



FCAS PRICING INVESTIGATION

FINAL REPORT

on the Regulator's investigation of the pricing policies of Hydro Tasmania for the supply of raise contingency frequency control ancillary services to meet the Tasmanian local requirement.

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GLOSSARY

ACCC	Australian Competition and Consumer Commission
AEMC	Australian Energy Market Commission
AEMO	Australian Energy Market Operator
AER	Australian Energy Regulator
AETV Power	The trading name of Aurora Energy (Tamar Valley) Pty Ltd
AFMA	Australian Financial Market Association
Aurora Energy	Aurora Energy Pty Ltd
Delayed raise FCAS	Five minute raise contingency FCAS
DIER	Department of Infrastructure, Energy and Resources
Draft Report	OTTER, <i>FCAS Pricing Investigation Draft Report, November 2010</i>
ESI Act	<i>Electricity Supply Industry Act 1995</i>
Fast raise FCAS	Six second raise contingency FCAS
FCAS	Frequency control ancillary services
Hydro Tasmania	The trading name of the Hydro-Electric Corporation
IES	Intelligent Energy Systems Pty Ltd
IES Consultation Draft Report	IES, <i>Raise contingency FCAS – contract design and pricing, consultation draft, 15 October 2010</i>
IES Final Report	IES, <i>Raise contingency FCAS – contract design and pricing, final report, 17 December 2010</i>
IES Price Control Mechanism Draft Report	IES, <i>Raise contingency FCAS price control mechanism, draft report, 20 June 2010</i>
IES Price Control Mechanism Final Report	IES, <i>Raise contingency FCAS price control mechanism, final report, 28 July 2010</i>
Infratil	Infratil Energy Australia Pty Ltd
ISDA	International Swaps and Derivatives Association, Inc
Issues Paper	OTTER, <i>Notice of intention to declare the supply of raise contingency frequency control ancillary services by Hydro Tasmania as a declared electrical service, Issues Paper,</i>

	July 2009
NEL	National Electricity Law
NEM	National Electricity Market
NEMDE	National Electricity Market Dispatch Engine
NEO	National Energy Objectives
NER	National Electricity Rules
OTTER	Office of the Tasmanian Economic Regulator
Price Control Regulations	<i>Electricity Supply Industry (Price Control) Regulations 2003</i>
REC	Renewable Energy Certificate
Regulator	The Economic Regulator established under the <i>Economic Regulator Act 2009</i>
Slow raise FCAS	Sixty second raise contingency FCAS
Statement of Reasons	OTTER, <i>Declaration of frequency control ancillary services, statement of reasons</i> , December 2009

EXECUTIVE SUMMARY

The Tasmanian Economic Regulator is empowered under the *Electricity Supply Industry (Price Control) Regulations 2003* to make determinations regulating the prices that may be charged by, and specifying the price controls that may be imposed on, an electricity entity for the supply of a declared electrical service.

On 4 January 2010, the Regulator announced his decision to declare the following services supplied by Hydro Tasmania to be “declared electrical services”:

- fast raise contingency frequency control ancillary service;
- slow raise contingency frequency control ancillary service; and
- delayed raise contingency frequency control ancillary service;

to meet the Tasmanian local requirement.

That announcement was accompanied by a Statement of Reasons¹ for making the declaration.

Following the declaration of the services, the Regulator gave notice on 4 March 2010 of the commencement of the investigation into Hydro Tasmania’s pricing policies in respect of the declared electrical services and consulted on terms of reference for the investigation.

The Regulator approached the investigation in two steps:

1. In Step 1, the Regulator engaged Intelligent Energy Systems Pty Ltd (IES) to recommend to the Regulator an appropriate price control mechanism to be applied to the declared electrical services. IES prepared a draft report² for consultation proposing that regulation be by way of the regulation and pricing of FCAS contracts where the contract design, price methodology, parameters and terms and conditions are approved by the Regulator. The Regulator considered this approach to be the most appropriate, with the particular benefit that it posed the least risk of interference with the operation of the NEM.

The Regulator also decided that the price determination would be effective for a period of five years from the date of commencement of the determination, subject to the Regulator’s powers of revocation in appropriate circumstances.

¹ OTTER, *Declaration of frequency control ancillary services, statement of reasons*, December 2009

² IES, *Raise contingency FCAS price control mechanism, draft report*, 18 June 2010

The Regulator's deliberations and decisions in respect of Step 1 are reflected in Chapter 3.

2. In Step 2, the Regulator engaged IES to propose the pricing methodology, parameters, and the basis for setting parameter values, in an FCAS contract to be offered by Hydro Tasmania for the declared electrical services.

IES prepared a *Raise contingency FCAS, consultation draft, 15 October 2010* (IES Consultation Draft Report) which was appended to the Regulator's Draft Report prepared in accordance with regulation 29(1) of the Price Control Regulations. The Regulator consulted on the Draft Report.

The Regulator's deliberations and decisions in respect of Step 2, namely the pricing methodology, parameters and parameter values to be used in determining the price of an FCAS 'safety net' contract, are contained in chapters 4 and 5.

At each step in the process, the Regulator called for and considered submissions. Submissions have been published on the OTTER website: www.economicregulator.tas.gov.au.

The Regulator considers that the final outcome, that is, the objective and transparent pricing of an FCAS 'safety net' contract, is one that achieves the Regulator's objectives of promoting efficiency and competition in the electricity supply industry and protecting consumers of electricity.

This Final Report has been prepared by the Regulator in accordance with regulation 30 of the Price Control Regulations and contains the Regulator's decisions arising from the completion of its investigation.

In the course of this investigation, the Regulator has relied on the information provided by Hydro Tasmania to the Regulator and its consultant to be true and correct, and that Hydro Tasmania has made full and diligent inquiry in this regard.

The Regulator's decisions will be reflected in a Determination which will commence on 1 February 2011.

SUMMARY OF DECISIONS

The following summarises the Regulator's decisions which will be reflected in the Regulator's Determination. The Regulator's decisions should be read in conjunction with the *Raise contingency FCAS – contract design and pricing, final report, 17 December 2010* (IES Final Report) with respect to detail on the application of the pricing methodology, the parameters and parameter values.

The Regulator has made the following decisions:

- The Determination will commence on 1 February 2011 and expire on 31 January 2016.
- The price control mechanism to be applied to Hydro Tasmania shall be the regulation of Hydro Tasmania's provision and pricing of FCAS contracts.
- The FCAS contract will be structured as a forward commodity contract where counterparties exchange fixed for floating price payments in respect of a defined notional quantity of raise contingency FCAS. Relevant terms include the specification of fixed and floating prices, designation of the fixed and floating price payers and contract duration.
- Hydro Tasmania is to offer a single 'safety net' FCAS contract to other Tasmanian generators that is not subject to any special conditions other than those relating to self provision and new sources of supply.
- As there is the potential for a new entrant FCAS supplier to only provide one or two of the services, the 'self provision' and 'new supplier' impacts can be applied to each service individually.
- The actual quantity specified in the FCAS 'safety net' contract will be based on a generator's actual fast raise contingency FCAS liability (which is based on the generator's output for the dispatch period) capped by the generator's maximum requirement(s). (The generator's liability and maximum requirement(s) only relate to its liability and maximum requirement(s) when Hydro Tasmania is providing the declared electrical services, that is, raise contingency FCAS to meet the Tasmanian local requirement.)

The ratio of the maximum requirement quantities in the 'safety net' contract bundled for all three services will be:

1.0 MW fast raise FCAS: 1.75 MW slow raise FCAS: 2.0 MW delayed raise FCAS.

- Under the self provision clause in the 'safety net' contract, there will be provision for the quantity specified in the contract to be reduced to the extent the buyer provides services of its own or has been able to contract with alternative providers. The counterparty to Hydro Tasmania will be obliged to

disclose to Hydro Tasmania such details of its self provision and FCAS contracts it holds with other providers to allow settlement quantities to be determined.

- The method for determining the price of the FCAS 'safety net' contract shall be through the determination of Hydro Tasmania's costs of physically delivering to the spot market the amount of FCAS nominated in the FCAS 'safety net' contract. (The methodology for determining those costs is detailed in the IES Final Report.)
- The price of the FCAS 'safety net' contract will be calculated on 15 January and 15 July of each year of the Determination (ie 2011 to 2016). Where either of these dates does not fall on a business day, then the calculation date will be the preceding business day.
- The methodology, parameter values, standing data and the FCAS 'safety net' contract documentation will be published on Hydro Tasmania's website within one business day of the calculation date.
- Standard ISDA contract documentation and/or associated AFMA documentation will be used for the FCAS 'safety net' contract.
- The cost of inertia will not be included as a cost in the FCAS 'safety net' contract.
- Hydro Tasmania's costs incurred as part of the price investigation and in the administration of the determination shall not be recovered through the FCAS 'safety net' contract.
- The pricing methodology will not change should Hydro Tasmania be able to improve its efficiency in providing the declared electrical services.
- Credit support arrangements are a matter for negotiation between the contracting parties.
- The key parameter values required to determine a 'safety net' contract price and settlement, and the source of those values, will be as follows:

Parameter	Purpose	Value
Generator turbine efficiencies	Calculation of foregone generation	Standing data provided by Hydro Tasmania
Generator FCAS capabilities	Calculation of FCAS provision and foregone generation	Standing data provided by Hydro Tasmania (can also be obtained from NEM FCAS standing data)
Proportion of the time John Butters is supplying FCAS for local Tasmanian requirement	Calculation of FCAS provision and foregone generation	Average of previous 12 months of historical data (obtained from NEM dispatch data)
Energy price	Used to value foregone	D-Cypha price for 1 year Victorian

Parameter	Purpose	Value
	generation	flat contract (refer section 5.1.1).
REC price	Used to value foregone generation	Average weekly REC price as published by an appropriate source (refer section 5.1.2).
Probability of power station generating RECs	Used to value foregone generation	50 per cent
Proportion of foregone generation required for environmental flows	Used to value foregone generation	25 per cent based on existing environmental flow requirements, amended if there is an increase of 10 percentage points or more to environmental flow requirements.
Proportion of the time Tasmania has a local FCAS requirement greater than 40 MW	Used to allocate fixed cost component of opportunity costs	Average of previous 12 months of historical data (can be obtained from NEM dispatch data to determine which periods that Tasmania had a local requirement over 40 MW)
Maximum FCAS hedge quantity (cap)	Used for calculating contract price (fixed cost component)	Nominated by purchaser of contract
Actual FCAS liability for dispatch period used in hedging contract	Used for calculating settlement payments	Quantity determined by 6s liability and maximum hedge quantities for other services determined by scaling these amounts
FCAS quantity scalars	Used for calculating settlement payments	A ratio of 1 MW fast raise: 1.75 MW slow raise: 2 MW delayed raise
FCAS hedged quantity	Used for calculating settlement payments	<ul style="list-style-type: none"> • Minimum(cap, actual fast raise liability less self provision) • Minimum(1.75 x cap, actual slow raise liability less self provision) • Minimum(2 x cap, actual delayed raise liability less self provision)
Self provision and contracting with an alternative source.	Used for calculating settlement payments	Quantity in 'safety net' contract reduced by actual amounts enabled for contingency raise services in NEM dispatch and/or amount hedged by contract with alternative provider.
FCAS hedge price	Used for calculation fixed for floating price payments	<ul style="list-style-type: none"> • \$0/MWh when total local liability is less than 40 MW • Fixed and variable cost calculation when liability is greater than or equal to 40

Parameter	Purpose	Value
		MW

1 INTRODUCTION

1.1 Background to the investigation

The Regulator has completed its investigation into the pricing policies of Hydro Tasmania in respect of its supply of the following services:

- fast raise contingency frequency control ancillary service;
- slow raise contingency frequency control ancillary service; and
- delayed raise contingency frequency control ancillary service;

to meet the Tasmanian local requirement.

