



**Updating the inputs in Schedule 1 of the Wholesale
Contract Regulatory Instrument**

Consultation Paper

July 2017

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INVITATION TO MAKE SUBMISSIONS

During the recent review of the Wholesale Contract Regulatory Instrument (Instrument) the Regulator decided that the values for the inputs in Schedule 1 of the Instrument would be reviewed at least annually. The Regulator also decided that values based on AEMO data may be updated more frequently if AEMO publishes revised data. The Regulator also decided to consult publicly on the proposed approach to updating the input values.

As a first step, the Regulator has prepared this Consultation Paper to assist interested parties in making submissions on this matter. The Paper outlines the rationale for, and the methodologies used to derive, the inputs in Schedule 1 of the November 2013 version of the Instrument, together with the Regulator's proposed approach to updating those inputs in the December 2016 version of the Instrument.

It is the Regulator's policy to publish all submissions on the Office of the Tasmanian Economic Regulator's (OTTER) website unless the author of the submission requests confidentiality in relation to the submission (or any part of the submission). Those parts of a submission that are requested to be confidential should be submitted as an attachment to that part suitable for publication.

The Regulator will not publish submissions which contain material that the Regulator believes is, or could be, derogatory or defamatory.

Submissions should be received by close of business on 14 August 2017.

To facilitate the publication of submission on OTTER's website, submissions by email are preferred. Submissions and enquires may be made to:

office@economicregulator.tas.gov.au

or to

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A copy of this Consultation Paper is also available on the Tasmanian Economic Regulator's website: www.economicregulator.tas.gov.au.

Following consideration of submissions, the Regulator will publish a final approach paper on its website.

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1 BACKGROUND

1.1 Wholesale Financial Contract Regulation

Wholesale financial contract regulation was introduced in Tasmania on 1 January 2014 and requires Hydro Tasmania to offer authorised retailers operating in Tasmania, a number of regulated derivative contracts (regulated contracts) in addition to its standard over-the-counter derivatives contracts

The price of, and volume of electricity in, regulated contracts that Hydro Tasmania must offer is determined by the Wholesale Contract Regulatory Instrument (the Instrument).

1.1.1 Wholesale Contract Regulatory Instrument

Part 3, Division 4A of the *Electricity Supply Industry Act 1995* (the Act) requires the Economic Regulator to monitor and regulate Hydro Tasmania contracting activities with section 43G of the Act requiring the Economic Regulator to approve the following:

- the types of derivative contracts that Hydro Tasmania must offer as Approved financial risk contracts;
- the standard form(s) (terms and conditions) for each Approved financial risk contract type;
- the method for determining the prices for each Approved financial risk contract type;
- the periods for which Approved financial risk contracts are to be offered; and
- the volume of Approved financial risk contracts that Hydro Tasmania must offer.

The Economic Regulator's decision on each matter is referred to as an 'approval' and is specified in the Instrument. The actual weekly regulated contract prices are calculated in the Wholesale Pricing Model (the Model) which is an Excel spreadsheet.

The Instrument also contains a schedule of inputs (Schedule 1) which are used in calculating the regulated contract prices and the volume of electricity that Hydro Tasmania must offer in regulated contracts. The initial values for the inputs in Schedule 1 were determined by Concept Consulting in 2013 as part of the contractual arrangement with the Electricity Reform Project run by the Department of Treasury and Finance.

The Economic Regulator is responsible for administering the wholesale contract regulatory framework which includes conducting pricing investigations and updating Schedule 1 values as necessary.

1.2 Review of Wholesale Contract Regulatory Instrument

Under Regulation 21 of the *Electricity Supply Industry (Pricing and Related Matters) Regulations 2013* (the Pricing Regulations) the Economic Regulator is required to conduct a pricing investigation prior to making or revoking an approval. Further, the pricing investigation must be conducted prior to the expiry of the existing approvals made by the Minister under Regulation 20(1) of the Pricing Regulations (31 December 2018).

