Hydro Tasmania

FCAS presentation to OTTER

Hydro Tasmania
the renewable energy business

11 May 2010

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Commercial in confidence slides have been removed

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Hydro Tasmania's proposal

Hydro Tasmania proposes the following approach:

- Not regulating the physical raise contingency FCAS product.
- Approving pricing principles for raise contingency FCAS hedge products in Tasmania.
- Approving the contract terms for the regulated product.
- Providing a process of review for any participant which disagrees with a quoted price from Hydro Tasmania for raise contingency FCAS.
- Setting the period of the price determination for 3 years.

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Regulation of hedge contracts

- The regulation of hedges is vastly more attractive than regulating the physical offers as they:
  - Do not interfere with the efficiency of the dispatch process.
  - Minimise the burden on both OTTER and Hydro Tasmania.
  - Deliver a product which is useful to participants in managing their FCAS risks.
  - Provide participants with medium term price signals

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OTTER's criteria for assessment

Principles	Physical	Financial
Be consistent with the National Electricity Objective;	✗	✓
Not be unduly onerous on Hydro Tasmania in its application;	✗	☯
Have minimal impact, if any, on the wider National Electricity Market; and	✗	✓
Not require an amendment to the National Electricity Rules nor add complexity to the National Electricity Market dispatch process.	☯	✓
Be fair and reasonable;	✗	✓
Enable Hydro Tasmania to recover its costs for the efficient provision of the declared electrical services;	✗	✓
Provide market signals that promote efficiency and maximise incentives for other parties to supply raise contingency FCAS in the Tasmanian region; and	✓ (if above new entrant)	✓ (if above new entrant)
Not impose significant regulatory costs on the Regulator or Hydro Tasmania.	✗	✓

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Pricing principles – current methodology

- Based upon short run costs
  - HT requirement supplied from least cost supply
  - Critical inertia level met – allocated proportionally
- Key assumptions
  - R6 requirements
  - Competitor generation
  - Basslink flow
  - Hydro Tasmania efficient merit order - energy
- Cost components
  - Inertia – synchronous condenser
  - Operational inefficiencies

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Current pricing policy - worked examples

Two major cost elements

- Inertia – synchronous condenser
  - Critical quantum
  - Number of start/stops of machines
  - Median Vic price
  - REC price
  - Allocation methodology – proportional to participant generation levels
- Operational inefficiencies
  - Stations impacted
  - Hours operation
  - Value of water foregone
  - Allocation methodology – sourced own liability first

