

Barwon Water Determination

1 July 2018 – 30 June 2023

19 June 2018



An appropriate citation for this paper is:

Essential Services Commission 2018, Barwon Water Determination: 1 July 2018 – 30 June 2023, 19 June

Copyright notice

© Essential Services Commission, 2018



This work, Barwon Water Determination, is licensed under a Creative Commons Attribution 4.0 licence [creativecommons.org/licenses/by/4.0/]. You are free to re-use the work under that licence, on the condition that you credit the Essential Services Commission as author, indicate if changes were made and comply with the other licence terms.

The licence does not apply to any brand logo, images or photographs within the publication.

Contents

1. General	1
1.1. Introduction	1
1.2. Application	1
1.3. Effective period	2
1.4. Modification of time periods	2
1.5. Summary and structure	2
1.6. Definitions and interpretation	2
1.7. Annexure	3
2. Price control	4
2.1. General principles	4
2.2. Ancillary matters	4
2.3. Annual adjustment of prices	5
2.4. Price changes during a billing period	7
2.5. Reporting requirements	7
3. Amendment of Schedule 2	9
4. Uncertain or unforeseen events	12
4.1. General principle	12
4.2. Consideration by the commission	12
4.3. Procedure	13
5. Material error and unintended consequences	15
Schedule 1 – Definitions and interpretation	16
A Definitions	16
B Interpretation	17
Schedule 2 – Prices	18
Schedule 3 – Application of prices	22
3.1 Vacant Lots	22
3.2 Volumetric sewerage charges	22
3.3 Trade waste categorisation	23
3.4 Contravention charges	23
3.5 Miscellaneous fees and charges	23
Schedule 4 – Pricing principles	26
4.1 Recycled water pricing principles	26
4.2 Pricing principles where scheduled prices do not apply	26
4.3 Pricing principles for New Customer Contributions (NCC)	27

Core pricing principles	27
Incremental financing costs	28
Gifted Assets	28
4.4 Pricing principles for miscellaneous services not included in Schedule 2	28
4.5 Guidelines	28
Schedule 5 – Adjustment for costs associated with annual updates to the trailing average cost of debt	29
Schedule 5A – Adjustments to prices	29
Schedule 5B – Prices	29
Formula 1: Determining the nominal cost of debt	30
Formula 2: Determining the real cost of debt	30
Formula 3: Determining the real regulatory rate of return	30
Formula 4: Trailing average cost of debt adjustment	31
Formula 5: Schedule 5A tariffs	32
Annexure A	34

1. General

1.1. Introduction

- (a) Clause 14 of the **WIRO** requires the commission to either:
- (i) approve the maximum prices the **regulated entity** may charge for **prescribed services** or the manner in which the **regulated entity's** prices are to be calculated, determined or otherwise regulated, as proposed by the **regulated entity** in its **price submission**; or
 - (ii) specify the maximum prices the **regulated entity** may charge for **prescribed services** or the manner in which the **regulated entity's** prices are to be calculated, determined or otherwise regulated.
- (b) On 13 June 2018, the commission made its decision under the **WIRO** in respect of:
- (i) the prices which Barwon Region Water Corporation (trading as Barwon Water) (ABN 86 348 316 514) (**Barwon Water**) may charge for **prescribed services** during the **regulatory period**; and
 - (ii) the standards and conditions of service and supply which **Barwon Water** has included in its **price submission**.
- (c) This Determination is made by the commission under section 33 of the **ESC Act**, pursuant to clauses 10 and 14 of the **WIRO**.
- (d) The purpose and reasons for the making of this Determination are to:
- (i) give effect to the decision of the commission referred to in clause 1.1(b)(i);
 - (ii) specify the maximum prices which **Barwon Water** may charge for **prescribed services** during the **regulatory period** or the manner in which such prices are to be calculated, determined or otherwise regulated;
 - (iii) facilitate the achievement of the commission's objectives in the **ESC Act** and the **WI Act**; and
 - (iv) reflect the requirements in the **WIRO**.
- (e) The reasons for the making of this Determination are as set out in the decision published by the commission on 19 June 2018.

1.2. Application

This Determination applies to **Barwon Water** and its successors and assigns in respect of the business carried on by **Barwon Water** at the date of this Determination.

1.3. Effective period

(a) **Term**

This Determination takes effect on the later of the date on which notice of its making is published in the Government Gazette or 1 July 2018, subject to clause 1.3(b), has effect until the earlier of the date on which it is amended or revoked by a later determination or 30 June 2023.

(b) **Next regulatory period**

Subject to clause 2.3(b)(ii), if the commission has not made a determination in respect of the prices to apply in the **next regulatory period** on or before 30 June 2023, the prices or the manner in which such prices are to be calculated or otherwise determined as set out in this Determination will continue to apply in respect of **prescribed services** provided by **Barwon Water** between 1 July 2023 and the date on which the determination for the **next regulatory period** comes into effect.

1.4. Modification of time periods

The commission may, by notice to **Barwon Water**, extend or reduce the time by which, or the period within which, **Barwon Water** or the commission must comply with an obligation under this Determination.

1.5. Summary and structure

Clause 2 of this Determination specifies the prices which will apply to **prescribed services** during the **regulatory period** and sets out the procedure and formula according to which prices may be adjusted during the **regulatory period** on an annual basis. Clauses 3, 4 and 5 provide for the circumstances in which prices may be adjusted during the **regulatory period** otherwise than in accordance with clause 2.

1.6. Definitions and interpretation

In this Determination, unless the contrary intention appears:

- (a) words and phrases in bold italics have the meanings given to them in part A of Schedule 1; and
- (b) the rules of interpretation in part B of Schedule 1 will apply.

1.7. Annexure

- (a) For convenience, Annexure A to this Determination summarises:
 - (i) the assumptions underpinning the prices to apply to **Barwon Water** during the **regulatory period** or the manner in which such prices are to be calculated, determined or otherwise regulated; and
 - (ii) the standards and conditions of services and supply additional to those specified in the **Code** which will be provided by **Barwon Water** pursuant to the decision referred to in clause 1.1(b)(ii).
- (b) For the avoidance of doubt, Annexure A does not form part of this Determination.

2. Price control

2.1. General principles

Subject to this Determination:

(a) Scheduled prices

Barwon Water must not charge more than:

- (i) the scheduled prices in Schedule 2, during the first **regulatory year**, and
- (ii) the amounts determined in accordance with clause 2.3, during each subsequent **regulatory year**,

in respect of those prescribed services to which the scheduled prices in Schedule 2 relate.

(b) Application principles

The application principles in Schedule 3 will apply to the prices charged by **Barwon Water** in respect of **prescribed services** during the **regulatory period**.

(c) Pricing principles

During the **regulatory period**, **Barwon Water** must apply the pricing principles in Schedule 4 when determining the prices to apply to the **prescribed services** to which the pricing principles in Schedule 4 relate.

2.2. Ancillary matters

(a) Contracts

Where **Barwon Water** has entered into a contract (a **relevant contract**) which relates to the provision of **prescribed services** prior to 1 July 2018, **Barwon Water** may charge the prices for **prescribed services** which are set out in that **relevant contract** until its expiration, termination or a periodic review of the prices set out in the contract. Once a **relevant contract** has expired or been terminated or the prices in a **relevant contract** have been subject to a periodic review, the scheduled prices in Schedule 2 (as adjusted in accordance with this Determination) or the prices determined in accordance with the pricing principles in Schedule 4 will apply for the remainder of the **regulatory period**.

