

Submission to the Independent Pricing and Regulatory Tribunal

**Response to the IPART Draft Report on the review of
regulated charges for the Murray River to Broken Hill Pipeline**



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1. Introduction

WaterNSW is proud of its achievements in constructing the River Murray to Broken Hill Pipeline (Pipeline) ahead of time and under budget. Finalisation of the construction phase of the Pipeline occurred on 5 April 2019 (three weeks ahead of schedule). The mainline pipe lay crews averaged around 3km of pipe laid per 12-hour shift. In August 2018 they laid an outstanding 7.3km in a single shift – an Australian pipe laying record!

In this Submission, we provide IPART with updated construction costs which will lower the opening regulated asset base (RAB) by approximately \$63 million. The reduction in cost and early delivery is testament to the joint efforts of WaterNSW¹ and our contractors, the John Holland MPC Group Joint Venture for our design and construct contract and the John Holland Trility Joint Venture for our operations and maintenance contract, to assure the drinking water of Broken Hill at a time of significant drought. Importantly, this was achieved through no lost time injuries in over a million labour hours.

The Independent Pricing and Regulatory Tribunal's (IPART's) inaugural pricing determination for the Pipeline is also an important milestone for the project. WaterNSW is pleased to respond to the IPART's Draft Report "*Murray River to Broken Hill Pipeline*, WaterNSW, April 2019" (Draft Report).

WaterNSW largely welcomes the Draft Report. The IPART draft decision is generally consistent with WaterNSW's "*Regulated Prices for the Wentworth to Broken Hill Pipeline*, June 2018" (Pricing Proposal), this includes the decision by IPART to:

- approve the underlying cost base of for both the pipeline regulated asset base (RAB) and the offtake RAB. IPART has reduced WaterNSW's proposed RAB due to lower actual planning costs, however, WaterNSW proposed that the RAB should be determined using updated actual/forecasts figures, as it was anticipated that the project would be complete or well advanced towards the end of IPART's review. The updated figures are disclosed in this submission
- accept most of the operating expenditure cost items, including the fixed maintenance costs and most of the variable electricity costs
- set cost reflective tariffs which are consistent with WaterNSW's tariff structure. IPART has rebalanced WaterNSW's proposed tariff structure by allocating the electricity costs for fixed load, to the fixed daily charge, instead of the variable charges and the maximum demand charge, resulting in cosmetic changes to the tariff structure.

WaterNSW has identified a few points of disagreement, including IPART's proposal to:

- adopt a 100 year life for pipeline assets rather than an 80 year life as recommended by IPART's efficiency consultants
- reduce the fixed electricity payments predominately due to lower predicted costs for the electricity demand charges in periods of peak, off-peak and shoulder electricity charges
- apply small business tax rates to calculate efficient tax liabilities for WaterNSW's pipeline operations.

¹ As anticipated in WaterNSW's pricing proposal to IPART, *Regulated Prices for the Wentworth to Broken Hill Pipeline*, June 2018, at page 11, WaterNSW has established a wholly owned subsidiary to own and operate the Pipeline. WaterNSW Infrastructure Pty Ltd () was incorporated on 5 November 2018. WaterNSW anticipates finalising novation of the major Pipeline agreements (such as design and construct and operations and maintenance) to occur in May 2019. For ease of reference, this submission continues to refer to the Pipeline as WaterNSW's Pipeline. WaterNSW requests IPART makes clear the distinction in its final pricing determination.

IPART have also made a number of statements in its draft report which are factually incorrect. We seek to correct these.

WaterNSW's comments below are made on an exceptions only basis.



2. IPART's decision not to accept cost pass-through of actual energy prices

IPART refer to their criteria for a cost pass-through mechanism at pages 24 and 25 of the Draft Report and state:

"We decided to not accept WaterNSW's proposed pass-through of actual energy prices. In our view, actual costs should only be passed through in exceptional circumstances. The criteria we use to define these circumstances are listed in Box 4.1.

We found that the Pipeline's energy costs do not meet these criteria. For example, they do not meet criterion 4 and 6, as regulated business (or in this case, its O&M contractor) can influence the resulting cost through its tender process and the resultant prices from a pass-through may not necessarily better reflect the efficient cost of service.

We consider that by linking the energy cost allowance to the actual energy cost, a cost pass through would reduce the incentives for WaterNSW and its O&M contractor to efficiency manage the Pipeline's actual energy costs now and in the future. In addition, Essential Energy submitted that setting placeholder prices for 2021-22 and then adjusting for actual prices via a pass-through mechanism would not be appropriate. In its view, the risk from price changes arising from a new PSA should be shared between it and WaterNSW."

WaterNSW makes the following points in relation to this rationale:

- WaterNSW's process for obtaining energy prices were reviewed by IPART's consultants who concluded:

*"In our assessment the procurement process was appropriate and likely to support the procurement of efficiently priced electricity."*²
- IPART's criterion 4 for cost pass through seeks to ensure that the regulated business cannot influence the likelihood of the trigger event or the resulting cost. In this case, energy is needed for the pipeline, it is not an optional expense. The cost has been determined through an efficient procurement process. WaterNSW has no influence over the resulting cost
- IPART's criterion 6 for cost pass through requires clarity that the cost pass-through will result in prices that better reflect the efficient cost of service. Actual prices obtained through an efficient procurement process best reflect efficient costs. WaterNSW is of the view that contracted retail prices should be used rather than "modelled" prices
- IPART's proposal would see WaterNSW bear cost increases triggered by a 'regulatory change' event. For example, energy prices could increase due to changes to emission targets or through the introducing of new mechanisms to price carbon³. WaterNSW submits that IPART should allow actual energy costs to be passed through to customer bills to allow the cost or savings triggered by a regulatory change events to be passed through to customers.

² Frontier Economics, WaterNSW's Energy Purchase Costs - Broken Hill Pipeline, Final Report for IPART, 8 February 2019, page 10.

³ IPART included an estimate of carbon tax liabilities in the 2013-2016 Sydney Catchment Authority bulk water determination. After the carbon tax was repealed, approximately \$2.1 million was refunded to customers in 14/15 and approximately \$2.3 million was refunded in 15/16 (following the Treasurer's approval under section 18(2) of the Independent Regulatory and Pricing Tribunal Act 1992).

3. Energy costs in the draft operating expenditure allowance for Essential Energy

Table 4.5 at page 26 of the Draft Report is not a like for like comparison. WaterNSW's proposed charges were always fully variable in line with the volume of water taken by Essential Energy. This means, if a low volume of water is taken, the price would be lower.

In our Pricing Proposal we produced "illustrative prices" as if 5,746ML were taken. Table 4.5 compares WaterNSW prices with an illustrative volume of 5,746ML against IPART's proposed prices using, what we have attempted to back calculate to be, 4,367ML. If WaterNSW's proposed prices were based on 4,367ML then the total over 3 years would be approximately \$6.6 million not \$7.6 million.

WaterNSW requests that IPART make clear the volume of water purported to be taken by Essential Energy to enable WaterNSW to compare the pricing outcomes between WaterNSW's proposal and IPART's proposal in the final report.

4. Calculating total benchmark volumes for three water demand scenarios

At Table 4.7 on page 29 of the Draft Report, IPART has produced draft benchmark volumes for three water demand scenarios. The Low Demand Scenario is described in Box 4.2 on page 30 of the Draft Report as:

"low demand for water from the Pipeline. In years of high rainfall, a smaller proportion of Broken's Hill water demand will be met by the Pipeline because Essential Energy will collect water within its own catchment".

However, under the Raw Water Supply Agreement between WaterNSW and Essential Energy, Essential Energy is required to take at least 8ML of water per day from the pipeline. This is set out at page 29 of WaterNSW's Pricing Proposal. Therefore, in a 365 day year, the minimum amount of water that Essential Energy could take from WaterNSW is 2,920 ML, noting that the minimum IPART has proposed in Table 4.7 is between 2,008 and 2,039 ML.

Further, WaterNSW is of the view that it would be highly unlikely that Essential Energy would only take the minimum contracted volume for an entire year due to operational and climatic variability throughout the year and that a premium would need to be added to the 2,920 MLs to account for these factors. WaterNSW suggests 10% would be sensible, producing a minimum of 3,212 MLs.

In the light of the adjustment of the Low Demand scenario due to the factors above, WaterNSW queries the validity of the Median and High Demand scenarios. WaterNSW notes that these were introduced late into the review process as were the conversion from the demand scenarios to the Benchmark total energy volumes.

5. Calculating benchmark energy unit prices and energy costs

In respect of IPART's comments at pages 31 and 32, WaterNSW repeats its comments above at:

- section 2 on the use of benchmark energy prices
- section 3 on comparing WaterNSW's Pricing Proposal prices
- section 4 on water usage scenarios.

WaterNSW makes a number of comments in relation to the methodology used by IPART to calculate electricity maximum demand charges.

WaterNSW submits that IPART should apply the maximum demand volumes of [REDACTED] kVa per month in all periods of peak, off-peak and shoulder as per the O&M contract, as recommended by Synergies Economic Consulting Pty Ltd (Synergies) at page 118 of their report “*Expenditure review of WaterNSW’s Wentworth to Broken Hill Pipeline, Final Report, January 2019*” (Synergies Report).

