



28 July 2005

Inquiry into the Cost of Supplying Bulk Potable Water to Kalgoorlie- Boulder
Economic Regulation Authority
Level 6 Governor Stirling Tower
197 St Georges Terrace
Perth WA 6000

Dear Sirs,

Re: Response to Draft Report- Bulk Water Supply to Kalgoorlie-Boulder

ANZ Infrastructure Services Limited is pleased to make this submission in response to the invitation by the Economic Regulation Authority ("ERA") in its Draft Report on the Inquiry into the Cost of Supplying Bulk Potable Water to Kalgoorlie-Boulder.

1) ANZ Infrastructure Services ("ANZIS")

ANZIS is a specialist financial advisory and investment management company within ANZ Investment Bank, a division of the Australia and New Zealand Banking Group Limited and manages the Energy Infrastructure Trust ("EIT"). EIT is a 50% investor in the Esperance Energy Project ("EEP") which incorporates the 336km gas pipeline from Kambalda to Esperance and the 33MW gas-fired power station at Esperance.

ANZIS has a strong interest in the Esperance-Kalgoorlie Water Supply Project ("EKP") proposed by United Utilities Australia Pty Limited ("UUA") owing to the potential commercial benefit that could potentially accrue to EEP from a substantial additional demand by EKP for electricity, heat and its associated gas transport. It should be noted that such increased demand would require a significant additional investment in the EEP.

In addition, owing to the synergies between EEP and EKP, ANZIS is keen to examine the potential for an investment in EKP but would only do so on the basis that EKP could be demonstrated to be economical. If ANZIS was to take the conclusions in the Draft Report at face value, we would not pursue such an investment.

However, our position as an existing investor in the Esperance-Kalgoorlie region infrastructure demands that we review the Draft Report, notwithstanding any

perceived conflict of interest, and comment, if appropriate, on the analysis that has supported the ERA's draft conclusions.

2) ANZIS Review of Draft Report

ANZIS has undertaken a detailed review and analysis of the Draft Report and we consider that there are some material issues that the ERA has not adequately analysed or included in their assessment of the Net Benefit / Cost when comparing the EKP with the cost of the possible alternative supply by the Goldfields and Agricultural Water Supply scheme ('GAWS').

The issues we raise below are offered in the context of our team's extensive experience in the valuation and analysis of infrastructure investments obtained over many years in this sector.

We note that the Draft Report outlines \$859.8m of benefits and \$915.7m of costs, giving an overall net cost of the EKP of \$55.9m. This cost represents only a small margin of around 5% to 7% of benefits and costs respectively and does indicate that only a small change in any number of assumptions may result in the project having an excess of benefits over costs, under the assessment methodology.

In summary, ANZIS has conducted its own assessment based on detailed comments on issues provided below and concludes that the EKP should proceed as benefits totalling \$1,135.6m exceed costs of \$ 915.7m by \$ 219.9m.

3) ANZIS Assessment

ANZIS believes that the ERA has erred when considering a number of issues in its assessment of the EKP. We consider each of these issues individually and assess the financial change our assessment makes for each.

- (a) **Demand assumptions are not consistent.** Although the ERA claims to have accepted UUA's demand levels, at 60ML/day, the underlying analysis compares a water pipeline that achieves this demand at commencement against the GAWS that achieves this demand level some years into the future. Hence, the capital expenditure on GAWS is deferred and understates the present value of its capital expenditure. In Section 7.2 and Figure 7.7 of the Draft Report, the overall costs of two options, as concluded by the ERA, detailed that there is only a small cost advantage in favour of GAWS but *"this becomes a cost advantage when the time value of money is recognised"*.

If the ERA agrees that an additional level of demand exists at 60ML/day, then the assessment must assume that the costs of expanding GAWS is calculated on the same basis as the assessment of EKP. If this assumption is made, then much of the cost of this expansion must be made immediately, hence reducing the benefit of the time cost of money.

ANZIS would like to also point out that when forecasting capital expenditure over the long term, there is a risk that costs could be higher than forecast. Some form of premium should be added to long term forecast costs to allow for this, especially when comparing capital expenditure reasonably costed for construction over the near term.

