

## **STATEMENT OF INDEPENDENT TECHNICAL REVIEW PANEL (ITRP) ON EIS AND RESPONSE DOCUMENT**

1. The ITRP considers that the EIS of November 2008 and the Response Document of January 2009 for the proposed desalination plant at Port Stanvac, South Australia address all the relevant marine environmental issues.
2. The ITRP endorses the conservative approach followed in developing a Concept Design for the project to limit impacts and manage environmental effects. The ITRP recommends that the following key attributes of the Concept Design be included in the project:
  - The intake to be sited well offshore from nearshore reefs, in water depth of at least 14 m.
  - The water velocity at the grill of the intake to be not more than 0.15 m/s.
  - Diffuser to be located in water depth of at least 17 m, and away from ecologically sensitive areas.
  - Diffuser to be designed to provide a minimum initial dilution of 50:1 for all discharges, tidal conditions and plant operating conditions (with bypass seawater or other means provided to achieve this initial dilution at low rates of brine discharge).
  - The minimum dilution of 50:1 would need to be raised if the discharge salinity increases above 67 ppt or if ecotoxicological studies show a higher minimum initial dilution is required.
3. EIS modelling showed that the diffuser for the Concept Design needs to be approximately 250 m long to meet the dilution criterion. If the DBOM consortium proposes a different diffuser design, the consortium should be required to conduct sufficient further modelling to confirm that the proposed diffuser will meet the required dilution (currently of 50:1).
4. Site preparation and construction should be undertaken with little or no effect on the most sensitive habitats at the site, namely, sub-tidal reef, inter-tidal reef and coastal cliff.
5. The ITRP understands that information continues to be collected on water quality and local currents, to provide at least a continuous 12 month record. The ITRP is advised that ecotoxicological studies will be completed soon. When these results are available and any additional hydrodynamic modelling is completed, the initial dilution target of 50:1 should be reviewed and modified if needed.
6. The initial dilution, and subsequent advection and dispersion of the discharged brine is generated by the momentum of the discharge jets, tidal currents and the net daily current (caused by winds, density flows and the Coriolis circulation in the Gulf). The predictive models used in the EIS underestimate the neap tidal currents but include all processes generating dilution, and the predictions match measurements of dilution at the Perth desalination plant diffuser. The ITRP considers the dilution predictions for the Concept Design provide a reasonable basis for assessing the proposal. The ITRP also considers that the successful tenderer should be required to carry out further hydrodynamic modelling to confirm compliance with the Performance Criteria.

7. The ITRP accepts that there are likely to be localised effects of the proposed desalination plant on the marine environment, including entrainment of plankton and a small salinity increase in the area of the discharge, but that these will be minor.

8. The ITRP considers that, based on the information presented in the EIS and the Response Document, the proposed desalination plant, if constructed in accordance with the design constraints set out above, will not have significant adverse environmental impacts on the marine ecology or water quality in the Gulf.

9. The ITRP accepts that there are not expected to be any measurable adverse effects of the desalination plant on the ecological function of the Gulf such as an increase in the regional seawater salinity.

10. The ITRP supports long term monitoring of marine conditions in the region of Port Stanvac to expand and improve knowledge of the local marine environment to enable a regular assessment to be made of any effects from the construction and operation of the desalination plant.



A/Prof Des Lord



Professor Peter Fairweather



Dr Ian Wallis



Dr Anu Kumar

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