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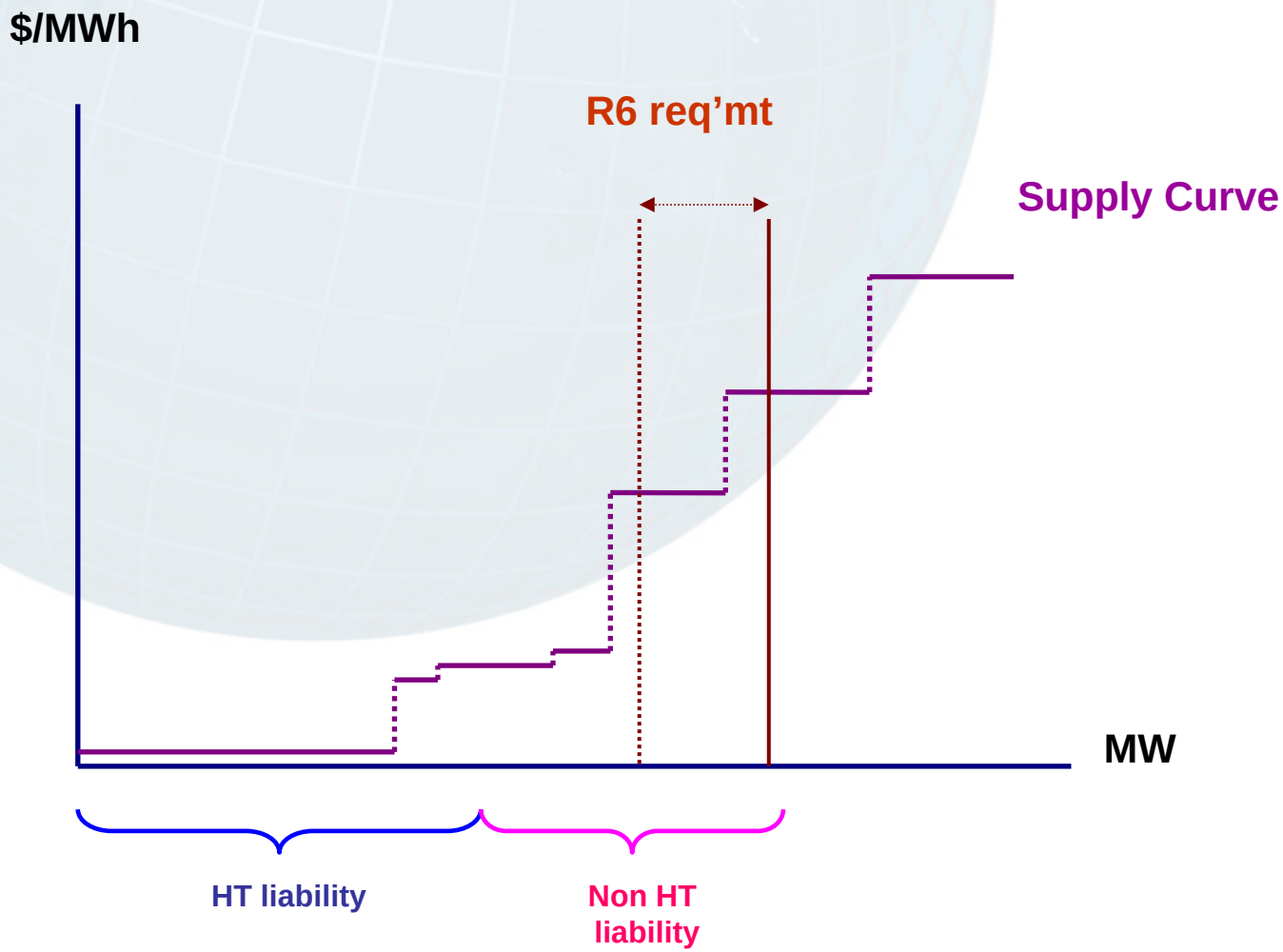
Allocation methodology



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Capital costs for pricing principles

- Generators often bid FCAS to achieve energy outcomes rather than recover FCAS costs, but if FCAS is regulated as a separate market this must be disregarded.
- 19 power stations enabled for FCAS raise contingency services.
- 15 machines can operate in synchronous condenser mode providing inertia contribution.
- Almost all assets for generation of energy and FCAS are common.
- Inertia uses energy generation assets.
- Raise contingency services provided concurrently with energy.

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Capital costs for pricing principles (cont)

- Methodology for cost allocation unclear
  - Option 1: (lost efficient output/total efficient output)*Depreciated Replacement Cost (DRC)
  - Option 2: replace short run marginal cost (water value) with long run average cost in existing formula
- Either approach requires determination of DRC
- Hydro Tasmania's DRC asset value is large:
  - insurance value of Hydro Tasmania's assets is $5.3 billion (depreciated)
  - compared to balance sheet value of $4.1 billion (depreciated)
- Need to create regulatory accounts – onerous and expensive exercise

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Capital costs for pricing principles (cont)

- Option 2 suggests 80% or greater increase in cost of raise contingency compared to current methodology
- Costs of regulation unknown, but likely to be disproportionately large compared to total service cost of $4.5 million per annum on current methodology
- Capital and regulatory costs may increase cost of raise contingency services to the extent that there is no public benefit from regulation

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IES Requests

- Request 1. Provided on 11 May
- Request 2.
  - Initial response provided in this presentation.
  - Has this presentation demonstrated the issues of your concern?

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Summary

- Regulating hedges meets OTTER's criteria best
- Pricing policies require multiple assumptions
- FCAS costs can vary significantly
- Capital costs are very hard to incorporate

- What further information/discussions are required?

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