



Gladstone Area Water Board

Response to Queensland Competition Authority Draft Report
Gladstone Area Water Board: 2007 Investigation of Contingent
Water Supply Strategy Pricing Practices Stage A

2 November 2007

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Glossary	
AHD	Australian Height Datum – survey reference to a level of height to a standard base level
CSS	Contingent Supply Strategy
DMP	GAWB's Drought Management Plan
DNRW	Department of Natural Resources and Water
GAWB	Gladstone Area Water Board
QCA	Queensland Competition Authority
SAMP	Strategic Asset Management Plan
SWP	Strategic Water Plan
WACC	Weighted Average Cost of Capital

1. EXECUTIVE SUMMARY

GAWB welcomes the QCA's conclusions that:

- 'A contingent supply strategy is a prudent response to the demand and supply risks facing GAWB' ;
- the assessment and threshold criteria applied by GAWB were generally reasonable given imminent risks;
- it is prudent for GAWB to continue working towards implementing the Fitzroy Pipeline option;
- GAWB should continue to conduct and promote work on other options including desalination; and
- prudent preparatory costs should not be optimised out of the asset base without compensation.

Further, GAWB notes and will use all reasonable endeavours to comply with QCA's recommendation that:

- arrangements should be in place to access a supply of water from the Fitzroy River by mid 2012 should they be required;
- the demand/supply situation be kept under active review, and
- the level of preparatory expenditure should be reconsidered if circumstances allow.

Given that the QCA's finding that a contingent supply strategy is prudent, and that GAWB should continue working towards implementing the Fitzroy Pipeline option, GAWB believes that the implementation of the Fitzroy Pipeline option may in fact be triggered by 'an unexpected event' or by 'unanticipated increases in demand'. The ultimate application of the contingent supply strategy, of course, is not presently capable of definitive forecast. Nonetheless, the Fitzroy Pipeline option provides present benefit by affording GAWB with flexibility as to how it responds to possible scenarios requiring augmentation resulting from a continuation of drought conditions and/or substantial increases in demand.

GAWB does not share the QCA's concern that GAWB's preference for the Fitzroy Pipeline 'may be biased by the relative level of effort directed to it'. The level of effort directed to the Fitzroy Pipeline option came about, as the product of two rigorous commercial selection processes, in which the Fitzroy Pipeline emerged from both processes as the lowest cost solution available within the necessary timeframe. The selection of the Fitzroy option is consistent with GAWB's Strategic Water Plan and has the unambiguous and public support of the State Government.

It was only once the Fitzroy option passed all of these tests, that GAWB commenced the expenditure of substantial funds on the Fitzroy option. GAWB has, however, set aside funds for the continued investigation of desalination options to better refine cost and construction time estimates, and to develop a solution to small increases in demand above GAWB's allocation limit in circumstances where there is adequate storage in Awoonga Dam.

The very essence of the CSS is to delay commitment to Lower Fitzroy Option (or any other solution) as late as possible. Accordingly, the undertaking of the preparatory expenditure should not be interpreted as "locking" GAWB into the Lower Fitzroy Option. GAWB is committed to pursuing the most appropriate supply (or demand management) solution given the specific circumstances existing at the time a decision is required. Details of the trigger process will be provided in GAWB's Part (b) submission.

The prudent preparatory costs in this case, represent a comparatively small expenditure, when compared to the cost of implementing any one of the contingent solutions that are available to GAWB. By undertaking that work, the period for implementing a contingent supply solution is shortened from a minimum of 60 months, to 24 months. As a result, expenditure is delayed to the latest prudent time, and this in turn creates the opportunity for sufficient inflows to occur through three wet seasons or demand management solutions to be put in place, to avert or further defer the need for augmentation. Thus, the incurring of preparatory expenditure now, provides an immediate benefit to GAWB's existing customers.

For that reason, GAWB does not believe that prudent preparatory costs should be capitalised and included in the asset based upon commissioning of the infrastructure. They will be of value whether or not the infrastructure is ever committed and should not be treated as the first stage in an inevitable construction process. These costs should be recovered in prices from 2010/11.

2. BACKGROUND

2.1 Introduction

Gladstone Area Water Board ('GAWB') proposes to undertake preparatory expenditure associated with the investigation of a contingent water supply.

GAWB made a submission to the QCA on 26 March 2007 (**Original Submission**). Interested parties were invited to make submissions in response to the Original Submission. GAWB responded to these stakeholder submissions¹ in its further submission of 20 July 2007 ('the **Further Submission**')² to the QCA.

The QCA released its draft report in response to the GAWB Original Submission, stakeholder submissions and the Further Submission on 5 October 2007³ ('**QCA Draft Report**').

The purpose of this submission is to respond to the QCA Draft Report, and to address issues raised by the QCA.

2.2 Terms of Reference

Part (a) of the Ministerial Referral Notice request the QCA to examine the prudence, level of efficient costs, timing of expenditure and means of cost recovery for the contingent supply strategy included in GAWB's strategic water plan.

