



Australian
Competition &
Consumer
Commission

WaterNSW

Annual review of regulated charges: 2016-17

Final decision

May 2016

Australian Competition and Consumer Commission

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Abbreviations

2014 Determination	ACCC determination on State Water charges for the 2014-17 regulatory period
2014-17 regulatory period	Regulatory period from 1 July 2014 to 30 June 2017
ABS	Australian Bureau of Statistics
ACCC	Australian Competition and Consumer Commission
AWA	Average water allocations
Basin States	Queensland, New South Wales, Victoria, South Australia and the Australian Capital Territory
BRC	Dumaresq-Barwon Border Rivers Commission
CPI	Consumer Price Index
Fish River	Fish River Water Supply Scheme
HSP	High security premium
ICDs	Irrigation corporations and districts
IPART	Independent Pricing and Regulatory Tribunal (NSW)
KL	Kilolitre (one thousand litres)
Lowbidgee	Lowbidgee Flood Control and Irrigation District
MAQ	Minimum/Maximum Annual Quantity
MDBA	Murray-Darling Basin Authority
ML	Megalitre (one million litres)
MPII	Murrumbidgee Private Irrigators Incorporated
NSW	New South Wales
NSWIC	New South Wales Irrigators' Council
State Water	State Water Corporation of New South Wales (now WaterNSW)
UOM	Unders and overs mechanism used in annual pricing model
WACC	Weighted average cost of capital
WCIR	Water Charge (Infrastructure) Rules 2010

1. Executive summary

In March 2015 the Australian Competition and Consumer Commission (ACCC) commenced a review of Water NSW's regulated charges for the 2016-17 financial year. This report sets out the ACCC's final decision on WaterNSW's regulated charges for 2016-17.

2016-17 is the final year of WaterNSW's current regulatory period. The NSW Independent Pricing and Regulatory Tribunal (IPART) has been accredited to undertake future determinations and annual reviews of WaterNSW charges under the Water Charge (Infrastructure) Rules 2010.

This is the second annual review of WaterNSW's regulated charges conducted by the ACCC and it follows from the ACCC's determination of WaterNSW's (then, the State Water Corporation of NSW) charges for the 2014-17 regulatory period (the 2014 Determination). In the 2014 Determination, the ACCC set WaterNSW's revenue requirement for each year and decided that a fixed: variable tariff structure was appropriate, where WaterNSW can generally recover 40 per cent of its revenue requirement through fixed charges and 60 per cent through variable (or usage) charges on the volume delivered.

The 2014 Determination set the regulated charges for 2014-15 and included formulae to calculate regulated charges for 2015-16 and 2016-17. This includes the application of a price control mechanism—the unders and overs mechanism (UOM). The UOM adjusts WaterNSW's revenue requirement, allowing a portion of WaterNSW's under-recovery of revenue in 2014-15 and 2015-16 to be recovered in 2016-17 charges (with further recovery in subsequent years). The objective of the UOM is to balance revenue stability for WaterNSW and price stability for WaterNSW's customers. The UOM is described in detail in section 2.2.2 below.

The Water Charge (Infrastructure) Rules 2010 (the WCIR) limit the ACCC's ability to change WaterNSW's charges from those set by the 2014 Determination. The ACCC can only vary the charges set by the 2014 Determination if one or both of the following tests are satisfied:

- it is reasonably necessary to vary the charges, having regard to changes in the demand or consumption forecasts submitted by WaterNSW in its application (the 'change in forecasts' variation test)
- it is reasonably necessary to vary the charges, having regard to price stability (the 'price stability' variation test).

WaterNSW's application

WaterNSW's application sought ACCC approval of charges for 2016-17 as generated by the annual pricing model established by the ACCC in 2014, using WaterNSW's updated input data for inflation and volumes, and adjusting historical usage data (used to forecast future demand) to include outward trade volumes as done in 2015. Following the draft decision, WaterNSW advised that the estimates of 2015-16 volumes provided with its application remain its best estimates for the full year.

The ACCC's final decision

The ACCC accepted WaterNSW's approach, but made minor amendments to the input data for forecast inflation and 2014-15 trade. The ACCC's final decision is to determine WaterNSW's regulated charges for 2016-17 so that they are set in accordance with the formulae for calculating regulated charges set by the ACCC's 2014 Determination, with adjustments to take into account certain changes in demand forecasts. The adjustments relate to forecast water usage data for Border, Murray and Murrumbidgee valleys due to the inclusion of volumes of water allocation traded out of NSW (as WaterNSW currently imposes a usage charge on this traded water). Updating

the forecasts to include the trade volumes has a downward effect on the usage charges in the Border, Murray and Murrumbidgee valleys.

The only change to the model's input data following the draft decision is to update the CPI in light of the recently published figure for March quarter 2016 (from 1.69 per cent in the Draft Decision to 1.31 per cent). This results in final charges about 0.5 per cent lower than charges shown in the draft decision, and about 0.2 per cent lower than in WaterNSW's original application.

The increase in charges for Peel valley has been fixed at 10 per cent in real terms for each year of the regulatory period. This reflects the ACCC's decision in its 2014 Determination to cap the rate of charge increases to transition to full cost recovery levels, and is not affected by subsequent changes in demand. The ACCC found in that review that the costs of providing infrastructure services in the Peel were prudent and efficient, but the volume of entitlements and usage from which they could be recovered was relatively small. We note, however, that charges are expected to reach approximately full cost recovery for Peel valley in 2016-17.

In most valleys, low water usage and allocations due to continuing dry conditions meant revenue from usage charges was below forecast and WaterNSW's revenue requirements were not met. Although estimated water usage in 2015-16 was on average 33 per cent below that forecast, increasing WaterNSW's under-recovery, the effect on charges was restrained, partly due to the operation of the UOM. This is because the mechanism adds only a fraction of the accumulated under-recovery onto the revenue requirement for the following year. Other valley-specific factors are outlined in section 5.3 below. Due to these varying factors, most charges increased by less than 5 per cent in nominal terms, while the highest increase was a 12.7 per cent increase in the Macquarie high security entitlement charge.

Three submissions on the draft decision were received, one from WaterNSW, and two from groups representing WaterNSW customers – the New South Wales Irrigators' Council (NSWIC) and Murrumbidgee Private Irrigators Incorporated (MPII). NSWIC and MPII both expressed concern about the significant increases in some charges resulting from the UOM.

The ACCC acknowledges that its final decision involves significant charge increases for users in some valleys – in particular, the Peel, Lachlan and Macquarie. However, the overall effect on expected bills for most customers (which are a function of both fixed and variable charges) will be less significant. Customers in five valleys face expected bill increases of less than 2 per cent in real terms. In the remaining valleys the largest increases in bills (apart from Peel) are for high security entitlement holders in the Lachlan valley (8.7 per cent in real terms, or 10.1 per cent nominal) and in the Macquarie valley (8.2 per cent in real terms or 9.6 per cent nominal). The impact on expected bills is shown in full in attachment G.

The largest increases in expected bills are less than 10 per cent in real terms. The ACCC does not consider that the 'price stability' variation test has been satisfied and therefore does not propose to vary WaterNSW's 2016-17 charges on these grounds. This is consistent with the approach adopted in the review of 2015-16 charges, when the ACCC decided against capping larger charge increases on price stability grounds. It remains consistent with the UOM methodology set in the 2014 Determination which is designed to share the risks of fluctuating usage between WaterNSW and its customers, and provide a balance between price stability and revenue stability.

Final 2016-17 charges

Tables 1.1 and 1.2 below set out the final nominal charges using a forecast CPI of 1.31 per cent.¹ These charges are calculated by applying the UOM and varied by the inclusion in the 20-year moving

¹ Final charges in nominal \$2016-17 include an inflation adjustment of 1.31 per cent over 2015-16 charge levels, equal to the CPI increase for the 12 months to March quarter 2016.

average of estimated volumes of water allocation traded out of the Border, Murray and Murrumbidgee valleys to other Basin States.

The ACCC's final decision on other regulated charges including metering and miscellaneous charges, and ICD rebates, is set out in tables A4-A6 in attachment A.

The charges will apply from 1 July 2016.

Table 1.1: 2015-16 charges (\$2015-16/ML) and final 2016-17 charges (nominal \$2016-17/ML) – Border, Gwydir, Namoi, Peel, Lachlan, Macquarie, Murray, Murrumbidgee and Lowbidgee valleys

Valley	High security entitlement charge		General security entitlement charge		Usage charge	
	2015-16	Final 2016-17	2015-16	Final 2016-17	2015-16	Final 2016-17
Border	\$11.20	\$11.12	\$3.90	\$3.91	\$10.18	\$10.63
Gwydir	\$14.00	\$14.13	\$3.44	\$3.47	\$11.89	\$12.13
Namoi	\$16.81	\$17.29	\$7.99	\$8.25	\$19.80	\$20.26
Peel	\$31.65	\$35.27	\$3.48	\$3.88	\$52.27	\$58.26
Lachlan	\$14.84	\$16.48	\$3.24	\$3.28	\$19.33	\$21.12
Macquarie	\$14.35	\$16.17	\$3.51	\$3.62	\$15.89	\$16.97
Murray	\$4.79	\$5.00	\$2.66	\$2.71	\$6.40	\$6.48
Murrumbidgee	\$3.63	\$3.79	\$1.53	\$1.56	\$4.28	\$4.36
Lowbidgee			\$0.78	\$0.84		

Table 1.2: 2015-16 charges (\$2015-16) and final 2016-17 charges (nominal \$2015-16) – Fish River Water Supply Scheme

Customer type	Access charge		Usage below MAQ* (per KL)		Usage above MAQ* (per KL)	
	2015-16	Final 2016-17	2015-16	Final 2016-17	2015-16	Final 2016-17
Raw water (EnergyAustralia)	\$0.34 / KL of MAQ	\$0.36 / KL of MAQ	\$0.39	\$0.42		
Raw water (minor customers)	\$68.31**	\$71.27**	\$0.39	\$0.42	\$0.73	\$0.78
Filtered water (minor customers)	\$132.21**	\$137.95**	\$0.72	\$0.78	\$1.38	\$1.47

* Minor customers have a deemed Minimum Annual Quantity (MAQ) of 200KL.

