



**Desalination for Eyre Peninsula
23 May 2005**

A significant desalination plant for the Eyre Peninsula in the immediate future is the only solution for the Eyre Peninsula water crisis according to Member for Flinders Liz Penfold.

“The fourth State Budget is here and still we only have promises from this Labor Government. We are heading for another year of low rainfall and therefore low recharge of the southern basins.”

“If a crisis is to be averted with potentially the basins being contaminated with seawater a desalination plant to take the pressure off the basins is urgently required. It may already be too late” she said.

“There is an excellent site for a large solar powered, mechanical vapour compression (MVC) desalination plant for Eyre Peninsula at the gypsum and salt works west of Ceduna that would enable clean water to be pumped from an existing pump site and desalinated with the waste discharged into the salt pans to evaporate”.

Mrs. Penfold has been working with graphite block energy storage proponents from Lloyd Energy Systems to provide desalinated water for the Ceduna region and met with them last Wednesday in Ceduna. They visited potential sites and presented the proposal to Minister Karlene Maywald, Members of the Eyre Regional Development Board and Council.

Liz visited the privately owned desalination plant located at Nundroo with Eyre Peninsula Catchment Water Management Board Chairman, Wayne Cornish, Probodh Das Board technical officer and Brian Foster, Chairman of the new Natural Resource Management Board to see the reverse osmosis desalination plant used by the vineyard at Nundroo which she believes would be a suitable system for use at Venus Bay and Port Kenny and other small communities that are not connected to the SA Water pipelines. The system is simple to use and can be delivered to the site in a shipping container ready to connect.

Pictured above are the visitors looking at the desalination plant.



“The water, by the time it reaches Ceduna from the basins near Port Lincoln is highly chlorinated and mineralised and in my view, unsuitable for human consumption. Therefore to base a desalination plant at Ceduna is just common sense” she said.

“In addition recent Eyre Peninsula Catchment Water Management Board minutes state that 5000 developments are expected on Eyre Peninsula in ‘the next 3 to 5 years’. The lack of good potable water is holding us back now so it is not going to improve unless new water is provided.”

“A one gigalitre per year plant could be a first stage to provide water west of Ceduna, the new marina, mining ventures and to prove the new technology to the government.”

“However if the government and SA Water would undertake to buy the water for less than it costs now to get the water from the Southern basins to Ceduna or provide access to their pipes, it would be better to build a bigger plant immediately as there are economies of scale.”

“The Ceduna township and locations south would then also benefit from more and improved water supplies and the pressure on the current southern basin supply would be reduced significantly” she said.

Attached is the briefing note from Lloyd Engineering outlining the proposal which could equally apply to York Peninsula and using wind energy with the graphite energy storage system to take out wind fluctuations.

Briefing Note 9 May 2005

DESALINATION PROPOSAL CEDUNA - EYRE PENINSULA

Background

The development and commercialisation of the new Lloyd Thermal Energy Storage system has created a major breakthrough in the economical application of renewable energy sources, particularly to the desalination of water.

Desalination plants need to be operated continuously, so the coupling of solar and/or wind energy to the thermal storage system enables these intermittent supplies to operate desalination plants. Energy costs form a significant component of desalination processes and this new technology enables energy costs to be substantially reduced.

Application to the Eyre Peninsula
Significant detailed studies have been carried out for the Eyre Peninsula, in particular, the Water Supply Master Plan. It is quite clear that desalination in some form is needed to augment naturally occurring catchments and groundwater resources. Recommendations to date have been based on the assessment of options which have been costed on the basis of desalination with a conventional grid based energy source. An alternate proposal has been prepared for a 2.5 ML/day (1 gig litre approximately) plant located at Ceduna, to supply local requirements, to illustrate the feasibility of locating renewables based desalination plants close to the demand. Such plants are easily expandable and could be interlinked with the existing supply main network and form an economical and environmentally sustainable solution to the Peninsula's water supply requirements.

Ceduna Proposal

Lloyd Energy Systems (owners of the thermal storage system technology) and IDE Technologies (desalination plant suppliers) have evaluated and jointly carried out a feasibility study and economic analysis of building and operating a desalination plant to supply the Ceduna District Council area with desalinated seawater.

The plant would produce 2.5 ML/day of potable water, and would consist of :-

- (1) 2.5 ML/day MVC Desalination Package Plant
- (2) Solar/Thermal array of approx. 300 GJ/day capacity
- (3) Thermal Storage System of approx. 24 MWh capacity

Back up energy would utilise off peak power only.

Such a plant could produce the highest quality desalinated water in Ceduna for less than \$2.00 per KL total cost (i.e. capital and operating cost) without any subsidy.

For far less subsidy than is now being provided, the cost to the District Council could be reduced to less than \$1.00 per KL.

Rann puts another block on EP water 9 March 2005

Premier Mike Rann has put another block in the way of overcoming Eyre Peninsula's critical water shortage, Member for Flinders Liz Penfold said.

Mrs Penfold was commenting on the Premier's ministerial statement on Tuesday 3rd March 2005 in which he said he was seeking \$35 million immediately from the commonwealth government to help the state fund three particular projects.

