

24 November 2010

Mr Glenn Appleyard
Office of the Tasmanian Economic Regulator
GPO Box 770
HOBART TAS 7001

Dear Mr Appleyard

Aurora Energy (Aurora) welcomes the opportunity to comment on The Office of the Tasmanian Economic Regulator's (Regulator) Draft Report ("the Report") outlining its intention to impose a hedge based price control mechanism as a response to its previous declaration of the supply of raise contingency frequency control ancillary services (FCAS) by Hydro Tasmania (Hydro) as a declared electrical service.

Aurora is concerned that the methodology and associated parameters outlined in the IES Consultation Draft Report will not achieve the original purpose of the Regulator's declaration, that is, to promote efficiency and competition in the Tasmanian electricity supply industry and to protect electricity consumers from the adverse effects of the exercise of substantial market power.

In considering the Draft Report, Aurora is focused on the two groups principally affected by Hydro Tasmania's bidding behaviour:

1. The Tasmanian community as consumers of electricity; and
2. Aurora's subsidiary, Aurora Energy Tamar Valley (AETV), which in common with other Tasmanian generators bears the brunt of FCAS price increases.

If you would like to further discuss any of the issues raised in the submission please contact Shaun O'Loughlin, Manager Strategic Development, (03) 6237 2542 or shaun.oloughlin@auroraenergy.com.au.

Yours sincerely



Michael Brewster
Chief Operations Officer

Encl.



Aurora Energy Submission

Final Report - Investigation of Hydro Tasmania's pricing policies in the provision of raise FCAS

24 November 2010

Executive Summary

Aurora Energy (**Aurora**) welcomes the opportunity to comment on the recent draft report issued by (the Office of the Tasmanian Economic Regulator (**Regulator**)) outlining the Regulator's intention to impose a hedge based price control mechanism in relation to the supply of raise contingency frequency control ancillary services by Hydro Tasmania (**Hydro Tasmania**).

Aurora has previously provided strong supporting statements toward the Regulator's decision to declare the supply of raise contingency frequency control ancillary services (**FCAS**) in Tasmania as a declared electrical service.

In summary, Aurora:

- supports the Regulator's decision to impose a price control mechanism on Hydro Tasmania in respect of the provision of fast raise, slow raise and delayed raise FCAS for a period of five years;
- requests the Regulator to implement this price control mechanism commencing 1 January 2011;
- supports the Regulator's decision that:
 - the appropriate form of price control is to require Hydro Tasmania to offer to other Tasmanian generators a general FCAS hedge contract, designed as a 'safety net' contract, that is not subject to any special conditions (other than conditions relating to self provision and new sources of supply) or exclusions; and
 - Generators should be able to negotiate price variations for accepting any special conditions or exclusions outside of this 'safety net';
- agrees in principle that the method for estimating Hydro Tasmania's costs in relation to the provision of FCAS should be through the determination of Hydro Tasmania's reasonable costs of physically delivering to the spot market the amount of FCAS nominated in the FCAS hedge contract;
- agrees that:
 - the 'safety net' contract should be for a bundle of the three declared electrical services;
 - the contract quantity for each dispatch interval should be based on the generator's actual fast raise FCAS MW liability (based on the generator's output for the dispatch period) capped by a maximum requirement or requirements;
 - there should be provision for the quantity specified in the contract to be reduced to the extent that the generator provides its own services; and
 - the methodology, current values of parameters, standing data and 'safety net' contract documentation should be published on Hydro Tasmania's website; and

- supports the Regulator's decision to fix the price of 'safety net' contracts for six months and recalculate those prices on a six monthly basis in accordance with the published methodology.

Aurora generally supports the methodology, parameters and parameter values set out in Chapters 3 and 4 of the IES Consultation Draft Report, as the basis for determining Hydro Tasmania's costs of physically delivering to the spot market the requisite amount of FCAS.

However, in applying that methodology and those parameters, together with other relevant information which Aurora has access to as a market participant, Aurora has arrived at a value for the opportunity cost of Hydro Tasmania being enabled to provide raise FCAS which is significantly lower than the IES calculations would suggest.

This is particularly because the IES Consultation Draft Report describes three situations in which opportunity costs for being enabled to provide raise FCAS might arise, but then appears only to apply one of those situations when determining the methodology, suggesting parameters and setting out sample calculations.

Aurora contends that the existence of these two other situations, together with the requirement for environmental flows at the Gordon Power Station, means that the opportunity cost of Hydro Tasmania being enabled to provide raise FCAS should be discounted, to a significant extent, from the levels which the IES methodology and parameter values would lead to.

As the Regulator is aware, the original purpose of the Regulator's declaration was to:

- promote efficiency and competition in the Tasmanian electricity supply industry; and
- protect electricity consumers from the adverse effects of the exercise of substantial market power.

Aurora is concerned that the application of the methodology and parameter values suggested by IES without the appropriate discounting and qualifications outlined in this submission would not achieve this objective.

In considering the Draft Report, Aurora has focused on the two groups principally affected by Hydro Tasmania's past bidding behaviour. They are:

1. the Tasmanian community as consumers of electricity; and
2. Aurora's subsidiary, Aurora Energy Tamar Valley (AETV), which bears the highest proportion (in real terms) of the Tasmanian FCAS costs.

This Submission sets out the concerns that Aurora has with the manner in which the proposed pricing methodology and parameter values is proposed to be applied and proposes some adjustments to the application of the proposed pricing methodology and parameter values. .

