



MINISTER FOR THE ENVIRONMENT;  
EMPLOYMENT AND TRAINING

**STATEMENT THAT A PROPOSAL MAY BE IMPLEMENTED  
(PURSUANT TO THE PROVISIONS OF THE  
ENVIRONMENTAL PROTECTION ACT 1986)**

CHLOR-ALKALI PLANT EXPANSION TO 42,000 tpa, KWINANA (1045)

NUFARM-COOGEE PTY LTD

This proposal may be implemented subject to the following conditions which replace all previous conditions set under Part IV of the Environmental Protection Act for this project (see note 2):

**1 Proponent Commitments**

The proponent has made a number of environmental management commitments in order to protect the environment.

- 1-1 In implementing the proposal, the proponent shall fulfil the commitments made in the Consultative Environmental Review and in response to issues raised following public submissions; provided that the commitments are not inconsistent with the conditions or procedures contained in this statement. In the event of any inconsistency, the conditions and procedures shall prevail to the extent of the inconsistency.

The consolidated environmental management commitments of 31 December 1996 are attached.

**2 Implementation**

Changes to the proposal which are not substantial may be carried out with the approval of the Minister for the Environment.

- 2-1 Subject to these conditions, the manner of detailed implementation of the proposal shall conform in substance with that set out in any designs, specifications, plans or other technical material submitted by the proponent to the Environmental Protection Authority with the proposal.
- 2-2 Where, in the course of the detailed implementation referred to in condition 2-1, the proponent seeks to change the designs, specifications, plans or other technical material submitted to the Environmental Protection Authority in any way that the Minister for the Environment determines, on the advice of the Environmental Protection Authority, is not substantial, those changes may be effected.

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### **3 Proponent**

These conditions legally apply to the nominated proponent.

- 3-1 No transfer of ownership, control or management of the project which would give rise to a need for the replacement of the proponent shall take place until the Minister for the Environment has advised the proponent that approval has been given for the nomination of a replacement proponent. Any request for the exercise of that power of the Minister shall be accompanied by a copy of this statement endorsed with an undertaking by the proposed replacement proponent to carry out the project in accordance with the conditions and procedures set out in the statement.

### **4 Chlorine Storage**

- 4-1 The proponent shall store chlorine in bulk only, and with safeguards in accordance with best practice principles current at the time of design of the facility and to the requirements of the Environmental Protection Authority on advice of the Department of Minerals and Energy and the Department of Environmental Protection.

These safeguards shall include, but not be limited to, the following:

- 1 no more than 50 tonnes of chlorine to be stored in the three 25 tonne storage vessels, and no more than 100 tonnes to be stored in the three 50 tonne storage vessels. Storage is to be operated in such a manner that there is sufficient unused capacity to receive the contents of any storage vessel which may leak;
- 2 the storage vessels to hold chlorine in a liquid state at a temperature not higher than minus 34° C (and at atmospheric pressure during storage);
- 3 storage vessels to have full height bunding and to be in a fully sealed building which is vented to a chlorine scrubber. For the new processing train, liquefaction and vaporisation equipment is also to be housed within the storage containment building;
- 4 materials and design of the bunding to minimize heat transfer to any spilled chlorine and to allow controlled recovery of any spilled chlorine; and
- 5 isolating valves on the main storage vessels and process items. Storage isolation valves to have two actuation points, one being remote from the storage vessels.

### **5 Chlorine Scrubbing System**

- 5-1 The proponent shall install a chlorine scrubbing system on the chlor-alkali plant of adequate design capacity to the requirements of the Environmental Protection Authority on advice of the Department of Minerals and Energy.

### **6 Filling of Containers for Supply of Chlorine**

- 6-1 The proponent shall notify the Environmental Protection Authority of any proposal to fill containers with chlorine for supply from the plant.

### **7 Operational Requirements**

- 7-1 From design to decommissioning, the proponent shall maintain the process equipment, instrumentation and alarm systems consistent with the safety and reliability assessment of the plant, to the requirements of the Environmental Protection Authority on advice of the Department of Minerals and Energy.