5.1 Calculating the costs associated with the monthly maximum demand charge

IPART have made a number of downward adjustments to the level of electricity costs associated with fixed load items and the maximum demand charges.

WaterNSW estimates that it would incur a revenue shortfall of close to \$1million per annum as a result of IPART’s adjustments. Most of this shortfall is driven by a reduction in the assumed monthly peak maximum demand volumes used by IPART to calculate the maximum demand charges.

WaterNSW’s proposal applied a monthly peak maximum demand of [REDACTED] kVA per month for all periods of peak, off-peak and shoulder, which mirrored WaterNSW’s contract for operations and maintenance (O&M contract, as amended in December 2018) derived from a competitive tender process.

Instead, IPART has assumed a monthly maximum demand of 1,800 kVA in off-peak and 266kVA in peak and shoulder periods under the ‘median’ usage scenario. This reduction in assumed monthly maximum demand appears to be driven either by:

- IPART’s view on the efficient pumping profile; or
- Frontier Economics’ view on the optimisation of maximum electricity demand volumes (see the Frontier Economics Report, “*WaterNSW’s Energy Purchase Costs – Broken Hill Pipeline Final Report for IPART 8 February 2019*” (Frontier Economics Report)).

5.1.1 Pumping Profile

IPART have generated a pumping profile which attempts to take into account the water storage levels and water balancing requirements at the bulk water storage to service the needs of Essential Energy. This analysis appears to have influenced Frontier Economics assumptions around monthly peak maximum demand volumes which are reached during all pricing periods: peak, off-peak and shoulder.

WaterNSW observes that the pumping profile is based on what is pumped from the Murray River to the bulk water storage, not the water that is extracted by Essential Energy at the bulk water storage.

On examination, it appears that the pumping profile for extractions from the Murray River to the bulk water storage assumes a flat weekly extraction rate for the year which does not vary by seasonal demand (for example total extractions from the Murray River in the year divided by 52 weeks).

If the flat weekly pumping rate of water from the Murray River to the bulk water storage is less than [REDACTED], it is understood that IPART assumes that the pipeline operator can pump water entirely during the off-peak pricing periods, assuming a flow rate of [REDACTED].

Using this pumping profile, IPART has established a starting balance at the bulk water storage of 330MLs and added onto the weekly balance the difference between:

- the amount pumped from the Murray River (using the assumed flat weekly rate), and

- the amount extracted from the bulk water storage, which varies by seasonal demand.

By pumping water using a flat weekly rate, IPART has concluded that the pipeline operator can extract additional volumes from the Murray River to the bulk water storage in seasons of low demand, which would be retained in the bulk water storage for Essential Energy to extract in times of high demand (summer months). Under this system of pumping, the pipeline operator would, in IPART's view, avoid the need for to pump during peak and shoulder pricing periods during periods of high demand by Essential Energy (e.g. summer months).

IPART appears to have based this conclusion on the observation that the bulk water storage would not be depleted over the determination period using a flat weekly pumping rate, although WaterNSW's points out there are a number of occasions in the analysis where the storage levels at the bulk water storage approach nil.

Under the low and median rainfall scenario, IPART conclude at page 31 of the Draft Report:

"it is efficient for the operator to pump in a smoothed pattern, as this will enable them to optimise off-peak pumping by pumping water during low demand seasons to compensate for the higher demand of summer."

WaterNSW notes that any pumping profile would have to take into account contingency levels and incorporate any contractual and practical operating requirements imposed on the operator.

The operating requirements of the bulk water storage under the O&M contract provide for a reserve of [REDACTED] which cannot be utilised by the operator and which cannot be used to supply water to Essential Energy, otherwise the operator will suffer an abatement.

The [REDACTED] reserve is a contract obligation implemented to ensure that de-watering of the ponds does not occur. [REDACTED]

The operator has also set aside a reserve of [REDACTED] for unplanned maintenance and blackout issues. [REDACTED] gives the operator time to rectify any problems. This is because the water volumes in the ponds cycle up and down, which is more likely to occur during winter months when demand is low.

Together, this means that at any one time there will a reserve supply of approximately [REDACTED]. This requirement is breached a number of times in IPART's assumed pumping profile.

Moreover, evaporation is in the order of 500ML per annum or approximately 1.25ML per day, which has not been factored into IPART's analysis in term of the volumes pumped from the Murray River to the bulk water storage and the water storage levels.

These operating requirements and commercial considerations have not been factored into IPART's analysis. The maximum demand volumes in the O&M contract and WaterNSW's Pricing Proposal do take these commercial considerations into account and are explained further in section 5.1.3 of this submission.

The operator has reviewed IPART's pumping profile at Figure 4.1, page 31 of the Draft Report. WaterNSW understands that this pumping profile may have been used by Frontier Economics to calculate the maximum monthly demand levels in periods of peak, off-peak and shoulder. The operator's comments on the pumping profile are set out in Attachment A, which forms part of this submission.

Overall, the operator concludes that IPART's assumptions around smoothing the pumping over simplify the operations of the pipeline and has the effect of reducing the energy cost allowances by assuming more than efficient off-peak pumping periods can be utilised by the operator.

Of particular note, in the event that the bulk water storage is full at the start of the operational period (750MLs), the operator observes that the volumes at bulk water storage drop to 143MLs after three years under the median rainfall scenario, and enters negative territory under the high rainfall scenario, which is impossible.

Moreover, the operator notes that IPART's analysis assumes 100% availability of the pipeline. In order to achieve this, the pipeline has to be manned during all off-peak hours, which are outside business hours. The operator questions these assumptions.

WaterNSW requests that IPART consider the operator's recommendations in making any assumption in determining the assumed maximum demand volumes in all periods of peak, off-peak and shoulder.

As previously stated, WaterNSW cautions against IPART applying its own set of assumptions on the operation of the pipeline without considering the practical realities of operating a water transportation service in Broken Hill.

5.1.2 Inconsistencies between the IPART's consultants reports and the Draft Report

WaterNSW has observed a number of potential inconsistencies in the Draft Report, and the reports prepared by IPART's consultants, Frontier Economics and Synergies, in relation to the efficient maximum demand volumes.

Essential Energy's Annual Pricing Report for 2018-19, as approved by the Australian Energy Regulator (AER), defines demand charges as a charge which is levied on the maximum demand registered for the month for the relevant pricing period. The AER has approved a specific demand charge which applies to the maximum monthly demand reached in peak, off-peak and shoulder periods.⁴

At page 32 of the Draft Report, IPART state that they have provided the volumes used by Frontier Economics to determine the benchmark electricity price:

"Two key drivers of our estimated efficient costs are the assumed electricity load of the Pipeline, and the assumed demand for water from the Pipeline. To estimate these costs, Frontier used:

- The three water demand scenarios that we provided (see Box 4.2).*
- Our calculation of a weekly load profile, then derived an optimized half hourly load profile for each week from 1 July 2019 to 30 June 2022."*

IPART then state that Frontier Economics' efficient volumes estimates are informed by Synergies' benchmark volumes:

"As Table 4.8 shows, Frontier's estimate of the efficient electricity costs is much lower than the WaterNSW estimate under all water demand scenarios. This is because Frontier's estimate of the Pipeline's electricity volume, informed by Synergies' benchmarked energy volumes, is much lower than WaterNSW's proposed electricity volume."

⁴https://www.aer.gov.au/system/files/Att.6%20Essential%20Energy%20Annual%20Network%20Pricing%20Report%202018-19_0.pdf

However, this statement is inconsistent with the Synergies Report in relation to the maximum demand volumes. At page 118 and footnote 53 of the Synergies Report, Synergies agree with WaterNSW's proposal:

"Synergies assesses this calculation process as being reasonable. Further, on the basis that we have assessed WaterNSW's variable energy demand estimate as efficient, we accept that the proposed maximum variable demand of [REDACTED] is efficient"⁵³.

"⁵³We assess that the [REDACTED] maximum demand figure is reasonable for all pricing periods of peak, off-peak and shoulder, as per the O&M contract"

WaterNSW understands that Frontier Economics produced maximum electricity volumes which do not reflect Synergies assessment that [REDACTED] is reasonable for all pricing periods of peak, off-peak and shoulder.

In Table 20 of the Frontier Economics Report, the peak demand volumes disclosed by Frontier Economics are much lower in periods of peak and shoulder (2,66 kVA), reflecting fixed load items only, and [REDACTED] lower in off-peak (1,810 kVA) under a scenario of median rainfall.

Frontier Economics refer to IPART's pumping profile as the reason for the differential in the maximum demand volumes. At page 33, Frontier Economics state:

"Table 20 summarises our estimated electricity demand for the three scenarios. The weekly load provided by IPART was highest for the low rainfall scenario and lowest for the high rainfall scenario. In the median case and the high rainfall case, the only load during peak and shoulder periods was the minimum load, with the different total pumping requirement in these cases simply resulting in different load during off-peak periods (as reflected in both the MWh demand and the MW peak demand). In the low rainfall case there is also some pumping that occurs in shoulder periods (as reflected in both the MWh demand and the MW peak demand)."

