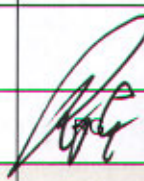

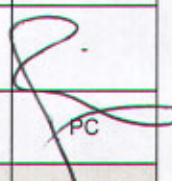


PERTH SEAWATER DESALINATION PROJECT

PRELIMINARY DECOMMISSIONING PLAN

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Date	Revision	Description of Revision	Originator	Review	Project Approval
6-4-05	AAA	Issued for Review			

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1 INTRODUCTION

1.1 BACKGROUND

Water Corporation of WA plan to construct and operate a 45 GL/a seawater desalination plant south of Cockburn Power Station, adjacent to Barter Road and Cockburn Sound, Kwinana, Perth. The plant is designed for a 100 year life.

The land upon which the plant is to be constructed is Crown Land, previously leased by Western Power Corporation and its predecessors. The land has been used primarily as a laydown and general storage area. Several buildings are currently located on the site. Power and communications services currently traverse the site. Access to and car parking for the Cockburn Power Station are located on the site.

The site has a frontage to the beach on the western boundary. The beach adjacent to the site is open to the public and is used extensively by horse trainers for exercising horses. Existing ash and evaporation ponds for the Cockburn and Kwinana Power Stations are located at the North West corner of the plant site, restricting access to the beach in from the facility in this location.

The northern extent of the future James Point port development is Barter Road and may restrict adjacent access from the desalination plant site to Cockburn Sound.

Existing fuel oil tanks are located on the eastern side of the site; containment bund walls for these tanks define much of the eastern boundary of the site.

1.2 SCOPE

The Preliminary Decommissioning Plan outlines the plan for decommissioning the Perth Seawater Desalination Plant and remediation of the site at the completion of the operations.

This Plan for the Perth Seawater Desalination Plant is applicable to the final decommissioning of the on-shore and off-shore plant and infrastructure associated with the desalination, stabilisation, chlorination and fluoridation processes used to produce potable quality water. This Decommissioning Plan covers the plant site and does not cover the pipeline for transfer of potable water from the desalination plant site or any downstream plant and infrastructure.

This draft Plan will be made available to the public, community groups and concerned agencies to provide the opportunity for stakeholder comment during a consultation period. At the end of the consultation period, a final Decommissioning Plan will be produced.

1.3 OBJECTIVES

The objectives of the Decommissioning Plan are to:

- Provide a rationale for the siting and design of plant and infrastructure as relevant to environmental protection
- Provide conceptual plans for the removal or, if appropriate, retention of plant and infrastructure
- Provide a description of a process to agree on the end land use(s) with all stakeholders
- Provide a conceptual rehabilitation plan for all disturbed areas (as agreed by stakeholders)
- Provide a conceptual plan for a care and maintenance phase

- Ensure management of any noxious materials to avoid the creation of contaminated areas

2 MINISTERIAL REQUIREMENTS

The Minister for the Environment has approved the construction of the Perth Seawater Desalination Plant subject to conditions outlined in Ministerial Statement Number 655 of 9 July 2004. The requirements relevant to decommissioning of the plant are summarised below.

No.	Objective	Action	Timing
655:M6.1	To provide a framework to ensure that the site is left in an environmentally acceptable condition	Prepare a Preliminary Decommissioning Plan, which provides the framework to ensure that the site is left in an environmentally acceptable condition.	Design
655:M6.2	To ensure that the site is left in an environmentally acceptable condition	Prepare a Final Decommissioning Plan	Operation. At least 12 months prior to the anticipated date of decommissioning, or as agreed with the EPA
655:M6.3	To ensure that the site is left in an environmentally acceptable condition	Implement the Final Decommissioning Plan	Closure
655:M6.4		Make the Final Decommissioning Plan required by Condition M6.2 publicly available	Operation. When the Plan has been approved for release

3 REFERENCES

- Environmental Protection Act 1986 and amendments
- Environmental Protection Regulations 1987

4 SITING OF DESALINATION PLANT

A preliminary siting study, carried out in the first half of 2002, identified 15 zones along the coast south of Perth. The zone boundaries were based upon a review of the current development in the areas in conjunction with the Perth Metropolitan Regional Scheme (MRS) zonings.

The suitability for siting the desalination plant was undertaken using a number of criteria relating to coastal engineering, water quality, civil infrastructure, land zoning, electrical requirements and hydraulic pumping requirements. Each zone was graded against each criterion as being of good, marginal or poor suitability to identify zones that would be suitable for further investigation during the feasibility study. Two of the fifteen zones were identified as being potentially suitable for the desalination plant.

Within the two identified zones, available land of sufficient area to construct a desalination plant was then identified. A number of the sites identified were already earmarked for other development and were consequently eliminated from further consideration. Western Power offered the use of land south of the Cockburn Power Station adjacent to Barter Road. Two existing Water Corporation properties were also included.