Aurora would obviously be pleased to participate in any further discussions or processes which the Regulator considers appropriate, to finalise the price control mechanism.

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1. Introduction

Aurora welcomes the opportunity to comment on the Regulator's *FCAS Pricing Investigation Draft Report November 2010 (Draft Report)*.

Aurora believes that the control of FCAS prices as a declared electrical service will provide consumers and market participants with a greater degree of certainty in relation to an area of significant costs, whilst at the same time guaranteeing Hydro Tasmania a fair and reasonable payment for the FCAS it provides.

However, Aurora considers there are key points in the Draft Report and its recommendations that require some refinement, to ensure that the original objective underlying the making of the declared electrical service declaration is fulfilled.

That objective was:

- to promote efficiency and competition in the Tasmanian electricity supply industry; and
- protect electricity consumers from the adverse effects of the exercise of substantial market power.

2. Aurora Energy and AETV

Aurora is a Tasmanian Government-owned electricity distribution and retail company, which was formed in July 1998 pursuant to the *Electricity Companies Act* and incorporated under the Corporations Law. In August 2008, Aurora also secured an agreement for the purchase of AETV, which includes the assets of the Tamar Valley Power Station (TVPS).

The TVPS at George Town comprises a new gas-fired thermal generation unit that is directly connected to Transend's transmission network. AETV has a total of 380MW of generation comprising of a 203MW Combined Cycle Gas Turbine (CCGT), a new 58MW Open Cycle Gas Turbine (OCGT) and three existing FT8s with a combined total of 120 MW. The 203MW CCGT comprises 140MW gas turbine, 70MW steam turbine that provides base load generation with the OCGT's used primarily as back up plant for when the CCGT is out of service or during high spot price events.

Aurora offers the comments in this document in the context of the following statement summarising our Corporate Intent, which guides our input on major market issues.

As a significant Tasmanian Government-owned company, Aurora aims to provide objective advice consistent with our purpose, to ensure this we:

- Operate as a viable, integrated business of sufficient scale to be successful in a national environment, delivering commercial returns to Shareholders; and
- Act in the best interests of Tasmanian consumers, consistent with the Government's energy, development and social objectives.

In response to earlier stages of the Regulator's inquiry, Aurora and AETV have provided separate submissions to highlight the differing concerns and impacts of Hydro Tasmania's bidding behaviour in the FCAS market on AETV on as a generator and Aurora as the retailer servicing the majority of the Tasmanian electricity market.

However on this occasion, Aurora is providing a submission on its own behalf and on behalf of AETV, so that all concerns affecting both Aurora's business as a whole and the impacts on the broader community can be addressed in one document.

3. Background

It is generally acknowledged that it was Hydro Tasmania's bidding behaviour in the FCAS market in April 2009 that was the catalyst for this investigation. That series of events brought into sharp focus the following characteristics of the Tasmanian electricity supply market:

- Hydro Tasmania is the only on-island provider of the FCAS services required to meet the Tasmanian local requirement and is likely to be a dominant, if not the sole, supplier of FCAS for some time.
- Hydro Tasmania's bidding behaviour only changed when AETV began to generate electricity.
- That bidding behaviour ceased almost immediately after a hedge contract was agreed between AETV and Hydro Tasmania.

As Hydro Tasmania is currently the sole registered provider of FCAS on island, there is currently no competition in the Tasmanian FCAS market. This enables Hydro Tasmania to substantially increase its prices for FCAS, with virtually no recourse. As indicated, an outcome of this was AETV entering into a completely new hedge contract for FCAS services with Hydro Tasmania, which the Regulator has observed resulted in a benefit to Hydro Tasmania's business through a fixed revenue stream associated with the new hedge contract.¹

That is, Hydro Tasmania's bidding behaviour in the energy and FCAS spot markets forces other participants to secure from Hydro Tasmania hedge cover for their full potential exposure, without any spot exposure, (i.e. participants need to be long or over hedged). Over the past 18 months in Tasmania the number of \$5,000/MWh market events reported by the AER clearly demonstrate this.

The impact is therefore an ever increasing separation between hedge products and the spot market. In contrast, a competitive market as observed in other regions of the NEM will provide a degree of elasticity between the two markets (energy and FCAS) that keep downward pressure on hedge product costs.

Aurora believes a key consideration in the current phase of this process is to ensure that the selected pricing mechanism exerts a downward pressure on hedge costs, as if there were a competitive market in Tasmania.

In terms of the investigation process to date, Aurora welcomed the Regulator's January 2010 decision to proceed with its declaration that the raise FCAS provided by Hydro Tasmania would be a declared electrical service under the *Electricity*

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[http://www.energyregulator.tas.gov.au/domino/otter.nsf/LookupFiles/09_4457_Submission_Aurora_Energy_Pty_Ltd_Re_Intent_Declare_FCAS_Declared_Electrical_Services_Aug_09.pdf/\\$file/09_4457_Submission_Aurora_Energy_Pty_Ltd_Re_Intent_Declare_FCAS_Declared_Electrical_Services_Aug_09.pdf](http://www.energyregulator.tas.gov.au/domino/otter.nsf/LookupFiles/09_4457_Submission_Aurora_Energy_Pty_Ltd_Re_Intent_Declare_FCAS_Declared_Electrical_Services_Aug_09.pdf/$file/09_4457_Submission_Aurora_Energy_Pty_Ltd_Re_Intent_Declare_FCAS_Declared_Electrical_Services_Aug_09.pdf) p.7

Supply Industry (Price Control) Regulations 2003 (Price Control Regulations), together with the commencement of the Investigation process in March 2010 that followed the declaration.