**The access charge for minor customers is an annual charge equal to the same per KL access charge payable by major customers, multiplied by the deemed MAQ of 200KL.

2. Introduction

Under the Water Charge (Infrastructure) Rules 2010 (the WCIR), the Australian Competition and Consumer Commission (ACCC) can approve or determine regulated charges in the Murray-Darling Basin of an operator that:

- is not a member-owned operator and
- provides infrastructure services in respect of water held under water access entitlements (directly or by its customers) in excess of 250GL.²

Currently, the ACCC only has responsibility for approving or determining the regulated charges imposed within the Murray-Darling Basin by WaterNSW. The NSW Independent Pricing and Regulatory Tribunal (IPART) has been accredited to take over responsibility for regulating WaterNSW under the WCIR from 1 June 2016.

On 7 March 2016 WaterNSW submitted an application for ACCC review of its regulatory charges for the 2016-17 financial year.

2.1. Assessment framework

2.1.1. Water Charge (Infrastructure) Rules 2010

The WCIR sets out a two stage process for approving or determining the regulated charges for WaterNSW for a defined regulatory period.

First stage – approval or determination for whole period

WaterNSW must apply in writing to the ACCC for approval or determination of its proposed regulatory charges for each year of the regulatory period.³ After a consultation process, the ACCC must either approve or determine WaterNSW's regulated charges in respect of each year of the regulatory period.⁴ The ACCC determined these charges in June 2014 for the three-year period beginning 1 July 2014 (see section 2.2.2).

Second stage – Annual review

For each year after the first year of the regulatory period, WaterNSW must apply to the ACCC for a review of its regulatory charges for that year (the annual review).⁵ This process allows for regulated charges to be updated during the regulatory period. This final decision relates to the annual review for the third (and last) year of the 2014-17 regulatory period.

The ACCC must not approve changes to the regulated charges decided in the original determination unless it is satisfied that it is reasonably necessary to vary those charges having regard to:

- changes in demand or consumption forecasts (described in this report as the 'change in forecasts' variation test); and
- price stability (described in this report as the 'price stability' variation test).⁶

² WCIR, Rule 23.

³ WCIR, Rule 25.

⁴ WCIR, Rules 28-29.

⁵ WCIR, Rule 34.

⁶ WCIR, Rule 37(2).

In reviewing the application, the ACCC must undertake a consultation process, including publishing a draft decision and inviting stakeholder submissions.⁷

Within three months of receiving the application, the ACCC must either approve WaterNSW's regulated charges or determine the charges.⁸ The ACCC may extend this timeframe by one month at a time provided it informs WaterNSW regarding why it has been unable to make its decision during the required timeframe.⁹ In addition, if the ACCC requests further information from WaterNSW during the review, any day in which this information request remains unfilled extends the ACCC's three month period for this application.¹⁰

2.2. The ACCC's 2014 Determination

In June 2014, the ACCC released its final decision on WaterNSW's charges for the 2014-17 regulatory period (the 2014 Determination).¹¹ This set the revenue requirement for each year of the regulatory period and the regulated charge amounts for the first year of the regulatory period. The 2014 Determination also included formulae for calculating regulated charges for subsequent years of the regulatory period. The 2014 Determination document set out indicative charges that would result from the application of these formulae if demand forecasts used by the ACCC in making its 2014 Determination were accurate.

Revenue requirement

In making its 2014 Determination, the ACCC was required to be satisfied that WaterNSW's total forecast revenue was reasonably likely to meet the prudent and efficient costs of providing infrastructure services in the regulatory period.¹² The ACCC set this revenue requirement using the Building Block Model. The Building Block Model calculates the revenue requirement for each year of the regulatory period as the total of allowances for operating costs, a return on capital, and a return of capital (depreciation).

The benchmark revenue requirements for each valley are set out at Appendix A of the 2014 Determination, and in table B1 in this decision.

Consistent with the 2014 Determination, charges for 2016-17 are based on an adjusted revenue requirement which includes (i) the benchmark revenue requirement, and (ii) an adjustment to revenue (which may be negative or positive) based on the outcome of the price control mechanism explained in further detail below.

The unders and overs mechanism

As noted above, the ACCC was required to be satisfied that WaterNSW's revenue for the regulatory period is reasonably likely to meet the prudent and efficient costs of providing infrastructure services in that regulatory period.¹³ In practice, the recovery of WaterNSW's revenue requirement is difficult to ensure as its revenue depends partly on water usage which may change significantly through the regulatory period. For example, if water usage is less than the forecast made in the 2014

⁷ WCIR, Rule 36.

⁸ WCIR, Rule 37(1).

⁹ WCIR, Rule 37(5).

¹⁰ WCIR, Rule 37(4).

¹¹ ACCC, *Final decision on State Water pricing application 2014-15 to 2016-17*, June 2014.

¹² WCIR, Rule 29.

¹³ WCIR, Rule 29(2).

Determination, then WaterNSW would under-recover its costs of providing infrastructure services. Conversely, if usage is more than the forecasts made in the 2014 Determination, then WaterNSW would over-recover its costs of providing infrastructure services.

To address this, the ACCC determined that WaterNSW infrastructure charges for the Border, Gwydir, Namoi, Lachlan, Macquarie, Murray, Murrumbidgee valleys and the Fish River Water Supply Scheme should be subject to an unders and overs mechanism (the UOM). The UOM consists of price caps that can be partially adjusted for under- or over-collection of revenue. This is a hybrid form of price control in that it has elements of both the price cap and revenue cap approach.

The UOM is designed to reduce WaterNSW's revenue volatility by allowing it to annually adjust its charges to recover a portion of the revenue requirement not recovered because water usage is lower than forecast, or to return a portion of revenue to customers if water usage is higher than forecast.

In regard to the recovery of WaterNSW's own costs, the UOM provides that any under or over collection of revenue in a particular year will be added into a rolling unders and overs account. This form of control is symmetrical, as it reduces future charges if WaterNSW has over recovered revenue in the previous regulatory year, and increases them if it has under recovered. If there are a number of dry years in succession, the balance of the rolling unders account may grow significantly. However, the UOM approach smooths out the fluctuations in WaterNSW's charges in any one year.¹⁴

The value of the unders and overs account will be multiplied by the rate of return (also known as the weighted average cost of capital (WACC)) to determine the amount by which WaterNSW's revenue requirement is to be adjusted in the next year. The increase or decrease in WaterNSW's charges in the next year will therefore reflect the rate of return on the accumulated balance of the unders and overs account, with further adjustments to charges in subsequent years.

In regard to over/under-recovery of the NSW Government's contributions to the Murray-Darling Basin Authority (MDBA) and Border Rivers Commission (BRC), the UOM provides for WaterNSW to recover the full amount in the following year. These contributions currently only affect charges for the Border, Murray and Murrumbidgee valleys.

Recovery of contributions to the Murray-Darling Basin Authority and Border Rivers Commission

Under a direction from the NSW Treasurer, WaterNSW is required to pay prescribed amounts towards the recovery of the NSW Government's contributions to the MDBA and BRC. These amounts must be paid to the NSW Consolidated Fund on 15 June each year of the 2014-17 period.¹⁵ The NSW Treasurer determined the apportionment of WaterNSW's user shares of the NSW contribution to the MDBA and BRC for each year of the regulatory period prior to the ACCC's 2014 Determination. These user shares are set out in table B1 in attachment B.

In its 2014 Determination, the ACCC decided that, because of the explicit regulatory obligation, if in one year any of the MDBA/BRC contributions are not recovered because water usage is lower than forecast, or over-recovered because water usage is higher than forecast, then this should be fully recovered or repaid via charges in the year immediately following, as far as possible. However, as the unders and overs balance is calculated using estimated usage volumes for the current year, some under-recovery may be recovered in subsequent years when actual usage figures are confirmed.

¹⁴ ACCC, *Final decision on State Water pricing application 2014-15 to 2016-17*, June 2014, Attachment 9.

¹⁵ Direction by NSW Treasurer under Public Finance and Audit Act 1983 (NSW), 28 May 2014.

Regulated charges

The 2014 Determination covered the following regulated charges:

- Infrastructure charges for the Border, Gwydir, Namoi, Lachlan, Macquarie, Murray and Murrumbidgee valleys. For these valleys, the charges determined by the ACCC in 2014 were calculated to allow WaterNSW to recover 40 per cent of its revenue through fixed charges (high security entitlement and general security entitlement charges) and 60 per cent through variable charges (usage charges on the volume delivered).
- Infrastructure charges for the Peel (see box 5.1 for further detail on how these charges were determined).
- Infrastructure charges for certain users in the Fish River Water Supply Scheme (Fish River). The ACCC sets charges for one 'major' user—EnergyAustralia—and approximately 280 'minor' users. Users in Fish River do not hold statutory water access entitlements. Rather, access is regulated through a 'minimum annual quantity' (MAQ) for each major customer and (collectively) for minor customers.¹⁶ Access (fixed) charges are set with reference to major customers' actual 'Minimum Annual Quantity' (MAQ), and for each minor customer with reference to a deemed MAQ of 200KL.

The 2014 Determination included different charges for raw and filtered water. For raw water, the ACCC's 2014 Determination requires WaterNSW to recover 55 per cent of its revenue through fixed charges (access charges) and 45 per cent through variable charges (on the volume delivered). For filtered water, the ACCC's 2014 Determination requires WaterNSW to recover 60 per cent of its revenue through fixed charges (access charges) and 40 per cent through usage charges (on the volume delivered).

- Metering service charges.
- Miscellaneous charges—charges for testing meter accuracy under dispute, environmental gauging station charges, Fish River connection and disconnection charges, allocation trade processing charges and the Yanco Creek levy.