This investigation followed the Regulator's decision on 4 January 2010 to declare, in accordance with regulation 19(2) of the *Electricity Supply Industry (Price Control Regulations) 2003* (Price Control Regulations), the above services as "declared electrical services". In declaring the services, the Regulator was of the opinion that Hydro Tasmania has substantial market power in respect of the services; and the promotion of competition, efficiency and the public interest required the making of the declaration.³

This investigation was conducted in accordance with the Price Control Regulations.

1.2 Context

1.2.1 Tasmanian legislative framework

Electricity Supply Industry Act 1995

The Tasmanian Government's policy objectives are reflected in the *Electricity Supply Industry Act 1995* (ESI Act), which governs the electricity supply industry in Tasmania, and include the promotion of efficiency and competition in the electricity supply industry and the protection of consumers of electricity.

The ESI Act establishes the office of the Regulator, being the three-person body established under the *Economic Regulator Act 2009*. Members of the Regulator are Mr Glenn Appleyard, Mr Alan Smart and Mr Peter Hoult.

Electricity Supply Industry (Price Control) Regulations 2003

The Price Control Regulations provide for regulatory intervention in the pricing of the supply of a good or service by an electricity entity where, in the Regulator's opinion,

³ OTTER, *Declaration of frequency control ancillary services, statement of reasons*, December 2009

there is substantial market power in the supply of that good or service and where the promotion of competition, efficiency or the public interest warrants that intervention. That intervention is in the form of:

- (a) a declaration of the relevant services as “declared electrical services”;
- (b) an investigation of the pricing policies by that entity for the declared electrical services; and
- (c) a determination of the prices that may be charged by, and the price control mechanisms imposed on, the entity in respect of those declared electrical services.

1.2.2 National energy policy objectives

In 2001, the Council of Australian Governments agreed to a set of core national energy policy objectives and principles to guide future energy policy decision making by jurisdictions and to provide increased certainty for energy users.

Those core objectives include:

Encouraging efficient provision of reliable, competitively priced energy services to Australians, underpinning wealth and job creation and improved quality of life, taking into account the needs of regional, rural and remote areas.⁴

This objective was further recognised in the following objective contained in the Australian Energy Markets Agreement to which all states are signatories:

The promotion of the long term interests of consumers with regard to the price, quality and reliability of electricity and gas services.⁵

and reflected in the National Electricity Objective, as stated in the National Electricity Law (NEL)⁶

... to promote efficient investment in, and efficient operation and use of, electricity services for the long term interests of consumers of electricity with respect to –

- (a) price, quality, safety, reliability, and security of supply of electricity; and
- (b) the reliability, safety and security of the national electricity system.

The Regulator considers that its declaration and investigation meets these national objectives.

⁴ Council of Australian Governments' Communiqué – 8 June 2001

⁵ Australian Energy Market Agreement (as amended) 2 June 2006

⁶ Section 7 NEL.

1.2.3 Frequency control ancillary services in the NEM

Frequency control ancillary services (FCAS) are required to maintain the frequency of the power system within frequency operating standards determined by the Australian Energy Market Commission (AEMC).⁷ To maintain frequency, the Australian Energy Market Operator (AEMO) procures FCAS from parties registered for one or more of the eight distinct FCAS spot markets in which they wish to provide their services.

This investigation related to the supply of the three raise contingency FCAS that are required to be available to correct the frequency excursions that may arise from a contingent event that results in a decrease in frequency. Such contingent events include the loss of a generating unit and the loss of a single transmission circuit. The three raise contingency FCAS are:

- fast raise FCAS, which provides a fast acting response to arrest frequency deviations within the first six seconds of a contingent event;
- slow raise FCAS, which provides a slower acting response to stabilise frequency deviations within 60 seconds of the event; and
- delayed raise FCAS, which provides further stability to the system by returning the frequency to the normal operating band within five minutes.

Generators are paid for being enabled to provide these services whether or not a contingent event occurs.

Generally, AEMO will procure the necessary FCAS from all interconnected regions in the NEM using its NEM Dispatch Engine (NEMDE). As the energy and FCAS markets are strongly related, NEMDE determines the optimal dispatch of energy and FCAS, based on the energy and FCAS bids and offers in the energy and eight FCAS spot markets, to minimise the total cost of energy and FCAS across the NEM.

AEMO recovers the costs of raise contingency FCAS services in the NEM from generators, as raise contingency FCAS requirements are mostly set to manage the loss of a generator on the system. All payments for these services are recovered from generators in proportion to the energy they generate. A generator, therefore, is liable to pay the market price for the three raise contingency services whenever it generates.

Costs for raise contingency FCAS are allocated to the region, rather than globally, where local regional requirements determine the costs of the local FCAS. Hence only Tasmanian generators meet these local FCAS costs.

⁷ Australian Energy Market Commission Reliability Panel, *Tasmanian Frequency Operating Standard Review, Final Report*, 18 December 2008, Appendix A.

1.2.4 Frequency control ancillary services in Tasmania

Contingent events which may influence the requirements for raise contingency FCAS in Tasmania include tripping of the largest generating unit, a single transmission line circuit and/or Basslink. The amounts of each of the services required are usually determined by the type and size of the generators that are connected, the load on the power system, the inertia of the power system and Basslink flows.

Raise contingency FCAS are supplied in the Tasmanian region of the NEM by registered service providers, which comprise Hydro Tasmania (the only registered provider of these services in Tasmania) and mainland suppliers through Basslink.

Basslink is able to provide raise contingency FCAS to cater for contingency events in Tasmania at certain operational levels, through its interconnection with the rest of the NEM, by increasing power transfers into the Tasmanian grid.

However, there are restrictions on the amount of raise contingency FCAS that can be provided via Basslink. The amount is dependent on the margins between Basslink flows and Basslink limits (Basslink provides a continuous rated export capacity of 600 MW from Tasmania and an import capacity up to a maximum of 480 MW⁸), and a no-go zone (± 50 MW) in which Basslink is unable to transfer FCAS.

When Basslink is at or close to its rated import capacity or its no-go zones, or in the event that Basslink is out of service, the local requirement for raise contingency FCAS to cater for a local contingency event must be supplied from local generators (by increasing their output) or customers (through shedding load), who are registered with AEMO to provide these services. As Basslink is not able to transfer FCAS to cater for its own tripping, around 70 MW of fast raise FCAS must also be enabled locally to cater for its loss while importing. Only Hydro Tasmania can supply the local requirement in these circumstances, being the only participant registered with AEMO in the FCAS markets that can supply raise contingency FCAS in the Tasmanian region.

As mentioned earlier, costs for raise contingency FCAS are allocated to the region, rather than globally, where local regional requirements determine the costs of the local raise contingency FCAS. Under this arrangement, market generators in Tasmania are exposed to higher charges for raise contingency FCAS services than market generators in the rest of the NEM:

- when the local FCAS requirement cannot be met by import of such services over Basslink; or

⁸ Basslink does not operate at its maximum physical import of 480 MW. In practice, Basslink's import is limited by the amount of interruptible load in the Frequency Control Special Protection Scheme (FCSPS).

- where the local requirement is determined by the residual requirements to cater for a trip of Basslink;

and the price offered for the local services exceeds the price in the remainder of the market.

Therefore, where the local regional FCAS requirement determines the cost of the services, Hydro Tasmania receives all the revenue for the provision of the services from local market generators including itself.

1.2.5 Sources of raise contingency FCAS in Tasmania

In Tasmania, the sources of FCAS are via Basslink where an increase in imports will effect an increase in frequency, and Hydro Tasmania generators, registered with AEMO to provide particular FCAS services. For the Hydro Tasmania generators, the generator's governor reacts to the frequency decrease by increasing the MW output. However, the reserving of a MW output for FCAS services is at the expense of producing energy. AEMO co-optimises energy production and FCAS 'enablement' to achieve the least cost solution to meet demand.

Other options for the provision of raise contingency FCAS in Tasmania can be summarised as follows:

- other Tasmanian generators can register with AEMO to provide the particular FCAS services;
- customers can register with AEMO to make their loads available for quick disconnection in response to a decline in frequency; and
- investment in 'stand alone' technologies such as energy storage systems, again registered with AEMO, which can provide a "burst of power" when a frequency decrease is detected and thus contribute to FCAS raise services.

1.3 The investigation process

1.3.1 Declaration of electrical services

The Regulator declared, by notice in the *Gazette* of 3 February 2010, the following services to be declared electrical services, pursuant to sub-regulation 19 (2) of the Price Control Regulations:

- fast raise contingency frequency control ancillary service;
- slow raise contingency frequency control ancillary service; and
- delayed raise contingency frequency control ancillary service;

provided by Hydro Tasmania to meet the Tasmanian local requirement.

In making the declaration, the Regulator was of the opinion that Hydro Tasmania has substantial market power in respect of the above services and the promotion of competition, efficiency and the public interest requires the making of the declaration.

The Regulator published its reasons for making the declaration on 4 January 2010 in its *Declaration of frequency control ancillary services, statement of reasons, December 2009* (Statement of Reasons) and gave notice of the declaration in the *Tasmanian Government Gazette* on 3 February 2010.