The Regulator is to be commended on conducting a thorough and rigorous process under the Price Control Regulations in the period from January 2010 to now. That process has seen the following steps completed:

- the Regulator publishing an Issues Paper in July 2009;
- the Regulator forming the opinion that:
 - Hydro Tasmania has substantial market power in the supply of raise contingency FCAS in the Tasmanian region; and
 - the promotion of competition, efficiency and the public interest requires that these services be declared by the Regulator as declared electrical services;
- the Regulator publishing a Statement of Reasons on 4 January 2010, which provided the reasons for his decision to declare the services;
- the declaration taking effect on 3 February 2010;
- notice of an investigation being provided to the Treasurer, Minister for Energy and Hydro Tasmania on 3 March 2010;
- issuing terms of reference for the investigation;
- engaging a consultant to undertake the investigation;
- the publication of a draft and also a final report by the consultant on stage 1 of the investigation process; and
- publishing a draft report on the second phase of the investigation, in response to which this submission is made.

At each stage of the process the Regulator has sought and considered submissions and responses.

We are now at the final stage of this process – determining the pricing methodology to be applied.

Aurora agrees with and supports the majority of the Regulator's decisions, as set out in the Draft Report. In particular, Aurora:

- supports the Regulator's decision to impose a price control mechanism on Hydro Tasmania in respect of the provision of fast raise, slow raise and delayed raise FCAS for a period of five years;

- requests the Regulator to implement this price control mechanism commencing 1 January 2011;
- supports the Regulator's decision that:
 - the appropriate form of price control is to require Hydro Tasmania to offer to other Tasmanian generators a general FCAS hedge contract, designed as a 'safety net' contract, that is not subject to any special conditions (other than conditions relating to self provision and new sources of supply) or exclusions; and
 - Generators should be able to negotiate price variations for accepting any special conditions or exclusions outside of the 'safety net' terms and conditions;
- agrees in principle that the method for estimating Hydro Tasmania's costs in providing FCAS should be through the determination of Hydro Tasmania's costs of physically delivering to the spot market the amount of FCAS nominated in the FCAS hedge contract;
- agrees that:
 - the 'safety net' contract should be for a bundle of the three declared electrical services;
 - the contract quantity for each dispatch interval should be based on the generator's actual fast raise FCAS MW liability (based on the generator's output for the dispatch period) capped by a maximum requirement or requirements;
 - there should be provision for the quantity specified in the contract to be reduced to the extent that the generator provides its own services; and
 - the methodology, current values of parameters, standing data and the 'safety net' contract documentation should be published on Hydro Tasmania's website; and
- supports the Regulator's decision to fix the price of 'safety net' contracts for six months and recalculate those prices on a six monthly basis in accordance with the published methodology.

Aurora generally supports the methodology, parameters and parameter values set out in Chapters 3 and 4 of the IES Consultation Draft Report, as the basis for determining Hydro Tasmania's costs of physically delivering to the spot market the requisite amount of FCAS.

However, when applying that methodology and those parameters, together with other relevant information to which Aurora has access as a market participant, Aurora has arrived at a value for the opportunity cost of Hydro Tasmania being enabled to provide raise FCAS which is significantly lower than the IES calculations would suggest.

This is particularly because the IES Consultation Draft Report describes three situations in which opportunity costs for being enabled to provide raise FCAS might arise, but then appears only to apply one of those situations when determining the methodology, suggesting parameters and setting out sample calculations.

Aurora contends that the existence of these two other situations, together with the requirement for environmental flows at the Gordon Power Station, means that the opportunity cost of Hydro Tasmania being enabled to provide raise FCAS should be discounted, to a significant extent, from the levels which the IES methodology and parameter values would lead to.

The balance of this submission focuses on Aurora's analysis of the main issues concerning the pricing methodology and parameters set out in the IES Consultation Draft Report.

We have identified a number of other potential issues in relation to the IES Consultation Draft Report. However, we have decided not to raise those issues in this submission because they do not appear to:

- materially impact on the Regulator's current findings; or
- to be material when compared to the issue we have raised in relation to the manner in which the suggested pricing methodology and parameter values are proposed to be applied.

Aurora would of course be happy to provide a further submission regarding those issues, should the Regulator require.

4. Declaration – key impacts & issues

There are two areas where Hydro Tasmania's high prices for raise FCAS are likely to impact most. The first of these is the broader community as consumers of electricity at a retail level. The second is Aurora itself being a market participant.

4.1 Impact on consumers

FCAS pricing, particularly where the FCAS market is being controlled by a sole or dominant provider, can have a significant impact on consumers, both directly and indirectly. The direct impact is through increases in FCAS costs flowing through to the electricity prices that customers pay. The indirect impact can be seen where barriers to entry for new entrants preclude future competition in both the FCAS and wholesale electricity markets, which may reduce the potential future benefits for consumers derived from competitive market forces.

