



Inquiry Into Water Resources Management and Planning Charges
Economic Regulation Authority
PERTH
WESTERN AUSTRALIA

By email watercharges@era.wa.gov.au

21 May 2009

Dear Sir/Madam

SUBMISSION

We have two major issues concerning this inquiry:

- Anomalies in water resource management systems
- Broader multi disciplinary approach needed to water resource management

ANNOMILIES IN WATER RESOURCES MANAGEMENT

We have been following with concern the Water Corporation's plan for constructing a major desalination plant at Binningup just north of Bunbury WA. The Water Corporation disclosed in the PER for the project that a major dewatering operation would be carried out and paid for a consultant to do a very limited study on this issue. The consultant's PER report listed many concerns, which gave the reader the impression that from the known information the dewatering operation would be disastrous to the environment and that there was no feasible way around the problems. There was a public review period of 8 weeks and the PER was widely advertised and reported on in the media. An independent body, the EPA made a decision on the issue saying that dewatering would not be a problem however almost no explanation was provided and there was no supporting expert evidence.

The above example contrasts to the Water Corporation's plan to take water from the same aquifer and use it for dust suppression and miscellaneous purposes during construction. In this case it was 'advertised' via a small notice at page 112 in the public notices section of the West Australian giving interested persons 15 days to get their submissions in by mail. If you take out weekends and allow a couple of days for the post that only gives those who spotted this a little over a week to get their submissions in. There is negligible detail of the proposal and no mention of any expert help provided on the issue.

Both issues are very similar:

- both involve two government entities approving this
- both involve the Water Corporation drawing out the water
- both drawing water from the same aquifer
- the aquifer is in a groundwater control area
- the aquifer is shallow unconfined freshwater lense overlying a saltwater wedge adjacent to the coast
- both will be drawing the water at a similar time frame
- dewatering will use a massive amount of water
(approximately 10 times the total annual allocation for the Myalup subarea)
- dust suppression etc will use a massive amount of water
(approximately 63 % of the total annual allocation for the Myalup subarea)
- potential impacts on endangered species, RAMSAR wetlands, karst, vegetation etc.

The questions that need to be answered include:

- Why are two totally different administrative procedures used ?
- Why does the EPA assess the one and the Department of Water the other ?
- Why can't both be evaluated by a transparent system using expert hydrologists with public input and decisions that are published and explained ?
- If more water is drawn than planned who will stop the Corporation ?
- If drawing this water causes major problems will anyone stop the Corporation from drawing more water ?
- If this were a private project, rather than a Government one, how would it be assessed ?

Both processes' lack transparency.

BROADER MULTI DISCIPLINARY APPROACH NEEDED TO WATER RESOURCE MANAGEMENT

It appears that Government bodies are under pressure to approve various aspects needed before the desalination project can go ahead. The underlying message is that if the Binningup desalination plant is not approved Perth will not have enough water and it will lead to mining of Gnangara mound water and an environmental disaster. This is not the case, there are other alternatives available however the Water Corporation appears predisposed to desalination of water as its major source option because of its expertise in processing water.

We note that many people have their own approach to solving the water crisis, however this in large part depends on peoples background and expertise. For example:



- a process engineer would see processing salty water or wastewater as the answer
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We need a better planning system that has a multi disciplinary approach to solving water issues that will fairly assess water planning and allocation issues based on merit and needs rather than a myopic approach based on their own areas of experience and expertise.

We need a better planning system so that unnecessary risks to our water resources and the environment are not taken to pursue the Water Corporation's goal as a desalination state.

The founder of this company has been working for over two decades on the concept of bringing water from the Ord River by super tanker ship to Perth as a cheaper and more environmentally friendly option than desalination. The water planning regime and resource uncertainty have been the major stumbling blocks. Consider for a moment that our iron ore mines would not have been developed until development title was conferred upon the early explorers of the resource. The same needs to be done with water resources for the benefit of the state.

Could you please confirm by reply mail receipt of this submission.

Regards

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Attachments: Copy of submission to Department of Water dated 20 May 2009
(without attachments)



Department of Water
PO Box 261
BUNBURY WA 6230

20 May 2009

Dear Sir/Madam

**SOUTHERN SEAWATER DESALINATION JOINT VENTURE:
REF5274
LICENCE TO DRAW 110,000 KILOLITRES ANNUALLY
(63 % OF THE WHOLE MYALUP SUBAREA ALLOCATION)**

We are very concerned to learn of this application from the Public Notices section of the West Australian newspaper which we have very little information about and have had only a little over a week to prepare and get into the post. This project has been the subject of a major Public Environmental Review which did not mention the need to draw water for construction use and dust suppression. Had this been part of the PER, detailed hydrological modeling would have been required to be done with detailed reports been made available for a much longer period of time for public comment.

The Water Corporation have set up major information distribution channels to keep the public and others of interest informed so that they can have involvement in the decision making process for the desalination plant. To date they have not published any other information concerning this licence request which is sadly lacking in detail.

Due to the lack of notice, many stakeholders who would have been interested to make a submission will not get to do so.

The whole history of this project has been to supply information to people to allay their fears such as the early Water Corp claim that there would be no dewatering for us only to find out later that this was incorrect. It comes as no surprise that the need for water for construction purposes was left out of the PER for tactical reasons given the vast access to engineering expertise by the Water Corporation. For all practical purposes there is no penalty to omit sensitive issues and information from the PER process, indeed there is a great incentive to do so.

