

2-1001



Statement No.
000655

MINISTER FOR THE ENVIRONMENT

**STATEMENT TO AMEND CONDITIONS APPLYING TO A PROPOSAL
(PURSUANT TO THE PROVISIONS OF SECTION 46 OF THE
ENVIRONMENTAL PROTECTION ACT 1986)**

PERTH METROPOLITAN DESALINATION PROPOSAL

Proposal: The construction and operation of a seawater desalination plant at a site in the Kwinana / East Rockingham area, and associated seawater intake, concentrated seawater discharge pipelines, and product pipeline to Tamworth Hill or Thomson's Reservoir.

Upgrading of the capacity of the plant to 45 Gigalitres per year at the Kwinana site will include increasing the production of potable water, use of seawater, and discharge of concentrated seawater and further options for combining intake seawater with cooling water discharged from Western Power's Kwinana Power Station, as documented in schedule 1 of this statement.

This statement does not relate to a desalination plant at the alternative East Rockingham site.

Proponent: Water Corporation

Proponent Address: 629 Newcastle Street, LEEDERVILLE WA 6007

Assessment Number: 1512

Previous Assessment Number: 1454

Previous Statement Number: 626 (published on 26 May 2003)

Report of the Environmental Protection Authority: Bulletin 1137

Previous Report of the Environmental Protection Authority: Bulletin 1070

The implementation of the proposal to which the above reports of the Environmental Protection Authority relate is subject to the following conditions and procedures, which replace all previous conditions and procedures for the Kwinana site:

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- 9 JUL 2004

1 Implementation

- 1-1 The proponent shall implement the proposal as documented in schedule 1 of this statement subject to the conditions of this statement.

2 Proponent Commitments

- 2-1 The proponent shall implement the environmental management commitments documented in schedule 2 of this statement.

3 Proponent Nomination and Contact Details

- 3-1 The proponent for the time being nominated by the Minister for the Environment under section 38(6) or (7) of the *Environmental Protection Act 1986* is responsible for the implementation of the proposal until such time as the Minister for the Environment has exercised the Minister's power under section 38(7) of the Act to revoke the nomination of that proponent and nominate another person as the proponent for the proposal.
- 3-2 If the proponent wishes to relinquish the nomination, the proponent shall apply for the transfer of proponent and provide a letter with a copy of this statement endorsed by the proposed replacement proponent that the proposal will be carried out in accordance with this statement. Contact details and appropriate documentation on the capability of the proposed replacement proponent to carry out the proposal shall also be provided.
- 3-3 The nominated proponent shall notify the Department of Environment of any change of contact name and address within 60 days of such change.

4 Commencement and Time Limit of Approval

- 4-1 The proponent shall substantially commence the proposal within five years of the date of this statement or the approval granted in the statement of 26 May 2003 shall lapse and be void.

Note: The Minister for the Environment will determine any dispute as to whether the proposal has been substantially commenced.

- 4-2 The proponent shall make application for any extension of approval for the substantial commencement of the proposal beyond five years from the date of this statement to the Minister for the Environment, prior to the expiration of the five-year period referred to in condition 4-1.

The application shall demonstrate that:

1. the environmental factors of the proposal have not changed significantly;
2. new, significant, environmental issues have not arisen; and

3. all relevant government authorities have been consulted.

Note: The Minister for the Environment may consider the grant of an extension of the time limit of approval not exceeding five years for the substantial commencement of the proposal.

5 Compliance Audit and Performance Review

- 5-1 The proponent shall prepare an audit program and submit compliance reports to the Department of Environment which address:

1. The status of implementation of the proposal as defined in schedule 1 of this statement;
2. evidence of compliance with the conditions and commitments; and
3. the performance of the environmental management plans and programs.

Note: Under sections 48(1) and 47(2) of the *Environmental Protection Act 1986*, the Chief Executive Officer of the Department of Environment is empowered to audit the compliance of the proponent with the statement and should directly receive the compliance documentation, including environmental management plans, related to the conditions, procedures and commitments contained in this statement.

- 5-2 The proponent shall submit a performance review report every five years after the start of operations, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority, which addresses:

1. the major environmental issues associated with the project; the targets for those issues; the methodologies used to achieve these; and the key indicators of environmental performance measured against those targets;
2. the level of progress in the achievement of sound environmental performance, including industry benchmarking, and the use of best available technology where practicable;
3. significant improvements gained in environmental management, including the use of external peer reviews;
4. stakeholder and community consultation about environmental performance and the outcomes of that consultation, including a report of any on-going concerns being expressed; and
5. the proposed environmental targets over the next five years, including improvements in technology and management processes.