Energy retailers and consumers are impacted by raise contingency FCAS price events as they are at the end of the energy supply chain. The impact on customers is expected to be realised through direct increases in FCAS prices being passed through the supply chain to retailers and on to consumers, at a time of other price pressures. Electricity prices must compensate for a range of cost inputs including distribution, transmission and generation. As the interface between consumers and those further along the energy supply chain, Aurora is very mindful of the need to minimise the price rises to consumer for electricity, an essential service.

Indirect impacts predominantly take the form of barriers to entry to the wholesale market that result in reduced prospects for new entrant generators to provide competitive pressure on energy prices that are paid by consumers. In the present market, so long as a higher cost of the raise FCAS services is levied against on island generators, as compared with their mainland counterparts, Aurora believes that there will be little incentive for new entrants to start up in the Tasmanian market. In the long term, the entry of additional generation sources has the potential to result in energy prices being more competitive and provide greater energy security for consumers.

It is also highly noticeable that Tasmanian residential electricity users are entering a period where the trend of electricity price movements is on a sharp upwards rise. This has a knock on effect to retail hardship initiatives, consumer groups supporting consumers experiencing fuel poverty and government concession programs. Given the current price pressure environment, Aurora considers all price-motivating factors very carefully and seeks to avoid any unnecessary drivers for price rises.

There is also a potential impact on energy security. If there is little or no incentive for new entrant generators to set up in the Tasmanian energy market, the opportunity for on island generation to diversify from hydro to other fuel sources diminishes. We have all become acutely aware of the risk of heavy reliance on hydro generation during the recent drought years, when water inflows were well below average levels.

4.2 Impact on Aurora

Aurora is very concerned about the impact that both the historical Hydro Tasmania FCAS prices and the proposed regulated hedge prices may have on Aurora and its subsidiary company AETV.

As discussed earlier in this submission, the entry of AETV into the electricity generation market was met by a large increase in FCAS prices, not a reduction. In Aurora's view this demonstrates that Hydro Tasmania was securing prices for the FCAS which it provides at an amount far in excess of the economic costs of producing FCAS.

As recommended by IES in its Consultation Draft 15 October 2010 and supported by the Regulator, the provision of FCAS raise contingency services needs to be priced at the opportunity costs to provide the service.

Aurora has experienced a 43% increase in the Hydro Tasmania hedge price for FCAS raise contingency services since IES commenced its stage 2 investigations. In other words, the hedge price being offered by Hydro Tasmania is **significantly above current spot market prices.**

As indicated in the Regulator's Draft Report, the average prices for fast raise FCAS in Tasmania is roughly 15 times the average prices for the same services on the NEM mainland.²

Aurora submits that in order to achieve the objectives of this investigation and of the declaration of raise FCAS as declared electrical services, the Regulator must ensure that the FCAS bidding events of April 2009 are not reinforced or rewarded by being embedded within a regulated hedge product.

Such an outcome would detrimentally affect AETV Power's competitiveness in the energy market and would apply upward pressure on energy prices, ultimately flowing through to higher costs for consumers.

Determining the opportunity cost for providing raise FCAS services is a complex issue which is almost solely reliant on information provided by Hydro Tasmania.

Aurora would encourage the Regulator to adopt assumptions from the lower end of the opportunity cost curve as opposed to the high end when establishing a "safety net" hedge product.

Significant portions of the information contained in the IES Consultation Draft Report have been sourced from Hydro Tasmania. Consistent with the Regulator's obligations under the Price Control Regulations, the Regulator will naturally want to ensure that this information and any underlying assumptions have been thoroughly scrutinised, analysed and tested, so as to ensure that the outcomes of this process are robust and transparent.

² Office of the Tasmanian Economic Regulator, *FCAS Pricing Investigation Draft Report*, November 2010, at page 23.

4.3 Other matters

Period of declaration

Throughout the process of the initial declaration, the commencement of the investigation and processes leading to the Draft Report, Aurora has been concerned to ensure that the declaration should apply for an appropriate period and then be reviewed. The Regulator decided that the price control mechanism will be set for a five-year period at which time a review can take place. Aurora is supportive of this time frame and believes it better reflects the challenges present in the FCAS market for Tasmanian generators and potential entrant generators.

Commencement of declaration

Aurora also supports the Regulator's proposal for the determination to commence on 1 January 2011³. Whilst this is a short timeframe, Hydro Tasmania already has standard FCAS hedge arrangements in place and therefore Aurora considers that a 1 January 2011 commencement date is quite achievable.

Expiry of declaration

Aurora suggests that the declaration should only end at the expiry of its term, which as the Draft Report⁴ notes would actually trigger a review as to whether the declared electrical service declaration is still required.

Terms on which the hedge contract should be offered

Aurora notes that one of the matters which was required to be determined in stage 2 of the investigation was the terms and conditions on which the price control mechanism should be implemented.

As the selected price control mechanism is a hedge contract, Aurora agrees that the terms and conditions of the hedge contract which Hydro Tasmania will be required to offer should be those contained in the standard ISDA documentation.

³ Office of the Tasmanian Economic Regulator, *FCAS Pricing Investigation Draft Report*, November 2010, at page 27

⁴ OTTER draft report, at page 28

5 Pricing Methodology – Assumptions & Alternatives

5.1 Contract Pricing Methodology – general comments

As indicated earlier in this submission, Aurora is in agreement with, and supports, the majority of the determinations that the Regulator proposes to make.

The only areas where Aurora takes a different view concern the application of the methodology and parameters which are to be used in determining the hedge prices that Hydro Tasmania will be required to offer.