ANZIS is also aware of very large increases in all project costs, such as labour, steel etc. over the last three years and believes that ERA should take these into consideration in their costing methodology as it is likely to materially understate the comparative costs of the UUA proposal.

In ANZIS' own assessment, we have assumed that 60% of the GAWS expansion costs totalling \$544.7m are required to be immediately incurred and added a 15% premium to account for possible increase in project cost. If this is the case, this will increase the present value of avoided capital costs for GAWS expansion from \$ 254.6m to \$ 364.3m, using the adopted discount rate of 6%.

ANZIS acknowledges the assumptions of 60% of capital cost and 15% premium for cost increase are arbitrary and suggests that the ERA review these issues to determine a more accurate estimate.

- (b) **Linear expansion of GAWS not considered feasible.** We note that Water Corporation has claimed GAWS would be expanded linearly to meet demand. We understand from two engineering consultants that the maximum capacity of GAWS is 45ML/ day and that the current pipeline cannot be incrementally expanded beyond this capacity without substantial cost penalties for major looping of the pipeline. On the first page of the Executive Summary, the ERA notes that *"if the existing GAWS main conduit were to be duplicated this would entail a capital costs of almost \$1 billion...in addition O & M costs which would exceed \$150m in PV terms"*.

ANZIS has significant experience in infrastructure networks and as water cannot be compressed, rather an increase in its capacity is only as a result of an increase in the rate of pumping and the ability to store water to meet peak demand. ANZIS believes that the advice received by ERA is flawed. Empirically, the looping of the Dampier to Bunbury Natural Gas Pipeline (DBNGP) is an example of the necessary large capital expenditure to achieve an increase in capacity, once the maximum capacity has been met in the original pipeline.

- (c) **Source water costs incorrect.** ANZIS believes that using a blended LRMC of water across the whole of the metropolitan area for the assessment of source water costs, as described in the draft report, is fundamentally in error. In a cost analysis such as this, the cost of source water to meet existing demand must be the current most expensive source of water and the cost of source water to meet growth should be based on the cost of the last source of water added to the system.

By way of comparison, this pricing principle is current practised in the National Electricity Market where the pool price of electricity is set by reference to the cost of the last power station dispatched into the system. The pool price is not set by reference to the average price of power from all power stations. The reason is that the pool price is intended to set a price signal to the market to develop further power stations.

In this case, the avoided cost of source water to meet growth could be assessed against the desalination plant currently under construction in Kwinana. ANZIS is of the view that the Kwinana desalination plant is being constructed to augment and diversify the current water supplies of Perth, which are based on rainfall and tapping of aquifers. This supply augmentation is a direct result of a shortage of potable water in the greater Perth area, arising from prolonged drought, possibly due long term weather changes arising from global warming.

In ANZIS own assessment, we have assumed that the cost of source water to meet growth is approximately \$0.95/kL, based on the estimated cost of water from a new desalination plant (ie the Kwinana plant). We have also assumed \$ 0.92/kL for the cost of source water to meet existing demand. This is based on the assumption that the supply from Mundaring Weir is currently the most expensive source of water. ANZIS estimate that it will increase the cost of source water to meet growth from \$ 56.3m to \$ 58.1m and cost of source water to meet existing demand from \$ 100.0m to \$ 122.7m.

- (d) **Regional economic effects need to be considered.** We note that although the potential regional effects of the EKP are substantial, no allowance has been made in the draft report. We consider that the assessment and inclusion of these effects are important as there are vast differences between the kind of economic impact that EKP brings compared to GAWS. These differences are mainly driven by the difference in investment scale and timing of the two investment proposals. Furthermore, the inclusion of economic effects is consistent with Item 5 in the Terms of Reference provided by the Treasurer which refers explicitly to report on these regional economic effects.

