

IPART REVIEW OF PRICES FOR CENTRAL COAST COUNCIL FROM 1 JULY 2019



SUBMISSION TO ISSUES PAPER
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EXECUTIVE SUMMARY

The Independent Pricing and Regulatory Tribunal (IPART) is reviewing the prices for water, sewerage and related services for Central Coast Council that will apply from 1 July 2019. IPART's issues paper canvasses a number of matters relating to the bulk water transfer price between Hunter Water and Central Coast Council. IPART has asked Hunter Water and Central Coast Council to provide a response to its issues paper by 7 September 2018.

The focus of this submission is the basis for setting the bulk water transfer price. Hunter Water may provide a further submission on other questions raised in IPART's issues paper to the extent that they may have implications for Hunter Water's 2019-20 pricing review.

We have assessed the transfer pricing options identified in IPART's issues paper taking into account the following factors:

- The primary purpose of the transfer system continues is to provide a drought response measure under the Lower Hunter Water Plan, operating in accordance with the 2006 Hunter Water/Central Coast pipeline agreement.
- The need to not unnecessarily constrain the operation of the 2006 pipeline agreement in order to optimise its effectiveness as a drought response measure.
- The pre-existing arrangements between Hunter Water and Central Coast Council regarding the apportionment of infrastructure construction, ownership, funding and maintenance responsibilities between the parties.
- The need to ensure full recovery of the transfer scheme's costs.
- The desirability of transparent, stable and administratively simple pricing arrangements.

Hunter Water's internal assessment against the above factors supports the continuation of IPART's current approach of setting the transfer price with reference to the short-run marginal (SRMC) cost of both utilities – with the highest cost prevailing.

We have consulted with Central Coast Council and understand that they also prefer the continuation of the current pricing approach. Hunter Water's current SRMC is circa \$0.12 per kilolitre compared to Central Coast Council estimate of circa \$0.30 per kilolitre. Accordingly, we propose that the transfer price be set at Central Coast Council SRMC of water.

Hunter Water is concerned that the transfer scheme's capacity continues to be constrained by investment delays. We note that under the 2006 Pipeline Agreement with Central Coast Council, the transfer scheme was intended to provide the capacity for average daily flows of 33 megalitres per day to the south and 30 megalitres per day to the north. However, while the southerly flow rate was achieved some years ago, the capacity to transfer water to the north as at the end of 2018 will still be limited to 20 megalitres per day.

We note that the capacity to achieve a transfer rate of up to 30 megalitres per day to the Hunter region now relies on the completion by Central Coast Council of the Mardi to Warnervale pipeline project.

Hunter Water is also concerned that the current 80 per cent capacity restriction on Central Coast Council Mangrove Creek Dam further limits the volume of water that can be transferred under the 2006 Agreement.

Accordingly, Hunter Water requests that IPART considers both the Mardi to Warnervale pipeline and Mangrove Creek Dam upgrade projects as critical capital expenditure priorities that need to be completed within Central Coast Council next price path.

We look forward to continuing to work with IPART and Central Coast Council on this review.



1 INTRODUCTION

The Independent Pricing and Regulatory Tribunal (IPART) is reviewing the prices for water, sewerage and related services for Central Coast Council that will apply from 1 July 2019.

IPART's review will also determine maximum prices for the transfer of bulk water between Hunter Water and Central Coast Council (in both directions).

IPART seeks submissions from Central Coast Council and Hunter Water by 7 September 2018.

This submission provides Hunter Water's response to section 6.5 of the issues paper '*Bulk water transfer price between the Council and Hunter Water*'. However, we note that chapter 5 of the issues paper canvasses a range of issues in relation to water and sewerage service and usage prices. The proposed options for resolving some of those issues could have implications for Hunter Water's pricing review that commences in 2019. Accordingly, following an internal review of the tariff issues in Chapter 5, Hunter Water may make a further submission by the 12 October deadline for other submissions.