1.3.2 Requirement to investigate

Regulation 23(1) of the Price Control Regulations requires the Regulator to conduct an investigation into the pricing policies of an electricity entity in respect of a declared electrical service.

Before conducting this investigation, the Regulator gave written notice of the investigation to the Treasurer, Minister for Energy and Hydro Tasmania on 3 March 2010 in accordance with regulation 24. The notice:

- specified the purpose of the investigation, that is, to determine the price control mechanism to be imposed on, and prices to be charged by, Hydro Tasmania for the provision of the declared electrical services;
- specified a date of 26 November 2010 for the completion of the investigation;
- gave a period of seven weeks in which written submissions could be made to the Regulator on the terms of reference and any other matters relevant to the investigation; and
- specified, in the terms of reference for the investigation, the matters that the Regulator requested submissions to address.

The Regulator also gave notice of the investigation in the public notices of the *Mercury* on 6 March 2010 and published the notice on the OTTER website: www.economicregulator.tas.gov.au.⁹

1.3.3 Terms of reference

The notice and terms of reference are reproduced in full in Appendix A.

Under the terms of reference, the Regulator is to investigate and make a determination that regulates the prices that may be charged by, and specifies the price control mechanisms to be imposed on, Hydro Tasmania for the provision of the declared electrical services.

⁹ The Regulator subsequently advised the Treasurer, Minister for Energy and Hydro Tasmania, by letter of 3 November 2010, that the investigation would be completed on 17 December 2010.

The terms of reference contain those matters that the Regulator will consider in making a declared electrical service price determination, namely those matters listed in regulation 33(2) of the Price Control Regulations that are relevant to this investigation. (The outcome of the Regulator's consideration of each of these matters is reflected in Chapter 6 of this Report.)

The terms of reference also list the manner and terms in which the prices and price control mechanisms may be expressed, namely those matters listed in regulation 18 of the Price Control Regulations. (Refer Chapter 3 of this Report for that list.)

The notice of the investigation called for submissions from any interested person, body or entity on matters raised in the terms of reference and any other matter relevant to the investigation including Hydro Tasmania's submission to the investigation which was submitted to the Regulator on 30 April 2010. Submissions were also received from Aurora Energy Tamar Valley Power Pty Ltd (AETV Power) and Aurora Energy Pty Ltd.

The terms of reference were amended on 24 September 2010 to extend the date of completion of the Draft Report to 22 October 2010 with a consequential reduction of the period for receipt of submissions on the Draft Report from four weeks to three weeks. A further amendment was made on 27 October 2010 to extend the date for completion of the investigation to 17 December 2010. The Treasurer, Minister for Energy, Hydro Tasmania and other interested parties were notified of this change with the release of the Regulator's Draft Report on 3 November 2010.

1.3.4 Hearing

When the terms of reference were issued, an obligation existed in regulation 25 of the Price Control Regulations for the Regulator in conducting an investigation, to hold a hearing. However, the Price Control Regulations were amended on 30 June 2010 and now provide the Regulator with discretion as to the conduct of a hearing.

The Regulator noted that public interest in this investigation was limited, with only those parties that are directly affected by the outcome of the investigation making submissions and meeting with the Regulator's consultants. The Regulator considered that the costs of holding a public hearing outweighed its benefits, there being many opportunities for interested parties (typically Tasmanian generators) to express their views to the Regulator. The Regulator noted that there was considerable interest from local Tasmanian generators in relation to the declaration of the services and, in the absence of any submission to the contrary, assumed that most generators and interested parties were comfortable with the Regulator's approach in the regulation of the services.

Furthermore, during the process, Tasmanian generators were given the opportunity to meet with the Regulator's consultant, Intelligent Energy Systems Pty Ltd (IES), in relation to the pricing of the declared electrical services.

Therefore, the Regulator decided not to hold a hearing as part of this investigation.

1.3.5 Draft Report

Regulation 29 of the Price Control Regulations requires the Regulator, at an appropriate time during the investigation, to prepare a draft report in respect of the investigation and allow submissions to be made in respect of the draft report.

The Regulator published its Draft Report on 3 November 2010 and provided a copy to the Minister for Energy, Treasurer and Hydro Tasmania. The Regulator allowed three weeks for submissions to be made on the Draft Report with a closing date of 24 November 2010.

1.3.6 Final report and determination

Submissions received in response to the Draft Report were taken into account by the Regulator in making its final decision, which are reflected in this Final Report.

The Regulator provided copies of the Final Report to the Treasurer, Minister for Energy and Hydro Tasmania, and published the Final Report on the OTTER website: www.economicregulator.tas.gov.au. A hard copy of the Final Report is available to interested parties on request.

As required by sub-regulation 31(1) the Regulator will make a determination that regulates the prices that may be charged by, and specifies the price control mechanisms imposed on, Hydro Tasmania in respect of the declared retail services effective from 1 February 2011.

2 APPROACH TO THE INVESTIGATION

The Price Control Regulations require the Regulator to invite submissions in response to a draft report prepared under regulation 29. A consultative process is a feature of the regulatory framework and the Regulator provides extensive opportunity for industry, customers and interested parties to participate in an investigation.

2.1 Objectives and principles

The Regulator's objectives in undertaking this investigation and making a determination are 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. In achieving this objective, the Regulator has applied the following principles:

- (1) The price control mechanism to be applied to the supply of the declared electrical services will:
 - (a) be consistent with the National Electricity Objective;
 - (b) not be unduly onerous on Hydro Tasmania in its application;
 - (c) have minimal impact, if any, on the wider National Electricity Market; and
 - (d) not require an amendment to the National Electricity Rules nor add complexity to the National Electricity Market dispatch process.
- (1) The price control mechanism to be imposed on, and the prices to be charged by, Hydro Tasmania will:
 - (a) be fair and reasonable;
 - (b) enable Hydro Tasmania to recover its costs for the efficient provision of the declared electrical services;
 - (c) provide market signals that promote efficiency and maximise incentives for other parties to supply raise contingency FCAS in the Tasmanian region; and
 - (d) not impose significant regulatory costs on the Regulator or Hydro Tasmania.

2.2 Two step process

Regulation 18 of the Price Control Regulations specifies the manner and terms in which the regulation of prices that may be charged and price control mechanisms may be expressed, without limitation on the Regulator. The Regulator decided on a two-step process leading to the publication of this Final Report, namely:

- (1) the determination of an appropriate price control mechanism to be applied to the supply of the declared electrical services by Hydro Tasmania; and
- (2) once that mechanism was established, the pricing of the services.

2.2.1 Step 1 - price control mechanism

In step 1 of the two-step process, the Regulator engaged Intelligent Energy Systems (IES) to advise on an appropriate price control mechanism. IES prepared its *Raise contingency FCAS price control mechanism, draft report, 20 June 2010* (IES Price Control Mechanism Draft Report) which recommended the regulation of Hydro Tasmania's provision and pricing of FCAS contracts as the preferred price control mechanism to be applied to Hydro Tasmania in the supply of the declared electrical services. The Regulator consulted on the IES Price Control Mechanism Draft Report. IES took account of the submissions in preparing its *Raise contingency FCAS price control mechanism, final report, 28 July 2010* (IES Price Control Mechanism Final Report) and delivered its recommendation to the Regulator. The price control mechanism is discussed in Chapter 3 of this Draft Report.

On 26 July 2010, the Regulator decided that an obligation on Hydro Tasmania to offer hedge contracts for raise contingency FCAS to other Tasmanian generators, where the price methodology, parameters and terms and conditions are approved by the Regulator, was the appropriate price control mechanism to be applied. The Regulator published the IES Price Control Mechanism Final Report on its website, together with advice of the Regulator's decision.

2.2.2 Step 2 – terms and conditions, pricing methodology and price parameters

In the second step of the two-step process, the Regulator engaged IES to develop the terms and conditions, pricing methodology and price parameters for an FCAS contract to be offered by Hydro Tasmania to other Tasmanian generators for the declared electrical services.

Accordingly, IES prepared its *Raise contingency FCAS – contract design and pricing – consultation draft, 15 October 2010* (IES Consultation Draft Report).

The Regulator prepared and published, on 3 November 2010, its Draft Report in accordance with regulation 29 to which the IES Consultation Draft Report was appended. The Regulator invited comment on matters contained in the Regulator's Draft Report and the IES Consultation Draft Report.

2.3 Final Report

Following consideration of submissions on the Draft Report, IES presented its *Raise contingency FCAS – contract design and pricing, final report, 17 December 2010* (IES Final Report) to the Regulator. Taking into account that advice, the Regulator prepared its Final Report in accordance with regulation 30 of the Price Control Regulations.

2.4 Period of the determination

In the terms of reference, the Regulator indicated that it would consult stakeholders on the date on which the Determination would commence and expire (the regulatory period). The Regulator consulted on this aspect in step 1 of the investigation process, that is, as part of the consideration of an appropriate price control mechanism, and decided, after considering submissions, that the Determination would have effect for five years from the commencement date of the Determination. The duration of the Determination is discussed in Chapter 7 of this Report.

3 STEP 1 - PRICE CONTROL MECHANISM

Regulation 18 of the Price Control Regulations specifies the terms or manner in which the regulation of prices that may be charged and price control mechanisms may be expressed namely:

- (a) maximum prices or the maximum rate of increase or the minimum rate of decrease in maximum prices;
- (b) average prices or average rates of increase or decrease in average prices;
- (c) pricing policies or principles;
- (d) by reference to a general price index, the cost of production, revenue, a rate of return on assets or any other factor;
- (e) by reference to quantity, location or period of provision of the electrical service;
- (f) by reference to an annual aggregate revenue requirement; and
- (g) any other terms the Regulator considers appropriate.

The Regulator considered that a two stage process was warranted in this investigation, commencing with the determination of an appropriate price control mechanism to apply in the regulation of the declared electrical services, and pursuant to that outcome, the regulation of prices.

The Regulator engaged¹⁰ consultants IES to analyse and advise on the reasonable options for price control mechanisms to regulate the prices that may be charged by Hydro Tasmania for the declared electrical services and advise on the most appropriate option.

In summary, the terms of reference for the consultancy required the consultant to:

- devise a number of potential (candidate) price control mechanisms that could reasonably be applied to regulate the prices of the declared electrical services that might include, but were not limited to options such as:
 - limiting the offer prices that may be submitted by Hydro Tasmania in respect of the declared electrical services;

¹⁰ In the purchase of consulting services, the Regulator applies the Tasmanian Treasurer's Instructions for the procurement of goods and services.

