently released a preliminary price determination that forecasts declining Victorian electricity network tariffs. Deloitte estimated the average price will fall by about 3 per cent per year across a five year period. Based on these prices, it recommended a 27 per cent reduction in Melbourne Water's network costs over five years.

We are satisfied with Deloitte's recommended approach to use the actual AER network prices when they become available. We will update the forecast network costs for the Commission's final decision, after the AER releases its final decision in April. For this draft decision, we reduced Melbourne Water's energy network cost forecasts to reflect the AER preliminary determination (Table 3.5).

TABLE 3.5 DRAFT DECISION ANNUAL NETWORK COSTS
2015-16 $ million

	2016-17	2017-18	2018-19	2019-20	2020-21	Total
Proposed costs	12.0	13.3	14.8	15.3	16.0	**71.3**
Draft decision	**10.1**	**10.5**	**11.0**	**10.5**	**10.2**	**52.2**
Difference	-1.9	-2.8	-3.8	-4.8	-5.9	**-19.1**

Wholesale energy price and retail margin

Our established approach to energy costs is to ascertain a benchmark efficient energy price. That price represents the price that a water business could be expected to secure in the current market at the time of the price review. It reflects the buying power of water businesses with large electricity consumption, and the opportunity for efficiencies through joint procurement with other water businesses or procurement groups.

In its expenditure report, Deloitte's energy options analysis uses a wholesale energy price of $40.19 per MWh.[17]

The Commission proposes to use this wholesale energy price, but allow an additional 20 per cent to cover retail margins and potential fluctuations in wholesale prices over the period, producing a figure of $48 per MWh. The ASX Australian electricity futures market has traded wholesale prices up to the December 2019 contract quarter[18] in Victoria. Base load prices traded at $41 per MWh and peak load period prices traded at $46 per MWh for December 2019, however both fluctuate in the preceding contract quarters. A wholesale price of $40.19 per MWh with a 20 per cent uplift is intended to account for typical costs above the wholesale price such as retail costs, retail margin and market fees, and the likely fluctuation in prices over the next five years. In our experience, a 20 per cent uplift is reasonable to account for these factors.

For the purposes of this draft decision, the electricity generated by Melbourne Water and exported to the electricity grid will be credited at the same wholesale price and with the same retail margin, that is $48 per MWh.

Renewable energy certificate price

We consider an efficient benchmark water business would meet its renewable energy targets by purchasing renewable energy certificates, such as large scale generation certificates. This approach would allow the business to adjust its renewable energy target to reflect current government policy and expectations.

Prices for large scale generation certificates varied considerably over the past year, increasing from $50 per MWh in mid-2015 to its highest value to date (about $80) in the current market. The Commission proposes to adopt a certificate price of $70 per MWh — slightly above the mid-point of this range — for its draft decision on Melbourne Water's renewable energy costs, noting that this is a premium above the wholesale energy price.

[17] Deloitte Access Economics 2016, op. cit., p. 48.

[18] ASX Operations Pty Limited 2015, *Australian Electricity Futures and Options: Contract Specifications*.

Proportion of renewable electricity

The Commission must decide what proportion of the cost premium for renewable electricity is prudent to pass on to customers.

In its expenditure assessment report, Deloitte set out options ranging from allowing strictly lowest cost electricity, with no allowance for renewable electricity, to allowing the full contract amount of renewable energy of up to 100 per cent from 2018.

Without any specific obligation for Melbourne Water to purchase renewable energy, we looked to current and historic Victorian Government policies and objectives for renewable energy. In its price submission, Melbourne Water claimed it has taken an early leadership role in the uptake of renewable energy, in line with current government objectives such as those outlined in Victoria's Renewable Energy Roadmap.[19] The Roadmap states:

> *The Victorian Government believes targets are critical for ensuring growth in renewable energy generation. Therefore, as part of the Action Plan, the Victorian Government will establish two targets for renewable energy generation in this state, including for 2020 and 2025. The Government aims to produce at least 20 per cent of the state's electricity generation from renewable sources by 2020. The Government is asking for community feedback on what the 2020 and 2025 targets should be, as part of broad public consultation on this Roadmap* [20]

Elsewhere it states:

> *The Victorian Government is a large user of electricity. Therefore, the Victorian Government will use its electricity purchasing power to promote investment and jobs growth in the renewable energy industry.*[21]

[19] Melbourne Water 2015, *2016 price submission*, October, p. 20.

[20] Victorian Government 2015, *Victoria's Renewable Energy Roadmap*, August, p. 7

[21] Ibid, p.12.

While the Roadmap refers to at least 20 per cent electricity *generation* from renewable sources, it does not clearly indicate renewable electricity *use* targets for government owned entities such as Melbourne Water.

At this stage, we conclude there is no distinct Victorian Government renewable energy purchasing policy in relation to Victoria's water businesses. As such, if the government's aim is to have 20 per cent renewable energy in the generation mix by 2020, we consider Melbourne Water's expected purchase of energy from that pool would comprise 20 per cent renewable energy. Accordingly, and without any other specific obligation on Melbourne Water, we consider it is reasonable that customers pay the renewable price premium on 20 per cent of Melbourne Water's electricity requirements.

SUMMARY OF COMMMISSION'S BENCHMARK ELECTRICITY COSTS

Table 3.6 shows the Commission's proposed total energy cost allowance for each year of the 2016-17 to 2020-21 period. As detailed in the preceding sections, assumptions for calculating the allowance include:

- wholesale energy price plus retail margin of $48 per MWh
- electricity feed-in credited at $48 per MWh
- renewable energy certificate price of $70 per MWh
- renewable energy proportion of 20 per cent.

TABLE 3.6 COMMISSION'S PROPOSED ALLOWANCE FOR MELBOURNE WATER'S TOTAL ENERGY COST

2015-16 $ million

		2016-17	2017-18	2018-19	2019-20	2020-21	Total
Electricity consumption from grid	MWh	219 990	214 724	216 099	209 479	206 639	**1 066 931**
Wholesale energy cost	**$m**	**10.6**	**10.3**	**10.4**	**10.1**	**9.9**	**51.2**
Electricity exported to grid	MWh	18 084	17 378	16 421	16 417	16 413	**84 713**
Energy income	**$m**	**0.9**	**0.8**	**0.8**	**0.8**	**0.8**	**4.1**
Net grid energy cost	**$m**	**9.7**	**9.5**	**9.6**	**9.3**	**9.1**	**47.1**
Network charges	$m	10.1	10.5	11.0	10.5	10.2	**52.2**
Small sites[a]	$m	1.1	1.0	0.1	0.7	0.5	**3.5**
Total benchmark energy allowance	**$m**	**20.9**	**21.0**	**20.7**	**20.5**	**19.8**	**102.9**
Renewable energy certificate allowance	$m	3.1	3.0	3.0	2.9	2.9	**14.9**
Total energy allowance	**$m**	**24.0**	**24.0**	**23.7**	**23.4**	**22.7**	**117.8**

a No adjustments proposed to Melbourne Water's forecast for small sites.

Table 3.7 summarises the Commission's draft decision and net adjustments to Melbourne Water's proposal.

TABLE 3.7 DRAFT DECISION ENERGY COST ADJUSTMENTS
2015-16 $ million

	2016-17	2017-18	2018-19	2019-20	2020-21	Total
Proposed costs	41.3	43.1	45.7	45.7	45.7	**221.5**
Draft decision	**24.0**	**24.0**	**23.7**	**23.4**	**22.7**	**117.8**
Adjustment	-17.3	-19.1	-22.0	-22.3	-23.0	**-103.7**

Customer impact

We calculated a cost-per-customer dollar value to assess the impact of the Commission's proposed renewable electricity allowance for Melbourne Water. The average annual cost premium would be $1.65 per customer in 2016-17.

Melbourne Water's willingness-to-pay survey question queried a typical bill impact for its renewable energy contract prices, with a price range from $1.62 to $6.25 per customer per year (depending on annual water consumption and whether the customer is an owner occupier or a tenant). The survey responses indicated 73 per cent of respondents were at least 'somewhat willing' to pay the stated premium for renewable energy. We consider the Commission's proposed figure of $1.65 does not exceed the level of customer support indicated by this survey.

3.5.2 OTHER OPERATING EXPENDITURE ADJUSTMENTS

CHEMICAL COSTS

Melbourne Water forecast its total chemical costs will increase from $6.5 million in 2014-15 to $7.9 million in 2015-16, then remain constant in real terms for the remainder of the 2016-17 to 2020-21 period. The cost increase will be predominantly incurred at the Eastern Treatment Plant ($400 000) and the Winneke Water Treatment Plant ($900 000). Melbourne Water also noted 2014-15 was an unusually low chemical

use year, so its forecasts are based on expected chemical use averages in the 2016-17 to 2020-21 period.

Deloitte requested further information on chemical prices, given the current downward trend in electricity, oil and commodity prices could influence some of the more costly chemicals required by Melbourne Water. Following its analysis, it recommended Melbourne Water reduce its forecast total chemical cost by 1 per cent in real terms each year.[22]

We are satisfied that Deloitte's recommendation better reflects efficient expenditure for Melbourne Water. Table 3.8 outlines the Commission's proposed reduction to Melbourne Water's forecast chemical costs.

TABLE 3.8 DRAFT DECISION ANNUAL CHEMICALS EXPENDITURE
2015-16 $ million

	2016-17	2017-18	2018-19	2019-20	2020-21	Total
Proposed costs	7.91	7.92	7.92	7.92	7.93	**39.59**
Draft decision	**7.75**	**7.68**	**7.60**	**7.52**	**7.46**	**38.01**
Difference	-0.16	-0.24	-0.32	-0.40	-0.48	**-1.58**

FLEET COSTS

Melbourne Water identified $400 000 of fleet savings in its 2014-15 baseline year due to changes in its procurement model. It included this saving in its forecast baseline BAU expenditure for each year in the 2016-17 to 2020-21 period.

Deloitte noted Melbourne Water's 2014-15 annual report expected eventual further fleet savings of up to $2 million each year. Melbourne Water acknowledged its price submission should better reflect this commitment to future fleet savings, but indicated it had since revised down its expected annual fleet savings and it provided revised estimates to Deloitte.[23] Deloitte recommended further adjustments reflecting Melbourne Water's revised estimates for the period.

[22] Deloitte Access Economics 2016, op. cit., pp. 54-55.

[23] Deloitte Access Economics 2016, op. cit., pp. 21-3.

We accept Deloitte's recommended reductions for this period, in anticipation of future fleet savings consistent with Melbourne Water's longer term goal of $2 million per year. Table 3.9 outlines the Commission's proposed reduction to Melbourne Water's proposed fleet savings.

TABLE 3.9 DRAFT DECISION ANNUAL FLEET EFFICIENCIES
2015-16 $ million

	2016-17	2017-18	2018-19	2019-20	2020-21	Total
Proposed efficiency	-0.4	-0.4	-0.4	-0.4	-0.4	-2.0
Draft Decision	**-0.7**	**-0.6**	**-0.7**	**-0.6**	**0.4**	**-3.0**
Difference	-0.3	-0.2	-0.3	-0.2	0.0	-1.0

POLLUTION RESPONSE COSTS

Melbourne Water identified $5.3 million of expenditure for responding to significant pollution events as a new obligation in the 2016-17 to 2020-21 period. It received recent advice from EPA Victoria that formalised Melbourne Water's responsibilities as a 'protection agency' for responding to pollution or environmental hazard events.

Deloitte acknowledged this appears to be a new obligation, given EPA Victoria has strengthened Melbourne Water's role in pollution response since the Commission's 2013 price review by recognising it as a 'protection agency' pursuant to the *Environment Protection Act 1970*. However, Melbourne Water has largely been undertaking this function in the past, and its pollution response costs have historically been included within its reported operating expenditure levels. Deloitte recommended no additional expenditure be provided for this activity, resulting in a $5.3 million reduction in Melbourne Water's forecast operating expenditure.[24]

We are satisfied with Deloitte's recommendation, given the proposed reduction better reflects prudent expenditure. If required, Melbourne Water could use the pass through mechanism for unforeseen events to recover large expenditure outlays associated with a particular pollution clean-up event. Table 3.10 outlines the Commission's proposed reduction to Melbourne Water's proposed expenditure on its pollution response.

[24] Deloitte Access Economics 2016, op. cit., pp. 23-4.

TABLE 3.10 DRAFT DECISION ANNUAL POLLUTION RESPONSE
2015-16 $ million

	2016-17	2017-18	2018-19	2019-20	2020-21	Total
Proposed allowance	1.1	1.1	1.1	1.0	1.0	**5.3**
Draft decision	**0**	**0**	**0**	**0**	**0**	**0**
Difference	-1.1	-1.1	-1.1	-1.0	-1.0	**-5.3**

WATERWAYS AND DRAINAGE

Melbourne Water forecast $632 million in operating expenditure for waterways and drainage (including diversions) over the 2016-17 to 2020-21 period, with $9.7 million of new obligations (and $5.3 million for pollution response discussed above). It forecast growth of 2.1 per cent per annum including new obligations over the five year period. However growth in maintenance costs increases to 3.4 per cent in the final year, largely due to services for greenfield developments. Melbourne Water advised Deloitte that the 2014-15 baseline year was a low expenditure year due to:

- underspending on maintenance and in-housing some maintenance staff to a total of $7.9 million to achieve its government efficiency target
- the reallocation of $6 million from the corporate cost centre to waterways and drainage based on the number of Full Time Equivalent (FTE) employees.

Deloitte assessed Melbourne Water's forecast, focussing on the forecast cost increases above the 1.8 per cent customer growth allowance across the five year period (including new obligations). Melbourne Water has proposed that waterways and drainage charges are better correlated to growth in assets rather than growth in customer numbers. Deloitte notes that Melbourne Water's forecast increase is slower than its cumulative growth in assets over the five year period (5.5 per cent each year).[25]

Based on information provided by Melbourne Water, Deloitte has not recommended adjustments for waterways and drainage forecast expenditure (except for pollution response expenditure mentioned earlier). The Commission accepts that there are no further adjustments.

[25] Deloitte Access Economics 2016, op. cit., p. 24 and pp.33-5.

LABOUR

Deloitte reviewed Melbourne Water's labour costs as these were identified to escalate over the 2016-17 to 2020-21 period. Melbourne Water has advised that the increased cost is the growth in FTE employees from 2013-14 due to the in housing of maintenance activity. Melbourne Water forecast the number of FTE employees to remain relatively flat over the next regulatory period, and therefore cost per customer is projected to decline slightly.

Melbourne Water forecast wages growth of 3.3 per cent (in nominal terms) each year over the next regulatory period, consistent with its enterprise bargaining agreement (EBA). Melbourne Water's EBA will expire on 30 June 2016, but it expects that the forthcoming EBA will be in line with the current.

Deloitte assessed Melbourne Water's forecast for wage escalation and notes this is consistent with Deloitte's own forecasts provided to the AER for the Victorian utilities sector. Accordingly Deloitte considered Melbourne Water's forecasts for labour appear reasonable and has not recommended labour adjustments aside from reductions made for redundancies, discussed in section 3.6.1.[26] The Commission accepts that there are no further adjustments to labour forecasts.

3.6 COMMISSION'S REVIEW OF PRODUCTIVITY AND EFFICIENCY IMPACTS

Our guidance paper described the process to establish an efficient baseline BAU cost for delivering the same services and outcomes as in the baseline year 2014-15, and that an efficiency adjustment factor of 2 per cent per year must be applied to this baseline.

[26] Deloitte Access Economics 2016, op. cit., pp.37-9.

3.6.1 SETTING THE BASELINE BAU OPERATING EXPENDITURE

For the 2014-15 baseline year, Melbourne Water's actual total operating expenditure was $987.3 million. The controllable portion was $343 million, which excludes the non-controllable costs associated with:

- the annual desalination security payment
- land tax
- licence fees.

Deloitte reviewed the 2014-15 baseline actual costs, looking for other once-off costs that should be removed from the baseline BAU figure, and verifying the non-controllable costs that should be exempt from the growth and efficiency improvement adjustments. It agreed with Melbourne Water's assessment of the baseline controllable operating expenditure, except for recommending to:

- reclassify the Fire Services Levy as a non-controllable cost similar to land tax and licence fees, given Melbourne Water cannot directly control this expenditure (remove approximately $0.5 million from baseline BAU)
- remove redundancy expenditure of $0.9 million from the baseline expenditure. Melbourne Water went through a redundancy program in 2013-14 and 2014-15, costing $1.3 million and $1.6 million respectively. However its forecast annual full time equivalent employee numbers remains constant across the regulatory period.

