

## 2.3 Frequency Control Ancillary Services

Frequency Control Ancillary Services (FCAS) maintain the frequency of the power system within a normal operating band centred around 50 Hz. AEMO states that it accepts frequency deviations occurring inside this band, as it would place an unrealistic burden on market participants to maintain a constant frequency of 50 Hz.

In general, FCAS are of two types:

- ❑ Regulation FCAS are services that correct for continual minor frequency deviations under typical load and generation conditions to maintain power system frequency within the normal operating band.
- ❑ Contingency FCAS are fast, slow and delayed services used to recover from larger frequency deviations arising from contingent events such as the loss of a generating unit, transmission line or major load.

As the frequency may need to adjust up or down to return to the normal operating band, each of these FCAS services is further categorised as a 'raise' or 'lower' service.

Each type of FCAS has a separate market that operates in parallel to the energy market in the NEM. AEMO purchases FCAS from suppliers in each of the eight FCAS markets in a similar manner to the energy bidding system, and recovers the costs of procuring FCAS from market participants according to a set of rules. Customers typically meet the cost of providing 'lower' services through components of their retail electricity charges. Generators meet the cost of providing 'raise' services, which ultimately flow through into wholesale electricity prices.

In Tasmania, sources of FCAS are:

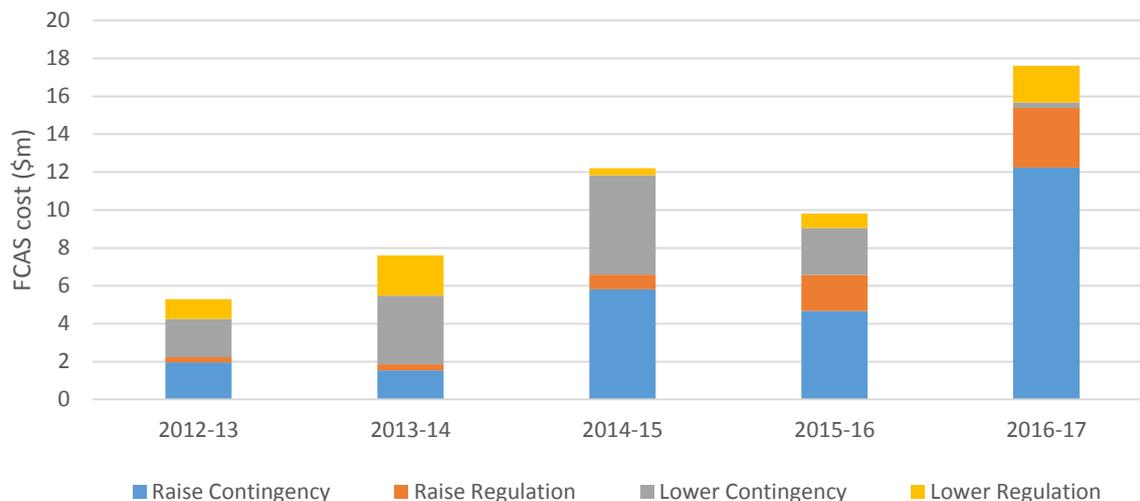
- ❑ Basslink<sup>5</sup>, where an increase or decrease in imports or exports can assist frequency control; and
- ❑ Hydro Tasmania; both through its hydro generating units and Tamar Valley Power Station (TVPS) (the Combined Cycle Gas Turbine can provide lower contingency FCAS).

Figure 2.4 presents historical Tasmanian FCAS costs.

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<sup>5</sup> Basslink is unable to transfer FCAS services while flow is between approximately -50 MW and +50 MW ('No-Go' Zone), and is currently unable to supply raise contingency services into Tasmania due to a recent reclassification.

Figure 2.4 FCAS pricing



As shown in Figure 2.4, FCAS costs in Tasmania increased in 2016-17 in particular due to Raise Contingency costs. Market participants have informed the Regulator that increasing awareness among FCAS providers of the opportunity costs involved in providing FCAS (ie having to keep generation units on standby rather than either operating them to generate electricity or shutting them down completely) has led to steady increases in the size of FCAS bids in recent years. Furthermore, the FCAS market is undergoing increasingly rapid changes in the number and nature of its participants as older, larger-scale generators are decommissioned and new renewable generation units come online. While these factors have combined to increase overall FCAS costs, AEMO reporting of FCAS recovery rates during 2016-17 shows that the impact of these increased FCAS costs has been borne primarily by generators rather than customers.

Based on this information, the Regulator considers that the rises in FCAS costs seen in 2016-17 are representative of market conditions and have had minimal flow-on effects to customer prices. The Regulator therefore sees no reason to take regulatory action in relation to FCAS costs at this time.