- an obligation to offer a specified minimum volume of each service;
- limiting the revenue that Hydro Tasmania can procure from the declared electrical services over a period of time; and
- financial contracting obligations that will protect the interests of consumers and promote competition in the downstream and upstream markets;
- consider each candidate price control mechanism to ensure that the matters and principles set out in regulation 33(2) could be appropriately addressed, within the scope of the declaration;
- assess each candidate price control mechanism against the additional matters the Regulator requires the consultant to consider taking into account:
 - the links between supply of the various declared electrical services and the supply of energy and other ancillary services;
 - the importance of these links to the long-term efficient supply of energy and the maintenance of frequency standards in Tasmania;
 - the links between the various declared electrical services and energy or other ancillary services through dispatch co-optimisation in the NEM, and the potential impacts from each particular form of price control on overall outcomes given that price control will only apply to some of the services; and
 - any potential consequential impacts on the price and efficiency and adequacy of supply of energy and other ancillary services by third parties resulting from regulation of some services provided by Hydro Tasmania.
- make a recommendation for the most appropriate mechanism;
- detail all key assumptions affecting the advice and the sensitivity of the recommendation to changes in these assumptions;
- provide advice on an appropriate duration for the application of the recommended price control mechanism;
- provide advice on any adjustments to the recommended price control mechanism that may be necessary over the recommended duration of its application and the principles to be applied in making the adjustment.

Further, the Regulator asked IES to consider the following matters in providing its advice:

- (a) that the application of the price control mechanism is consistent with the National Electricity Objective;
- (b) that the application of the price control mechanism not be unduly onerous on Hydro Tasmania;

- (c) that the price control mechanism allows Hydro Tasmania to recover its costs for the efficient provision of the services;
- (d) that the price control mechanism have minimal, if any, impact on the wider National Electricity Market;
- (e) that the application of the price control mechanism not require an amendment to the National Electricity Rules nor add complexity to the dispatch process;
- (f) that the price control mechanism provide market signals that promote efficiency and maximise incentives for other parties to supply raise contingency FCAS in the Tasmanian region;
- (g) that the costs of regulation not be a significant impost on the Regulator or Hydro Tasmania; and
- (h) Hydro Tasmania's present pricing principles for the pricing of its FCAS hedge arrangements.

IES prepared its IES Price Control Mechanism Draft Report for the Regulator which was circulated to interested parties for comment. Submissions were received from Hydro Tasmania, AETV Power and Mr Mark B Lively. These submissions are published on the OTTER website. IES considered and responded to these submissions in preparing its IES Price Control Final Report for the Regulator.

3.1 IES recommendations on a price control mechanism

In providing advice on an appropriate price control mechanism, IES considered various price control mechanisms to impose on Hydro Tasmania in the delivery of raise contingency FCAS, and settled on three broad approaches for analysis. The following reflects IES's conclusions in respect of these approaches:¹¹

The imposition of an obligation to offer a specified minimum volume of each service (at any price) would serve only to create certainty that at least that volume is offered. This is considered unnecessary as it is ultimately AEMO's responsibility to ensure that these services are available.

Limiting the revenue that Hydro Tasmania can procure from the declared services over a period of time is potentially a relatively simple remedy to apply however the revenue cap would need to be determined and once in place Hydro Tasmania would have an incentive to achieve it. Further it provides less certainty to generators exposed to FCAS spot prices as there will not necessarily be a close correspondence between the revenue cap and their FCAS exposure.

After considered analysis, IES does not recommend regulating the offer price of the service. While noting that under particular circumstances, such regulation

¹¹ IES Price Control Mechanism Final Report, p. 35.

would disadvantage Hydro Tasmania in the conduct of its market operations, the principal reason for not favouring this option is that the FCAS and energy markets are interrelated and so regulation of the FCAS offer price by itself will not necessarily succeed in preventing Hydro Tasmania from achieving high FCAS prices through the pricing of its energy market dispatch offers. IES does not support the direct regulation of the FCAS price through for example the application of a jurisdictional price cap as this interferes with market settlements and works against the objective of reducing jurisdictional differences in the application of the NEM Rules. Further IES considers that what the application of a price cap is designed to achieve is more effectively obtained by means of a financial contract referenced to the spot price of the service concerned.

IES concluded that “the regulation of Hydro Tasmania’s provision and pricing of FCAS contracts should be the preferred price control mechanism.”¹² IES also concluded that the Regulator should approve a general contract design and that pricing parameters be determined in advance on a periodic basis. Further, IES concluded that the opportunity cost of foregone generation was the proper basis for pricing and that this should be valued as “the sum of the foregone electricity value, based on an appropriate water value or proxy, and the expected foregone REC value”.¹³

3.2 Regulator’s decision

The Regulator considered IES’s findings and conclusions to be sound and given that no interested party supported an alternative price control mechanism to the regulation of FCAS contracts, other than Mr Lively¹⁴, agreed that the appropriate price control mechanism for the regulation of the declared electrical services was the regulation of Hydro Tasmania’s provision and pricing of FCAS contracts.

¹² IES Price Control Mechanism Final Report, p. ii.

¹³ IES Price Control Mechanism Final Report, p. 10.

¹⁴ In his submission to the IES Price Control Mechanism Draft Report, Mr Lively proposed an alternative pricing mechanism for regulation FCAS rather than contingency FCAS. Contingency FCAS is the subject of this investigation.

4 STEP 2 – CONTRACT DESIGN AND PRICING

Having decided that the price control mechanism to be imposed on Hydro Tasmania in respect of the declared electrical services would be the regulation of Hydro Tasmania's provision and pricing of FCAS contracts, the Regulator sought advice on the design and pricing of the contracts themselves.

In summary, the terms of reference for a second consultancy to provide this advice were to:

- establish the terms and conditions, pricing methodology and parameters for a general FCAS contract in which the price for the supply of the declared electrical services reflects the opportunity cost of provision of the services in terms of foregone revenue in the energy and Renewable Energy Certificate (REC) markets where:
 - the terms and conditions, pricing methodology, parameters and prices are to be reflected, where appropriate, in Hydro Tasmania's existing template contract for hedges, being the International Swaps and Derivatives 2002 Master Agreement, Hydro Tasmania's Schedule to the 2002 Master Agreement, and "Confirmation" document; and
 - the values of the input parameters can, to the greatest extent possible, be objectively determined.
- note the information provided by Hydro Tasmania in its submission to the IES Price Control Mechanism Draft Report, entitled Hydro Tasmania Submission on IES Draft Report on Raise Contingency FCAS – Price Control Mechanism, which describes Hydro Tasmania's hedge pricing principles including its cost components, and subsequent presentation by Hydro Tasmania to the Regulator on 26 July 2010;
- detail all key assumptions affecting the pricing methodology, parameters, terms and conditions and the sensitivity of changes in these assumptions;
- advise on the principles and methodology for a six-monthly adjustment of the pricing inputs, price parameters and/or price methodology in advance of their application in an FCAS contract;
- consider the means by which rare events, such as Basslink and Gordon Power Station outages should be treated, if at all, in the pricing of the services; and
- advise on the extent to which confidentiality should be attached to the pricing of each of the parameters.

In undertaking this work the consultant was to take account of relevant matters set down in regulation 33 of the *Electricity Supply Industry (Price Control) Regulations 2003* namely:

- the cost of providing the declared electrical service;
- the principle that consumers of the declared electrical services should be protected from the adverse effects of the exercise of substantial market power by an electricity entity in relation to prices, pricing policies and standards of service in respect of the provision of the declared electrical services;
- the principle that there is a need for efficiency in the provision of the declared electrical services for the purpose of benefiting the public interest through a reduction in the cost of providing the declared electrical service;

Following appropriate tendering arrangements, IES was awarded the second consultancy.

As required by the terms of reference, IES provided the Regulator with its IES Consultation Draft Report which detailed IES's determination of the opportunity cost of Hydro Tasmania being enabled to provide the declared electrical services. The Regulator consulted on the IES Consultation Draft Report as part of the consultation on the Regulator's Draft Report noting that the price control mechanism had already been decided by the Regulator in step 1, with the design and pricing of the FCAS contracts being the key aspects to be finalised.

In its Draft Report, the Regulator proposed that the terms and conditions, pricing methodology, and parameters for an FCAS 'safety net' contract provided by Hydro Tasmania would be those as recommended in the IES Consultation Draft Report.

Submissions were received from Hydro Tasmania, Aurora Energy and Infratil Energy Australia Pty Ltd (Infratil) and were taken into account by IES in preparing its IES Final Report to the Regulator on contract design and pricing. The IES Final Report has been published on the OTTER website.

4.1 Regulator's decisions

The following lists the Regulator's proposals from its Draft Report for the design and pricing of FCAS contracts; submissions on proposals; discussion on the submissions which draws upon IES's advice in its IES Final Report; and the Regulator's decisions.

4.1.1 Financial hedge contract

Proposal

The Regulator proposed that the FCAS contract be structured as a forward commodity contract where counterparties exchange fixed for floating price payments in respect of a defined notional quantity. Relevant terms include the specification of fixed and floating prices, designation of the fixed and floating price payers, contract duration and any special conditions or exclusions.

Submissions

No objections were raised to this proposal.

Decision

The FCAS contract will be structured as a forward commodity contract where counterparties exchange fixed for floating price payments in respect of a defined notional quantity. Relevant terms include the specification of fixed and floating prices, designation of the fixed and floating price payers and contract duration.

4.1.2 A safety net contract

Proposal

The Regulator proposed that Hydro Tasmania be required to offer to other Tasmanian generators a general FCAS 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. A single 'safety net' contract would effectively hedge the FCAS exposure of the buyer of the contract. Any additional terms, conditions or exclusions would be negotiated between the parties to the contract.

Submissions

No objections were raised to this proposal.

Decision

Hydro Tasmania will be required to offer a single 'safety net' FCAS contract that is not subject to any special conditions other than those relating to self provision and new sources of supply (refer sections 4.2.5 and 4.2.10).

4.1.3 Bundling of the three declared electrical services

Proposal

The Regulator proposed that the 'safety net' contract would be for a bundle of the three declared electrical services, that is, fast, slow and delayed raise contingency FCAS.

Submissions

There were no objections to the bundling of services. However, Hydro Tasmania pointed out that a new entrant supplier may provide only one or two of the services which could require a subset of services to be treated differently to the others.