The Regulator has indicated broad support for the methodology set out in chapter 3 of the IES Consultation Report.

The Regulator has also indicated that the pricing of the services will be determined by reference to Hydro Tasmania's foregone revenue in the energy and REC markets using a methodology that has been devised by the Regulator's independent experts, and parameter values that are objectively determined⁵.

The Regulator's independent expert has said that 'the value of a swap contract should roughly correspond to the average spot price which in turn should roughly correspond to the costs of delivering that spot market service'⁶. This appears to translate into the opportunity cost of being enabled to provide raise FCAS.

In general terms, Aurora supports the proposition that the price to be set under the hedge contracts for raise FCAS provided by Hydro Tasmania should be the opportunity costs of being enabled to provide those services.

IES has found⁷ that the opportunity cost to Hydro Tasmania in providing slow raise and delayed raise FCAS is zero.

Therefore, the regulated price under the hedge contract for the bundled FCAS offering (fast, slow and delayed raise) should be the opportunity cost to Hydro Tasmania of providing fast raise FCAS.

5.2 Contract Pricing Methodology – section 3.2 of IES Consultation Draft Report

In chapter 3 of its Consultation Draft Report, IES has identified three distinct situations which could result in different opportunity costs⁸.

⁵ OTTER draft report, at page 19

⁶ Intelligent Energy Systems, *Raise Contingency FCAS – Contract Design and Pricing Consultation Draft Report* 15 October 2010, at page 18

⁷ IES *Consultation Draft Report* at page 19

⁸ IES, *Consultation Draft Report*, see generally Chapter 3

The first ('**scenario 1**') is where a generator provides fast raise FCAS services while still maintaining its energy dispatch target. In this case the opportunity cost of being enabled to provide fast raise FCAS is zero.

The second situation outlined by IES ('**scenario 2**') is "when the unit's energy output is altered by the amount of FCAS raise service for which it is enabled"⁹. In this case, water use and other variable costs will have changed. It is worth noting that, under this arrangement, a small change in generator output from its efficiency point will significantly increase the fast raise FCAS capability of the John Butters and Gordon machines as demonstrated in figures 3 and 4 of the IES Consultation Draft Report. That is, approximately 75MW of generation will provide 31MW and 50MW of fast raise FCAS respectively with foregone power of around 3MW.

In its previous report on FCAS price control mechanism dated 18 June 2010, the Regulator's consultants IES drew the conclusion that:

"...if a generator offers its capacity in the energy market at its marginal cost then the NEM co-optimisation approach to dispatch and pricing will automatically compensate a generator for any lost opportunity in the energy market due to being backed off to provide an FCAS raise service via the FCAS spot price."¹⁰

As a result the opportunity cost under scenario 2 should be the same as the opportunity cost under scenario 1 and therefore set at zero.

If a generator decides not to bid its generated electricity at the marginal cost of production, this decision will be driven by commercial consideration and the generator will be remunerated via other mechanisms.

The third situation that IES refers to ('**scenario 3**') is "...where the unit is dispatched primarily to provide FCAS and the energy output is really just as a result of providing FCAS"¹¹. In this case the opportunity cost is the foregone power.

Aurora agrees that the generator should be compensated for this opportunity cost through the regulated FCAS prices.

The concern that Aurora has with the approach taken by IES is that IES takes the opportunity costs for the John Butters and Gordon machines under scenario 3 and then appears to apply those opportunity costs to the entire local FCAS raise requirement.

In other words, in coming up with its final recommendations as to pricing, it appears that IES has not made any allowance for the fact that, based on its own assessment, there are three distinct scenarios which could result in different opportunity costs (with two of those scenarios producing an opportunity cost of zero).

⁹ IES, *Consultation Draft Report*, at page 18

¹⁰ Intelligent Energy Systems, *Raise Contingency FCAS – Price Control Mechanism Draft Report* 18 June 2010, at page 19

¹¹ Intelligent Energy Systems, *Raise Contingency FCAS – Contract Design and Pricing Consultation Draft*, 15 October 2010 at page 18

We note that in addition to the John Butters and Gordon units, the FCAS local raise requirement is sourced from 13 other power stations. Over the 12 month period - October 2009 to September 2010- these units contributed around 22% of the local raise FCAS requirement.

Each of these other units are likely to contribute to the local raise FCAS requirement in the situations described in scenarios 1 and 2 above (i.e. at an opportunity cost of zero) and therefore the “safety net” hedge cost to cover the local requirement should also be discounted by this factor (i.e. the 22% contribution to local fast raise FCAS requirement provided by units other than John Butters and Gordon).

It is evident from market data that Hydro Tasmania will at times run John Butters (4% of the time) and Gordon (59% of the time) units at low outputs and bid any FCAS capacity into the market. It follows that for the remaining periods any local FCAS provision will be related to scenario 1 or 2 outlined above and result in zero opportunity cost.

Aurora submits that the final pricing methodology and parameter values adopted by the Regulator for the regulated hedge price must take into consideration the fact that a proportion (at least 22%) of the local fast raise FCAS requirement is provided by units other than John Butters or Gordon, and that those units are likely to be operating under either scenario 1 or scenario 2 outlined above (i.e. with an opportunity cost of zero).

5.3 Contract Pricing Methodology – section 3.3.2 of IES Consultation Draft Report

Aurora acknowledges the attempts that IES has made to determine the opportunity costs that Hydro Tasmania incurs, as a result of being enabled to provide fast raise FCAS.