Market participants' had raised concerns about the potential impact on their respective forward contracting activities if the approvals were made close to the expiry date of the initial Instrument. Therefore, to provide market participants with as much certainty as possible, the Economic Regulator decided to complete the investigation and making the necessary approvals well before the initial Instrument's expiry date. Consequently, the Wholesale Contract Regulatory Instrument Pricing Investigation was completed in December 2016.

During the Investigation, both Hydro Tasmania and Aurora Energy made submissions relating to the Regulator's updating of Schedule 1 values. In response to these suggestions, the Economic Regulator decided in the Final Investigation Report that:

- OTTER would prepare, and publish, a consultation paper setting out the Regulator's proposed approach to updating the Schedule 1 values; and
- the Regulator would consult on its proposed approach to updating the Schedule 1 values

A new Instrument commenced on 1 January 2017 however this Instrument was subsequently revoked by the Regulator on 23 March 2017 so as to address an inconsistency between the Instrument and the wholesale pricing model (the inconsistency was present in the initial Instrument made on 6 November 2013). The current instrument commenced on 24 March 2017.

2 SCHEDULE 1 INPUTS

2.1 Source data and approach

In developing its proposed approach to updating values of the inputs in Schedule 1, representatives from OTTER, Hydro Tasmania and Aurora Energy attended a workshop on 2 February 2017.

OTTER also sought information on the data sources and methods to determine the initial Schedule 1 input values from both the Department of Treasury and Finance, and Hydro Tasmania. In addition, OTTER engaged Concept Consulting to provide advice as to the current values for the inputs in tables one, three, four and six of Schedule 1.

OTTER has requested that Concept's report include material that will be used by the Regulator to update each of these inputs in the future. In preparing its report, Concept Consulting held discussions with representatives of Hydro Tasmania, Aurora Energy and ERM.

Where possible, the Regulator will link the input values to verifiable, independent, third party data.

2.2 Updating the inputs

Based on the Regulator's findings, the following sections outline the method for calculating, the values for Schedule 1 inputs in the Instrument that commenced on 24 March 2017 and provides details of the Economic Regulator's proposed approach to updating the inputs values in Schedule 1. A summary of the current and proposed values for the inputs is provided in Appendix A.

2.3 Inputs used in calculating regulated contract prices

The following inputs are used in calculating the regulated contract prices that Hydro Tasmania must offer each week.

2.3.1 Off-Peak Cap Values

The Off-Peak Cap Value refers to the Tasmanian market while the Off-Peak Cap Reference Value refers to the Victorian market. The values as at 24 March 2017 are shown in Table 1.

Table 1 Off-Peak Cap Values - As at 24 March 2017

Defined term	Value
Off-Peak Reference Cap Value	\$0.33/MWh
Off-Peak Cap Value	\$0.33/MWh

2.3.1.1 *Current calculation method*

As there is no liquid market in off-peak derivative contracts the Off-Peak Reference Cap Value was inferred from Victorian spot prices. The value in Table 1 was derived from 10 years¹ of Victorian off-peak spot prices which were summed and the resulting value divided by the total number of off-peak hours in 10 years. When the initial Instrument was devised there was not yet 10 years of data for the Tasmanian market therefore for the initial Instrument the Off-Peak Cap Value was deemed to equal the Off-Peak Reference Cap Value.

2.3.1.2 *Proposed calculation method*

The Economic Regulator proposes continuing with the same method that was used for the initial Instrument but using Tasmanian Off-Peak spot prices for calculating the Off-Peak Cap Value as there is now 10 years of historical Tasmanian spot prices.

Based on Victorian and Tasmanian off-peak spot prices for the 10 years to December 31 2016² the Economic Regulator proposes an Off-Peak Reference Cap Value and an Off-Peak Cap Value are shown in Table 2.