(b) Dispute Resolution

Any question as to whether a price has been set in accordance with this Determination will be determined by the commission on the basis of the commission's interpretation of this Determination.

(c) **Publication**

Barwon Water must publish a list of its current prices and pricing principles for **prescribed services**, and all relevant supporting information that is relied upon to apply the prices or pricing principles, on its website at all times during the **regulatory period** and must provide a written copy of the list to its customers on request. The list must clearly indicate in respect of each price, the amount determined in accordance with this Determination, the amount of GST payable and the total price (in a manner consistent with the requirements of the *Competition and Consumer Act 2010* (Cth)).

(d) **GST**

Barwon Water will not be considered to be in contravention of this Determination if a price charged by it for a **prescribed service** exceeds the amount determined in accordance with clause 2 only by reason of the levying of a charge on account of **GST**.

2.3. Annual adjustment of prices

(a) **Adjustment**

(i) Subject to Schedule 2 and Schedule 5, the scheduled prices in Schedule 2 will be adjusted in each subsequent **regulatory year** in the **regulatory period** in accordance with the formula in clause 2.3(b)(i) and the procedure in clause 2.3(c), and will apply to the **prescribed services** to which the scheduled prices in Schedule 2 relate in that **regulatory year**.

(b) **Formula**

(i) Subject to Schedule 2 and Schedule 5, each price for the **prescribed services** referred to in clause 2.3(a) will be adjusted in accordance with the following formula with effect from the beginning of each subsequent **regulatory year** in the **regulatory period**:

$$p_t = p_{t-1} \times \frac{CPI_t}{CPI_{t-1}} \times (1 + PPM_t)$$

where:

p_t is the price component for **regulatory year** 't'

p_{t-1} is the price component for **regulatory year** 't-1'

$\frac{CPI_t}{CPI_{t-1}}$ for the particular **regulatory year** is:
the Consumer Price Index: All Groups Index for the Eight Capital Cities as published by the Australian Bureau of Statistics for the March quarter immediately preceding the start of the relevant **regulatory year**

divided by

the Consumer Price Index: All Groups Index for the Eight Capital Cities as published by the Australian Bureau of Statistics for the March quarter immediately preceding the March quarter referred to above

PPM_t is the prescribed price movement for the price component for **regulatory year** t determined in accordance with Schedule 2.

- (ii) If the commission has not made a determination in respect of the prices to apply in the **next regulatory period** on or before 30 June 2023, PPM_t will be set equal to zero for the purpose of adjusting prices in accordance with the formula in clause 2.3(b)(i) for **regulatory years** commencing on or after 1 July 2023 until the date on which this determination is amended or revoked by a later determination.

(c) Adjustment procedure

- (i) At least 30 **business days** prior to the commencement of each subsequent **regulatory year** in the **regulatory period**, **Barwon Water** must submit its proposed prices for the **prescribed services** referred to in clause 2.3(a) to apply in that subsequent **regulatory year** (the **revised scheduled prices**) to the commission for approval, together with sufficient information to enable the commission to assess whether the proposed prices comply with this Determination.
- (ii) The commission will approve the **revised scheduled prices** if it considers that they have been calculated in accordance with the formula set out in clause 2.3(b)(i).
- (iii) The commission will be deemed to have approved the **revised scheduled prices** if it has not provided notice under clause 2.3(c)(iv) to **Barwon Water** within 20 **business days** from the date of its receipt of the **revised scheduled prices**.
- (iv) If the commission does not approve the **revised scheduled prices**, the commission:

- (A) will provide notice to **Barwon Water** (including a statement of its reasons);
- (B) may request **Barwon Water** to provide any additional information specified by the commission;
- (C) will take any additional information provided by **Barwon Water** into account; and
- (D) will determine the **revised scheduled prices**.

2.4. Price changes during a billing period

(a) Application of this clause

This clause 2.4 applies where **Barwon Water** issues an invoice in respect of a billing period during which a change to any price for a **prescribed service** comes into effect in accordance with this Determination.

(b) Method of charging

Barwon Water must not charge the prices determined in accordance with this Determination in respect of any part of a billing period prior to the effective date of the change, but may charge for **prescribed services** in respect of the periods before and after the effective date of the change at the prices applicable for each of those periods on a pro-rata basis.

2.5. Reporting requirements

- (a) **Barwon Water** must make available to the commission all information reasonably requested by the commission from time to time for the purpose of enabling it to confirm that **Barwon Water** is complying with this Determination.
- (b) Without limiting clause 2.5(a), if, during the **regulatory period**, **Barwon Water** enters into a **new contract** which relates to the provision of a **prescribed service** to which the pricing principles in Schedule 4 relate, **Barwon Water** must, within 30 **business days** of the date of the **new contract**, on request provide the commission with a notice specifying:
 - (i) details of the **new contract**; and
 - (ii) information which demonstrates the way in which the prices in the **new contract** reflect the relevant pricing principles.

- (c) Without limiting clause 2.5(a), if **Barwon Water** proposes to stop providing a **prescribed service** or refuses to provide a **prescribed service** to a customer, or potential customer, during the **regulatory period**, it must:
- (i) in the case of a proposal to stop providing a **prescribed service**, provide a notice to the commission stating the nature of the **prescribed service** which it proposes to stop providing and the reason why it proposes to stop providing the **prescribed service**. This notice must be provided at least 30 **business days** prior to the date upon which **Barwon Water** proposes to stop providing the **prescribed service**; and
 - (ii) in the case of a refusal to provide a **prescribed service** to a customer, or potential customer, **Barwon Water** must provide a notice to the commission within 5 **business days** of the refusal, stating the nature of the **prescribed service** and the reason for the refusal.

3. Amendment of Schedule 2

(a) **Amendment**

- (i) **Barwon Water** may apply to the commission in accordance with this clause 3 and Schedule 5 for the amendment of the prescribed price movements and/or price components included in Schedule 2 for the following **regulatory year** (the **relevant regulatory year**) and all subsequent **regulatory years** remaining in the **regulatory period** (the **revised tariff schedule**).
- (ii) The average price movement for the **relevant regulatory year** and for each subsequent **regulatory year** in the **regulatory period** determined in accordance with the **revised tariff schedule** must not exceed the weighted average price movement that would otherwise have applied under this Determination as calculated in accordance with the following formula.

$$\frac{\sum_{i=1}^n \sum_{j=1}^m p_t^{ij} q_{t-2}^{ij}}{\sum_{i=1}^n \sum_{j=1}^m p_{t-1}^{ij} q_{t-2}^{ij}} \geq \frac{\sum_{i=1}^n \sum_{j=1}^m ap_t^{ij} q_{t-2}^{ij}}{\sum_{i=1}^n \sum_{j=1}^m p_{t-1}^{ij} q_{t-2}^{ij}}, i = 1, \dots, n; j = 1 \dots m$$

where **Barwon Water** has n tariff categories, which each have up to m tariff components, and where, for each **regulatory year** t for which the calculation is undertaken:

p_{t-1}^{ij} is the tariff charged in **regulatory year** $t-1$ for component j of tariff i

p_t^{ij} is the proposed tariff for component j of tariff i determined in accordance with Schedule 2 where the **revised tariff schedule** is not applied

ap_t^{ij} is the proposed tariff for component j of tariff i determined in accordance with Schedule 2 where the **revised tariff schedule** is applied

q_{t-2}^{ij} is the quantity of component j of tariff i that was sold in **regulatory year** $t-2$, or, if an actual quantity is not available, either an estimate of the quantity of component j of tariff i that would have been sold in **regulatory year** $t-2$ or a forecast of the quantity of component j of tariff i that is expected to be sold in **regulatory year** $t-2$