Aurora also acknowledges that there are a number of variable inputs which must be considered when determining the opportunity costs.

However, Aurora is concerned that the information in section 3.3.2 of the IES Consultation Draft Report incorporate some, but not all, of the necessary variables in some, but not all, of the likely configurations. By way of example, section 3.3.2 incorporates assumptions that:

- fast raise FCAS is only being provided by the John Butters and Gordon machines (which as we have indicated is not the case)¹²;
- FCAS is always being required when Basslink imports and power generation and water use at Gordon and John Butters power stations is to be minimised¹³ ; and
- John Butters is operating to provide fast raise FCAS for 20% of the time¹⁴.

¹² IES, *Consultation Draft Report*, at page 22

¹³ IES, *Consultation Draft Report*, at page 23

Of course, if any of these assumed conditions do not exist at a particular time, the conclusions drawn from the assumptions will be incorrect at that time.

Aurora considers that the circumstances illustrated in Figures 5 and 6 of the IES Consultation Draft Report present a 'worst case' picture.

From information Aurora has obtained, it would appear that Hydro Tasmania operates the Gordon Power Station at a low level of generation (30 MW or less) 59% of the time. For the John Butters Power Station, Hydro Tasmania operates the power station at a low level of generation (30 MW or less) 4% of the time. This would therefore mean for the balance in operation, the opportunity cost to Hydro Tasmania for the provision of fast raise FCAS would be zero.

In addition to this, Aurora contends that the opportunity costs associated with the Gordon Power Station need to be further discounted because of the requirement for environmental flows (discussed later in this submission).

Aurora is concerned that the conclusions drawn in section 3.3.2 of the IES Consultation Draft Report may not represent '...the value of a swap contract', which as IES has said 'should roughly correspond to the average spot price which in turn should roughly correspond to the costs of delivering that spot market service'¹⁵.

As indicated earlier in this submission, Aurora contends that the pricing methodology adopted by the Regulator must take into consideration the fact that:

- a proportion of the local fast raise FCAS requirement is provided by units other than John Butters or Gordon;
- those units are likely to be operating under either scenario 1 or scenario 2 outlined above;
- consequently the opportunity cost of those units being enabled to produce that proportion of the local fast raise FCAS requirement is zero; and
- given the percentage of time that Hydro Tasmania chooses to operate the Gordon and John Butters power stations at low levels of generation, the opportunity cost of those units being enabled to provide fast raise FCAS needs to be discounted; and
- further discounting of the opportunity costs associated with the Gordon power station is required because of the separate requirement for environmental flows (discussed further later in this submission).

¹⁴ IES, *Consultation Draft Report*, at page 23

¹⁵ Intelligent Energy Systems, *Raise Contingency FCAS – Contract Design and Pricing Consultation Draft Report* 15 October 2010, at page 18

5.4 Contract Pricing Methodology – section 3.3.3 of IES Consultation Draft Report

IES then proceeds to examine what the value of foregone power generation is. It is not clear whether IES is saying that this is a preferable measure of opportunity cost, nor how this equates to the average spot price (which IES says should be the price set under the regulated hedge contract).

Assuming for present purposes that it is appropriate to consider the value of foregone power generation (lost generation and RECs sales) when determining the price to be set for the regulated hedge contract, Aurora makes the following comments.

As with section 3.3.2 of the IES Consultation Draft Report, section 3.3.3 contains a significant number of assumptions without any apparent reasoning or justification as to why these assumptions have been adopted.

- **Value of lost electricity sales**

In determining the value of lost electricity sales, IES suggests that the Victorian prices for a one year **flat** swap or futures contract could be used, or the Victorian prices for a one year **peak swap**. IES then recommends using a one year Victorian **peak** swap contract. No rationale is given for recommending peak over flat. If the objective is to ascertain the 'average spot price' as IES has recommended, then Aurora contends the Victorian flat swap contract price is far more appropriate.

It should also be borne in mind that Hydro Tasmania has 2400 MW of generation available to it. It could be expected that Hydro Tasmania would have plenty of capacity from which it could achieve its export targets.

An analysis of Hydro Tasmania's pricing also shows that Hydro Tasmania chooses to export electricity at prices much lower than the peak price. For example, on 23 November Hydro Tasmania was bidding electricity at \$20 / MWh.

- **Value of lost RECs sales**

In terms of lost RECs, IES says that the value 'could' be approximated by the futures price for RECs quoted by a particular trader in those certificates, without any discussion as to why these choices have been selected.

- **Probability of lost RECs**

RECs can only be created where a power station generates electricity using (essentially) renewable energy sources above the level of their 1997 baseline. IES has suggested that RECs would be produced in 50% of the years going forward, without producing any data to evidence the number of RECs created by Hydro Tasmania in the years of the REC scheme operation to substantiate this figure.

- **John Butters operation in providing FCAS**

Data obtained by Aurora suggests that John Butters is actually producing fast raise FCAS for only 4% of the time, not the 20% suggested by Hydro Tasmania (as recorded in the IES Consultation Draft Report).

Accordingly any opportunity costs for the John Butters unit need to be discounted by this factor.