The Commission accepts Deloitte's recommendation that the Fire Services Levy be considered as a non-controllable cost. We have removed the cost from the 2014-15 baseline controllable operating expenditure, and included it in the non-controllable expenditure allowance for each year.

The Commission also accepts Deloitte's recommendation to reduce the redundancy allowance in the baseline BAU by $0.9 million, given the redundancy costs incurred in 2014-15 are not indicative of expected redundancy costs in the 2016-17 to 2020-21 period.

APPROACH TO ASSESSING ENERGY COSTS IN THE BASELINE YEAR

Melbourne Water's 2014-15 operating costs include the actual energy payments for that year. But energy costs are best considered separately from the baseline BAU, for the following reasons:

- Melbourne Water provided its energy use forecasts for each year in the 2016-17 to 2020-21 period, which include allowances for any customer growth and energy efficiency forecasts. For this reason, the energy costs related to use should not also be subject to the growth allowance and the efficiency improvement adjustment applied to the baseline BAU.
- Melbourne Water has sought to recover the full costs of its energy supply contract, which has an increasing proportion of renewable energy across the period, so the components of energy costs change each year relative to the baseline year cost.
- Melbourne Water could not provide a breakdown of the 2014-15 baseline year energy costs to differentiate the renewable energy premium paid in that year (and therefore already included in the baseline BAU) from the underlying efficient non-renewable energy price.

Accordingly, we consider the most appropriate and transparent approach for establishing an efficient energy cost within the overall operating expenditure allowance is to remove all energy costs from the baseline BAU and add back the annual allowance for energy in each year in the 2016-17 to 2020-21 period (section 3.5.1). For this reason, the Commission proposes to remove the total energy cost incurred by Melbourne Water in 2014-15 — $30.6 million[27] — from the baseline BAU operating expenditure.

APPROACH TO ADJUSTING THE BASELINE BAU

Table 3.11 summarises the proposed adjustments to establish the baseline BAU. Applying the 1.8 per cent annual customer growth allowance and the 2 per cent annual productivity efficiency adjustment (1 per cent for 2015-16, in accordance with the Commission's 2013 price decision) produces an efficient baseline BAU allowance for each year of the 2016-17 to 2020-21 period. This allowance reflects an efficient benchmark cost to deliver the same outcomes as for the 2014-15 baseline year.

[27] This figure was provided by Melbourne Water, consistent with regulatory account reporting.

TABLE 3.11 ADJUSTMENTS TO MELBOURNE WATER'S BASELINE CONTROLLABLE BAU OPERATING EXPENDITURE
2015-16 $ million

		Fourth regulatory period					
	2014-15	**2015-16**	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**
Total opex	987.3						
less uncontrollable costs							
Desalination security payments	621.1						
Land Tax	20.7						
Fire Services Levy	0.5						
Regulator licence fees	2.4						
less adjustments							
Redundancies	0.9						
Total energy costs - remove from baseline	30.6						
Total baseline BAU operating expenditure	**311.0**						
Adjusted efficient BAU (for customer growth and efficiency)		**313.5**	**312.9**	**312.2**	**311.6**	**311.0**	**310.4**

Source: Deloitte Access Economics 2016, *Melbourne Water Expenditure Review – final report*, February, p. 61.

3.6.2 ASSESSING THE EFFICIENCY OF CONTROLLABLE BAU

Melbourne Water's submission showed that the forecast BAU expenditure achieved the efficiency hurdle in aggregate across the period. Deloitte's assessment included further reductions to the baseline BAU and to the forecast BAU for each year of the period, but still concluded that the efficiency objectives had been met (Table 3.12). Deloitte noted the adjusted forecast BAU is well below the efficient baseline BAU for the first three years of the period, but rises above the target in the later years.

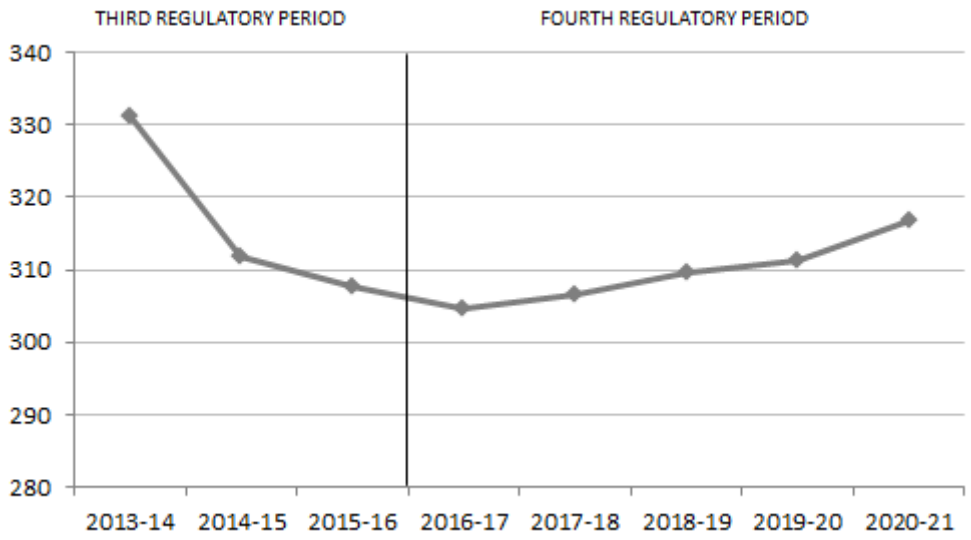
TABLE 3.12 CONTROLLABLE OPERATING EXPENDITURE ADJUSTED TO MEET PRODUCTIVITY HURDLE
2015-16 $ million

	2016-17	2017-18	2018-19	2019-20	2020-21
Melbourne Water's forecast BAU opex	**930.1**	**925.4**	**927.3**	**917.7**	**907.9**
Less non-controllable costs					
Desalination payments	572.7	563.8	560.5	548.7	532.4
Land tax	21.7	22.2	21.8	22.3	22.7
Fire Services Levy	0.5	0.5	0.5	0.5	0.5
Exclude total energy costs	30.1	31.8	34.3	34.5	34.9
Less adjustments					
Fleet	0.3	0.2	0.3	0.2	0.0
Chemicals	0.2	0.2	0.3	0.4	0.5
Adjusted forecast controllable BAU opex	**304.7**	**306.6**	**309.6**	**311.1**	**316.9**
Adjusted (efficient) BAU target (Table 3.11)	312.9	312.2	311.6	311.0	310.4
Difference between forecast BAU and target	-8.2	-5.6	-2.0	0.2	6.5

Source: Deloitte Access Economics 2016, *Melbourne Water Expenditure Review – final report*, February, p. 61. Melbourne Water's forecast BAU operating expenditure does not include licence fees and proposed 'new obligations' costs.

Figure 3.1 shows the adjusted controllable BAU operating costs resulting from this draft decision, alongside the equivalent adjusted actual costs for the third regulatory period. The Commission recognises the significant operating cost reduction achieved by Melbourne Water following the 2014 efficiency review, and notes costs are forecast to fall further in 2015-16 and 2016-17. However the controllable operating expenditure then rises steadily from 2016-17, and quite steeply at the end of the period.

FIGURE 3.1 CONTROLLABLE BAU OPERATING EXPENDITURE PROFILE
2015-16 $ million



Note: 2013-14 and 2014-15 actual expenditure and 2015-16 forecast expenditure have been adjusted to reflect the equivalent basis as the draft decision BAU expenditure.

This trend has also been noted by the water retailers in their submissions. City West Water noted that the BAU profile firstly decreases significantly from the baseline year then rises at an annual rate of 1.3 per cent, well above the net growth-efficiency factor of -0.2 per cent.[28] South East Water also expressed concern with the BAU operating expenditure increase well above the Commission's productivity hurdle rate.[29]

Given these observations, we seek to better understand the interplay between efficiency savings and the justified increases in operating expenditure, and the implications for future prices moving into the next period. Whilst Melbourne Water's submission and the Deloitte review address some of these cost increases, we are seeking to better understand the drivers for these cost increases and what mitigation steps are being implemented by Melbourne Water.

[28] City West Water 2016, *Submission*, p. 2.

[29] South East Water 2016, *Submission*, p. 2.

3.7 COMMISSION'S REVIEW OF LICENCE FEES

The Commission proposes to adjust Melbourne Water's forecast operating expenditure to ensure forecast licence fees are consistent with the advice provided by the relevant regulatory agencies. We confirmed the fees for 2015-16, which are likely to remain constant in real terms through the 2016-17 to 2020-21 period. Table 3.13 sets out the three licence fees for Melbourne Water for the 2016-17 to 2020-21 period.

3.7.1 COMMISSION LICENCE FEES

The Minister for Finance, in consultation with the Minister for Water, sets a licence fee payable by water businesses under section 4H(2) of the *Water Industry Act 1994*, for costs that the Commission incurs in administering the economic regulatory framework.

3.7.2 DEPARTMENT OF HEALTH AND HUMAN SERVICES LICENCE FEES

The Minister for Health sets a licence fee payable by the water businesses under section 51 of the *Safe Drinking Water Act 2003*, for costs incurred by the Department of Health and Human Services in administering the Safe Drinking Water Regulations.

3.7.3 EPA VICTORIA LICENCE FEES

The Minister for the Environment sets a licence fee payable by the water businesses under section 24 of the *Environment Protection Act 1970*, for costs incurred by EPA Victoria in administering discharge licences and works approvals.

TABLE 3.13 DRAFT DECISION LICENCE FEES
2015-16 $ million

	2016-17	2017-18	2018-19	2019-20	2020-21
Essential Services Commission					
Melbourne Water proposed	1.10	1.10	1.10	1.10	1.10
Draft decision	**1.00**	**1.00**	**1.00**	**1.00**	**1.00**
Difference	-0.10	-0.10	-0.10	-0.10	-0.10
Department of Health and Human Services					
Melbourne Water proposed	0.20	0.20	0.20	0.20	0.20
Draft decision	**0.22**	**0.22**	**0.22**	**0.22**	**0.22**
Difference	0.02	0.02	0.02	0.02	0.02
EPA Victoria					
Melbourne Water proposed	1.02	1.02	1.02	1.02	1.02
Draft decision	**0.93**	**0.93**	**0.93**	**0.93**	**0.93**
Difference	-0.09	-0.09	-0.09	-0.09	-0.09

3.8 COMMISSION'S REVIEW OF DESALINATION SECURITY PAYMENTS

Melbourne Water is obliged to pay for the security service provided by the Victorian Desalination Plant (desalination security payments) over a 27 year period.[30] The Commission's price determination will not affect this obligation. Rather, the price review covers how and when these costs are reflected in Melbourne Water's revenue requirement and prices.

Melbourne Water proposed to capitalise (that is, treat some expenditure as capital expenditure for pricing purposes) $20 million of its forecast annual desalination security

[30] For more detail on these contractual obligations, see Essential Services Commission 2013, *Price Review 2013: greater metropolitan water businesses — draft decision, volume I*, April, pp. 44-5. Melbourne Water is also obliged to cover all costs associated with any water ordered from the Victorian Desalination Plant. Chapter 9 addresses how any costs associated with water orders are reflected in Melbourne Water's prices.

payments over the 2016-17 to 2020-21 period. It would treat the remainder of those payments as operating expenditure (Table 3.14).[31] Melbourne Water proposed to recover the capitalised amounts (via regulatory depreciation) over a 60 year period, which approximates the useful life of the plant.[32]

TABLE 3.14 MELBOURNE WATER'S PROPOSED TREATMENT OF DESALINATION SECURITY PAYMENTS FOR PRICING
2015-16 $ million

	2016-17	2017-18	2018-19	2019-20	2020-21
Operating expenditure	572.7	563.8	560.5	548.7	532.4
Capital expenditure	20.0	20.0	20.0	20.0	20.0
Total expenditure	**592.7**	**583.8**	**580.5**	**568.7**	**552.4**

Melbourne Water considered that customer views were split on whether to capitalise a proportion of its desalination security payments. However, Melbourne Water argued that its approach:

- would provide bill relief
- acknowledges the views that consumer groups and water utilities expressed during consultation
- provides more efficient price signals
- would not impose significant interest costs on future customers.

A number of submissions supported capitalising a proportion of Melbourne Water's desalination security payments. Some queried whether the amount capitalised should be higher. A joint submission from the Consumer Action Law Centre, the Consumer Utilities Advocacy Centre and the Victorian Council of Social Services noted:[33]

[31] We verified Melbourne Water's forecast desalination security payments with the Department of Environment, Land, Water and Planning.

[32] While operating expenditure is reflected in the revenue requirement in the year that it is incurred, capital expenditure is reflected in the revenue requirement — as regulatory depreciation and an allowance for a return on assets — over the estimated life of the underlying asset(s).

[33] Consumer Action Law Centre, Consumer Utilities Advocacy Centre and Victorian Council of Social Services 2016, *Submission*, February, p. 2.

We are of the view that more could have been capitalised in this regulatory period since the cost of debt is currently low.

City West Water considered that Melbourne Water interpreted the absence of a clear majority support for capitalisation as requiring only low level of capitalisation. It also noted that it was unclear how Melbourne Water considered its financial viability in determining an appropriate capitalisation amount.[34]

Yarra Valley Water said the amount capitalised should reflect the mid-point in the years between the contract life and the asset life, given customers seem equally split on whether or not to capitalise a proportion of the desalination security costs.[35]

The Commission agrees Melbourne Water should capitalise a proportion of its desalination security payments for pricing purposes, and recover amounts from customers over the estimated useful life of the plant (estimated at 60 years). This is in the interests of customers over the 60 year life of the desalination plant because it better aligns the benefits that customers receive from the desalination security service with the payments that customers make.

During our 2013 water price review, Melbourne Water cited financial constraints as a limitation on the amount to be capitalised.[36] For the current price review, Melbourne Water has not identified financial constraints as a factor influencing its proposal to capitalise a proportion of its desalination security payments.

We note however, that the Commission's draft decision proposes to reduce Melbourne Water's proposed capital expenditure program by $355.5 million (chapter 4). Further, the draft decision on the weighted average cost of capital (WACC) has an upward impact on Melbourne Water's revenue requirement relative to its proposal (chapter 5). These two factors potentially create greater capacity on Melbourne Water's balance sheet.

[34] City West Water 2016, *Submission*, February, p. 4.

[35] Yarra Valley Water 2016, *Submission*, February, p. 1.

[36] Melbourne Water 2013, *Response Submission to the ESC's Draft Decision*, p.7.

We therefore believe Melbourne Water may have scope to review its proposed capitalisation amounts.

There is precedent for treating payments related to finance leases as capital expenditure for pricing purposes. For the period from 2013-14 to 2017-18, the Commission approved a revenue requirement for Coliban Water that treated a proportion of Coliban's forecast annual payments for its Build Own Operate Transfer (BOOT) schemes as capital expenditure.[37] The amount of capital expenditure assumed in each year reflected the forecast capital component of its annual BOOT payments.

Chapter 5 addresses the treatment of capitalised desalination security payments and forecasts for regulatory depreciation.

3.8.1 DRAFT DECISION ON DESALINATION SECURITY PAYMENTS

The Commission's draft decision is to accept Melbourne Water's proposed capitalisation amounts for desalination security payments (Table 3.14).

Melbourne Water is invited to provide further information to the Commission on opportunities for capitalisation of desalination security payments, given our draft decision on capital expenditure and the WACC.

3.9 DRAFT DECISION

The Commission proposes to adopt the operating expenditure benchmark set out in Table 3.3 of this draft decision.

We seek further details from Melbourne Water regarding the drivers for the increasing controllable operating expenditure from 2016-17, and the steps it is taking to mitigate these cost increases.

[37] Essential Services Commission 2013, *Price Review 2013: Regional Urban Water Businesses — final decision*, June, pp 90-91.

Melbourne Water is invited to provide further information to the Commission on opportunities for capitalisation of desalination security payments, given our draft decision on capital expenditure and the WACC.