7-2 From design to decommissioning, the proponent shall minimize the risk of damage to electrolytic cells as a result of fire or explosion, to the requirements of the Environmental Protection Authority on advice of the Department of Minerals and Energy.

7-3 From design to decommissioning, the proponent shall install very high integrity instrumentation for control of the plant and for the detection of and response to any unplanned releases, to the requirements of the Environmental Protection Authority on advice of the Department of Minerals and Energy.

## **8 Noise Limits**

8-1 The proponent shall conduct operations so that noise emissions do not unreasonably impact on persons in the vicinity.

8-2 The proponent shall ensure that noise emissions meet the requirements of the noise control regulations applying from time to time under the Environmental Protection Act.

## **9 Environmental Management System**

9-1 The proponent shall exercise all care and diligence in managing the proposal to ensure the protection of the environment.

9-2 The proponent shall revise and implement an environmental management plan and environmental management procedures in order to implement the proposal and shall manage the relevant environmental factors to ensure that the environmental objectives (Section 3, Environmental Protection Authority Bulletin 845) are met.

9-3 In preparation of the plan referred to in condition 9-2, the proponent shall adopt quality assurance principles (such as those adopted in Australian Standards ISO 9000 series) and environmental management principles (such as those adopted in the voluntary Australian Standards ISO 14000 series), with appropriate monitoring, auditing and reporting to ensure compliance with these conditions and the on-going protection of the environment.

9-4 If, through the implementation of the environmental management procedures referred to in condition 9-2, the proponent identifies a relevant environmental factor not reported on in Environmental Protection Authority Bulletin 845, the proponent shall immediately report to the Minister for the Environment on that factor, providing a proposed objective and the suggested means for managing the factor to achieve the objective.

## **10 Environmental Management Programme**

In order to plan for the protection of public health and safety and to maintain environmental impacts at acceptable levels, an Environmental Management Programme is required.

10-1 Prior to construction of new plant, the proponent shall prepare a revised Environmental Management Programme, to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection and the Department of Minerals and Energy.

This Programme shall address, but not be limited to the following:

### Hazard identification and risk management, including

- 1 safety engineering design;
- 2 quantified risk assessment (commitment 1);
- 3 hazard and operability studies (HAZOP) of the facilities (commitment 2);
- 4 implementation systems and total hazard control plan (commitment 4);
- 5 safety reviews during the life of the plant;

- 6 review and update of the quantified risk assessment every five years (commitment 9); and
- 7 review and update of total hazard control plan, when required as a result of review of quantified risk assessment.

#### Construction and commissioning impacts

- 8 minimization of construction stage impacts, including noise and dust from site works and site run-off;
- 9 minimization of start-up impacts of new plant;
- 10 prevention of unacceptable environmental impacts during start-up of plant;

#### Gaseous emissions

- 11 monitoring and audit programme for all gaseous emissions;
- 12 procedures for leak detection and repair for new processing equipment;

#### Protection of groundwater and water resources

- 13 efficient use and conservation of fresh water;
- 14 monitoring and audit programme for groundwater quality at the plant; and

#### Results

- 15 results of monitoring programmes to be submitted annually to the Department of Environmental Protection for audit.

10-2 The proponent shall implement the revised Environmental Management Programme required by condition 10-1.

### **11 Emergency Response Plan**

- 11-1 Prior to commissioning of new plant equipment, the proponent shall revise and implement, to the requirements of the Environmental Protection Authority and other relevant agencies, a plant emergency plan which takes into account all relevant events, including "plant upset" conditions for the new process equipment.

This plan shall be integrated with the Kwinana Industries Mutual Aid system (KIMA).

- 11-2 Prior to commissioning of new plant equipment the proponent shall prepare a co-ordinated emergency response plan to be implemented jointly with the occupant of the adjacent titanium dioxide pigment plant, to the requirements of the Environmental Protection Authority on advice of the Department of Minerals and Energy and the Department of Environmental Protection.