6 Decommissioning Plans

- 6-1 Prior to construction, the proponent shall prepare a Preliminary Decommissioning Plan, which provides the framework to ensure that the site is left in an environmentally acceptable condition to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.

The Preliminary Decommissioning Plan shall address:

- 1 rationale for the siting and design of plant and infrastructure as relevant to environmental protection, and conceptual plans for the removal or, if appropriate, retention of plant and infrastructure;
- 2 a conceptual rehabilitation plan for all disturbed areas and a description of a process to agree on the end land uses(s) with all stakeholders;
- 3 A conceptual plan for care and maintenance phase; and
- 4 management of noxious materials to avoid the creation of contaminated areas.

- 6-2 At least 12 months prior to the anticipated date of decommissioning, or at a time agreed with the Environmental Protection Authority, the proponent shall prepare a Final Decommissioning Plan designed to ensure that the site is left in an environmentally acceptable condition to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.

The Final Decommissioning Plan shall address:

- 1 removal or, if appropriate, retention of plant and infrastructure in consultation with relevant stakeholders;
- 2 rehabilitation of all disturbed areas to a standard suitable for the agreed new land use(s); and
- 3 identification of contaminated areas, including provision of evidence of notification and proposed management measures to relevant statutory authorities.

- 6-3 The proponent shall implement the Final Decommissioning Plan required by condition 6-2 until such time as the Minister for the Environment determines, on advice of the Environmental Protection Authority, that the proponent's decommissioning responsibilities have been fulfilled.

- 6-4 The proponent shall make the Final Decommissioning Plan required by condition 6-2 publicly available, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.

7 Management Plans and Monitoring Reports

- 7-1 Prior to finalisation of the management plans referred to in commitments 1, 2, 3, 4, 6, 7 and 12, the proponent shall make each draft management plan available for public comment and provide evidence to the Department of Environment that any matters arising have been addressed, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.
- 7-2 The proponent shall make monitoring reports publicly available, to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority.

Procedures

- 1 Where a condition states "to the requirements of the Minister for the Environment on advice of the Environmental Protection Authority", the Environmental Protection Authority will provide that advice to the Department of Environment for the preparation of written notice to the proponent.
- 2 The Environmental Protection Authority may seek advice from other agencies or organisations, as required, in order to provide its advice to the Department of Environment.
- 3 Where a condition lists advisory bodies, it is expected that the proponent will obtain the advice of those listed as part of its compliance reporting to the Department of Environment.

Notes

- 1 The Minister for the Environment will determine any dispute between the proponent and the Environmental Protection Authority or the Department of Environment over the fulfilment of the requirements of the conditions.

Judy Edwards

Dr Judy Edwards MLA
MINISTER FOR THE ENVIRONMENT

- 9 JUL 2004

Schedule 1

The Proposal (Assessment No. 1512)

Upgrading of the capacity of the plant from 30 GL per year to 45 GL per year at the Kwinana site. This includes increasing the production of potable water, use of seawater, and discharge of concentrated seawater, and further options for combining intake seawater with cooling water discharged from the Kwinana Power Station, as specified in the key characteristics table below.

This does not relate to the plant at the alternative East Rockingham site.

The location of the plant is shown in Figure 1 (attached).

Table 1 – Key Proposal Characteristics

Project characteristic	Quantities/Description
Location	Kwinana Power Station site
Capacity	45 GL per year
Power requirement	24.1 MW average demand
Greenhouse gas emissions (tpa CO ₂ -equivalent)	85,000 gas-fired power 231,000 state grid power
Clearing of vegetation required	Likely to be 2-3 ha of mostly completely degraded vegetation
Seawater intake	300 ML/day (weekly average)
Seawater intake pipelines	
Location (indicative).	See Figure 1. Option for combined intake with Western Power facilities.
Length (indicative)	0.8 km
Number	1
Diameter	1500 mm
Concentrated seawater discharge	
Volume	180 ML/day (weekly average)
Salinity	65,000 mg/L
Temperature	If the dedicated intake from Cockburn Sound is used, the discharge temperature will be not more than 2°C above ambient. If KPS cooling water is used, the discharge temperature will be up to 13°C above ambient. (The temperature will be less than 0.3°C above ambient after initial mixing.)
Location of outlet	In 10m depth of water approximately 300 m offshore from KPS
Diffuser design	Approximately 80 – 180 m long Design to be based upon an average initial dilution of 45