While the 2014 Determination included a table setting out indicative charges for 2015-16 and 2016-17 in real \$2013-14, the charges determined for 2015-16 and 2016-17 in the nominal dollars of that year depend on actual CPI movements. In addition, the infrastructure charges for the Border, Gwydir, Namoi, Lachlan, Macquarie, Murray, Murrumbidgee valleys and the Fish River depend on volume forecasts and unders and overs adjustments, calculated according to the price control mechanism described above. The methodology for adjusting regulated charges is explained further in section 5 below.

2.3. Review process for 2016-17

On 7 March 2016 Water NSW submitted its application to vary its 2016-17 charges. The ACCC released its draft decision on Water NSW's application on 13 April 2016. This commenced a public consultation period which ended on 4 May 2016.

The ACCC received three submissions in response to the draft decision— from WaterNSW, NSWIC and MPII.¹⁷ Stakeholder views are considered in the relevant sections below. This is the ACCC's final decision, setting out Water NSW's regulated charges for 2016-17 with the reasons for the decision.

¹⁶ State Water Corporation, *Pricing application to ACCC for regulated charges to apply from 1 July 2014*, June 2013, p.154.

¹⁷ These submissions are available at: <http://acc.gov.au/regulated-infrastructure/water/water-projects/waternsw-annual-review-of-regulated-charges-2016-17/draft-decision>.

3. WaterNSW application and submission on draft

On 7 March 2016 WaterNSW submitted its application to the ACCC to review its regulated charges for 2016-17. WaterNSW's application included the price control model provided by the ACCC for the purpose of calculating charges, updated to include WaterNSW's revised estimates and forecasts of demand which included water allocation traded to non-NSW buyers.

WaterNSW's application sought ACCC approval of charges determined in accordance with the price control mechanism described above.¹⁸ The nominal charges proposed were based on an assumed inflation rate of 1.5 per cent. The charges proposed by WaterNSW are shown in tables C1 and C2 in attachment C.

Following the release of the ACCC's draft decision, WaterNSW provided a submission in which it stated:

"In the Draft Decision, the ACCC noted that the *Water Charge (Infrastructure) Rules 2010* (WCIRs) limit the extent to which the ACCC can deviate from the pricing mechanisms set out in the ACCC 2014-17 Final Decision. Those pricing mechanisms include the application of the unders-and-overs mechanism, which will impose an additional \$1.2M in charges to customers in the 2016-17 year.

WaterNSW agrees that the ACCC's Draft Decision is consistent with the WCIRs and the ACCC 2014-17 Final Decision and has no further comments on the Draft Decision."

¹⁸ WaterNSW, Application to the ACCC for annual review of regulated charges, 7 March 2016, p. 1.

4. Approach to making the final decision

As noted above, in deciding whether to approve WaterNSW's application, the WCIR requires the ACCC to consider whether it is reasonably necessary to depart from the charges set according to the ACCC's 2014 Determination, having regard to changes in demand and consumption forecasts and price stability.

Under the 2014 Determination, the charges for 2016-17 are the outcomes of the formulae set out in the decision, rather than the indicative charges in tables 1.1, A.1 and B1-B5 of that determination. These formulae include adjustments for movements in CPI, changes in volume forecasts and the application of the UOM.

The ACCC has undertaken a three-step process in making this Annual Review final decision. This process is summarised in the flow chart below.

Step 1: calculate the 2016-17 charges set according to the 2014 Determination (section 5)

This step involves adjustments to the indicative prices in the 2014 Determination for actual CPI movements, actual water usage in 2014-15 and estimated water usage in 2015-16, along with the application of the unders and overs mechanism.



Step 2: the 'change in forecasts' variation test (section 6)

This step involves consideration of whether there is any additional information that changes the demand or consumption forecasts used in the 2014 Determination.



Step 3: the 'price stability' variation test (section 7)

This step involves consideration of the impact of any increases or decreases in charges on WaterNSW's customers to assess whether charges should be varied for reasons of price stability.

5. Step one: calculation of the regulated charges set in the 2014 Determination

Summary of the final decision

In this final decision, the ACCC applies the same methodology for step one as in the draft decision. The resultant charges differ only insofar as the final decision applies more recent CPI data.

Step one involves calculating the 2016-17 charges set according to the ACCC's 2014 Determination methodology, using:

- CPI movements using the most recent data available
- updated data for water usage volumes, the number of entitlements on issue and water allocation percentages.

The calculations include an adjustment to WaterNSW's revenue requirement for 2016-17 following the calculation of any under- or over-recovery incurred by WaterNSW during 2015-16, and the application of the UOM.

5.1. Data to be updated

5.1.1. Inflation

The revenue requirements and charges for each year of the regulatory period were specified in the 2014 Determination in real \$2013-14. In this final decision, all 2016-17 charges are expressed in nominal \$2016-17, reflecting the following movements in the CPI¹⁹ from the 2013-14 base year:

- 2.93 per cent to inflate from \$2013-14 to \$2014-15, based on the actual CPI increase between March quarter 2013 and March quarter 2014
- 1.33 per cent to inflate from \$2014-15 to \$2015-16, based on the actual CPI increase between March quarter 2014 and March quarter 2015
- 1.31 per cent to inflate from \$2015-16 to \$2016-17. This is based on the actual CPI increase between March quarter 2015 and March quarter 2016.

WaterNSW's proposed charges in its application to this review were based on an inflation rate of 1.5 per cent for \$2016-17, while the ACCC's draft decision was based on an interim CPI increase of 1.69 per cent. Consequently, in nominal terms the ACCC's final decision charges (based on 1.31 per cent) are slightly lower than WaterNSW's proposal, and about 0.5 per cent lower than the draft decision charges.

The CPI is used in the pricing model to adjust the benchmark revenue requirement from \$2013-14 to \$2016-17, and to calculate the appropriate nominal weighted average cost of capital to apply to UOM balances. As the relative size of the UOM adjustment varies by valley, the overall effect of updating the CPI figure from the draft decision is not uniform.

¹⁹ The Consumer Price Index (CPI) is published by the Australian Bureau of Statistics (ABS) – 6401.0 – All Groups, Weighted average of eight capital cities.

The following charges and rebates are not subject to the UOM and are adjusted only to reflect movements in CPI:

- Lowbidgee Flood Control and Irrigation District (Lowbidgee) general security entitlement charge – as there are no variable charges in the Lowbidgee
- Peel valley entitlement and usage charges, as increases in these charges are capped at 10 per cent real per annum
- metering service charges
- charges for testing meter accuracy under dispute
- environmental gauging station charges
- Fish River connection and disconnection charges
- allocation trade processing charges
- Irrigation Corporation and District (ICD) rebates.

Tables A4-A6 in attachment A set out the above charges and rebates in nominal \$2016-17.²⁰

5.1.2. Volume data

In order to calculate the infrastructure charges for those valleys using the UOM (Border, Gwydir, Namoi, Lachlan, Macquarie, Murray and Murrumbidgee valleys and Fish River), updated data for the following volumes are required:

- entitlement volumes—actual for 2014-15, estimate for 2015-16 and forecast for 2016-17 (attachment D)
- water usage— actual for 2014-15 and estimate for 2015-16 (attachment E)
- water allocations—water allocation percentages²¹ for 2014-15 (attachment F)
- number of minor customers (for Fish River only).

WaterNSW supplied updated data for the required volumes in its application, and also corrected certain historical trade data (discussed further below).

Usage

WaterNSW advised that estimated water usage for 2015-16 is based on:

- actual usage recorded up to 31 December 2015
- an estimate/forecast of usage for the remainder of the year, based on current storage levels, a drier than average rainfall forecast by the BOM (Bureau of Meteorology), available water within access licences and historical water usage trends.

Following the ACCC's draft decision, WaterNSW advised that the estimates of 2015-16 volumes previously provided remained the best available estimates.²²

²⁰ Table A5 includes the Yanco Creek levy which was determined to be \$0.90/ML in nominal terms for each year in the regulatory period and so does not require adjustment.

²¹ The allocations for particular entitlement types / valleys are announced by the NSW Minister for Water through the year (referred to as available water determinations).

²² WaterNSW advised by email on 9 May 2016.

Entitlement volumes

WaterNSW's customers hold water access entitlements in all valleys with the exception of Fish River. These are generally high security and general security entitlements. Water access entitlements give customers access to a share of the water resource of a water resource plan area.

WaterNSW provided updated figures for entitlement volumes which it stated are based on the latest estimate of billable entitlements in the WaterNSW Water Accounting System as of January 2016. WaterNSW's forecast of entitlements for 2016-17 is equal to its estimate for 2015-16. The volume of entitlements in most valleys did not change or changed by less than 0.1 per cent from 2014-15 to 2015-16.

There was a notable change in Gwydir, however, where the volume of high security entitlements on issue increased by 4,133 (or 18 per cent). WaterNSW advised that this was due to the NSW Department of Primary Industries (Water) having created new entitlements on completion of water-saving works in the Basin Pipe Mallowa Creek project. (These new entitlements were issued to the Commonwealth Environmental Water Holder).²³

The ACCC considers that WaterNSW's revised volume figures are reasonable and should be used in determining charges for 2016-17.

5.2. Submissions and ACCC consideration

WaterNSW accepted that the ACCC's draft decision is consistent with the WCIRs and the ACCC's 2014 Determination and had no further comments.²⁴

Submissions from Murrumbidgee Private Irrigators Incorporated (MPII) and the NSW Irrigators' Council (NSWIC) expressed concerns related to the UOM, MDBA/BRC contributions and metering charges. These are noted and discussed below.

MPII submitted that:

.....Many irrigators are struggling financially, the fact that General Security irrigators are paying charges on 100% of their entitlement when only having access to a fraction of that to grow crops is putting greater financial pressure on them. Coupled with lower commodity prices (e.g. wheat, canola) means any increase above inflation, no matter how small, is significant to many irrigators.²⁵

While this comment relates partly to price stability, it also raises the underlying structure of charges and UOM. A greater reliance on fixed charges would significantly reduce the volatility of both fixed and variable charges. The ACCC also notes that the percentage of revenue recovered from WaterNSW customers through fixed (entitlement) charges is relatively low compared with customers of other on-river infrastructure operators. Because the original charges were based on a 40:60 split in forecast revenue from fixed and variable charges, WaterNSW customers generally pay considerably less in total charges in dry periods than they would if, for example, the split was 80:20 between revenue from fixed and variable charges.