Table 2 Proposed Off-Peak Reference Cap and Off-Peak Cap Values

Defined term	Value
Off-Peak Reference Cap Value	\$0.002/MWh
Off-Peak Cap Value	\$1.14/MWh

The Off-Peak Reference Cap Value is lower than the initial value because the current 10-year period of historical Victorian spot prices does not incorporate the price spikes that occurred early in the previous 10-year period.

The Off-Peak Cap Value is higher than the previous deemed value as it reflects actual historical Tasmanian spot prices.

2.3.2 Marginal Loss Factors

The values as at 24 March 2017 are shown in Table 3.

¹ Q4 2002 to Q3 2012

² Data for calendar 2009 was excluded from calculating the Off-Peak Cap Value due to Tasmanian spot prices in that year influenced by a few periods of very high spot prices reflecting frequency control ancillary services (FCAS) bidding during 2009.

Table 3 Marginal loss factors - as at 24 March 2017

Defined term	Value
Maximum Export Marginal Loss Factor	0.88
Maximum Import Marginal Loss Factor	1.064
Off-Peak Marginal Loss Factor	1.002
Peak Marginal Loss Factor	0.94
Average Basslink Flow Export	500MW
Average Basslink Flow Import	462MW

The marginal loss factors (MLF) represent the expected price differences between Tasmania and Victoria and are the result of transmission losses and/or constraints over the Basslink interconnector.

2.3.2.1 *Current calculation method*

The value of the Average Basslink Flow Export is Basslink's technical specifications for sustainable operation. The initial value for Average Basslink Flow Import takes into account the amount of interruptible load available within Tasmania (if Basslink trips during periods of high import flow the availability of a sufficient amount interruptible load will assist in maintaining the Tasmanian supply demand balance).

The maximum import and export marginal loss factors are calculated using the dynamic loss equations for Basslink specified in AEMO's (Australian Energy Market Operator) *Regional Boundaries and Marginal Loss Factors for the 2011-12 Financial Year* and the maximum sustainable flow at the receiving end.

The Peak and Off-peak Marginal Loss Factors represent the expected price ratio between Tasmania and Victoria during peak and off-peak periods assuming zero net average energy flow between the regions over a quarter and are estimated to fit the observed historical quarterly average MLFs (Tasmania reference node relative to Victoria reference node). The factors were adjusted to give a minimum residual root square error over the relevant quarters.

2.3.2.2 *Proposed calculation method*

The Economic Regulator proposes continuing with the same method that was used to calculate the values in Table 3.

The Economic Regulator proposes calculating updated Maximum Export and Import Marginal Loss Factors and Peak and Off-Peak Marginal Loss Factors annually however proposes not changing the Average Basslink Flow Export or the Average Basslink Flow Import unless there is a change in the technical capability of the Basslink Interconnector or there is a change in the amount of interruptible load.

Based on AEMO's Regional Boundaries and Marginal Loss Factors for the 2016-17 Financial Year and quarterly data for peak and off-peak MLFs and net quarterly imports from 2010 to 2017 (excluding the two quarters when Basslink was out of service) the Economic Regulator proposes Marginal Loss Factor values as shown in Table 4.

Table 4 Proposed values for Marginal Loss Factors

Defined term	Value
Maximum Export Marginal Loss Factor	0.889
Maximum Import Marginal Loss Factor	1.066
Off-Peak Marginal Loss Factor	1.004
Peak Marginal Loss Factor	0.954
Average Basslink Flow Export	500MW
Average Basslink Flow Import	462MW

2.3.3 New Committed Wind Generation

The values for New Committed Wind Generation as at 24 March 2017 are shown in Table 5.