3. THE CONTINGENT SUPPLY STRATEGY

3.1 Outline of the strategy

The contingent supply strategy ('CSS') involves GAWB identifying likely causes for supply failure and having ready a supply solution capable of implementation within a definite timeframe. GAWB's broad strategy is to enable it to respond within a short time frame to defined supply or demand contingent circumstances.

¹ Stakeholder submissions were made by: Queensland Alumina Limited; Rio Tinto Aluminium; Callide Power Management; Gladstone Pacific Nickel; CS Energy; Calliope Shire Council; Gladstone Economic and Industry Development Board.

² GAWB *Further Submission to the Queensland Competition Authority: Fitzroy River Contingency Infrastructure – Response to Stakeholder Submissions* (20 July 2007) ('**Further Submission**')

³ QCA Draft Report *Gladstone Area Water Board: 2007 Investigation of Contingent Water Supply Strategy Pricing Practices Stage A* (5 October 2007) ('**QCA Draft Report**')

Gladstone Area Water Board response to draft QCA report

3.2 Strategy applies to drought and demand led scenarios

GAWB maintains that the CSS is relevant and will produce lower cost outcomes for both drought and demand led augmentation. In the case of demand led augmentation, the additional time afforded by the completion of the preliminary work creates the opportunity to identify efficiencies.

3.3 Implementation of the strategy will change over time

The means by which the CSS is executed will vary over time. In the present circumstances the application of the CSS requires GAWB to undertake preparatory works so that it can access a supply of highly reliable water from the lower Fitzroy River of up to 30,000ML pa within a 24 month timeframe. This is not intended to represent the definitive application of the CSS. Instead, it represents a *present* application, of the CSS having regard to the present circumstances.

3.4 Effect of preparatory works

As a consequence of these preparatory works, the lead time for the construction of the relevant infrastructure can be deferred until as close as is considered prudent to the time that the additional supply is required. The QCA recognises that the CSS, which "*... defers significant capital expenditure should be more cost-effective than maintaining a substantial buffer or capacity cushion...*"⁴.

The QCA considers that a CSS

*"... is appropriate as it enables GAWB to be prepared to implement a supply solution within a 2-year period, and before the Awoonga Dam would fail. By deferring the actual augmentation as late as practical, the contingent supply strategy should result in a more cost effective response..."*⁵.

GAWB agrees with the QCA's analysis. GAWB further submits that by delaying the commencement of work on implementation of physical works until the latest date possible, the preparatory expenditure has value to both existing and possible future customers of GAWB.

⁴ QCA Draft Report at p 27

⁵ QCA Draft Report at p 28

4. THE SELECTION OF THE PREFERRED CONTINGENT SOURCE

4.1 Submission

GAWB submits that the process that it used to identify the Lower Fitzroy Option as the appropriate contingent source was reasonable.

4.2 Base and alternative cases

The preparatory expenditure proposed by GAWB in its Original Submissions had two components:

- (a) A 'base case' known as the Lower Fitzroy Option;
- (b) An alternate case (should the base case prove uneconomic, or otherwise unfeasible), which centres on desalination.

Monies have been set aside for investigation of both options, though most of the funds have been set aside for the base case investigation.

4.3 2002 works

The base case was originally identified as a result of some preliminary work undertaken in 2002 and then confirmed as the preferred option a result of the exhaustive process which was undertaken subsequent to the QCA 2004 investigation. Details of the process by which the base case option and alternate case option were selected are set out at pp 80-88 of the Original Submission.

4.4 Developing the SWP

In November 2004, after more than 12 months of studies and consultation with customers and other stakeholders, GAWB released its Strategic Water Plan ('SWP') setting out a preferred infrastructure response to growth in water demands, and potential future droughts.⁶

This involved a two step process: the establishment of threshold criteria; and the selection of leading options having regard to specific criteria.

The QCA in its Draft Report notes that in selecting a preferred option to ensure the continued supply of water under the SWP, GAWB

⁶ GAWB Original Submission at p 13

"... applied a key threshold criterion requiring that the contingent supply strategy has the ability to provide water within two years of construction being commenced. The bases for this criterion were that:

- *a two-year period is the likely procurement, construction and commissioning period for various options; and*
- *GAWB and its customers can be confident that the source can be delivered on time, with critical path items being resolved such as land acquisition and approvals..."⁷*

4.5 Threshold criteria

The *"...SWP considered 13 options for the next supply source. Of these 13 options, nine passed the threshold criteria..."⁸*. Two of these options were the Fitzroy River Pipeline and the construction of a large desalination plant:

The preferred option identified was sourcing water from the Lower Fitzroy River by pipeline due to its cost, timing and prior investigations.

The QCA acknowledges that

"... GAWB's evaluation framework was reasonable at the time of the SWP to narrow down the plausible range of options, with the criteria and weightings for the MCA established on the basis of a customer survey..."⁹,

GAWB considers that its evaluation and analysis provided the best case results from which further investigations could proceed.