4 CAPITAL EXPENDITURE

4.1 INTRODUCTION

This chapter sets out the Commission's draft decision on Melbourne Water's capital expenditure for the period 2016-17 to 2020-21. Expenditure to maintain existing assets and establish new assets that service water retailers and end-use customers over the longer term is referred to as capital expenditure. The core drivers of the forecast capital expenditure are the renewal of infrastructure to maintain or rehabilitate services, and compliance with policy and technical standards.

Capital expenditure is a key component of Melbourne Water's revenue requirement. Melbourne Water recovers its capital expenditure from water retailers and end-use customers over time by adding it to the regulatory asset base (RAB). Its prices reflect capital expenditure through the rate of return on the RAB — that is, the weighted average cost of capital (WACC) multiplied by the RAB — and a return of the RAB (through regulatory depreciation).

4.2 APPROACH TO ASSESSING CAPITAL EXPENDITURE

We assessed Melbourne Water's forecast capital expenditure against the requirements of the Water Industry Regulatory Order (WIRO) 2014 and the criteria in our guidance. In particular, our guidance paper notes that capital expenditure to be incurred for determining the revenue requirement is capital expenditure that would be incurred by a prudent service provider acting efficiently to achieve the lowest cost of delivering on service outcomes, taking into account a long-term planning horizon.[38]

[38] For further detail on the assessment approach, see our guidance paper and Deloitte Access Economics' final report on its expenditure review (released with this draft decision on the Commission's website).

4.3 MELBOURNE WATER'S PROPOSED CAPITAL EXPENDITURE

For the period 2016-17 to 2020-21, Melbourne Water forecast gross capital expenditure of $2672 million. As in the third regulatory period, the largest share of these costs relates to sewerage and waterways and drainage projects. Table 4.1 sets out Melbourne Water's actual and forecast gross capital expenditure, by service category.[39] It includes Melbourne Water's proposal to capitalise $20 million of its forecast annual desalination security payments each year for the period 2016-17 to 2020-21 (as detailed in section 3.8 of chapter 3).

Melbourne Water itemised its top 5 discrete capital projects across each of its three main service categories (water, sewerage, and waterways and drainage). In addition, the top 15 renewals allocation programs[40] have been separately itemised for the same categories. We reviewed this sample group of 30 capital items to assess the prudency and efficiency of Melbourne Water's forecast. The total capital expenditure for this sample group represents 63 per cent of Melbourne Water's total forecast capital expenditure. These projects and renewals allocations are outlined in Tables 4.2 and 4.3.

[39] Further detail is available in Melbourne Water's 2016 price submission split by service categories: Water (page 41), Sewerage (page 58), Waterways and Drainage (page 72), and Recycled Water (page 84).

[40] Renewals allocations are Melbourne Water's major ongoing capital renewal programs (for example, water main renewals). These are broad programs that contain a suite of smaller projects and are separate to the discrete major capital projects.

TABLE 4.1 MELBOURNE WATER'S ACTUAL AND FORECAST ANNUAL GROSS CAPITAL EXPENDITURE, BY SERVICE CATEGORY

2015-16 $ million

Service categories	Third regulatory period			Fourth regulatory period					Total forecast capital expenditure[c]
	2013-14[a]	2014-15[a]	2015-16[b]	2016-17	2017-18	2018-19	2019-20	2020-21	
Water	37.3	123.5	105.2	125.0	88.5	92.2	133.0	77.8	**516.6**
plus desalination capitalisation				20.0	20.0	20.0	20.0	20.0	**100.0**
Sewerage	63.1	128.3	268.2	203.8	304.8	228.2	149.8	193.8	**1 080.5**
Recycled water	8.8	3.2	6.3	1.4	1.5	1.5	1.6	1.6	**7.6**
Waterways and drainage	146.9	108.2	156.0	173.3	167.6	203.8	216.1	205.6	**966.4**
Diversions	0.0	0.1	0.2	0.2	0.2	0.2	0.2	0.2	**0.9**
Total	**256.0**	**363.3**	**535.8**	**523.7**	**582.6**	**546.0**	**520.7**	**499.0**	**2 672.0**

Source: Melbourne Water's pricing model.

a 2013-14 and 2014-15 are actual capital expenditure amounts incurred by Melbourne Water.

b 2015-16 values are from the Commission's final decision for the third regulatory period price review.

c Capital expenditure includes new obligations.

TABLE 4.2 MELBOURNE WATER'S FORECAST KEY CAPITAL PROJECTS
2015-16 $ million

Proposed project	Reason	Proposed capital expenditure	Expected completion year
Major sewer projects			
WTP treatment capacity increase	Growth	182.2	2020-21
WTP 55E renewal	Compliance (50%) and renewal (50%)	74.7	2024-25
Upper Hobsons Bay sewer renewal	Renewal	42.4	2020-21
ETP sludge digester augmentation	Growth	41.1	2022-23
WTP sludge drying capacity	Growth	38.6	2019-20
Major water projects			
Merri Creek to MCG main renewal	Renewal (80%) and growth (20%)	35.6	2019-20
Maroondah aqueduct renewal	Renewal	35.0	2019-20
Winneke WTP UV system upgrade	Compliance	31.7	2021-22
St Georges Road water main renewal	Renewal	26.4	2018-19
Holden supply tank and inlet augmentation	Growth	23.8	2020-21
Major waterways and drainage projects			
Murrumbeena main drain flood mitigation	Compliance	37.4	2019-20
Alexandra Parade main drain redecking	Renewal	29.1	2021-22
Regan St Flood mitigation project	Compliance	9.3	2017-18
Mile Creek East retarding basin upgrade	Compliance	6.1	2017-18
Jacana retarding basin upgrade	Compliance	4.9	2017-18

ETP = Eastern Treatment Plant; UV – ultraviolet; WTP = Western Treatment Plant.

Source: Melbourne Water's price submission.

TABLE 4.3 MELBOURNE WATER'S FORECAST KEY RENEWALS ALLOCATIONS
2015-16 $ million

Proposed program	Reason	Proposed capital expenditure
Sewer renewals allocation		
ETP M&E assets renewals program	Renewal	90.7
Hobsons Bay Main Yarra crossing optimisation program	Renewal (70%) and service improvement (30%)	40.2
Sewer transfer – M&E assets renewals program	Renewal	37.1
WTP M&E assets renewals program	Renewal	29.2
ETP minor capital assets renewals program	Renewal	18.8
Water renewals allocation		
Water quality – M&E assets renewals program	Renewal	37.9
Aqueducts renewals program	Renewal (80%) and service improvement (20%)	27.8
Water supply tanks renewals	Renewal	22.6
Water transfer – M&E assets renewals program	Renewal	19.0
Maroondah aqueduct renewal of tunnel sections	Service improvement (60%) and renewal (40%)	11.4
Waterways and drainage renewals allocation		
Land development works	Growth	423.2
Flood mitigation works	Compliance	128.2
Healthy waterways strategy delivery	Compliance	68.4
Rehabilitation of existing wetlands	Renewal	52.8
Retarding basin spillway/embankment upgrades	Compliance	45.9

EPT = Eastern Treatment Plant; WTP = Western Treatment Plant; M&E = mechanical and electrical.

Source: Melbourne Water's price submission.

4.4 COMMISSION'S REVIEW

The Commission formed its draft decision on capital expenditure forecasts after considering:

- Melbourne Water's price submission

- additional information provided by Melbourne Water to support its forecasts
- consultation with the relevant regulatory agencies
- our expert consultant Deloitte's final report on its expenditure review
- customer and stakeholder submissions.

We propose to approve a total capital expenditure benchmark of $2316.5 million for Melbourne Water for 2016-17 to 2020-21. Our draft decision reflects a reduction of $355.5 million from Melbourne Water's proposal. The Commission's view is based on our guidance and WIRO principles to ensure the total capital expenditure amount reflects efficient expenditure incurred by a prudent service provider to achieve the lowest cost of delivery service outcomes, taking into account a long-term planning horizon. Table 4.4 and Table 4.5 summarises our draft decision.

The benchmark that the Commission adopts for Melbourne Water does not represent the amount that the water business is required to spend or allocate to particular projects. Where we have made an adjustment to exclude a project's capital expenditure from Melbourne Water's revenue requirement, we are not requiring the business to remove that project. Rather, it represents assumptions about the overall level of expenditure (to be recovered through prices) that we consider sufficient to operate the business and to maintain or improve services over the regulatory period. Melbourne Water determines how to best manage the allocation of its revenue and priority of its expenditure within a regulatory period.

The Commission further discusses its draft decision based on the sample of 30 projects in:

- section 4.5.1 - the 15 major capital projects
- section 4.5.2 - the 15 main renewals allocations.

TABLE 4.4 DRAFT DECISION ANNUAL GROSS CAPITAL EXPENDITURE, BY SERVICE CATEGORY

2015-16 $ million

	Fourth regulatory period					Total draft decision capital expenditure	Total proposed capital expenditure	Difference
	2016-17	2017-18	2018-19	2019-20	2020-21			
Water	96.4	78.6	71.8	109.3	84.4	**440.5**	516.6	-76.0
plus desalination capitalisation	20.0	20.0	20.0	20.0	20.0	**100.0**	100.0	0.0
Sewerage	188.7	270.1	195.2	136.9	114.9	**905.7**	1 080.5	-174.8
Recycled Water	1.4	1.5	1.5	1.6	1.6	**7.6**	7.6	0.0
Waterways and Drainage	154.4	150.6	185.5	190.7	180.5	**861.7**	966.4	-104.7
Diversions	0.2	0.2	0.2	0.2	0.2	**0.9**	0.9	0.0
Total prescribed capital expenditure[a]	**461.0**	**521.0**	**474.2**	**458.7**	**401.6**	**2 316.5**	2 672.0	-355.5

a Capital expenditure includes new obligations.

TABLE 4.5 SUMMARY OF ADJUSTMENTS FOR DRAFT DECISION
2015-16 $ million

Category	Net reduction	Reference
Major Projects	**-162.5**	**Section 4.5.1**
Water	-40.0	
Sewerage	-107.3	
Waterways and Drainage	-15.2	
Renewals allocations	**-147.9**	**Section 4.5.2**
Water	-23.7	
Sewerage	-43.2	
Waterways and Drainage	-81.0	
Remaining capital expenditure	**-45.1**	**Section 4.5.3**
Water	-12.3	
Sewerage	-24.3	
Waterways and Drainage	-8.6	
Total net reduction	**-355.5**	**Table 4.4**

4.5 REVIEW OF FORECAST CAPITAL EXPENDITURE

4.5.1 ADJUSTMENTS FOR MAJOR PROJECTS

We engaged Deloitte to assess Melbourne Water's capital program, focusing on a sample of the forecast key projects in the three major service categories (sewerage, water, and waterways and drainage). Deloitte conducted its review against requirements in our guidance paper and the WIRO.

Deloitte recommended adjustments to project timing or capital expenditure amounts for major projects based on: [41]

[41] Deloitte's analysis of the forecast capital expenditure for major projects is available in its final report on pages 63-94.

- Assessments that revealed Melbourne Water's projects were being delivered well under budget or not progressed to schedule in the third regulatory period.
- Insufficient evidence of robust business cases for a number of projects. Where uncertainty existed, a reduction in expenditure is proposed to prevent end-use customers paying higher prices for a project that might never proceed. Should that project proceed, efficient capital costs can be dealt with either via a pass through mechanism once completed or they can be rolled-in to the regulatory asset base with capitalised interest at the end of the regulatory period. City West Water supports the exclusion of projects from the revenue requirement if there is uncertainty, noting that in the past a reopening mechanism has been utilised.[42]
- Cost estimates appear to be conservative, as they do not seem to have been updated (since the third regulatory period) for current market conditions. South East Water noted that:

  > …[it] *has also some concerns with the level of risk appetite Melbourne Water is exhibiting…. and that it may be overly conservative in its approach to risk*[43]

  Melbourne Water recently negotiated design and construct[44] contract framework agreements that account for latest competitive market conditions. It has not updated its cost estimates with these lower market rates.

The Commission is satisfied with Deloitte's reasoning for each of its proposed adjustments and has adopted these as the basis for this draft decision. The resulting $162.5 million reduction applicable to 7 of the 15 projects is summarised in Table 4.6.

[42] City West Water 2016, *Submission,* February, p.3.

[43] South East Water 2016, *Submission,* February, p.2.

[44] A design and construct contract generally involves the principal outsourcing engineering design work, construction and project management to a contractor for project delivery. The contractor is also responsible for appointing subcontractors when necessary, but will report on progress and variations to the principal.

TABLE 4.6 RECOMMENDATIONS FOR CAPITAL EXPENDITURE ADJUSTMENTS FOR MAJOR CAPITAL PROJECTS

2015-16 $ million

Projects with adjustments	Fourth regulatory period					Total forecast capital expenditure	Deloitte's commentary and document references
	2016-17	2017-18	2018-19	2019-20	2020-21		
Water							
Merri Creek to MCG Water Main Renewal (Section of M41)							
Melbourne Water proposed project capex	3.6	19.7	12.0	0.3	0.0	**35.6**	The adjustments remove all proposed capital expenditure as current leakage levels do not adversely impact end-use customers or hinder Melbourne Water's capability to achieve obligations or service levels. Refer to Deloitte final report, pages 80-82.
Recommended project capex	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	**0.0**	
Winneke Treatment Plant – Ultraviolet Disinfection System							For the preferred option, the technology is proven and therefore $1.4M for a pilot plant is not required. The adjustments reflect the expectation that a 10% saving can be made by utilising a non-infrastructure based solution. The phasing has also been revised to match more realistic timelines. Refer to Deloitte final report, pages 76-78.
Melbourne Water proposed project capex	0.0	0.5	1.2	22.7	7.3	**31.7**	
Recommended project capex	**0.0**	**0.0**	**0.3**	**6.5**	**20.5**	**27.3**	
Maroondah Aqueduct Renewal (Sections)							
Melbourne Water proposed project capex	35.0	0.0	0.0	0.0	0.0	**35.0**	Adjustments have been made to re-phase the proposed expenditure across first two years of the regulatory period to allow for likely delays in project delivery. Refer to Deloitte final report, pages 82-84.
Recommended project capex	**17.5**	**17.5**	**0.0**	**0.0**	**0.0**	**35.0**	
Sewerage							
WTP 55E ASP Renewal							
Melbourne Water proposed project capex	0.3	0.4	2.0	5.0	66.9	**74.7**	On the basis of the forecasted exceedances of ammonia discharge from the Western Treatment Plant, it is anticipated that stage 3a construction is not required until

Recommended project capex	**0.3**	**0.4**	**2.0**	**5.0**	**0.0**	**7.8**	2023-24. It is recommended that stage 2 works continue but the adjustments defer expenditure on stage 3a. Refer to Deloitte final report, pages 72-74.
Upper Hobsons Bay Main Sewer Renewal							
Melbourne Water proposed project capex	2.0	20.5	20.0	0.0	0.0	**42.4**	The adjustments allow for design costs and remove constructions costs until there is more certainty on preferred options. Refer to Deloitte final report, pages 68-70.
Recommended project capex	**2.0**	**0.0**	**0.0**	**0.0**	**0.0**	**2.0**	
Waterways and Drainage							
Alexandra Parade Main Drain Redecking							The original solution was to replace the entire 760m of drain. The adjustments only allow for the repair of the shorter length of drain and also include a 10% reduction to reflect efficiencies from framework agreements. Refer to Deloitte final report, pages 87-89.
Melbourne Water proposed project capex	0.0	0.0	2.3	13.4	13.4	**29.1**	
Recommended project capex	**0.0**	**0.0**	**1.5**	**6.7**	**6.7**	**14.8**	
Regan St Retarding Basin							The retarding basin option identified in 2006appears reasonable despite no alternatives provided. The adjustments reflect an expected ability to deliver a 10% reduction in capital cost once detailed options and planning have been completed. Refer to Deloitte final report, pages 89-91.
Melbourne Water proposed project capex	9.2	0.1	0.0	0.0	0.0	**9.3**	
Recommended project capex	**8.3**	**0.1**	**0.0**	**0.0**	**0.0**	**8.4**	
Total recommendations							
Melbourne Water proposed project capex	50.1	41.2	37.5	41.5	87.5	**257.8**	
Recommended project capex	**28.1**	**18.1**	**3.8**	**18.2**	**27.1**	**95.3**	
Difference	-22.1	-23.1	-33.7	-23.2	-60.4	**-162.5**	

Continued from previous page

4.5.2 ADJUSTMENTS FOR RENEWALS ALLOCATIONS

Deloitte analysed Melbourne Water's historical spend for its top 15 renewals allocations against its forecasts for the third regulatory period. It found the water business underspent across the renewals allocations, with the underspend ranging from 19 per cent to 100 per cent. Melbourne Water advised the underspending is due to contract changes and contractor resourcing issues.[45]

In light of this finding, Deloitte recommended a nominal 20 per cent reduction across Melbourne Water's renewals allocations, to reflect (1) the slower progress in delivery and (2) realisable efficiencies from increased competition arising from the design and construct framework agreements. It also recommended subjecting two renewals allocations (in the waterways and drainage service category) to alternative adjustment values:[46]

- Land development works – A $9.9 million reduction reflects a correction to Melbourne Water's price submission forecast value to align with the supporting business case. This project should then be reduced by 4 per cent to match the expected developer contribution.
- Retarding basin spillway/embankment upgrades – This project should be reduced by only 10 per cent to account for recent design and construct contract efficiencies.