Table 5 New Committed Wind Generation as at 24 March 2017

Quarter	New Committed Wind Generation (GWh)
Quarters ending 31 March	0
Quarters ending 30 June	0
Quarters ending 30 September	0
Quarters ending 31 December	0

2.3.3.1 *Current calculation method*

New Committed Wind Generation is defined in clause 28.1 in the Instrument as:

(a) the amount specified in the table in Item 5 of Schedule 1 as the New Committed Wind Generation for the Quarter; or

(b) such other amount as is determined by the Regulator from time to time to represent the aggregate forecast volume of electricity that will be generated in that Quarter from:

(i) new Tasmanian wind generating capacity that is classified as "committed" in the Statement of Opportunities most recently published by AEMO; and

(ii) wind generating plant at other sites with nameplate capacity of greater than 5MW in Tasmania which first exported electricity to TasNetworks' distribution or transmission systems less than three years before the relevant Calculation Date.

Based on AEMO's most recent Statement of Opportunities (September 2016) there was no new Tasmanian wind generating capacity that is classified as "committed". Furthermore, Musselroe Wind Farm Tasmania's, most recently constructed windfarm with nameplate capacity greater than 50MW, has been commissioned for more than three years therefore the current New Committed Wind Generation values was set to zero.

2.3.3.2 Proposed calculation method

AEMO has combined its Electricity Statement of Opportunities and Gas Statement of Opportunities into a single report – the Energy Supply Outlook. Based on the June 2017 Energy Supply Outlook the Economic Regulator proposes no changes to the values for New Committed Wind Generation shown in Table 5.

The Economic Regulator proposes to continue to update the values for New Committed Wind Generation on the basis of clause 28.1(b) of the Instrument.

2.3.4 Calculation of Tasmanian Cap Value

The values as at 24 March 2017 are shown in Table 6.

Table 6 Calculation of Tasmanian Cap Value – Input values as at 24 March 2017

Defined term	Value
Costing Quarter	Quarter ending 31 December 2012
Economic Life	30 years
Forecast Inflation Rate	2.7% p.a.
Nominal Post Tax Debt Cost	5.55% p.a.
Pre-Tax Real WACC	8.0% p.a.
Real Annual Operating Cost	\$14.1/kW (\$ as at Costing Quarter)
Real Total Capital Cost	\$1 016/kW (\$ as at Costing Quarter)
Construction Quarter	2026 ^{Note 1}

Note:1 Date is based on the application of paragraph (b) of the definition of **Construction Quarter** in Clause 28.1 the Instrument.

2.3.4.1 *Current calculation method*

The values for the following defined terms are from IPART's "Review of Regulated Retail Electricity Final Report", June 2013³:

- Costing Quarter (the report is in 2012-13 dollars therefore December 2012 is the deemed to be midpoint of the 2012-13 financial year)
- Forecast Inflation Rate
- Nominal Post Tax Debt Cost
- Pre-Tax Real WACC

The values for the following defined terms are from Frontier Economics, "*Input assumptions for modelling wholesale electricity costs, Final Report to IPART*", June 2013⁴:

- Economic Life;
- Real Annual Operating Cost; and
- Real Total Capital Cost.

The Construction Quarter is set at 2026, 10 years after AEMO's most recent Statement of Opportunities (September 2016) and is as per paragraph (b) of the definition of Construction Quarter in clause 28.1 (b) in the Instrument⁵ i.e.

"the earlier of:

(a) the Winter Quarter in the earliest Calendar Year in which new capacity is required to maintain electricity grid reliability in accordance with the NEM Reliability Standard under the medium economic growth scenario considered by AEMO in its most recently published Statement of Opportunities; or

(b) the Winter Quarter in the Calendar Year that is 10 years after the Calendar Year in which the most recent Statement of Opportunities was published by AEMO.

³https://www.ipart.nsw.gov.au/files/sharedassets/website/trimholdingbay/final_report_-_review_of_regulated_retail_prices_for_electricity_-_from_1_july_2013_to_30_june_2016.pdf

⁴ https://www.ipart.nsw.gov.au/files/sharedassets/website/trimholdingbay/consultant_report_-_frontier_economics_-_input_assumptions_for_modelling_wholesale_electricity_costs_-_june_2013.pdf

⁵ Pg 56 of the Wholesale Contract Regulatory Instrument.