However, at page 32 of its Draft Report, IPART state that it is in fact Frontier Economics that have determined that there is *no need for pumping in the higher-cost shoulder or peak periods, except under the high demand scenario*:

"In addition, as a result of this lower total energy volume, Frontier's optimised half hourly load profile indicates there would be no need for pumping in the higher-cost shoulder or peak periods, except under the high demand scenario. Even during off-peak periods, the pumping load would not need to reach the draft maximum energy volume of 2.6 MW (see Table 4.9). This means that network demand charges are much lower than they would be if the maximum load did need to be in all periods."

It is unclear how Frontier Economics can make this assessment without considering the operational and commercial framework which applies to the pipeline operator or the intricacies of operating a water transportation service for Broken Hill.

It is equally unclear who is responsible for determining whether or not there is a need for the pipeline operator to pump in periods of shoulder or peak times. For example, is it:

- IPART's analysis on the 'efficient' pumping profile? or
- Frontiers' Economics 'optimisation' of pumping volumes through WHIRLYGIG or SYNC modelling suite that is driving the differential in the maximum demand volumes used by IPART to quantify the cost of electricity from the maximum demand charges?

WaterNSW considers that it is important for IPART to clarify this inconsistency in its final report as it is driving a ~\$1 million revenue shortfall which will be borne by WaterNSW.

IPART's independent engineering consultants, Synergies' agreed that an assumed peak monthly demand of [REDACTED] is reasonable for all pricing periods of peak, off-peak and shoulder. If IPART disagrees with its consultants, then the reasons for this disagreement should be made clear in IPART's final report.

In particular, Synergies have considered the commercial framework which applies to the pipeline operator and the tender process which was used to derive the contracted volumes. This is something that does not appear to have been considered by either Frontier Economics in its report on benchmark energy cost nor IPART in its Draft Report. These commercial issues are discussed below.

5.1.3 Commercial considerations

Synergies states in its efficiency report that [REDACTED] peak monthly maximum demand, as per the O&M contract (as amended in December 2018), is a reasonable basis for calculating electricity costs from the maximum demand charges in all pricing periods of peak, off-peak and shoulder.

IPART should consider Synergies' assessment on the efficient monthly maximum demand volumes in the light of the commercial and operational framework which applies to the pipeline.

In Synergies view:

- the rate of variable electricity volumes, as specified in the O&M contract, is efficient; therefore
- the monthly maximum demand volumes in the O&M contract are also efficient.

IPART has used the rate of variable electricity volumes under the O&M contract to quantify the variable cost of electricity in its Draft Report however, it has not used the monthly maximum demand volumes in the O&M contract.

As described above, IPART have made a downward adjustment to the maximum demand volumes, [REDACTED]

The commercial framework requires the pipeline operator to fix the amount of variable electricity usage and maximum demand volumes into the O&M contract with WaterNSW for each weekly demand band. This imposes the following risks on the operator:

- the calculations on maximum demand volumes were determined during the procurement process
- there is no ability for the operator to recover additional electricity costs over and above those bid into the procurement process and no provision for any margin to be added
- WaterNSW is taking the unit price risk on electricity while consumption risk remains with the operator. Such risk sharing methodology is typical of long term operations contracts
- the operator is only paid on water taken rather than water pumped meaning the proposed rates need to cover electricity used to pump evaporation and system losses
- the operator bid into a highly competitive procurement process for 20 years for both design and construct and operations and maintenance, this produced the lowest price for WaterNSW

with the proponent putting forward an efficient and competitive end to end proposition. Therefore, looking at items in isolation may lead to incorrect conclusions.

The electricity volumes, including the rate of variable electricity usage and the maximum demand volumes, were developed through the competitive procurement process.

The procurement process incorporated a number of features designed to cap energy costs over the term of the O&M contract:

- an efficiency sharing mechanism is embedded into the contract for energy costs. At the end of the year, any savings in relation to energy volumes are distributed in equal shares between WaterNSW (proposed by WaterNSW to be passed onto Essential Energy) and the O&M contractor
- volumes risk has been allocated to the O&M contractor, as the most efficient party to manage this risk, instead of WaterNSW or end users. The pipeline operator is contractually obliged to operate the pipeline within the parameters specified in the contract with respect to energy volumes. The counterfactual would be that WaterNSW pays the contractor for its actual energy costs however any inefficient pumping cost could be passed on to WaterNSW
- this allocation of risk, coupled with the efficiency sharing mechanism, incentivises the pipeline contractor to become more operationally efficient over the term of the contract
- WaterNSW proposed to pass onto Essential Energy its share of the realised efficiencies. See section 17.14 at page 107 of the WaterNSW's Pricing Proposal. This includes any efficiencies derived from actual maximum demand volumes that are below the volumes specified in the contract.

WaterNSW would envisage that there may be some cases where the variable electricity usage might be overly conservative (or under conservative), however this forecasting risk might be offset by a higher assumed maximum demand to ensure total electricity cost are recovered. WaterNSW asks IPART to consider the risks to WaterNSW in looking at volumes and fixed /variable energy prices in isolation.

For instance, as observed by IPART and discussed in section 5.1.1 above, the amounts extracted by Essential Energy might not necessarily equate to the volumes that need to be extracted at the Murray River in the light of any operational and practical requirements. Regardless, WaterNSW has implemented a number of incentive mechanisms into the contract to derive the most efficient operational outcomes.

WaterNSW believes that the commercial framework, as described above, needs to be taken into account by IPART in setting the efficient maximum demand volumes. IPART has provided no reasoning to contradict its independent expert consultants, Synergies, who have assessed the monthly maximum demand volumes in the O&M contract as a reasonable basis by which to calculate the electricity costs from the maximum demand charges in all pricing periods of peak, off-peak and shoulder.

At pages 41-42 of the ACIL Allen Report the following is set out in respect of its efficient hedging strategy:

- *About 0.35 MW of base contracts – reflecting the fixed load portion of the pipeline's operations*
- *About 1.85 and 2.25 MW of peak load contracts during the summer quarters (calendar quarters 4 and 1 respectively) – reflecting the higher utilisation of the pipeline in the*

summer quarters which results in electricity requirements spilling into the peak periods of the day

- *No peak contracts in the non-summer quarters (quarters 2 and 3) – reflecting the lower propensity for the pipeline to require electricity during the peak periods*
- *Just under 0.2 MW of cap contracts in the non-summer quarters (quarters 2 and 3) to cover the pipeline on the rare occasions that it does operate during peak periods.*

As noted above, Synergies have accepted the maximum demand volumes set out in the O&M contract as prudent and efficient.

However, if IPART disagrees with the views of its consultant, then it would be prudent as a minimum for IPART to instead derive a maximum demand factor for peak and shoulder periods which is derived by:

- the monthly KVA for fixed load items; plus
- the monthly KVA for variable load determined using an annual probability factor of hitting variable peak maximum demand levels under normal operating conditions as observed in off-peak periods.

For example, WaterNSW would envisage that pumping could be more intensive during the hotter periods of spring and summer (3-6 of 12 months of the year), particularly considering the rate of evaporation and other operational factors described in previous sections of this submission and in Attachment A.

5.2 Variable electricity demand used by IPART under each scenario

IPART asked Frontier Economics to generate electricity demand volumes for each pricing period of peak, shoulder and off-peak under IPART's scenarios of median, low and high rainfall. These assumptions are contained in Table 4.7 of the Draft Report.

WaterNSW has tested the electricity volumes assumptions under each of IPART's scenarios using the fixed and variable electricity volumes which were deemed by Synergies to be prudent and efficient. For example, at page 117 of the Synergies Report:

Based on the above calculations and rationale, we assess WaterNSW's latest proposed variable energy demand of [REDACTED] as being efficient. Our recommended energy demand of the Pipeline, which will be supplied to the concurrent energy review of the Pipeline, is based on this amount.

...

When we allow for intermittent operation of some of the loads, we get a significantly lower fixed energy demand estimate than that proposed by WaterNSW. Our estimate is [REDACTED] MWh per day

Under each IPART scenario, WaterNSW observes that the electricity volumes are [REDACTED] than they should be compared to Synergies recommendations ([REDACTED] per ML to [REDACTED] per ML of water extracted by Essential Energy instead of [REDACTED] per ML as recommendation by Synergies). This analysis is shown below inclusive of variable and fixed load:

IPART scenario	IPART energy volumes (kWh) – p33 of the Frontier Economics Report	Energy volumes using the fixed and variable energy volumes deemed efficient by Synergies (kWh)	Difference
Low rainfall	12,728,000.00	*	
Median rainfall	9,515,000.00	**	
High rainfall	5,834,000.00	***	

However, following verbal discussions with IPART, WaterNSW understands that the estimates disclosed by IPART in Table 4.7 of the Draft Report were out of date and will not be used to compute the cost of electricity in its final decision. WaterNSW understands that the energy volumes assumptions will be updated with the correct figures.

