



MINISTER FOR THE ENVIRONMENT;
EMPLOYMENT AND TRAINING

Ass # 1039

Bull # 847

State # 452

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

**STAGED EXPANSION OF TIWEST PIGMENT PLANT TO 180,000 tpa
KWINANA (1039)**

TIWEST JOINT VENTURE

This proposal may be implemented subject to the following conditions which replace the conditions in all previous statements for the pigment plant at this site:

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 subsequently during the environmental assessment process conducted by the Environmental Protection Authority; 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 26 March 1997 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.

Published on

8 JUN 1997

- 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.

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 Environmental Management System

The proponent should exercise care and diligence in accordance with best practice environmental management principles.

- 4-1 In order to manage the relevant environmental factors, to meet the environmental objectives in Environmental Protection Authority Bulletin 847, and to fulfil the requirements of the conditions and procedures in this statement, prior to construction, the proponent shall prepare environmental management system documentation with components such as those adopted in Australian Standards AS/NZS ISO 14000 series, in consultation with the Department of Environmental Protection.
- 4-2 The proponent shall implement the environmental management system referred to in condition 4-1.

5 Decommissioning

- 5-1 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.
- 5-2 At least six months prior to decommissioning, the proponent shall submit a final decommissioning and rehabilitation plan to achieve the objectives of condition 5-1.
- 5-3 The proponent shall implement the plan required by condition 5-2.

6 Time Limit on Approval

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

- 6-1 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 Environmental Protection Authority that the environmental parameters of the proposal have not changed significantly, then the Minister may grant an extension not exceeding five years.

7 Performance Review

The proponent should review their environmental performance to ensure that environmental management meets the environmental objectives and allows for continuous improvement.

- 7-1 Each six years following commencement of construction, the proponent shall carry out a performance review to evaluate environmental performance with respect to the environmental objectives, the performance indicators, and the environmental management system targets, to the requirements of the Environmental Protection Authority on advice of the Department of Environmental Protection.

Note:

- 1 In the event that the timing requirements of this condition are not compatible with the timing requirements of the triennial reporting required under the State Agreement Act, then the timing requirements of the latter will prevail.
- 2 The Environmental Protection Authority may recommend actions to the Minister for the Environment following consideration of the performance review.

8 Compliance Auditing

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

- 8-1 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.
- 3 The Department of Environmental Protection will finalize a re-determination of the Maximum Permissible Quantities for sulphur dioxide in the Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1992 for the proponent, in consultation with the Environmental Protection Authority and industry by 30 April 1998.
- 4 The Department of Environmental Protection will ensure that the re-determination of the Maximum Permissible Quantities for sulphur dioxide reflects the Environmental Protection Authority's objectives as stated in Environmental Protection Authority Bulletin 847, and will incorporate these limits in the licence conditions for the proponent following the Works Approval process, for each stage of the expansion.

- 5 The Department of Environmental Protection will liaise with the Environmental Protection Authority and the titanium dioxide industry in Western Australia with the aim of jointly defining and documenting "best practice" requirements for sulphur dioxide emissions for the industry by 31 March 1998.

Note

- 1 The Environmental Protection Authority reported on the proposal in Bulletin 847 (March 1997).
- 2 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

30 JUN 1997

Proponent's Environmental Management Commitments

26 March 1997

**STAGED EXPANSION OF TIWEST PIGMENT PLANT
TO 180,000 TPA
KWINANA (1039)**

TIWEST JOINT VENTURE

CONSOLIDATED LIST OF MANAGEMENT COMMITMENTS (1039)

The Tiwest Joint Venture (Tiwest) proposes to modify its existing Titanium Dioxide Pigment Plant at Kwinana to permit a staged increase in production to nominally 180,000 tonne per annum. A Definition Study Document and a Consultative Environmental Review (CER) have been prepared by Tiwest to meet the requirements of the Western Australian Government. The CER was available for public comments for four weeks, commencing 7 October 1996 and closing 4 November 1996. Following public review, Tiwest on 4 December 1996 submitted the final version of a document responding to questions raised by the public and decision-making authorities. Following further discussions with the DEP and EPA, Tiwest now provides, as a consolidated list, the following environmental commitments in support of the proposal:

Implementation

- 1 Tiwest commits to implement the environmental protection measures described in the Consultative Environmental Review titled Tiwest Pigment Plant Expansion to 180,000 tpa (October 1996) and in response to public submissions.

Environmental Management

- 2 Tiwest will continue to revise and implement its EMP, specifically for each stage of the Pigment Plant expansion. The revised EMP will be submitted to the DEP prior to commissioning each stage of the expansion. The EMP will address, but not be limited to:
 - 1 monitoring of atmospheric emissions;
 - 2 monitoring and management of effluent discharge to Cockburn Sound;
 - 3 detection and management of leaks from wastewater ponds;
 - 4 noise monitoring;
 - 5 radiation monitoring and management;
 - 6 quality assurance procedures; and
 - 7 water use efficiency programme.

