**Callide Power Management Pty Ltd (CPM) Submission on the QCA Issues Paper "Gladstone Area Water Board: 2004 Investigation of Pricing Practices"**

***Introduction***

Callide Power Management (a joint venture held in equal shares by CS Energy and Intergen) operates the Callide Power Project near Biloela, and is one of the largest users of raw water from the Gladstone Area Water Board's (GAWB) Awoonga Dam. Commissioned in 2001 the Callide Power Project is expected to be operating for a minimum of two decades, and therefore Callide Power has a strong continuing interest in GAWB's raw water pricing and delivery arrangements.

The QCA's issues paper deals with a range of matters, not all of which are dealt with in this response. This submission focuses on what CPM considers to be some of the threshold issues that will need to be addressed by the QCA as part of the present prices investigation. Where possible, CPM has cross-referenced our commentary to the Authority's specific questions.

***Demand and Supply Balance***

CPM's primary interest is in how the demand and supply balance is addressed in the context of regulatory price setting. Many of the issues identified by the QCA relate directly to the forecasting of demand and how demand forecasts are used to infer price setting. Other issues, such as asset valuation, are indirectly related to projections of raw/treated water demand.

The recent significant increase in the capacity of Awoonga Dam assumes a substantial growth in (mostly raw) water demand in the Gladstone region. The full cost of this augmentation is being met by GAWB's existing customers. Prices were determined such that GAWB would, over time, cover its costs and achieve what the QCA determined to be a reasonable commercial return.

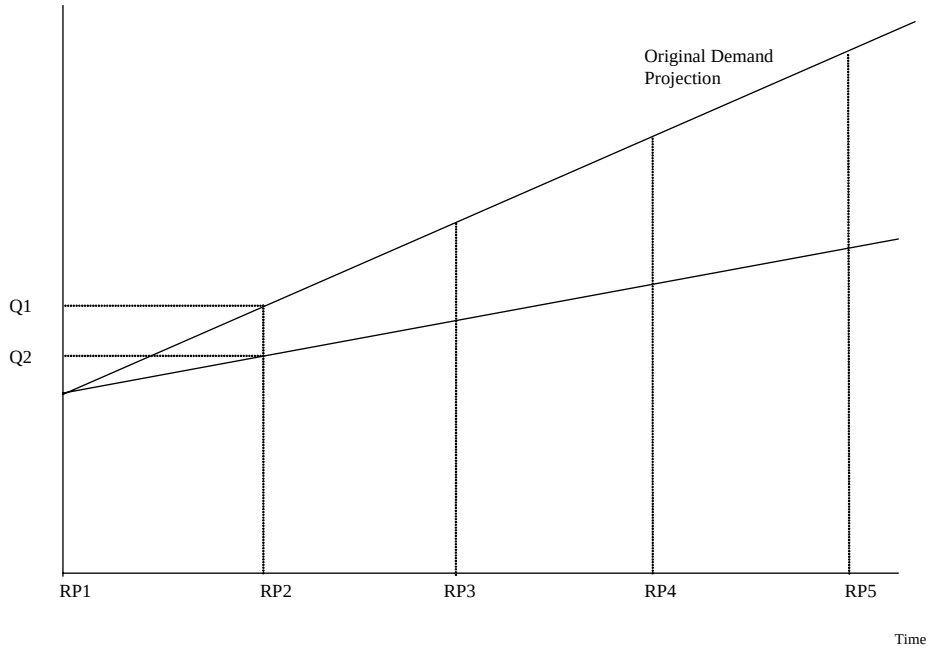
Subsequent to the raising of Awoonga Dam a number of events have challenged some of the Authority's previously held assumptions. How the Authority responds to these changed circumstances should be guided, in the first instance, by a clear position on which party should carry certain risks.

In CPM's view a central component of price cap regulation is that the regulated supplier carries demand risk. GAWB should be responsible for demand risk in that the monopoly supplier should not be permitted to recoup from users shortfalls in revenues where demand is less than that initially forecast.