A preliminary noise survey identified that one site would potentially have noise issues with adjacent local residents and was discounted from further evaluation. The remaining sites were each evaluated based upon primarily on the estimated capital cost of the seawater pumping, brine

discharge and interconnection pipework, as well as the purchase price of land. Other selection criteria included the injection point of the product water (Tamworth Hill Reservoir or Thompson Reservoir), the availability cost of power (either from Western Power or a new dedicated generation plant) and environmental impact.

It was determined that the Cockburn Power Station site provided the least cost option with lowest environmental impact.

5 END LAND USE

The land upon which the Desalination plant is located is vested in the Crown. Initially, Water Corporation will lease the land from the state government and look to tenure options at a later date.

The use of the land after relinquishment by Water Corporation will be determined by the appropriate state government authorities, or owner at the time.

6 DECOMMISSIONING OF PLANT AND INFRASTRUCTURE

6.1 GENERAL

The decommissioning of the desalination plant and associated infrastructure will meet the following criteria:

- Works will be carried out in a manner that protects the health and safety of the workers and the community
- The site will be rehabilitated such that it will not constitute a source of pollution to groundwater, Cockburn Sound, surrounding land or the atmosphere
- The rehabilitated site will not constitute a hazard to future occupiers of the land
- The rehabilitated site if it is agreed that this is the best land use will be suitable, from a soil and groundwater quality perspective, for any intended future land use (industrial, commercial, recreational or residential)

The decommissioning process will involve the following steps:

- Shut down of the desalination plant and isolation from Water Corporation system.
- Removal of hazardous substances from the site. Chemicals may be transferred for use at other Water Corporation facilities or returned to supplier
- Cleaning and removal of reusable equipment and infrastructure. Reusable assets may be utilised at other Water Corporation facilities or offered for sale through a salvage company.
- Demolition, removal and disposal of fixed infrastructure.

The site rehabilitation process may involve the following:

- Contamination assessment of the site through sampling and testing of soil and groundwater
- Remediation of contaminated areas if warranted
- Establishment of care and maintenance phase for site

6.2 SHUT DOWN OF PLANT

On cessation of operations, the plant will be placed into a shut down state. The shut down will isolate the plant from the Water Corporation's interconnected water supply system.

6.3 REMOVAL OF HAZARDOUS MATERIALS

Bulk liquid chemicals stored at the site include:

- Ferric chloride solution (42%)
- Sulphuric acid (98%)
- Sodium hypochlorite solution (12.5%)
- Coagulant aid
- Antiscalant
- Fluorosilicic acid (22%)

Other chemicals stored at site may include

- Chlorine gas in 920 kg drums
- Bulk liquefied carbon dioxide
- Bulk lime (solid)
- Sodium metabisulphite in 1 tonne "bulki-bags" (solid)

Other chemicals in small packages (eg 20 L drums, 25 kg bags) may also be present.

Where possible, the chemicals will be transferred for use at other Water Corporation facilities. Otherwise, the chemicals will be returned to the supplier for reuse elsewhere.

The recovery and transportation of Hazardous substances will be in accordance with the manufacturer's Material Safety Data Sheet specifications and facilitated by a Licensed Waste removal Contractor.

All bulk storage facilities will be thoroughly cleaned.

6.4 REUSABLE ASSETS

The plant will be flushed to make the equipment safe and free of hazardous substances.

Plant and equipment that can be used at other Water Corporation facilities, either directly or as spare equipment, will be removed and transferred as appropriate.

Other plant and equipment that has salvage value will be removed and offered for sale.

6.5 BUILDINGS AND FIXED INFRASTRUCTURE

The plant comprises the following significant fixed infrastructure:

Offshore:

- Seawater intake structure
- Seawater intake pipeline
- Wastewater outfall pipeline and diffuser array

Onshore:

- Seawater intake pump station
- Chemical storage building
- Wastewater / backwash tanks
- Wastewater treatment clarifier
- Wastewater treatment building
- SMBS / air building
- Media filters and associated infrastructure
- RO building
- Chlorine / FSA building
- Lime building
- Control / administration building
- Workshop building
- Drinking water pump station building
- Permeate tank
- Drinking water tank
- Lime clarifier
- 132 kV switchyard
- Below ground pipelines
- Below ground electrical and signal cables

An assessment of the risk of demolition/removal compared with leaving in place will be undertaken for all infrastructure, particularly the off-shore and deep underground components. The risk assessment will be conducted, in consultation with stakeholders, at least 12 months prior to the anticipated cessation of operation of the plant.

The offshore seawater intake structure is predominantly concrete with some metal and some GRP fixtures. The structure may be removed in its entirety or may be left in-situ to decay over time. If left in-situ, fixtures that may not decompose will be removed.

Similarly, the seawater intake pipeline and wastewater outfall pipeline may be removed or left in-situ. If removed, a procedure will be developed to minimise the environmental impact during the removal process and to return the seabed to previous condition.

All electrical and signal cabling will be removed and salvaged for scrap metal recycling.

Below ground steel or concrete structures will decay over time and may not pose any significant restriction to future land use. The decision to remove or leave in place will be made in consultation with stakeholders after appropriate risk assessment.

If the equipment poses a safety concern, it will be removed. Below ground infrastructure that is not likely to decay over time will be removed.