(b) Amendment procedure

- (i) An application by **Barwon Water** under this clause 3 must be received by the commission at least 80 **business days** prior to the commencement of the **relevant regulatory year** and must be accompanied by the following information:
- (A) (1) a clearly articulated new tariff strategy that is consistent with clause 11 of the **WIRO** (the **revised tariff strategy**); or
 - (2) an explanation of how the **revised tariff schedule** is consistent with the tariff strategy for **Barwon Water** approved by the commission in connection with this Determination, (**the relevant tariff strategy**);
 - (B) a **revised tariff schedule** that specifies proposed prices for the **relevant regulatory year** and prescribed price movements for each subsequent **regulatory year** in the **regulatory period** that is consistent with the **relevant tariff strategy**;
 - (C) a statement setting out evidence demonstrating that **Barwon Water** has provided information to its customers explaining the **revised tariff schedule** and how it relates to the **relevant tariff strategy** and has consulted effectively with its customers on the **revised tariff strategy** (if clause 3(b)(i)(A)(1) applies) and the **revised tariff schedule**;
 - (D) a statement setting out the customer impacts resulting from the **revised tariff schedule** and actions proposed by **Barwon Water** to address these customer impacts; and
 - (E) an explanation of the calculation of the relevant quantities " q_{t-2}^{ij} ".
- (ii) The commission may approve the **revised tariff schedule** submitted by **Barwon Water** under this clause 3 if it is satisfied that:
- (A) **Barwon Water** has complied with clause 3(b)(i)(A);
 - (B) the price movements calculated in accordance with the **revised tariff schedule** comply with clause 3(a)(ii);
 - (C) the **revised tariff schedule** is consistent with the **relevant tariff strategy**;
 - (D) **Barwon Water** has consulted effectively with its customers on the **revised tariff strategy** (if clause 3(b)(i)(A)(1) applies) and the **revised tariff schedule**;
 - (E) **Barwon Water** has effectively addressed customer impacts resulting from the **revised tariff schedule**; and
 - (F) the basis for calculating the relevant quantities " q_{t-2}^{ij} " is reasonable.

- (iii) In determining whether it will approve the **revised tariff schedule**, the commission may request **Barwon Water** to provide any additional information specified by the commission and/or to resubmit any of the matters in clause 3(b)(i)(A)-(E).
- (iv) The commission will be deemed to have not approved a **revised tariff schedule** if it has not provided notice to **Barwon Water** within 40 **business days** from the date of its receipt of **Barwon Water's** application under this clause 3.
- (v) An approved **revised tariff schedule** will be taken to amend Schedule 2 to the extent of any inconsistency.

4. Uncertain or unforeseen events

4.1. General principle

- (a) **Barwon Water** may apply to the commission for the amendment of this Determination and/or the adjustment of the scheduled prices in Schedule 2 to reflect increased or decreased costs incurred by **Barwon Water** and/or increased or decreased revenue received by **Barwon Water** as a result of events which were uncertain or unforeseen at the time this Determination was made (an **uncertain events application**).
- (b) Whether or not **Barwon Water** makes an application under clause 4.1(a), **Barwon Water** must promptly notify the commission upon becoming aware of an event which could form part or all of the basis of an application.
- (c) The commission may take action under clause 4.3(b) in respect of an **uncertain events application** where the commission is satisfied that such action is necessary or desirable to take account of events that were uncertain or unforeseen at the time of making this Determination provided that the commission is satisfied that such action takes into account the interests of customers. Generally the matters taken into account will include positive and negative influences on revenue and expenditure. The Commission may limit an adjustment to only some events or a single event.

4.2. Consideration by the commission

(a) Examples of uncertain and unforeseen events

The matters that may, at the discretion of the commission, be taken into account by the commission under this clause 4 include:

- (i) actual licence fees or contributions payable by **Barwon Water** during a particular **regulatory year** during the **regulatory period** under section 51 of the *Safe Drinking Water Act 2003* (Vic), section 24 of the *Environment Protection Act 1970* (Vic) and section 4H(2) of the **WI Act** which differ from the forecast licence fees or contributions set out in Annexure A for that **regulatory year**;
- (ii) changes in the timing or scope of expenditure by **Barwon Water** on major capital projects;
- (iii) instances where the commission is satisfied that there is a material difference between the forecast demand levels set out in Annexure A and

actual demand levels for **Barwon Water** in one or more **regulatory years** during the **regulatory period**; and

- (iv) a change in or to any of the following:
 - (A) the **WI Act**, the *Water Act 1989* (Vic), the *Safe Drinking Water Act 2003* (Vic), the *State Owned Enterprises Act 1992* (Vic) and the *Environment Protection Act 1970* (Vic);
 - (B) any licence issued pursuant to any of the Acts referred to in clause 4.2(a)(iv)(A);
 - (C) a **relevant tax**; or
 - (D) the Statement of Obligations; or
 - (E) the introduction or cessation of a statutory carbon price or tax or a national emissions trading scheme or other scheme relating to the reduction of greenhouse gas emissions.

(b) Exclusions

In considering an **uncertain events application**, the commission will not take into account matters that:

- (i) are or should be within **Barwon Water's** control;
- (ii) were or should have been known by **Barwon Water** at the time the Determination was made;
- (iii) could reasonably have been foreseen by **Barwon Water**;
- (iv) should be or should have been planned for or managed by **Barwon Water**, and/or
- (v) reflect inefficient expenditure by **Barwon Water**.

(c) Dispute resolution

Any question as to whether a matter should be taken into account by the commission under this clause 4 will be determined by the commission in its absolute discretion.

4.3. Procedure

(a) Application process

- (i) An **uncertain events application** must be accompanied by a statement setting out:
 - (A) the details of each relevant uncertain or unforeseen event;
 - (B) the amount and timing of any increase or decrease in operating and/or capital expenditure associated with the relevant event during

the **regulatory period** and/or the amount and timing of any increase or decrease in revenue associated with the relevant event during the **regulatory period**;

- (C) the basis for calculating the increase or decrease in operating and/or capital expenditure and/or revenue referred to in clause 4.3(a)(i)(B); and
 - (D) details of the proposed action to be taken by the commission under clause 4.3(b).
- (ii) The commission may identify an event or events which it considers has had or may have a material impact on **Barwon Water's** operating and/or capital expenditure and/or revenue and may decide to take action under clause 4.3(b) in the absence of an **uncertain events application** by **Barwon Water**.
 - (iii) The commission may request **Barwon Water** to provide any additional information specified by the commission in connection with an **uncertain events application**.

(b) Action by the commission

If the commission is satisfied of the matters set out in clause 4.1(c) in respect of an **uncertain events application** or an event identified by the commission under clause 4.3(a)(ii), the commission may, in its absolute discretion:

- (i) amend this Determination or adjust the scheduled prices in Schedule 2 and/or the revenue requirements in Annexure A with effect from a date and in a manner decided by the commission (in respect of one or more events) at a time decided by the commission; or
- (ii) take the **uncertain events application** into account in making its determination in respect of the prices which **Barwon Water** may charge for **prescribed services** in the **next regulatory period**.

5. Material error and unintended consequences

Where the commission is satisfied that in any material respect:

- (a) this Determination or any information relied upon in the making of this Determination contains an error, deficiency or miscalculation;
- (b) any information on which this Determination was based was false or misleading in a material respect; or
- (c) such amendment or adjustment is necessary or desirable to avoid an unintended consequence of this Determination,

the commission may decide to amend this Determination and/or specify a price adjustment, provided that it is satisfied that such amendment and/or price adjustment takes into account the interests of customers.