WaterNSW expects the latest energy volumes to be consistent with the estimates disclosed above (if the Draft Report scenarios are retained in the final report) and in line with Synergies' recommendations on the efficient cost of electricity for fixed load items and variable pumping costs.

5.3 Other energy costs

WaterNSW notes that Frontier Economics' may not have considered the costs of prudential incurred by market participants to meet credit support requirements as well as cost related to margins for derivative transactions. At page 48 of the ACIL Allen Report these costs are estimated to be an additional ~\$0.80/MWh per annum.

6. IPART's decision to use the weighted average variable unit cost under the median water demand scenario

At page 34 of the Draft Report, IPART recognised that if they set a single usage price based on the median demand / median rainfall scenario only, WaterNSW would under recover efficient costs in very high demand years and very low demand years. IPART could foresee WaterNSW will face a downside revenue risk as a result of rainfall uncertainty. To address this risk, IPART calculated a weighted average benchmark energy unit cost.

The weightings are as set out in footnote 45 of the Draft Report which states:

"Our choice of weightings reflects the probabilities of the high and low demand scenarios respectively. The weights we selected were: 80% for the median demand scenario, and 10% for low and high demand scenarios".

Based on verbal discussion with IPART, WaterNSW understands that IPART has selected the weightings based a probability analysis using actual historic data over a 20 year period.

The selection of the weightings could be improved with an analysis against the long-term historical climate record. WaterNSW requests that IPART disclose their methodology of determining the probability of each of the rainfall scenarios, and also consider the long-term historical climate record.

7. Energy prices for offtakes

7.1 Set efficient energy costs for services to offtake customers using the same benchmark energy volumes and unit prices as Essential Energy

IPART states at page 36 of the Draft Report:

“In its proposal, WaterNSW assumed 10ML of demand from each offtake customer, which is the minimum amount purchasable by an offtake customer. This is significantly lower than the demand cap of 365ML per year that exists under current offtake arrangement.”

This comment is repeated:

- in Table 1.4 at page 4 of the Draft Report where IPART states that WaterNSW proposed prices for offtake customers included 10ML of water transportation per year (paid regardless of actual consumption)
- in Table 9.2 at page 79 of the Draft Report
- the comment at the bottom of page 90.

This is not correct. WaterNSW’s proposal for offtake customers used 10ML for illustrative purposes only. See page 108, Table 58 of WaterNSW’s Pricing Proposal. The last paragraph states that the bill impact analysis is “*under assumed usage of 10MLs*” but the fixed price does not include 10ML⁵.

WaterNSW has not set any minimum amount purchasable by an offtake customer. Moreover, IPART view that any “*demand cap of 365ML per year that exists under current offtake arrangements*” is not support by any current WaterNSW Offtake arrangements.. There are no current offtake arrangements with WaterNSW and certainly no 365ML per year demand cap.

7.2 Estimating the benchmark efficient energy per ML for supplying offtake customers

WaterNSW agrees with IPART’s preliminary approach to use the same benchmark variable energy rate to Essential Energy to quantify the variable charge to offtake customers.

WaterNSW understands that IPART is considering removing the evaporation losses to discount the variable charge to offtake customers, however, WaterNSW understands that there are various operational risks such as leakage which can also lead to losses in the pipeline.

WaterNSW notes that it would be difficult to apply a discount factor to this variable charge which takes into account the location of expected and future offtake customers and any discount factor should be immaterial.

Another option being considered by IPART is to set specific peak, off-peak and shoulder prices. IPART’s rationale at page 38 of the Draft Report is that setting prices for each period of peak, off-peak and shoulder would:

“remove any incentive WaterNSW may otherwise have to only supply water to offtake customers in off-peak periods even if these customers wanted water in other periods”.

⁵ IPART may have formed an interpretation on minimum take from the letter of intent signed by customers. The letter of intent sought customers’ agreement to the offtake services if the total bill for offtake services, as determined by IPART reaches up to \$14,000 p.a. inclusive of 10MLs of water. However, the letter of intent did not specify that offtake customers had to take 10MLs of water or that the total bill, inclusive of 10MLs of water would be entirely comprise of fixed charges. The letter of intent needs to be read in conjunction with WaterNSW’s Pricing Proposal, which proposed a separate charge for each ML (or kL) used, as well as a fixed charge comprising the capital costs of the offtakes and a fixed contribution to the pipeline. The variable charge covered total extractions by offtake customers, whether or not actual extraction levels are above or below the 10ML threshold used by WaterNSW for illustrative purposes in its proposal.

IPART states that it could use the NSW regional reference price and other price outcomes derived from Frontier Economics model, SYNC. IPART states at page 38 of the Draft Report:

“these benchmark energy prices are not sensitive to forecast pipeline demand”.

However, WaterNSW questions this assumption as the per Mwh rate would still need to be converted into a per ML rate, which would assume a flow rate and a factor representing the Mwh volumes for each ML of water delivered.

It would be difficult to set specific peak and shoulder rates for the maximum demand charges as the charges are determined based on the peak demand hit during the month, which would be inclusive of all usage (offtake customers and Essential Energy).

It is understood that IPART would have estimated an offtake customer’s percentage contribution towards the monthly demand charge. However, this estimate would differ depending on Essential Energy’s percentage contribution to total usage during the month.

Given these complexities, WaterNSW agrees with IPART’s preliminary approach to use the same benchmark variable energy rate to Essential Energy to quantify the variable charge to offtake customers.

8. Value of the RAB used to set the allowances for Essential Energy

WaterNSW’s Pricing Proposal requested IPART set final decisions on prices using the latest actuals and final cost estimates for the project. These final costs estimates are set out in the table below⁶.

Cost categories	As at the start of FY20
Final Cost Estimates for SP1	368.7M
RAB Indexation	10.4M
Funding Costs	16.0M
Pre-determination operating expenditure	0.01M
Total	395M

WaterNSW has added on RAB indexation and the efficient funding costs (debt & equity), as per WaterNSW’s Pricing Proposal and the IPART’s Draft Report.

WaterNSW attaches a spreadsheet with this submission which provides more detail on final cost estimates of the pipeline.

9. Re-estimating the equity beta

WaterNSW is confused by IPART’s references to the equity beta.

Table 6.12 indicates an equity beta of 0.7 as being applied for the purposes of IPART draft decision. At page 57, IPART states:

“We have not applied our new method to estimate the equity beta in this review, as we are still developing this process and we have not yet consulted with stakeholders on the new method. To that end, we have released a Fact Sheet on our website which explains and seeks feedback on our new method to estimate the equity beta.”

⁶ The final cost estimates incorporate the costs of the regulated component of the pipeline project (SP1), excluding any expenditure which has been offset by funding from Treasury under the RESTART scheme, and actual interest costs incurred by Tcorp.

Footnote 85 provides:

“we note that our new process currently generates a similar equity beta estimate (0.74) to the draft value we (0.7) we adopted as part of our draft WACC decision.”

However, at page 118 IPART states:

“We note that the water industry beta using our new method (0.7), is similar to our existing water industry beta (0.74).”

These statements appear contradictory.

IPART has issued a fact sheet “Estimating equity Beta” March 2019, that fact sheet states at page 2:

“We note that our current standard water industry beta (0.7), is similar to the estimate derived here (0.74).”

We ask IPART review these statements and provide further clarity.

10. Asset lives

WaterNSW proposed an 80-year useful life for all pipeline assets (including related assets classes such as electrical equipment, pump stations and the bulk water storage). Instead, IPART applied different asset lives for different asset classes, at pages 60 and 61 of the Draft Report.

IPART’s consultants, Synergies, recommended that IPART apply different asset lives for different asset class, with an 80-year useful life to apply to pipeline assets. Synergies recommendations demonstrate that WaterNSW was conservative in its estimate of the expected useful life of all assets related to the pipeline.

IPART generally accepted Synergies recommendations to apply a weighted average asset life but used a useful life of 100 years for pipeline assets reflecting the design life of the pipeline. WaterNSW submits that 80 years (rather than 100 years) is more appropriate for the pipeline asset class.

Although the design life of the pipeline is 100 years, in this circumstance design life is not the correct criteria for IPART to consider. IPART should be seeking to obtain the useful life of the asset which may be different from design life.

The outbound design life is not a useful measure for this purpose as there are a number of other factors which need to be taken into account to determine the useful life of the asset. Unfortunately, we do not have the benefit of hindsight to accurately predict the outcome.

Some factors to take into account include:

- reliance by the designer on manufacturer specifications. With a long lived asset, any representations on longevity beyond the warranty or guarantee period are difficult to verify and impossible for a 100 year design life
- the pipeline’s remote and arid location which will have an impact on material stability which may be different to the generalised experience
- adequacy of planned maintenance⁷⁷

⁷⁷ El-Akruti, K., Zhang, T., and Dwight, R. “Maintaining pipeline integrity through holistic management”, European Journal of Industrial Engineering, 618-638, who state: “The adequacy of the activities may be determined by whether the objectives are achieved. However, these asset related objectives require a long time span of life data, around 100 years to confirm their achievement”.