4.6 Stage 1 process

GAWB then embarked on a project to investigate the construction of a pipeline to the lower Fitzroy River, and completed Stage 1 of this process - namely project scoping, route assessment and preliminary design.

4.7 State Government confirmation

Through the release of the Central Queensland Regional Water Supply Strategy in December 2006 the State Government confirmed the need for, and timing of, the development of new storage infrastructure on the lower Fitzroy River to generate approximately 80,000ML of 'high priority' water allocations. This strategy explicitly

⁷ GAWB Original Submission at p 29

⁸ GAWB Original Submission at p 7

⁹ QCA Draft Report at p 30

recognised GAWB's requirements, expressly reserving 30,000ML pa of this additional supply to GAWB for urban and industrial purposes.¹⁰

GAWB commenced the preparatory work for the Lower Fitzroy Option (Stage 2) in November 2006.

4.8 Re-evaluation

GAWB commenced Stage 2 preparatory work prior to having regulatory certainty around its abilities to incorporate the associated expenditures into its regulatory asset base, cognisant of the rapidly diminishing storage in Awoonga Dam and in light of reasonably likely emergent demand.

Prior to doing so, GAWB had

"... re-evaluated the SWP supply options retaining the same evaluation weightings but with minor changes to the threshold criteria to reflect requirements of the contingent source strategy."

That re-evaluation confirmed that a supply from the Fitzroy River remains the least cost option consistent with obtaining necessary supply characteristics, that is, supply is likely to be available (with reasonable certainty over costs) within 24 months. The second best option is construction of a desalination plant in the Gladstone region.

GAWB is committed to continuing its investigations into both base and alternate case options, and plans to spend in the order of \$1m to assess the feasibility of a local desalination plant and provide a more detailed assessment of likely costs associated with its construction and implementation.¹¹

4.9 The preferred option

GAWB notes that the Lower Fitzroy Option:

- (a) represents the "least cost" supply augmentation option to its customers based upon all the information available to it; and

¹⁰ GAWB Original Submissions at pp 50-52

¹¹ GAWB Original Submission at pp vii & 8

- (b) is aligned with announced State Government policy, with GAWB being confirmed as the designated proponent for the Fitzroy River Pipeline, as part of the Government's Statewide Water Policy.¹²

The processes adopted by GAWB produced a base and an alternate case scenario. These two alternate cases represent the current implementation of the CSS. Also, GAWB has set aside funds for the investigation of a desalination option, in parallel with the continued development of the Lower Fitzroy Option.

4.10 Findings in draft report

GAWB in its Original Submission noted that

"...Due to the high cost associated with undertaking detailed planning, it is not an efficient expenditure for all options to be fully considered. Effective decision making requires the identification, albeit upon reasonable and transparent grounds, of those options that justify further examination. To do otherwise results in inefficiencies in terms of both time and expenditure..."¹³.

The QCA notes that it

"...has concerns that GAWB's preference for the Fitzroy River Pipeline may be biased by the relative level of effort directed to it as opposed to other options – particularly desalination..."¹⁴.

GAWB, however, submits that 'bias' should fairly be considered an inappropriate term in this case. It has developed a base case and alternate case scenario, in circumstances where it has sought to make use of the results of processes undertaken in 2002 and 2004. It consulted widely, in the development of its Strategic Water Plan and selected a preferred option which has the unambiguous and public support of Government.

5. THE PRUDENCE OF THE CSS

5.1 Introduction

The CSS is a risk based strategy that seeks to employ an appropriate "risk treatment" as "late as is safe". The application of the CSS in the present circumstances required GAWB to be able to implement a 24 month build decision, mid to late next year in response to a drought based supply risk. If GAWB has good inflows in the 2007/08 wet season, such that that the level of storage in Awoonga Dam does not trigger augmentation

¹² GAWB Further Submissions at p 6.

¹³ GAWB Original Submission at p 81

¹⁴ QCA Draft Report at p. vii and at p 10

following the conclusion of the wet season, this will still facilitate an “as late as is safe” response into the future in response to both a continuation of drought and/or a *possible* spike in demand around the middle of 2011 (requiring the commencement of construction by mid to late 2009).

The Fitzroy Pipeline option is, in GAWB’s assessment, the least cost response to the most likely scenarios requiring the commencement of augmentation within the next 24 months.

Accordingly, before the application of the CSS to any particular set of circumstances, GAWB’s Part (b) submission will detail ex-ante approvals processes before investment proceeds. This is intended to demonstrate the basis upon which the preferred option is to be established as appropriate for the actual circumstances that have presented themselves requiring augmentation. This may result in augmentation of the total 30,000ML pa capacity either at the one time, or by increment, depending upon the actual (and ultimate) circumstances of the “trigger”. The circumstances that will ultimately “trigger” investment are presently only capable of speculation, not capable of definitive forecast.