Decision

As there is the potential for a new entrant FCAS supplier to only provide one or two of the services, the 'self provision' and 'new supplier' impacts can be applied to each service individually.

4.1.4 Notional quantity

Proposal

The Regulator proposed that the actual quantity determined in the contract will 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.¹⁵

The ratio of the maximum requirement quantities in the 'safety net' contract bundled for all three services will be:

1.0 MW fast raise FCAS: 1.75 MW slow raise FCAS: 2.0 MW delayed raise FCAS.

Submissions

There were no objections to this proposal. However, as Hydro Tasmania pointed out, the proposal failed to reflect that this liability is in respect of Hydro Tasmania's provision of the services to meet the local requirement, not global requirement.

Decision

The actual quantity specified in the FCAS 'safety net' contract will be based on a generator's actual fast raise contingency FCAS liability (based on the generator's output for the dispatch period) capped by the generator's maximum requirement(s). (The generator's liability and maximum requirement(s) only relate to its liability and

¹⁵ The maximum requirements could be by some time periods such as peak or off peak periods or quarters or both.

maximum requirement(s) when Hydro Tasmania is providing the declared electrical services, that is, raise contingency FCAS to meet the Tasmanian local requirement.)

The ratio of the maximum requirement quantities in the 'safety net' contract bundled for all three services will be:

1.0 MW fast raise FCAS: 1.75 MW slow raise FCAS: 2.0 MW delayed raise FCAS.

4.1.5 Self provision

Proposal

The Regulator proposed that there be provision for the quantity specified in the contract to be reduced to the extent that the counterparty to Hydro Tasmania provides its own raise contingency FCAS. This reduction would be based on the FCAS spot market quantities for which the contracting generator is dispatched.

Submissions

There were no objections to this proposal raised in submissions. However, Hydro Tasmania raised the possibility that a counterparty to Hydro Tasmania may be able to contract some of its FCAS liability with another supplier leaving Hydro Tasmania "still obliged to offer to manage a competitor's entire liability even though a portion may be hedged".

Decision

Under the self provision clause in the 'safety net' contract, there will be provision for the quantity specified in the contract to be reduced to the extent the buyer provides services of its own or has been able to contract with alternative providers. The counterparty to Hydro Tasmania will be obliged to disclose to Hydro Tasmania such details of its self provision and FCAS contracts it holds with other providers to allow settlement quantities to be determined.

4.1.6 Commencement of determination

Proposal

The Regulator proposed in its Draft Report that the determination commence on 1 January 2011.

Submissions

Aurora Energy agreed with this proposal. Hydro Tasmania considered that "in order to provide sufficient time for Hydro Tasmania to place all relevant information on its website and price the first six month safety net contract, a commencement date of 31 January 2011 was considered achievable."

Discussion

The Regulator considers that, ordinarily, two weeks would be sufficient time to price the first six month safety net contract and publish the relevant information on its website. However, given that the Christmas period falls between the publication of this Final Report and 1 January 2011, that the determination is yet to be 'tested' in its application and finalised, and that there may well be 'teething' problems associated with its implementation, the Regulator considers that a 1 January 2011 implementation date is unrealistic.

Decision

The determination will commence on 1 February 2011.

4.1.7 Contract duration, termination and repricing

Proposal

The Regulator proposed that the price of the 'safety net' contract be fixed for six months, that is, the price will be recalculated every six months in accordance with the published methodology. This proposal was made in the context of the Regulator's decision that the price determination would have effect for a period of five years from the date of commencement of the determination, subject to any decision of the Regulator to revoke the declaration of the services earlier (refer Chapter 7 in relation to the revocation of a declaration and determination).

The Regulator further proposed that the pricing methodology, parameter values, standing data and 'safety net' contract documentation be published on Hydro Tasmania's website.

Submissions

There were no objections to this proposal raised in submissions. However, Hydro Tasmania proposed that specific dates be set for calculating the 'safety net' contract price, prior to each six month period.

Discussion

The period of the Determination is five years. The Regulator considers that, irrespective of whether no party wishes to enter a 'safety net' contract with Hydro Tasmania on the commencement date of the Determination, that the 'safety net' contract price be published two weeks before the commencement of the determination and two weeks prior to each six monthly period after the commencement date of 1 February 2011.

Decision

The price of the FCAS 'safety net' contract will be calculated on 15 January and 15 July of each year of the determination (ie 2011 to 2015). Where either of these dates does not fall on a business day, then the calculation date will be the preceding business day.

The methodology, parameter values, standing data and the 'safety net' contract documentation will be published on Hydro Tasmania's website within one business day of the calculation date.

4.1.8 Contract documentation

Proposal

The Regulator proposed the use of standard ISDA contract documentation for FCAS contracts between Hydro Tasmania and other Tasmanian generators as it is widespread industry practice to use this documentation which alleviates the need for separate, comprehensive agreements to be established. The Regulator proposed that parties may also choose to use associated documentation developed by AFMA that is specific to electricity derivative transactions.

Submissions

No objections were made to this proposal.

Decision

Standard ISDA contract documentation and/or associated AFMA documentation will be used for the FCAS 'safety net' contract.

4.1.9 Contract pricing methodology

In its Draft Report the Regulator proposed that the method for estimating Hydro Tasmania's costs in providing the declared electrical services will be through the determination of Hydro Tasmania's costs of physically delivering to the spot market the amount of FCAS nominated in the FCAS 'safety net' contract.

There were no objections to this proposal. However, Hydro Tasmania sought the inclusion of the costs of provision of system inertia and the costs of regulation as costs in providing the declared electrical services. The Regulator's decisions in respect of these costs are given in sections 4.2.11 and 4.2.12.

Decision

The method for determining the price of the FCAS 'safety net' contract shall be through the determination of Hydro Tasmania's costs of physically delivering to the spot market the amount of FCAS nominated in the FCAS 'safety net' contract. (The methodology for determining those costs is detailed in the IES Final Report.)

4.1.10 New supplier of raise contingency FCAS

In its Draft Report, the Regulator discussed the circumstances in which a declaration ceases to have effect. Those circumstances are contained in Chapter 7 of this Final Report. One of the circumstances in which **this** declaration can cease to have effect is where the Regulator is of the opinion that:

- (a) Hydro Tasmania no longer has substantial market power in respect of the declared electrical service; or
- (b) that the declaration is no longer required for the promotion of competition, efficiency or the public interest.

Submission

In its submission, Hydro Tasmania recommended that the Regulator devise a formula for determining the threshold that would “trigger contract suspension and a review of the need for regulations”. It suggested that this threshold be 50 per cent of the average liability or, alternatively, the average Tasmanian requirement less Hydro Tasmania’s average liability.

Discussion

The Regulator agrees that an objective threshold would be desirable in triggering the Regulator’s review of whether a declaration ought be revoked. IES, in its IES Final Report, presented a histogram of historical total liabilities for generators, other than Hydro Tasmania (refer Figure 9 of the IES Final Report). IES indicated that a threshold of 20 MW would cover the total FCAS requirements for those generators for about 97 per cent of the time.

Hydro Tasmania’s proposal to suspend the safety net contract would, in effect, mean the revocation of the Determination. The Regulations prescribe the circumstances in which a declared electrical service price determination ceases to have effect, ie the expiry of the determination or the cessation of the declaration of the services. These circumstances do not include triggers for revocation.

If a new supplier enters the raise contingency FCAS market and removes the dependency on Hydro Tasmania to provide the declared electrical services, then the Regulator would consider revoking the declaration; the Determination would cease to have effect on the day that a revocation takes effect.¹⁶ However, this process may take six to eight weeks.

In theory, a new material and highly reliable FCAS supplier could be:

- (1) a Tasmanian generator;
- (2) a NEM-registered ancillary services load that contracts to provide FCAS to a non-Hydro Tasmania generator that has entered an FCAS ‘safety net’ contract; or
- (3) a NEM-registered ancillary services load that bids its services into the FCAS spot market.

¹⁶ Sub-regulation 34(2) of the Price Control Regulations

In practice, there are no generators in Tasmania that can provide a material amount of FCAS; and a load that is contracted with a non-Hydro Tasmania generator will mean a reduction in the FCAS quantity specified in the 'safety net' contract.

With respect to (3), the entry of a new supplier does not in any way reduce the capability of Hydro Tasmania to provide the service or manage its contract position. This is because if Hydro Tasmania offers the service at cost then it will either have this service dispatched at cost or, to the extent to which the new supplier is dispatched for part or all of the requirement, Hydro Tasmania will be effectively purchasing the service from its competitor at a cost lower than its own cost of supply.

Conclusion

The Regulator agrees that a new supplier providing 20 MW would be grounds for considering the continuation of the declaration. However, due process as set down in the Price Control Regulations must be followed in respect of any revocation of the declaration.

4.1.11 Cost of inertia

In its Draft Report, the Regulator expressed the view that Hydro Tasmania's costs in providing inertia should not be included as FCAS costs for the purpose of determining a regulated hedge contract price. In considering this, the Regulator was guided by IES's advice that the costs of operating generator units in synchronous condenser mode are incurred primarily through Hydro Tasmania pursuing its own commercial objectives (and not for providing benefits generally to the Tasmanian power system), as a means of "increasing flow limits on Basslink and thereby maximising the value of its physical energy trading opportunities".¹⁷

Submissions

Although not raised in the Draft Report as a matter on which the Regulator invited further comment,¹⁸ Hydro Tasmania raised this as an issue in its submission.

Hydro Tasmania acknowledged that the provision of inertia is

"of sizeable benefit to its own commercial interests, and has always accepted its share of the costs. A proportional allocation of these costs, commensurate with the respective liability of generators for the FCAS costs avoided, is considered fair and reasonable. Note that this is not a substantial contributor to the overall cost. In the case where inertia costs are disallowed, then FCAS quantities should be calculated based on 'no additional inertia' cases."

¹⁷ IES Price Control Mechanism Final Report p. 11.

¹⁸ This issue was originally raised in Hydro Tasmania's initial submission to the FCAS investigation. It was considered by the Regulator during Step 1 of the investigation, that is, during the development of an appropriate price control mechanism.

Discussion

In the IES Final Report, IES again addressed this point and again recommended that the costs of inertia be excluded from the FCAS cost calculations.

The amount of inertia on the Tasmanian system at any time does influence the amount of 6s FCAS required but it is not a straight forward substitute. Further, AEMO does not deem inertia to be a way of providing 6s FCAS. The low inertia levels in Tasmania are due to Basslink and the wind farms being able to inject power into the system and providing little or no inertia.