- future regulatory decisions on the prudence of operating and maintenance expenditure and the extent to which recommended maintenance activities are allowed
- seasonal maintenance windows
- long term socio-economic and climatic factors affecting its future customer base.

Prudence suggests an 80 year asset life for pipelines, as accepted for WaterNSW's other pipeline assets, is appropriate. This is especially important in the case of a single pipeline, rather than choosing a design life for pipelines within a broader network where unders and overs can be expected between the various individual pipelines.

See section 16 below in relation to financeability concerns.

11. Using a variable tax rate

At page 63 of the Draft Report, IPART state:

"Our draft decision is to calculate the tax allowance based on the Pipeline as a separate business unit. That is, we have not calculated this allowance based on WaterNSW as a consolidated business. This is different to WaterNSW's proposal.

WaterNSW's pricing proposal has calculated its tax allowance using a statutory corporate tax rate of 30% based on its view that the Pipeline would not be treated as a separate business unit for tax purposes under tax law. It submits that under the Income Tax Assessment Act, 1997, WaterNSW would form a tax consolidated group with the Special Purpose Vehicle (SPV) where the pipeline assets are being transferred and held.

Our decision is to set the tax allowance based on the tax rate applicable to the business unit as if it were a separate entity. This approach is consistent with how we set the post-tax WACC parameters (ie, based on the Pipeline and not WaterNSW as a whole).

*As a result of this decision, the next section discusses our decision to take the variable tax rates into consideration when modelling the tax allowance for the Pipeline. If the Pipeline is considered as a separate business unit, **it may be eligible for a lower tax rate.**"*

As noted in WaterNSW's "Response to the IPART Issues Paper on the review of regulated charges for the Wentworth to Broken Hill Pipeline", 31 October 2018, (Issues Paper Response) WaterNSW will not be able to access the reduced corporate tax rate for the Special Purpose Vehicle (SPV) under the Income Tax Assessment Act 1997 and Income Tax Rates Act 1986 ("ITRA 1986").

Attachment B of this submission sets out this view from our tax advisors to this effect; that the SPV is not a base rate entity and will not qualify for the reduced corporate tax rate. Therefore, it is incorrect for IPART to state that if the Pipeline is considered as a separate business unit "*it may be eligible for a lower tax rate*". It is not eligible for a reduced corporate tax rate as it is not a base rate entity.

If the tax legislation applied as IPART appears to suggest, every larger business in Australia would split itself into separate business units to circumvent the higher taxation rates, thus undermining the revenue integrity of the Australian taxation system. This is clearly not the intention nor will it be the practical outcome of differentiated taxation rates for small business.

IPART's stated desire to ensure consistency with how IPART's sets the post-tax WACC parameters (i.e. based on the Pipeline and not WaterNSW as a whole) is inconsistent with IPART's stated WACC policy outcomes. At page 18 of IPART's "Review of our WACC Method", Final Report, February 2018, IPART states:

“We are satisfied that applying a post-tax WACC more closely estimates tax paid by a benchmark firm than applying a pre-tax WACC using the statutory tax rate.”

This implies that it is the objective of IPART to ensure that its methods more closely align to the **tax paid** by a benchmark firm. As stated above, the SPV will pay 30% tax. Therefore, to meet its objective IPART needs to set the rate in its building block model for the pipeline at 30%.

WaterNSW requests clarity from IPART on its rationale in referring to the WACC as the reason for apply a lower tax rate in the Draft Report. The WACC used by IPART for WaterNSW's Broken Hill pipeline is the same WACC that is used by IPART in its other water industry pricing determinations. WaterNSW understands that the WACC parameters set by IPART represent systemic risk faced by the water industry in general, not risks that are specific to WaterNSW's pipeline operations⁸.

We note IPART's comments at page 48 of its Draft Report “*Review of Essential Energy's prices for water and sewerage services in Broken Hill From 1 July 2019*”, April 2019:

Our draft tax allowance is not intended to recover Essential Energy's actual tax liability over the determination period. Rather, it reflects the liability that a comparable commercial business would be subject to. Including this allowance is consistent with our aim to set prices that reflect the full efficient costs a utility would incur if it were operating in a competitive market (including if it were privately owned). Thus, if we did not include a tax allowance, prices would be too low.

Any comparable commercial business operating the Pipeline would incur a tax rate of 30%. WaterNSW was directed by the NSW Government to construct and operate the Pipeline. This is due to WaterNSW's experience in constructing and operating a portfolio of large scale water assets throughout NSW. It is not conceivable that a small business with a turnover of less than \$50 million would have been selected to undertake a project of such state significance. The fact that WaterNSW has chosen to place the assets and operation of the pipeline under a wholly owned subsidiary does not lessen the responsibilities of WaterNSW as its 100% owning parent organisation.

IPART's Box 6.2 at page 65 of the Draft Report is replicated below. As noted above, the SPV is not a base rate entity.

⁸ For example, the same WACC would be used by IPART for WaterNSW's other price regulated services such as coastal valley bulk water Services, Greater Sydney bulk water services and services provided by WaterNSW which were formerly provided on behalf of WAMC. On this basis, it does not make any sense to refer to the WACC as a basis for setting a different rate of tax for WaterNSW's pipeline services in Broken Hill.

Box 6.2 The Australian Government legislation on corporate income tax rates

In March 2017, the Australian Government enacted legislation that introduced different rates of corporate income tax for businesses of different sizes. Under the legislation, from 1 July 2018, businesses with an aggregated turnover of less than \$50m (base rate entities) pay 27.5% tax, while those with a higher turnover pay 30% tax on all their taxable income.¹⁰² The rate will then reduce to 25% by the 2021-22 income year, as detailed in the table below.

Table 6.20 Company tax rates applicable to base rate entities^a

Income year	2018-19	2019-20	2020-21	2021-22
Tax rate for base rate entities under the threshold ^b	27.5%	27.5%	26.0%	25.0%

^a The lower company tax rate applies to base rate entities with an aggregated turnover less than \$50 million from the 2018-19 income year.

^b Thresholds are not indexed for inflation

Source: Australian Taxation Office, Changes to company tax rates: www.ato.gov.au/rates/changes-to-company-tax-rates/

In simple terms, the draft tax allowance does not provide the funding necessary to meet our legislated tax liabilities. It is clear under tax law and as outlined in the tax advice, that our tax liability for the SPV will be calculated at 30%.

12. Estimating the rainfall yield and its impact

At page 72 of the Draft Report IPART states:

“Given the likely cost of transportation services via the Pipeline, we consider it probable that Essential Energy would supply its customers with water from its own storages in preference to the Pipeline, whenever there is sufficient rainfall to make this possible. This would have an impact on the volume of water it purchases from the Pipeline (at the very least, in the short term).”

Box 7.1 at page 73 of the Draft Report notes the volumes used to calculate demand from the Pipeline was based on 20 years of daily data on the volumes of water pumped from Umberumberka and Stephen’s Creek pump stations less volume pumped into Stephen’s Creek from the Menindee pump station.

This would not necessarily occur in practice as:

- it is not possible to predict rainfall and water harvesting from the existing local water supply catchments and hence demand (particularly in an arid environment where over the last 15 years rainfall has been on average around 200 mm per annum)
- we understand that water supply from Umberumberka is more expensive to pump than pumping water from the Darling River via Essential Energy’s existing pipeline and as such will be similarly more expensive to pump than via WaterNSW’s pipeline
- the presumption of preferential use of local storages over the WaterNSW pipeline purely on availability does not consider treatment costs and consumer preferences. Changes in water quality including taste will be a factor in Essential Energy’s preferences and more likely to lead to a blending of supply rather than a sole supply on the infrequent and episodic times that water is available in Stephens Creek (historically two years in ten). In addition, due to the better water quality and the increased water security, meaning less requirement for water

restrictions to be imposed by Essential Energy going forward with government funding the increased costs of the pipeline, there is an argument that demand will increase not decrease in the short term.

Page 21 of IPART's Report, "Review of Essential Energy's prices for water and sewerage services in Broken Hill April 2018", (Essential Energy Draft Report) states:

"Customers who currently purchase untreated water from the Menindee pipeline (11 graziers) will begin receiving water from the Stephens Creek reservoir. To enable this, Essential Energy has proposed to construct a new pipeline from the reservoir. In effect, these 11 graziers would receive water from the new Broken Hill pipeline, as Stephens Creek reservoir will be filled through this pipeline."

This proposal increases demand as more of WaterNSW's pipeline water needs to be stored and evaporated at Stephens Creek to provide certainty of supply to these customers than is currently the case where water is drawn from the Darling River at Menindee.

13. Efficiency sharing mechanism

WaterNSW's Pricing Proposal sought to claim WaterNSW's actual operating costs in its prices. However, for the largest operating expenditure component, electricity, IPART is now proposing a benchmark (that is, theoretical) cost/price calculation.

Therefore, where WaterNSW's costs/prices are not actually being recovered, it is difficult to see how any efficiency sharing scheme can work as WaterNSW is not able make efficiency gains in respect of IPART's mandated theoretical model.

Further, an efficiency carry-over mechanism (ECM) can only apply to WaterNSW's actual operating costs not those of the pipeline operator.