In most cases, any amendment will be undertaken in accordance with the commission's standard consultation process for price determinations, including the issue of a draft decision and an invitation for interested parties to make submissions to the commission in relation to the draft decision, as set out in clause 16(a) and (b) of the WIRO.

In some limited circumstances, the commission may amend this Determination without further consultation, or with only limited consultation. This will be the case where an amendment is not sufficiently material to warrant a full consultation process, or where there is urgency that justifies the commission moving quickly, as set out in clause 16(c) of the WIRO. In these circumstances, the commission will provide its reasons for proceeding with the amendment without consultation (or with a modified consultation process).

Schedule 1 – Definitions and interpretation

A Definitions

business day means a day on which banks are open for general banking business in Melbourne, not being a Saturday or a Sunday.

Code means the applicable *Customer Service Code* made under the **WI Act**.

ESC Act means the *Essential Services Commission Act 2001* (Vic).

GST has the meaning given in section 195-1 of the *A New Tax System (Goods and Services) Tax Act 1999* (Cth).

miscellaneous services means services that are provided in direct connection with **prescribed services**, prices in respect of which are either included in Schedule 2 or determined in accordance with the relevant pricing principles in Schedule 4.

new contract means any contract for **prescribed services** which is renewed, renegotiated or entered into during the **regulatory period**.

next regulatory period means the period commencing on 1 July 2023 and ending on a date specified by the commission.

prescribed services has the meaning given in the **WIRO** and includes **miscellaneous services**.

price submission has the meaning given in the **WIRO**.

regulated entity has the meaning given in the **WIRO**.

regulatory period means the period commencing on 1 July 2018 and ending on 30 June 2023.

regulatory year means each period of twelve months commencing on 1 July and ending on 30 June.

relevant contract means a contract which relates to the provision of **prescribed services**.

relevant tax means any tax imposed by or payable directly or indirectly to any government or public authority in the Commonwealth of Australia (including **GST**) but excluding:

- (a) the licence fees referred to in clause 4.2 of this Determination;
- (b) penalties and interest for late payment of any tax; or
- (c) any tax that replaces any of the taxes referred to in (a) and (b), where tax includes any rate, duty, charge or other like or analogous impost.

WI Act means the *Water Industry Act 1994* (Vic).

WIRO means the Water Industry Regulatory Order 2014 as at the date of this Determination.

B Interpretation

Headings are for convenience only and do not affect interpretation. The following rules apply unless the context requires otherwise.

- (a) The singular includes the plural, and the converse also applies.
- (b) If a word or phrase is defined, its other grammatical forms have a corresponding meaning.
- (c) A reference to a person includes a corporation, trust, partnership, unincorporated body or other entity, whether or not it comprises a separate legal entity.
- (d) A reference to a clause or schedule is a reference to a clause of or schedule to this document.
- (e) A reference to a determination, agreement or document (including a reference to this document) is to the agreement or document as amended, supplemented, novated or replaced, except to the extent prohibited by this document or that other agreement or document.
- (f) A reference to an Act, ordinance, code or other law includes regulations and other instruments under it and consolidations, amendments, re-enactments or replacements of any of them.
- (g) If a period of time is specified and commences on a given day or on a day of an act or event, the period of time is to be calculated inclusive of that day.
- (h) Any “notice” to be given or matter to be “notified” must be in writing.
- (i) The symbol ‘ Σ ’ requires a summation to be performed over the range of variables specified in respect of the algebraic terms specified.
- (j) All data which is utilised in calculations made under this Determination will be utilised to the accuracy, in terms of the number of decimal places, to which it is given.
- (k) A fixed price, charge or fee determined in accordance with this Determination is to be rounded down and specified to two decimal places.
- (l) A volumetric price, charge or fee determined in accordance with this Determination is to be rounded down and specified to four decimal places.
- (m) When a calculation is required under this document:
 - (i) **regulatory year** ‘t’ is the **regulatory year** in respect of which the calculation is being made;
 - (ii) **regulatory year** ‘t-1’ is the **regulatory year** immediately preceding **regulatory year** ‘t’;
 - (iii) **regulatory year** ‘t-2’ is the **regulatory year** immediately preceding **regulatory year** ‘t-1’.

Schedule 2 – Prices

This schedule should be read in conjunction with Schedule 3, Schedule 4 and Schedule 5. Variable water, sewerage, recycled water and trade waste charges are rounded down to 4 decimal places. All other charges are rounded down to 2 decimal places.

Tariff and Price Component	Price (1 July 2018)	PPM Year 2	PPM Year 3	PPM Year 4	PPM Year 5
1.1 Residential water tariff					
Service Charge (per annum)	154.58	-3.4%	-3.7%	-4.3%	-5.2%
Volumetric Charge (per kL)	1.9198	3.0%	2.9%	2.9%	2.8%
1.2 Non-residential water tariff					
Service Charge (per annum)	174.96	-7.1%	-7.1%	-7.1%	-7.1%
Volumetric Charge (per kL)	2.3020	-1.7%	-1.7%	-1.7%	-1.7%
1.3 Residential sewerage tariff					
Service Charge (per annum)	563.58	0.0%	0.0%	0.0%	0.0%
1.4 Non-residential sewerage tariff					
Service Charge (per annum)	341.00	0.0%	0.0%	0.0%	0.0%
Volumetric Charge (per kL)	1.9131	0.0%	0.0%	0.0%	0.0%
1.5 Residential & non-residential fire tariff					
Service Charge (per annum)	246.99	0.0%	0.0%	0.0%	0.0%
1.6 Residential & non-residential Recycled Water - Class A tariff					
Volumetric Charge (per kL) – residential	1.3438	3.0%	2.9%	2.9%	2.8%
Volumetric Charge (per kL) – non-residential	1.6114	-1.7%	-1.7%	-1.7%	-1.7%
1.7 Non-residential Recycled Water Volumetric Charge – Class C gate tariff					
Black Rock (per ML)	395.26	0.0%	0.0%	0.0%	0.0%
Black Rock take-or-pay (per ML)	305.70	0.0%	0.0%	0.0%	0.0%
Portarlington (per ML)	233.68	0.0%	0.0%	0.0%	0.0%
Winchelsea (per ML)	233.68	0.0%	0.0%	0.0%	0.0%