Sulphur Dioxide

- 3 Tiwest will ensure that when all incineration, heat removal and scrubbing equipment is on-line, the total installed capacity of this equipment will be sufficient to treat all chlorinator waste gases on an ongoing basis. The installed heat removal equipment, associated with chlorinator waste gas incineration, will be of sufficient capacity to handle the variations in chlorinator waste gas composition that may result during a chlorinator start-up or routine process variation.
- 4 Tiwest will demonstrate as part of the works approval for the stage three expansion, to the satisfaction of the DEP, that when all incineration, heat removal and scrubbing equipment is on-line, the total installed capacity of this equipment will be sufficient to treat all chlorinator waste gases at the nominated production rate.
- 5 Tiwest will investigate practicable means of achieving reductions in the value and frequency of peak emissions of sulphur dioxide and the mass emissions of sulphur dioxide per tonne of pigment produced.

"Snake" Scrubbing System

- 6 Tiwest commits to demonstrate performance of the Snake Scrubbing System to the satisfaction of the DEP, as part of the Works Approval process for each stage of expansion.

Odours and CO

- 7 Tiwest will design and install emergency stack facilities to ensure that odours and CO emanating from the Plant do not unreasonably interfere with the health, welfare, convenience or amenity of the nearest affected residence.

Greenhouse Gases

- 8 Tiwest will investigate the environmental benefits of entering the C21 "Greenhouse Challenge" voluntary agreement programme for the estimation, reporting and auditing of greenhouse gas emissions.

Noise

- 9 Tiwest will ensure that the purchase specification for all new equipment associated with the expansion will include the following requirement: equipment suppliers must warrant that the "A" weighted sound pressure level is not greater than 85dB at a distance of 1 metre from any part of the equipment as determined in accordance with AS 1217.5-1985.
- 10 Tiwest will ensure that the design composite noise level of the expanded Plant meet the requirements (including the provision to vary or exceed the assigned noise levels) of the relevant noise control regulations in the Environmental Protection Act. Model outputs demonstrating this compliance will be provided to the satisfaction of the DEP as part of Works Approval for each expansion phase.
- 11 Within 6 months following the commissioning of each expansion stage, Tiwest will conduct noise surveys (including baseline measurements) and assessments (including the impact of tonal noise) and provide a report to the DEP detailing how noise compliance has been or will be achieved.
- 12 Tiwest will design the facility so as to, as far as reasonable and practicable, meet the assigned noise levels of the proposed Noise Regulations.

Water Use Efficiency

- 13 Tiwest commits to continuing to adopt reasonably practicable means of reducing fresh water use.
- 14 In the event of a major water recycling project commencing in the Kwinana area, Tiwest will investigate the feasibility of utilising the water produced.

Wastewater Discharge

- 15 Tiwest commits to only discharge to Cockburn Sound wastewaters which permit the maintenance of the environmental quality objectives of the receiving waters, outside the mixing zone.
- 16 Tiwest commits to conduct further investigations to better define the extent of enrichment of metals in marine sediments adjacent to the Tiwest outfall and to address the likely consequences of increased discharge resulting from the proposed expansion. A report of the findings of this investigation will be submitted to the DEP by 1 February 1998.
- 17 Tiwest commits that, in the event that monitoring results demonstrate an increasing trend with potential to cause an unacceptable impact to the marine environment, appropriate investigations and, if necessary, corrective measures will be taken.

Groundwater

- 18 If disturbance of groundwater is necessary during construction, Tiwest will develop and implement procedures for the handling and disposal of potentially contaminated groundwater to the satisfaction of the DEP on advice from the Water and Rivers Commission.

Radiation

- 19 Tiwest commits to continuing current investigations and to implementing measures to manage build-up of radioactive scale in Pigment Plant pipework, to the satisfaction of the Radiological Council.
- 20 Tiwest commits to managing radiation within the Plant site and its environs in accordance with its Radiation Management Plan, as approved by the Radiological Council.
- 21 Tiwest will ensure that no radioactively contaminated equipment is removed from site without an approved disposal method, to the satisfaction of the Radiological Council and/or the Department of Minerals and Energy.

Hazard & Risk

- 22 Tiwest commits to implement the proposal so as to incorporate the risk reduction measures cited in the AEA Technology Quantitative Risk Assessment report (AEA/CS16129000/Z/2 Issue 1, October 1996).
- 23 Tiwest will achieve all appropriate risk criteria for the Pigment Plant as required by the EPA, and to reduce risks as low as reasonably practicable through implementation of risk mitigation measures where appropriate.
- 24 Prior to the commencement of each construction phase, Tiwest will prepare and implement a construction safety management plan and procedure manual for work around the operating Plant.

- 25 Prior to the commissioning of each of the Plant expansions, Tiwest will revise as necessary the Total Hazard Control Plan (THCP) to align with the risks and hazard of the expanded Plant, to the satisfaction of the Chief Inspector, Explosives and Dangerous Goods Division of the Department of Minerals and Energy. The THCP will take into account all relevant emergency events, including Plant upset conditions, and coordination with operators of other facilities located within the Tiwest property.

Process Integrity

- 26 Tiwest commits to maintaining the process equipment, instrumentation and alarm systems consistent with the safety and reliability assessment of the Plant, to the satisfaction of the Chief Inspector, Explosives and Dangerous Goods Division of the Department of Minerals and Energy or such other person as may subsequently have responsibility for that function.

Fugitive TiCl_4 Emissions

- 27 Tiwest commits to continue to implement improvements in existing and planned Pigment Plant design and operational procedures so as to continue to reduce the frequency and severity of TiCl_4 emissions.