²³ WaterNSW, response to ACCC information request No.1 of 17 March 2016, received 30 March 2016.

There were other more minor changes in entitlement numbers due variously to correction of previous dealings, Ministerial amendments of share components, issue of new licences, and licence cancellations.

²⁴ WaterNSW submission, 4 May 2016, p.1.

²⁵ MPII submission, 4 May 2016, p.1.

On the UOM, MPII submitted that:

“MPII see great value in the UOM - it is a useful mechanism to ensure that any over recovery from irrigators remains on the irrigation side of the ledger. However we feel there is room for improvement. At a presentation made at the recent Murrumbidgee CSC it was shown that NSW Water have over-recovered 20%, which shows there are issues with its current format. Perhaps a ten or five year rolling average should be modelled to show if this would produce more stable pricing.”²⁶

The ACCC notes that WaterNSW currently has accumulated under-recoveries in all valleys. While there was an over-recovery for the Murrumbidgee valley from the 2014-15 year, this was offset by a larger under-recovery in 2015-16. As a result the accumulated under-recovery for Murrumbidgee to carry forward is \$676,000 – about 6 per cent of its annual revenue requirement. The components are shown in table B2.

The methodology of the UOM was determined by the ACCC in 2014 and a change such as in the length of the rolling average cannot be made during the course of the regulatory period.

NSWIC’s submission expressed concern about the forecasts used by the ACCC:

NSWIC again highlights that the ACCC draft decision only provides indicative bulk water charges for 2016/17, as no actual usage figures for 1 January to June 2015 were available as the basis of a determination. Therefore as the majority of the ACCC’s draft decision is based on estimates and forecasts rather than recent hard data, NSWIC does not have confidence that the proposed price increases are or can be justified.²⁷

The pricing approach adopted in the ACCC’s 2014 Determination relies on the input of updated data as this becomes available. Any such changes can only be based on actual data as far as it is available, and must rely on estimates or forecasting techniques for subsequent periods. Actual usage figures for 1 January to June 2015 have been used in this decision, however actual usage figures for 1 January to June 2016 are not available in time for a final decision prior to the commencement of the 2016-17.

Under the UOM determined in 2014, charges for 2016-17 will reflect both forecast usage for 2016-17 based on a 20-year average of actual usage in past years, and an estimate for 2015-16 based partly on recorded usage and partly on modelling of water operations. The ACCC considers this is a reasonable approach since it is impossible to forecast the future with certainty.

MPII questioned the NSW Government contribution to MDBA:

“We seek clarification on the role of MDBA and what service/s they are providing to NSW irrigators and/or Water NSW. When paying MDBA, through Water NSW, for services that it provides we want transparency to ensure we are getting some benefit as well as value for money and that there is no double dipping.”²⁸

In its 2014 Determination the ACCC considered that the full amount of the user share of NSW’s contributions to the MDBA and BRC (as specified by the NSW Government) should be recovered in user charges by WaterNSW. It is a regulatory requirement on WaterNSW to pay the specified amounts to the NSW Government each year. The NSW Government advised WaterNSW that the amount to be recovered in user charges was a portion of the total NSW contribution to the MDBA and BRC, based on its estimation of the part of works benefitting bulk water users. This included water storage and supply asset management and river operations activities attributable to

²⁶ MPII submission, 4 May 2016, p.2.

²⁷ NSWIC submission, 4 May 2016, p.2.

²⁸ MPII submission, 4 May 2016, p.1.

WaterNSW's operations.²⁹ It excluded works for wider public benefit such as natural resources management and salinity management.

On metering service charges, MPII submitted that:

“Many of our members are now on commonwealth funded meters with telemetry, but the telemetry is not working. MPII questions why our members and many other irrigators should be paying for a service which they are not receiving.

MPII also seek clarification on purpose of the metering service charge: is it solely to provide maintenance and service on the meters and telemetry or will it also be used to replace the meters at the end of their life?”³⁰

The metering service charge determined by the ACCC in 2014 was set to cover operating and maintenance costs, with a certain component for capital cost depending on the original method of funding the meters.³¹ The resulting two sets of charges are shown in table A4 in attachment A. These charges only apply to customers with such meters.

Charges determined by the ACCC, including metering service charges, are set on the basis of prudent and efficient costs required to deliver the services proposed by WaterNSW in compliance with its licence conditions. However, the monitoring of services provided by WaterNSW over the course of regulatory period cannot be considered in the annual review of regulated charges, but may be relevant for determining the prudent and efficient costs of WaterNSW in subsequent regulatory periods.

5.3. Step one—final decision

5.3.1. Border, Gwydir, Namoi, Lachlan, Macquarie, Murray and Murrumbidgee valleys

For the Border, Gwydir, Namoi, Lachlan, Macquarie, Murray and Murrumbidgee valleys there are three infrastructure charges:

- i. high security entitlement charge
- ii. general security entitlement charge
- iii. usage charge.

The methodology set in the 2014 Determination for these valleys is designed to allow WaterNSW to fully recover the costs of providing infrastructure services in these valleys with 40 per cent of its revenue recovered through the 'fixed' entitlement charges, and 60 per cent through the 'variable' usage charge. The 2016-17 charges for these valleys are all affected by the UOM.

²⁹ NSW Treasurer, Direction to State Water Corporation, 'NSW contributions to the Murray Darling Basin Authority Joint Program and Border Rivers Commission', 28 May 2014.

³⁰ MPII submission, 4 May 2016, p.1.

³¹ The Commonwealth funded the purchase and installation of the first batches of meters in southern valleys, so the charges set did not include any component for the original capital cost of the meters. However, they included a small capital cost component for replacement of failing meters (through an annuity), which will rise over time, and is the responsibility of WaterNSW.

A separate set of charges was determined for meters to be funded by WaterNSW (then State Water) which included an annuity to recover future capital costs. These charges are several times higher than those for Commonwealth-funded meters as they cover both the operating costs and full capital costs of the meters.

Table 5.1 below sets out the 2016-17 charges, calculated in accordance with the methodology set out in the ACCC's 2014 Determination.³² These charges are expressed in nominal terms, based on the UOM with the updated inflation and volume data described above.

Table 5.1: 2016-17 charges (in \$2016-17) calculated in accordance with the 2014 Determination - \$/ML and % change from 2015-16 (Border, Gwydir, Namoi, Lachlan, Macquarie, Murray and Murrumbidgee valleys)

Valley	High security entitlement charge		General security entitlement charge		Usage charge	
	2015-16	% change	2015-16	% change	2015-16	% change
Border*	\$11.12	-0.7%	\$3.91	0.4%	\$11.04	8.4%
Gwydir	\$14.13	0.9%	\$3.47	0.9%	\$12.13	2.0%
Namoi	\$17.29	2.9%	\$8.25	3.2%	\$20.26	2.3%
Lachlan	\$16.48	11.0%	\$3.28	1.2%	\$21.12	9.3%
Macquarie	\$16.17	12.7%	\$3.62	3.2%	\$16.97	6.8%
Murray*	\$5.00	4.4%	\$2.71	2.2%	\$7.39	15.4%
Murrumbidgee*	\$3.79	4.4%	\$1.56	1.4%	\$4.57	6.9%

* Charges for the Border, Murray and Murrumbidgee valleys set out in table 5.1 (highlighted) are further adjusted in step two (explained in section 6 below).

How charges are affected by step one

The following factors are responsible for the largest contributions to changes in charges:

- Low usage estimates for 2015-16 in most valleys

Usage estimates are significantly below the 20-year average in many valleys: namely, the Macquarie (63 per cent below the 20-year average), Gwydir (46 per cent), Border (42 per cent), Murray (39 per cent) and Namoi (37 per cent). This contributes to a significant under-recovery on revenue from usage charges for 2015-16. Further, several of these valleys have an existing balance of under-recovery carried over from 2014-15. However, the impact of this on charges is moderated by two factors:

- While usage revenue is designed to be 60 per cent of total revenue but is highly variable, the remaining 40 per cent is relatively fixed.
- Under the UOM, only the rate of return on the unders and overs balance for WaterNSW costs is added to the 2016-17 revenue requirement.³³

Estimated usage in the Lachlan valley was only 16 per cent below that forecast (the smallest reduction of all valleys) but this together with several other factors, contributed to a significant rise in charges for Lachlan.

³² The methodology is set out in ACCC, *Final Decision on State Water Pricing Application: 2014-15 - 2016-17*, June 2014, Appendix B, pp. 68-77. Note that step one here is based on forecast usage excluding trade out of NSW (being the forecast approach used in the 2014 Determination), as distinct from the forecast usage including trade out of NSW which is used in step two.

³³ The rate of return is 4.26 per cent in real terms, or 5.62 per cent in nominal terms for this final decision.

As the UOM allows WaterNSW to recover the full amount of any under-recovery of MDBA/BRC amounts in the following year (not just the rate of return), the low usage has a significant upward effect on charges for the Murray valley in 2016-17.³⁴

For Border the low usage estimate for 2015-16 resulted in a UOM adjustment for BRC contributions increasing the revenue requirement by 37 per cent. This added a component to 2016-17 charges (compared to those set according to the 2014 determination). However, the amount added was less than the amount added for 2015-16, so it did not cause any increase in charges compared with 2015-16.³⁵

- Actual usage in 2014-15

This had a relatively small effect for most valleys because it affected only one year in the 20-year moving average used for the usage forecast. Low usage in the Lachlan valley in 2014-15 caused the forecast usage for 2016-17 to be 4.8 per cent lower than for 2015-16, with a corresponding upward effect of 4.8 per cent on the usage charge. Above-average usage in the Gwydir valley had a downward effect of 2.1 per cent on the usage charge.