We are satisfied with Deloitte's recommended reduction of $147.9 million and adopt this in Table 4.7 for the draft decision. This takes into account recent underspending by Melbourne Water against its forecasts (and thus needs to account for its slower delivery of programs), and lower contractor prices. We believe this reduction is in accordance with South East Water's and City West Water's concern with the overall size of Melbourne Water's capital expenditure forecast, given the forecast level is higher than recent post-drought expenditure.[47]

[45] Deloitte's analysis of the forecast capital expenditure for renewals allocations is available in its final report on pages 94-99.

[46] For further detail, refer to Deloitte's final report on pages 97 and 98.

[47] South East Water 2016, *Submission,* February, p.2; City West Water *Submission,* February, p.3.

TABLE 4.7 DRAFT DECISION ON CAPITAL EXPENDITURE ADJUSTMENTS FOR RENEWALS ALLOCATIONS
2015-16 $ million

Category	Melbourne Water's proposed capex	Draft decision capex	Difference
Sewer renewals allocations	216.0	172.8	–43.2
Water renewals allocations	118.7	95.0	–23.7
Waterways and drainage renewals allocations	718.5	637.5	–81.0
Renewals allocations total	**1 053.2**	**905.3**	**–147.9**

Source: Melbourne Water's price submission.

4.5.3 ADJUSTMENTS FOR REMAINING CAPITAL EXPENDITURE

Given 7 of the sample 15 major projects and all of the sample renewals allocations require reductions, Deloitte considered there is sufficient evidence to justify an additional reduction for the broader capital program. Across the sample capital expenditure major projects and renewals allocations, it found:

- the recent uptake of design and construct contracts for projects enabled Melbourne Water to realise significant efficiencies, which should continue
- infrastructure options considered as part of business needs analysis were generally not researched in sufficient detail, creating difficulty in determining a reasonable capital expenditure budget for detailed design and construction
- Melbourne Water adopted conservative cost estimates that did not incorporate efficiencies learned from past projects.

Based on its analysis, Deloitte recommended a 5 per cent reduction across the remainder of the capital program, excluding the specific projects and renewals allocation programs discussed in sections 4.5.1 and 4.5.2. The Commission is satisfied with Deloitte's recommendation and will adopt a 5 per cent reduction for the remainder, which results in a reduction of $45.1 million for our draft decision.

4.6 OTHER CAPITAL EXPENDITURE ISSUES

4.6.1 CAPITAL EXPENDITURE FOR IMPROVED COMMUNITY ASSETS

Melbourne Water commented that it has an extensive asset base, including land that is suitable for a secondary purpose (such as use by community groups). As a result, it plans to deliver $28.4 million (including the 5 per cent reduction discussed in section 4.5.3) of community focused assets to improve liveability.

Melbourne Water undertook surveys that revealed the community desires capital projects that deliver broader social benefits. But these projects potentially create a public good rather than purely contribute to improved service delivery. Other government entities (such as Parks Victoria and local government) are responsible for building or improving similar public infrastructure. So, while this draft decision includes the $28.4 million of capital expenditure, between now and the final decision, we will seek clarification from Melbourne Water and the government to understand how the delivery of these community projects fall within the scope of prescribed services under the WIRO and the *Water Industry Act 1989*. For example, City West Water funds the program 'Greening the West' using non-regulated revenue.

4.7 DRAFT DECISION

The Commission proposes to specify a total capital expenditure benchmark of $2316.5 million over the 2016-17 to 2020-21 period as set out in Table 4.4 of this draft decision.

We request information that details how the $28.4 million for community liveability assets falls within the scope of prescribed services as defined in the relevant legislation.

5 FINANCING CAPITAL INVESTMENTS

5.1 INTRODUCTION

This chapter sets out the Commission's draft decisions on Melbourne Water's financing of capital investments, namely the regulatory asset base (RAB), the rate of return on investments, tax, and methods for calculating regulatory depreciation.

5.2 APPROACH TO ROLLING FORWARD THE RAB

The RAB is the Commission's assessed value of Melbourne Water's capital investments. It is the value on which Melbourne Water can earn a rate of return and the value that is returned to Melbourne Water as regulatory depreciation. Our guidance paper set out the Commission's approach to rolling forward the RAB over the life of the assets in-service. This approach aligns with the requirements of the Water Industry Regulatory Order (WIRO) 2014.

5.3 COMMISSIONS REVIEW

OPENING RAB

Table 5.1 sets out Melbourne Water's proposed opening RAB.

TABLE 5.1 MELBOURNE WATER'S PROPOSED RAB ROLL FORWARD
2015-16 $ million

Closing RAB as at 1 July 2013	**9 509.3**
Plus net capital expenditure 2013-14 to 2014-15 (actual)	619.3
Less regulatory depreciation 2013-14 to 2014-15 (actual)	348.3
Less proceeds from disposal of assets 2013-14 to 2014-15 (actual)	8.7
Less customer contributions 2013-14 to 2014-15 (actual)	122.7
RAB as at 1 July 2015	**9 648.9**
Plus net capital expenditure (approved forecasts) 2015-16 (forecast)	535.8
Less regulatory depreciation 2015-16 (forecast)	206.3
Less assumed proceeds from disposal of assets 2015-16 (forecast)	2.6
Less assumed customer contributions 2015-16 (forecast)	47.7
RAB as at 1 July 2016	**9 928.0**

Source: Melbourne Water's price submission.

Melbourne Water proposed an opening RAB consistent with our guidance paper. For this reason, our draft decision is to approve Melbourne Water's opening RAB.

FORECAST RAB

Table 5.2 sets out the Commission's draft decision on the RAB for Melbourne Water.

TABLE 5.2 DRAFT DECISION ON THE RAB FOR 2016-17 TO 2020-21
2015-16 $ million

	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21
Opening RAB	9 648.9	9 928.0	10 151.3	10 415.9	10 622.4	10 804.4
Plus gross capital expenditure	535.8	461.0	521.0	474.2	458.7	401.6
Less customer contributions	47.7	62.6	62.6	62.6	62.6	62.6
Less proceeds from disposals	2.6	11.3	13.8	9.8	6.1	5.9
Less regulatory depreciation	206.3	163.8	180.0	195.3	208.1	220.2
Closing RAB	**9 928.0**	**10 151.3**	**10 415.9**	**10 622.4**	**10 804.4**	**10 917.3**

The Commission's draft decision on the RAB reflects our draft decision on:

- the opening RAB
- capital expenditure approved in chapter 4
- customer (developer) contributions.

We adopted different estimates for customer contributions to Melbourne Water's forecast in its price submission. Melbourne Water forecasts annual average customer contributions of $55.7 million for 2016-17 to 2020-21. We requested further information from Melbourne Water on recent developer activity. Melbourne Water advised that recent developer activity during 2015-16 was higher than expected. Melbourne Water's contributions for 2014-15 were $64.0 million.[48]

We assess that Melbourne Water's forecast contributions of $55.7 million per annum are pessimistic and do not reflect reasonably-based assumptions, a requirement in our guidance.[49] For this reason, our draft decision is to increase annual customer

[48] Melbourne Water's pricing model.

[49] Essential Services Commission 2015, op. cit., April, p.40.

contributions to $62.6 million per annum, which is an average of actuals over the current regulatory period and the Commission's estimate of $65.0 million for 2015-16.

5.4 APPROACH TO ASSESSING THE RATE OF RETURN

In our guidance paper, we set out our process for estimating the benchmark cost of debt based on our approach in past reviews, the on-the-day approach. Our guidance paper stated that we were open to exploring a change from our approach. But Melbourne Water must justify any proposed change on the basis that the new approach better meets clause 11 of the WIRO.

5.4.1 PROPOSED RATE OF RETURN

In its price submission, Melbourne Water proposed:

- a 10 year trailing average approach to estimate the entire benchmark cost of debt (risk free rate + debt premium) for each year from 2016-17 to 2020-21
- a simple average of actual market 10 year historical debt costs, which reflected corporate BBB bonds yields using the Reserve Bank of Australia (RBA) data series
- an annual updated cost of debt allowance whereby the 10 year average is rolled forward each year through the regulatory period
- the annual debt costs be calculated as a simple average over an entire 12 month period from 1 April to 31 March
- immediate transition from the current on-the-day approach to the proposed 10 year trailing average approach (that is, from 2016-17).

Melbourne Water stated in its price submission that its proposed approach better meets the WIRO as it:

- reduces price volatility
- aligns the regulatory allowance for financing costs with actual costs
- reduces refinancing risk.

Table 5.3 sets out Melbourne Water's proposed real weighted average cost of capital (WACC), incorporating its proposed estimation of the benchmark cost of debt (nominal).

TABLE 5.3 PROPOSED REAL WACC USING MELBOURNE WATER'S TRAILING AVERAGE APPROACH

Nominal	**2016-17 to 2020-21**				
Risk Free Rate	2.7%				
Equity Premium	6.0%				
Equity Beta	0.65				
Gearing (Debt/Assets)	60%				
Forecast Inflation	2.5%				
Cost of Equity	6.6%				
Nominal	**2016-17**	**2017-18**	**2018-19**	**2019-20**	**2020-21**
Cost of Debt	7.6%	7.3%	7.1%	6.6%	6.2%
Nominal Post Tax WACC	7.2%	7.0%	6.9%	6.6%	6.4%
Real					
Real Post Tax WACC	4.5%	4.4%	4.2%	3.9%	3.7%

Source: Melbourne Water's price submission.

5.5 COMMISSION'S REVIEW

The Commission formed its draft decision on Melbourne Water's rate of return after considering Melbourne Water's price submission, additional information provided by Melbourne Water and a trailing average cost of debt report by an expert consultant, Incenta Economic Consulting (Incenta) - the report is available on our website.

The trailing average approach is an average of 10 year historical debt costs, whereby the 10 year average is rolled forward each year. The Commission supports in principle, a 10 year trailing average approach to estimate the benchmark cost of debt (risk free rate + debt premium).

We consider the trailing average approach:

- better aligns the actual cost of debt for an efficient business to the regulated benchmark
- improves debt management by removing a business's need to match actual debt costs with the regulated allowance determined at a single point in time
- reduces price volatility through annual updates to the rate of return, as opposed to an update every three or five years.

5.5.1 DATA SERIES TO CALCULATE THE COST OF DEBT

In its price submission, Melbourne Water proposed using the RBA historical data series. Incenta compared Melbourne Water's proposed approach with alternative historical data series. We relied on Incenta's report to assess Melbourne Water's proposal. Table 5.4 sets out for the period 2006-07 to 2014-15:

- Melbourne Water's proposed average benchmark cost of debt, which used the Reserve Bank of Australia's data series (4.97 per cent, real)
- the average cost of debt using the Bloomberg data series (4.76 per cent, real)
- average regulatory cost of debt allowance (4.35 per cent, real)
- the benchmark actual average cost of debt estimated by applying Melbourne Water a BBB credit rating (3.86 per cent, real)
- the benchmark actual average cost of debt estimated by applying Melbourne Water's A– credit rating (3.79 per cent, real)
- Melbourne Water's weighted average actual cost of debt (3.55 per cent, real)

Table 5.4 indicates that Melbourne Water's proposed data series does not reflect:

- Melbourne Water's average actual cost of debt
- the average benchmark actual cost of debt for a BBB or A– business
- the average regulatory cost of debt allowance.

In addition, Table 5.4 indicates that the RBA data series and the Bloomberg data series[50] return average costs of debt which differed by 21 basis points.

Melbourne Water's proposed benchmark cost of debt (4.97 per cent, real) is higher than Melbourne Water's weighted average actual costs (3.55 per cent, real) and the regulatory cost of debt allowance (4.35 per cent, real) because it included cost of debt estimates around the time of the 2008 global financial crisis (GFC). But these estimates did not apply to Melbourne Water (being a government owned business). The Victorian government limited businesses' cost of debt at that time by allowing a lower financial accommodation levy.[51]

5.5.2 TRANSITION TO THE TRAILING AVERAGE APPROACH[52]

In its price submission, Melbourne Water proposed an immediate transition from the on-the-day approach to the trailing average approach to estimate the regulatory allowance for the benchmark cost of debt (that is, from 2016-17). Melbourne Water's actual cost of debt is already in effect a trailing average cost of debt (since in practice, most of the debt is fixed and only a portion of debt was refinanced at the prevailing rate each year, consistent with government guidelines[53]).

This trailing average actual cost of debt increases as the prevailing cost of debt increases during a regulatory period. But the trailing average tends to be lower than the prevailing rate as it increases at a slower rate. As the prevailing rate falls, it tends to fall below the trailing average actual cost of debt, as the trailing average decreases at a slower rate.

Under the on-the-day approach, the regulatory allowance is fixed for the entire regulatory period at the prevailing rate at the beginning of the regulatory period.

[50] Most of the Bloomberg cost of debt series relies on the Bloomberg 7 year BBB estimate extrapolated to 10 years using the RBA's BBB series cost of debt between 7 years and 10 years.

[51] The credit risk spread set by the Victorian Department of Treasury and Finance on a government business's borrowings.

[52] The Commission's review reflects the reasoning outlined in a paper by Dr Martin Lally 2014, *Transitional Arrangements for the Cost of Debt*, November, p.17.

[53] Melbourne Water follows the Department of Treasury & Finance's 2007, *Treasury Management Guidelines,* June. The guidelines set out the debt and financial management objectives and risk tolerance of the State.

Accordingly, the regulatory allowance may be higher or lower than the trailing average actual cost of debt in any year.

Melbourne Water's proposed debt series included costs of debt which is higher than its actual costs or the regulatory allowance. Therefore, Melbourne Water's proposed benchmark cost of debt places it in a favourable position (that is, in a position where it "gains" from the benchmark allowance being higher than its actual costs). Melbourne Water's proposal to immediately transition from the on-the-day approach to the trailing average approach locks in this "gain". When the regulatory allowance is estimated using the trailing average approach the actual cost of debt matches the regulatory allowance, thereby removing any potential future "loss".

This "gain" can benefit Melbourne Water and be reflected in higher prices. For this reason, the Commission proposes not to approve Melbourne Water's proposed cost of debt and immediate transition to the trailing average approach because it does not better meet the requirements of the WIRO than the current on-the-day method.

Over the long term, the regulatory allowance under the trailing average approach should not be materially different to the regulatory allowance under the on-the-day approach or the actual cost of debt.

TABLE 5.4 ESTIMATION OF THE REAL WACC USING TRAILING AVERAGE APPROACH

Per cent

	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	Average
Melbourne Water Proposal	3.97	4.87	7.72	6.48	5.10	5.04	4.11	4.49	2.93	4.97
Bloomberg (RBA extrapolated)	3.64	5.30	6.69	6.60	5.43	4.70	3.56	4.24	2.70	4.76
Regulatory cost of debt allowance	3.83	3.83	4.47	4.47	4.47	4.47	4.47	4.59	4.59	4.35
Benchmark actual cost (BBB rating)	3.67	4.10	4.23	4.74	4.26	3.53	2.59	4.45	3.21	3.86
Benchmark actual cost (A-rating)	3.51	3.97	4.03	4.74	4.26	3.53	2.59	4.71	2.77	3.79
Weighted average actual cost	3.38	3.50	3.19	3.66	3.84	3.78	3.42	3.52	3.64	3.55

Source: Incenta Economic Consulting 2016, *Melbourne Water – trailing average cost of debt*, February.

