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1. INTRODUCTION

The Government propose to construct a 90 kilometre pipeline from Iron Knob to Kimba to supplement the water supply to the Eyre Peninsula at the anticipated cost of \$48.5 Million. Stage one of the pipeline, supplying up to 1.4 gigalitres from the River Murray is due to be commissioned in 2007. It may be increased to full capacity of 2.3gl if BHP Billiton construct a desalination plant at Port Augusta or Whyalla by 2010.

The current Eyre Peninsula requirement is around 10 gigalitres and this is predominantly provided from overdrawn underground basins south of Port Lincoln.

This submission will demonstrate the lack of vision of the proposed \$48.5 million pipeline between Whyalla and Kimba including the principal environmental, social and economic aspects. It will be contrasted with the option of supporting proposals by private enterprise to build desalination plants at Ceduna in the short term and Port Lincoln in the longer term to provide water through the existing SA Water pipe system. This will be at little capital cost to the taxpayer and is contrasted with the lost opportunity cost of not using this money on infrastructure that we really need, such as an upgraded and lengthened railway to facilitate the huge mining potential of the region.

The development of expertise in desalination technology would provide substantial benefits for the whole State. We have the opportunity to lead the world in the new combined technology for desalination proposed for Ceduna, with all of the potential flow-on benefits but instead the pipeline proposal takes us back 200 years.

2. OVERVIEW

The proposed development is not supported by the strategies and policies of the Labor Government as set out in the following documents:

South Australian Strategic Plan – Creating Opportunity, March 2004

Planning Strategy for Regional South Australia, January 2003

Strategic Infrastructure Plan for South Australia, 2005/6 – 1014/15

Eyre Regional Development Board, Annual Report 2003'4

Eyre Peninsula Local Government Association, Annual Report 2003'4

The Eyre Peninsula Water Supply Master Plan

Water Proofing Adelaide – A thirst for change, Draft Strategy

However desalination plants on Eyre Peninsula would fit the criteria for strategic development in all these documents.

3. SOUTH AUSTRALIAN STRATEGIC PLAN-Creating Opportunity March 2004

Objective 1 - Growing Prosperity

Jobs:

Assuming in the long term the pipeline capacity has been increased at additional cost to provide 2.3 gigalitres per year, Eyre Peninsula will still be on water restrictions and almost no new jobs will have been created. However desalination plants at Ceduna and Port Lincoln providing 5 to 10 gigalitres per year of clean water will kick start a number of direct and indirect job opportunities.

Economic Growth:

The pipeline will provide no economic growth as it will barely meet current requirements, let alone demand from future population growth and economic development. SA Water has apparently promised both the Ceduna Marina and the Iluka mine that water will be provided but, in my view, will not be able to supply it from the current system nor this pipeline. The Eyre Peninsula Catchment Water Management Board anticipates about 5000 housing and commercial developments within the next 3 to 5 years. In addition potential new mines may result from current exploration on EP, for example, at sites north of Kimba.

Investment:

The pipeline will be at taxpayers' expense while the desalination plants would be built and maintained at the cost and risk of private enterprise. The interest alone on the pipeline project makes it a poor economic decision. Calculated at 5% on \$48.5 million, interest would cost \$2.425m without compound interest over the life of the

pipeline at a projected 75 years. There is also the lost opportunity cost of not using this money more productively, such as building a standard rail link to connect Eyre Peninsula rail to the main railway system and standardizing the existing system while it is currently being upgraded. The pumping costs, depreciation of the pipes and the poor standard of the river water by the time it arrives in the consumers tap, requiring high chemical treatment and monitoring are all other issues that should also be considered. The purchase price of buying the 1.4gl of water each year from the river that should be going into environmental flows, to supply the Eyre Peninsula has not even been mentioned.

To look at the scenario of a future desalination plant if it is built in Whyalla by private enterprise, which is only a possibility. If it produced 2.3gigalitres of water at a cost of say \$1.50 per kl, (a conservative estimate) a pumping cost to Iron Knob, Kimba and then to other consumers spread across EP would be say 30c per kl. The interest cost would be \$1.05 per kl, depreciation over 75 years would be \$646,667per annum or \$0.28 per kl, so it would conservatively cost over \$3 per kl for the water and this would not take into account the cost of replacing pipelines south of Kimba to take the additional water to Eyre Peninsula.

Productivity, population, exports and tourism:

Eyre Peninsula's development is being held back severely by lack of water. Good quality water would provide opportunities in retirement, accommodation, tourism, mining and horticulture. More water of better quality would increase the region's productivity and population significantly.