5.2 History of overestimating demand

The QCA notes that:

“... GAWB has identified the key risks which warrant a strategic response and associated preparatory expenditure as being related to changes in demand, hydrology and drought. The Authority notes that historically, GAWB's estimates of prospective demand for water from new projects have generally proven excessive. A range of demand scenarios has therefore, been considered in assessing the prudence of response strategies...”¹⁵.

GAWB acknowledges the approach of the QCA

“... has not sought to assign any level of probability to each of the demand scenarios identified but, on the basis of historical precedent considers that high demand scenarios are less likely...”¹⁶.

The QCA is critical of GAWB not having undertaken a detailed analysis of likely future demand from exiting customers or for not having sought independent assessment of

¹⁵ QCA Draft Report at p 10

¹⁶ QCA Draft Report at p 15

future demand including a price sensitivity analysis as part of its submissions on Part (a) of the Referral Notice.¹⁷

GAWB's interpretation of Part (a) of the Referral Notice did not require it to adopt the approach promulgated by the QCA. For purposes related to an assessment of the prudence of undertaking preparatory expenditure, GAWB has concerns about the reliability of specific forecasts of its demand for the next 20 years that are predicated upon the interaction of multiple assumptions.

GAWB believed that such an approach was not helpful. Instead, GAWB sought to demonstrate that there was a *reasonable basis* to conclude that a demand spike is possible in the *near future*, such to warrant the development (and holding) of a capacity to respond should that specific scenario eventuate.

Of course in different circumstances, such as a price reset investigation, GAWB acknowledges that the production of a single forecast demand is necessary for the proper functioning of the review and will exercise its best endeavours to bring certainty to this inherently difficult topic.

For clarity, the information supplied from Gladstone Economic and Industry Development Board¹⁸ in conjunction with existing demand provides (in GAWB's view) a reasonable basis to conclude that the demand spike scenario is possible. Having regard to the consequences of a failure, basic risk management principles dictate the development of a response or treatment.

To this end, the upper bound demand estimate is properly interpreted not as likely or forecast demand but as a possible demand scenario that would result in supply failure to which the CSS could respond in an efficient manner.

It is pertinent to observe that it is contrary to GAWB's commercial interests in its present regulatory framework to over forecast demand as this will reduce unit price with GAWB bearing the shortfall in revenue.

¹⁷ QCA Draft Report at p 15

¹⁸ (an authority controlled by Department of Infrastructure and Planning that controls the *Gladstone State Development Area*)

5.3 Failure to take action on supply restrictions

The QCA notes that it

"... considers that supply restrictions under the DMP which reduce consumption by only 10% over a 3.5 year period appear to be too conservative and that a progression to a higher level of restrictions would help to prolong supplies..."¹⁹.

GAWB notes the review of the lessons it learnt from the drought that led it to impose restrictions upon customers in 2002/03 that are contained in its Original Submission.²⁰ This experience has been of critical importance in the subsequent development of GAWB's approach to these matters. Respectfully, limited recognition would seem to have been afforded by the QCA to GAWB's experience in these matters, especially its recognition of the lasting impact of the earlier imposition of restrictions upon its customers.

As a water authority, GAWB has developed a number of initiatives to assist in the curtailment of demand. It has recently announced the *"Low Storage Alert"* to customers, pursuant to the terms of its Drought Management Plan ('DMP'), encouraging voluntary demand management strategies be implemented. This alert is issued on the basis that the hydrological model that is detailed in the DMP, that uses inflow assumptions consistent with the sequence of the last 3 years, indicates that Awoonga Dam is less than 5 years from supply failure. GAWB's DMP is registered with the Department of Natural Resources and Water.²¹

For clarity, the operation of this hydrological model is not intended to represent GAWB's prediction of the future, but rather to act as a platform upon which prudent responses can be developed as circumstances actually develop. GAWB is presently considering the introduction of a curtailment policy by which it may buy back water during a Low Storage Alert as a substitute to restrictions.

The notification to customers of the *"Low Storage Alert"* to curtail water usage is an integral part of delaying the impact of drought. The DMP implemented by GAWB sets out a restriction regime which contains a three stage process.

¹⁹ QCA Draft Report at p 27

²⁰ at pp 29-31

²¹ Pursuant to section 429H of the *Water Act (2000)*.

However, GAWB ultimately considers that the availability and efficacy of curtailment measures and supply restrictions, while of some overall relevance, is more pertinent to a decision to implement the contingent source strategy than it is to the prudence of that strategy as curtailment is likely at best to delay implementation.

5.4 Demand management/on-site supply options

The QCA notes in its Draft Report that

"...GAWB's concerns that it does not control its customers' investment decisions is not a sufficient reason to eliminate such large scale demand management options from further consideration, as any arrangements could forestall expensive augmentations and, if implemented unilaterally by customers, would impact on forecast demand...."