We have structured our submission as follows:

1. **Introduction**
2. **Bulk water transfer scheme history and status**
 - Describes the scheme's background, current status and Hunter Water's hydrological usage modelling
3. **Bulk water pricing history and assessment of bulk water pricing options**
 - Outlines the history and current status of bulk water transfer pricing approaches, and
 - Assesses the bulk water transfer options identified in IPART's issues paper and provides Hunter Water's preferred pricing approach.



2 BULK WATER TRANSFER SCHEME HISTORY AND STATUS

2.1 Context

In March 2006, Hunter Water entered into a supply agreement to construct a new pipeline link inter-connecting the Hunter and Central Coast water supply systems.

The agreement provides for two-way access to water from the neighbouring systems for a period of 20 years to 2026, along with the construction of interlinking pipes and pumps necessary to facilitate water transfers. It takes advantage of 'off peak' capacity in each of the water distribution systems.

The agreement encompasses several phases of infrastructure development. Infrastructure ownership, along with maintenance responsibility, vests with the entity in whose operating area the asset is located.

The first phase of the transfer schemes involved construction of the infrastructure necessary to provide capability for southerly transfers (Hunter Water to Central Coast) of a minimum of 20 megalitres per day, including connection to the then existing Wyong water supply system. The supply capability for this phase was varied to 25 megalitres per day in December 2006 and 33 megalitres per day in May 2007, subject to construction of additional infrastructure upgrades funded one-third by Hunter Water and two-thirds by the Central Coast. These works were all completed by 2008. A bi-directional water flow meter was also installed along with telemetry to both parties' systems.

The scheme's phases two and three involve an upgrade of Central Coast infrastructure (pipelines, pump stations and reservoirs) to provide capability for northerly transfers (Central Coast to Hunter Water) of a minimum of 30 megalitres per day. Hunter Water awarded the contract for the detailed design and construction of the northern components of the pipeline (at Morisset, Arcadia Vale and Toronto) in April 2017. Construction of the pipeline is largely complete, with full automation of the operation expected to be completed by November 2018. These works will increase the capacity to transfer water north from around 13 megalitres per day to 20 megalitres per day.

Mardi to Warnervale pipeline project

The Central Coast Council pipeline from Mardi to Warnervale is the critical outstanding project in order to achieve the capability to provide northerly transfers of 30 megalitres per day.

IPART's 2013 final report for Gosford and Wyong councils stated that:

*"We consider that while the efficient timing of this project is uncertain, the need for the pipeline to service eventual growth and to increase transfer capacity between Hunter Water and Wyong Council is inevitable. We have decided to allow capital expenditure of \$23.7 million for the construction of the Mardi to Warnervale pipeline."*¹

Hunter Water understands that the Mardi to Warnervale pipeline project continues to experience delays due to unforeseen construction difficulties and associated cost increases. The latest advice from Central Coast Council regarding the project's estimated completion date is 2021-2022.

Mangrove Creek Dam upgrade

Mangrove Creek Dam (MCD) is the Central Coast's main water storage – its total capacity of 190,000 ML represents approximately 94 per cent of the region's storage capacity.

However, as the dam cannot currently meet the NSW Dam Safety Committee's flood requirements for the Probable Maximum Flood (PMF) it is currently not permitted to be filled beyond 80 per cent of capacity.

¹ IPART, 2013, page 96



Hunter Water understands that Central Coast Council pricing submission includes a proposal to upgrade the Dam's spillway and parapet wall by 2022-2023. This would increase water storage capacity by 38,000 ML and ensure dam safety.

Water supply capability required under the Hunter/Central Coast Pipeline Agreement

The 2006 water supply agreement provides for either party to supply potable drinking water to the other on request. Water transfers are subject to minimum storage levels for each party so that the inter-regional transfers do not increase the drought risk of the supplier. Transfers are not required if there are likely to be adverse impacts on the customers of the supplying party, such as during peak demand periods.

The minimum supply commitment from Hunter Water is an average of 33 megalitres per day while Hunter Water's existing storages are above 70 per cent. As storages fall below 70 per cent, the transfer rate is wound back in accordance with Hunter Water's risk of entering restrictions and triggering drought responses.