### **12 Decommissioning**

- 12-1 The proponent shall carry out the satisfactory decommissioning of the project, removal of the plant and installations and rehabilitation of the site and its environs.
- 12-2 At least six months prior to decommissioning, the proponent shall prepare a decommissioning and rehabilitation plan to achieve the objectives of condition 12-1.
- 12-3 The proponent shall implement the plan required by condition 12-2.

### **13 Time Limit on Approval**

The environmental approval for the substantial commencement of the proposal is limited.

- 13-1 If the proponent has not substantially commenced the project within five years of the date of this statement, then the approval to implement the proposal as granted in this statement shall lapse and be void. The Minister for the Environment shall determine any question as to whether the project has been substantially commenced.

Any application to extend the period of five years referred to in this condition shall be made before the expiration of that period to the Minister for the Environment.

Where the proponent demonstrates to the requirements of the Minister for the Environment on advice of the Department of Environmental Protection that the environmental parameters of the proposal have not changed significantly, then the Minister may grant an extension not exceeding five years.

### **14 Performance Review**

- 14-1 Following commencement of operation, the proponent shall carry out an annual audit of environmental performance. The proponent shall provide the audit report to the Department of Environmental Protection each year for the first five years of the operation.

- 14-2 Each five years following the commencement of construction, the proponent shall prepare a major review of the following:

- 1 environmental protection, including but not limited to consideration of the environmental objectives. These environmental objectives shall include but not be limited to those identified by the Environmental Protection Authority in the assessment report (Environmental Protection Authority Bulletin 845) and account for operating experience and new knowledge;
- 2 the audit of performance against the environmental objectives;
- 3 the environmental management programme, including but not limited to, updating the programme with regard to any changes to environmental objectives and with regard to operating experience and new knowledge and technology; and
- 4 the annual audits required by condition 14-1,

to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection and the Department of Minerals and Energy.

The environmental objectives may be changed by the Environmental Protection Authority following the review.

### **15 Compliance Auditing**

To help determine environmental performance and compliance with the conditions, periodic reports on the implementation of the proposal are required.

- 15-1 The proponent shall submit periodic Performance and Compliance Reports, in accordance with an audit programme prepared by the Department of Environmental Protection in consultation with the proponent.

### **Procedure**

- 1 Unless otherwise specified, the Department of Environmental Protection is responsible for assessing compliance with the conditions contained in this statement and for issuing formal clearance of conditions.
- 2 Where compliance with any condition is in dispute, the matter will be determined by the Minister for the Environment.

### **Note**

- 1 The Environmental Protection Authority reported on the proposal in Bulletin 845 (March 1997).
- 2 The original conditions for this project were issued on 26 April 1989 (Assessment No 175B). The conditions in this statement replace those conditions which are no longer applicable for this project.
- 3 The proponent is required to apply for a Works Approval for this project under the provisions of Part V of the Environmental Protection Act.

CHERYL EDWARDES (Mrs) MLA  
MINISTER FOR THE ENVIRONMENT

16 MAY 1997

# **Proponent's Environmental Management Commitments**

**31 December 1996**

**CHLOR-ALKALI PLANT EXPANSION TO  
42,000 TPA, KWINANA (1045)**

**NUFARM-COOGEE PTY LTD**

## LIST OF PROPONENT COMMITMENTS

### Commitments

#### Environmental Management Programme

The proponent commits to develop a revised Environmental Management Programme (EMP) for the expanded plant to be submitted to the DEP before commissioning of new chlorine production capacity. The revised EMP will incorporate quality assurance principles (such as those in Australian Standard ISO 9000 series) and environmental management principles (such as those adopted in the draft Australian Standard / ISO 14000 series).

#### Specific Commitment on Key Environmental Factors

Additional specific commitments with respect to this project which address the key environmental factors are consolidated in *Table 6* below.