Furthermore, the QCA considers that *"...GAWB could negotiate contractual terms in regard to the operation of such arrangements..."*²². However, the QCA accepts that *"...such strategies do not diversify sources... they do reduce demand which reduces the need for new and diverse sources..."*²³.

The QCA notes that

*"...Demand management and on-site alternative supplies such as air cooling and sea water cooling can be implemented relatively quickly and may involve smaller incremental capital costs than supply buffers or contingent supplies. They could provide sufficient time to forestall expenditure which may become unnecessary should the drought conditions ease..."*²⁴.

Whilst GAWB acknowledges the QCA's comments, it believes that these are all matters that go to the prudent timing of augmentation, which is the subject of Part (b) submission. GAWB had interpreted the Part (a) submission of the Referral Notice as limited to the prudence of undertaking preparatory expenditures, the timing of preparatory expenditures and the selection of the Lower Fitzroy as the CSS.

Nevertheless, given these comments, it should be noted that upon the occurrence of an apparent trigger point, GAWB's intention has been to test whether augmentation is necessary, with potential to permit customers to reduce contracted demand without penalty. As part of this process, GAWB will also provide customers with the opportunity

²² QCA Draft Report at p 26

²³ QCA Draft Report at p 26

²⁴ QCA Draft Report at p 27

to propose commercial arrangements by which GAWB can invest in demand side management strategies (such as the installation of air cooling for the power stations).²⁵

GAWB submits, however, that until such time as it is able to provide customers with relatively certain indicative prices for its preferred supply augmentation option, there is no benchmark against which commercial arrangements for demand reductions options can be assessed to determine the optimal economic outcome for customers.

GAWB acknowledges the comments made by the QCA in relation to demand-side measures, and recognises the potential for demand-side measures to defer, or perhaps avoid, augmentation, but submits that a proper evaluation of demand side measures should be undertaken in the context of a broader cost benefit analysis.

Ultimately, GAWB believes that it should be disinterested as to how a customer can achieve its water savings, directing its attention solely towards the commercial arrangements that are proposed to assess the optimal economic outcome for customers. That is, from the point of view of *economic* regulation, it is for its customers to manage their demand once price signals become apparent.

Accordingly, GAWB's intention has been to address the timing issues for augmentation, particularly those relating to deferral of augmentation through demand and other measures, as part of its Part (b) submission.

GAWB in its Further Submission to the QCA notes that

"...demand-side measures, such as funding or contributing to converting power stations to air cooling, provide no diversification benefits such as can be achieved by sourcing additional water from a different catchment..."²⁶ .

Furthermore, the QCA notes that GAWB in its Further Submission stated that

"... it was concerned that it could not control the outcomes of demand management strategies, and that there was uncertainty about the longevity of the benefits as the power stations are likely to have lives substantially less than the Fitzroy infrastructure..."²⁷ .

²⁵ Again, more detailed submissions have been proposed to be made by GAWB in relation to the appropriate form of analysis of such proposals to determine the optimal economic outcome to existing and future customer, as part of GAWB's submissions in Part (b) of the Referral Notice.

²⁶ QCA Draft Report at p 23

²⁷ QCA Draft Report at p 23

GAWB continues to have concerns regarding the possible investment in infrastructure located on premises over which GAWB has no direct control. Again, GAWB considers that whilst this option may be considered in order to delay the need for further infrastructure development, it does not eliminate the need for infrastructure development all together.

As opposed to GAWB undertaking additional works upon investments to reduce the water consumption of some customers (at a cost to all customers), it advocates an alternative approach to deliver the same objective – specifically a regime by which GAWB can assess commercial arrangements that may be proposed, to determine the optimal economic outcome for all customers that are consistent with GAWB’s commercial framework.

5.5 Trading

The QCA comments that

“...secondary trading has not occurred, potentially because customers do not hold separately transferable entitlements and trading must occur through GAWB...”²⁸.

In fact, at present there is no mandatory requirement for trading to occur through GAWB. This is merely one option presented under GAWB’s standard terms and conditions of supply. From an exclusively practical perspective, GAWB needs to know how much water it is to deliver to each customer and must ensure that it holds adequate transportation capacity to meet these demands.

The QCA in its Draft Report

“...considers that GAWB could do more to encourage customers to consider trading, particularly to offset the costs of on-site demand management strategies...”²⁹.

There are a variety of reasons why no secondary trading has occurred (to GAWB’s knowledge). In GAWB’s view, the particular physical circumstances of the Gladstone market would seem a prime reason. In any event, GAWB respectfully submits that, the QCA’s comment would seem outside the scope of Part (a) of the Referral Notice.

²⁸ QCA Draft Report at p 26

²⁹ QCA Draft Report at p 26

5.6 Demonstrating customer support

The QCA in its Draft Report comments that there is a need for GAWB to

"... demonstrate that there is a significant level of customer support for its proposed contingent supply strategy, once customers have been made aware of the full pricing implications of the contingent supply strategy..."³⁰.