Minerals and exploration:

Eyre Peninsula is covered by the highly mineralized Gawler Craton however the development of these minerals is being held back by the fact that our railway is not connected to the main system and there is inadequate water to allow for development. The graphite mine at Uley, one of the biggest in the world, is a case in point of the later.

In a recent example, one of the world's largest intergrated lead and zinc companies Zinifex Australia announced in May 2005, it would spend up to \$8m to explore the Menninnie dam project on Nonning Station, about 50km north of Kimba. The tenement is owned by Zinifex Australia and Terramin Australia. Terramin executive chairman Dr Kevin Moriarty said the development was South Australia's biggest lead and zinc deposit. He said it covered more than 100 square kilometres and could potentially host several deposits in excess of 100 million tonnes.

The director of the minerals and energy division of PIRSA, Dr Paul Heithersay told a gathering of heads of SA Government Departments and local councils at Streaky Bay in June this year that a mineral sands find about 270km north west of Ceduna was a "world class deposit". WA company Iluka Resources are doing feasibility studies on the deposit now.

It is obvious even from these few examples that Eyre Peninsula needs large quantities of water from a new source and that can only be provided from desalination.

Strategic Infrastructure:

The pipeline could not easily be upgraded to cope with future demand. The proposed desalination plants are modular and their capacity can be increased as required and they would be built closer to the sites for the use of the water. The current SA Water infrastructure between Port Lincoln and Ceduna could be used to pump and transport desalinated water. The Kimba pipeline is a small spur of around 300mm and would have to be upgraded in the longer term down to Lock if the pipeline is extended to Kimba from Iron Knob.

Objective 2 Improving Wellbeing

Quality of Life:

While the quality of life of the people at Kimba will be improved by better water those who live along the pipeline between Lock and Ceduna will benefit very little as the quantity is too small to make much difference that far away from the source. Most of it would already be used. The chlorination and the mineralization of the existing water is foul particularly in the summer when it is most needed. Equipment such as water softeners and water heaters are quickly ruined, people and animals find the water unpalatable and it kills garden plants.

Healthy South Australians:

Some years ago, two children died on western Eyre Peninsula and it is believed their deaths were caused by mains water that had not been adequately treated. Consequently, the water has been treated with large amounts of chlorine but it is not known what effects drinking water that is highly chlorinated might cause.

One of the local councils on EP is understood to have recently paid \$30,000 for a filtration system to bring the water up to World Health Organisation standards so that its local butcher shop could gain accreditation and keep the business open.

Psychological distress:

Having to put up with poor water causes a considerable amount of distress among people on Eyre Peninsula as attested to in the numerous letters and phone calls that I have received over the years. The chlorine for example can bleach clothes in the wash. For those who have become ill or lost family members because of the water the cost is incalculable.

There is also a huge cost in time and money associated with repairing equipment damaged by poor quality water. I quote from a letter I received from Wirrulla farmers John and Tony Duncan in March 2005:

“Over the years the quality of water on Eyre Peninsula has deteriorated dramatically. So much so, we have been forced to look at purchasing a water softener worth \$9000 to clean the water supply for our farm.”

The Duncans summarized the problems caused by the poor water as follows:

“Calcification obstructs pump pressure switches, which causes pumps to run continuously and not shut off, therefore over-heating and necessitating costly repairs. The calcium blocks pipelines, reducing the water flow and the supply is not kept up to livestock troughs, boom sprays and households. It also blocks float valves in tanks, troughs and toilets, causing them to overflow or not flow at all. This means we have to spend a considerable amount of time and effort to rectify these problems, taking time away from other farm duties.

“Impurities in the water are also highly corrosive to pumps, water heater elements, washing machines, shower roses and water heater tanks, reducing their effective life.

“In the garden, minerals in the water are blocking dripper systems. The minerals are also killing some of the plants and severely affecting the rest.”

The extended pipeline from the River Murray will not solve the problems being experienced by the Duncans and others who live on the Far West Coast, simply because it will not provide enough water to supply that part of the region as well as the rest of EP. The Duncans will still have to rely on the highly mineralized water they get now, which is pumped from the depleted basins on lower EP.

Objective 3 Attaining Sustainability

The River Murray:

The goal of increasing the environmental flows by 500gl by 2008 will be cut by 1.4gl every year until this water for EP is replaced with water from another source. Why not do it now and leave the water in the River Murray where it belongs and help EP be supplied with good quality desalinated water instead.

