



MINISTER FOR ENVIRONMENT

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

MINERAL SAND DRY PROCESS PLANT, MUCHEA

TiO₂ CORPORATION NL

This proposal may be implemented subject to the following conditions:


1. The proponent shall adhere to the proposal as assessed by the Environmental Protection Authority and shall fulfil the commitments made (copy of commitments attached).
2. Prior to construction of each crossing of the Chandala Brook on the site, the proponent shall prepare on the advice of the Swan River Management Authority, and subsequently implement, plans for the crossing, designed to preserve the integrity of the Chandala Brook and minimise disturbance to the riparian vegetation, to the satisfaction of the Environmental Protection Authority.
3. Prior to construction the proponent shall prepare, and subsequently implement, a detailed landscaping and planting programme, with a view to screening, minimising water usage, amelioration of seepage/salinity and supplementing riparian vegetation, to the satisfaction of the Environmental Protection Authority.
4. Prior to construction the proponent shall prepare, and subsequently implement, an environmentally acceptable detailed drainage plan for the plant site and the whole property, prepared on the advice of the Swan River Management Authority and the Water Authority of WA, and to the satisfaction of the Environmental Protection Authority.
5. Prior to construction of the evaporation ponds the proponent shall prepare, and subsequently implement, detailed plans for the construction of the ponds including:

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- . location and dimensions;
- . nature of liner and method of joining;
- . method of liner protection in ponds where recovery of solids is planned;
- . location of monitoring bores and provision for their use as recovery bores;
- . capacity and demonstration of adequacy to ensure no overflow; and
- . expected life and indicative plans for decommissioning and rehabilitation of ponds;

on the advice of the the Water Authority of Western Australia, and to the satisfaction of the Department of Mines and the Environmental Protection Authority.

6. Prior to construction the proponent shall prepare, and subsequently implement ground and surface water monitoring programme, including regular reporting of monitoring results, to the satisfaction of the Environmental Protection Authority and the Water Authority of Western Australia.
7. Prior to construction the proponent shall prepare, and subsequently implement, an environmental management programme to the satisfaction of the Environmental Protection Authority relating to all aspects of environmental monitoring and management requirements of the proposal described in the Notice of Intent and the Environmental Review and Management Programme, including submission of brief annual and comprehensive triennial reports to the Environmental Protection Authority on the environmental management and monitoring of the project.
8. The proponent shall be responsible for decommissioning the plant and rehabilitating the site and its environs to the satisfaction of the Environmental Protection Authority and the Department of Mines. The proponent shall, at least six months prior to decommissioning, prepare a decommissioning and rehabilitation plan to the satisfaction of the Environmental Protection Authority and the Department of Mines.
9. 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 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.


 Barry Hodge, MLA
 MINISTER FOR ENVIRONMENT

9 DEC 1988

COMMITMENTS BY TiO₂ CORPORATION NL WITH REGARD TO THE DRY PROCESS PLANT

- A. Commitments given in Appendix 3 of the EPA assessment of the Cooljarloo Mineral Sands Project relating to the Dry Process Plant.
6. As monazite is radioactive, strict adherence to all Western Australian regulations and the Commonwealth Code of Practice relating to radiation protection will be adopted as described in Section 7.4. This will include specifically:
- . a comprehensive radiation level monitoring programme at both the minesite and dry process plant and their environs and of monazite transport units;
 - . isolation of the monazite process circuit into a separate building;
 - . comprehensive dust suppression measures; and
 - . specific precautions in the handling, storage and transport of monazite product.
17. TiO₂ recognises the operations areas which are subject to regulation under the Radiation Safety Act, and will abide by the requirements of the Act or any amendments made to that Act.
18. TiO₂ has undertaken to abide by the Commonwealth Code of Practice. Referring to the Radiation Safety Officer, that Code requires that person to have "qualifications and experience acceptable to the appropriate authority." (Clause 9(19))
19. Wastes containing radioactive residues will be disposed of to standards approved by the appropriate authority. Wastes from the process will be returned to the mine and buried. This includes residuals collected in lined, evaporative storage ponds at the plant, stockpile residuals, baghouse dust (after slurring), and process circuit non-commercial rejects.
20. Recognising that the inhalation of radioactivity as airborne dust presents the most severe operating restriction in terms of occupational and public health considerations, TiO₂ has taken the following steps to maintain compliance with statutory requirements:
- (i) concentrates will be washed free of dust material prior to transport to Muchea. This will greatly reduce dust loads reaching the plant compared to past industry practices;
 - (ii) an enclosed shed will be provided to store incoming concentrates;
 - (iii) a dust collection system will be installed in the exhaust gas stream issuing from the drier immediately before entering the exhaust system;