The minimum supply commitment from the Central Coast is an average of 30 megalitres per day while Central Coast's storages are above 60 per cent, with provisions for transfers to be wound back as storage levels fall.

At the height of the Central Coast drought in 2007, Hunter Water entered into a Heads of Agreement to allow short term 'water banking'. Water was transferred to Hunter Water from the Central Coast to avoid water spilling from their smaller Mardi and Mooney Dams. The net storage position of both regions improved as a result. Since that time, the smaller Mardi Dam has been linked via pipeline to the larger Mangrove Creek Dam and there is a lower chance of dam spills in the Central Coast system. There is no long-term agreement for water banking.

Under the current agreement, water must be provided on the other party's request, with permitted flow rates subject to specified storage levels. The current agreement expires in 2026.

Water transfer frequency

The pipeline requires regular minimum flows to maintain water quality. This operational approach is designed to be revenue neutral for both parties.

Hunter Water's indicative hydrological modelling of the use of the transfer scheme as a drought response measure (see Table 1) suggests that:

- Water transfers in both directions are required very infrequently.
- Average mean flows are higher to the Central Coast.
- The current restriction on the amount of water that can be pumped to the north pending the construction of the Warnervale to Mardi pipeline is limiting the effectiveness of the arrangement as a drought response measure for Hunter Water.
- The current 80 per cent restriction on the capacity of Mangrove Creek Dam in order to meet the Probable Maximum Flood Standard is also a significant constraint on the volume of water that can be transferred to the north under the scheme. The 80 per cent limit restricts Central Coast's ability to store water thereby decreasing the chance that it will be in a position to supply Hunter Water under the agreement when droughts occur.



Table 1 Modelled transfer flows

	Mangrove Creek Dam 80% limit, Pipe capacity: 20MLD north, 33MLD south		Mangrove Creek Dam 80% limit, Pipe capacity: 30MLD north, 33MLD south		Mangrove Creek Dam 100% limit, Pipe capacity: 30MLD north, 33MLD south	
	Hunter Water to Central Coast (ML/yr)	Central Coast to Hunter Water (ML/yr)	Hunter Water to Central Coast (ML/yr)	Central Coast to Hunter Water (ML/yr)	Hunter Water to Central Coast (ML/yr)	Central Coast to Hunter Water (ML/yr)
Mean	711	194	720	248	924	409
Percentiles of annual transfers						
0.01% to 50.00%	0	0	0	0	0	0
75.00%	0	0	0	0	9	0
90.00%	2124	0	2166	0	3812	898
95.00%	6116	1298	6187	1825	7543	3388
99.00%	11528	4553	11550	5768	11898	8056
99.90%	12053	7302	12053	9495	12053	10955
99.99%	12053	7302	12053	10955	12053	10955

Source: Hunter Water headworks model SoMo2017.2a

Hunter Water considers that on balance the 2006 Pipeline Agreement continues to provide a sound framework for inter-regional water sharing providing drought security benefits for both parties.

However, we are concerned that the Pipeline Agreement's benefits as a water security insurance measure for Hunter Water's customers continue to be constrained by infrastructure investment delays.

We note that despite the 2006 Agreement providing for a northerly daily transfer flow of up to 30 megalitres per day, the transfer scheme's capability at the end of 2018 will still be limited to 20 megalitres per day. This contrasts with the scheme's capability since 2008 to transfer 33 megalitres per day to the south.

Hunter Water also notes that full delivery of the transfer scheme is an important commitment under the Lower Hunter Water Plan and the related broader regional water planning that is undertaken jointly by the Department of Industry, Hunter Water and Central Coast Council.

The current 80 per cent capacity constraint on Mangrove Creek Dam's storage level is further limiting the transfer scheme's effectiveness.

Accordingly, Hunter Water requests that IPART considers both the Mangrove Creek Dam upgrade and Mardi to Warnervale pipeline projects as critical capital expenditure priorities that need to be completed within Central Coast Council next price path.