2.3.4.2 *Proposed calculation method*

The Tasmanian Cap Value inputs relate to the construction and operation costs of a generic gas fired open cycle peaking generator⁶ at some point in the future. As IPART no longer regulates retail electricity prices IPART cannot be used as a source for the required data and unfortunately currently, there is no other single source of information which is as be used to update all the values in Table 6.

The Economic Regulator proposes that the Forecast Inflation Rate is calculated as the midpoint of “CPI inflation” value for the furthest period in Table 6.1, Output Growth and Inflation Forecasts, of the Reserve Bank of Australia’s *Quarterly Statement of Monetary Policy*. Based on the May report the Economic Regulator proposes a Forecast Inflation Rate of 2.5%.

With regards to the Economic Life the Economic Regulator proposes retaining the current value of 30 years as this is consistent the *2015 Australian Power Generation and Technology Report* in AEMO’s 2016 National Transmission Network Development Plan (NTNDP) database.⁷

The Economic Regulator proposes an updated value for Real Total Capital Cost of \$1073/kW. This is sourced from the *2016 Planning Studies - Additional Modelling Data and Assumption Summary*⁸ spreadsheet and is taken from the estimate for 2026-27 from the neutral cost scenario.

However the fixed operating and maintenance costs for OCGTs sourced from the same spreadsheet is \$4/kW/year which is disproportionately low compared to the values provided in the 2013 Frontier report. Consequently the Economic Regulator proposes using the value from the *2015 Australian Power Generation Technology Report* for an Aero open cycle turbine running on natural gas i.e. \$10/kW/year in 2015 dollars. The Economic Regulator proposes indexing this value by 1.3% for inflation so that the updated value for the Real Annual Operating Cost is \$10.13/kW/year for 2016.

The Economic Regulator proposes updating the value for the Construction Quarter to 2017 as required by part (b) of the definition of Construction Quarter in the Instrument.

The Economic Regulator proposes updating the Costing Quarter to June 2016 to align with the Operating and Capital Cost values.

In determining an applicable WACC the Economic Regulator considered WACC data sourced from IPART, WACC data provided in AEMO’ *2016 Planning Studies - Additional Modelling Data and Assumption Summary* spreadsheet and AEMO’s

⁶ Known as an open cycle gas turbine generator (OCGT)

⁷ http://www.co2crc.com.au/wp-content/uploads/2016/04/LCOE_Report_final_web.pdf

⁸ <http://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Planning-and-forecasting/National-Transmission-Network-Development-Plan/NTNDP-database>

2017 Benchmark Reserve Capacity Price (BRCP)⁹ for the 2019-20 Capacity Year (published December 2016). As IPART no longer publishes a WACC specifically for electricity generator's the WACC calculated using IPART data would be a combination of data from the 2013 IPART report and 2017 values. AEMO's spreadsheet shows a WACC of 7.03% for an OCGT in Tasmania but does not specify whether the WACC is pre or post tax, nominal or real. The BRCP WACC (5.29%) is a pre-tax real and is relatively current (2016) however Concept Consulting considers that an equity beta of 0.83, as used in the BRCP WACC, is relatively low for a merchant generator.

The Economic Regulator considers that the WACC for BRCP is the most complete and recent source of WACC data for an OCGT generator and therefore will use BRCP WACC parameters except for the following: an equity beta equal of one; risk free rate of rate and debt risk premium which will equal the most recent 40 trading day averages for 10 year Commonwealth Government Bonds¹⁰ and the RBA's 10 year BBB non-financial corporate bond spread¹¹ and gamma set to 0.4¹² Applying these parameters the Economic Regulator proposes a Pre-Tax Real WACC of 5.9%. Using the same data the Economic Regulator proposes a Nominal Post Tax Cost of 3.44%. The Economic Regulators proposed values for the calculation of Tasmanian Cap values are shown in Table 7.