Tariff and Price Component	Price (1 July 2018)	PPM Year 2	PPM Year 3	PPM Year 4	PPM Year 5
Anglesea (per ML)	99.13	0.0%	0.0%	0.0%	0.0%
Apollo Bay (per ML)	99.1331	0.0%	0.0%	0.0%	0.0%
1.8 Geelong region – Trade waste tariffs					
Trade waste Volume Charge	1.9131	0.0%	0.0%	0.0%	0.0%
COD Charge > 1200mg/l	0.2710	0.0%	0.0%	0.0%	0.0%
SS Charge > 500mg/l	0.2027	0.0%	0.0%	0.0%	0.0%
TKN Charge > 60mg/l	1.1831	0.0%	0.0%	0.0%	0.0%
Sulphur > 50mg/l	1.2931	0.0%	0.0%	0.0%	0.0%
1.9 Colac region – Trade waste tariffs					
Trade waste Volume Charge	1.9131	0.0%	0.0%	0.0%	0.0%
COD Charge > 1200mg/l	0.4708	0.0%	0.0%	0.0%	0.0%
SS Charge > 500mg/l	0.2737	0.0%	0.0%	0.0%	0.0%
TKN Charge > 60mg/l	1.4248	0.0%	0.0%	0.0%	0.0%
Phosphorus > 14mg/l	3.3423	0.0%	0.0%	0.0%	0.0%
1.10 Application Fees					
Trade waste permit (per application)	146.43	0.0%	0.0%	0.0%	0.0%
Trade waste agreement (per application)	528.81	0.0%	0.0%	0.0%	0.0%
1.11 Annual Fee (per annum)					
Category 5 – Very high risk	2440.92	0.0%	0.0%	0.0%	0.0%
Category 4 – High risk	981.24	0.0%	0.0%	0.0%	0.0%
Category 3 – Moderate risk	442.57	0.0%	0.0%	0.0%	0.0%
Category 2 – Low risk	250.56	0.0%	0.0%	0.0%	0.0%
Category 1– Very low risk	187.07	0.0%	0.0%	0.0%	0.0%
1.12 Re-Sampling & Analysis of Non-Compliant Trade Waste (per item)					
	366.07	0.0%	0.0%	0.0%	0.0%
1.13 Asset Protection Fee (per item)					
	1248.08	0.0%	0.0%	0.0%	0.0%
1.14 Reassessment of Risk Ranking (per reassessment)					
	162.68	0.0%	0.0%	0.0%	0.0%

Tariff and Price Component	Price (1 July 2018)	PPM Year 2	PPM Year 3	PPM Year 4	PPM Year 5
1.15 Contravention Charges (per contravention)					
Unpermitted discharge – category 1	813.59	0.0%	0.0%	0.0%	0.0%
Unpermitted discharge – categories 2-5	1627.24	0.0%	0.0%	0.0%	0.0%
Reporting violation – category 1	325.39	0.0%	0.0%	0.0%	0.0%
Reporting violation – categories 2-5	813.59	0.0%	0.0%	0.0%	0.0%
Monitoring violation – category 1	325.39	0.0%	0.0%	0.0%	0.0%
Monitoring violation – categories 2-5	650.86	0.0%	0.0%	0.0%	0.0%
Discharge violation – type 1, category 1	813.59	0.0%	0.0%	0.0%	0.0%
Discharge violation – type 1, categories 2-5	1627.24	0.0%	0.0%	0.0%	0.0%
Discharge violation – type 2, category 1	406.78	0.0%	0.0%	0.0%	0.0%
Discharge violation – type 2, categories 2-5	813.59	0.0%	0.0%	0.0%	0.0%
Treatment violation – category 1	406.78	0.0%	0.0%	0.0%	0.0%
Treatment violation – categories 2-5	813.59	0.0%	0.0%	0.0%	0.0%
1.16 New Customer Contributions (per lot)					
Water (incl. Recycled Water) - greenfield	3042.22	0.0%	0.0%	0.0%	0.0%
Water (incl. Recycled Water) - infill	613.55	0.0%	0.0%	0.0%	0.0%
1.17 Water by Agreement – customers not in a declared service area					
Untreated water – service charge (70 per cent of water service charge) per annum	108.20	-3.4%	-3.7%	-4.3%	-5.2%
Untreated water – volume charge (70 per cent of water volume charge) per kL	1.3438	3.0%	2.9%	2.8%	2.8%
Treated water – service charge (85 per cent of water service charge) per annum	131.39	-3.4%	-3.7%	-4.3%	-5.2%
Treated water – volume charge (parity with water volume charge) per kL	1.9198	3.0%	2.9%	2.9%	2.8%
1.18 Miscellaneous fees and charges					
Information Statement	26.16	0.0%	0.0%	0.0%	0.0%
Meter Reading (per reading)					
Tenant Meter Read	28.64	0.0%	0.0%	0.0%	0.0%
Special Meter Read	13.75	0.0%	0.0%	0.0%	0.0%
Sewer Application (per application)					
New sewer connection	104.32	0.0%	0.0%	0.0%	0.0%
Amended sewer connection	96.52	0.0%	0.0%	0.0%	0.0%

Tariff and Price Component	Price (1 July 2018)	PPM Year 2	PPM Year 3	PPM Year 4	PPM Year 5
Supply of Meter & Assembly (recycled) in a Dual Pipe area	305.16	0.0%	0.0%	0.0%	0.0%
Metered Hydrants					
Metered Hydrant Yearly service charge	1,132.55	0.0%	0.0%	0.0%	0.0%
Portable Metered Hydrant Security deposit 65mm	470.80	0.0%	0.0%	0.0%	0.0%
Portable Metered Hydrant security deposit 25mm	195.92	0.0%	0.0%	0.0%	0.0%
Installation of Recycled meter in Dual Pipe area	236.41	0.0%	0.0%	0.0%	0.0%
Supply of Meter & Assembly (potable) in Dual Pipe area	252.30	0.0%	0.0%	0.0%	0.0%
Installation of Potable meter in Dual Pipe area	214.07	0.0%	0.0%	0.0%	0.0%
Mandatory inspection of Dual pipe recycled water residential	146.59	0.0%	0.0%	0.0%	0.0%
Non-core miscellaneous services	Actual cost				

As set out in clause 1.1(d) of this Determination, the role of the Commission in making this Determination is limited to specifying the maximum prices that **Barwon Water** may charge for **prescribed services** during the **regulatory period**, or the manner in which such prices are to be calculated, determined or otherwise regulated.

It is the role of **Barwon Water** to apply a tariff in accordance with the **Water Act 1989 (Vic)**. The Commission does not have a role in hearing disputes about individual billing issues that users may have.

Schedule 3 – Application of prices

3.1 Vacant Lots

Barwon Water does not charge vacant lots.

3.2 Volumetric sewerage charges

Volumetric sewerage charges are not levied on residential customers.

For non-residential properties, the sewer volume is calculated by multiplying the water volume by the designated discharge factor for that property description, as set out in the table below.

0%	25%	50%	80%
BI – Bridge	BG – Bowling Green/Croquet Club	AF – Airfield	AS – Ambulance Station
BW – Barwon Water Property	BS – Boat Shed	CP – Caravan Park/Camping Ground	BB – Bed & Breakfast/Guesthouse
DF – Drinking Fountain	CE – Cemetery	FM – Farms/Animal Husbandry	CH – Church
DI – Deleted Inst. – DOMR	MG - Market Garden	HR – Horse Stables & House	CO – Community Centre
DL – Deleted Inst - NOND	PN – Plant Nursery	SC – School	CS – Cool Store-Ice Works
DR - Drainage Reserve	RC – Racecourse	SW – Swimming Pool	DH – Doctors Surgery & House
FV – Farms/Vacant	SG – Sporting/Recreation Ground	YC – Yacht Club	FS – Fire Station
GC – Golf Course	SN – Show Grounds		GM - Mini Golf
IN – Incinerator			HL – Hostel
LA – Vacant Land			HY – Holiday Complex
LN – Vacant Land - Comm			IN – Incinerator
MP – Municipal Pound			KE – Boarding Kennels/Animal Hospital
MS – Median Strip			KG – Kindergarten
OS – Public Open Spaces			PS – Police Station
PG –Parks & Gardens/Reserves			PU – Public Utility
PL – Playground			SD – Shop & Dwelling
PM – Private Main			TT – Trotting Track
PT – Plantation			WR – Workshop/Residence
RB – Roundabout			
SP – Standpipe			
SX – Shower – Public			
TC – Tennis Court			
TI – Tip			
TP – Temporary Tapping			
TR – Trough			
WA – Walkway - Public			
WF – Wharf			