GAWB in its Original Submission outlined the process of consultation in developing the SWP, and the close contact with its customers and key stakeholders. GAWB stated that

"...The SWP was developed with a clear and transparent consultation process with key stakeholders, including customers ... Individual customer meetings were held throughout the process, along with various workshops and presentations on the plan and the emerging strategy and options. Briefings were also held with all customers on various occasions to update on progress and discuss issues and processes for moving forward to complete the strategy.

All customers were asked to comment upon their views on water supply risk, project evaluation criteria and various weightings adopted to assess various options via a formal survey... A copy of the final SWP was sent to all GAWB customers in November 2004 and was made available publicly upon request to GAWB..."³¹

GAWB has been in close contact with its customers in relation to the development of the CSS, and considers it has appropriate support from its customers. Indeed in its Further Submission to the QCA, GAWB noted that RTA stated that it is

"...a strong supporter of GAWB's plan to develop a contingent water supply from the Fitzroy River..." and it "...continues to support GAWB's efforts to develop the contingent source supply from the Fitzroy River including the need for preparatory expenditure..."³².

For absolute clarity, GAWB would not propose to undertake any form of substantial investment (such as the investment associated with supply augmentation) without having its right to generate income to service its operations secured by long term supply agreements with its customers. GAWB had understood this proposition to be implicit, given its commercialised charter; however it accepts that it was not expressly stated in its Original Submissions. This process will necessarily involve customer consultation and negotiation.

³⁰ QCA Draft Report at p 32

³¹ GAWB Original Submission at p48

³² GAWB Further Submission at p 8

5.7 Further investigation of hydrological risks associated with Fitzroy

GAWB noted in its Further Submission to the QCA that it and its customers currently rely on the 770,000ML capacity Awoonga Dam, which is owned by GAWB, as the sole source of water. GAWB considers that access to different catchments will improve the overall hydrology risk, particularly to one of the largest catchments in Australia.³³

The QCA notes that

*"... the Fitzroy catchment benefits from frequent regular inflows to fill small storages on a continual basis, while the Awoonga Dam relies on less frequent major inflows. While the Authority accepts that there is some degree of diversification achievable by sourcing water from the Fitzroy, the risks of changes in hydrology (ie HNFY) would seem to be broadly similar in the adjacent catchments..."*³⁴

GAWB noted in its Original Submission that following the raising of Awoonga Dam to 40m AHD in order to provide more storage capacity for times of drought, in June 2002, the dam has not topped the 40m AHD mark. In March 2004, Awoonga Dam peaked at 36.94m AHD (587,540ML) or 75% of its full storage capacity, and since then, inflows into the dam have been worse than any three-year series recorded to date. In early July 2007, Awoonga Dam was storing approximately 37% capacity – some 290,000ML.³⁵

The QCA noted that it *"...considers that GAWB should further investigate the hydrological risks of the Fitzroy, particularly in regard to the impacts of climate change..."*³⁶.

GAWB acknowledges the QCA's suggestion. In addition to supporting the work of the Department of Natural Resources and Water, that has board legislated responsibility for such matters, GAWB is continuing with its own hydrological studies that are part of its preparatory expenditure.

GAWB would also, however, seek to emphasise the significance of the magnitude of the flow of the Fitzroy River and also the geographic diversity of the Fitzroy Catchment, to any further considerations of this issue by the QCA.³⁷

³³ GAWB Further Submission at p 8

³⁴ QCA Draft Report at p 37

³⁵ GAWB Further Submission at p 8

³⁶ QCA Draft Report at p 37

³⁷ GAWB Original Submissions at pp 90 91

5.8 Investigation of other options

The QCA states in its Draft Report that it

*"... considers that, under the worst case scenario postulated by GAWB (the average of the 3 consecutive worst inflows), there is sufficient time to undertake further investigations of potentially available options..."*³⁸

GAWB acknowledges and agrees with the QCA's suggestion, but notes that GAWB has now issued a Low Supply Alert Notice to its customers pursuant to the terms of its DMP. As a result, the time available to conduct further investigations is limited.

In that case, GAWB notes below the status of further investigations:

(a) Desalination

GAWB seeks to spend in the order of \$1m to assess the feasibility of a local desalination plant, which was rated clearly below the Lower Fitzroy Option in GAWB's SWP in November 2004, and remains below upon current assessments for the most likely trigger for augmentation in the short term. The \$1m expenditure is intended to: better refine (both) construction cost and time estimates; whole of life operational cost estimates; and to develop a solution to small increases in demand above allocation limit in circumstances where there is adequate storage in Awoonga Dam. Moreover it will improve GAWB's knowledge of the possible environmental impacts of desalination to the region as well as the estimated cost of any increased carbon emission "off sets".