We estimated the WACC in our financial model for this draft decision applying the methodology in our guidance paper. The Commission estimated a real risk free rate and a debt margin to calculate a rate of return for Melbourne Water based on the on-the-day approach:

- The real risk free rate was calculated in the 40 day trading period to 7 March 2016. We used a paired bonds approach (using Commonwealth Government inflation indexed bonds).
- The range for the debt margin was based on estimates in a report prepared by Incenta. This range is consistent with recent guidance and decisions of other Australian regulators.[54] It includes an assumed 0.15 per cent debt raising cost.
- Forecast inflation was based on nominal bond rates using the paired bond approach.

Table 5.5 sets out the WACC parameters for this draft decision. The Commission proposes a real post-tax WACC of 4.2 per cent for 2016-17 to 2020-21. This draft decision differs from Melbourne Water's proposed WACC parameters (Table 5.3):

- We include a real risk free rate of 0.7 per cent, as opposed to Melbourne Water's proposed real rate of 0.2 per cent.
- Our real debt premium ranges from 2.65 per cent to 3.15 per cent, as opposed to Melbourne Water's proposed range of around 3.7 per cent to 5.1 percent.
- We forecast inflation at 2.2 per cent, as opposed to Melbourne Water's proposed forecast of 2.5 per cent.
- Our real WACC estimate of 4.2 per cent is fixed for the regulatory period. Melbourne Water proposed a real WACC for each year of the regulatory period declining from 4.5 per cent to 3.7 per cent over 5 years.

The WACC will be updated in the final decision.

Melbourne Water may submit a revised trailing average approach, reflecting an alternative transition. We note comments from South East Water and Yarra Valley Water that the Commission should carry out broader consultation on transitioning to a

[54] See for example IPART August 2015 WACC update.

trailing average approach, through our approach to pricing review. Yarra Valley Water also outlined an approach to transitioning which was different from Melbourne Water's proposal.

TABLE 5.5 DRAFT DECISION – REAL POST TAX WACC

WACC parameter	Source of parameter	Value
Risk free rate of return	ESC estimate	0.7%
Equity beta	Guidance paper	0.65
Equity (market risk) premium	Guidance paper	6.00%
Debt margin (includes debt raising cost)	ESC estimate – rate on the day	2.65 - 3.15%
Financing structure (debt assets)	Guidance paper	60%
Franking credits	Guidance paper	0.50
Forecast inflation	ESC estimate	2.20%
Vanilla post-tax (real) WACC range		3.9 - 4.2%
Vanilla post-tax (real) WACC		4.2%

5.6 COMMISSION'S APPROACH TO ASSESSING TAX

Melbourne Water is subject to a tax equivalence regime that reflects the corporate tax regimes faced by private sector firms. Our guidance paper stated the tax allowance should reflect the corporate tax rate, less imputation credits that a hypothetical private investor would receive. The WACC estimate we adopted in this draft decision is expressed in post-tax terms. Our WACC formula does not specifically include taxation. It is therefore necessary to include an estimate of the tax liability in businesses' revenue requirements. The approach applied by the Commission to calculate the benchmark tax liability is similar to the third regulatory period and set out in Table 5.6.

TABLE 5.6 BENCHMARK TAXATION LIABILITY CALCULATION[a]

	Revenue requirement
plus	Customer contributions
less	Operating and maintenance expenditure
less	Taxation depreciation
less	Interest expense
less	Asset tax losses brought forward
equals	**Total benchmark taxable income**
multiply by	Corporate taxation rate[b]
equals	**Total benchmark taxation liability (gross)**
less	Value of imputation credits[c]
equals	**Total benchmark taxation liability (nominal)**
	Convert to real terms ($1 January 2016)
equals	**Total benchmark taxation liability (gross) (real)**

a. Nominal values are used to calculate total benchmark liability. **b.** Total benchmark taxable income is multiplied by the corporate tax rate of 30 per cent divided by (1-0.3(1-γ)), where γ (gamma) represents the value of franking credits as a proportion of total tax payments. **c.** Value of imputation credits is the gross tax payment multiplied by (1-γ).

5.6.1 PROPOSED TAX LIABILITY

Table 5.7 sets out Melbourne Water's proposed tax liability. This liability was subsequently updated by Melbourne Water following the Australian Taxation Office private ruling on the deductibility of the capital value of the desalination plant late 2015. Table 5.7 also sets out Melbourne Water's revised tax assumption and the Commission's draft decision on Melbourne Water's tax liability.

5.7 COMMISSION'S REVIEW

The Commission proposes to adopt the benchmark tax liability calculation. Table 5.7 sets out the Commission's draft decision.

TABLE 5.7 MELBOURNE WATER'S PROPOSED TAX LIABILITY AND COMMISSION'S DRAFT DECISION
2015-16 $ million

	2016-17	2017-18	2018-19	2019-20	2020-21
Melbourne Water's proposed tax	0.2	0.2	0.2	0.2	0.2
Melbourne Water revised tax – reflecting Australian Taxation Office ruling	4.7	8.4	7.9	8.3	8.8
Draft decision tax	**0.4**	**3.6**	**5.7**	**8.7**	**11.9**

Source: Melbourne Water's price submission and updated tax liability following the Australian Tax Office private ruling.

5.8 COMMISSION'S APPROACH TO DEPRECIATION

In our guidance paper, we stated Melbourne Water's approach to estimating regulatory depreciation should reflect reasonable assumptions about asset life and use. Our usual approach is to allow water businesses to realise depreciation when an asset comes into service.

5.9 COMMISSION'S REVIEW

Melbourne Water's proposed depreciation allowance is based on a straight line approach which is the same approach used in past price reviews. We consider Melbourne Water generally provided sufficient information to support this approach in accordance with the principles in our guidance paper.

The Commission proposes to approve Melbourne Water's depreciation forecasts but for depreciation amounts relating to capitalisation of desalination security payments.

The appropriate in-service date for Melbourne Water to claim regulatory depreciation for capitalised desalination security payments is when Melbourne Water takes ownership of the desalination plant in 2039.

Capitalising desalination security payments on an annual basis, as proposed by Melbourne Water, builds up the value of the desalination plant in Melbourne Water's

regulatory asset base. Ideally, when Melbourne Water takes ownership and responsibility for the operation of the plant in 2039, its regulatory asset base would include a significant amount for the desalination plant, as the plant would have been in service for around half of its estimated useful life.

In our view, allowing for a return of investment through regulatory depreciation – while the regulatory asset base is being built up in the period to 2039 – would be counter to this objective. Depreciation would commence from 2039 when Melbourne Water takes ownership of the desalination plant. The effect of this is to better align customer payments for the desalination security service with the benefits it provides customers.

5.10 DRAFT DECISION

The Commission proposes to approve the RAB set out in Table 5.2.

For the purposes of this draft decision, the Commission specifies a real post tax weighted average cost of capital of 4.2 per cent as set out in Table 5.5. The Commissions invites Melbourne Water to resubmit a revised trailing average approach to estimate the cost of debt.

The Commission proposes not to allow Melbourne Water to recover amounts for regulatory depreciation for any desalination security payments treated as capital expenditure.

6 DEMAND

6.1 INTRODUCTION

This chapter sets out the Commission's draft decision on Melbourne Water's proposed demand forecasts. We require demand forecasts from Melbourne Water in order to calculate the tariffs that Melbourne Water may charge its customers. This calculation is based on its approved revenue.

Historically, Melbourne Water generated around half of its tariff revenue from fixed bulk tariffs. Melbourne Water proposed bulk water tariff reforms (chapter 7) that we propose to accept. Accordingly, fixed bulk water tariffs will account for over 80 per cent of Melbourne Water's tariff revenue in 2016-17 to 2020-21.

The components of Melbourne Water's demand forecast include water and sewage volumes (for bulk water and sewerage variable tariffs) and growth in end-use customer numbers (for waterways and drainage tariffs). Melbourne Water forecasts an increase in demand for its services in 2016-17 to 2020-21.

6.2 APPROACH TO ASSESSING DEMAND

In our guidance paper, we identified the factors for assessing demand forecasts. Namely, demand forecasts must:

- represent the best available estimates derived from an appropriate forecasting methodology
- be based on reasonable assumptions about the key drivers of demand

- be developed in consultation with the greater metropolitan water retailers.[55]

6.3 MELBOURNE WATER'S PROPOSED DEMAND FORECASTS

In its price submission, Melbourne Water advised:

- its water and sewage demand forecasts had regard to forecasts provided by retailers City West Water, South East Water, Yarra Valley Water and Western Water
- the retailers' forecasts were based on assumptions about:
  - Growth in end-use customer connections. Melbourne Water stated retailers used the latest Victoria in Future (VIF) forecasts to estimate growth in connections.[56] These government forecasts cover the state population from 2011 to 2051.
  - Melbourne Water engaged BIS Shrapnel to prepare the forecasts for waterways and drainage end-use customer numbers.[57]
  - Water and sewage volumes. Melbourne Water stated retailers (apart from Western Water) assumed average climactic conditions in estimating these volumes.
- It applied regression models to verify water retailers' demand forecasts. Melbourne Water engaged Frontier Economics to review the water retailers' demand forecasts and forecasting methods.[58]

Melbourne Water did not accept Western Water's initial or revised bulk water forecasts based on a return-to-dry scenario, which it considered to be overly pessimistic. It accepted all other retailers' forecasts based on average climatic conditions.

[55] Includes City West Water, South East Water, Yarra Valley Water and Western Water.

[56] Victorian Department of Planning and Community 2014, *Victoria in Future 2014: population and household projections to 2051*.

[57] BIS Shrapnel 2015, *Greater Melbourne building activity and customer connection forecasts – 2015 to 2021,* September.

[58] Frontier Economics 2015, *Metropolitan bulk water and sewerage demand review 2016*, September.

6.3.1 PROPOSED WATER VOLUMES

Melbourne Water forecast overall demand to grow by around 20 GL, from 397.7 GL in 2015-16 to 417.6 GL in 2020-21 (Table 6.1). This rise represents an average annual increase of around 1.0 per cent.

TABLE 6.1 MELBOURNE WATER'S PROPOSED TOTAL VOLUME OF WATER, BY BUSINESS
Megalitres

	2016-17	2017-18	2018-19	2019-20	2020-21
City West Water	105 300	105 900	105 900	106 600	107 200
South East Water	145 100	146 200	147 100	148 100	149 200
Yarra Valley Water	150 250	150 870	151 540	152 260	153 150
Western Water	8 000	8 000	8 000	8 000	8 000
Total	**408 650**	**410 970**	**412 540**	**414 960**	**417 550**

Source: Melbourne Water's price submission.

6.3.2 PROPOSED SEWAGE VOLUMES

Melbourne Water forecast a 1.1 per cent average annual increase in sewage volumes (Table 6.2). It expected sewage volumes to grow faster than water, as a result of potable substitution and other contributing factors.

TABLE 6.2 MELBOURNE WATER'S PROPOSED TOTAL VOLUME OF SEWAGE, BY BUSINESS
Megalitres

	2016-17	2017-18	2018-19	2019-20	2020-21
City West Water	89 600	90 500	91 400	92 300	93 300
South East Water	110 300	111 500	112 700	114 000	115 300
Yarra Valley Water	118 500	118 900	119 300	119 800	120 300
Total	**318 400**	**320 900**	**323 400**	**326 100**	**328 900**

Source: Melbourne Water's price submission.
Note: Western Water does not demand any bulk sewage services from Melbourne Water.

6.3.3 PROPOSED WATERWAYS AND DRAINAGE NUMBERS

Melbourne Water forecast a 1.8 per cent increase per annum in waterways and drainage customers reflecting increased housing development in a number of greenfield and brownfield sites in Melbourne (Table 6.3).

TABLE 6.3 MELBOURNE WATER'S PROPOSED WATERWAYS AND DRAINAGE CUSTOMERS
'000

	2016-17	2017-18	2018-19	2019-20	2020-21
Residential	1 761	1 792	1 825	1 857	1 891
Non Residential	144	147	150	152	155
Rural	105	107	109	111	113
Patterson Lakes	1	1	1	1	1
Koo Wee Rup	4	4	4	4	4
Total	**2 016**	**2 052**	**2 089**	**2 127**	**2 165**

Source: Melbourne Water's price submission.

6.4 COMMISSION'S REVIEW

The Commission notes that the demand forecasts were informed by Frontier Economics' review of water retailers' demand, and by BIS Shrapnel's assessment of waterways and drainage customer numbers. The Commission is satisfied with the consultants' reasoning and assessment for each component of Melbourne Water's demand forecast against our guidance.

We consider:

- Melbourne Water's demand forecast was prepared using the best available information for all water retailers other than Western Water
- the methods used to estimate water and sewerage volumes for residential customers are standard and similar to the approach used for the 2013 pricing review
- the majority of Melbourne Water's population growth assumptions are based on VIF 2014 forecasts, which are a reliable source to estimate population and household growth
- growth forecasts that differ from the VIF forecasts are consistent with historical trends, or the differences are immaterial.

We do not accept Melbourne Water's forecast bulk water demand for Western Water. The Commission proposes to accept Western Water's forecast bulk water demand as the forecast was based on the latest information available and reduced local supply.

TABLE 6.4 DRAFT DECISION ON TOTAL VOLUME OF WATER, BY BUSINESS
Megalitres

	2016-17	2017-18	2018-19	2019-20	2020-21
City West Water	105 300	105 900	105 900	106 600	107 200
South East Water	145 100	146 200	147 100	148 100	149 200
Yarra Valley Water	150 250	150 870	151 540	152 260	153 150
Western Water	10 700	10 900	11 100	9 300	9 600
Total	**411 350**	**413 870**	**415 640**	**416 260**	**419 150**

The Commission proposes to accept Melbourne Water's bulk sewage volumes and waterways and drainage customer numbers.

6.5 DRAFT DECISION

The Commission proposes to approve the bulk water demand forecasts over the 2016-17 to 2020-21 period as set out in Table 6.4 of this draft decision. In doing so, the Commission accepted each of Melbourne Water's proposals except in respect of Western Water. The Commission requires Melbourne Water to update its bulk water demand forecast to reflect Western Water's forecast.

The Commission proposes to approve bulk sewage volumes set out in Table 6.2 of this draft decision.

The Commission proposes to approve waterways and drainage customer numbers set out in Table 6.3 of this draft decision.

7 BULK TARIFFS

7.1 INTRODUCTION

This chapter sets out the Commission's draft decision on Melbourne Water's proposed bulk tariff structure. Melbourne Water's response to our draft decision must include proposed tariffs (including prices) that reflect our draft decision.

Melbourne Water provides bulk water and storage operator services and bulk sewerage services.

It supplies these services to urban retailers City West Water, South East Water and Yarra Valley Water, as well as regional retailers Western Water and Gippsland Water. It also supplies these services to Barwon Water, South Gippsland Water and Westernport Water, as required.

Melbourne Water proposed changes to its tariff structure and levels for the period 2016-17 to 2020-21.

7.2 APPROACH TO REVIEWING TARIFFS

Our guidance paper set out our approach to assessing Melbourne Water's proposed tariffs and stated:

- we prefer Melbourne Water to use a two part charge — comprising a fixed charge and a volumetric component — to recover revenue from water retailers
- Melbourne Water's proposed tariffs must provide signals to water businesses about the efficient cost of providing services

- Melbourne Water must specify and explain any formulas or processes used to adjust prices. It must also clearly explain how any tariff adjustments (chapter 9) would work.

7.3 MELBOURNE WATER'S PROPOSED BULK WATER TARIFFS

Melbourne Water currently has separate wholesale water headworks and transfer tariffs, each having a 'variable' and a 'fixed' component, including:

- a single, variable headworks charge which is the same for all water retailers
- a fixed charge for headworks, which differs for each retailer
- a variable water transfer charge which differs for each water retailer
- a fixed charge component on water transfer which differs for each water retailer.

In its price submission, Melbourne Water proposed changes to the structure of its headworks and water-transfer tariffs.