Energy consumption:

The water from the Murray will require pumping and the pipeline will have to be made and installed, all at an energy cost. The proposal for the desalination plant at Ceduna is to use solar power stored in a graphite block to enable the desalination plant, to operate 24 hours a day on natural energy. The waste will be returned to the existing salt pans and be used in the existing salt export business.

Greenhouse emissions:

The 100% green energy solution of the Ceduna desalination proposal will not produce any greenhouse emissions after the initial construction.

Ecological footprint:

This objective specifically mentions the need to use renewable electricity so that it comprises 15% and the use of solar power in schools and energy efficient dwellings. The pipeline solution fulfills none of the ecological requirements but the Ceduna desalination uses renewable solar power and is totally energy efficient.

Objective 4 Fostering Creativity**Commercialisation of research, investment in science, research and innovation:**

The pipeline is very old technology and so is the graphite block that makes the Ceduna solution viable, however an Australian patent now enables the graphite to be purified to make it a very efficient holder of energy as heat. A trial has been running in Cooma for over a year and the first commercial use is on King Island by Hydro Tasmania, (owned by the Tasmanian Government) to make the island 100% reliant on renewable energy using wind power.

Objective 5 Building Communities**Regional Infrastructure:**

Building sustainable communities in regions will not be assisted by the pipeline providing so little water but the desalination plants will as they are modular and can be expanded as required.

Conclusion:

The overview under “What we stand for” states, “We are a creative and innovative community that seizes opportunities” and goes on to say that “we must also challenge these values if we feel we are being too complacent or conservative”. The government is being too conservative and is staying with the tried and true and not seeing what is happening around the rest of the world.

**3. PLANNING STRATEGY FOR REGIONAL SOUTH AUSTRALIA
January 2003**

Numerous section of this strategy are relevant but have at least in part been covered in the South Australian Strategic Plan so I will concentrate on part 7, ‘Eyre Peninsula Planning and Development Area’. Page 49, Water Resources, paragraph three, “Alternative supplies need to be developed using effluent, storm water and new supply technologies. Potential exists to explore opportunities for desalination, additional regional pipeline infrastructure, waste recycling and aquifer recharge. Desalination plants have the potential to facilitate the development of water intensive land uses that were not previously viable. Planning policies need to embrace these emerging technologies and the associated implications they will have on changes to urban and rural activities.”

And on page 51 under Infrastructure-Energy, it states “Planning should consider the costs and the lead times necessary to construct, extend or upgrade infrastructure to meet growing demand. Given the remoteness, difficulty and expense of providing electricity from traditional sources to the area, technological improvements are likely to result in renewable energy sources such as solar and wind power being considered and developed where viable”.

STRATEGIC INFRASTRUCTURE PLAN FOR SOUTH AUSTRALIA **2005/6 – 2014/15**

In the foreword by Minister Conlon he states: “The plan also contains opportunities and responsibilities for local government, the Australian Government and the private sector to engage with the South Australian Government to develop South Australia’s infrastructure. We will only realize all of our necessary infrastructure investment if every sector of the community is involved”.

The Ceduna District Council is ready, the private sector is ready and the Federal Government has large grants that relate to water and renewable energy, that can surely be accessed, so why are we going to spend \$48.5 million on a pipeline when a progressive option is screaming out to be implemented? The government must at least have a look.

The Minister goes on to say “This government has demonstrated a willingness to work with any person, party group, business or government that believes in this State and is willing to build it”. This is a bipartisan statement that in my experience doesn’t appear to be backed up by fact.

The Overview is totally relevant to the provision of water on Eyre Peninsula so I will only quote one part that seems to sum up the current need: “A fresh and more flexible approach is needed to the way government does business with business. South Australia must be truly ‘open for business’ to meet the State’s infrastructure requirements. For this to occur, the government must have the capacity to consider unsolicited bids”.

“Where a private firm perceives a commercial opportunity in solving a public infrastructure need, it may require assurances concerning protection of its intellectual property. In such circumstances, government should be able to provide them. It should also have the capacity to strike sensible, open and transparent deals involving a contracted lump-sum price, provided the public interest is protected by ensuring that the price agreed to is fair.”

I contend that all that is needed to provide water for Eyre Peninsula is a fair price to be paid for the water by SA Water. There is already a community service obligation component we are told in the cost of Eyre Peninsula’s water perhaps this needs to be provided to the supplier of the water.

Under the heading “Water” point 6 on page 137 it states “Subject to the sustainable limits of a water resource, opportunities exist to improve the management and utilization of available water resources through: using SA Water’s pipeline infrastructure as a water transport mechanism, subject to water quality considerations.” Perhaps it is time to enable a provider to supply potable water through the pipes and sell it separately to give some competition to SA Water on Eyre Peninsula.