90%	95%	95%
GA - Gaol	AB - Abattoir	NH - Nursing Home
HF – House & Flat	AG - Art Gallery	OF - Office

90%	95%	95%
RS - Railway Station	AQ - Aquarium	PA - Pavilion
TO – Townhouse	BD - Briquette Depot	PB - Panel Beating Shop
UT - Unit	BH - Bakehouse	PC – Public Convenience
	BK - Bank	PK - Car Park
	BR - Brewery	PO - Post Office
	BT - Bus Depot	PP - Photographic Processor.
	CL – Club	PW - Printing Works
	CN – Body Corporate - NOND	RD - Recycle Centre
	CW - Car Wash/Truck Wash	RE - Restaurant
	DC – Depot	RF – Refinery
	DP - Depot Private	RM - Rooms
	DS – Doctors/Dentist Surgery	RY - Railway Yard
	DY – Dairy	SA - Sale Yards
	FA – Factory	SF – Surf Life Saving Club
	FP - Food Processing	SH - Shop
	FU - Funeral Parlour	SI - Signal Station
	HA - Hall – Public/Church/Private	SL – Shed – Commercial
	HC - Health Centre	SM – Supermarket
	HG – House with garden meter	SR – Showroom
	HS - Hospital Public/Private	SS - Service Station
	HT – Hotel/ Motel	SU - Sub Station
	IT – Indoor Sports Centre/Gymnasium	SY - Store Yard
	IX - Mixed Industry	TE – Telephone Exchange
	KN – Knackery	TH – Theatre
	LB – Laboratory	TY - Timber Yard
	LG - Licensed Grocery	VS - Veterinary Surgery
	LI - Library	WH - Warehouse
	LY – Laundry	WK - Workshop
	ML – Mill	WL – Wool Processing
	MM – Museum	WM - Woollen Mill
	MU - Massage Studio	WY - Wrecking Yard
	NC - Night Club	

3.3 Trade waste categorisation

Barwon Water will categorise each trade waste customer into one of 5 different risk management categories according to the trade waste volume produced, the goods and chemicals stored/used on site, the customer’s compliance records and the characteristics of the effluent.

3.4 Contravention charges

A type 1 discharge contravention occurs where a company deliberately dilutes their trade waste flow to reduce the likelihood of a non-compliance. A type 2 discharge contraventions is where a customer has not remedied a specific non-compliance.

3.5 Miscellaneous fees and charges

The following table sets out the definitions of the miscellaneous charges contained in Schedule 2.

Miscellaneous service	Definition
Information statement	Information statements are certificates issued by Barwon Water that provide rate and encumbrance information to solicitors or conveyances. When the sale of a property occurs, we receive a request from the conveyance or solicitor representing the purchaser asking Barwon Water to provide the most current information about charges outstanding and the relevant encumbrances on the property. The solicitors and conveyances then use the information at settlement of the property to adjust charges between the vendor and purchaser. Provision of a property information statement as required under section 158 of the <i>Water Act 1989</i> .
Sewer Application Fee - New (includes block plan charge)	Assessment of customer application to connect a new installation to Barwon Water assets. Upon approval of application, Consent to Connect is issued. (Note, different fees for residential and commercial customers, not a core charge however).
Sewer Application Fee - Alteration and repair	Assessment of customer application to alter or repair existing house connection drains. Upon approval of application. Consent to Connect is issued.
Tenancy meter reading	This fee is charged to the landlord/owner for each new tenancy. It covers both the cost to read the meter on occupancy and again when the tenant vacates, and includes the cost involved in setting up a separate account for each tenant.
Special meter reading	When the sale of a property occurs a special meter reading needs to be applied for. This is used to calculate the charges that are due at the time of settlement.
Supply of Meter & Assembly (recycled) in a Dual Pipe area	Provide meter assembly, inclusive of stop tap and garden tap, Provide 20mm recycled water meter.
Metered Hydrant Yearly service charge – FHYW	Applicable to customers entering into a hiring agreement with Barwon Water for the provision and maintenance of a device (Smartpipe) that allows for connection to approved water extraction points. The charge is applied on a prorate basis depending on the period of the hire and typically billed quarterly.
Portable Metered Hydrant Security deposit 65mm - FHLB	A fee payable at the time of hire of a Smartpipe that is held as security against loss, theft or damage to the device. Upon return of the device, and on the basis of no damage (or damage repairs paid for separately) the residual or full value of the security is refunded. This particular charge is used to secure security for a 65mm Smartpipe (one of two sizes available)
Portable Metered Hydrant security deposit 25mm - FHSB	A fee payable at the time of hire of a Smartpipe that is held as security against loss, theft or damage to the device. Upon return of the device, and on the basis of no damage (or damage repairs paid for separately) the residual or full value of the security is refunded. This particular charge is used to secure security for a 25mm Smartpipe (one of two sizes available)

Miscellaneous service	Definition
Installation of Recycled meter in Dual Pipe area	This fee includes the installation of a 20mm recycled water meter. Connection to recycled water is subject to satisfactory completion of Stage 3 mandatory inspection by a contracted recycle water plumber to meet the hems agreement and to limit cross connection from the main.
Supply of Meter & Assembly (potable) in Dual Pipe area	This fee includes the provision of a meter assembly, inclusive of stop tap and garden tap and a 20mm potable water meter.
Installation of Potable meter in Dual Pipe area	This fee includes the installation of a 20mm potable water meter and connection to potable water services. Installed by recycled water contractor to limit cross connection from the main.
Mandatory inspection of Dual pipe recycled water residential (per inspection)	This fee includes an inspection of internal pipe work to ensure there is no cross connection of recycled and potable water. Inspection is required after all plumbing work is complete but before building is occupied and any completion certificate has been lodged. Referred to as Stage 3 (Final). (internal water connections)

Schedule 4 – Pricing principles

4.1 Recycled water pricing principles

Recycled water prices should be set so as to:

- have regard to the price of any substitutes and customers' willingness to pay;
- cover the full cost of providing the service (with the exception of services related to specified obligations or maintaining balance of supply and demand); and
- include a variable component.

Where **Barwon Water** does not propose to fully recover the costs associated with recycled water, it must demonstrate to the commission that:

- it has assessed the costs and benefits of pursuing the recycled water project;
- it has clearly identified the basis on which any revenue shortfall is to be recovered; and
- if the revenue shortfall is to be recovered from non-recycled water customers, either the project is required under the Statement of Obligations which applies to **Barwon Water** or pursuant to other government policies that apply to **Barwon Water** or there has been consultation with the affected customers about their willingness to pay for the benefits of increased recycling.

4.2 Pricing principles where scheduled prices do not apply

Where the prices set out in Schedule 2 do not apply because the nature of the service provided to a particular customer (including, in the case of trade waste customers, the volume or load of waste treated) is unique, prices must be set as follows:

- variable prices (including, in the case of trade waste customers, load-based charges) should reflect the long run marginal cost of providing services (including, in the case of trade waste customers, trade waste transfer, treatment and disposal);
- the total revenue received from each customer should be greater than the cost that would be avoided from ceasing to serve that customer, and (subject to meeting avoidable cost) less than the stand alone cost of providing the service to the customer in the most efficient manner;
- the methodology used to allocate common and fixed costs to that customer should be clearly articulated and be consistent with any guidance provided by the commission;
- prices should reflect reasonable assumptions regarding the customer's demand for services (including, in the case of trade waste customers, the volume and strength of trade waste anticipated to be produced by that customer);
- depreciation rates and rates of return used to determine prices should be consistent with those adopted by the commission for the purposes of making this Determination;

- customers should be provided with full details of the manner in which prices have been calculated and any new, renewed or renegotiated contractual agreements with customers should indicate that the prices to apply are subject to any Determination made by the commission;
- where applying these principles results in significant changes to prices or tariff structures, arrangements for phasing in the changes may be considered and any transitional arrangements should be clearly articulated.