Certainly demand risk that manifests itself as variations in actual to projected demand within the regulatory period should be retained by GAWB. Where actual demand is below forecast, then there is no case for GAWB to 'catch up' any revenue losses by increasing in future years' water charges to its customers.

This principle is illustrated in the figure below, which shows the effect of a change in market situation, specifically a reduction in demand. The horizontal axis represents the passage of time, segmented by regulatory periods (RP1 - RP5). The vertical axis represents water demand. The 'original' demand line presents the initial forecast of demand, with the upward sloping line below this showing the recast demand forecast (actual demand during the period RP1, forecast demand for the periods RP2 and beyond).

*Figure 1: Impact of reduction in demand*




CPM submits that if demand falls below expectations during the regulatory period GAWB should bear the associated revenue shortfall. That demand during the period RP1 failed to reach the forecast level Q1 does not justify GAWB increasing its future prices. Symmetrically, GAWB should retain any revenue windfall should actual demand during a regulatory period exceed that which is forecast.

Upon regulatory review (at RP2), the regulator should assess least-cost supply in light of the revised demand projections. If existing assets no longer represent the least cost supply option, their value should be revised downwards with a consequent reduction to GAWB's revenue requirement. However, if existing assets remain the least cost supply option, and GAWB's revenue requirement is thus maintained, prices may have to rise to meet that revenue requirement from a lower demand (Q2).
In the sections below CPM comments further on related demand issues of hydrological yield assessments for Awoonga Dam, future customer demand projections, incentives for demand management and GAWB’s drought management plan.

### *Hydrological yield assessment for Awoonga Dam*

At the time GAWB initially proposed raising Awoonga Dam it was presented that the raised storage would have a yield of approximately 87,900ML per annum. This represented an increase of some 78 percent from the previous annual yield of 49,700 ML. More recent hydrological modelling, incorporating updated climatic sequences, has reduced the so-called historic no failure yield (HNFY) to approximately 78,000 ML per annum. And until such time as Awoonga Dam reaches its full supply level the safe yield has been reduced further to 68,000 ML per annum.

CPM remains concerned with GAWB’s reliance on historic yield assessments, and particularly the concept of ‘no failure’ supply (refer Issues Paper request for comment 2). As an indicator of supply reliability HNFY is possibly one-dimensional and not overly relevant metric. CPM understands it measures only the maximum volume of water that can be supplied in each year, given available climatic and hydrological records, but says little about the relationship between yield and volumetric reliability.

Notwithstanding these concerns, CPM accepts that the reduction in yield of Awoonga Dam was an external event outside of GAWB’s control. GAWB should be permitted to recover the cost of its water storage infrastructure from the reduced yield, provided the raised Awoonga

Dam remains the least cost option of delivering this volume of water. The relevant 'demand' projection that should inform the QCA's pricing calculations is that which is limited to 78,000ML of supply each year. CPM returns to this issue below.

CPM would be concerned, however, were the QCA to use the lower 'interim' annual yield of 68,000ML. In our view this reduced yield is a temporary phenomena, no different to a drought situation where supply restrictions might need to be imposed and which reduces water consumption. GAWB would not be permitted to increase charges to water customers should supply be constrained due to drought, and nor should it be permitted to increase prices because of a transitory reduction in the yield of Awoonga Dam.

***Demand Projections and Least Cost Supply***

A fundamental objective of regulation is to ensure that customers pay no more than the least cost means of providing monopoly services. In its initial prices investigation the QCA devoted considerable effort to addressing the question of whether the augmentation of Awoonga Dam was the 'optimal' means of delivering additional water supply capacity.