Table 7 Proposed values for Calculation of Tasmanian Cap Value

Defined term	Value
Costing Quarter	Quarter ending 30 June 2016
Economic Life	30 years
Forecast Inflation Rate	2.5% p.a.
Nominal Post Tax Debt Cost	3.44% p.a.
Pre-Tax Real WACC	5.5% p.a.
Real Annual Operating Cost	\$10.13/kW (\$ as at Costing Quarter)
Real Total Capital Cost	\$1 073/kW (\$ as at Costing Quarter)
Construction Quarter	2027 ^{Note 1}

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https://www.aemo.com.au/-/media/Files/Electricity/WEM/Reserve_Capacity_Mechanism/BRCP/2017/Final-Report-Benchmark-Reserve-Capacity-Price-for-the-2019-20-Capacity-Year.pdf

¹⁰ F2 Capital Market Yields – Government Bonds - FCMYGBAG10D

¹¹ F3 Aggregate Measures Of Australian Corporate Bond Spreads And Yields: Non-Financial Corporate (NFC) Bonds - FNFCBBB10M

¹² In response to the Full Federal Court of Australia decision on gamma in its review of the Australian Competition Tribunal's decision regarding the AER's electricity network revenue allowance determinations.

Note 1 Date is based on the application of paragraph (b) of the definition of **Construction Quarter** in Clause 28.1 the Instrument.

2.3.5 Contract Premium

The values as at 24 March 2017 are shown in Table 8.

Table 8 Contract Premium as at 24 March 2017

Defined term	Value
Off-Peak Contract Premium	\$3.40/MWh
Peak Contract Premium	\$15.60/MWh

2.3.5.1 Current calculation method

The current values were sourced from the IES *Review of Wholesale Energy Price for Period 2010-2013* report¹³

2.3.5.2 Proposed calculation method

The Economic Regulator proposes to maintain the current values on the basis that the costs of obtaining relevant data and an independent review of the contract premium outweighs the benefits of reviewing the values as regulated prices are relatively insensitive to large changes in the contract premiums.

2.4 Inputs relating to volume

The following inputs are used in calculating the minimum volume of electricity, in terms of capacity (MW) and energy (GWh) that Hydro Tasmania must offer each week in regulated contracts to retailers operating in the Tasmanian market.

2.4.1 Absolute Minimum Capacity Offer Volume

The Absolute Minimum Capacity Offer Volume (AMCOV) values as at 24 March January 2017 are shown Table 9.

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[http://www.economicregulator.tas.gov.au/domino/otter.nsf/LookupFiles/095869_Review_of_Wholesale_Energy_Price_for_Period_2010_2013.pdf/\\$file/095869_Review_of_Wholesale_Energy_Price_for_Period_2010_2013.pdf](http://www.economicregulator.tas.gov.au/domino/otter.nsf/LookupFiles/095869_Review_of_Wholesale_Energy_Price_for_Period_2010_2013.pdf/$file/095869_Review_of_Wholesale_Energy_Price_for_Period_2010_2013.pdf)

Table 9 AMCOCV - As at 24 March 2017

Quarter	Absolute Minimum Capacity Offer Volume (MW)
Quarters ending 31 March	4.3
Quarters ending 30 June	6.9
Quarters ending 30 September	6.6
Quarters ending 31 December	5.1

2.4.1.1 *Current calculation method*

The current values are calculated using the components and values in Table 10. The estimate of the annual net system load (a) was divided by the seasonal factor (b) for each quarter to determine the estimated load for each quarter (c). The estimated load for each quarter is then divided by the number of hours in each quarter (d) and the load factor (as calculated in the Model) for each quarter to obtain the maximum load during each quarter (e) which is subsequently divided by 104 (the number of weeks in eight quarters¹⁴) to obtain the relevant weekly AMCOV value for each quarter (f).