One of the projects was \$40 million to augment fresh water supplies for Eyre Peninsula, including a desalination plant.

Mrs Penfold said the announcement ignored the Rann government's promise in 2002 that a desalination plant on the Tod Reservoir – which has still not materialised - was "written in blood".

The announcement also ignored the critical state of Eyre Peninsula's current water supplies and the check on development due to water shortages.

Mrs Penfold said the original promise of a \$32 million desalination plant for Eyre Peninsula funded by a public private partnership, was made at a community cabinet meeting in Port Lincoln in 2002 by the Minister for Government Enterprises Pat Conlon.

Then a desalination plant on the Tod Reservoir to be built by SA Water was supposedly in the State budget and "written in blood" according to former Minister for Administrative Services Jay Weatherill on ABC Radio on 4th June 2003.

In 2003, \$335,594 was spent on trials at the Tod Reservoir but despite SA Water's profit for 2003-04 being \$261.6 million no desalination plant has yet materialised.

In 2004, the amount allocated to the project in the State Budget had dropped to \$25.2 million, however it was not listed in the 2004 'Major Developments SA Directory' nor in the 'SA Water Annual Report'.

Michael Wright is now Minister for Administrative Services but it seems his blood is no more visible than that of his colleagues, Mrs Penfold said.

It all fitted with a comment in an editorial in the Port Lincoln Times 9th December 2004: "There is certainly no guarantee that because a project is listed in budget papers it will come to fruition."

The \$35 million requested by the Premier from the commonwealth, together with \$25 million from the state, would go towards three state water projects, valued at \$94.15 million, still leaving a \$34.15 million shortfall.

The other two projects were \$51 million for water management in the Mount Lofty Ranges and \$3.15 million to extend the Virginia 'grey water' pipeline installed under the former Liberal state government.

Mrs Penfold said the Premier's tactic to seek federal funding was another attempt to pass the buck to cover his government's failure to deliver on promises, whether or not they were "written in blood" or included in the Budget. The failure also restricted future development and prosperity due to the chain effect on employment and population.

“Millions of dollars of development cannot go ahead on Eyre Peninsula until the water issue is dealt with by this government. If it is left too long even the existing water supply will be contaminated by sea water being sucked into the overdrawn basins severely exacerbating the current crisis,” she said.

Addition:

At 3.15 pm on Wednesday 9th March, Mrs Penfold asked the Minister for Administrative Services Michael Wright if the government had reneged on the promise made at a community cabinet meeting in Port Lincoln in 2002 for a Public Private Partnership to build a \$32 million desalination for Eyre Peninsula.

Mr Wright's reply: “This government never reneged on a promise.”

CALL FOR SEAWATER DESALINATION 4 June 2004

A proposed regulation to widen current water conservation measures to encompass domestic water tanks, bores and even household effluent has been labelled an invasion of privacy and a waste of taxpayers money by the member for Flinders, Liz Penfold in parliament this week.

The regulation is expected to take effect from the 1st July when penalties will apply.

‘Presumably all these new measures will require compliance officers coming onto our properties and into our homes to check that we are conserving our tanks, bores and even our domestic waste water, including effluent. One of my colleagues suggested that the government could call these officers the poo police or the dunny detectives.’ Mrs Penfold told the house.

Mrs Penfold is urging the government to look at large scale seawater desalination using wind energy that can be shandied with the water from the Tod reservoir.

“If, as has already been proposed, the green power is used from the Hydro Tasmania wind turbines (located close to the Uley underground water pumping station) the cost could be dropped even lower than the \$1.36 per kilolitre, and be even more environmentally friendly,” she told Parliament.

‘This would stretch the potable quality water further, provide better water for the whole of Eyre Peninsula and enable greater recharge of our underground resource’.

Mrs. Penfold has called for the SAWater monopoly, which made \$250 million profit last year, to be investigated under competition policy requirements by the National Competition Council.

“If our food was provided by a government monopoly we would all be on ration books.”

‘Water is too important to the future of our state to be artificially expensive and in short supply,’ Mrs. Penfold said.

EP DESALINATION PLANT CONSIDERED ONLY 4 June 2003

Member for Flinders Liz Penfold says that she will be watching the Eyre Peninsula Desalination project very carefully despite the Minister for Administrative Services saying on ABC radio today that he will “write it in blood”.

The proposed \$32 million public private partnership was not to be found in “Budget at a Glance” or the “Regional Statement” documents despite much smaller projects being listed, Mrs. Penfold said.

Mention of “augmentation of water supplies to Eyre Peninsula” was finally located in the ‘Capital Investment Statement’ document under South Australian Water Corporation which stated: “*Ancillary Works Eyre Peninsula Water Supply*”.

The document stated a proposed expenditure of \$3.2 million in 2003-04 and Estimated total cost of \$6.5 million followed by a statement that said a project with a total value of \$25.2 million would be “*considered for delivery through a private sector provision arrangement*”.

There is no mention in the papers that this is a desalination plant and if it is, it is \$6.8 million less than was announced by Minister Conlon in Port Lincoln in September last year, Mrs Penfold said.

“The provision of a reliable water source for Eyre Peninsula is essential in an area that relies on underground water and not the River Murray” Mrs Penfold said.