**Table 6. Summary of Commitments as amended December 1996**

Commitment	Objective	Action	Timing	Advice By	Measurement / Compliance Criteria
1 To adopt best practice for design of bulk liquid chlorine installation for expanded plant.	To ensure that incremental risk from plant expansion is as low as reasonably practicable.	Installation to be designed to agreed performance specification and guidelines	Before plant construction	DME	Quantitative Risk Assessment of final design, to satisfaction of DME.
2 Review hazards of proposed expansion.	To ensure systematic detection and elimination of unforeseen hazards, and operating and maintenance problems.	Formal HAZOP study of expanded plant.	At completion of basic engineering, and before final commissioning.	DME	HAZOP study reports will be provided to DME, and evaluated by external performance audit of Total Hazards Control Plan.
3 To design and construct plant in compliance with risk guidelines.	To ensure that risk is as low as reasonably practicable, and complies with acceptable standards.	Quantitative risk Assessment of completed design for expanded plant.	Before final commissioning of new chlorine processing systems.	DME	To meet risk criteria in EPA Bulletins 611 and 627, and DME's requirements.
4 To prepare a construction safety management plan and procedure manual.	To minimise risks associated with plant construction.	Plan and management procedures to address specific risks and hazards associated with construction activities around a working plant.	Before plant construction.	DEP/DME	To satisfaction of DEP on advice from DME



Table 6 (continued) Summary of Proponent Commitments as amended December 1996

Commitment	Objective	Action	Timing	Advice By	Measurement / Compliance Criteria
5	To implement the construction safety management plan.	To minimise risks associated with plant construction.	To manage construction activities in accordance with the plan.	At start of construction programme.	DME To satisfaction of DME.
6	To develop ongoing safety management systems for the operational phase of the expanded plant.	To ensure that risk is maintained as low as reasonably practicable, and complies with acceptable standards.	Review and update Total Hazards Control Plan to cover the operation of the expanded plant.	Before final commissioning of new chlorine processing systems.	DME THCP to be updated to DME's satisfaction.
7	To review the appropriateness of the revised safety management system.	To ensure that Total Hazards Control Plan suitably addresses all risks and hazards at the expanded plant.	The proponent will commission an independent third party audit of the revised Total Hazards Control Plan.	Before final commissioning of new chlorine processing systems.	DME Third party audit report to be reviewed by DME.
8	To implement the revised safety management system for the ongoing operation of the expanded plant.	To ensure that risk is maintained as low as reasonably practicable, and complies with acceptable standards.	To manage the operation of the plant in accordance with the requirements of the revised Total Hazards Control Plan.	From final commissioning of new chlorine processing systems.	DME THCP performance audits to be performed to satisfaction of DME.
9	To periodically review risk of operation.	To ensure that risk is maintained as low as reasonably achievable, and complies with acceptable standards.	Review and update QRA in light of operational experience and new assessment techniques.	At approximately 5 yearly intervals for life of plant.	DME Risk results to be compared to best practice standards at time of review.

**Table 6 (continued) Summary of Proponent Commitments as amended December 1996**

<b>Commitment</b>	<b>Objective</b>	<b>Action</b>	<b>Timing</b>	<b>Advice By</b>	<b>Measurement / Compliance Criteria</b>
10	To design and construct expansion for reliable prevention of chlorine emissions.	New chlorine scrubbers to be designed to a performance and reliability standard at least equal to existing proven system.	Before plant construction.	DEP	To comply with Licence limits set by DEP, to achieve design ground level concentrations within Interim Guidelines
11	To provide ongoing maintenance of integrity of chlorine scrubbing and monitoring system.	Review and update quality assurance procedures contained in THCP to cover requirements of expanded plant.	Before final commissioning of new chlorine processing systems.	DEP/DME	To meet DEP and DME requirements, by routine reporting.
12	Adopt best practice design for new installation to minimise risk of salt leakage.	Review civil design and expanded monitoring provisions with DEP.	Before plant commissioning.	DEP	Ongoing performance assessed by corporate environmental audit, and routine reporting to DEP.