29 July 2005

Mr Lyndon Rowe
Chairman
Economic Regulation Authority
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Email: watersubmissions@era.wa.gov.au

Dear Lyndon

INQUIRY INTO THE COST OF SUPPLYING BULK POTABLE WATER TO KALGOORLIE – BOULDER

The Goldfields Water Project, the United Utilities P/L sea water desalination plant and pipeline (EKP), is an opportunity for sustainable growth for the Esperance and Kalgoorlie-Boulder regions and for the State of Western Australia.

This project has long been sought by the Goldfields – Esperance Region to increase and/or provide an alternative water supply.

- In the late 1990's the Kalgoorlie-Boulder Waterlink Project identified that future demand for water in the region (potable and other) would need to be met in the long term, from new or augmented water sources;
- In 2001 the State Government called for Expressions of Interest to assist with the provision of a sustainable water supply;
- In 2003 under the Goldfields Esperance Water Supply Strategy the Premier's Water Taskforce had the responsibility of developing a state-wide water strategy and considering the Goldfield-Esperance Supply in this context.

United Utilities Australia Pty Ltd (UUA) responded to the need to accommodate future water demand with a proposal in line with the options of the Premiers Taskforce; a desalination plant at Esperance and a pipeline to the Kalgoorlie-Boulder region.

The recent draft report by the Economic Regulation Authority (ERA) has offered a cost-benefit analysis of the desalination project benefits against the avoided costs associated with future expansion of the existing Goldfields and Agricultural Water Supply (GAWS) by the Water Corporation and various avoided mining costs. The ERA has applied a methodology that shows a net loss for the desalination project.

The Goldfields Esperance Development Commission (GEDC) is pleased to provide input into the ERA methodology and findings, to provide evidence of the critical need for the desalination water for industry growth in the Goldfields and to show that this project offers an infrastructure development option in line with State priorities.

In response to the ERA draft Inquiry the GEDC arranged for two Water Forums, one in Kalgoorlie-Boulder July 21, and one in Esperance July 22 2005, to seek input and determine support for the UUA project.

Both forums were well attended and generated a great deal of discussion and interest. Representatives from the ERA, UUA and the Water Corporation participated in presentations and a panel style question and answer session. The notes and attendee lists for these forums are attached.

The GEDC is committed to creating opportunities to build a vibrant sustainable future, to increase investment and to attract population to our Region. The desalination project will have a strong role in achieving this outcome.

The following are specific comments on aspects of the Inquiry that relate directly to the Inquiry outcome that costs outweigh the benefits of the EKP proposal.

Avoided costs:

There is evidence that the avoided cost to the Water Corporation could be greater in a number of areas:

- Page ii *'UUA's estimate of the cost to the Corporation were based on an assumption of 45ML/day. (Currently the maximum sustainable inflow is 34ML/day - 50ML/day by 2020)… the Corporations capital program is based on the presumption that the GAWS system can be incrementally extended without a cost penalty up to a level of at least 77 ML/day*'.

  At the 21 July 2005 Water Forum in Kalgoorlie-Boulder the costs of GAWS system were discussed by the Water Corporation and UUA and it was agreed that the claim that the GAWS could be *incrementally extended without a cost penalty* needs to be clarified further. Costs to extend GAWS would have an impact on the avoided costs for the Water Corporation.

- Further, to provide water to Kalgoorlie-Boulder, the avoided costs to the Corporation are based on the *opportunity cost of water* sourced at Perth, the cost of the water if it *were no longer required to be supplied (page 18),* and not the true cost to physically provide it to Kalgoorlie, including the continued cost to develop water sources that can accommodate the growing Metropolitan and south west demand versus the Goldfields demand.

It is likely that should this cost be calculated at the real cost to supply water to the region; the avoided cost of not using the GAWS option would be higher.

Additionally the operational costs of the Water Corporation supplying 45ML/day and 60ML/day (or 77ML) to Kalgoorlie from the GAWS can not be the same. There would be an increase in energy use alone, just to pump more water up to the Goldfields.

- The avoided cost to mines of using the EKP potable water and not super or hyper-saline water has also been conservatively calculated by the ERA to the detriment of the UUA proposal. Considering the difficulty in defining these costs, we would like to see a probability applied to this figure.