Hydro Tasmania could propose that inertia be recognised as an ancillary service under the NEM Rules. IES considers that in the event that inertia is recognised as a new ancillary service, the costs for this service will likely be allocated as a network ancillary service or perhaps allocated to low inertial sources of power such as wind farms and Basslink. It is unlikely that inertia costs would be allocated along the cost recovery lines used for raise FCAS services. For these reasons IES considers it inappropriate that Hydro Tasmania recover these costs through the FCAS safety-net contract.¹⁹

The Regulator considers that compensation to Hydro Tasmania for the provision of inertia should not be paid by Tasmanian generators as FCAS costs. As mentioned above, the low levels of inertia in Tasmania are due to Basslink imports and the wind farms displacing thermal and hydro generation which provide inertia to the power system. The Regulator agrees with IES that Hydro Tasmania should pursue compensation for the provision of inertia through AEMO or the AEMC.

Decision

The cost of inertia will not be included as a cost in the FCAS 'safety net' contract.

4.1.12 Cost of regulation

In its submission on the Regulator's Draft Report, Hydro Tasmania again expressed its view that:

... the costs of the initial regulation process and on-going administration costs of regulation should be fully recoverable (reg. 33(2)(n)).²⁰

Discussion

Sub-regulation 33 (2)(n) refers to one of the matters that the Regulator must consider in making a declared electrical price determination, namely "any costs (including capital expenditure) incurred by the electricity entity at the direction of the Regulator".

¹⁹ IES Final Report, p. 38.

²⁰ Hydro Tasmania submission to the Draft Report, p4.

The Regulator considers that regulation 33 (2)(n) is not relevant as the Regulator has not imposed regulatory costs on Hydro Tasmania by way of a direction under the ESI Act. It is the Price Control Regulations that imposes these costs. Regulation 37 states:

An electricity entity that provides a declared electrical service which is the subject of a declared electrical service pricing investigation is liable to recompense the Regulator for the whole or part of the reasonable expenses incurred by the Regulator arising from the conduct and reporting of that investigation (including expenses incurred in making the draft and final report available to the public) as determined by the Regulator by written notice provided to the electricity entity.

Hydro Tasmania seeks to recover its costs under regulation 37, its internal costs associated with the investigation and on-going administration of the determination, through allocation across on-island generators.

This FCAS investigation was instigated in direct response to Hydro Tasmania's actions in the provision of local raise contingency FCAS in April 2009. The Regulator considered that those actions had serious implications for present Tasmanian generators, potential new entrant generators and consumers and required an appropriate regulatory response. The Regulator considers that it is appropriate that Hydro Tasmania, as the party that necessitated this additional regulatory intervention, should meet the associated costs of that regulation; those parties.

Decision

Hydro Tasmania's costs incurred as part of the price investigation and in the administration of the determination shall not be recovered through the FCAS 'safety net' contract.

4.1.13 Efficiency improvements

The Regulator proposed that the pricing methodology would not change should Hydro Tasmania be able to improve its efficiency in providing the declared electrical services.

No submissions were received on this matter.

Decision

The pricing methodology will not change should Hydro Tasmania be able to improve its efficiency in providing the declared electrical services.

4.1.14 Other matters raised

In its submission, Infratil Energy Australia (Infratil) expressed concern that the Regulator had not given consideration to other terms and conditions of the 'safety net' contract, in particular credit requirements. Whilst Infratil "acknowledges the

important of robust credit requirements, the proposed method leaves open Hydro Tasmania's ability to apply onerous credit obligations to these contracts."

The Regulator's Draft Report recognised that Hydro Tasmania uses standard documentation developed by the International Swaps and Derivatives Association Inc (ISDA) where parties hedge with Hydro Tasmania.²¹

The standard ISDA documentation used by Hydro Tasmania comprises:

- a Master Agreement (the current version is 2002), which sets out the on-going legal and credit relationship between the parties and provides that each transaction into which the parties will enter will be governed by that master agreement (ideally, this ISDA Master Agreement can be used for multiple transactions with the same party, for example an energy hedge transaction and an FCAS hedge transaction);
- a Schedule to the Master Agreement, which provides for amendments to the Master Agreement and additional contract provisions negotiated between the parties (for example, a credit support annexure to manage particular credit issues); and
- a Confirmation, which documents the negotiated economic terms of the particular transaction AFMA publishes recommended forms of Confirmation for electricity derivative transactions).

In developing a price control mechanism, the Regulator has focused on the matters that would be contained in the Confirmation document but recognises there will be matters such as credit requirements that may need to be considered by the contracting parties.

It is not unreasonable for Hydro Tasmania to require a reasonable level of credit support after it assesses its credit risk exposure. However, the Regulator also recognises that counterparties to Hydro Tasmania can realistically only hedge their local FCAS exposure with Hydro Tasmania. On the other hand, onerous terms and conditions applied by Hydro Tasmania could preclude a generator from entering into an FCAS 'safety net' contract.

The Regulator considers that matters such as credit support requirements form part of normal commercial arrangements and should be negotiated between the contracting parties.

Decision

Credit support arrangements are a matter for negotiation between the contracting parties.

²¹ For detailed information on ISDA documentation, refer to ISDA, *User's Guide to the 1992 ISDA Master Agreements (1993 Edition)*

5 PRICING PARAMETERS

Whereas Chapter 4 dealt with the broad design and pricing of the FCAS ‘safety net’ contract, this Chapter relates to the Regulator’s proposals and decisions in relation to the pricing parameters and their values. In the Regulator’s Draft Report, the Regulator proposed that:

- (a) the costs of delivery of the declared electrical services to the spot market will be determined using the methodology and parameters recommended by IES in Chapter 3 of the IES Consultation Draft Report; and
- (b) the parameter values to be used to determine the contract price and settlements will be those recommended by IES in Chapter 4 of the IES Consultation Draft Report.

Submissions on the Draft Report resulted in several areas of disagreement with respect to the pricing parameters and their values. These are outlined below together with the Regulator’s decisions. The Regulator has assumed that those proposals that were not subject to disagreement are agreed by all parties and, therefore, are reflected as such in the Regulator’s Summary of Decisions without further discussion.

5.1 Regulator’s decisions

5.1.1 Energy price

Pursuant to the IES Consultation Draft Report, the Regulator proposed that the energy price used to value foregone generation should be the price for a one year Victorian peak swap contract starting from the next quarter.

Submissions from Infratil and Aurora Energy disagreed with the use of prices for Victorian peak period contracts. Infratil argued that foregone energy should be valued as the “opportunity lost or the marginal value of generation”. That is, “extra generation would not be used at the highest price periods as water and generation capacity would be allocated to the highest periods first. The extra generation would be used for intermediate priced periods.”

IES investigated the relationship between the marginal generation and the Victorian prices and concluded that the marginal generation is much more likely to attain prices around the average price than the peak price and recommended using the published Victorian flat contract price rather than the peak contract price.

Hydro Tasmania also suggested, in its submission, that six month forward contract prices should be used to reflect the contract durations. IES proposed, in its IES Consultation Draft Report, annual forward contract prices “to avoid including substantial seasonal variations associated with high Victorian contract prices for the first quarter of each year associated with potentially high spot prices during this

period.” IES, in the IES Final Report, did not consider six month prices to be appropriate given the substantial energy storage capacity associated with the FCAS-providing generators.

Decision

The energy price used to value foregone generation will be the D-Cypha price for a one year Victorian flat swap contract as quoted on 1 January or 1 July, whichever is the closest preceding the ‘safety net’ contract date. If there is no quote available on 1 January or 1 July, then the date will be on the closest day prior to 1 January or 1 July (whichever is relevant) for which there is a quote available.

5.1.2 REC price

The Regulator proposed that the REC price used to value foregone generation be the most recent REC spot price corresponding to an actual transaction reported by Next Generation Energy Solutions (NGES) in its Green Room publication.

Hydro Tasmania submitted that similar information can be sourced from Australian Financial Markets Association (AFMA) to which Hydro Tasmania already has access, compared to an additional \$1 500 per annum cost for the NGES publication.

Discussion

There are various sources for REC prices, including ICAP Australia Pty Ltd, Next Generation Energy Solutions (NGES) and AFMA. Hydro has expressed its preference for AFMA as the source of this information, which is acceptable to the Regulator.

Decision

The REC price will be based on the average weekly REC price for the week containing or nearest to the 15 January or 15 July calculation date, as published by an appropriate source.

5.1.3 Probability of producing RECs

The Regulator proposed that the probability that the foregone water power output that would have produced RECs be set at 50 per cent (this parameter is used to value foregone power generation).

Aurora Energy did not consider this figure to be sufficiently justified in the IES Consultation Draft Report. However, IES in its IES Final Report pointed out that a hydro generator’s output would exceed its REC baseline (the REC baseline reflects its average output), in the long run, 50 per cent of the time. Therefore all of its marginal output would expect to earn RECs 50 per cent of the time.

Decision

The probability of the power station generating RECS will be set at 50 per cent.

5.1.4 Amount of foregone generation

In IES's Consultation Draft Report, IES assumed that fast raise contingency FCAS would be provided by John Butters power station and/or Gordon power station units which can supply significant amounts relatively efficiently in the Tasmanian power system.

Aurora suggested in its submission that John Butters power station is only producing raise FCAS for four per cent of the time, rather than the 20 per cent (sourced from Hydro Tasmania) reflected in the IES Consultation Draft Report. Aurora Energy considered that the opportunity costs for the John Butters unit should be discounted accordingly.

IES pointed out in the IES Final Report that its calculations were based on the cost of providing the marginal MW of FCAS, not the average cost; the former is indicative of the price that would come out of a truly competitive market. That marginal MW would generally come from a Gordon or John Butters unit.

Decision

The marginal cost of supplying FCAS will be the marginal cost of providing an extra MW from Gordon or John Butters power stations.

5.1.5 Determination of when there is a local requirement

In the Draft Report, the Regulator proposed that the parameter "proportion of the time Tasmania is importing and has a local requirement" should be based on whether Basslink is exporting less than 50 MW.

In their submissions, Hydro Tasmania and Aurora Energy proposed other means of determining the existence of a local requirement in Tasmania. After consideration, IES concluded that as the MW of local requirements can be obtained directly from AEMO by market participants, the presence of a non-zero local requirement should be sufficient to determine whether there is a local requirement for the declared electrical services.

Decision

The presence of a non-zero local requirement for the declared electrical services is the basis to be used for determining whether there is a local requirement.