4.3 Pricing principles for New Customer Contributions (NCC)

Core pricing principles

NCC, including standard or negotiated NCC, will be calculated by applying the following core NCC pricing principles.

Standard and negotiated NCC will:

- have regard to the incremental infrastructure and associated costs in one or more of the statutory cost categories attributable to a given connection;
- have regard to the incremental future revenues that will be earned from customers at that connection;
- be greater than the avoidable cost of that connection and less than the standalone cost of that connection.

Notes:

1. Given that NCC are to be based on the net incremental cost of connection (ie incremental costs net of incremental benefits), in this context, the costs referred to in the efficient pricing bound are the net costs, specifically the avoidable net cost of connection and standalone net cost of connection.
2. Where the connection arrangement requires assets to be gifted, the value of gifted assets will be excluded for the purpose of calculating net costs.
3. Incremental costs may include financing costs associated with constructing an asset sooner than planned.

Incremental financing costs

Incremental financing costs (IFC) should be calculated using this formula:

$$\text{IFC} = \left(1 - \left[\frac{1}{(1+r)^n}\right]\right) \times \text{cost of capital being provided sooner than planned}$$

where:

r estimated pre-tax regulatory rate of return

n the number of years the asset is required sooner than planned.

Gifted Assets

Barwon Water can require developers to provide and gift to **Barwon Water** specified assets as a condition of connection, provided that **Barwon Water**:

- makes clear to potential developers which assets a developer will be responsible for providing and gifting, and which will be provided by **Barwon Water**;
- confirms that negotiation of any non-standard connection and associated charges will be undertaken in accordance with **Barwon Water's** published negotiating framework; and
- the value of gifted assets will be excluded for the purposes of calculating net costs.

4.4 Pricing principles for miscellaneous services not included in Schedule 2

Prices for miscellaneous services must be set according to actual cost calculated on the basis of the aggregate of:

- direct third party or contractor invoice cost;
- direct marginal internal costs, including labour, materials and transport costs; and
- a fair contribution to overheads.

For bank dishonour, debt collection and legal fees, the third party costs must be charged directly to the customer with no contribution for internal costs or a contribution to overheads.

4.5 Guidelines

Barwon Water must comply with any guidelines issued by the commission from time to time which relate to the setting of prices for **prescribed services** to which Schedule 4 relates.

Schedule 5 – Adjustment for costs associated with annual updates to the trailing average cost of debt

If in any **regulatory year** Condition A applies, the formula set out in clause 2.3(b) is not applicable to the extent it relates to the prices outlined in Schedule 5A. These prices are set out in items 1.1 to 1.4, 1.6 and 1.17 of Schedule 2.

Instead the prices above will be adjusted in accordance with the formulas (as applicable) provided below, with effect from the beginning of each subsequent **regulatory year** in the **regulatory period**.

Barwon Water must comply with any guidance issued by the commission from time to time which relate to the setting of prices for **prescribed services** to which Schedule 2 and 4 relates.

Schedule 5A – Adjustments to prices

	Condition A (Annual cost of debt update)
1.1 to 1.4 Residential and non- residential water and sewerage	X
1.6 Residential and non-residential recycled water	X
1.17 Water by Agreement – customers not in declared service area	X

Schedule 5B – Prices

Condition A – Annual cost of debt update

Condition A will apply when the trailing average cost of debt in any **regulatory year** 't' changes in that year. The adjustment is calculated as per formula 4.

The difference in the forecast and actual regulatory rate of return in any **regulatory year** 't' is multiplied by the average of the regulatory asset base (RAB) to determine the change in **Barwon Water's** total expected return. The RAB is set out in Table 5 of Annexure A.

Schedule 5 – Adjustment for costs associated with annual updates to the trailing average cost of debt

The trailing average cost of debt adjustment will be apportioned across the tariffs listed in Schedule 5A.

Formula 1: Determining the nominal cost of debt

$$CoD_t^{nominal} = \sum_{i=t-10}^{t-1} \frac{CoD_i^{nominal}}{10}$$

$CoD_t^{nominal}$	<p>Is equal to the simple average of the 10 years up to (but not inclusive of) regulatory year 't' of:</p> <ul style="list-style-type: none"> - The data series outlined in Table 1 of Annexure A <p>and</p> <ul style="list-style-type: none"> - RBA Table F3 – Non-financial corporate BBB-rated bonds – Yield – 10 year target tenor [Series ID FNFYBBB10M] <p>from 1 April to 31 March before the start of regulatory year 't' (e.g. 1 April 2017 to 31 March 2018 in relation to 2018-19)</p>
-------------------	--

Formula 2: Determining the real cost of debt

$$CoD_t^{real} = \frac{(1 + CoD_t^{nominal})}{(1 + \pi^{det})} - 1$$

π^{det}	Is the inflation factor which is equal to 2.3% for all regulatory years
-------------	---

Formula 2 outlines the process for converting the trailing average cost of debt from nominal to real using the Fisher equation.

Formula 3: Determining the real regulatory rate of return

$$RRR_t^{real} = 0.4 \times CoE_t^{real} + 0.6 \times CoD_t^{real}$$

RRR_t^{real}	Is the post-tax 'vanilla' regulatory rate of return in real terms for regulatory year 't' rounded to two decimal places, i.e. 4.347% is rounded to 4.35%
CoE_t^{real}	Is the real cost of equity determined through Barwon Water 's PREMO rating, which is equal to 4.9% for 2018-19 to 2022-23

Schedule 5 – Adjustment for costs associated with annual updates to the trailing average cost of debt

Formula 4: Trailing average cost of debt adjustment

$$CDA_t^j = (RRR_t^{act} - RRR_t^{det}) \times \left(\frac{RAB_{opening,t}^{det} + RAB_{closing,t}^{det}}{2} \right) \times \frac{CPI_t}{CPI_{base}} \times \frac{\alpha_t^j \times q_{j,t}^{det}}{\sum_{j=1,n}^{t=t} (\alpha_t^j \times q_{j,t}^{det})} \times \frac{1}{q_{j,t}^{det}}$$

CDA_t^j	Is the trailing average cost of debt adjustment applied proportionally to tariff j, based on tariff j's relative share of total revenues. Total revenues refer to the sum of all revenue received across the tariffs listed in Schedule 5A to which the cost of debt adjustment will apply
RRR_t^{act}	Is the actual calculated real post tax 'vanilla' regulatory rate of return in regulatory year 't'
RRR_t^{det}	Is the determination real post tax 'vanilla' regulatory rate of return in regulatory year 't'
$RAB_{opening,t}^{det}$	Is the determination opening regulatory asset base in regulatory year 't'
$RAB_{closing,t}^{det}$	Is the determination closing regulatory asset base in regulatory year 't'
CPI_t	Is the Consumer Price Index: All Groups Index for the Eight Capital Cities as published by the Australian Bureau of Statistics (6401.0 - Table 8) for the March Quarter immediately preceding the start of the relevant regulatory year
CPI_{base}	Is the Consumer Price Index: All Groups Index for the Eight Capital Cities as published by the Australian Bureau of Statistics (6401.0 - Table 8) for the March Quarter in year 2017 equal to 110.5
α_t^j	Is the price for tariff j at regulatory year 't' before the cost of debt adjustment where: $\alpha_t^j = p_{t-1}^j \times \frac{CPI_t}{CPI_{t-1}} \times (1 + PPM_t^j)$
p_{t-1}^j	Is the price for tariff j in regulatory year 't-1'
$q_{j,t}^{det}$	Is the determination quantity for tariff j in regulatory year 't'
$\sum_{j=1,n}^{t=t} (\alpha_t^j \times q_{j,t}^{det})$	Is the sum of all revenue received across the tariffs listed in Schedule 5A to which the cost of debt adjustment will apply

Formula 4 outlines the process for calculating the adjustment to prices outlined in Schedule 5A to reflect the new cost of debt. This is done in two steps. The first step is to calculate the change in

Schedule 5 – Adjustment for costs associated with annual updates to the trailing average cost of debt

the revenue requirement by multiplying the adjustment to the rate of return, to reflect the updated cost of debt, by the average regulatory asset base.