Benefits to mines:

The ERA report clearly acknowledges that Gold Fields, St Ives mining operation has shown strong interest in the potential water source of the EKP. However the ERA has considered that benefits to mines, including their avoided costs are difficult to calculate based on a number of factors including timing. *(page 28) '…it is not currently possible ...to determine the shape of the demand schedule for potable water for the mines'.*

This decision about demand calculation has a negative impact on the overall benefit to mines for the purpose of calculating cost-benefits of the project.

A number of mining companies came forward at the Water Forum held in Kalgoorlie-Boulder to support the EKP and one company, Mincor Resources was reported in the Kalgoorlie Miner newspaper, 23 July 2005 (attached), supporting the EKP and saying that water was a major issue for its four mines around Kambalda and *'a major constraint in the Goldfields'.*

To allow for a more accurate assessment of benefits to mines, the ERA and UUA require a sound demand assessment methodology to determine a useful figure for the cost-benefit analysis. The present assessment by ERA appears dismissive of the significant potential mining market and the benefits to this market that would change the outcome of the inquiry.

This approach is damaging to the growth potential of the region and fails to recognise the importance of the mining industry to the state.

Impact on State government finances:

The Inquiry suggests that the EKP proposal would result in reduced state borrowings (good) and potentially a cost impact (not good) if *'the price negotiated between the Corporation and UUA resulted in an increase in costs to the Corporation' (page iii).*

This approach to costs is negative speculation. The State may just as well enjoy a positive pricing relationship with UUA.

The following statement is also questionable. *'gross receipts to government from royalties from mines would be unchanged since they are related to the value of throughput rather than to mine profits. New mining ventures may emerge but the impact of lower direct or indirect costs of water appears unlikely to be a major factor in its own right' (page iii).*

It has been indicated by a number of mining companies that new and existing mining ventures are likely to increase investment in their operations and expand throughput as a result of the access to water and therefore the royalties will increase along with throughput. Access to water will encourage mine growth and consequently royalties to the State.

While the State may consider increased royalty levels are offset by losses in Commonwealth grant funding, the State also should consider that UUA's private investment in water infrastructure has saved the State money in this area, and that expenditure that may have been spent accessing the Yarragadee to meet future Goldfields demand, for example, can now be used elsewhere.

As United Utilities mother company is based in Europe, most the investment will be from overseas funds. Australians may still invest in this project through the London Stock Exchange.

Other Impacts:

In the report *Frameworks for economic impact analysis and benefit-cost analysis, Marsden Jacob Associates, for the Economic Regulation Authority, WA July 2005,* it is suggested that in addition to tangible benefits and costs such as those related to supply of water and substitution of water to mines against super saline water, intangible benefits or costs such as environmental matters and diversification of risk should also *'be identified and at a minimum' described'.*

Source risks, benefits and issues:

There are additional price and non - price risks and benefits for the source of water (i.e. GAWS or the EKP or by region i.e. Esperance) on a number of levels including reliability, quantity, access and quality of supply and environmental concerns. These have important cost - benefit implications for users of each source.

The position in the ERA draft Inquiry *(page 41)* show that while there is a source risk for ground water due to climatic trends, the GAWS project is supported by an Integrated Water Supply System (IWSS) and is well protected. The EKP presents a long term supply but a risk in that it is the sole source of supply.

At the Water Forum in Kalgoorlie 21 July 2005 a comment was made that both facilities could be exposed to similar threats of illegal interference.

At present Kalgoorlie-Boulder is still exposed to supply risk from inadequate sourcing where the IWSS is low or contaminated or if a problem occurs with the pipeline or storage in Kalgoorlie.

If the EKP project is realised the Water Corporation have suggested *(at the Water Forum 21 July 2005)* that the GAWS could be kept open at a minimal cost for emergency purposes.

Integrated Water Supply System (IWSS)

The IWSS is a strategic response to studies that have revealed the long term implications for the supply of water into the Mundaring Weir. Studies by the CSIRO have shown that a 10% decline in average rainfall in the past 25 years has occurred in the South West of the State. *(Australian Academy of Technological Sciences and Engineering www.atse.org.au).* They have also predicted that with higher temperatures and decline in rainfall, inflow to dams and discharge to ground water will continue to diminish. Plants will also have an increased demand for water. The studies show that a 10% drop in rainfall results in a 50% drop in flows to dams. Evaporation of dams will also be higher.

This information supports the development of source water to the IWSS through expansion of ground water sources or desalinisation facilities.