- **Environmental Flows**

As identified in the IES Consultation Draft Report:

'If there are requirements for environmental flows and to satisfy these requirements necessitates units at Gordon or John Butters operating at low or inefficient outputs then it could be argued that the provision of 6s raise in these cases does not increase the amounts of water released and hence does not result in Hydro Tasmania incurring any additional opportunity costs.'¹⁶

The IES Consultation Draft Report notes that Hydro Tasmania has an obligation with respect to the Gordon Power Station to provide environmental flows of 10 cubic meters per second during summer months and 20 cubic meters per second during winter months. The IES Consultation Draft Report goes on to state that the requirement to operate a Gordon unit at low or inefficient output to meet an environmental flow obligation does not increase the amounts of water released to provide FCAS 6s raise and hence does not result in Hydro Tasmania incurring any additional opportunity costs.¹⁷

Therefore if Hydro Tasmania always has an environment flow obligation on the Gordon Power Station, then any requirement to run a unit on low output should result in an opportunity cost of zero for the related FCAS capability. For a single unit at Gordon this means that the opportunity cost of being enabled to provide the first 50MW of the local FCAS raise service should be ignored. As demonstrated in figure 4 of the IES Report.

- **Allocation of Fixed Opportunity Costs**

We note that in IES' Draft Report on Raise Contingency FCAS – Price Control Mechanism dated 18 June 2010, IES rejected Hydro Tasmania's assertion that the regulated hedge price should be based on the long run marginal cost, on the basis that:

"...the opportunity cost based on wholesale electricity price (spot or contract) already includes a capacity component as the NEM regional spot price is intended to cover a generator's fixed costs (operations, maintenance and return of and on capital) as well as variable generation costs."¹⁸

On this basis Aurora considers that any inclusion of a component for fixed opportunity cost in the regulated hedge price is clearly inappropriate.

¹⁶ IES, *Consultation Draft Report*, at page 25

¹⁷ IES, *Consultation Draft Report*, at pages 25-26

¹⁸ IES, *Raise Contingency FCAS – Price Control Mechanism Draft Report*, 18 June 2010, at page iii

5.5 Local fast raise FCAS requirement

Figure 1 below shows the Tasmanian fast (6 second) raise requirement as a function of Tasmanian generation for the period 1 October 2009 to 14 September 2010 in dispatch intervals where Tasmania was importing or Basslink was blocked. The requirement is mostly in the range 40 to 70 MW.

Figure 2 below shows the Tasmanian fast raise requirement for all dispatch intervals in the period 1 October 2009 to 14 September 2010. This shows a pattern of generally smaller amounts of fast raise FCAS required particularly at higher levels of Tasmanian generation.