However, as mentioned above, it is not clear how an efficiency can be realised under the ECM model as IPART has applied benchmark cost/price calculations to calculate the cost of electricity. There are a number of external factors that could produce a sharp increase in the price of electricity over and above the benchmark rate. For example, as a result of a regulatory change event (i.e. change to emissions targets or introduction of mechanisms to price carbon). WaterNSW should not be expected to bear this risk.

14. Usage charge recovers efficient variable costs

At page 85 of its Draft Report, IPART states:

"While WaterNSW argues its proposed tariff structure is designed to encourage use of the service, we consider it is more appropriate to reflect the actual efficient costs of the service. This encourages efficient use of, and investment in, the service. Essential Energy considered that prices should not provide an incentive to over or under consume (based on whether the variable charges are below or above marginal cost) and considered that the adoption of a declining tariff for the Pipeline may result in unintended economic and environmental consequences.¹⁴⁰ We recognise that declining block tariffs have been used previously in pipeline pricing to encourage use (eg, the Jemena gas distribution network in NSW). However, these tariffs penalise consumers with lower levels of consumption (by not reflecting actual variable or marginal costs) and provide a disincentive for reducing wastage of water."

Flat tariffs spread the recovery of variable costs equally across users in proportion to their consumption, whereas a declining block tariff structure allocates more of the recovery of

variable costs to the lower consumption. Setting a declining tariff to promote greater utilisation of the pipeline in turn encourages greater usage of the water resource. This may run counter to concerns over water usage in times of drought and water security issues. We also note that under the proposed declining tariff, a customer could lower its overall bill by using more water.

We consider this could lead to some perverse outcomes in terms of consumption and investment. Instead, we have set prices that we consider will encourage efficient consumption and investment decisions.”

In addition, section 1.1.2 at page 3, IPART state:

“Under WaterNSW’s proposal, the price paid to transport each unit of water to Essential Energy would decrease as the amount of water transported increased. We do not consider that this reflected the cost structure of the Pipeline. Energy costs are the main variable cost in transporting water along the Pipeline. These costs increase as the amount of water transported, and the energy used to do this, increases. Consequently, we have a set a single usage charge that reflects the estimated cost of transporting a single unit of water to Essential Energy.”

WaterNSW understands that IPART has interpreted WaterNSW proposal on variable charges, as a declining block tariff, somewhat implying that WaterNSW’s proposal was not cost reflective.

WaterNSW proposed cost reflective fixed/variable tariffs based on the cost structure of electricity tariffs it is required to pay (which reflect electricity industry tariffs) and were therefore an exact mirror of the cost structure of the pipeline. WaterNSW has compared IPART’s proposed tariff structure consisting of a fixed daily charge and variable usage charge, to its own tariff proposal consisting of a variety of fixed and variable charges itemised by cost category (i.e. fixed capital charge, fixed maintenance charge, fixed/variable electricity charges).⁹

IPART’s decision on tariff structure is generally consistent with WaterNSW’s own proposal. WaterNSW observed a higher per ML rate at low usage levels. This is because WaterNSW allocated the electricity payments for fixed load items, such as air conditioning, lights, security systems, sampling equipment, to the variable charge, instead of a fixed charge. As a result, the value of the per ML variable charge increases at low usage. On the other hand, the per ML rate declines as Essential Energy extracts more water from the bulk water storage, which is driven by an increase in variable electricity costs.

In its Draft Report, IPART has instead rebalanced WaterNSW’s proposed tariff structure by allocating the electricity costs for fixed load to the fixed daily charge instead of the variable charges and the maximum demand charge, resulting in cosmetic changes to the tariff structure. However, Essential Energy would still incur relatively high per ML costs (combined fixed and variable costs) at low usage through IPART’s higher fixed charges, which is consistent with WaterNSW’s proposal.

WaterNSW supports IPART’s decision on tariff structure, as it is generally consistent with the WaterNSW’s Pricing Proposal. WaterNSW is pleased that IPART has agreed with its proposal on cost reflective tariffs (that is, to allocate fixed cost to fixed charges and variable cost to variable charges).

At page 28 of the Draft Report, IPART states that WaterNSW did not initially propose a specific fixed daily energy volume for the Pipeline. This is not correct. WaterNSW recommends that IPART’s final report clarify that fixed load costs were incorporated in WaterNSW’s proposal.

⁹ The rationale for WaterNSW’s tariff proposal was to provide transparency to Essential Energy, as a sophisticated customer, on each individual cost of the pipeline operations.

WaterNSW subsequently provided relevant specific information on fixed load when requested to allow IPART to allocate fixed load costs to its fixed daily charge.

Furthermore, WaterNSW explained how the fixed load items were incorporated into its tariff structure setting out variable charges at different weekly demand bands. This was set out in a Memo dated 5 December 2018 under the heading *Derivation of Proforma 4 Table 6* – the row in the table called *Fixed Consumption*, which described how the fixed and variable loads were converted into the variable charges for the weekly demand bands proposed by WaterNSW.¹⁰ Therefore, the fixed load costs were incorporated into the variable charge proposed by WaterNSW.

As noted above in section 2.15 above, IPART is assuming that Essential Energy will preference collecting and using water from their own catchments in preference to using the Pipeline. This highlights why constructing a tariff structure which incentivises use of the Pipeline was a sensible proposal by WaterNSW. From WaterNSW's point of view, preferencing use of the Pipeline will ensure WaterNSW receives the best economic return for investment in the asset, rather than incentivising Essential Energy from further developing alternative sources of water.

15. Offtake pricing

15.1 Per KL or ML charge for offtake customers

In its Pricing Proposal, WaterNSW proposed a per ML and per KL charge for offtake customers using the same variable cost base. Given the low volumes that could be extracted by offtake customers, WaterNSW recommends that IPART set a per KL charge as well as a per ML charge for offtake customers.

15.2 Price structures and prices for offtake customers

WaterNSW would like to point out that it has installed five offtakes. One offtake was installed as part of the land transfer at the bulk water storage and should be excluded from the offtake RAB. The capital cost of the other four offtakes should be included in the offtake RAB.

15.3 Comments on ring-fencing the cost of offtakes

IPART states at page 90 of the Draft Report that WaterNSW's proposal did not explicitly ring-fence costs associated with serving offtake customers. WaterNSW submits that it was completely transparent as to the cost of the offtakes. WaterNSW itemised the capital costs of each of the offtakes as well as the variable cost of electricity to deliver water to offtake customers, for IPART's consideration.

Synergies benchmarked the specific costs of the offtakes by referring to a payment schedule provided by the contractor during the tender process which identified the specific costs of each asset/item, as part of the project. This payment schedule was disclosed in WaterNSW's pricing model at the tab called 'capex from tender' (capex – row 229) and 'asset replacement breakdown' (opex – row 379-387). Furthermore, the O&M contract specifically identified the costs of additional offtakes.

IPART did however, in contrast to WaterNSW's proposal, allocate to offtake customers \$284 in FY20, \$1,138 in FY21 and \$284 FY22 for battery replacement for offtakes, which WaterNSW instead allocated to Essential Energy in its pricing submission. In contrast, WaterNSW allocated all of the fixed operating costs associated with the pipeline, including the minor costs of battery replacements for offtakes assets, to Essential Energy (noting that WaterNSW proposed that offtake customers should pay a share of pipeline costs).

¹⁰ Further, a reconciliation of the fixed and variable load inputs to the O&M pro forma table (containing the variable charge at weekly demand increments) was provided to IPART on 12 December 2018.

Overall, WaterNSW observes that IPART's fixed charges for offtake customers are consistent with WaterNSW's pricing submission (minus WaterNSW proposed contribution to the fixed cost of the pipeline). Therefore, WaterNSW is pleased that IPART has substantially agreed with WaterNSW on the cost base for setting offtake charges.

15.4 Unregulated pricing agreements

WaterNSW welcomes IPART's view at page 91 on allowing unregulated pricing agreements. This will enable WaterNSW to have the flexibility to add additional offtake customers to the pipeline over time in varying circumstances.

WaterNSW notes realistically that the prices set by IPART would be a benchmark and pricing variances from that rates set by IPART would be difficult to achieve in practice for a standard offtake installation.

WaterNSW assumes that any unregulated revenue derived from an unregulated pricing agreement will not be shared with regulated customers (EW and non-EW customers) over the 2020-2023 determination period given the fixed nature of regulated prices set by IPART.

For investment and regulatory certainty, WaterNSW requests that IPART provide a view as to whether any net revenue (net of costs) derived from an unregulated pricing agreement would be shared with customers over the post 2023 determination period.

15.5 Useful life for offtake assets

WaterNSW notes that IPART has applied a useful life of 25 years to calculate the regulatory depreciation allowance for offtake assets. This decision has not been disclosed in IPART's Draft Report. In contrast, WaterNSW applied a useful life of 20 years to calculate its proposed annuity for offtake customers, reflecting the period in which WaterNSW is expected to provide offtake services to customers, as per the letter of intent signed by customers.