Demand for water in Perth has been predicted at 150 GL by 2031 *(How thirsty are we? Winter 2005).* This is a considerable demand on a system producing for both the metropolitan and GAWS requirements. While the Water Corporation is pursuing a desalination facility at Kwinana it is also looking at obtaining additional water from the southern part of the Yarragadee Aquifer.

There are costs to the State involved with both of these options which should be considered in evaluation of the EKP proposal as an alternative source of supply.

Recent media has shown the potential 'blow out 'cost for the Water Corporation desalination facility. This matter was discussed at the Water Forum 21 July 2005 and while there have also been some cost gains by the project any 'blow out' cost would be borne by the tax payer.

The access to an additional 45 GL from the Yarragadee has been shown by a number of studies to have significant social, environmental and economic costs. *Water in Society, the Australian Research Centre for water in Society, Winter 2003* demonstrates that the *'southwest community held strong intrinsic values for both the environment generally and groundwater specifically'*. There is strong disagreement with the concept of water export from the region.

With regard to South West farmers trading their access to groundwater, as suggested in a number of strategies, to support the IWSS, research has shown that farmers would lose in a free market to the higher prices available from the domestic user. This would have implications for the agricultural industry and a negative impact for the State.

At the Water Forum 21 July 2005 the Water Corporation acknowledged that as water is sourced further from Perth, the cost to physically transfer the water increases.

The key points are that with the EKP supplying Esperance and the 400 km route to and including Kalgoorlie-Boulder, the IWSS supply requirements are lessened and therefore sources for the IWSS can be better managed for long term economic, environmental and other objectives. There are cost savings and benefits to the State in the cost of (not) acquiring and transferring the water from the South West and also in the real issue of diminishing replenishment of ground water.

Additionally funds not spent in providing source water for the GAWS can be spent to benefit other areas of the State.

Esperance Kalgoorlie - Boulder Pipeline (EKP)

The EKP has minimal source risk. The water will be abundant, replenishable and good quality. It is also anticipated to be the same or lower in price than alternate sources.

The environmental aspects of this method of water treatment have been well explored and were also discussed at the Water Forum in Kalgoorlie 21 July 2005. The returning water has virtually no impact on the ocean, any cleared land area for the project will be revegetated, source energy green house emissions will be offset by tree planting and the EKP water utilised by mining activities in replacement of super and hyper saline water will negate the use of many chemicals such as cyanide which have a detrimental effect on the environment. The impact of hyper saline water on the fragile ecosystems of the Rangelands will be lessoned.

The reliability of the project in supplying the EKP customers was well discussed at the Water Forum and both UUA and the Water Corporation agree that many of the risks would be the same as exist now with the GAWS. Additionally the UUA facility is modular which means that most components can be quickly replaced if required and that any down time would probably not even impact on the customer with sufficient reservoir or tank storage.

The Water Corporation are presently undertaking substantial increases in the reservoirs in Kalgoorlie and as they would be the domestic supplier at the very least, these facilities would be available for EKP water. It was suggested that at most, some sprinkler restrictions may be imposed if there were a failure.

The primary risk with the EKP project lies with UUA. This commercial organisation has full financial responsibility for the development and success of the project. There is no project cost implication for the State. UUA made this very clear at the Kalgoorlie Water Forum saying that for example 'project blow outs' if they occurred would be the responsibility of UUA and not the taxpayer.

The additional risk to UUA is to access adequate demand for its product. UUA have expressed that they are confident this will occur based on their market research. This is supported by interest expressed in these early stages by various mining companies such as Mincor, Gold Fields and others.

The benefits of the EKP to industry and government as a water source for the Goldfields over and above that which is provided by the GAWS include:

- Access to water without the associated GAWS headworks charges for commercial developments using greater than 50KL per day.

  The State Government has identified that these charges are sometimes an impediment to business development and several years ago introduced the Regional Headworks Development Scheme to help address this problem. UUA have stated that they will not place a headworks charge on clients of the EKP. All contracts will be negotiated on commercial terms.

  This scheme has been replaced by the Regional Headworks Program and is administered by the Department of Local Government and Regional Development.

- Opportunity to grow new industries and expand existing ones through access to a plentiful, good quality and accessible supply of water that is independent of climate and groundwater conditions.

- The ability to provide cost savings to mining organisations and agricultural activities through reducing infrastructure costs associated with developing and managing groundwater sources and minimalising chemical use for mineral processing or crop spraying with saline water.