Product water pipeline	
Location (indicative)	See Figure 1
Capacity	Greater than 150 ML/day
Length (indicative)	10 km
Number	1
Diameter	1000 mm
Destination	Thomson's Reservoir

Abbreviations

GL	gigalitres
ML	megalitres
km	kilometres
mm	millimetres
mg/L	milligrams per litre
ha	hectares
MW	megawatt
tpa CO ₂ -e	tonnes per annum CO ₂ equivalent
KPS	Kwinana Power Station

Figure (attached)

Figure 1 - Location of desalination plant and infrastructure at the KPS site.

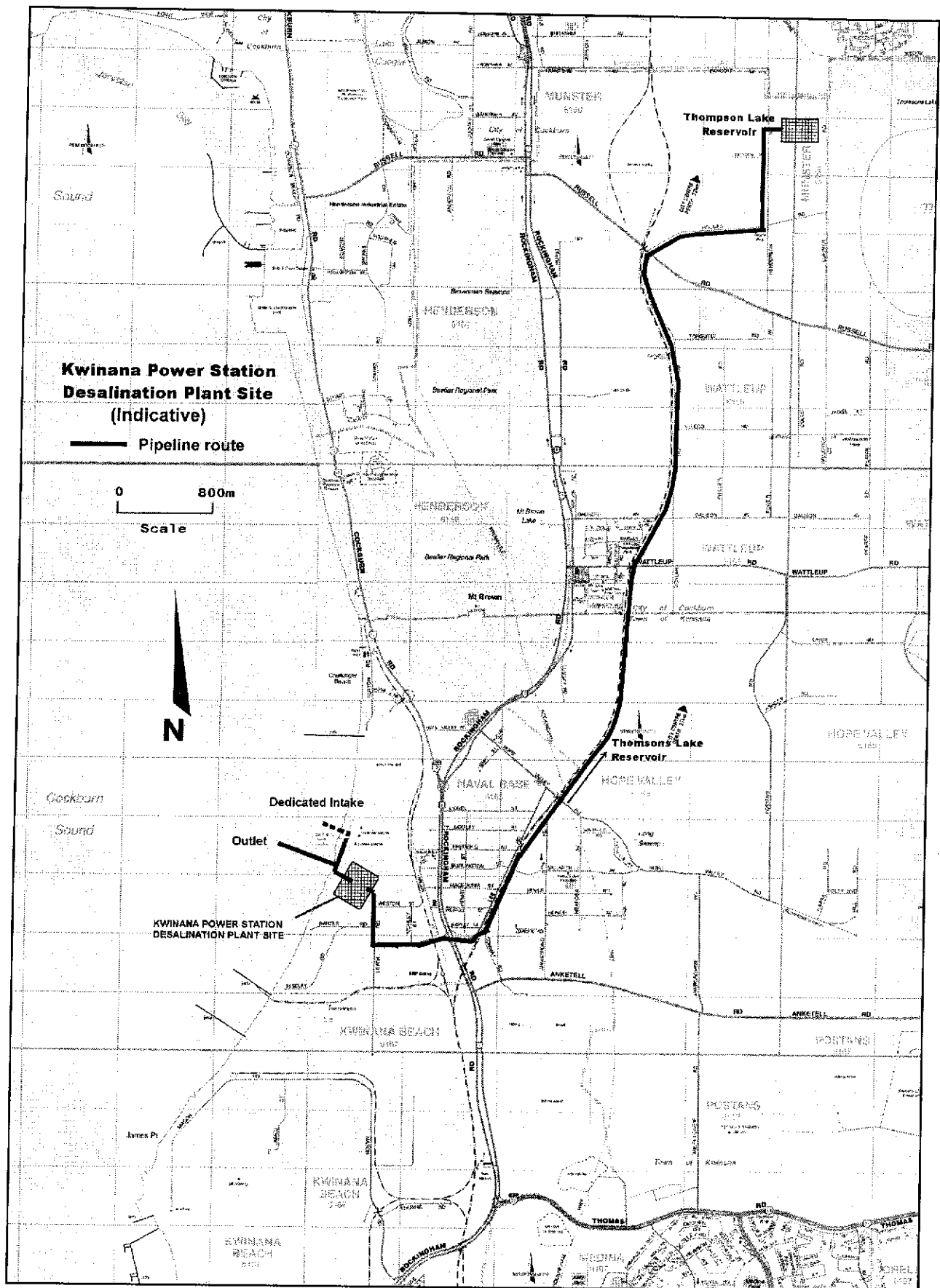


Figure 1: Location of desalination plant and infrastructure at the KPS site

Proponent's Environmental Management Commitments

July 2004

**Perth Metropolitan Desalination Proposal
(Kwinana Site)**

(Assessment No. 1512)

