

Adelaide Desalination Project Fact Sheet

WATER IS GOOD

Environmental Management

The Adelaide Desalination Project (ADP) will achieve a sustainable and secure drinking water supply for South Australia. Environmental performance is a key objective and SA Water and contractor AdelaideAqua are committed to ensuring that any potential adverse environmental impacts will be avoided or minimised.

Environmental Impact Statement

The ADP was declared a major project in April 2008 and received the highest level of environmental scrutiny through an Environmental Impact Statement (EIS) under the Development Act 1993. The EIS addressed issues from the plant location and size, to potential impacts on land and in the Gulf.

The EIS involved extensive public consultation, including with Government agencies, local councils, the community and other stakeholders.

Environmental studies

There have been a number of environmental investigations to assess potential impacts and mitigation measures, and to design a plant that will deliver the highest standards of environmental performance. Among other issues, the design has considered:

- Marine ecosystems and habitats
- Sea water dispersion patterns
- Modelling of saline concentrate dispersal and dilution
- Seawater quality
- Potential impacts of saline concentrate discharge on marine organisms
- Terrestrial flora and fauna at the plant site.

Independent Technical Review Panel

Early in the project planning, an Independent Technical Review Panel was established to scrutinise and provide advice on marine environmental studies undertaken by SA Water. The Panel consisted of four members with expertise in a range of areas, including marine biology, marine outfall dynamics and ecotoxicology (how organisms are affected by chemical/saline concentrate discharge). The panel has stated it:

“...considers that the EIS of November 2008...for the proposed desalination plant at Port Stanvac, South Australia addresses all the relevant marine environmental issues.” And “...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.”

The panel's statement is available from the SA Water website (www.sawater.com.au).



Australian Government



Government of
South Australia



SA Water

AdelaideAqua

D&C Consortium



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Environmental objectives and performance

The EIS sets out stringent environmental objectives and performance criteria and demonstrates that all potential environmental impacts of the ADP can be avoided, mitigated or managed.

A number of environmental and development conditions were attached to the Development Approval for the desalination plant. These cover a range of areas including the design and location of the intake and outfall infrastructure, 'no-go' zones for construction (including the cliff face, intertidal and sub tidal reefs), groundwater, noise and vibration, and dust management.

Critical design factors

The EIS process helped to establish design criteria for the project. Some important features include:

- the intake system is being designed to lessen water velocities in order to minimise entrapment of marine life
- the outfall system is being designed to go beneath the cliffs to protect the cliff face and under the seabed to protect inshore coastal zones
- a series of diffusers on the outfall pipe ensure rapid mixing of saline concentrate with surrounding seawater to ensure sufficient dilution in all tidal conditions
- the plant design maximises the use of gravity to aid water flow in plant treatment and avoid pumping to reduce energy use
- an Energy Recovery Device will be used to provide some of the power required for secondary plant processes through the transfer of pressure energy directly from the high-pressure stream of saline concentrate to the low-pressure stream of intake/seawater
- site buildings have been designed to minimise energy consumption for heating, cooling and ventilation.

Environmental management and monitoring

Environmental Management and Monitoring Plans have been developed to ensure that the construction and operational phases of the project meet the environmental performance criteria for the project. These have been completed in consultation with the EPA, local Council and other key stakeholders. They include, for example, groundwater management, flora and fauna, waste management, air quality, site contamination, and sustainability.

Long-term monitoring and oversight

Monitoring of marine conditions will be undertaken by Adelaide and Flinders Universities, the Department of Environment and Heritage (DEH), the South Australian Research and Development Institute (SARDI), and the Australian Water Quality Centre for two years after the plant's initial operation. Salt and oxygen levels in the seawater surrounding the outfall will be regularly monitored to ensure the plant's operation is not impacting on the marine environment.

An independent verifier, APP Corporation, has been appointed to the desalination project. Their role involves conducting regular inspections and audits to ensure the project is designed and built to project specifications and meets stringent performance criteria.

Commitment to renewable energy

AGL has been chosen to provide energy from GreenPower accredited sources in SA to meet 100% of electricity consumed by the ADP operations for a 20-year contract period.

For information about the Adelaide Desalination Project:

- Visit www.sawater.com.au
- Phone the project information line: 1800 812 362
- Email desalination@sawater.com.au