3 OPTIONS ASSESSMENT

3.1 Transfer pricing history

IPART's 2016 draft report of Hunter Water's prices documented the changes in the setting of the bulk water transfer price over recent determinations, as summarised in the following table.

Box 9.2 IPART's historical approach to regulating the bulk water charge

The regulatory approach to bulk water charges and their resulting level has varied in recent determination periods:

- ▼ Prior to 2005, the charge was the subject of commercial negotiation and not regulated by IPART.
- ▼ The 2005 Determination set the charge on the basis of standard water usage charges less a small discount.
- ▼ The 2009 Determination reset the charge on the basis of the average cost of supply.
- ▼ The 2013 Determination reset the charge based on IPART's estimate of the higher of Hunter Water's and the Central Coast Council's short-run marginal cost with the fixed costs – return on and of capital invested in the pipeline – recovered through general charges.

Sources: IPART, 2005 Determination: Final Report, p121; IPART, 2009 Determination: Final Report, p 135; IPART, 2013 Determination: Final Report, p 125.

Source: IPART, Draft Report, Review of prices for Hunter Water Corporation, March 2016, page 140

IPART's 2013 Determination set the bulk transfer price for water sales between Hunter Water and Central Coast Council at the higher of Hunter Water and Central Coast Council (Joint Water Supply) short run marginal cost (SRMC) of supplying water. IPART provided the following rationale for the pricing approach:

"The interchange price should recover only the marginal or incremental cost of water supply for each utility. For simplicity, we decided that setting a single usage price at the higher of the 2 utilities' short run marginal cost of water supply is appropriate. This ensures that the interchange price covers both Hunter Water's and the Central Coast Council's marginal costs. The interchange price will be based on the Councils' short run marginal cost (which is estimated to be \$0.60/kL [\$2012/13]).

An advantage of setting the price at the short run marginal cost is that it encourages a regional approach to water resource management and encourages the use of existing infrastructure.

Under this approach, we will no longer need to consider the transfer volumes to determine the Councils' or Hunter Water's notional revenue requirement because:

- *any increase in revenue from sales will be matched by an increase in costs for the selling region*
- *any decrease in production costs by the buying utility, will be matched by an increase in purchase costs.*²

IPART maintained this approach in its 2016 determination of Hunter Water's prices.

² Extract from IPART, 2013, *Hunter Water Corporation' water sewerage, stormwater drainage and other services: Review of prices from 1 July 2013 to 30 June 2017*, Water – Final Report:



3.2 Assessment of bulk water pricing options

IPART's issues and options

IPART consider that bulk water transfers should be priced in a way that suitably reflects the cost of these transfers:

- to ensure the optimal distribution of water between Central Coast Council and Hunter Water, and
- to promote the efficient use of such transfers relative to alternative water supply and demand management options.³

The issues paper notes that setting the price at each utility's respective SRMC of supply encourages a regional approach to water resource management and the use of existing infrastructure. This approach can also avoid any under or over recovery associated with forecasting errors. However, IPART also note that there may be an argument for Central Coast Council to treat Hunter Water like any other customer (and vice-versa) and charge at its retail price or LRMC of supply (potentially subject to some adjustments).⁴

IPART identify a number of factors relevant to determining the transfer charge include:

- the nature of the service provided (including whether it is a drought response measure or regular supply source),
- the costs incurred,
- the impacts on each utility and their customers, and
- the potential effects of different pricing approaches on investment and consumption decisions⁵.

IPART's issues paper lists the following options for pricing bulk water transfers:

1. The current approach – i.e., the higher of Central Coast Council and Hunter Water short run marginal cost (SRMC) of water supply.
2. Each utility's respective SRMC of water supply (ie, a different price in each direction).
3. Option 2 above, plus a fixed charge to reflect each utility's fixed costs of the pipeline (*i.e. a two part tariff*).
4. Each utility's retail water price, less an estimate of avoided retail costs, plus any additional transfer costs (*i.e. retail minus*).
5. Each utility's LRMC of water supply.⁶

Hunter Water's analysis

Hunter Water agrees with IPART's listing of the potential options for setting the transfer price. Our analysis and views on each of the proposed options are provided below, taking into account the following factors:

- The fact that the primary purpose of the transfer system continues to be to provide a drought response measure under the Lower Hunter Water Plan operating in accordance with the 2006 Hunter Water/Central Coast pipeline agreement.