Water Corporation

PERTH METROPOLITAN DESALINATION PROPOSAL (Assessment No. 1512)

July 2004

Note: The term "commitment" as used in this schedule includes the entire row of the table and its six separate parts as follows:

- a commitment number;
- a commitment topic;
- the objective of the commitment;
- the 'action' to be undertaken by the proponent;
- the timing requirements of the commitment; and
- the body/agency to provide technical advice to the Department of Environment.

No	Commitment	Objective	Action	Timing	Advice
1	Consultative Environmental Management Plan (CEMP)	To minimise environmental impacts from implementation of the proposal.	<p>Prepare a Consultative Environmental Management Plan which will include the following:</p> <ul style="list-style-type: none"> • Water Quality Management Plan (see commitment 2). • Flora and Fauna Management Plan (see commitment 3). • Greenhouse Gas Management Plan (see commitment 4). • Noise Management Plan (see commitment 6). • Hazardous Materials Management Plan (see commitment 7). • Cooling Water Monitoring Programme (see commitment 2). <p>The Management Plan will be developed in consultation with the Cockburn Sound Management Council, the Town of Kwinana and the City of Rockingham.</p>	Within four months following a decision to construct	CALM CSMC Kwinana Rockingham

2	Water Quality Management Plan	To ensure protection of the water quality of Cockburn Sound.	<p>1. Prepare a Water Quality Management Plan which will include the following:</p> <ul style="list-style-type: none"> • Procedures to mitigate potential impacts of construction of the discharge pipeline and intake. • A monitoring program for TDS (salinity), temperature and DO (dissolved oxygen) of water surrounding the discharge site, a nearby reference site, and a site in the deeper waters of Cockburn Sound. • A monitoring programme to ensure that the diffuser is performing to specifications and achieving the required level of dilution. • Monitoring of sediment habitat pre- and post-commissioning. • A contingency plan that examines the risk of contamination and procedures to mitigate any unanticipated impacts. • Whole of effluent testing methodology and protocols. • A monitoring programme for Kwinana Power Station cooling water, if used as input water, will be conducted. Analysis will be of sufficient accuracy and precision to enable comparison with appropriate standards and criteria for Cockburn Sound. • An annual inspection programme to check the physical integrity of the outlet pipe and diffuser. <p>2. Implement the Water Quality Management Plan described in commitment 2.1 above.</p>	Within four months following a decision to construct	DoE (Marine Branch)
3	Flora and Fauna Management Plan	To ensure protection of flora and fauna.	<p>1. Prepare a Flora and Fauna Management Plan which will include the following:</p> <ul style="list-style-type: none"> • Locating the plant and pipelines to minimise clearing and effects on conservation values. • Mitigating impacts on Priority Flora. • Dieback management measures. • Weed control measures. <p>2. Implement the Flora and Fauna Management Plan described in commitment 3.1 above.</p>	Within four months following a decision to construct and prior to commencement of ground-disturbing activities. Construction and Operation, as appropriate	DoE (Terrestrial Section), CALM