The second step is to apply the change in the revenue requirement proportionally to tariff j, based on tariff j's relative share of total revenues. Total revenues are defined as the sum of all revenues received across the tariffs listed in Schedule 5A to which the cost of debt adjustment will apply.

Formula 5: Schedule 5A tariffs

$$p_t^{j,COD} = p_{t-1}^j \times \frac{CPI_t}{CPI_{t-1}} \times (1 + PPM_t^j) + CDA_t^j$$

$p_t^{j,COD}$	Is the price for tariff j at regulatory year 't' that accounts for the cost of debt adjustment. The cost of debt adjustment will apply to the tariffs listed in Schedule 5A
p_{t-1}^j	Is the price for tariff j in regulatory year 't-1'
CPI_t	Is the Consumer Price Index: All Groups Index for the Eight Capital Cities as published by the Australian Bureau of Statistics (6401.0 - Table 8) for the March Quarter immediately preceding the start of the relevant regulatory year
PPM_t^j	The prescribed price movement for the price component for tariff j in regulatory year 't' as per the determination
CDA_t^j	Is the trailing average cost of debt adjustment applied proportionally to tariff j, based on tariff j's relative share of total revenues as outlined in formula 4. Total revenues refer to the sum of all revenue received across the tariffs listed in Schedule 5A to which the cost of debt adjustment will apply.

Schedule 5 – Adjustment for costs associated with annual updates to the trailing average cost of debt

**The Common Seal of the
Essential Services
Commission** was affixed to
this Determination with the
authority of the commission.



Date: 19 June, 2018

Dr Ron Ben-David

Chairperson

Annexure A

Table 1 Historical cost of debt (nominal)

Per cent

	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18
Cost of debt	6.92%	7.36%	7.05%	6.31%	5.27%	7.05%	5.36%	5.27%	4.91%	4.53%

Table 2 Forecast real regulatory rate of return

Per cent

	2018-19	2019-20	2020-21	2021-22	2022-23
Regulatory rate of return	4.13%	4.13%	4.13%	4.13%	4.13%

Table 3 Benchmark revenue requirement

\$m 2017-18

	2018-19	2019-20	2020-21	2021-22	2022-23
Operating expenditure	98.4	97.1	95.9	96.1	95.4
Return on assets	55.3	55.9	56.6	57.0	57.3
Regulatory depreciation	37.7	40.3	42.5	44.2	43.8
Adjustments from last period	0.0	0.0	0.0	0.0	0.0
Non-prescribed revenue offset of revenue requirement	0.0	0.0	0.0	0.0	0.0
Tax allowance	0.0	0.0	0.0	0.0	0.0
Total	191.3	193.3	195.0	197.3	196.5

Table 4 Updated regulatory asset base
\$m 2017-18

	2012-13	2013-14	2014-15	2015-16	2016-17
Opening RAB at 1 July	1,081.5	1,198.5	1,256.5	1,274.2	1,305.8
<i>Plus</i> Gross capital expenditure	170.4	103.4	66.6	82.7	106.7
<i>Less</i> Government contributions	8.1	6.0	1.6	0.2	0.3
<i>Less</i> Customer contributions	12.6	6.7	13.1	15.7	11.8
<i>Less</i> Proceeds from disposals	1.7	1.3	2.2	2.1	6.4
<i>Less</i> Regulatory depreciation	31.0	31.4	32.0	33.0	34.2
Closing RAB at 30 June	1,198.5	1,256.5	1,274.2	1,305.8	1,359.9

Table 5 Rolled forward regulatory asset base
\$m 2017-18

	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23
Opening RAB at 1 July	1,359.9	1,334.6	1,342.9	1,364.0	1,377.9	1,382.5
<i>Plus</i> Gross capital expenditure	50.6	86.0	79.1	63.5	55.9	61.0
<i>Less</i> Government contributions	0.0	0.0	0.0	0.0	0.0	0.0
<i>Less</i> Customer contributions	12.3	6.3	6.6	6.7	6.6	6.8
<i>Less</i> Proceeds from disposals	28.6	33.8	11.2	0.4	0.4	0.4
<i>Less</i> Regulatory depreciation	35.1	37.7	40.3	42.5	44.2	43.8
Closing RAB at 30 June	1,334.6	1,342.9	1,364.0	1,377.9	1,382.5	1,392.6

Table 6 **Approved licence fee and environmental contribution assumptions**
 \$m 2017-18

	2018-19	2019-20	2020-21	2021-22	2022-23
Essential Services Commission licence fee	0.11	0.11	0.11	0.11	0.17
Department of Health and Human Services licence fee	0.07	0.07	0.07	0.07	0.07
Environment Protection Authority licence fee	0.19	0.19	0.19	0.19	0.19
Environmental contribution	8.25	8.07	7.89	7.71	7.54

Table 7 **Bulk water purchases**
 \$m 2017-18

	2018-19	2019-20	2020-21	2021-22	2022-23
Bulk water purchases	0.0	0.0	0.0	0.0	0.0

Table 8 Demand forecast

	2018-19	2019-20	2020-21	2021-22	2022-23
Water assessments (no.)					
Residential	146,823	149,240	151,693	154,135	156,629
Non-residential	12,422	12,627	12,834	13,041	13,252
Total	159,246	161,867	164,527	167,176	169,881
Sewerage assessments (no.)					
Residential	132,716	134,901	137,118	139,325	141,579
Non-residential	9,586	9,744	9,904	10,063	10,226
Total	142,302	144,644	147,022	149,388	151,805
Billable water consumption (ML)					
Residential	22,943	23,376	23,647	23,992	24,351
Non-residential	9,545	9,725	9,838	9,981	10,130
Total	32,489	33,101	33,485	33,973	34,481

Table 9 Major capital projects

Projects	Expected start date	Expected completion date
Property realisation (Thornhill Rd Highton)	In progress	2018-19
Colac water treatment plant clear water storage upgrade	In progress	2019-20
Black Rock renewable energy project stage 2	2018-19	2019-20
Colac water reclamation plant sludge dewatering upgrade	In progress	2019-20
Property realisation (Scenic Rd Highton)	In progress	2020-21
Gellibrand water treatment plant upgrade	2019-20	2021-22
Telemetry RTU PLC HMI hardware & software	2020-21	2021-22
Forrest water treatment plant upgrade	2020-21	2022-23
Black Rock water reclamation plant effluent storage	2021-22	2023-24
Colac pipeline upgrade	In progress	2027-28