- An impact on energy provision and costing as an increase in the gas usage through UUA demand to power the desalination plant and the EKP would mean the upgrading of the compressors on the existing gas pipeline. This would open the way up for the State through regional Western Power to renegotiate the cost of electricity supply to the Esperance grid, potentially resulting in significant savings. The compression of the pipeline will also mean people along the pipeline will have the same availability of gas as people currently living in central Esperance.

Esperance

The source risk for Esperance is related to the existing water supply. Water in Esperance is provided by bore fields and is of a very poor quality both in terms of hardness and infiltration of nitrates from septic systems in the western suburbs. Four particular benefits arise from use of EKP water in Esperance:

- The improvement of the water quality in Esperance to meet the criteria of the Australian Drinking Water Guidelines, presently not being met.

- Provide cost savings to domestic and commercial customers in Esperance by increasing the lifespan of domestic appliances such as water heaters, avoidance of bought bottled water costs, avoidance of cost associated with the impact of the current water supply on the appearance of buildings, bathroom tiles and so on, the cost of water softeners and conditioners. These costs would well be in excess of millions of dollars over the 50 year period.

- Closure of bore fields in Esperance and the ability of this land to be made available for residential purpose in a region where quality residential land with ocean views is scarce.

- Direct employment impact as a result of long term positions at the desalination facility. UUA indicate at least ten staff will be based in the Esperance area.

The risk to Esperance lies with not having the desalination facility. Funds can be expended to enhance the drinking water but the bore fields are still a limited source in the long run and there are costs involved in purifying the water. No additional industry expansion can occur without additional access to water and residential and commercial developments outside the immediate Esperance region will not have a guaranteed water supply.

The EKP route from Esperance to Kalgoorlie-Boulder

The EKP route will bring the benefits of industry growth and diversification to the Goldfields-Esperance region.

Mining:

As most of the identified new demand lies between Kalgoorlie-Boulder and Norseman this region has obvious benefits to be gained through the EKP project while minimal risk exists for the EKP source along its route other than those raised earlier relating to continuity of supply.

- Mining activities in this region are presently limited by access to water. Water is sourced through bore field or is carted from other sites. Some projects already bring water over 40 kms to their sites. Financial viability for these mines will be improved by taking the pressure of private expansion investment for marginal projects.

The EKP will allow more mining growth and output through providing a plentiful, affordable and good quality water source.

- This water presently accessed by mines requires considerable human, financial and physical resources to find and manage the water.

  These infrastructure and management expenses can be shared with the provider (UUA).

- Substantial hidden costs are associated with the use of super-saline or hyper saline water and these include the cost of additives in the mining process and costs to the environment.

  The EKP would help diminish these costs.

  Some of this cost impact has been taken into account in the ERA Inquiry calculations but it is understated as it has been tied to cost savings at the current mine output level which show a result in profits for the mines but not that additional mining activity would occur as a result of access to additional quality water which would result in additional royalties to the State as well as benefits to the mines.

  Furthermore it is not only the cost of the chemicals that must be considered but the cost to rehabilitate tailings and polluted water sources. There are financial implications of sustainability and environmental impacts.

Agriculture and pastoral industries:

These industries presently are dependent on rainfall and ground water. The quality and quantity of this water puts both agriculture and pastoral activities at risk. While these industries have not previously been seen as potential customers to the EKP recent information has shown that farmers are interested in obtaining water for spraying purposes, regardless of water cost.

Discussion with Agriculture Western Australia and other research has also identified that high value crops such as market garden produce, hemp, vineyards and olives will benefit from EKP water so long as transport to market of products can be accommodated. Particular advantages exist when industries can take advantage of the climate of the region and the water supply to grow products that are out of season in other areas.

Pastoral industries such as cattle, sheep and goat are highly water dependent and providing for water is at all times a large component of operational costs. In the article *When will the rangeland goat industry develop to the next level? (December 2004)* it was clearly identified that *'inconsistent supply and variable water quality have been identified as the main constraint to the expansion of the industry*'.

When there is better access to water more goats can be retained and the industry developed. The 2003/4 export goat market was AUD 9.6 million and remains a strong market.

In view of the above discussion of additional price and non - price risks and benefits for the source of water the critical factor for cost - benefit analysis is to determine would similar impacts occur in the absence of the project in question, the EKP.