7.3.1 HEADWORKS TARIFFS

Melbourne Water proposed fully fixed headworks tariffs for each water retailer, reflecting each retailer's water entitlements in the Greater Yarra System – Thomson River, the Victorian Desalination Plant and the North South Pipeline (Table 7.1).

The changes reflect the Bulk Entitlement Framework, which was developed in 2014 as part of the Victorian Government's bulk water entitlement reforms. These reforms disaggregated and defined access to Melbourne's water resources, for metropolitan and regional water retailers. The government determined each retailer's annual entitlement for the three water supply sources, as set out in bulk entitlement orders.[59]

[59] Water entitlement orders are available at: http://waterregister.vic.gov.au/water-entitlements.

TABLE 7.1 MELBOURNE WATER'S PROPOSED BULK WATER FIXED HEADWORKS TARIFFS

2015-16 $/bulk entitlement

Greater Yarra System – Thomson River	**2016–17**	**2017–18**	**2018–19**	**2019–20**	**2020–21**
1. Allocated revenue requirement ($)	207.4m	210.9m	210.9m	208.0m	207.5m
2. Total bulk entitlement (ML)	624 310	624 310	624 310	624 310	624 310
$/bulk entitlement (1÷2)	**332.1**	**337.9**	**337.7**	**333.1**	**332.3**
Retailer bulk entitlements (ML)					
City West Water	155 227	155 227	155 227	155 227	155 227
South East Water	209 562	209 562	209 562	209 562	209 562
Yarra Valley Water	223 271	223 271	223 271	223 271	223 271
Western Water	18 250	18 250	18 250	18 250	18 250
South Gippsland Water	1 000	1 000	1 000	1 000	1 000
Westernport Water	1 000	1 000	1 000	1 000	1 000
Victorian Desalination	**2016–17**	**2017–18**	**2018–19**	**2019–20**	**2020–21**
1. Allocated revenue requirement ($)	572.7m	563.8m	560.5m	548.7m	532.4m
2. Total bulk entitlement (ML)	150 000	150 000	150 000	150 000	150 000
$/bulk entitlement (1÷2)	**3 817.9**	**3 759.0**	**3 736.4**	**3 657.8**	**3 549.4**
Retailer bulk entitlements (ML)					
City West Water	39 595	39 595	39 595	39 595	39 595
South East Water	53 454	53 454	53 454	53 454	53 454
Yarra Valley Water	56 951	56 951	56 951	56 951	56 951
North South Pipeline	**2016–17**	**2017–18**	**2018–19**	**2019–20**	**2020–21**
1. Allocated revenue requirement ($)	34.5m	35.1m	35.1m	34.6m	34.6m
2. Total bulk entitlement (ML)	75 000	75 000	75 000	75 000	75 000
$/bulk entitlement (1÷2)	**460.6**	**468.6**	**468.4**	**462.0**	**460.8**
Retailer bulk entitlements (ML)					
City West Water	25 000	25 000	25 000	25 000	25 000
South East Water	25 000	25 000	25 000	25 000	25 000
Yarra Valley Water	25 000	25 000	25 000	25 000	25 000

Source: Melbourne Water 2015, *2016 Price Submission: Essential Services Commission Request for Information*, December. Melbourne Water's price submission summarised the bulk tariff as a smeared bundle of tariffs. This table shows the unbundled tariffs and entitlement allocations for each water business.

Melbourne Water stated its bulk water tariff reforms would result in a new cost for regional water businesses, which those businesses previously incurred only if they had demand for water. The proposed new fixed tariffs reflect the cost of water security, which aligns with the 2014 bulk water entitlement reforms.

To smooth the impact of new costs for regional water businesses, Melbourne Water proposed to:[60]

- introduce new tariffs for Barwon Water, South Gippsland Water and Westernport Water from 2018-19, to align with the start of their next regulatory period
- recover 2016-17 and 2017-18 forgone revenue through higher tariffs in 2018-19, 2019-20 and 2020-21
- charge an interest rate on the foregone revenue in 2016-17 and 2017-18.

7.3.2 TRANSFER TARIFFS

Melbourne Water proposed a single variable transfer fee for all water retailers except Gippsland Water (Table 7.2). It indicated the proposed shift to a single transfer fee would better reflect the integrated nature of its transfer system.

TABLE 7.2 MELBOURNE WATER'S PROPOSED BULK WATER VARIABLE TRANSFER TARIFF
2015-16 $/ML

	2016–17	2017–18	2018–19	2019–20	2020–21
Variable ($/ML)	233.89	236.59	235.59	231.03	229.02

Source: Melbourne Water's pricing model.

[60] Gippsland Water, unlike the other retailers, receives only a small amount of water from Melbourne Water's Tarago Reservoir. Accordingly, the proposed headworks tariff reform excludes Gippsland Water.

7.4 COMMISSION'S REVIEW

The Commission's review of bulk water tariffs focused on the cost reflectivity of the proposed tariffs, customer submissions, and took into account the Victorian Government's 2014 entitlement policy reforms.

7.4.1 HEADWORKS TARIFFS

The Commission analysed Melbourne Water's proposed bulk water headworks tariff structures and considers they:

- are consistent with the 2014 entitlement reforms, with tariffs based on each water retailers' share of supply capacity in the three water supply systems
- are cost reflective, and reflect:
  - the recovery of capital invested in the North South Pipeline over its 100 year asset life
  - the fixed contract cost (excluding water orders that would be recovered through a tariff adjustment), for the desalination plant, including the proposed capitalisation of contract costs discussed in chapter 3.
  - the remainder of Melbourne Water's water storage system costs for the Yarra-Thompson system
- are easier to understand, and more transparent than the current approach because the tariffs reflect the different costs of accessing the three bulk water supply systems
- address concerns about the cross-subsidisation of water by sewerage tariffs, which was discussed in the Commission's 2013 review.[61]

The guidance paper indicated our preference for a two-part charge for bulk services, comprising a fixed charge and a volumetric component. While Melbourne Water proposed to shift to fixed headworks tariffs, a variable component remains in the price adjustment for any desalinated water orders, making an effective two-part charge for bulk water. This approach is appropriate because the desalination water cost is

[61] Essential Services Commission 2013, *Price Review 2013: Greater Metropolitan Water Businesses – Draft decision*, p. 173-4.

effectively the marginal cost of additional demand. The price adjustment to account for desalination water orders is discussed in chapter 9.

The Commission considers Melbourne Water's revised headworks tariffs based on a fixed $/ML of entitlement for each system is a more transparent approach to pricing, and could encourage more efficient trade decisions for water entitlements. Volumetric tariffs based on entitlement support the Water Industry Regulatory Order (WIRO) 2014 principle to provide signals to customers about the efficient costs of providing services. For this reason, the Commission proposes to approve Melbourne Water's revised headworks tariff structure based on a fixed $/ML of entitlement.

7.4.2 TARIFFS FOR REGIONAL RETAILERS

In its price submission, Melbourne Water noted that the shift to fixed headworks tariffs will result in significant new costs for regional retailers. Melbourne Water consulted with the affected businesses in developing its proposed tariffs, and has their support for the reforms, including the proposal to delay the introduction of the regional retailers' headworks tariffs until 2018-19. A submission from Barwon Water notes support for the transition tariff arrangement.[62]

The Commission considers the proposed approach to the transition path for Barwon Water, South Gippsland Water and Westernport Water is reasonable in principle. But Melbourne Water has not justified its proposal to charge interest on the foregone revenue associated with the delay of the new tariffs over 2016-17 and 2017-18.

Under the 'building blocks' approach, the revenue requirement for a regulatory period is approved on a net present value basis (using the weighted average cost of capital as a discount rate). This means that while forecast revenue and costs may differ in any particular year, businesses (and end-use customers) are no better or worse off over the full period. All other things being equal, the deferral of cost recovery for bulk water services provided to the regional water businesses results in higher debt and interest charges for Melbourne Water. Melbourne Water is compensated for these interest

[62] Barwon Water 2016, *Submission*, February.

charges through the weighted average cost of capital. No separate interest charge (as proposed by Melbourne Water) is required.

7.4.3 TRANSFER TARIFFS

Melbourne Water proposed a change to the structure of transfer tariffs for all retailers (except for Gippsland Water) which results in all affected retailers facing the same $/ML charge for water transfers. Melbourne Water stated that this would better reflect the integrated nature of the water transfer system.

The Commission notes that:

- water transmission costs are largely sunk, and long run marginal costs (LRMC) is likely to be very low. Variable operating costs for the transmission system are associated with water pumping and treatment
- retailers support variable transfer tariffs, given the shift to a fully fixed headworks charge.

While there are different transmission costs in different parts of the water supply system, the Commission considers there is limited benefit to providing a price signal on the different costs, as:

- retailers are generally unable to make alternative choices on the location of their water demand
- water transmission is likely to represent a very small component of development costs and would therefore be unlikely to influence an end-use customer's decision to locate its connection
- while water treatment costs may vary according to the location of water storages, the benefits of tariff simplicity are likely to outweigh any downside associated with muted pricing signals.

7.4.4 DRAFT DECISION ON BULK WATER TARIFFS

The Commission proposes to approve Melbourne Water's proposed headworks tariffs structure set out in Table 7.1 because it will improve transparency and better facilitate future trade in water.

The Commission proposes to approve Melbourne Water's proposed single variable transfer tariff for all water retailers because:

- a single variable tariff will be easier for retailers and end-use customers to understand, if it is passed on; and
- there is support for the transfer tariff changes.

7.5 MELBOURNE WATER'S PROPOSED BULK SEWERAGE TARIFFS

In its price submission Melbourne Water proposed to implement separate sewage treatment and transfer volume tariffs for its Eastern and Western sewerage systems from 2016-17. The aim of separate tariffs would be to provide clearer price signals to metropolitan water retailers on the distinct costs of transferring and treating sewage. The price separation may provide an incentive for water retailers to treat more sewage locally or develop innovative onsite treatment options.

Melbourne Water did not propose changes to the structure of the fixed bulk sewerage service charge to water retailers in the current regulatory period. However, while there is no proposed change to the tariff structure, as a result of a reduction in water cross-subsidies which are in the current sewerage tariffs, both City West Water and Yarra Valley Water would receive significant reductions in their annual fixed sewerage tariff.

Table 7.3 sets out Melbourne Water's proposed bulk sewerage tariffs in 2016-17, including the introduction of the transfer charge. It highlights the change in variable and fixed tariffs from 2016-17.

TABLE 7.3 MELBOURNE WATER'S PROPOSED BULK SEWERAGE TARIFFS
2015-16 $/ML and $/month

Third regulatory period		Fourth regulatory period	
	2015-16	2016-17 (proposed)	Difference (per cent)
Bulk sewerage variable charge – Treatment ($/ML)			
Western System	342.74	374.68	9.3
Eastern System	595.43	55.74	-90.6
Bulk sewerage variable charge – Transfer ($/ML)			
Western System	–	36.75	–
Eastern System	–	5.25	–
Bulk sewerage fixed charge – ($/month)			
City West Water	8 653 394	4 574 516	-47.1
South East Water	11 244 398	12 158 196	8.1
Yarra Valley Water	12 277 963	10 075 750	-17.9

Source: Melbourne Water's pricing model.

7.5.1 TRADE WASTE TARIFFS

In its price submission, Melbourne Water proposed to maintain the structure of its current trade waste tariffs, but to increase three tariffs significantly from 2016-17 (Table 7.4):

- The tariff for disposal of Biological Oxygen Demand (BOD) at the Western Treatment Plant (WTP) would rise from $17.10 per tonne in 2015-16 to $170.83 per tonne in 2016-17.
- The tariff for disposal of suspended solids at the Eastern Treatment Plant (ETP) would increase from $323.48 per tonne in 2015-16 to $819.07 per tonne in 2016-17.
- The tariff for disposal of suspended solids at the WTP would increase from $3.42 per tonne in 2015-16 to $141.81 per tonne in 2016-17.

Despite these tariff increases, Melbourne Water forecast flat demand across all components of trade waste for 2016-17 to 2020-21.

TABLE 7.4 PROPOSED TRADE WASTE TARIFFS IN 2016-17
$/tonne

Third regulatory period		Fourth regulatory period	
	2015-16	2016-17 (proposed)	Difference (per cent)
Western Treatment Plant			
Biological Oxygen Demand	17.10	170.83	898.75
Suspended Solids	3.42	141.81	4 041.65
Total Kjeldahl Nitrogen	285.82	292.27	2.26
Total Dissolved Solids	29.28	29.28	0.00
Eastern Treatment Plant			
Biological Oxygen Demand	585.35	427.47	-26.97
Suspended Solids	323.48	819.07	153.20
Total Kjeldahl Nitrogen	1 210.06	210.05	-82.64
Total Dissolved Solids	29.28	29.28	0.00

Source: Melbourne Water's pricing model.

As a result of the proposed tariff increases, Melbourne Water's revenue from trade waste disposal is forecast to increase from $9.9 million in 2015-16 to $15.3 million in 2016-17. The largest increase would be in revenue from the WTP.

7.6 COMMISSION'S REVIEW

7.6.1 SEWERAGE TREATMENT AND TRANSFER

Melbourne Water used a LRMC model to determine its variable tariffs for sewage treatment at the ETP and the WTP. The model incorporates Melbourne Water's proposed sewerage capital expenditure projects (chapter 4) and variable operating expenditure. The significant increases in several tariffs for the WTP are associated with the proposed capital program, including the second stage of the Treatment Capacity

Augmentation, and the Activated Sludge Plant renewal. The allocation of LRMC between sewerage and trade waste tariffs reflects the drivers of WTP costs, and appears to be appropriate.

Melbourne Water's proposed variable sewerage transfer tariffs are based on short run marginal cost, on the basis of retailers' feedback.

The Commission considers the sewerage tariffs proposed by Melbourne Water are broadly cost reflective, consistent with its customer feedback, and based on LRMC modelling.

7.6.2 TRADE WASTE COST REFLECTIVITY

Melbourne Water's proposed increases in variable tariffs for BOD and suspended solids are associated with the substantial sewerage capital expenditure program commencing in 2016-17, driven by increasing contaminant load.

We requested information from Melbourne Water in relation to the contribution of trade waste customers to contaminant load and the proposed capital program. In response, Melbourne Water advised us that the tariff increases for trade waste parameters are based on the total forecast of contaminant load growth, which includes contributions from residential sewerage and other non-residential customers. Melbourne Water indicated that it is not feasible to identify the contribution of trade waste customers to contaminant load in the bulk system.

Noting that the proposed trade waste tariffs are based on the cost of treating total sewage load, and that 'trade waste' commonly reflects a defined class of commercial and industrial retail customers, the Commission considers Melbourne Water's 'trade waste' tariffs would be better defined as 'load tariffs'.

7.6.3 END-USE CUSTOMER PRICE IMPACTS

Our guidance paper noted we would consider price changes greater than 10 per cent in any year of the regulatory period as price shocks. For such tariff changes, Melbourne Water should justify these shocks according to the principles in the guidance paper. Yet, despite the substantial tariff increases proposed for BOD and suspended solids,

Melbourne Water did not provide any information about (1) customer consultation on trade waste tariff increases, (2) the proposed transition for affected customers, or (3) retailers' views on the price increases.

We considered the extent to which the metropolitan retailers passed on Melbourne Water's current trade waste prices to trade waste customers. Tables 7.5 and 7.6 compare Melbourne Water's current trade waste tariffs, the retailers' trade waste tariffs for large customers, and Melbourne Water's proposed tariffs for 2016-17 to 2020-21. We note the retailers' trade waste tariffs also reflect their own treatment costs, which would likely exceed Melbourne Water's treatment costs (given the smaller scale of retailers' treatment systems).

The most significant proposed increases are in tariffs for BOD for the WTP and tariffs for suspended solids for both the WTP and the ETP.

Generally, the retail trade waste tariffs are higher than Melbourne Water's trade waste tariffs, reflecting the retailer's costs. Based on this analysis, we consider Melbourne Water's proposed trade waste price increases would unlikely be passed on to retail customers.