We believe that EKP will bring net benefits to regional economic development. ANZIS assessment is based on its investment experience in EEP which has witnessed similar flow-on economic development impact in the Esperance region. These benefits could broadly include :

- Growth in mining activities that could bring associated royalties revenue of value in excess of \$ 100m;
- In addition to direct investments for EKP, the project will generate further investments in the region to development and construct supporting infrastructure. ANZIS is expecting further investment in EEP of \$ 15m;
- Other associated benefits from these investments in terms of employment, skills upgrade, development and broadening of industry capabilities;

- Reduction in electricity tariff ex EEP to Western Power driven by higher efficiency from an increase generation load factor;
- Support the growth of other industries eg agriculture and tourism from the availability of improved water quality;
- Increase the security of water supply for the region; and
- At a state level, diversify the risk of water supply to Perth by possibly supplying water from the Goldfields to Perth by reversing the flow on GAWS.

We believe that these benefits should total at least \$ 125m and the ERA should consider, assess and include a reasonable level of regional economic benefits in the final assessment.

- (e) **Esperance water quality upgrade arbitrarily discounted.** We note that ERA has assessed the value of the water quality upgrade for the users of Esperance at \$33.4 million and then divided this benefit by a factor of 2. It is inconsistent to include the full cost of the Esperance desalination plant at commencement and then to discount the value of the water quality upgrade on the basis that the Water Corporation would not decide to improve the quality for another 10 to 20 years. If the water quality upgrade has benefit, the full benefit should be included at commencement.
- (f) **Source water risk not assessed.** In the absence of EKP, or any other desalination plant, the State of Western Australia is placing greater reliance on future water supply from rainfall. We consider that the EKP should be risk adjusted because it diversifies the sources of water for the State.
- (g) **EKP energy cost risk irrelevant.** Although the ERA has not made allowance for the EKP energy cost risk, we consider the issue to be spurious at best. As mentioned above, the avoided cost of source water for the metropolitan area should be based on the desalination plant at Kwinana which will have exactly the same type of exposure to future energy prices. In fact, since the Kwinana plant has a greater output than EKP, its exposure to energy prices is higher.
- (h) **Social and community benefits not assessed.** No allowance is made for the community and health benefits arising from the availability of potable higher quality water and possibly gas reticulation to communities along the route of the EKP water pipeline. The pumping station along the EKP pipeline will be powered by gas turbines which means there will be local pressure reduction stations to take gas from the main which could in turn allow for gas reticulation at those locations.
- (i) **Environmental benefits of eliminating super-saline water use.** We understand that the analysis includes a benefit to the mines in the region of the avoided cost of super-saline water. However, we would expect that some allowance be made for the environmental benefits flowing from the replacement of super-saline water with potable water.

4) ANZIS Quantification

Given our comments on issues as outlined in 3) above, we have revised the benefits and cost analysis based on ANZIS' assessment of the assumptions adopted in the draft report.

<i>In A\$ '000</i>		
Benefits and Costs of EKP vs GAWS Expansion	ERA Draft Report	ANZIS' Assessment
Avoided costs / (benefits) of UUA proposal		
Savings in Water Corporation growth expenditure	400.0	511.5
Capital costs	254.6	364.3
Operational costs	89.1	89.1
Source water costs	56.3	58.1
 Savings in existing Water Corporation supply costs	 166.6	 189.3
Source water costs	100.0	122.7
Maintenance costs	16.1	16.1
Pumping costs	50.5	50.5
 Savings in Esperance expenditure	 30.3	 47.0
Capital costs	6.6	6.6
Operational cost	7.0	7.0
Water quality upgrade	16.7	33.4
 Benefits to mines	 262.8	 262.8
 Regional Economic Benefits	 -	 125.0
Total Avoided Costs	859.7	1,135.6
 Costs of UUA proposal		
Capital costs	(446.9)	(446.9)
Operational costs	(454.3)	(454.3)
Water quality - GAWS	(14.5)	(14.5)
 Total Costs of UUA proposal	 (915.7)	 (915.7)
 Net Benefits / (Costs)	 (56.0)	 219.9

Based on the above analysis, EKP should proceed as benefits totalling \$1,135.6m exceed costs of \$ 915.7m by \$ 219.9m. This analysis does not include other benefits such as regional economic effects (eg royalties from increase in mine activities, lower electricity cost for Western Power at Esperance etc).

We trust the above comments are useful and look forward to your consideration of them in your final report.

Yours faithfully
ANZ Infrastructure Services Limited

A handwritten signature in black ink, appearing to read 'John Clarke', with a stylized, cursive script.

John Clarke
Managing Director