Offtake customers are negotiating with WaterNSW to provide offtake services over a 20-year period. WaterNSW has relied on the representations made by customers and as result, invested capital to enable the provision of pipeline services to offtake customers, for which it expects to generate a rate of return. Such commercial arrangements need to be taken into account by IPART, particularly if IPART wants to ensure that its pricing decisions mimic the outcomes of a competitive market environment, which is one of the primary objectives of economic regulation.

Under IPART's proposal, which utilises a 25-year useful life, WaterNSW may be expected to write off the residual value of its offtake assets if it is unable to renew service agreements with offtake customers after the 20th year of operation. This is not a prudent and efficient outcome.

WaterNSW requests that IPART accept WaterNSW's proposal to calculate the regulatory depreciation allowance using a 20-year useful life, consistent with the period in which WaterNSW is expected to generate a return from the offtake assets.

15.6 RAB for offtake assets

IPART has decided to calculate the fixed capital costs allowances for offtakes using the RAB approach, instead of the annuity approach proposed by WaterNSW. IPART has established one offtake RAB to compute the revenue requirement for the capital costs of all offtakes, which is then divided by the number of offtakes to determine a capital charge for each offtake.

IPART state that the RAB approach is preferred in this case as there is uncertainty with respect to the future investment requirements.

Whilst WaterNSW is generally pleased with IPART's decision to set offtake charges which are consistent with WaterNSW's cost levels observed in its Design and Construct and O&M contract, WaterNSW makes the following points:

- there is a single up-front capital investment. The value of the upfront capital investment remains steady year on year (excluding inflation) over the 20 year term of the O&M contract. WaterNSW notes that there is no uncertainty on the future costs of additional offtakes. As per WaterNSW's Issues Paper Response *"observed that the capital cost of additional offtakes will remain the same in real terms over the term (20 year) of the O&M agreement"*.
- all future expenditure on the offtakes is fixed in the contract over the 20 year period. See the Asset Replacement Tab of the WaterNSW pricing model row 379-387. Any costs incurred over and above the maintenance schedule on the contract will be borne by the contractor, not WaterNSW nor its customers as per the O&M contract, providing price certainty for the customer.¹¹
- furthermore, any future expenditure on the offtakes over the next 14 years will be attributable to an operating expenditure item, which will not have an impact on the capital account of the asset, (set using either a RAB or an annuity). For example, replacement of batteries, valves, and maintenance on solar panels and antennas. Note that all expenditure on offtakes over the next 14 years will be below the required \$5,000 threshold for capital expenditure under WaterNSW's accounting rules.
- IPART has decided that offtake customers should not contribute to the fixed costs of the pipeline therefore the future renewal needs of the pipeline would not have an impact on costs of the offtakes under IPART's tariff proposal for offtake customers.

WaterNSW's proposed prices for offtakes were on a per offtake basis, not a per customer basis, as two or more customers may use one offtake. In such a circumstance, the per offtake prices would be split proportionately between the number of customers using the individual offtake. WaterNSW requests that IPART takes care to ensure that its determination of prices provides for this outcome. IPART's Draft Determination¹² (at page 4) seems to provide prices on a per customer basis.

16. Financial viability

The application of IPART's financeability test shows there is a potential financeability concern which should be further investigated. The application of the benchmark test, using real values, shows that the SPV is not forecast to pass the financeability test thresholds during the determination period.

IPART has used incorrect assumptions in its application of the Actuals test, which understates the \$nominal financeability test results faced by the Pipeline. Under NSW Treasury Policy *"TPP16-03 Capital Structure Policy for Government Businesses"*, WaterNSW (inclusive of its subsidiaries) is required to set and maintain (through managing distributions) a target capital structure, consistent with a target investment grade credit rating, in the annual Statement of Corporate Intent (SCI). This is further reiterated in *"TPP16-04 Financial Distribution Policy for Government Businesses"*.

WaterNSW has a target standalone credit rating of Baa2, and its Net Debt to RAB targets/forecasts are publicly disclosed in its Statement of Corporate Intent, which is tabled in

¹¹ Fee payment schedule 7 of the O&M contract.

¹² IPART, *"WaterNSW, Prices for water transportation services provided to the Murray River to Broken Hill Pipeline for 1 July 2019, Draft Determination"*.

Parliament and available on WaterNSW's website. In our 2018-19 SCI, WaterNSW's forecast Net Debt to RAB in 2018-19 is 59%, in 2019-20 is 58% and 2020-21 is 58%.

We request IPART use a steady 58% Debt to RAB in undertaking the "Actuals" financeability test in its final determination and report, for the full regulatory period and beyond. The distribution policy of the SPV will be to maintain a target capital structure, consistent with WaterNSW's own distribution policy with its shareholders and following NSW Treasury Policy.

IPART's 'Actual' Financeability Test shows a financeability concern at the 58% gearing level, which will persist over time and not be contained to the short term under a constant gearing level. Assuming a declining gearing level, which alleviates the financeability concern, is:

- not a reflection of true actuals
- avoids dealing with the cause of a true financeability concern, by assuming that management will respond to the issue through deleveraging.

The primary cause of the financeability issue has already been identified by IPART - setting asset lives below that required to maintain an investment grade credit rating. Additional causes are setting:

- an operating expenditure allowance that is approximately \$1 million per annum lower than in the Pricing Proposal, by not using the variable, fixed and maximum demand volumes (based on the fixed 20-year O&M contract), in particular, updated maximum monthly demand volumes of [REDACTED] for all periods of peak, off-peak and shoulder and a fixed load assumption of [REDACTED] MWHs per day
- a tax allowance below that which the SPV will be required to pay the ATO.

In its final report, we request that IPART apply its 2018 Financeability test properly and completely and address the root causes of the financeability concerns to ensure that the SPV can meet the financeability tests.

17. CPI

IPART has proposed minor changes to the calculation of the Consumer Price Index (CPI) in its Draft Determination. On the current reading of the Draft Determination, it appears that the annual uplift factor for CPI would be calculated by the regulated entity, instead of by IPART as is currently the case. IPART would be responsible for ensuring that the regulated entity correctly calculates the CPI multiplier. The CPI multipliers would be rounded to two decimal places, instead of one decimal place, as per IPART's current approach.

WaterNSW requests clarity from IPART as to whether WaterNSW's interpretation of the proposed calculation of CPI is correct.

Attachment A



Norman Esber
Commercial Manager, Operations & Maintenance
WaterNSW

Tuesday, 16 April 2019

Dear Norman,

Re: Review of IPART Murray to Broken Hill Pipeline (WaterNSW) Draft Report – April 2019

On Tuesday 2 April 2019 the Independent Pricing and Regulatory Tribunal (IPART) released its draft report into water pricing from the Murray to Broken Hill Pipeline. As the operator of the pipeline, the John Holland TRILITY Joint Venture has an interest in this draft report and how it may impact our contract with WaterNSW.

Accordingly, we have undertaken a review of the draft report and present this letter as our opinion on the draft determination. We have limited our review to those aspects that impact the operational contract only. Therefore, we provide comment limited to sections 4.2, 4.4 – 4.8 and 5.1 – 5.3. Where we have comments on these sections they are detailed below. You may take that if something is not discussed further (for example Section 5), then we have no opinion to present on that part of the IPART draft report.

Section 4.6.2 Calculating total benchmark energy volumes for three water demand scenarios

Table 4.7 details four water demand scenarios which were used to benchmark the energy consumption of the pipeline. These are shown below.

	2019-20	2020-21	2021-22
Low demand year (ML)	2,039	2,025	2,008
Median demand year (ML)	4,158	4,144	4,127
High demand year (ML)	6,007	5,993	5,976

The demand values used by IPART for water pumped do not take into account evaporation. The report states (pp. 86) that there is *included in the efficient volume of energy per ML an allowance for evaporative losses occurring at the BWS*. However, we believe this has confused the approach previously presented by WaterNSW with how this should now be considered.

Based on advice from us, WaterNSW previously allowed for evaporation in their submission to IPART in the form of a risk contingency. This approach was a commercial decision from the operator of the pipeline at tender time rather than based on a technical analysis because of how much the tender had progressed at the time. Now that the pipeline and BWS are constructed, this analysis should be replaced with known data for evaporation to amend the values pumped shown in Table 4.7. Even if for no other

John Holland TRILITY Joint Venture ([REDACTED])

[REDACTED]



reason other than the inconsistency between which aspects of the energy consumption are derived from first principles and which have a risk allowance in the draft report.

We also know that the construction of the BWS has resulted in a larger surface area than allowed in the tender and therefore evaporation will be higher than allowed in the tender response which may mean that WaterNSW under recovers energy costs on the pipeline.

Therefore, we believe the analysis carried out by IPART does not allow for enough evaporation and understates the demand on the pipeline which in turn derives a lower energy cost than will be incurred.

We believe that the volumes in Table 4.7 that should be used is closer to the below, and the allowance for evaporation removed from the efficient volume of energy per ML calculation. This also impacts the section discussed below.