Table 10 - AMCOCV - components and values

Component	Calendar Year Quarter 1	Calendar Year Quarter 2	Calendar Year Quarter 3	Calendar Year Quarter 4	Total
Seasonal factors (b)	20%	28%	31%	21%	100%
Load - GWh (c)	514	738	794	554	2 600 (a)
Load factor	53%	47%	52%	48%	
Hours (d)	2 167	2 184	2 208	2 208	8 767
MW (e)	447	714	688	528	
AMCOV/week(f)	4.3	6.9	6.6	5.1	

2.4.1.2 *Proposed calculation method*

The Economic Regulator proposes continuing with the initial calculation method and proposes sourcing the component values from parameters in the Model as per Table 11.

¹⁴ Hydro Tasmania must offer, subject to conditions specified in the Instrument, weekly contracts for eight forward quarters (excluding the current quarter).

Table 11 Model parameters used in calculating the AMCICV

Seasonal factors	Seasonal Allocation (Load) - DerivedInputs Worksheet
Load - GWh	2 yr Avg Historical Tasmanian Load - DerivedInputs Worksheet
Load factor	2yr Avg Historical Net System Load Factor% - DerivedInputs Worksheet

Based on the Model values as at 30 June 2017 and applying the proposed calculation method and the proposed AMCOV values are as shown in Table 12.

Table 12 Proposed AMCOV - components and updated values (as at 30 June 2017)

Components	Calendar Year Quarter 1	Calendar Year Quarter 2	Calendar Year Quarter 3	Calendar Year Quarter 4	Total
Seasonal factors	23%	25%	27%	25%	100%
Load - GWh	477	685	737	514	2414 (a)
Load factor	54%	48%	52%	49%	
Hours	2 167	2 184	2 208	2 208	8 767
MW	465	577	582	554	
AMCOV/week	4.5	5.5	5.6	5.3	

An alternative approach is to use an average of the Model values as at the end of each quarter. Based on this method the weekly AMCOCVs would be 4.5, 5.5, 5.6 and 5.1 respectively. Although the alternative method does not appear to materially outcomes the Regulator is interested in the views of stakeholders on what is the preferred method.

2.4.2 Supplementary Offer Volumes, Headroom Buffers and Reserved Percentage

The values as at 24 March 2017 are shown in Table 13.

Table 13 Supplementary Offer Volumes, Headroom Buffer and Reserved Percentage - as at 1 January 2017

Defined term	Value
Supplementary Offer Capacity Volume	20MW
Supplementary Offer Energy Volume	44GWh
Reduced Supplementary Offer Capacity Volume	10MW
Reduced Supplementary Offer Energy Volume	15GWh
Capacity Headroom Buffer	130 MW
Energy Headroom Buffer	200GWh
Reserved Percentage	90%

2.4.2.1 *Current calculation method*

These values were largely determined using professional judgement after taking into consideration: discussions with market participants, forecast total Tasmanian load, small customer load and the volume of Tasmanian load hedged at any point. The inputs aim to provide retailers with flexibility in how they manage their hedging strategies while protecting the interests of all retailers by specifying the volume that Hydro Tasmania must offer under regulated contracts at one time.

Where the difference between the volume of electricity hedged by Hydro Tasmania and forecast Tasmanian load (referred to as headroom) is equal to or greater than the respective headroom buffer values, the minimum volume Hydro Tasmania is required to offer under regulated contracts is the sum of the capacity or energy Absolute Minimum Offer Volume plus the respective Supplementary Offer Volume.

If the headroom falls below the headroom buffer value but is above zero the minimum volume Hydro Tasmania is required to offer under regulated contracts is the sum of the capacity or energy Absolute Minimum Offer Volume plus the respective Reduced Supplementary Offer Volume. To provide sufficient notice to retailers that the volume available under regulated contracts is declining Hydro Tasmania must offer at the Reduced Supplementary Offer Volumes for at least 12 weeks prior to reducing volumes under regulated contracts to the Absolute Minimum Offer Volume. Therefore the Headroom Buffers are set at around 13 times the value of the Reduced Supplementary Offer Volume values.