5.1.6 Impact of environmental flows

The Regulator proposed that for the purposes of valuing foregone generation, a proportion of foregone revenue required for environmental flows should be excluded.²² The proportion is determined from information provided by Hydro

²² Environmental flow requirements are specified in a special licence held by Hydro Tasmania under the *Water Management Act 1999*.

Tasmania in respect of environmental flow requirements and water releases versus generation output curves. IES estimated that 25 per cent of the provision of fast raise FCAS from Gordon power station does not come at any additional cost due to the requirements for environmental flows.

Aurora argued that the opportunity cost of enabling a single unit at Gordon for 50 MW of local raise FCAS would have no opportunity cost in having to meet environmental flows.

In Figure 7 of its Final Report, IES prepared a histogram of local FCAS requirements. IES concluded that most of the time the local requirement exceeds 50 MW, in which case, the FCAS local requirement could not be met by one Gordon unit alone.

Decision

The proportion of foregone generation required for environmental flows, used to value foregone generation, will be 25 per cent based on existing environmental flows. However, the Regulator will provide for an adjustment to this percentage in the Determination, if there is a material change to environmental flow requirements, ie if there is an increase of ten percentage points or greater.

5.1.7 Size of a local requirement

Further to the above, IES in the IES Final Report stated:

This is an out working of Aurora's point on environmental flows but IES has lowered the threshold that Aurora suggested from 50 MW to 40 MW for two reasons. The 40 MW threshold for 6s raise FCAS was chosen because this means that a Gordon unit could satisfy the needs for environmental flows for a range of power outputs and suffer zero or minimal opportunity costs. The slightly lower threshold caters for the situations when Gordon is being dispatched to provide material amounts of generation rather than just for the provision of FCAS. The other reason is that a threshold between 10 MW and 40 MW separates the bulk of small local requirements from the bulk of materially large requirements (see Figure 7).

Decision

A binary strike price will be used in the 'safety net' contract which will assume a zero value when the FCAS requirement is less than 40 MW.

5.1.8 Premium for quantity based on liability

In its submission, Hydro Tasmania considers that a risk premium of 30 per cent above costs should be applied in providing the flexibility of contracted amounts of FCAS that match actual five minute liabilities (analogous to load following contracts in the energy market).

In its Final Report, IES considered:

...this analogy does not hold in the context of Tasmanian FCAS provision as, rather than increasing risk, a contract that matches actual liabilities reduces risk for both Hydro Tasmania and the contracting generator.

Decision

No risk premium is to be imposed by Hydro Tasmania on FCAS contract prices.

5.1.9 Fixed opportunity costs when providing local FCAS

The Regulator in its Draft Report proposed the allocation of a fixed opportunity cost in the FCAS contract based on the ratio of the capped quantity for which the contracting generator wishes to contract (X MW) and the total Tasmanian generators' liability (Y MW) that is expected at the time of the contracting generator's maximum exposure. The generator's contribution to the fixed costs would be

$$(X/Y) * \text{Total annual fixed cost.}$$

In its submission, Aurora considered that any inclusion of a component for fixed opportunity costs in the FCAS contract price was inappropriate. In responding to this point, the Regulator refers interested parties to the IES Final Report page 35.

Hydro Tasmania argued that the IES Consultation Draft Report implies a correlation between the generator's maximum exposure and high Tasmanian requirements. IES has clarified in its Final Report that Y is the expected total Tasmanian generation liability when the contracting generator's liability is largest.

Decision

The contracting generator will pay a contribution to the fixed costs of:

$$(X/Y) * \text{Total annual fixed opportunity cost,}$$

where

X MW is the capped amount of the generator's FCAS liability, and

Y MW is the expected total Tasmanian generators' liability when the contracting generator's liability is at a maximum or near or above the capped quantity of X MW.

6 MATTERS CONSIDERED

In making a declared electrical service price determination, the Regulator is required, in accordance with regulation 33(2) to consider several matters. The following summarises the Regulator's consideration of these matters in the course of this investigation:

(1) The cost of providing the declared electrical service

The costs of providing the declared electrical services (calculated as the opportunity cost of foregone generation) have been carefully considered in the IES Consultation Draft (appended to the Regulator's Draft Report) and IES Final Report. Note that the Regulator recognises it to be impractical to undertake a detailed forensic examination of Hydro's costs and has relied to some extent on the information provided by Hydro Tasmania.²³

(2) Any interstate or international benchmarks for prices, costs, revenues and return on assets in bodies providing a service similar to the declared electrical service

The Regulator notes that the time-weighted average prices for raise contingency FCAS for the period 1 January to 17 December 2010 in mainland NEM jurisdictions for raise contingency FCAS is of the order of \$0.87, \$0.51 and \$1.04 per MWh, for fast, slow and delayed FCAS respectively.²⁴ These prices reflect the dominance of thermal generating units that are cheap sources of the services and in plentiful supply. In Tasmania, there is one registered supplier and fast raise services are not as readily available from hydro generation. Average prices in Tasmania for the same period were \$12.18, \$0.73 and \$1.30 per MWh for each of the respective services.

The Regulator has established a price of supply of the declared electrical services that reflects the opportunity cost of foregone revenue in the energy and RECs markets.

Therefore, interstate or international benchmarks are not relevant in the pricing of the declared electrical services using this methodology.

(3) The principle that consumers of the declared electrical service should be protected from the adverse effects of the exercise of substantial market power by an electricity entity in relation to prices, pricing policies and standards of service in respect of the provision of the declared electrical service

²³ Penalties apply under the Price Control Regulations where a person has knowingly provided information to the Regulator that is false or misleading in a material particular, without informing the Regulator of that knowledge.

²⁴ Global Roam, *NEM Review*

In providing access to a FCAS 'safety net' contract for Tasmanian generators, generators will be able to pay a fair and reasonable price for the services and not be inhibited indirectly in their energy generation by Hydro Tasmania's bidding behaviour in the raise contingency FCAS markets. Furthermore, this safety net contract provides certainty for new entry generators which may have been deterred from setting up in the State for the same reason.

- (4) The principle that the distribution tariff for small customers belonging to a particular class (other than the distribution tariff relating to the supply of electricity to small customers on King Island or Flinders Island) is to be uniform, regardless of where in mainland Tasmania the customer is supplied with electricity**

This matter is not relevant to this investigation.

- (5) The degree of competition in the electricity supply industry that is relevant to the provision of the declared electrical service**

The Regulator has established that there is presently no competition in the provision of raise contingency FCAS to meet the local requirement in Tasmania. To the extent that an existing or new generator can provide FCAS services itself, there is provision for the quantity of the services in the safety net contract to be reduced. Were a new supplier of the services able to substantially remove its dependence on Hydro Tasmania to meet all of Tasmania's requirements, then the Regulator would consider a revocation of the declaration of the services (refer Chapter 7 for detail on the revocation of a declaration).

- (6) The principle that there is a need for a reasonable return (including the payment of dividends) on the assets of an electricity entity**

The cost of providing the declared electrical services is being recognised as Hydro Tasmania's foregone revenue in the energy and REC markets. The revenue that Hydro Tasmania receives in the energy market reflects a reasonable return on the assets of Hydro Tasmania and is, therefore, reflected in the cost of providing the declared electrical services.

- (7) The principle that there is a need for efficiency in the provision of the declared electrical service for the purpose of benefiting the public interest through a reduction in the cost of providing the declared electrical service**

A price for the supply of the declared electrical services has been 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 determined. Reflecting this price in an FCAS 'safety net' contract places a control on the prices paid by non-Hydro Tasmania local generators and the revenue (maximum price) received by Hydro Tasmania for the declared electrical services. Tasmanian generators that use the 'safety net' contract should incur a fair and reasonable liability for the declared electrical services which will be reflected in generators' costs in supplying energy to

the market and in turn be reflected in the spot and contract markets for energy. This should translate to retailers and ultimately consumers of electricity paying no more than the economic cost of the supply of the energy.

(8) The effects of inflation

The effects of inflation will be reflected in relevant FCAS pricing parameters. Therefore, the effects of inflation do not need special attention in this investigation.

(9) The principle that there is a need for the electricity entity to be financially viable

Through the FCAS 'safety net' contract, Hydro Tasmania will be effectively reimbursed for its lost revenue in the energy and RECs markets in providing the declared electrical services. Thus, there will be no impact on Hydro Tasmania's financial viability.

(10) The impact on pricing policies of any borrowing, capital, dividend and taxation or tax equivalent obligations of the electricity entity, including obligations to renew or increase assets

The Regulator notes that, in Hydro Tasmania's submission to the investigation of 30 April 2009, Hydro stated that the impact "is not expected to be material".

(11) The quality of the provision of the declared electrical service

This matter is not relevant to the investigation.

(12) Any ministerial charter, licence or obligation under the Act or the regulations that applies, or is likely to apply, to the electricity entity

There are no matters under these instruments that are relevant to this investigation, other than the requirement under the Price Control Regulations for the costs of this investigation to be met by Hydro Tasmania.

(13) The Tasmanian Electricity Code

There are no provisions of the Tasmanian Electricity Code that are relevant to the investigation.

(ma) The National Electricity Rules

The price control mechanism is by means of the regulation of the provision and pricing of FCAS contracts and therefore operates independently of the market and AEMO's administration. Thus application of this mechanism does not interfere with the operation of the NEM. The National Electricity Rules are therefore not relevant to the consideration of this matter.

(14) Any costs (including capital expenditure) incurred by the electricity entity at the direction of the Regulator

There are no directions made by the Regulator to Hydro Tasmania that are relevant to this Determination.

(15) The public interest

The FCAS 'safety net' contract removes the potential for Hydro Tasmania's substantial market power to be exercised (such as in the events of April 2009), promotes competition for the services (in removing a barrier to other generators to enter the energy market), promotes efficiency and, in meeting both these criteria, the public interest will be served.

(16) Any other matter the Regulator considers relevant.

Other matters considered relevant by the Regulator have been included in the terms of reference of each consultancy and have been addressed accordingly.

7 DURATION OF THE PRICE DETERMINATION

The Regulator has decided that the period of the declared electrical services Determination will be of five years duration commencing on 1 February 2011. That is, the determination will apply from 1 February 2011 and expire on 31 January 2016.

The Regulator's reasons for choosing a five year period rather than a three year period, which was originally suggested²⁵, is that there is generally a benefit in making a determination period longer rather than shorter as a longer period ensures a greater degree of price stability and predictability for customers. Longer price paths also reduce the level of regulatory uncertainty. Power generation plants are long-term investments and the prospect of expiry or revocation of the declaration would not provide sufficient confidence for an investment of large amounts of capital.