COMMITMENTS BY TiO₂ CORPORATION NL WITH REGARD TO THE DRY
PROCESS PLANT (cont'd)

- (iv) the area containing the circuit from the drier transfer point through to and including the upper floor primary high tension circuit will be enclosed and dust extraction equipment installed;
- (v) a vacuum system for dust collection throughout the plant will be provided;
- (vi) in the design, allowance will be made for other circuits to be enclosed, if unexpected operational circumstances arise; and
- (vii) dust collected from baghouses and other sources will be slurried and transported back to the mine with other reject material.

B. Commitments made in the Notice of Intent Appendix 2.

TiO₂ Corporation NL is committed to achieving EPA standards in construction and running of the proposed synthetic rutile plant. More specifically, the company's commitments are as follows:

- . report to the EPA during the detail design stage with a site layout and its environmental implications;
- . preserve as much as practically possible of the Chandala Brook vegetation during the construction of the road and rail access over the brook with a significant buffer strip;
- . implement a landscaping and planting programme to ensure the site blends in well with the surrounding area;
- . incorporated into the general site monitoring reports for the EPA, will be records of waterfowl usage of the ponds;
- . inform personnel of the locations of the two sites on the property, and the fact it is an offence to interfere with aboriginal sites; and
- . comprehensive monitoring of radiation as outlined in the Cooljarloo Mineral Sands ERMP (Maunsell & Partners, 1987).

- . all waste and spilt materials in the Metallurgical Treatment Plant area will be contained within the process operation for reuse, or disposed of as appropriate;
- . caustic soda used in the Metallurgical Treatment Plant will have a mean mercury content of less than 100 ug/L, with a maximum of 1,000 ug/L [EPA Recommendation 4];
- . stormwater runoff from the cleared area of the Plant Site will flow into the Process Water Pond, which has been lined with clay to minimize leakage. The pond will have sufficient capacity to accommodate rainfall runoff from a one in one hundred year storm event;
- . noise during blasting operations will be limited, by the conditions of the Mining Contractor's contract, to less than 120 dB linear at the nearest residence, some 6 km from the blast site;
- . drainage will be installed in the mine pits, with runoff either used for dust suppression, or drained via spilt traps to natural watercourses;
- . perimeter drains will be installed around mine pits and stockpiles; water from these and from haul roads will drain through silt traps into natural watercourses;
- . the objective of the management of runoff from the mining operations will be to minimize the potential spread of forest disease and to reduce the longterm salinity and turbidity impact on Thirty-Four Mile Brook;
- . mine waste not used in road construction will be returned as back fill to mine pits during the life of the project;
- . if it is decided not to process marginal ore, this material will be returned to mined-out pits;
- . shallow mine pits will be contoured to slopes generally consistent with natural landforms [EPA Recommendation 13];
- . deeper pits will be rehabilitated it, at the time of completion of mining the weathered profile, no decision to mine bedrock has been made. Should a decision to mine bedrock be made, detailed plans will be submitted to the State for approval [EPA Recommendations 15 and 16];
- . final rehabilitation will ensure that runoff will drain to natural watercourses or into the deeper pits;
- . ten-year mining plans will be prepared and submitted to the State as part of the existing arrangements for the Worsley Alumina Project, and will be regularly updated [EPA Recommendation 14], and
- . the state will be provided with brief annual and comprehensive triennial environmental management reports as part of existing arrangements for the Worsley Alumina Project [EPA Recommendation 19].



MINISTER FOR ENVIRONMENT

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

PROJECT : MINERAL SANDS DRY PROCESSING PLANT, MUCHEA

PROPONENT : T102 CORPORATION N.L.

CONDITIONS SET : 9 December 1988

Condition 7 has been amended so that the first three words of that Condition, which previously read "Prior to construction" now read "Prior to commissioning".

Bob Pearce, MLA
MINISTER FOR TRANSPORT & ENVIRONMENT

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