The QCA notes the cost escalation of the desalination plant to \$338m, which the QCA states is a mid-point estimate. However, GAWB notes that the midpoint of a range was chosen for comparison purposes, but that range was at the low end of the likely overall range due to the underpinning assumptions. That is favourable assumptions were made as to distance to intake point, off take point, environmental license conditions and associated infrastructure such as electricity. GAWB intentionally made assumptions for comparison purposes to ensure that the estimate would not be artificially inflated, choosing instead to reflect the risk this presented as a qualitative measure (in the 'risk to cost' criteria). Accordingly, the cost of desalination is likely to increase further than the "mid-point" suggested by the QCA.

³⁸ QCA Draft Report at p 10

(b) Air and sea water cooling

The QCA notes that there is also the need to "...continue the evaluation of air and sea water cooling...".³⁹ The QCA in its Draft Report has concluded that "... air cooling appears capable of earlier implementation than the pipeline and, as such, seems to be an insurance against further deterioration of the drought while other alternative supply options, particularly desalination, are refined...".⁴⁰

This was supported by the QCA's analysis based on an assumed cost of \$50M, to achieve a reduction to demand of 20GL/annum. The QCA also assumed that dry cooling could be delivered within a 12 month timeframe, and claims that from its own analysis, a 20GL saving due to dry cooling, employed earlier would result in comparable results to implementing a 30GL source augmentation, one year later.

GAWB, in collaboration with CS Energy and Callide Power Management, jointly funded a study as to the feasibility in retrofitting Callide Power Stations B and C for air cooling. GAWB's assessment of the finding of this report leads it to have substantial reservations as to its ability to deliver the quantum of water savings over the timeframes suggested by the QCA.

In any event, GAWB in its Original Submission stated that it

"...intends to continue to progress discussions with the owners of both power stations at appropriate intervals to assess whether a mutually beneficial proposal may exist, and if so, how it could be established with the high level of certainty required..."

Accordingly, GAWB will encourage both CS Energy and Callide Power Management to submit firm commercial proposals prior to the decision point for the Lower Fitzroy Option, to enable a full cost benefit analysis to be performed.

GAWB's initial assessment is that the result of any such proposal is likely to be a reduction in water costs to the owners of the power stations but increased in costs for remaining users. As noted previously, GAWB will welcome QCA's guidance on the transfer of value that is likely to accrue to the power stations from this proposal, when it seeks to deal with this issue as part of its submissions on Part (b) of the Referral Notice.

³⁹ QCA Draft Report at p 37

⁴⁰ QCA Draft Report at p 37

Finally, GAWB notes that air cooling is supply-substitution. As such, air cooling is relevant to deferring (and possibly avoiding) augmentation, clearly with potentially significant benefits. The assessment of these benefits, and hence the scope to fund customer initiatives, is a matter that will be addressed in GAWB's submission to Part (b) as it goes to the prudent triggering of augmentation. (See earlier discussion at paragraph 5.4)

In any event GAWB supports and agrees with the QCA finding that

"...it is prudent to continue working towards implementing the Fitzroy Pipeline option, to manage the risk of zero or minimal inflows over the coming wet season. In addition, effort should also be directed towards other options such as desalination, air and sea water cooling and alternative supply restrictions in the event that inflows are sufficient to provide the necessary window for more comprehensive analysis of these options. At the same time, the demand/supply situation should be kept under active review and the level of preparatory expenditure on the Fitzroy Pipeline should be reconsidered if circumstances allow for more time..."⁴¹.

5.9 Making cost estimates public

The QCA comments that

"... GAWB prepared more detailed updates of the cost estimates for the Fitzroy Pipeline compared to the other options including desalination and air-cooling of power stations. The significance of the changes in costs and project specification warrant a more comprehensive re-visiting of the economic analysis than that provided by GAWB..."⁴².

The QCA also notes that it considers *"...GAWB's evaluation should provide indicative pricing implications for the alternative options based on alternative demand scenarios..."⁴³*. The QCA considers that this would

"...provide the relevant information to all parties to enable comparison of the financial risks of the alternative contingent supply strategies and confirmation of the preferred option...."⁴⁴.

GAWB proposes to publish indicative prices by which comparisons can be made to desalination, in the near future and to issue further information as certainty around its price estimates continues to be developed.

⁴¹ QCA Draft Report at p 39

⁴² QCA Draft Report at p 38

⁴³ QCA Draft Report at p 32

⁴⁴ QCA Draft Report at p 32

In relation to the price impacts of possible commercial arrangements with present customers associated with demand reductions strategies, it will not be possible to release such estimates until such time as a commercial offering is made to GAWB that is capable of public release.

6. PREPARATORY EXPENDITURE

6.1 Introduction

The QCA in its Draft Report notes that

"...GAWB proposed to incur preparatory costs from 2007 to enable it to trigger supply augmentation, if needed, no later than April 2008. In this regard, GAWB has already incurred \$2.9 million (2006-07 dollars) on initial project management, approvals, consultation and engineering investigations. The remaining preparatory expenditure of \$20.9 million, on the various items identified above, and a further \$1 million on a desalination feasibility study, is proposed to be spent in 2007-08..."⁴⁵

GAWB notes that the purpose of preparatory expenditure is to keep its options open, so that it is not 'locked into' the Lower Fitzroy Option. Indeed the purpose of the preparatory expenditure is to delay commitment to Lower Fitzroy Option (or any other solution) as late as possible. GAWB is committed to pursuing the most appropriate supply (or demand management) solution given the specific circumstances existing at the time a decision is required.