- Low water allocations for general security customers

Below-average water allocation percentages for general security in 2014-15 can lead to an increase in the average water allocation (AWA) ratio and therefore the high security premium.³⁶ This had a limited impact on charges for most valleys, as the forecast AWA ratio for 2016-17 is a moving average of the 20 years up to 2014-15. However, in the Lachlan and Macquarie, allocations of only 2 per cent for general security customers in 2014-15 displaced high allocations (100 per cent or more) in 1994-95 from the 20-year moving average. This resulted in a material change to the AWA ratio (and therefore the high security premium) for these two valleys, resulting in an upward effect of over 9 per cent on the high security entitlement charge for these two valleys.³⁷

- Differences in the 2014 Determination's benchmark revenue requirements from 2015-16 to 2016-17

- The benchmark revenue requirements for 2016-17 were generally within 2 per cent of the 2015-16 amount according to the 2014 Determination. The exception was the Murray valley's MDBA contribution was 11 per cent lower, contributing a significant downward influence to its charges because its MDBA amount is 61 per cent of the Murray valley's total revenue requirements.

5.3.2. Peel valley

Similar to most other valleys, there are three infrastructure charges for users in the Peel valley—a high security entitlement charge, general security entitlement charge and usage charge.

As there is a set cap on charge increases in the Peel (see Box 5.1 below), the UOM does not apply in the Peel valley.

³⁴ Note that such an effect reflects the influence of just one factor, whereas the overall change in charges from 2015-16 depends on the combined impact of all the changing factors.

³⁵ Murray and Murrumbidgee valleys, by contrast, had small over-recoveries from 2014-15 which helped to keep down their charges for 2015-16.

³⁶ The average water allocation (AWA) ratio is the ratio of the 20 year average water allocation percentage for high security entitlements to the 20 year average water allocation percentage for general security entitlements. The High Security Premium (HSP) equals the AWA ratio times a Water Sharing Plan ratio set out in the 2014 Determination. The general security entitlement charge is multiplied by the HSP to derive the high security entitlement charge.

³⁷ Forecast water allocations and AWA ratios are shown in attachment F.

Box 5.1 How Peel valley charges were determined

The appropriate level of charges for the Peel valley was considered in detail by the ACCC in its 2014 Determination. In making this determination, the ACCC was required to balance a number of objectives and principles set out in the *Water Act 2007* (the Water Act) and WCIR. A primary consideration for the ACCC was setting charges in a manner that allowed recovery of efficient costs for WaterNSW and promoted efficiency in the use of water resources and infrastructure assets.

Peel valley's charges for high security entitlements and usage are more than twice as high as the next highest charge in other NSW valleys. Costs charged to users in the Peel valley are primarily for the operation of the Chaffey dam which WaterNSW manages for the benefit of Peel valley users. The Chaffey dam is relatively small (even with the recent expansion of capacity from 62 GL to 100 GL), but many of the costs of operating a dam are relatively fixed regardless of size. In the Peel, the user share of these costs is recovered through charges on relatively low volumes of entitlement and usage.

When IPART first regulated the Peel as a separate valley in 2000, Peel charges recovered only 25 per cent of the relevant costs.³⁸ Subsequently charges for Peel increased faster than other valleys as IPART's approach was based on cost-reflective pricing at the valley level, with a gradual move to full cost recovery. The ACCC continued this approach with its 2014 Determination, consistent with the Basin Water Charging Objectives and Principles set out in the *Water Act 2007*.

However, the ACCC considered that as Peel valley's charges were considerably higher than other valleys, and it had not yet achieved full cost recovery, an immediate move to full cost recovery would impose an excessive price shock. The ACCC considered that this would constitute a perverse pricing outcome and implemented a 10 per cent cap on real charge increases each year. The charges set out in the 2014 Determination were expected to result in an under-recovery in 2014-15 and 2015-16, but to move to approximately full cost recovery by 2016-17.³⁹ If forecast demand eventuates, total revenue from regulated charges in the Peel Valley in 2016-17 will amount to over 99.5% of the revenue requirement.

The table below shows the derivation of the entitlement and usage charges for Peel valley users for 2016-17 (in \$2016-17) from the charges for the previous year in \$2015-16, showing the two steps – adjustment for 10 per cent real increase, and a CPI adjustment.

Table 5.2: Derivation of Peel valley final 2016-17 charges from 2015-16 charges (\$/ML)

Charge	High security entitlement	General security entitlement	Usage
2015-16 charge (\$2015-16) (as listed in ACCC's final decision on annual review of 2015-16 charges, table 1.1)	\$31.65	\$3.48	\$52.27
2016-17 charge (\$2015-16) after adding capped 10 per cent real increase	\$34.82	\$3.83	\$57.50
2016-17 charge (\$2016-17) after adding annual CPI adjustment of 1.31 per cent	\$35.27	\$3.88	\$58.25

³⁸ NSW IPART, *Department of Land And Water Conservation: Bulk Water Prices from 1 July 2000*, September 2000, p.18.

³⁹ This refers to recovery of the 'user share' of costs. Total costs for each valley also include a component paid by the NSW Government according to pre-determined user and government shares for different activities.

5.3.3. Fish River

Infrastructure charges for Fish River are also adjusted by a UOM which, broadly, operates in the same way as the UOM for the other valleys. However, the application of the UOM is more complex due to the different charge structure for Fish River customers, where there are:

- different charges for raw and filtered water
- access and usage charges for each type of water
- access (fixed) charges specified separately for major and minor customers (as explained in 2.2.2)

The ACCC sets the charges for EnergyAustralia (the single major customer for raw water) and 280 minor customers. However, charges set by the ACCC depend partly on the volumes used by other customers whose charges are regulated by IPART, as both groups share certain joint costs.⁴⁰ WaterNSW submitted updated volume information for all Fish River customers in its application for this annual review.

Table 5.3 below sets out the Fish River charges calculated in accordance with the methodology set out in the ACCC's 2014 Determination with updated data. Charges increased by between 4.3 per cent and 8.4 per cent in nominal terms. The largest charge increases were for usage charges for all customers, which increased by about 8 per cent for usage below the MAQ and 6 per cent for usage above the MAQ. The increase was due to a combination of factors – actual usage in 2014-15 being lower than normal, estimated usage in 2015-16 lower than forecast, and a higher revenue requirement for 2016-17 (from the 2014 Determination).

Table 5.3: 2016-17 charges set according to the 2014 Determination and % change from 2015-16 – Fish River Water Supply Scheme

Customer type	Access charge		Usage below MAQ* (per KL)		Usage above MAQ* (per KL)	
	2015-16	% change	2015-16	% change	2015-16	% change
Raw water (EnergyAustralia)	\$0.36	4.3%	\$0.42	8.1%		
Raw water (minor customers)	\$71.27	4.3%	\$0.42	8.1%	\$0.78	6.3%
Filtered water (minor customers)	\$137.95	4.3%	\$0.78	8.4%	\$1.47	6.5%

* Minor customers have a deemed MAQ of 200KL. For major customers, their MAQ is the maximum volume they are permitted to use.

**The access charge for minor customers is an annual charge equal to the same per KL access charge payable by major customers, multiplied by the deemed MAQ of 200KL.

⁴⁰ IPART is responsible for setting charges for three major customers in Fish River - the Lithgow and Oberon councils and the former Sydney Catchment Authority (now part of WaterNSW). When the ACCC made its 2014 Determination, IPART intended to use information from the ACCC's review of charges in Fish River in its own review of charges. However, on 14 July 2014, IPART announced that it was deferring its review of these charges and that the 2013-14 charges for the Lithgow and Oberon councils and SCA will apply until 1 July 2017. Any under or over-recovery of revenue due to IPART setting charges different from those determined by the ACCC for major customers will not affect customers whose charges are regulated by the ACCC. This is because the ACCC's UOM calculates estimated revenue for 2014-15 and 2015-16 on the basis of the charges set according to the ACCC's 2014 Determination, rather than the actual charges set by IPART.

6. Step two: the 'change in forecasts' variation test

Summary of the final decision

The ACCC's final decision is that the 'change in forecasts' variation test is satisfied and therefore the charges that would result from the application of the formulae in the 2014 Determination should be varied in order to take into account the volume of water allocation traded out of NSW.

This maintains the position taken in the ACCC's draft decision.

The second step taken by the ACCC in undertaking this review involved consideration of any additional information that changed the demand or consumption forecasts adopted in the 2014 Determination.

6.1. Interstate trade

In December 2014, WaterNSW advised the ACCC that it was imposing usage charges on customers trading water allocation to persons who do not hold a NSW water access licence with an associated water supply works and complying metering. This is the case with water allocation trades from NSW to other Basin States. WaterNSW stated that this approach to imposing the usage charge had previously been endorsed by IPART in its 2010 determination of WaterNSW's charges.

Although WaterNSW receives revenue in the form of usage charges imposed on those trading water allocation from NSW to interstate, the volumes of water allocation traded out of NSW were not included in the usage data provided to the ACCC for the purposes of the ACCC's 2014 Determination. The usage volumes that the ACCC relied upon in making its 2014 Determination (and in particular, for the forecasts) were derived from information supplied by WaterNSW on volumes used by customers in NSW.

WaterNSW has provided retrospective data on interstate trade volumes. In its application as part of the annual review of regulated charges for 2015-16, WaterNSW advised that it can only provide actual data from 2004-05 when its predecessor, the State Water Corporation of NSW, was created. However, it extrapolated this data by applying the average trade volume from 2004-05 to 2014-15 to each of the earlier years back to 1994-95, for each valley, for the purpose of establishing the 20-year moving average.

The ACCC took account of this trade data in its annual review for 2015-16 charges, and varied the demand forecasts accordingly to include outward trade as part of usage.