Quite clearly there are a number of benefits that would not occur if the project is not developed.

These are:

- Environmental protection;
  - Preservation in the long term of precious ground water supplies.
  - Cost to the environment of chemical damage from mining processes and excessive use of agrochemicals.
  - The mining expenses involved in the attempted avoidance/repair of damage.
- Existing and new mining growth and subsequent royalties to the State. This is not just the transfer of existing growth to EKP water but new growth due to more and better water being available and transfer of expenditure from inputs to exploration and production.

- Removal of risk or poor and limited water for mining companies.

- New and expanded agricultural and pastoral water dependent growth industries such as goats and intensive agriculture.

- Savings on water infrastructure development and management costs to water using industries.

- Use of funds previously spent on supplying water to the Goldfields by the State for other economic, social or environmental infrastructure projects.

State Priorities:

It is important to broaden the traditional cost benefit analysis approach when making an assessment of the EKP project. There are some State priorities that should be considered and some of these have been alluded to in this document already.

They include:

- Development of regional infrastructure; The EKP is a non tax payer funded regional infrastructure development of approximately $440 million dollars. This involves a regional expenditure of $264 million.

- Ongoing operational costs of the facility will be $26 million per year with $23.4 million being spent in local communities. This is the actual spending that will occur.

  This funding is unlikely to be invested elsewhere in the State by UUA and there is no guarantee that they would even be invested in another Australian project at this stage.

- Negative messages about this project which could serve as a possible deterrent to future visionary private infrastructure project investment

- Continued reliance on government - provided and funded water sources as opposed to privately and competitively developed resources.

- State funding of the GAWS and the IWSS to supply the Goldfields that can be redirected elsewhere in the State to other economic, social and environmental infrastructure.

- The State's has a limited opportunity for infrastructure funding through the Grants Commission with grant funding determined on a per capita basis.

- Western Australia continues to contribute extensively to the collection of GST and other taxes and royalties through its resources industry capacity funds are not directly reinvested into infrastructure to support these industries in the regions.

  Most significantly the Grants Commission redistributes the revenues of resources projects but does not compensate for capital costs to encourage project development. Western Australia has now experienced a net annual loss totalling $335 million (in 2004-05 terms) since 1993-94 of Grants funding. *(www.dtf.wa.gov.au/cms/tre_content.asp?id=779)*

  In 1999-2000 Western Australia contributed almost half of the national value added by the mining industry at $10.9 billion and in the same time period expenditure on mineral exploration in Western Australia totalled $415 million while $4,816 million was spent on purchases & selected expenses. (*http://www.abs.gov.au).*

  Recent Goldfields figures (2003) show the following royalties are being paid by product group.*(www.doir.wa.gov.au)*

Copper	$3,921,573
Gravel	$12,270
Sand	$30,669
Gold	$58,111,706
Gypsum, granite, salt and silver	$16,689
Lime sand and limestone$1,166,145	
Cobalt metal	$3,885,129
Nickel	$41,676,590
Palladium	$135,265
Platinum	$104,613
Total royalties (2003)	$109,060,649

The EKP project is a commercial project that will contribute to infrastructure provision for these high earning industries that produce considerable benefits for the State and Nation.

The EKP project has been evaluated by the ERA as providing a net loss or dis-benefit of $56 million. This calculation has been made on arguable avoided cost and benefit quantification. The avoided costs to Water Corporation need to be calculated at the true cost to provide water to the Goldfields and to upgrade the GAWS.

Also the costs of long term access and management of ground water need to be revised. Additionally benefits to mines and other industries need to be increased in line with the indicated industry interest.

Under 'other impacts' of the ERA Inquiry, this submission has looked at the risks and benefits associated with each water source and for supply by region and also summarised the risks involved with not proceeding with the EKP project.

Finally, the substantial financial benefits that are provided to the State by the resources industry have been considered to show that a commercial infrastructure project that assists these industries is not only saving the State expenditure but allows private investment to grow the States earnings

The ERA should revise the cost-benefit analysis to include consideration of the environmental and sustainability impacts and the long term perspective of privately funded infrastructure development for nationally significant industries.

The Regional Development Policy values economic, social and environmental outcomes that result from regional management of strategic future development and the promotion of investment and diversified economies. The EKP project offers these opportunities to the State.

It is with pleasure that I offer this submission in support of the EKP project.

Yours sincerely

Annaliese Walster
A/Chief Executive Officer