³ IPART, 2018, page 53

⁴ Ibid, page 54

⁵ Ibid

⁶ Ibid, page 53



- The need to not unnecessarily constrain the operation of the 2006 pipeline agreement in order to optimise its effectiveness as a drought response measure.
- The pre-existing arrangements between Hunter Water and the Central Coast regarding the apportionment of infrastructure construction, ownership, funding and maintenance responsibilities between the parties.
- The need to ensure full recovery of the transfer scheme's costs.
- The desirability of transparent, stable and administratively simple pricing arrangements.

Option 1: The current approach

Economic regulators generally consider an SRMC methodology as an efficient pricing signal. One shortcoming is that an SRMC approach does not allow for the recovery of fixed costs. In the case of the bulk water transfers between Hunter Water and the Central Coast, the utilities have agreed infrastructure funding arrangements that have been endorsed by IPART in past price reviews.

IPART's 2013 final report on the then Councils' prices stated that:

"We consider that, since the Councils and Hunter Water contributed to the capital costs of the Hunter Link and there is significant uncertainty around the volumes transferred, this pipeline acts as an insurance policy. As such, the capital costs of the scheme should be capitalised and borne by each party regardless of the water consumed".⁷

Given that the transfer scheme continues to provide drought security for customers in both regions it is equitable that those arrangements continue whereby the utilities' capital investment in the scheme is recovered from their respective customer bases.

It remains impractical to forecast when the transfer infrastructure will be required as a response to drought conditions in either region (as indicated by the modelling in Table 1). The SRMC approach provides flexibility to manage this uncertainty by allowing for the recovery of the relevant variable costs whenever transfers take place.

As previously noted by IPART, setting the transfer price based on the higher of Hunter Water or Central Coast Council SRMC estimate ensures that it recover both Hunter Water's and the Central Coast Councils' variable costs of treating and distributing additional supplies.⁸ Hunter Water notes that this approach also allows for potential differences in the way in which utilities calculate SRMC.

Hunter Water's current SRMC estimate for water of approximately \$0.12 per kilolitre reflects the system-wide energy and chemical costs of treating and transporting water within our integrated supply system.

The SRMC approach is also consistent with the objective of not constraining the transfer of water between the regions as a drought security response. The approach also satisfies the stability, transparency and administratively simple criteria.

Hunter Water therefore continues to support maintenance of the current approach to determining the transfer price.

Option 2: Each utility's respective SRMC

Hunter Water notes that this option has most of the advantages of option 1. However, it does not allow for revenue neutral outcomes during the extended periods when transfers occur solely to maintain water quality in the pipeline. Accordingly, we do not support the option.

⁷ IPART, 2013, page 48

⁸ Ibid, page 49



Option 3: Option 2 plus each utility's fixed costs

Hunter Water does not support this option consistent with our position on option 2. The benefits of retaining the current approach to recovering fixed costs are outlined in our assessment of option 1. In addition, we consider that there is no evidence of benefits that would outweigh the administrative cost of unwinding the arrangements currently in place to recover the transfer scheme's fixed costs.

Option 4: Retail-minus pricing

Under this pricing option, IPART proposes using each utility's retail water price, less an estimate of avoided retail costs, plus any additional transfer costs. This form of pricing is analogous to IPART's wholesale pricing approach that is intended to facilitate competition for end-water users between the wholesale water purchaser and the wholesale water provider.⁹

Hunter Water has two concerns with the application of this pricing approach:

- The transfer scheme is not intended to provide an ongoing supply of water to end users but rather is a two-way intermittent regional drought response measure, and
- The option would result in a much higher transfer price than the current approach which would significantly constrain the scheme's effectiveness as a drought response measure. This is compounded by the difficulty in budgeting and forecasting revenues for uncertain drought events.

