



Victorian National Parks Association
3/60 Leicester Street
Carlton, VIC
3053

Planning Panels Victoria – Victorian Desalination Project
Level 1
8 Nicholson Street
East Melbourne, Vic 3002

30 September 2008

Dear Kathryn Mitchell,

Desalination Project – VNPA EES Submission

Victorian National Parks Association (VNPA) would like to take this opportunity to say that we are completely opposed to the construction and operation of a desalination plant in Victoria.

Scientific evidence shows that the following characteristics are generally associated with the discharge of salty brine from desalination plants:

- increased acidity
- small increase in temperature
- doubling of suspended solids
- increased iron and sulphate content
- increase in salinity
- reduced oxygenation

The State, Nation and World face changes so significant they are beyond the comprehension of many. Despite this, the State Government is proposing to build the most energy hungry mechanism to deliver water to Melbourne. By doing this, the State is turning its back on sustainable options such as water recycling, water tanks and a raft of other options.

VNPA has provided a brief outline of our concerns which relate mainly to the marine environment where significant volumes of habitat will be removed on a daily basis.

The EES is based on the “project concept” because the “final form” is not available. VNPA would request that the Panel call upon the Planning Minister to defer the process until the “final form” is available for comment.

Please do not hesitate to contact us if you require any further information.

Yours sincerely

Megan Clinton
Marine and Coastal Project Officer

Submission to the Victorian Desalination EES

Introduction

VNPA believes that the EES process is being rushed through without sufficient checks and balances needed to assess the true impact on the natural environment.

The EES and its Technical Appendices are based on a “project concept” and not on the “final form”. The “final form” will not be determined until after the completion of the EES process making it impossible to assess the real impacts.

VNPA would support a request by the Panel to the Planning Minister to defer the process until the “final form” is completed.

The solution of supplying water to Melbourne using desalination has been taken out of context of the wider environment. The desalination plant will use a significant amount of energy and will emit around 1,117,950.00 tonnes of carbon dioxide a year which is equivalent to putting 284,465.00 cars onto Melbourne’s roads. The Government has reneged on its initial promise of providing the desalination plant with sustainable energy. Instead the proposal is to take energy straight from the grid and then buy green energy credits. The State Government should be looking at ways to ensure sustainable water use while reducing emissions. It should not be doing the polar opposite and building an energy hungry desalination plant.

VNPA believes that the proponent has failed to carry out adequate studies (surveys or modelling) to provide a comprehensive understanding of the long term effects of the plant. The following points outline some of the areas of concern:

- The salt concentration of brine is generally 30 to 70% more concentrated than the original seawater. The process of concentration relating to water released will also apply to other toxicants that might be found in the ocean.
- In addition to this discharge 210/280 GL annually being the liquid is also likely to contain several chemicals used to flush the pipes and clean the membrane of the plant¹. Potential chemicals found in the brine may include anti-scalants, sulphacants

and acidsⁱ. Generally chemicals used for pre-treatment of the feedwater will include free chlorine, highly toxic antifouling agents such as iron chloride (FeCl_3), aluminium chloride (AlCl_3) and sulphuric acid with hydrochloric acid used for PH adjustments and to neutralise the remaining chlorine sodium phosphate (NaPO_3). Chemicals used in flushing the pipelines may include hydrochloric acid, citric acid, polyphosphates, biocides, copper sulphate, and acrolein. Chemicals are also used to preserve the reverse osmosis membrane such as propylene glycol, glycerine, or sodium bisulphite.

- Scientific analysis has shown that depletion of marine life may represent the most significant adverse effectⁱⁱ associated with desalination. The 360/480 GL annual intake of source water is not just water but habitat for many marine plankton, eggs and fish larvae. While appropriate intake design can mitigate the intake of larger animals smaller creatures are taken in and destroyed. The impact of removing these small creatures or larval stages over time can be substantial and cumulative. Commercially important invertebrates such as crayfish, prawns and abalone all have the potential to be drawn into the desalination intake.
- The rocky reef ecosystem will receive the discharge of brine and toxins. The reef supports a diverse range of threatened and endangered marine species. The Proponent has failed to conduct adequate studies on the impact the accumulation of the brine will have upon the reef systems and the marine species that it supports.
- The construction and the operation of the desalination plant is also likely to have a significant impact upon critically endangered birds including the Hooded Plover that breeds as well as protected fauna.

Conclusion

VNPA believes that:

- The desalination plant is not the solution to Melbourne's water requirements,
- It will contribute significantly to green house emissions and
- The impact on the marine environment will be significant in terms of the ongoing removal of many marine plankton, eggs and fish larvae.

ⁱ Einav, R., Harussi, K., Perry, D. 2002. The footprint of the desalination processes on the environment. *Desalination* 152, 141-154.

ⁱⁱ Pankratz, T, An overview of Seawater Intake Facilities for Seawater Desalination, The future of Desalination in Texas Vol 2: Biennial Report on Water Desalination, Texas Water Development board, 2004.