For the ETP's trade waste tariff for suspended solids, we consider increases in Melbourne Water's tariff could more likely result in Yarra Valley Water and South East Water increasing their tariffs for suspended solids, given the proposed tariff is higher than the current retailer equivalent tariffs. Given the overall differences between Melbourne Water's and retailers' trade waste tariffs, we consider end-use customer price shocks are unlikely. However, we will be seeking information from water retail businesses about the likely impacts on their customers.

7.6.4 INORGANIC TOTAL DISSOLVED SOLIDS

In relation to inorganic total dissolved solids (ITDS), Melbourne Water highlighted a retailer's questioning (during consultation on the price submission) of the cost reflectivity of its ITDS tariff. While Melbourne Water proposed to retain the current ITDS tariffs at the WTP and the ETP, it noted it is working with metropolitan water retailers to assess potential alternative approaches to regulating salinity.

We requested information from Melbourne Water on the treatment costs for ITDS. Melbourne Water advised that it currently does not treat ITDS, but that as the ITDS concentration increases in recycled water, the risk of farm crop losses and cumulative soil contamination increases. It is currently not cost effective to desalinate recycled water. Accordingly, Melbourne Water's ITDS tariff is a price signal.

The Environment Protection Authority (EPA) Victoria determined a limit on ITDS in inflows at the WTP. No equivalent limit has been imposed for the ETP. No ITDS limit has been imposed on outflows at either the WTP or the ETP.

We consider that while Melbourne Water does not currently incur variable treatment costs for ITDS, as salinity levels at the WTP approach its influent licence limits, it is not unreasonable to impose a price signal on retailers which reflects the higher costs of reducing salinity to acceptable standards. Retailers may then elect to pass on the price signals to their customers, or alternatively may implement non-price mechanisms to reduce salinity, such as an education campaign, or infiltration source control measures. ITDS price signals provide new customers with information about the cost impact of their waste, and allow alternative onsite options to be considered at the time of development.

We note support for continuing an ITDS tariff expressed in a submission from Southern Rural Water, which highlighted the costs of salinity in recycled water for Werribee South Irrigators.[63]

Based on the information provided by Melbourne Water confirming that it currently does not incur any cost for treatment of ITDS, and that no EPA ITDS standard applies at the ETP, the Commission considers that it is no longer appropriate for Melbourne Water to impose an ITDS tariff for the plant. We note that South East Water, which is the main retailer for the ETP, does not pass on Melbourne Water's ITDS prices to its customers.

[63] Southern Rural Water 2016, *Submission*, February.

TABLE 7.5 WESTERN TREATMENT PLANT – TRADE WASTE TARIFF COMPARISON

$/tonne

	Melbourne Water's current regulated tariff	City West Water's 2015-16 trade waste discharge tariff – Category A customers	Yarra Valley Water's 2015-16 trade waste discharge tariff – Category A customers	South East Water's 2015-16 trade waste quality tariff – for customers exceeding parameter levels	Melbourne Water's proposed tariff for 2016-17
Biological Oxygen Demand	17.10	974.70	845.20	889.20	170.83
Suspended Solids	3.42	528.10	491.90	498.60	141.81
Total Kjeldahl Nitrogen	285.82	1 875.70	2 284.60	1 953.10	292.27
Total Dissolved Solids	29.28	19.10	35.20	-	29.28

Source: Melbourne Water's pricing model; City West Water *2015-16 tariff schedule*; Yarra Valley Water *2015-16 tariff schedule*; South East Water *2015-16 tariff schedule.*

TABLE 7.6 EASTERN TREATMENT PLANT – TRADE WASTE TARIFF COMPARISON

$/tonne

	Melbourne Water's current regulated tariff	Yarra Valley Water's 2015-16 trade waste discharge tariff – Category A customers	South East Water's 2015-16 trade waste quality tariff – for customers exceeding parameter levels	Melbourne Water's proposed tariff for 2016-17
Biological Oxygen Demand	585.35	845.20	889.20	427.47
Suspended Solids	323.48	491.90	498.60	819.07
Total Kjeldahl Nitrogen	1 210.06	2 284.60	1 953.10	210.05
Total Dissolved Solids	29.28	35.20	-	29.28

Source: Melbourne Water's pricing model; City West Water *2015-16 tariff schedule*; Yarra Valley Water *2015-16 tariff schedule*; South East Water *2015-16 tariff schedule.*

7.6.5 DRAFT DECISION ON BULK SEWERAGE TARIFFS

The Commission proposes to approve Melbourne Water's proposed variable bulk sewerage tariff structure for treatment and transfer, and the proposed fixed monthly tariffs for sewerage.

Given the proposed trade waste tariff structure is more cost reflective than current tariffs, and increases are unlikely to cause price shocks for end-use customers, we consider the proposed tariff structure is reasonable.

Our draft decision on Melbourne Water's proposed sewerage capital expenditure affects the calculation of the LRMC and trade waste tariffs. The Commission proposes to approve Melbourne Water's proposed trade waste tariffs for BOD, suspended solids and total Kjeldahl nitrogen subject to Melbourne Water providing tariffs that are calculated from an updated LRMC in line with revised operating and capital expenditure within this draft decision.

The Commission proposes to approve Melbourne Water's proposal to continue its current ITDS tariff for the WTP. But it considers the ITDS tariff for the ETP is no longer appropriate because no ITDS standard is imposed there.

7.7 DRAFT DECISION

The Commission proposes to approve Melbourne Water's proposed bulk tariff structure except the ITDS tariff for the Eastern Treatment Plant.

In response to our draft decision Melbourne Water should provide a revised tariff schedule for the 2016-17 to 2020-21 period that reflects the draft decision revenue requirement.

8 WATERWAYS AND DRAINAGE, DIVERSIONS, MISCELLANEOUS SERVICES AND DEVELOPER CONTRIBUTIONS

8.1 INTRODUCTION

This chapter sets out the Commission's draft decision on Melbourne Water's proposed waterways and drainage tariff structure, miscellaneous and diversion tariffs and developer contributions. Melbourne Water's response to our draft decision must include proposed tariffs (including prices) that reflect our draft decision.

Melbourne Water proposed significant changes to the structure and levels of its waterways and drainage tariffs for 2016-17 to 2020-21.

8.2 MELBOURNE WATER'S PROPOSED WATERWAYS AND DRAINAGE TARIFFS

Melbourne Water provides drainage, waterways and floodplain management services in the Port Philip and Westernport region. It administers programs to improve the health of rivers and creeks, improve stormwater quality, and maintain drainage infrastructure to service urban growth and provide flood protection.

The waterways and drainage tariff is collected from all rateable residential and non-residential properties within Melbourne Water's Waterways Management District. Currently, customers inside Melbourne's urban growth boundary (which is set by the Victorian Government) are charged either:

- a flat occupancy based fee for residential customers, or
- a fee based on net annual property value (NAV) (subject to a minimum charge of $109.90 per year) for all non-residential customers.[64]

All customers outside the urban growth boundary pay a fixed rural charge, which is not differentiated by property type.

In its price submission, Melbourne Water proposed:

- no changes to the structure of waterways and drainage tariffs for residential and rural customers, which will increase each year at the rate of inflation
- substantial tariff changes for non-residential customers.

For the majority of non-residential customers (all but the 'top 50', or largest customers), Melbourne Water proposed:

- to change from fees based on NAV, to a flat tariff of $115.90 in 2016-17, increasing to $143.37 by the final year of the regulatory period, which is equal to 1.5 times the fixed residential customer tariff proposed by Melbourne Water
- to achieve the transition by reducing the current rate of NAV, and increasing the minimum charge annually until all customers are on the minimum charge in year five (2020-21).

In its price submission, Melbourne Water stated that the maximum bill increase for any non-residential customer from 2016-17 to 2020-21 would be $7 per year[65] (plus inflation) while the maximum bill decrease would be $21 000 per year[66] (averaged over five years).

For the largest 50 non-residential customers by revenue (largest 50 customers), Melbourne Water proposed:

[64] Net annual property value is a term defined by the Victorian Valuer-General, and means the greater of 5 per cent of the improved capital value of the land, and the rent for which the land might reasonably be expected to be let from year to year, less rates, insurances and taxes.

[65] Melbourne Water price submission.

[66] Melbourne Water 2015, Response to Essential Services Commission question, December.

- to transition away from the property value based charge during the regulatory period
- to maintain the total current annual revenue from the largest 50 customers, fixed from 2016-17 to 2020-21, forecast at $15.93 million per year.

Table 8.1 shows Melbourne Water's proposed annual waterways and drainage tariffs.

TABLE 8.1 MELBOURNE WATER'S PROPOSED ANNUAL WATERWAYS AND DRAINAGE TARIFFS
2015-16 $ and $ NAV

	Third regulatory period	Fourth regulatory period				
	2015-16	**2016-17**	**2017–18**	**2018–19**	**2019–20**	**2020–21**
Fixed tariffs						
Residential	95.58	95.58	95.58	95.58	95.58	95.58
Rural	52.52	52.52	52.52	52.52	52.52	52.52
Non-residential currently on minimum charge	109.90	115.90	122.23	128.91	135.95	143.37
Non-residential currently above minimum charge ($NAV)	0.01169	0.00853	0.00623	0.00454	0.00332	–
Top 50 customers (largest 50 customers)	–	Prices to be set in accordance with pricing principles and to maintain total revenue from largest 50 customer group				

8.3 COMMISSION'S REVIEW

Our guidance paper required Melbourne Water to either estimate maximum prices or outline a method for calculating prices for all customers.

The Commission proposes to approve Melbourne Water's proposed waterways and drainage tariffs for residential and rural customers. For non-residential customers, both the Commission and Melbourne Water have previously acknowledged the need to move towards more cost reflective tariffs for waterways and drainage services. The

Commission's 2013 draft decision discussed this move for the current regulatory period.

Melbourne Water's pricing submission did not clearly outline maximum prices or methodologies for calculating prices for the largest 50 non-residential customers (by revenue). Rather, it indicated it would determine tariffs through consultation and research during the regulatory period. Clause 11 of the Water Industry Regulatory Order (WIRO) 2014 requires that the Commission must approve either maximum prices, or the manner in which prices are calculated.

We acknowledge Melbourne Water's considerations into devising a more cost reflective charging structure for waterways and drainage, particularly the deliberative research forums that tested customer views on options for the charging structure. Customers expressed uncertainty in the forums as to whether the waterways and drainage tariffs need reform. This uncertainty reflects the complexity of identifying cost reflective tariffs, and issues around perceived fairness.

We note comments made by the Consumer Utilities Action Centre in support of Melbourne Water's consultation process on waterways and drainage tariffs:

> *On the whole, our impression of Melbourne Water's consultation process is a positive one. Importantly, it had management level support, and we felt that the consultation was meaningful and genuine.*[67]

While we acknowledge Melbourne Water's research, we have concerns about the water business's approach to identifying non-residential customers within and outside the largest 50 group. The largest 50 customers consist of those non-residential customers that attract the highest waterways and drainage tariffs. Melbourne Water stated these customers disproportionately contribute to waterways and drainage costs because they have the largest allotments of land and impervious surface areas. But it provided no information or data to support this statement.

Given Melbourne Water's approach to identifying customers based on current revenue, the proposed reform would do little to improve the tariffs' cost reflectivity in terms of the

[67] Consumer Utilities Advocacy Centre, Consumer Action Law Centre and Victorian Council of Social Service 2016, *Submission*, February.

customers' *impact* on waterways and drainage costs. If non-residential customers' contribution to waterways and drainage costs is further reviewed during the regulatory period, some of the customers that Melbourne Water proposed to transition to a lower fixed charge (that is, those outside the largest 50) may face significant price increases when tariffs transition to cost reflectivity.

In its proposal, Melbourne Water did not explain how customers would transition out of the largest 50 group should their circumstances change (for example, if a large property is sold reducing the total land size of the customer). Melbourne Water indicated that 'a lower tariff would be applicable' for some customers whose circumstances change during the regulatory period, but that the properties selected would remain in the largest 50 and be reassessed after 2020-21.[68] It is not clear how the applicable lower tariff would be calculated for those customers.

To date, Melbourne Water has carried out limited consultation with the largest 50 customer group on its proposed tariff reforms, indicating it would consult further during the regulatory period.

We acknowledge that the proposed tariff reform for the majority of non-residential customers to move from NAV to a fixed tariff is consistent with Melbourne Water's approach to transitioning residential customers from NAV tariffs to a fixed charge during the second regulatory period, suggesting the approach for the majority of non-residential customers is reasonable. However, we consider that Melbourne Water has not established a strong connection between its largest customers (by revenue) and waterways and drainage impacts and costs. Also, the pricing principles proposed for the largest customers are too broad.

While it is described as a 'pilot', we consider Melbourne Water provided insufficient information about how prices would be implemented to satisfy the requirements of the WIRO.

[68] Melbourne Water 2015, Response to Essential Services Commission question, December.

8.3.1 DRAFT DECISION ON WATERWAYS AND DRAINAGE

The Commission proposes not to approve Melbourne Water's proposed waterways and drainage tariff structure for non-residential customers, because Melbourne Water has not proposed the manner for prices to be determined for its largest 50 customers (by revenue), or proposed a maximum price for its largest 50 customers as required by Clause 10(a) of the WIRO. It is therefore beyond the Commission's power to approve the proposal.

The Commission requires Melbourne Water to resubmit a proposal which meets the WIRO. In its resubmission Melbourne Water must:

- estimate proposed maximum tariffs for each customer, or clearly outline an approach to calculating a tariff for each customer, based on cost reflective principles, methods and data
- propose an approach for transitioning customers between tariffs, based on cost reflective principles.

8.4 MELBOURNE WATER'S PROPOSED PATTERSON LAKES MARINA TARIFFS

In its price submission, Melbourne Water proposed two new Patterson Lakes Marina tariffs as regulated tariffs to 'complement an existing contract'. The two tariffs are designed to recover the capital and maintenance costs of a tidal gate connecting Runaway Bay (where the marina is located) to the Patterson River.

Melbourne Water claims that the tidal gate provides benefit only to the marina, and identified the proposed tariff as "consistent with the principles used to develop the Patterson Lakes jetty tariffs" — that is, consistent with 'user pays' principles. The proposed tariffs, which would be levied on the marina operator, are $343 073 for capital costs and $38 128 for maintenance, per annum.

The cost of managing the Patterson Lakes Marina is the subject of a commercial license agreement between Melbourne Water and the operator of the marina, which was established in 1994.

8.5 COMMISSION'S REVIEW

In its price submission, Melbourne Water provided limited information about its proposed new tariffs for the Patterson Lakes Marina, which consists of an annual capital charge and an annual maintenance charge. Further information from Melbourne Water and stakeholders (provided during consultation), confirmed that the maintenance costs Melbourne Water are seeking to recover are the subject of a private contractual agreement between Melbourne Water and the Marina licensee.

It is inappropriate for us to intervene in matters which are covered by a private contractual arrangement between Melbourne Water and its customer. Further, we consider a separate regulated tariff is unnecessary, given the existing contractual agreement. We note that approving a separate regulated tariff recovering the costs of the same services as the existing contract could result in over-recovery of revenue, through both the contract price and the regulated tariff.

In relation to the proposed capital charge, we note comments received in stakeholder submissions which suggest the proposed tariff is inconsistent with the findings of an Independent Review commissioned by Melbourne Water and the Patterson Lakes community in 2013. Stakeholders noted that the proposed tariff

> *…is in total contradiction to Melbourne Water's previous acceptance of the conclusions and recommendations of the 2013 Patterson Lakes Independent Review, wherein it was formally and publically agreed that in view of the wider community benefit provided by the Tidal Flood Control Gates that these renewal, operating and maintenance costs would be funded through the Melbourne Metropolitan Waterways and Drainage Charge.*[69]

We share these concerns in relation to the capital renewal costs. Melbourne Water has been recovering the capital costs of the tidal gate through its general waterways and drainage tariffs since its construction in 2012. This approach is consistent with the findings of the Independent Review. We note the following findings from the Independent Review on services provided to Patterson Lakes:

[69] D J Hobby 2016, *Submission*, February.