The regulated price arrangements provide GAWB with a measure of certainty that it is able to recover from water users the costs of augmenting Awoonga Dam. However, this certainty should not be interpreted as a guarantee. Market situations may change over time and incumbent suppliers cannot be assured of recovering their costs no matter what changes occur. If there is to be no 'risk' to the supplier, then what is the purpose of the 'risk premium' embedded in the commercial return afforded them in regulated prices?

Circumstances in Gladstone have changed substantially since the last review, with regard to both water supply capacity and demand projections. The Authority must reconsider as part of this prices investigation whether the raised Awoonga Dam remains the optimal configuration of assets. GAWB's asset value for this price review should be subject to a full revaluation, including consideration to the optimal configuration of assets (refer Issues Paper request for comment 15). This is consistent with the Authority's observation that 'as competitive markets form the benchmark for efficient service delivery, regulatory asset values should reflect market developments'[1].

***Customer Demand Projections, Contractual Demand Volumes and Demand Management***

One of the tasks foreshadowed by the QCA issues paper is to re-establish a forecast of future customer water demand. CPM understands that the Authority intends to commission a separate study of water demand in the Gladstone/Calliope region, and would expect to be given the opportunity to review the methodology and findings of this work.

As CPM has submitted previously to the QCA, forecasting future demand for GAWB is quite uncertain, mostly because it requires a judgement to be made about the timing of certain industrial projects. CPM understands for instance that the QCA's previous water demand forecasts included a component for supply to future stages of the Comalco Alumina Refinery. Recent press reports have queried whether these future stages will proceed.

CPM would be concerned should the QCA reach a too-conservative position on future demand (implying that existing customers will carry a greater share of GAWB's costs), and also should it project overly-strong demand growth (implying the need to bring forward future capacity augmentation initiatives with attendant costs).

***Recognition to Contractual Volumes***

Although GAWB's existing industrial water users are generally reported as having quite stable demand, demand forecasts need to address possible differences between actual demand and contracted capacity. CPM understands that several of GAWB's major customers are using significantly less water than their contractual entitlement. GAWB may be required to make

[1] QCA. 2004. *General Pricing Principles for Infrastructure Investments made in Response to Extraordinary Circumstances: Draft for Comment*. March.

capacity available to that customer(s) which, depending on particular contractual arrangements, may not be reflected in the price paid by that user.

CPM submits that the regulator's pricing calculation must be based on the higher of contractual or actual volumes. If GAWB has a contractual requirement to provide capacity to a certain customer then the costs of doing so must not be carried by other users. This is no different from a situation of historically low prices that could be a part of some current contracts. It is noted CPM does not have access to any such arrangements but makes comment from a hypothetical viewpoint. CPM understands the Authority has accepted the primacy of these contracts in its past prices review, and ensured that any revenue shortfall was not transferred to other users. The QCA should continue to observe this principle.

***Incentives to Pursue Demand Management Options***

CPM is currently arranging for construction of a pipeline that will eliminate losses in Stag Creek from late 2005. Other GAWB customers, such as QAL, have also instituted significant demand management measures (refer Issues Paper request for comment 8).

If such cost-effective and socially responsible demand management initiatives are to continue to be identified and pursued, the Authority must ensure that customers have incentives to adopt them and to retain the benefits by banking etc to improve reliability, or to have the ability to sell back to GAWB (refer Issues Paper request for comment 9). Water users will be discouraged from reducing demand if water prices then rise commensurately to ensure the adequacy of GAWB's revenues. Savings from demand management should flow predominantly to customers.

This is analogous to the efficiency carryover mechanisms considered by the Authority. Incentives for demand management could be maintained for customers as efficiency incentives are maintained for regulated service providers.

***Drought Management Plan***

CPM understands that GAWB presently is reviewing its drought management plan. While the QCA does not have a direct role in approving this plan, CPM would be concerned were the Authority to remove itself entirely from considering the implications of GAWB's proposed drought management plan.

An efficient drought management plan should not apply restrictions equally across the customer base. It should consider the extent to which different customers can restrict their demand and the costs of doing so and apply restrictions with these in mind.