5. EYRE PENINSULA WATER SUPPLY MASTER PLAN 7th May 2003

The Ceduna Option on page 91 sets out issues relating to providing a 10.0 ml/day (3.65gialitre/year) plant installed in Ceduna to desalinate sea water. It was not costed but placed considerable emphasis on the substantial costs for disposing of saline brine. A requirement not required by the current private Ceduna proposal. Section 8.3 page 140 sets out an economic analysis for desalination versus the Morgan - Whyalla pipeline. It prices desalination operating costs at 75 cents kl and a capital cost of \$15.89 kl for Billy Light’s Point at Port Lincoln. This needs to be contrasted with the new Ceduna proposal with a slightly larger plant producing 4gigalitres of water with an operating cost of about 40 cents kl and a capital cost of \$11/kl.

The following table has been compiled using information from the EP Water Supply Master Plan.

Option	Capital Cost per kl	Operation Cost per kl
Billy Lights Point	\$15.89	75 cents
Morgan Whyalla Pipeline	\$16.16	58 cents
Current Proposal for Iron Knob to Kimba pipeline	\$34.64	58 cents say
Proposal using water desalinated at Whyalla	\$21	Purchase price of desalinated water including capital and operating cost and a margin say \$1.50 plus pumping costs for approximately 170 km Whyalla north then south west to Kimba and beyond say 30 cents. Total \$1.80 kl
New proposal for desalination west of Ceduna	\$11 for 4 gigalitre size plant	40 cents

An alternative evaluation is to assume a future desalination plant in Whyalla, presumably built by private enterprise, can produce 2.3gigalitres of water at a cost of say \$1.50 per kl. The pumping cost to Iron Knob, Kimba and then to the widespread consumers of EP would be say 30c per kl, with an interest cost \$1.05 per kl, depreciation over 75 years of \$646,667per annum or \$0.28 per kl. So it will conservatively cost over \$3 per kl for the water and this would not take into account the cost of replacing pipelines south of Kimba to take the 2.3gl of desalinated water from Whyalla which is additional to initial 1.4gl from the River Murray.

6. EYRE REGIONAL DEVELOPMENT BOARD ANNUAL REPORT 2003-2004

Under Infrastructure and Resources on page 27 it states that critical issues that need to be addressed include water-quality and quantity. I quote; “The greatest challenge affecting the region is the current lack of potable water supply, with the region’s underground basins being drawn to levels that are unsustainable.” The lack of desalination “needs to be addressed as a matter of urgency, to ensure that the Eyre Peninsula’s underground basins remain an avenue of water supply in the future”.

7. EYRE PENINSULA LOCAL GOVERNMENT ASSOCIATION ANNUAL REPORT 2003-2004

Under ‘Eyre Peninsula’s position on the Murray Water Levy;’ on page 22 it is stated: “One of the options put forward in SA Water’s Eyre Peninsula Water Supply Master Plan was to connect Eyre Peninsula to the Murray system by extending the Morgan/Whyalla pipeline. The Association did not favour this option, because in all good conscience, EPLGA could not countenance further exploitation of a system already under extreme stress.”

8. WATER PROOFING ADELAIDE – A Thirst for Change- Draft Strategy

On page 17 the Strategy states “The River Murray is essential to the social well being and economic prosperity of the State”. So why are we paying \$48.5 million to pump more of its water to Eyre Peninsula, further depleting an already fragile river system?

CONCLUSIONS

The pipeline is a temporary measure for the Eyre Peninsula not a solution. The cost will inevitably blow out. Even if the desalination plant is put in at Whyalla there will have to be major funding provided to increase the size of the pipes to take additional water. It will not even be enough to remove the water restrictions on Eyre Peninsula.

The development of new water technology in this State would provide substantial benefits to all of the State. We have the opportunity to lead the world in the new combined technology with all of the potential flow-on benefits but instead the pipeline proposal takes us back 200 years. We are wasting an opportunity as well as substantial capital funds.

The government should as a principle of economic prudence take the cheapest, most ecologically sound method of producing unlimited quantities of water. The savings of capital and annual running cost should be then invested in productive assets on Eyre Peninsula. For instance, invest these funds in the railway and design it to be standardized and extended to Whyalla in the future. This would be good value for money.

I urge the Committee to reject this current wasteful proposal and support the private enterprise alternative desalination proposals to sell water to SA Water at Ceduna and Port Lincoln at almost no cost to the taxpayer.