	2019-20	2020-21	2021-22
Low demand year (ML)	2,407	2,393	2,376
Median demand year (ML)	4,566	4,552	4,535
High demand year (ML)	6,497	6,483	6,466

IPART's calculation of a weekly load profile for the Pipeline

Figure 4.1 shows a smoothed pumping profile based on the behaviour of the BWS. This analysis is based around avoiding peak or shoulder period pumping and it is further stated that for all but high demand scenario's the annual requirements can be delivered in only off-peak pumping periods. This is based on the principal that 5,441 ML can be delivered in off-peak hours annually.

We believe that this method of analysis has a number of flaws which lead to an overstating of how much water can be delivered in off-peak periods and consequently leads to a lower energy cost being able to be recovered by WaterNSW.

Firstly, the analysis presented assumes that there is very close to 100% availability of the pipeline. By their nature, off-peak hours are outside of normal business hours which are when the pipeline is unmanned. The current approach to operating the pipeline is to use off-peak hours as much as possible. However, issues do occur which need rectifying. Because an operator has to attend from a remote location this takes time and the pipeline is not available. Under the current operations this is acceptable as the water pumping can be extended into other times to make up for it when staff are on-site.

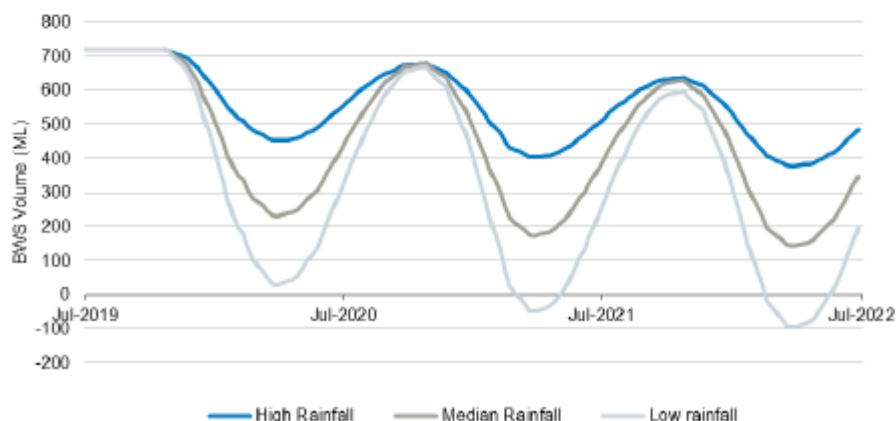
If off-peak pumping can only be used as outlined in the draft report, this significantly changes the operating regime and risk profile for us as the operator. Our approach would be to shift the operations to a night shift which would substantially increase the labour cost for operations to cover these shifts. The draft report does not consider the impact of such a shift in operations.

Secondly, the behaviour of the BWS which is modelled does not take into account evaporation and used the annual demand values from Table 4.7. As eluded to earlier, this is where applying evaporation as a commercial allowance in the energy rates has the biggest impacts. This evaporation needs to be physically modelled in the analysis to



determine the behaviour of the BWS. This results in additional demand which makes it more difficult to utilise off-peak pumping.

Thirdly, the water balance presented in Figure 4.1 only works if the starting volume is contrived to be approximately the midpoint at July in the year. Further if evaporation is included in the analysis for the median case, the BWS volume reduces to just 143 ML after just three years, even if the storage starts full and is maintained there until the actual demand exceeds the smoothed pumping amount. For the high demand scenario this smoothed pumping does not work. Our analysis using the IPART model is presented below.



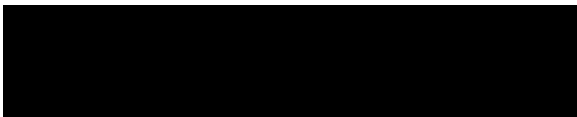
It is our opinion that the assumptions around smoothing the pumping over simplify the operations of the pipeline and reduces the energy cost allowances presented by IPART by assuming more than efficient off-peak pumping periods can be utilised.

In summary we have two main observations from the IPART draft report:

1. We believe that the IPART analysis has not accounted adequately for evaporation from the storage which also needs to be pumped. Therefore, the benchmark energy volumes derived are lower than they should be for each of the low, median and high demand scenarios.
2. We believe the determination that the BWS can be used to balance the flow over an annual basis oversimplifies the operation of the pipeline and does not sufficiently take into account a number of operational constraints which in turn drives lower energy costs in the IPART report.

If WaterNSW requires any clarification from us on matters presented here please do not hesitate to contact me.

Yours sincerely,

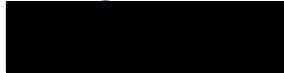


Robran Cock
Operations Manager, Murray to Broken Hill Pipeline

Attachment B



Ernst & Young



Mr Joseph Pizzinga
Chief Financial Officer
WaterNSW

12 April 2019



WaterNSW – Application of corporate tax rate

Dear Joseph

You have requested our views in relation:

- ▶ to the application of the reduced corporate tax rate to WaterNSW's wholly-owned subsidiary, WaterNSW Infrastructure Pty Ltd under the *Income Tax Rates Act 1986* ("ITRA 1986"); and
- ▶ the Independent Pricing and Regulatory Tribunal of NSW ("IPART") view on the reduced corporate tax rate applying to WaterNSW Infrastructure Pty Limited on the assumption that it is a separate business to, and not part of, the WaterNSW's tax consolidated group.

We understand this letter may form part of WaterNSW's submission to IPART in response to IPART's draft report ("the Report") on the prices WaterNSW can charge for water transportation services provided by the Murray River to Broken Hill Pipeline ("the Pipeline").

Conclusion

- ▶ The tax rate applicable to the Pipeline, as part of the WaterNSW tax consolidated group, is 30%.
- ▶ The Pipeline is not entitled to the reduced corporate tax rate applicable to base rate entities, whether the Pipeline is part of the WaterNSW tax consolidated group or taxed as a separate entity.
- ▶ IPART's conclusion that the reduced corporate tax rate would apply if the Pipeline was assumed to be a separate business to the WaterNSW tax consolidated group is incorrect. If the Pipeline was a separate business, the tax law requires the determination of the aggregated turnover (a key factor in eligibility as a base rate entity) to include the turnover of connected entities. As WaterNSW is a connected entity, the Pipeline would not qualify as a base rate entity.

Background

- ▶ WaterNSW incorporated a subsidiary company, WaterNSW Infrastructure Pty Ltd (alternately referred to as a Special Purpose Vehicle or "SPV") on 5 November 2018.
- ▶ Pursuant to section 703-50 of the *Income Tax Assessment Act, 1997* ("ITAA 1997"), WaterNSW, as head company, formed a tax consolidated group with the SPV as a subsidiary member, effective 5 November 2018.



- ▶ WaterNSW intends to transfer the Pipeline assets to the SPV. The SPV will operate and maintain the Pipeline on behalf of WaterNSW.
- ▶ In its draft decision at Item 6.3 "Allowance for tax", IPART has treated the Pipeline as a separate business to WaterNSW and, as a result, applied the reduced corporate tax rate of 27.5%¹, applicable to "base rate entities", in the calculation of the determination on pricing for water transportation services provided by the Pipeline.

Analysis

Our views on whether the SPV can access the reduced corporate tax rate are provided below.

- ▶ From the 2017/18 income year, the reduced 27.5% corporate tax rate applies to companies that are "base rate entities", pursuant to section 23(2)(a) of the ITRA 1986.
- ▶ Section 23AA of the ITRA 1986 provides an entity is a "base rate entity" for a year of income if:
 - no more than 80% of its assessable income for the year of income is base rate entity passive income; and
 - its "aggregated turnover" for the year of income is less than \$50 million.
- ▶ Section 328-115 of the ITAA 1997 defines "aggregated turnover" as the sum of the company's annual turnover and the annual turnover of any entity *connected with* the company or that is affiliated with the company.
- ▶ Section 328-125 of the ITAA 1997 provides an entity is connected with another entity if:
 - Either entity controls the other entity, or
 - Both entities are controlled by the same third entity.
- ▶ The *direct control test* in section 328-125(2)(a) is based on a "control percentage" of at least 40%. Under this general test, an entity (A) controls another entity (B) if A or its affiliates, or A together with its affiliates own, or have the right to acquire ownership of, interests in B that between them carry the right to receive at least 40% of any distribution of income or capital by B. The test is therefore based on legal ownership of an interest in an entity.
- ▶ On this basis, WaterNSW directly controls the SPV as it owns 100% of the interests in the SPV. Therefore, the SPV is connected with WaterNSW.
- ▶ The sum of WaterNSW and the SPV's annual turnover will exceed the \$50m aggregated turnover threshold. As a result, the SPV is not a base rate entity and therefore will not be eligible to access the reduced corporate tax rate of 27.5%, whether it is part of the WaterNSW tax consolidated group or a separate entity.
- ▶ A corporate tax rate of 30% will therefore apply to the SPV under income tax law, even if considered a separate taxpayer to WaterNSW.

¹ 27.5% base rate for the 2019 and 2020 year, dropping to 26% in 2021 and 25% in 2020.



If you have any questions regarding this letter, please contact [REDACTED] or me on [REDACTED]

Yours sincerely

[REDACTED]

Colin Jones
Partner