We are concerned that there will be a major drawdown on this aquifer for dewatering to construct the seawater pumping station for the desalination plant



which will severely impact on the environment. The additional water required for the subject of this licence will add to the environmental damage caused by dewatering. We have had reports that existing users in the area are currently exceeding their allocation and consequently a detailed hydrological study of the whole area needs to be carried out.

OUR NOTES OF THE PER

The key features of the planned dewatering operation include:

- 17 metres below the water table (Environmental Impact Assessment, Public Environmental Review, Water Corporation, Final April 2008, p152);
- 6.5 to 16 million litres of water per day (Preliminary Geotechnical Investigation, GHD Geotechnics, February 2008, Revision 0, Executive Summary);
- seawater pumping station only 150 metres from the shoreline (EIA op cit, page 152);
- ‘*cone of depression*’ is estimated to be between 600-850 metres (GHD, op cit p32);
- for a period of 4-6 months at an unknown time of the year (EIA op cit, page 152);
- seawater pipelines will be buried 6 metres below sea level (CEMP op cit p38).

We are concerned that the Water Corporation’s proposed action may turn all the groundwater within a significant distance of the plant salty and kill much of the local vegetation. The unspoilt tuart woodland and karst formations are rare examples of what was once common along the WA coast. Of more serious concern is the presence in the area of a number of endangered species which include: Western Ringtail Possums, Carnaby’s Black Cockatoo, Baudin’s Black Cockatoo, Forest Red tailed Black Cockatoo, Southern Brown Bandicoot, rare previously unidentified Millipede and other yet to be identified subterranean organisms.

According to the Water and Rivers Commission (Water Facts 12, 1998), <http://portal.water.wa.gov.au/portal/page/portal/WaterQuality/Publications/WaterFacts/Content/WRCWF12.pdf> they advise that areas within 200 metres of the ocean are unsuitable for even low volume garden bores because of saltwater intrusion.

Other relevant comments from the abovementioned GHD report include:

- ‘*On receipt of GHD’s cost proposal the Water Corporation informed GHD that the cost of the geotechnical investigation was outside their allocated budget.....Water Corporation.....issued a revised scope of work for the geotechnical investigation*’ (p2).
- Area contains Peppermint and Tuart trees (p5).

- Hypersaline wedge extends 2 km inland and salinities in excess of 40,000 mg/L TDS have been recorded (p18).
- A thin layer of fresh (<1,000 mg/L) water overlays the saline and hypersaline water (p18).
- 'High rates of ground and seawater inflow can be expected into the excavations'* (p27).
- '... other methods of dewatering such as well points and sumps would be unsuitable for the depth of excavation being considered.'* (p31).
- 'Consideration should be given to dewatering altogether'* (p31).
- 'However, as dewatering progresses the influence of the dewatering on the wedge of saline water extending under the site will increase and the salinity of the water being pumped can be expected to increase significantly'* (p32).
- 'It is likely that the groundwater pumped from these areas will be acidic...'* (Executive Summary)
- 'A comprehensive groundwater management plan will be required for implementation during construction dewatering activities'* (p32).
- Further investigations needed include, *'groundwater modelling, to predict the impact of dewatering on the surrounding area, including the extent of drawdown from any dewatering activities'* (p35)

The Peer Reviewers Lane and Bailey also considered that the hydrological function needed assessment.

The available water for abstraction across the whole Myalup subarea is only 173 million litres annually (see Kemerton Groundwater Subareas: Water Management Plan, Dept of Water, December 2007). Based on Water Corporation's minimum of 6.5 million litres per day it will use this up in less than 1 month for its 4-6 month operation. If you look at Water Corporation's maximum rate the time will be much quicker.

At the first Myalup public meeting May 30 2007 the following question was asked: 'You said the intake is 8 m below sea level, the plant is 10 m above sea level, does that mean the whole tank is 18 metres deep ? What about dewatering ? The answer by the Water Corporation was:

'It wont require a dewatering process because of the construction methods used'

see: http://www.watercorporation.com.au/D/desal2_reports.cfm

We are concerned that Water Corporation is aware that it is going to cause saltwater intrusion in an area where there are endangered species and has not been prepared to spend the money assess what could happen. A futher concern



is that adequate information is not available for the EPA and all stakeholders as part of the PER process.

For the reader of the PER to have any understanding what is proposed to happen, a cross sectional diagram, showing the ground level, the salt water wedge, fresh water lense and the dewatered pit with the cone of depression around it is needed. This was not readily able to be located among the information provided to us.

ACTIONS TO OVERCOME OBJECTIONS

Given the geomorphically linked wetlands (NB Ramsar wetlands are nearby) we believe that consideration of a licence application be delayed until:

- this project is resubmitted through the PER process with a full hydrological study of all water impacts of the project;
- the outcome of the Commonwealth EPBC investigation into the environmental and hydrogeological aspects of the project are known;
- more is known about plans and policies for the area in the current strategic advice being prepared by the EPA and due to be released in December 2009 (ref Bulletin No 4 May 2009).

An alternative to providing the water from groundwater might be to provide it from the IWSS once the main pipeline to the SSDP is built however this would impact adversely on the scarce IWSS water supplies. Another option might be to truck the water in however this would also have major environmental impacts. Whichever option is chosen however, will facilitate construction of the SSDP which will result in severe and unacceptable impact on the superficial aquifer for dewatering.

This licence application is completely unacceptable and should be rejected.

The need for dewatering for construction of the seawater pumping station should also be made the subject of a licence application and this application should be rejected.

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