> *The primary source of ongoing funding is considered to be either associated with the Melbourne Metropolitan Waterways and Drainage Charge for those services considered to have a regional and community benefit or the application of user pays funding alternatives for those services and assets that are linked to private recreational benefits. Options for user pay funding sources include the charging of a tariff under the Water Act or private contractual arrangements. The Review considers that whatever source of funding is selected, the approach to cost recovery should be informed by the principle that cost recovery is appropriate for services that only provide private benefits.*[70]

We consider that the Runaway Bay tidal gate provides flood protection and drainage services as part of an integrated water management system, for which there are multiple beneficiaries. Submissions from stakeholders highlighted the existence of an underground balancing drain owned by Melbourne Water which connects Runaway Bay to other parts of the Patterson Lakes tidal waterways, suggesting that the function performed by the Runaway Bay tidal gate provides benefits to customers beyond just the marina.[71]

Submissions also raised concerns about the impact of the proposed new tariff on end-use customers, being the residents and businesses in the marina precinct, which could result in additional costs of up to $2000 per annum for some residents.[72] Issues were also raised in relation to the fairness of the proposed tariff, given it would apply to residents and businesses in a specific area of Patterson Lakes adjacent to the marina.[73] Finally, submissions stated that Melbourne Water had failed to consult effectively with the affected customers on the proposed tariffs prior to lodging its price submission.[74]

[70] Patterson Lakes Independent Review 2013, *Management of Patterson Lakes Tidal Waterways & Quiet Lakes*, March, p 83

[71] L. Cox 2016, *Submission*, 15 February.

[72] L. Cox 2016, *Submission*, 2 February.

[73] L. Cox 2016, *Submission*, 15 February.

[74] L. Cox 2016, *Submission*, 15 February.

8.5.1 DRAFT DECISION ON PATTERSON LAKES MARINA TARIFF

The Commission proposes not to approve Melbourne Water's proposed tariffs for the Patterson Lakes Marina for the following reasons:

- the maintenance costs are the subject of a private contract and a regulated tariff is therefore unnecessary
- the proposed recovery of capital costs for the tidal gate from a single customer tariff is inconsistent with the findings of the Independent Review, which Melbourne Water has publicly accepted.

Melbourne Water's pricing submission also lists proposed tariffs for jetty replacement and maintenance for Patterson Lakes' customers, with capital costs including an $85 Dredging Feasibility Project Charge.

The proposed tariffs are equivalent to Melbourne Water's current 2015-16 tariffs which were approved by the Commission in 2014.[75] Melbourne Water has not proposed any escalation to these tariffs over the regulatory period. The Commission proposes to approve Melbourne Water's proposed tariffs for Patterson Lakes jetty replacement and maintenance.

8.6 MELBOURNE WATER'S PROPOSED MISCELLANEOUS SERVICES TARIFFS

In its price submission, Melbourne Water identified some miscellaneous services tariffs that were not cost reflective. It proposed to reduce tariffs for property and flood information statements, and hydrological data from 2016-17, and apply a consumer price index (CPI) escalation for the remainder of the regulatory period. For all other current miscellaneous tariffs, it proposed an annual CPI adjustment.

Melbourne Water proposed a new fast track assessment fee for applications for:

- building over Melbourne Water easements

[75] As part of the Commission's annual tariff approval process.

- stormwater connections
- other miscellaneous services.

Customers could pay this additional $1000 fee to reduce the application assessment time from 28 days to 10 days. The fee would be refundable to the customer if the application is not processed within 10 days.

Melbourne Water also proposed a new water supply inspection tariff based on an hourly rate, replacing its current tariff based on a fee per visit. It stated this new tariff was developed in response to some site inspections taking longer than expected, and the costs of attending site inspections for delayed works that require repeat visits. The proposed tariff for site inspections is $125 per hour, capped at $304 for 'complicated projects'. The capped rate incorporates three inspections (of any length of time), after which the rate of $125 per hour would apply.

8.6.1 DRAFT DECISION

The Commission proposes to approve Melbourne Water's proposed miscellaneous services tariff structure, including:

- the proposed reduction in tariffs for property information statements, property flood level information and hydrologic data
- CPI escalation of fees during the regulatory period for flood feasibility studies, build over of Melbourne Water assets and storm water connections
- the proposed new fast track assessment fee for applications for build-over of Melbourne Water easements, stormwater connections and other miscellaneous services, given the fee is an optional charge for those customers seeking faster assessments of applications
- the proposed tariff changes for site inspections which will provide signals to customers on the cost of lengthy inspections or repeat visits.

8.7 MELBOURNE WATER'S PROPOSED DEVELOPER CHARGES

Developers pay Melbourne Water for the capital investment required for drainage and waterway services on undeveloped land (which is usually on the urban fringe). Developer charges are also known as 'customer contributions.' In some cases, developers may also need to pay a stormwater quality charge to offset the costs of treating nitrogen discharged by the development.

Melbourne Water proposed to continue its existing principles based approach to calculating developer charges for drainage infrastructure and stormwater quality offsets.

8.8 COMMISSION'S REVIEW

In 2014, the Commission conducted a desktop review of its approach to regulating Melbourne Water's developer charges. Among other findings, the Commission concluded the current principles based calculation results in cost reflective charges, and is the most appropriate way to recognise the non-standard nature of servicing solutions across different locations. The review also found reasonable transparency in the servicing solution assumptions that underpin Melbourne Water's drainage developer charges.

During the Commission's review, Melbourne Water advised that it rarely applies the pricing principles to calculate stormwater quality charges because on-site works to mitigate the effects of nitrogen are often carried out by developers and so there is typically no need for Melbourne Water to calculate an offset charge. As such, in reviewing the pricing principles, the Commission did not consider issues specifically relating to the regulation of these charges. However, because the stormwater quality charges are based on scheme costs, should it be applied, the principles based approach would result in charges that are cost reflective.

These findings are consistent with the WIRO principles that require charges for prescribed services to provide signals on the efficient costs of providing services, and to enable water businesses and end-use customers to easily understand how charges are calculated.

8.8.1 DRAFT DECISION

The Commission proposes to approve Melbourne Water's proposal to use the existing pricing principles to calculate developer charges for drainage infrastructure and stormwater quality for 2016-17 to 2020-21 because it is consistent with the WIRO.

8.9 MELBOURNE WATER'S PROPOSED DIVERSION TARIFFS

Melbourne Water provides licensing services to a small number of end-use customers who hold entitlements to extract water from rivers, streams and dams. Licence holders can extract water for a variety of purposes including domestic and stock uses, agricultural irrigation, stormwater harvesting, power generation and industrial cooling. Melbourne Water levies annual diversion tariffs to recover costs of providing licensing services. These tariffs are levied against the total water allocation held under each licence.

In its price submission, Melbourne Water proposed a price path of CPI minus 2.6 per cent for the first year of the regulatory period, followed by a CPI increase only for each of the following 4 years.

We note Melbourne Water's consultation on its proposals for diversion charge structures.

8.9.1 DRAFT DECISION ON DIVERSION TARIFFS

The Commission proposes to approve Melbourne Water's proposed diversion charge.

8.10 DRAFT DECISION

The Commission proposes to approve Melbourne Water's proposed waterways and drainage tariffs for residential and rural customers.

The Commission proposes to approve Melbourne Water's proposed miscellaneous tariffs.

The Commission proposes to approve Melbourne Water's proposed approach to calculating developer charges.

The Commission proposes to approve Melbourne Water's proposed diversion tariffs.

The Commission proposes not to approve Melbourne Water's proposed waterways and drainage tariff structures for non-residential customers.

The Commission proposes not to approve Melbourne Water's proposed two new tariffs for Patterson Lakes Marina.

The Commission proposes to approve the proposed tariff for Patterson Lakes jetty replacement and maintenance.

9 FORM OF PRICE CONTROL AND ADJUSTING PRICES

9.1 INTRODUCTION

This chapter sets out the Commission's draft decision on Melbourne Water's proposed form of price control and annual price adjustment mechanisms that may apply from 2016-17 to 2020-21. Currently, Melbourne Water uses price adjustments to account for:

- uncertain and unforeseen events
- differences between forecast and actual desalination costs (covering desalination security payments and the cost of any water ordered)
- a pass through of changes in some costs (such as taxes) during the regulatory period.

Melbourne Water proposed minor adjustments to its current price adjustment mechanisms. Melbourne Water proposed a revenue cap form of price control for its waterways and drainage services.

9.2 MELBOURNE WATER'S PROPOSED FORM OF PRICE CONTROL

In our guidance paper, we indicated the Commission would approve Melbourne Water's form of price control if the water business proposed no change to its current approach (price cap).

For its water and sewerage services, Melbourne Water proposed to retain a price cap form of control. The Commission proposes to approve this proposal.

For waterways and drainage services, Melbourne Water proposed a revenue cap so it has flexibility to design more cost reflective tariffs for non-residential customers. This proposal is a change from the current price cap approach.

9.2.1 DRAFT DECISION ON FORM OF PRICE CONTROL

The Commission proposes not to approve Melbourne Water's proposal for a revenue cap for waterways and drainage services, reflecting our draft decision on waterways and drainage tariffs for non-residential customers. The revenue cap form of price control was part of Melbourne Water's proposed transition to its proposed waterways and drainage charges.

The Commission proposes to approve a price cap form of price control.

9.3 APPROACH TO ADJUSTING PRICES

In our guidance paper we noted that:

- Melbourne Water's price adjustment mechanisms have worked well in the third regulatory period
- our intention is to approve Melbourne Water's within period price adjustment mechanisms if it proposes no change
- any proposed changes to these adjustment mechanisms must be specified and formulas must be explained and justified against the Water Industry Regulatory Order (WIRO) 2014.

9.4 MELBOURNE WATER'S PROPOSED DESALINATION COST PASS THROUGHS

Melbourne Water proposed a minor amendment to its current approach to reflect desalination costs in retailers' prices, to account for changes in water order costs.

The Victorian Government announced that it will place an order for 50 gigalitres of water from the Victorian desalination plant. Melbourne Water's price submission noted that should desalination water be ordered during 2016-17 to 2020-21, Melbourne Water will be required to pay a volumetric water use tariff. Melbourne Water's proposed revenue and prices reflect zero desalination water order as a base case. If water is ordered, the price adjustment mechanism allows for the water use costs to be reflected in fixed headworks tariffs.

The proposed revision to this adjustment mechanism allows for individual desalinated water orders from water retailers, whereas currently one order covers all water retailers. This reflects feedback Melbourne Water received from retailers during consultation on its price submission.

9.5 COMMISSION'S REVIEW AND DRAFT DECISION – DESALINATION COST PASS THROUGHS

In the 2013 water price review, the Commission approved a mechanism to adjust for any desalination water orders by a pass through in costs. Melbourne Water's proposed adjustment mechanism for changes to water order costs is generally consistent with its approach in the current regulatory period.

We recognise that allowing contractual costs associated with desalination water orders (less any avoidable costs) to be passed through to prices through adjustment factors sends appropriate price signals about the costs of desalinated water. It also provides a mechanism so that Melbourne Water does not over or under-recover funds for desalination.

Melbourne Water proposed that water order costs be reflected in fully fixed headworks tariffs (chapter 7). We consider that a standalone variable tariff for water orders would be more transparent and better reflect the WIRO principle to provide signals to water retailers and end-use customers about the efficient costs of providing services.

9.6 DRAFT DECISION

The Commission proposes not to approve Melbourne Water's proposed revenue cap for waterways and drainage services.

The Commission proposes to approve a price cap form of price control for water, sewerage and waterways and drainage services.

The Commission proposes to approve Melbourne Water's approach to desalination water order cost subject to establishing a new standalone variable tariff rather than adjusting the proposed desalination headworks tariff.

APPENDIX A — SUBMISSIONS

The Commission held a public forum in Melbourne in February 2016. The forum was attended by consumer groups, retail water businesses and members of the public.

The written submissions in Table A.1 are available on our website.

TABLE A.1 SUBMISSIONS RECEIVED ON MELBOURNE WATER'S PRICE SUBMISSION

Name	Date Received
Port Phillip and Westernport CMA	12 October 2015
Jeremy Loftus-Hills	3 January 2016
Lawrence Cox	3 February 2016
Darryl John Hobby	5 February 2016
Stephen and Lorna Harrison	5 February 2016
Larry and Pauline Reed	5 February 2016
Greg Ellis and Rosemary Hughson	5 February 2016
Ian John Walton and Gillian Walton	5 February 2016
Wayne Anderson	5 February 2016
Mark Kenneth Nicholls	5 February 2016
Neil Bull	5 February 2016
Jason Quinn	5 February 2016
Cheryl Anne Murdoch	5 February 2016
Judith Baird	5 February 2016
Lindsay and Kim Johnson	5 February 2016
Mr and Mrs S Deriboklou	5 February 2016

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TABLE A.1 (CONTINUED)

Name	Date Received
John Shipston	5 February 2016
Kaitlin and Joshua Staley	6 February 2016
Peter Van Summeren and Leanne Nickolai	6 February 2016
David and Jan Brown	7 February 2016
Stephen Cannon	7 February 2016
Michael Nunn	7 February 2016
Frank and Melina Russo	7 February 2016
Anthony Dening and Graham Williams	8 February 2016
Christine Lohrey	8 February 2016
Christopher and Mary Lafferty	8 February 2016
Trevor and Denise Stanley	8 February 2016
Nigel Coulston	8 February 2016
Michelle Malley	8 February 2016
Frances Batt	8 February 2016
Ian Bevan	8 February 2016
Bruce Cook	8 February 2016
Jerome Eastwood	8 February 2016
Vedran Pezerovic	8 February 2016
Adam Zuchowski	8 February 2016
Heather Redpath	8 February 2016
Andrea Paice	8 February 2016
Daryl and Susan Davison	8 February 2016
Darren Wynne	9 February 2016
Linda and Frank Colcott	9 February 2016
Marcus Katalinic	9 February 2016
Gregory Brisbane	9 February 2016
Peter and Ann Johnson	9 February 2016
Kerrie Whitrod	9 February 2016
Mel Gaunson	9 February 2016
Paul Arnold	9 February 2016
Chris Bockisch	10 February 2016
Rod Meldrum	10 February 2016
Ivanka Klarica	10 February 2016

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TABLE A.1 (CONTINUED)

Name	Date Received
Sally Surgey	10 February 2016
Brian John and Diane Lorraine Boyce	10 February 2016
Jocelyn Clarke and Catherine Newton	10 February 2016
Stan Best	10 February 2016
Bo Sun	10 February 2016
Christine O'Connell	11 February 2016
Phillip and Jennifer Stevens	11 February 2016
Martin and Susan Lowe	11 February 2016
Kevin and Joy Billing	11 February 2016
Barry Gardiner	11 February 2016
Chris and Margaret Gough	11 February 2016
Michael Welsford	11 February 2016
John McCormick	11 February 2016
Lesley Yuill	11 February 2016
Paul Kingsbury	11 February 2016
Michael Rusham	11 February 2016
Darryl Lewis	12 February 2016
Stacy Ruffin	12 February 2016
Marc Roggero	12 February 2016
Lauren Daly — Southern Rural Water	12 February 2016
Helen Rushman	12 February 2016
Deanna Foong — Consumer Action Law Centre	12 February 2016
Caroline Johnson	12 February 2016
Anton Silvoe	12 February 2016
Louise Walsh	12 February 2016
Mary Katsigiannis	12 February 2016
Cheryl Stewart	12 February 2016
Alan Whittley	12 February 2016
B Davies	12 February 2016
Robin and Carol Wood	12 February 2016
Mr and Mrs A Moring	12 February 2016
Andrew Marcoora	12 February 2016

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TABLE A.1 (CONTINUED)

Name	Date Received
Mary Robson	13 February 2016
Michelle Dunn	13 February 2016
Robert Mizzi	13 February 2016
James Stone and Kelly Reynolds	14 February 2016
Denise Jansons	15 February 2016
John Ray	15 February 2016
Susan Hoffmeyer	15 February 2016
John Albert	15 February 2016
Kylie McAdam	15 February 2016
Liz Thomas	15 February 2016
Lawrence Cox — updated submission	15 February 2016
Leanne Nash	15 February 2016
Yarra Valley Water	15 February 2016
Peter and Maree Smyth	15 February 2016
Natalie Walsh	16 February 2016
Ewald and Geraldine Kaintz	16 February 2016
Bratislav Stamenovic	16 February 2016
Gerard Demaine	16 February 2016
Geoffrey Salter	16 February 2016
Barwon Water	16 February 2016
South East Water	24 February 2016
City West Water	24 February 2016