Option 5: Long run marginal cost

The option to use LRMC as the transfer price raises similar concerns to those identified above for option 4 (retail minus). In particular the use of LRMC would currently set a relatively high price in both regions which would constrain the use of the transfer system as a drought response measure. In addition, Hunter Water does not presently have LRMC estimate based on a calculation of the capital and operating costs of a feasible major supply augmentation.

3.3 Voluntary agreements

Hunter Water places significant importance in working cooperatively with our regional partners to provide our communities with water security and support economic growth.

IPART's issues paper includes a preliminary view to allow Central Coast Council to enter into unregulated pricing agreements with large non-residential customers.¹⁰ IPART provided Hunter Water with the flexibility to enter into such agreements at our last pricing review¹¹.

Hunter Water and Central Coast Council consider joint water resource planning options under the State's metropolitan water planning framework. The unregulated pricing agreement mechanism could provide a means to implement any future water resource management options agreed between the two utilities that extend beyond the current arrangements in the 2006 Agreement.

Accordingly, Hunter Water would support IPART providing Central Coast Council with the capacity to enter into a voluntary unregulated pricing agreement directly with Hunter Water. Any voluntary pricing outcome would require both parties to negotiate and agree terms and conditions, depending on the circumstances at the time.

⁹ IPART 2017

¹⁰ IPART 2018, page 17

¹¹ IPART 2016b, page 24



3.4 Scarcity pricing

IPART's 2016 price determination for Sydney Water included a mechanism that would increase the water usage price if the Sydney Desalination Plant (SDP) is turned on in response to specified drought conditions¹². This pricing mechanism acts as a scarcity signal to water users to use less water. Specifically, IPART determined to increase Sydney Water's usage charge by \$0.12 per kilolitre (\$2015-16) over the 2016 determination period if the SDP is operating.

IPART also considered the potential for an uplift in Hunter Water's usage price to recover costs of alternative sources of water during times of water scarcity in our 2016 pricing review. IPART's final report noted:

"The LHWP (Lower Hunter Water Plan) sets out a range of drought-response measures for Hunter Water. These supply and demand measures include water transfers from the Central Coast, additional groundwater pumping and, in the case of an extreme drought, temporary desalination.

A cost pass-through mechanism would enable the additional costs associated with these measures to be passed through to customers (eg, via introducing an 'uplift' to the water usage price). This would make Hunter Water's drought response costs more transparent. It would also send a signal to customers about the marginal costs of responding to increased water scarcity".¹³

IPART concluded at that time that the potential drought uplift measures did not meet its criteria in relation to cost pass-through mechanisms.¹⁴ The final report went on to state:

"... the next review of the Lower Hunter Water Plan should provide more certainty about Hunter Water's future supply augmentation. Further, our proposed review of the prices charged for the Central Coast water transfers may also provide the information necessary to develop a cost-pass through mechanism for the next determination. In light of the outcomes of these processes, we will seek to apply a cost-pass through mechanism for Hunter Water's drought-response measures at the next pricing review".¹⁵

Hunter Water has further considered the potential to base a scarcity uplift in our usage price on the use of the bulk water transfer scheme in drought situations. We note that there are some significant practical limitations to this approach. In particular, the scheme operates irregularly and potentially for only short periods of time within any given year as the Hunter region can recover rapidly from drought. These factors alone make it unlikely that the uplift price would provide an effective water conservation signal to our customers within current billing cycles. Customers may consequently experience bill volatility that is unrelated to their opportunity to conserve water at the time the transfer scheme is operating. The practical difficulty of adjusting bills for infrequent events of unknown duration also needs to be recognised.

Accordingly, Hunter Water considers that the costs and practical difficulties associated with implementing a scarcity uplift price based on the operation of the bulk water transfer scheme are likely to outweigh any benefits.

¹² IPART 2016a.

¹³ IPART 2016b, pages 102.

¹⁴ Ibid, page 103.

¹⁵ Ibid



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