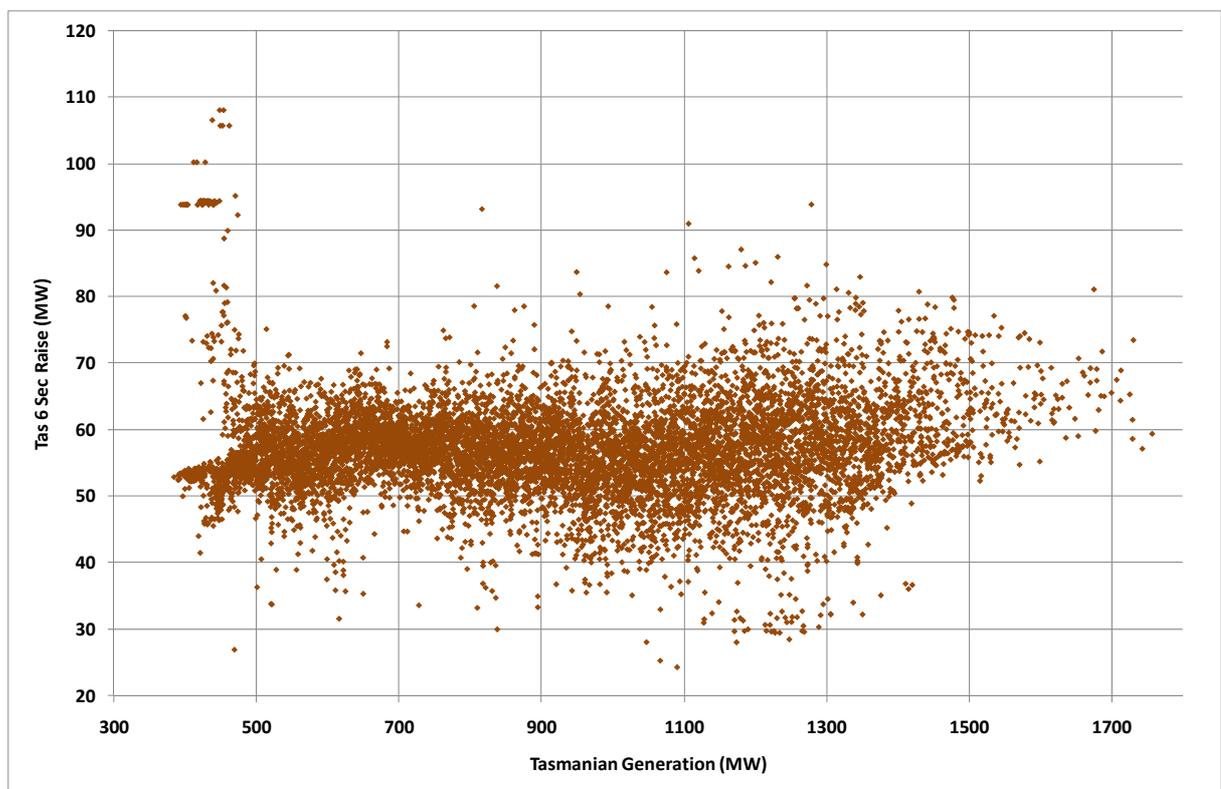


Figure 1 Tas 6 sec raise for Tasmania import or Basslink blocked

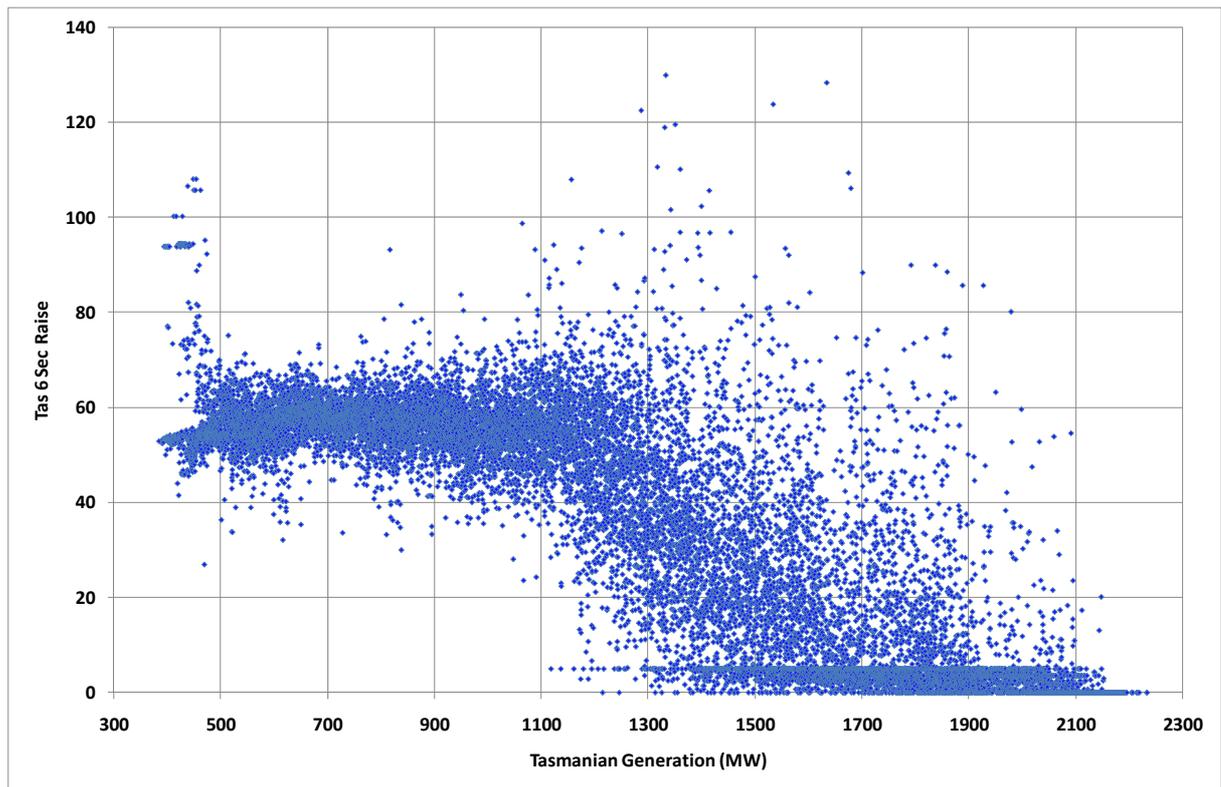


Figure 2 Tas 6 sec raise

These figures demonstrate that the local requirement for fast raise FCAS is actually quite low.

If the Gordon Power Station is required to provide environmental flows and from those flows alone (i.e. when generating at less than 30MW) the Gordon Power Station will produce 50 MW of fast raise FCAS, with an opportunity cost of zero, Hydro Tasmania should only be compensated for being enabled to provide fast raise FCAS to the extent to which the local requirement for that service exceeds 50MW.

5.6 Parameter Values

Aurora is generally content to use the parameters set out in Chapter 4, table 6 of the IES Consultation Draft Report, subject to the comments earlier in this submission on:

- using the peak swap contract instead of the flat swap price;
- 50% probability of generating RECs; and
- the other matters set out in section 5.4 of this submission.

6 Conclusion

There is no doubt that Tasmanian electricity consumers as well as Aurora and its subsidiary AETV will be adversely affected if the prices for FCAS are not appropriately regulated.

It follows that there is no doubt that the Regulator was justified in declaring raise FCAS to be declared electrical services under the Price Control Regulations.

Whilst supportive of the vast majority of the recommendations and decisions that the Regulator has made, or proposes to make, as a result of the pricing investigation, Aurora respectfully suggests that some further verification work needs to be undertaken, and some modification to the application of the proposed methodology should be made, in order to determine the opportunity cost to Hydro Tasmania of being enabled to provide raise FCAS.

Once this further work is undertaken, and a realistic and reasonable opportunity cost has been determined, the objectives of the current process - to promote efficiency and competition in the Tasmanian electricity supply industry and to protect electricity consumers from the adverse effects of the exercise of substantial market power – will have been achieved.

Representatives from Aurora Energy are available should you require to discuss the submission.

24 November 2010