The appropriate supply solution to be pursued by GAWB will depend on many factors including, whether augmentation is required for drought or additional demand, demand forecast, estimated electricity pool price (affecting everything from relative operating costs of desalination and pipelines to the cost of impaired performance for air-cooled power stations) and updated capital costs of various options. The most important element, however, is that prudent expenditure would establish an option that is capable of being implemented at short notice.

6.2 High probability of project commencement

The QCA states that it

⁴⁵ QCA Draft Report at p 47

*"... would be reasonable and appropriate for preparatory works to be completed for a project with a high probability of commencement in the next few years- (emphasis added)..."*⁴⁶.

GAWB notes that it has issued a Low Supply Alert to its customers and considers that there is a high probability of commencement of construction in the next few years.

GAWB notes the QCA's comment that

*"...On the basis of the advice from Cardno, and the above criteria, additional operational expenditures such as project management, approvals, consultation and communication, engineering and investigations and land acquisition incurred either before or after June 2007 are considered appropriate where they relate to the relevant contingent supply strategy..."*⁴⁷.

GAWB considers that the preparatory expenditure relates to its contingent supply strategy and acknowledges QCA's comments in this regard.

6.3 Deferral of asset creation expenditure

GAWB submits that asset creation expenditure, which it can demonstrate is necessary to ensure delivery of the contingent solution if required by 2010 should be approved.

The QCA states that

*"...Expenditure on highly specific assets which it is not possible to resell at or near purchase price would remain at GAWB's risk until a decision is made on the preferred contingent supply strategy..."*⁴⁸.

GAWB submits that in order for it to be in a position to implement the CSS, it would need to commence acquiring assets which will directly benefit the efficient construction of any option. GAWB notes the QCA's comments that

*"...As a general principle, preparatory expenditures should be completed in sufficient time to eliminate the risk of not being able to commence the contingent supply response when required. Some preparatory cost items may be deferrable, while other items will define the critical time path..."*⁴⁹.

GAWB submits that expenditure on highly specific assets may well redefine the critical time path and, as such, should be permitted.

⁴⁶ QCA Draft Report at p 43

⁴⁷ QCA Draft Report at p 44

⁴⁸ QCA Draft Report at p 44

⁴⁹ QCA Draft Report at p 48

6.4 Allowing for two trigger points

The QCA notes that

*"...GAWB has proposed, under its DMP, a low supply alert would be triggered 5 years before anticipated supply failure, based on the assumption that average inflows over the 5 year period would be equivalent to the average of the worst 3 consecutive years of rainfall. A low supply alert would be in place for 1 year, and if inflows have subsequently not recovered, restrictions of 10% of contracted demand would then apply to all customers..."*⁵⁰

GAWB notes that this Low Supply Alert has been triggered and that GAWB has notified its customers accordingly. GAWB will consider the trigger points in more detail in its Part (b) submission.

6.5 Treatment of preparatory expenditure

The QCA considers that

*"...it is prudent to continue working towards implementing the Fitzroy Pipeline option to manage the risk of zero or minimal inflows over the coming wet season. In addition, effort should also be directed towards other options such as desalination, air and sea water cooling and alternative supply restrictions in the event that inflows are sufficient to provide the necessary window for more comprehensive analysis of these options..."*⁵¹

However, the QCA considers that the prudent preparatory costs should be

*"... treated as work in progress and capitalised forward for inclusion in the asset base upon commissioning of the infrastructure. The appropriate WACC rate for capitalising the preparatory costs should be that applicable in each regulatory period..."*⁵²

GAWB does not support this approach. The work done on a CSS has an immediate benefit for existing customers, as it defers the need for early major expenditure in response to a contingency. As a result, by spending a comparatively small amount now, work is deferred on a response to a contingency to as late as is prudently possible.

GAWB submits that in those circumstances existing customers benefit from the expenditure regardless of the timing of occurrence of the contingency. For example, the preparatory expenditure in this case will reduce the lead time for the Lower Fitzroy Option from 60 months to 24 months. This enables GAWB and its customers to wait

⁵⁰ QCA Draft Report at p 4

⁵¹ QCA Draft Report at p 10

⁵² QCA Draft Report at p 51

through an additional wet season to see if inflows avoid the need for augmentation. The expenditure is in effect an insurance policy and should not be treated as the first stage in an inevitable construction process. Accordingly, GAWB submits that these costs should be recovered in prices from 2010/11.

6.6 Delivery of detailed execution strategy

GAWB acknowledges QCA's comments and advises that it intends to publish a detailed execution strategy in its current program of work.