In its 2016-17 pricing application WaterNSW provided updated trade data with estimates for 2015-16, but also submitted corrections to some of the earlier estimates for years back to 1994-95. These comprise two types of correction:

Border:

WaterNSW advised that, prior to the current arrangements that commenced in 2009 in the Border Rivers, interstate trade between NSW and Queensland was restricted to those customers that had common ownership of properties in both NSW and Queensland. Any interstate usage that was undertaken was attributed to the NSW licence, so that usage

figures prior to 2009 (submitted to the ACCC as part of the 2014 price review) already included interstate trade undertaken.⁴¹

Therefore trade prior to 2009 has now been set to zero, rather than the average of later years which had been used in the first annual review. The ACCC considers that this methodology for Border trade is more appropriate as trade (outside of common ownership) was not possible in those years.

Border, Murray and Murrumbidgee:

WaterNSW advised that there was a spreadsheet error affecting the totals for trade data between 2006-07 and 2009-10 in the data submitted for the 2015-16 annual price review. The data has been corrected in the 2016-17 application.

The ACCC's draft charges for 2016-17 reflected the inclusion of these trade volumes (as updated) in usage for the Border, Murray and Murrumbidgee valleys. No submissions were received in relation to this step of the annual review process.

6.2. Step two—final decision

The ACCC considers that the amended information provided by WaterNSW on water allocation traded out of the Border, Murray and Murrumbidgee valleys to other Basin states is reasonable and calculated in accordance with appropriate methodology.

The ACCC considers that data used to forecast demand should be adjusted to include the trade volumes, since WaterNSW's revenue from usage charges includes charges on both local usage and allocations traded out of NSW. WaterNSW would over-recover revenue beyond its requirements unless charges are calculated on the basis of the adjusted data.

The ACCC's final decision is that the 'change in forecasts' variation test is satisfied and therefore, the charges that would result from the application of the formulae in the 2014 Determination should be varied in order to take into account the volume of water allocation traded from NSW to other Basin States.

Table 6.1: Charges calculated by steps one and two of annual review process – nominal \$2016-17 / ML and percentage change from 2015-16 (Border, Gwydir, Namoi, Peel, Lachlan, Macquarie, Murray, Murrumbidgee and Lowbidgee valleys)

Valley	High security entitlement charge		General security entitlement charge		Usage charge	
	2015-16	% change	2016-17	% change	2015-16	% change
Border	\$11.12	-0.7%	\$3.91	0.4%	\$10.63	4.4%
Gwydir	\$14.13	0.9%	\$3.47	0.9%	\$12.13	2.0%
Namoi	\$17.29	2.9%	\$8.25	3.2%	\$20.26	2.3%
Peel	\$35.27	11.4%	\$3.88	11.4%	\$58.26	11.4%
Lachlan	\$16.48	11.0%	\$3.28	1.2%	\$21.12	9.3%
Macquarie	\$16.17	12.7%	\$3.62	3.2%	\$16.97	6.8%
Murray	\$5.00	4.4%	\$2.71	2.2%	\$6.48	1.2%
Murrumbidgee	\$3.79	4.4%	\$1.56	1.4%	\$4.36	1.8%
Lowbidgee			\$0.84	7.0%		

⁴¹ WaterNSW – note in pricing model provided with application ('Demand and Allocations data' sheet).

Charges for Fish River are unaffected by the trade adjustments in step two and remain as set out for step one in table 5.3.

6.2.1. How charges are affected by step two

Charges are varied as a result of updating forecast usage by including in its calculation the volume of water allocation traded out of NSW. The inclusion of these volumes for the years 1995-96 to 2014-15 has increased the 20-year moving average used to forecast usage in 2016-17. This has a downward effect on usage charges for 2016-17, but does not affect entitlement charges.

The downward effect (compared with the charges shown in table 5.1) is 4 per cent for Border, 12 per cent for Murray and 5 per cent for Murrumbidgee. The effect on the usage charge for Murray is largest because the interstate water allocation trade from the Murray valley is the most significant relative to its usage volumes, as shown in table E3 in attachment E.

7. Step three: the ‘price stability’ variation test

Summary of the final decision

The ACCC's final decision is that the price stability variation test has not been satisfied and it is not reasonably necessary to vary charges on these grounds for any valley. This is based primarily on consideration of the likely impact on WaterNSW's customers' bills, and concern for longer term charges if charges for 2016-17 were to be limited.

The ACCC has decided to determine charges in accordance with its 2014 Determination, as varied by the changes in demand forecasts due to the inclusion of interstate water allocation trade volumes.

7.1. Meaning of price stability

The charges resulting after stages one and two are as shown in tables 6.1 (for Border, Gwydir, Namoi, Peel, Lachlan, Macquarie, Murray, Murrumbidgee and Lowbidgee) and 5.3 (for Fish River).

In annual reviews, the ACCC must have regard to price stability when deciding whether to vary the charges set according to the 2014 Determination. The WCIR does not define the term ‘price stability’. However, in assessing whether charges should be varied on the grounds of price stability, the ACCC has considered the impact of charge increases on WaterNSW's customers' bills and the longer term impact of limiting increases in charges.

7.2. Submissions and ACCC consideration

The NSW Irrigators' Council (NSWIC) queried the price stability variation test used by the ACCC and the size of price increases allowed:

“..the ACCC's draft decision again proposes bulk water charge increases of over 10 per cent in some valleys (including the Macquarie and Lachlan High Security charges and the Murray usage charges). NSWIC again submits that such extreme price volatility is of serious concern, as these increases are far in excess of projected CPI increases over the same timeframe.

NSWIC believes that the continuous increase in regulated charges warrants further discussion about the appropriateness of ACCC's 'Overs and Unders' mechanism (UOM) and the associated 'price stability test'. While NSWIC supports a 'price stability' consideration by the ACCC, we believe it is grossly inappropriate to base this test on an 'expected bill' impact analysis using a 500ML entitlement per user scenario. NSWIC believes it is crucial that the ACCC employs more sophisticated methods to assess customer impacts - with an analysis of the total costs associated with holding a water entitlement in NSW (including the additional costs imposed via the charge components of the Water Administration Ministerial Corporation, Murray-Darling Basin Authority, and Border Rivers Commission).”⁴²

The ACCC notes that the assumption that a user holds 500ML of entitlement does not affect the percentage change in expected bills that a user will face, as WaterNSW does not have a tiered tariff structure for either their fixed or variable charges.

⁴² NSWIC submission, 4 May 2016, p.1.

The expected bills include the MDBA and BRC components included in WaterNSW charges, but not charges collected for the Water Administration Ministerial Corporation, which are separately determined by IPART.

The ACCC is aware that there is a wide range of other factors that affect irrigators' financial positions, both water-related and other, and that they will affect different customers in different ways. They are all outside the ACCC's control and we consider it would be impractical and inappropriate to try to take account of some or all of these factors in an annual review of WaterNSW charges.

The NSWIC further noted:

"..NSWIC has made a number of submissions to the ACCC in which the Council emphasised its continuing concerns with the annual consumption review process and the UOM. In its previous submissions the Council noted that those mechanisms could lead to significant price volatility for irrigators which adversely affects their enterprises through their inability to effectively manage costs and the impact of those costs. Given the significant price increases that are proposed in this ACCC draft decision, and in previous annual reviews, the Council's concerns have again been confirmed. NSWIC believes this is a serious shortcoming of the ACCC determination process and requires urgent review of the determination processes.

.....NSWIC urges the ACCC to ensure that the price volatility is absolutely minimised and the 'Price Stability' test is applied with a sensible cost benchmark used (i.e. CPI), as was the case in the previous IPART determinations."⁴³

While volatility could be minimised by constraining price movements to a low benchmark such as the CPI, this would be inconsistent with the ACCC's 2014 Determination. This was based on our view that where WaterNSW experiences an under or over-recovery of revenue due to variation in demand for its services, charges should be adjusted through the UOM to restore a portion of the cumulative under/over recovery balance each year. Given the wide variation expected in usage from year to year, it was understood that charges would have to be adjusted by greater than CPI movements at times.

If charges for 2015-16 had remained at the same real level as in 2014-15, WaterNSW's total under-recovery would be considerably increased above the level experienced under the UOM. The ACCC considers that this represents an excessive shifting of risk towards WaterNSW.

The objective of the UOM is to balance revenue stability for WaterNSW and price stability for WaterNSW's customers. The UOM is symmetric, being designed to share risk both in periods of above-average and below-average water usage. If usage increases in later years to an extent that WaterNSW is over-recovering from customers, the UOM would ensure that a portion of this balance is returned to customers each year.

Further, the ACCC notes that any future decision to increase the proportion of revenue recovered from fixed (versus variable) charges to more closely match the proportion of WaterNSW's costs that are fixed, would reduce or eliminate the need for an UOM and the resulting variability in charge levels. WaterNSW proposed a move towards a ratio of 80:20 for revenue recovered from fixed versus variable charges in its application to the ACCC as part of the 2014 Determination, however this was opposed by many stakeholders, including NSWIC.

⁴³ NSWIC submission, 4 May 2016, p.2.

7.3. Expected impact on customer bills

The ACCC recognises that charges in some valleys are set to increase by between 7 and 13 per cent (in nominal terms) under this final decision and that such increases are significant. The highest percentage increases (and the only increases over 6 per cent) are for:

- high security entitlement and usage charges in the Macquarie valley (12.7 per cent and 6.8 per cent nominal, respectively)
- high security entitlement and usage charges in the Lachlan valley (11.0 per cent and 9.3 per cent nominal)
- entitlement and usage charges in the Peel (11.4 per cent nominal)
- usage charges for Fish River (6.3 to 8.4 per cent nominal)
- general security entitlement charge for Lowbidgee (7 per cent nominal).

The ACCC considers that, in assessing whether charges should be capped on the grounds of price stability, it should focus on the likely impact of the charge increases on WaterNSW's customers.

The ACCC considers that an analysis of expected bills is the most appropriate method of assessing the impact of charge increases on WaterNSW's customers, given that customers will face a combination of fixed and variable charges. Accordingly, the ACCC analysed the likely impact of the charge increases set out in tables 6.1 and 5.3 on WaterNSW's customers in order to assess whether it is reasonably necessary to cap charge increases for reasons of price stability.