However, there are circumstances in which the Regulator can revoke a declaration and a determination.

7.1 Cessation of a declared electrical service price determination

Regulation 34 of the Price Control Regulations specifies the circumstances in which a declared electrical service price determination ceases to have effect. The key circumstances are when a declaration to which the determination applies has been revoked; or the expiry of the determination (in this case, at the end of five years). These are discussed below.

7.1.1 Revocation of a declaration

Regulation 21 of the Price Control Regulations provides for the Regulator to revoke a declaration of a declared electrical service if the Regulator is of the opinion:

- (a) that no electricity entity providing the declared electrical service has substantial market power in respect of the declared electrical service; or
- (b) that the declaration is no longer required for the promotion of competition, efficiency or the public interest.

This means that the Regulator can, of its own volition, examine the circumstances in which the declaration applies during the regulatory period and determine whether a

²⁵ OTTER, *Notice of intention to declare the supply of raise contingency frequency control ancillary services by Hydro Tasmania as a declared electrical service, Issues Paper, July 2009*

declaration is still required. Once such circumstance that is relevant to this FCAS declaration, and which has been mentioned in section 4.2.10, is where a new supplier of FCAS services is able to provide for all the FCAS local requirement for non-Hydro Tasmania generators.

The process for such a review is stipulated in regulation 19 and is, in effect, the same process as used when the Regulator is consideration making a declaration. That is, the Regulator would give notice of its intention to revoke the declaration together with reasons for doing so, take submissions on the matter, and make a decision.

7.1.2 Expiry of the price determination

The imminent expiry of a price determination is a trigger for a review as to whether the declared electrical service declaration is still required.²⁶ It does not necessarily mean that the declaration will be revoked but will mean that if the declaration is not revoked, then a declared service pricing investigation must be undertaken.

7.1.3 Other grounds for revocation of a price determination

There are also other grounds for revocation. The Regulator may revoke a determination in circumstances described in regulation 36, which essentially relates to the determination having been made on the basis of false or misleading information; that there is a material error in the determination; or the determination has a materially adverse impact on the entity due to an event outside the entity's control.

²⁶ Regulation 23 provides for the Regulator to invite submissions no later than six months before the determination expires on whether the declaration of a declared electrical service should be revoked.

APPENDIX A- NOTICE OF INVESTIGATION AND TERMS OF REFERENCE

Investigation of Hydro Tasmania's pricing policies in the provision of raise contingency frequency control ancillary services to meet the Tasmanian local requirement

Background

Regulation 23 of the *Electricity Supply Industry (Price Control Regulations) 2003* requires the Regulator to conduct an investigation into the pricing policies of an electricity entity in respect of a declared electrical service. This investigation follows the Regulator's decision to declare certain services provided by Hydro Tasmania as declared electrical services. The background and reasons for that decision are contained in the Regulator's *Declaration of Frequency Control Ancillary Services - Statement of Reasons - December 2009*.

The Price Control Regulations establish the procedural framework to be followed by the Regulator in conducting pricing investigations.

Sub-regulation 24(1) requires that, before conducting a pricing investigation, the Regulator give notice of the investigation. Such a notice is to be provided in writing to the Minister and each electricity entity providing the declared electrical service that is the subject of the investigation. Notice is also required to be published in such daily Tasmanian newspapers as the Regulator considers appropriate.

This notice, containing the terms of reference for the investigation, is issued pursuant to regulation 24 of the Price Control Regulations.

Purpose of the pricing investigation and services to be investigated

The purpose of this investigation is to investigate and make a determination that regulates the prices that may be charged by, and specifies the price control mechanisms imposed on, Hydro Tasmania for the provision of the following declared electrical services:

- fast raise contingency frequency control ancillary service;
- slow raise contingency frequency control ancillary service; and
- delayed raise contingency frequency control ancillary service;

to meet the Tasmanian local requirement.

Matters to be considered

Regulation 33(2) of the Price Control Regulations contains a range of matters that must be considered by the Regulator in conducting price investigations:

- (a) the cost of providing the declared electrical service;
- (b) any interstate or international benchmarks for prices, costs, revenues and return on assets in bodies providing a service similar to the declared electrical service;
- (c) the principle that consumers of the declared electrical service should be protected from the adverse effects of the exercise of substantial market power by an electricity entity in relation to prices, pricing policies and standards of service in respect of the provision of the declared electrical service;
- (d) the degree of competition in the electricity supply industry that is relevant to the provision of the declared electrical service;
- (e) the principle that there is a need for a reasonable return (including the payment of dividends) on the assets of an electricity entity;
- (f) the principle that there is a need for efficiency in the provision of the declared electrical service for the purpose of benefiting the public interest through a reduction in the cost of providing the declared electrical service;
- (g) the effects of inflation;
- (h) the principle that there is a need for the electricity entity to be financially viable;
- (i) the impact on pricing policies of any borrowing, capital, dividend and taxation or tax equivalent obligations of the electricity entity, including obligations to renew or increase assets;
- (j) the quality of the provision of the declared electrical service
- (k) any ministerial charter, licence or obligation under the Act or the regulations that applies, or is likely to apply, to the electricity entity;
- (l) the Tasmanian Electricity Code;
- (m) any costs (including capital expenditure) incurred by the electricity entity at the direction of the Regulator; and
- (n) the public interest.

The Regulator may also consider any other matter that he considers to be relevant.

Prices and price control mechanisms

Regulation 18 specifies the manner and terms in which the prices and price control mechanisms may be expressed. These include, but are not limited to:

- (a) maximum prices or the maximum rate of increase or the minimum rate of decrease in maximum prices;
- (b) average prices or average rates of increase or decrease in average prices;
- (c) pricing policies or principles;
- (d) by reference to a general price index, the cost of production, revenue, a rate of return on assets or any other factor;
- (e) by reference to quantity, location or period of provision of the declared electrical service;
- (f) by reference to a maximum revenue;
- (g) any other terms the Regulator considers appropriate.

As part of the investigation, and prior to the publication of a Draft Report in respect of the investigation, the Regulator will consult on an appropriate price control mechanism to be imposed on Hydro Tasmania.

Price determination

After completing the Final Report in respect of the investigation, the Regulator will make a determination, pursuant to regulation 31 of the Price Control Regulations, that regulates the prices that may be charged by, and specifies the price control mechanisms imposed on, Hydro Tasmania in respect of the declared electrical services during the period specified in that determination.

Period for price determination

The Regulator has yet to determine the date on which a determination will commence and expire. The Regulator will consult stakeholders on this matter during the investigation.

Objective and principles

The Regulator's objectives in undertaking this investigation and making a determination are 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. In achieving this objective, the Regulator will apply the following principles:

- (1) The price control mechanism to be applied to the supply of the declared electrical services will:
 - (a) be consistent with the National Electricity Objective;
 - (b) not be unduly onerous on Hydro Tasmania in its application;
 - (c) have minimal impact, if any, on the wider National Electricity Market; and
 - (d) not require an amendment to the National Electricity Rules nor add complexity to the National Electricity Market dispatch process.

- (2) The price control mechanism to be imposed on, and the prices to be charged by, Hydro Tasmania will:
- (a) be fair and reasonable;
 - (b) enable Hydro Tasmania to recover its costs for the efficient provision of the declared electrical services;
 - (c) provide market signals that promote efficiency and maximise incentives for other parties to supply raise contingency FCAS in the Tasmanian region; and
 - (d) not impose significant regulatory costs on the Regulator or Hydro Tasmania.

Date for completion of the investigation

The Regulator will complete the investigation by 26 November 2010 and publish the Final Report on that date.

Following completion of the Final Report, the Regulator will:

- provide a copy of the Final Report to:
 - the Minister for Energy;
 - the Treasurer; and
 - Hydro Tasmania, as the body providing the declared electrical services which is the subject of the investigation;
- publish the report on the OTTER website;
- notify in newspapers of the availability of the report; and
- make available copies of the Final Report to relevant stakeholders and members of the public on request.

Conduct of the investigation

The conduct of the investigation must include reasonable regulatory accountability through transparency and public disclosure of regulatory processes and the basis of regulatory decisions. The Regulator will do this through the publication of decisions and reasons for those decisions.

Submissions

Submissions will be sought on relevant matters contained in the Notice of Investigation and terms of reference, Hydro Tasmania's submission, any published consultants' reports and the Regulator's Draft Report. The Regulator will provide reasonable notice of the call for submissions in accordance with the Regulator's *Consultation Policy and Procedures of the Tasmanian Economic Regulator, Version 2, 2009*.

Submissions must be made in writing and may be lodged by email to office@economicregulator.tas.gov.au or by mail to OTTER at GPO Box 770, Hobart, Tasmania, 7001.

Submissions will be published on the OTTER website. If a person making a submission does not wish that submission, or a part or parts of it, to be placed on the website, the submission must indicate which part or parts are to be excluded. Confidential submissions will be treated in accordance with the Regulator's *Policy on the Treatment of Confidential Submissions*.

Draft Report

Pursuant to regulation 29 of the Price Control Regulations, at an appropriate time during the price investigation, the Regulator will make available a Draft Report and take public submissions in respect of the Draft Report.

Public hearings

Pursuant to regulation 25, the Regulator will conduct a public hearing in regard to the investigation.

Notification

Notification of the publication of reports relating to this investigation will be given on the *What's New* page of the OTTER website www.economicregulator.tas.gov.au. Interested parties may subscribe, through the *What's New* page, to receive automatically generated emails when notices are published on *What's New*. In addition, publication of the Final Report will be notified in the newspapers.

Process and timetable for the investigation

Notice of, and terms of reference for, the investigation	6 March 2010
Hydro Tasmania's submission to the investigation published	30 April 2010
Public submissions on the terms of reference and Hydro Tasmania's submission close	21 May 2010
Consultant's report recommending price control mechanisms to be applied to Hydro Tasmania's provision of the declared electrical services published	18 June 2010
Public submissions on consultant's report close	9 July 2010
Publication of investigation Draft Report	No later than 8 October 2010
Public hearing	Within one week of closing date for submissions
Closing date for submissions on Draft Report	Four weeks from date of publication of Draft Report
Investigation completed and investigation Final Report published	No later than 26 November 2010
Determination of prices to be charged by, and price mechanisms imposed on, Hydro Tasmania	No later than 24 December 2010
Commencement of Determination	Yet to be established