The drought management plan should be negotiated between GAWB and customers. The QCA must realise however that customers are at a disadvantage in this process as, just as for price setting, there is no 'alternative provider' of a drought management plan, and hence no competitive discipline on GAWB to accept users' proposals.

CPM submits that the Authority's role in this process should be to ensure its regulatory provisions do not preclude flexible, individually-targeted drought management provisions. The Authority's pricing recommendations should allow drought management practices to comply with individual customer needs. For example, they could accommodate trading of water allocations rather than the imposition of unsophisticated general restrictions on all consumption.

The QCA should also recognise that where the costs of supply curtailment are to fall disproportionately on certain customers (or customer groups), then recurrent pricing should be adjusted to reflect this. CPM has no definitive view on the involvement of QCA in issues such as the drought management plan and would seek opportunity to understand QCA's views during the process forward.

***Other matters***

***Augmentation Options***

CPM understands that Castle Hope dam is an option for GAWB's next supply augmentation. In considering this and other options, the Authority should consider the distribution of benefits that arise from them.

CPM is physically limited to supply from Awoonga Dam. If non-Awoonga options are pursued, CPM would not benefit from the 'diversification' of supply as would other users and the reliability of water supply to the Callide Power Project would therefore not be improved to the same extent. Dam-only customers should not have to pay proportionally for the costs of such augmentation where they do not receive proportional benefits.
Given the next augmentation is still some years away, and will likely be driven by a combination of supply capacity and reliability arguments, CPM's view is that GAWB should consider separate 'categories' of water supply. Some users may be prepared to accept a 'standard' water supply arrangement, with supply from Awoonga Dam only, whereas others may be prepared to pay for a 'premium' service where supply reliability is bolstered by an alternative supply source, whether Castle Hope dam or otherwise.

The Authority should found its prices on a default reliability standard, around which customers could then negotiate. Customers demanding higher reliability could pay a premium on the regulated price while customers willing to sacrifice reliability could realise savings on the regulated price.

CPM submits that the Authority should maintain a 'dam only' segment for price differentiation purposes. Any future augmentation costs should be included in dam only prices only to the extent that it brings benefits to these customers and these benefits are directly requested by users.

Regulatory pricing should also accommodate 'banking' of water entitlements. CPM has the capacity to store water in Callide Dam. This is useful for operational risk management (insuring against the risk of failure in supply infrastructure to the Callide Dam and also for managing inter-year variations in power station demand).

However, because Callide Dam is comparatively broad and shallow, evaporation losses from this storage are significantly higher than for Awoonga Dam. It would be more efficient for CPM to store water in Awoonga Dam, as property of CPM, until it is required. However, present contractual arrangements discriminate against this, especially because of the large take-or-pay component.

***Transparency***

CPM believes the Authority should release the financial model upon which its pricing decisions are based. It is in the interests of all parties – the service provider, customers, and regulator – to ensure quantitative analysis is robust. This can be achieved only by the transparent examination of financial modelling.

The release of financial models is standard practice for many regulators. The Australian Competition and Consumer Commission (ACCC), the Essential Services Commission (ESC) in Victoria and Ofwat in the UK all release their financial models.

***Planning Period***

CPM submits that the regulatory planning period should be truncated to the date of the next proposed augmentation or 5 years whichever is the shorter. As the Authority has recognised, forecasting of both demand and supply is already uncertain. CPM would be concerned were costs for the next augmentation included on the basis of uncertain future demand forecasts, and more so were this because of temporary limitations on the yield of Awoonga Dam. The Authority should truncate its planning period to limit this uncertainty as much as practicable.

***Further submission***

CPM understands that the Authority is currently reconsidering its approach to long run marginal cost estimation, the valuation of GAWB's asset base, and intends also to reassess the level of efficient operating costs. CPM will comment on these matters in due course.

Nothing in this submission is confidential.