In conducting this analysis, the ACCC made the following assumptions:

- a 500 ML entitlement per user, for users in the Border, Gwydir, Namoi, Peel, Lachlan, Macquarie, Murray and Murrumbidgee valleys
- Minimum Annual Quantity (MAQ) for the major customer in Fish River – EnergyAustralia, and 200 KL per annum for minor customers
- usage based on the average water allocation for each valley, and average usage for each Fish River customer type, calculated using the 20-year moving average
- figures for 2015-16 and 2016-17 are in real terms, at \$2015-16 price levels.

In its 2014 Determination, the ACCC applied a uniform 10 per cent cap (in real terms)⁴⁴ on annual charge increases in the Peel valley, in part to take account of the significantly higher charges in that valley (in particular the high security entitlement charge and the usage charge) relative to other valleys. Similarly, IPART has previously determined that price caps of 10 per cent were appropriate for users in valleys with a high absolute level of charges.

The ACCC's analysis shows that WaterNSW customers in five valleys face expected bill increases of less than 2 per cent in real terms. In the remaining valleys the largest increases (apart from Peel) are for high security entitlement holders in the Lachlan valley (8.7 per cent in real terms, or 10.1 per cent nominal) and in the Macquarie valley (8.2 per cent in real terms or 9.6 per cent nominal). The impact on expected bills is shown in full in attachment G.

The ACCC notes the largest increases are less than 10 per cent in real terms, and the absolute value of charges in the Lachlan and Macquarie valleys will continue to be considerably less than charges in the Peel.

⁴⁴ Given the forecast rate of inflation of 1.31 per cent, the equivalent nominal increase for Peel valley charges is 11.4 per cent.

Further, if the ACCC were to cap the 2016-17 charge increases on the grounds of price stability and allow WaterNSW to carry the balance of its unders and overs account into later years, this could result in more significant charge increases in subsequent years and therefore would not necessarily bring about greater price stability in the longer term.

As such, there is little basis for varying charges for reasons of price stability in the Lachlan and Macquarie valleys, or in any other valley.

7.4. Step three – final decision

The ACCC's final decision is that the price stability variation test has not been satisfied and that it is not reasonably necessary to vary from the approach to setting charges set out in the 2014 Determination for reasons of price stability.

Accordingly, the ACCC's final decision is for WaterNSW's 2016-17 regulated charges to be those set according to the 2014 Determination, as varied due to changes in forecasts (step 2). These charges are set out in attachment A.

Attachment A: Final 2016-17 charges and ICD rebates

Note: Charges in nominal \$2016-17 include CPI increase at 1.31 per cent.

Table A1: Final charges – nominal \$2016-17/ML and percentage change from 2015-16 (Border, Gwydir, Namoi, Peel, Lachlan, Macquarie, Murray, Murrumbidgee and Lowbidgee valleys)

Valley	High security entitlement charge		General security entitlement charge		Usage charge	
Border	\$11.12	-0.7%	\$3.91	0.4%	\$10.63	4.4%
Gwydir	\$14.13	0.9%	\$3.47	0.9%	\$12.13	2.0%
Namoi	\$17.29	2.9%	\$8.25	3.2%	\$20.26	2.3%
Peel	\$35.27	11.4%	\$3.88	11.4%	\$58.26	11.4%
Lachlan	\$16.48	11.0%	\$3.28	1.2%	\$21.12	9.3%
Macquarie	\$16.17	12.7%	\$3.62	3.2%	\$16.97	6.8%
Murray	\$5.00	4.4%	\$2.71	2.2%	\$6.48	1.2%
Murrumbidgee	\$3.79	4.4%	\$1.56	1.4%	\$4.36	1.8%
Lowbidgee			\$0.84	7.0%		

Table A2: MDBA/BRC component of final charges – nominal \$2016-17/ML and percentage change from 2015-16

Valley	High security entitlement charge		General security entitlement charge		Usage charge	
Border	\$4.22	-4.8%	\$1.49	-3.7%	\$4.03	0.0%
Murray	\$3.22	5.8%	\$1.74	3.5%	\$4.17	2.6%
Murrumbidgee	\$0.72	8.0%	\$0.29	4.9%	\$0.82	5.4%

Note: The MDBA charge component is included in the charges in table A1 above, not additional to it.

Table A3: Final charges – nominal \$2016-17 and percentage change from 2015-16 (Fish River)

Customer type	Access charge		Usage below MAQ (per KL)*		Usage above MAQ (per KL)*	
Raw water - major customers	\$0.36 / KL of MAQ	4.3%	\$0.42	8.1%		
Raw water - minor customers	\$71.27	4.3%	\$0.42	8.1%	\$0.78	6.3%
Filtered water - minor customers	\$137.95	4.3%	\$0.78	8.4%	\$1.47	6.5%

* Minor customers have a deemed MAQ of 200KL.

**The access charge for minor customers is equal to the same per KL access charge payable by major customers, multiplied by the deemed MAQ of 200KL.

Table A4: Final charges – metering service charges per annum 2016-17 (\$2016-17)

Type of meter	Cth-funded meters with telemetry	Cth-funded meters without telemetry	WaterNSW–funded meters with telemetry	WaterNSW–funded meters without telemetry
50 mm	398.65	414.72	1,344.53	1,076.97
80 mm	398.79	414.86	1,352.60	1,085.04
100 mm	399.55	415.62	1,397.65	1,130.09
150 mm	420.27	436.34	1,498.58	1,231.03
200 mm	442.79	458.86	1,558.42	1,290.86
250 mm	448.46	464.53	1,636.55	1,368.99
300 mm	450.46	466.53	1,755.18	1,487.61
350 mm	463.04	479.11	2,202.39	1,934.83
400 mm	515.41	531.48	2,586.75	2,319.19
450 mm	623.99	639.68	2,785.81	2,517.88
500 mm	633.40	649.09	2,982.73	2,714.78
600 mm	667.59	683.29	3,371.25	3,103.32
700 mm	681.27	696.97	3,739.47	3,471.54
750 mm	682.95	698.64	3,839.18	3,571.24
800 mm	720.82	736.51	4,424.93	4,156.98
900 mm	775.11	790.80	4,652.60	4,384.67
1000 mm	780.59	796.28	4,978.85	4,710.92
Channel	7,637.95		13,583.68	

Table A5: Final charges – miscellaneous 2016-17 (\$2016-17)

Type of charge	Charge (\$)
Charges for testing meter accuracy under dispute	1,710.26
Environmental gauging station charges	8,789.45
Fish River connection charges	473.51
Fish River disconnection charges	263.06
Allocation trade processing – charge per application	39.01
Allocation trade processing – charge per ML of allocation traded	0.51
Allocation trade processing – cap on total charge	153.98
Yanco Creek levy – per ML of entitlement	0.90

Table A6: Final ICD rebates 2016-17 (\$2016-17)

Valley / Irrigation Corporation or District	ICD Rebate (\$)
Lachlan valley	
Jemalong	62,640
Murray valley	
Murray Irrigation	920,571
Western Murray	32,166
West Corurgan	51,088
Moirra	25,527
Eagle Creek	9,004
Murrumbidgee valley	
Murrumbidgee Irrigation	645,608
Coleambally	283,320
Total rebates	2,029,924

Attachment B: Revenue requirements and recovery

Table B1: Revenue Requirements 2015-16 and 2016-17 (\$'000, real \$2013-14)

Valley	WaterNSW costs			MDBA/BRC			MDBA/BRC contributions as % of total revenue requirement for 2016-17
	2015-16	2016-17	% change	2015-16	2016-17	% change	
Border	1,501	1,508	0.5%	700	700	0.0%	31.7%
Gwydir	4,905	4,973	1.4%	0	0		0.0%
Namoi	5,166	5,200	0.7%	0	0		0.0%
Peel	1,309	1,313	0.3%	0	0		0.0%
Lachlan	6,927	7,067	2.0%	0	0		0.0%
Macquarie	6,644	6,769	1.9%	0	0		0.0%
Murray	5,950	5,845	-1.8%	10,400	9,300	-10.6%	61.4%
Murrumbidgee	9,955	9,925	-0.3%	2,300	2,100	-8.7%	17.5%
Fish River	9,548	9,653	1.1%	0	0		0.0%
Lowbidgee	561	592	5.6%				

Table B2: Revenue recovery through unders and overs mechanism (\$'000 nominal)

Valley	UOM balance at beginning of 2015-16*	Adjustment to UOM balance due to actual volumes for 2014-15 Q4	Over/under-recovery in 2015-16	UOM balance at end of 2015-16	Total amount to recover in 2016-17**	UOM balance carried forward
Border	-646	24	-667	-1,289	329	-1,033
<i>of which</i>						
—WNSW costs	-646	16	-403	-1,033	-58	-1,033
—BRC costs	0	8	-264	-256	-271	0
Gwydir	-1,148	94	-1,378	-2,432	137	-2,432
Namoi	-1,832	8	-1,215	-3,039	171	-3,039
Lachlan	-753	-264	-687	-1,705	96	-1,705
Macquarie	-2,728	12	-2,661	-5,376	302	-5,376
Murray	50	1,951	-3,961	-1,960	1,398	-672
<i>of which</i>						
—WNSW costs	50	727	-1,449	-672	-38	-672
—MDBA costs	0	1,224	-2,513	-1,288	-1,361	0
Murrumbidgee	331	381	-1,612	-899	274	-676
<i>of which</i>						
—WNSW costs	331	310	-1,317	-676	-38	-676
—MDBA costs	0	71	-295	-223	-236	0
Fish River	-1,147	-1,235	-2,198	-4,579	258	-4,579
Total	-8,137	973	-14,379	-21,278	2,964	-19,511

Notes: An over-recovery is a positive figure, and under-recovery is negative in this table.

Peel and Lowbidgee are not subject to the unders and overs mechanism.

* Based on actual usage in the first three quarters of 2014-15 and estimated usage in the last quarter of 2014-15.

** According to the 2014 Determination, the change to required revenue due to the UOM is calculated as:

- for WaterNSW components – the UOM balance at end of 2015-16, multiplied by the WACC
- for BRC / MDBA components – the total UOM balance, plus the balance multiplied by WACC.