The Reserved Percentage is used in the scaling rules which apply when the demand for contracts is greater than the volume Hydro Tasmania offers in a particular week. The volume that each Retailer is offered is determined by their relative share of the standing offer customer load. However new (or recent) retail entrants could be disadvantaged by allocation based on existing load. Reserved Percentage adjustment factor determines the proportion of the minimum offer volume that will be allocated to retailers based on incumbent market shares.

2.4.2.2 *Proposed calculation method*

The Economic Regulator has not received any requests from market participants to alter/review any of the values in Table 13 and sees no reason to amend the values therefore proposes maintaining the current values.

2.5 NEXT STEPS

Following consideration of submissions made in response to this Consultation Paper, the Regulator will decide on its approach to updating the Schedule 1 inputs, and publish a final approach paper and update input values in the Model prior to the 29 August 2017 Allocation Date.¹⁵

¹⁵ Clause 28.1 of the Instrument defines Allocation Date as follows:

Allocation Dates means, for a Week, the day specified in the Guidelines as the day by which Hydro Tasmania must offer to enter into Approved Financial Risk Contracts (as nominated by Authorised Retailers in accordance with clause 18 and allocated, where applicable, in accordance with clause 27) in that Week.

3 APPENDICES

A. Schedule 1 inputs

	Current Values	Proposed Values
Table 1 Off-Peak Cap Values		
Off-peak Reference Cap Value	\$0.33/MWh	\$0.002/MWh
Off-Peak Cap Value	\$0.33/MWh	\$1.14/MWh
Table 2 Absolute Minimum Capacity Offer Volume		
Quarters ending 31 March	4.3MW	4.6MW
Quarters ending 30 June	6.9MW	5.5MW
Quarters ending 30 September	6.6MW	5.5MW
Quarters ending 31 December	5.1MW	5.4MW
Table 3 Supplementary Offer Volumes, Headroom Buffers and Reserved Percentage		
Supplementary Offer Capacity Volume	20MW	20MW
Supplementary Offer Energy Volume	44GWh	44GWh
Reduced Supplementary Offer Capacity Volume	10MW	10MW
Reduced Supplementary Offer Energy Volume	15GWh	15GWh
Capacity Headroom Buffer	130 MW	130 MW
Energy Headroom Buffer	200GWh	200GWh
Reserved Percentage	90%	90%
Table 4 Marginal Loss Factors		
Maximum Export Marginal Loss Factor	0.88	0.889
Maximum Import Marginal Loss Factor	1.064	1.066
Off-Peak Marginal Loss Factor	1.002	1.004
Peak Marginal Loss Factor	0.94	0.954
Average Basslink Flow Export	500MW	500MW
Average Basslink Flow Import	462MW	462MW
Table 5 New Committed Wind Generation		
Quarters ending 31 March	0	0
Quarters ending 30 June	0	0
Quarters ending 30 September	0	0
Quarters ending 31 December	0	0
Table 6 Calculation of Tasmanian Cap Values		
Costing Quarter	Quarter ending 31 December 2012	Quarter ending 30 June 2016
Economic Life	30 years	30 years
Forecast Inflation Rate	2.7% p.a.	2.5% p.a.
Nominal Post Tax Debt Cost	5.55% p.a.	3.44% p.a.
Pre-Tax Real WACC	8.0% p.a.	5.5% p.a.
Real Annual Operating Cost	\$14.1/kW (\$ as at Costing Quarter)	\$10.13/kW (\$ as at Costing Quarter)
Real Total Capital Cost	\$1 016/kW (\$ as at Costing Quarter)	\$1 073/kW (\$ as at Costing Quarter)
Construction Quarter	2026	2027
Table 7 Contract premiums		
Off-Peak Contract Premium	\$3.40/MWh	\$3.40/MWh
Peak Contract Premium	\$15.60/MWh	\$15.60/MWh