4	Greenhouse Gas Management Plan	To minimise the generation of greenhouse gases.	<p>1. Prepare a Greenhouse Gas Management Plan which will include:</p> <ul style="list-style-type: none"> • Use of sources of renewable energy as far as is practicable. • Calculation of the greenhouse gas emissions associated with the proposal, as indicated in "Minimising Greenhouse Gas Emissions, Guidance for the Assessment of Environmental Factors, No 12" published by the Environmental Protection Authority. • Specific measures to minimise the greenhouse gas emissions associated with the proposal. • Monitoring of greenhouse gas emissions. • Estimation of the greenhouse gas efficiency of the proposal in comparison with the efficiencies of other comparable projects producing a similar product. • An analysis of the extent to which the proposal meets the requirements of the National Strategy using a combination of: <ul style="list-style-type: none"> ○ "no regrets" measures, ○ "beyond no regrets" measures, ○ land use change or forestry offsets, and ○ international flexibility mechanisms. <p>2. Implement the Greenhouse Gas Management Plan described in commitment 4.1 above.</p>	Within four months following a decision to construct	DoE (Air Quality Management Branch)
5	Greenhouse Gases	To minimise the generation of greenhouse gases	<p>The proponent will take all reasonable and practicable steps to obtain an electricity contract for the plant which will specify that the electricity will be sourced from gas-fired generating units at least 95% of the time.</p>	Operation	
6	Noise Management Plan	To minimise noise impacts from implementation of the proposal.	<p>1. Prepare a Noise Management Plan which includes detailed modelling of noise emissions and cumulative affect of emissions.</p> <p>2. Implement the Noise Management Plan described in commitment 6.1 above, where appropriate.</p>	Within four months following a decision to construct Construction and Operation, where appropriate	DoE (Noise Management Branch).

7	Hazardous Materials Management Plan	To minimise public risk from materials associated with the plant.	1. Prepare a Hazardous Materials Management Plan. 2. Implement the Hazardous Materials Management Plan described in commitment 7.1 above, where appropriate.	Within four months following a decision to construct Construction and Operation, where appropriate	DoIR
8	Ocean outlet for seawater return	Achieve compliance with Cockburn Sound EPP and associated criteria.	Design the ocean outlet diffuser system and locate it to ensure the discharge complies with the requirements of the <i>Revised Draft Cockburn Sound Environmental Protection Policy 2002</i> and the <i>Revised Environmental Quality Criteria Reference Document (Cockburn Sound)</i> . The design is to be certified by an expert as soon as the optimised design of the diffuser is available.	Prior to construction and Construction	
9	Seawater return	To ensure the concentrated seawater released by the plant does not cause stratification in the far field.	Obtain an expert assessment of the likely stratification build up and any subsequent dissolved oxygen effects in the deeper area of Cockburn Sound.	Within 3 months following approval	
10	Whole Effluent Toxicity (WET) testing	To ensure that the discharge complies with the requirements of the Cockburn Sound Environmental Protection Policy and the Revised Environmental Quality Criteria	<ol style="list-style-type: none"> 1. Conduct WET testing of the high salinity seawater discharge including added chemicals (anti-scalants and biocides) as soon as the chemicals to be used and their likely dosing rates are known to a reasonable level of certainty. Conduct the testing following the principles contained in the USEPA, APHA and ASTM protocols at a NATA accredited laboratory in accordance with the protocols set out in ANZECC/ARMCANZ (2000) whole effluent toxicity protocols, at various concentration levels as stated in the Water Quality Management Plan. 2. Report the results of WET testing as described in commitment 10.1 to the DoE. 	Prior to construction	

		Reference Document (Cockburn Sound).	3. Conduct WET testing of the high salinity seawater discharge as described in commitment 10.1 above 12 months after commissioning. 4. Report the results of WET testing as described in commitment 10.3 to the DoE.	Operation (12 months after commissioning).	
11	Vegetation, Declared Rare and Priority Flora and Fauna Habitat	Protect vegetation, Declared Rare and Priority Flora and Fauna.	1. Conduct a survey of product pipeline routes to determine final alignments to avoid areas identified by CALM or DoE. 2. Conduct detailed surveys for Rare and Priority Flora, to contribute to the Flora and Fauna Management Plan.	Spring season, and prior to ground-disturbing activities.	CALM
12	Nitrogen loading to Cockburn Sound	To ensure there is no net increase in nitrogen added to Cockburn Sound.	Prepare a management plan to ensure that the upgraded desalination plant is nitrogen-neutral relative to the 30 GL/a desalination plant. The management plan will be developed in consultation with the Cockburn Sound Management Council, the Town of Kwinana and the City of Rockingham, and will be submitted to the EPA for consideration.	Prior to operation	CSMC Kwinana Rockingham
13	Nitrogen loading to Cockburn Sound	To minimise the amount of nitrogen added to Cockburn Sound.	Nitrogen-free alternatives will be used for process chemicals where appropriate and practicable.	Operation	CSMC Kwinana Rockingham

Abbreviations

CALM Department of Conservation and Land Management
 CSMC Cockburn Sound Management Council
 DoE Department of Environment
 DoIR Department of Industry and Resources
 EPA Environmental Protection Authority
 Kwinana Town of Kwinana
 Rockingham City of Rockingham