Attachment C: WaterNSW application

Note: Nominal \$2016-17 in attachment C includes interim forecast CPI increase at 1.5% used in WaterNSW's application.

Table C1: WaterNSW proposed charges – nominal \$2016-17/ML and percentage change from 2015-16 (Border, Gwydir, Namoi, Peel, Lachlan, Macquarie, Murray, Murrumbidgee and Lowbidgee valleys)

Valley	High security entitlement charge	General security entitlement charge	Usage
Border	\$11.15	\$3.92	\$10.66
Gwydir	\$14.17	\$3.48	\$12.16
Namoi	\$17.34	\$8.27	\$20.32
Peel	\$35.33	\$3.89	\$58.36
Lachlan	\$16.51	\$3.29	\$21.17
Macquarie	\$16.23	\$3.63	\$17.02
Murray	\$5.01	\$2.72	\$6.54
Murrumbidgee	\$3.80	\$1.56	\$4.37
Lowbidgee		\$0.84	

Table C2: WaterNSW proposed charges – nominal \$2016-17 (Fish River)

Customer type	Access charge	Usage below MAQ* (per KL)	Usage above MAQ* (per KL)
Raw water — major customers (EnergyAustralia)	\$0.36 / KL of MAQ	\$0.42	\$0.78
Raw water – minor customers	\$71.46**	\$0.42	
Filtered water – minor customers	\$138.32**	\$0.78	\$1.47

* Minor customers have a deemed MAQ of 200KL.

**The access charge for minor customers is equal to the same per KL access charge payable by major customers, multiplied by the deemed MAQ of 200KL.

Attachment D: Entitlement holdings

Table D1: Updated high security entitlement forecasts (ML) for 2016-17 and % change from 2015-16

Valley	2015-16 high security entitlement*	Forecast 2016-17 high security entitlement	% change
Border	3,122	3,122	0.0%
Gwydir	22,707	26,840	18.2%
Namoi	8,882	8,874	-0.1%
Peel	17,382	17,367	-0.1%
Lachlan	57,512	57,514	0.0%
Macquarie	42,719	42,707	0.0%
Murray	261,515	261,883	0.1%
Murrumbidgee	438,339	438,331	0.0%

* 2015-16 high security entitlement figures as forecast for the purpose of determining 2015-16 charges.

Table D2: Updated general security entitlement forecasts (ML) for 2016-17 and % change from 2015-16 forecast

Valley	2015-16 general security entitlement*	Forecast 2016-17 general security entitlement	% change
Border	263,238	263,238	0.0%
Gwydir	509,665	511,609	0.4%
Namoi	256,212	256,212	0.0%
Lachlan	633,256	633,256	0.0%
Peel	30,528	30,428	-0.3%
Macquarie	632,466	632,466	0.0%
Murray	2,081,742	2,081,716	0.0%
Murrumbidgee	2,267,963	2,267,963	0.0%

* 2015-16 general security entitlement figures as forecast for the purpose of determining 2015-16 charges.

Attachment E: Water usage

Table E1: Actual, forecast and estimated water usage volumes (ML)—Border, Gwydir, Namoi, Peel, Lachlan, Macquarie, Murray and Murrumbidgee valleys

Valley	Actual 2014-15 usage	Forecast 2015-16 usage*	Estimated 2015-16 usage	% difference 2015-16 forecast and estimated usage	Forecast 2016-17 usage**
Border	44,447	156,230	90,751	-42%	150,262
Gwydir	152,705	261,298	140,000	-46%	266,675
Namoi	67,401	166,374	105,000	-37%	167,762
Peel	6,065	11,530	7,000	-39%	11,238
Lachlan	175,398	225,552	190,000	-16%	214,829
Macquarie	90,815	267,387	100,000	-63%	263,576
Murray	1,745,574	1,589,430	970,471	-39%	1,611,248
Murrumbidgee	1,934,079	1,779,057	1,402,228	-21%	1,788,129
Total usage	4,216,483	4,456,858	3,005,450	-33%	4,473,718

* Forecast usage for 2015-16 is taken from the annual review of regulated charges for 2015-16, which updated the 2014 Determination forecasts to include water allocations traded out of NSW.

** Forecast usage for 2016-17 is derived using the 20-year average usage volumes from 1995-96 to 2014-15, as varied to include water allocations traded out of NSW.

Table E2: Actual, forecast and estimated water usage volumes (ML)—Fish River

Customer	Actual 2014-15 usage	Forecast 2015-16 usage*	Estimated 2015-16 usage	% difference 2015-16 forecast and estimated usage	Forecast 2016-17 usage**
Raw water – Major customers	3,656	9,236	3,900	-58%	8,910
Raw water – minor customers	65	49	65	33%	50
Filtered water – minor customers	80	120	80	-33%	119
	4,553	10,326	4,845	-53%	9,963

Note: Usage includes customers regulated by IPART.

* Forecast usage for 2015-16 is taken from the annual review of regulated charges for 2015-16.

** Forecast usage for 2016-17 is derived using the 20-year average usage volumes from 1995-96 to 2014-15.

Table E3: Volumes of water allocations traded to non-NSW buyers

Source valley	Average volume traded 1995-96 to 2014-15	Volume traded as % of usage forecast 2016-17	Estimated volume traded 2015-16	Volume traded out as % of usage estimate 2015-16
Border	5,591	3.7%	751	0.8%
Murray	198,336	12.3%	164,471	16.9%
Murrumbidgee	84,840	4.7%	2,228	0.2%

Attachment F: Water allocations

Note: In tables F1 and F2, 'water allocations' mean the amount of water allocated to entitlements, expressed as a percentage. 'Average water allocation (AWA)' is the 20 year average of actual 'water allocations' and is used to generate a 'Forecast water allocation for upcoming years.

Note: In table F3, the 'AWA ratio' is the ratio of the AWA for high security entitlements to the AWA for general security entitlements.

Table F1: Forecast water allocations for 2016-17—high security entitlements

Valley	Forecast 2015-16 water allocation (%)*	Forecast 2016-17 water allocation—updated (%)**	% change
Border	100	100	0.0
Gwydir	100	100	0.0
Namoi	100	100	0.0
Peel	100	98	-1.6
Lachlan	83	83	0.0
Macquarie	100	100	0.0
Murray	95	95	-0.1
Murrumbidgee	98	97	-0.2

* The forecast 2015-16 water allocation was derived from 'water allocations' from 1994-95 to 2013-14.

** The forecast 2016-17 water allocation was derived from 'water allocations' from 1995-96 to 2014-15.

Table F2: Forecast water allocations for 2016-17—general security entitlements

Valley	Forecast 2015-16 water allocation (%)*	Forecast 2016-17 water allocation —updated (%)**	% change
Border	45	45	1.1
Gwydir	45	45	0.0
Namoi	59	60	0.3
Peel	65	63	-3.8
Lachlan	44	40	-8.8
Macquarie	46	42	-8.5
Murray	66	65	-2.3
Murrumbidgee	67	65	-3.1

* The forecast 2015-16 water allocation was derived from 'water allocations' from 1994-95 to 2013-14.

** The forecast 2016-17 water allocation was derived from 'water allocations' from 1995-96 to 2014-15.

Table F3: Forecast AWA ratios

Valley	Forecast 2015-16 AWA ratio	Forecast 2016-17 AWA ratio	Change
Border	2.25	2.22	-1.1%
Gwydir	2.25	2.25	0.0%
Namoi	1.68	1.68	-0.3%
Peel	1.53	1.57	2.4%
Lachlan	1.87	2.05	9.7%
Macquarie	2.17	2.38	9.3%
Murray	1.44	1.48	2.2%
Murrumbidgee	1.45	1.50	2.9%

Attachment G: Expected bills for customers

Notes: Expected bills are displayed in real terms, in \$2015-16.

In conducting this analysis, the ACCC made the following assumptions about expected bills:

- a 500ML entitlement per customer, for customers in the Border, Gwydir, Namoi, Peel, Lachlan, Macquarie, Murray and Murrumbidgee valleys.
- minimum annual quantities for Fish River based on water sharing plan for major customers, and a deemed 200 KL MAQ for minor customers
- usage based on the average water allocation for each valley and the forecast usage for each Fish River customer type, calculated using the 20-year moving average up to 2014-15.

Table G1: Final Decision - Expected bills – high security entitlement holder (real \$2015-16) – Border, Gwydir, Namoi, Peel, Lachlan, Macquarie, Murray and Murrumbidgee valleys

Valley	Total bill at 2015-16 charges	Total bill at 2016-17 charges	% Change
Border	10,691	10,735	0.4%
Gwydir	12,945	12,960	0.1%
Namoi	18,304	18,533	1.3%
Peel	41,555	45,711	10.0%
Lachlan	15,397	16,732	8.7%
Macquarie	15,121	16,358	8.2%
Murray	5,443	5,513	1.3%
Murrumbidgee	3,900	3,966	1.7%

Table G2: Final Decision - Expected bills – general security entitlement holder (real \$2015-16) – Border, Gwydir, Namoi, Peel, Lachlan, Macquarie, Murray and Murrumbidgee valleys

Valley	Total bill at 2015-16 charges	Total bill at 2016-17 charges	% change
Border	4,242	4,294	1.2%
Gwydir	4,368	4,380	0.3%
Namoi	9,899	10,034	1.4%
Peel	18,180	19,998	10.0%
Lachlan	5,512	5,815	5.5%
Macquarie	5,102	5,314	4.2%
Murray	3,393	3,402	0.3%
Murrumbidgee	2,161	2,168	0.4%
Lowbidgee	391	413	5.6%

Table G3: Final Decision - Expected bills – Fish River customers (real \$2015-16)

Customer	Total bill at 2015-16 charges	Total bill at 2016-17 charges	% change
EnergyAustralia – raw water	5,105,556	5,343,700	4.7%
Minor customers – raw water	500	524	5.0%
Minor customer – filtered water	791	831	5.1%