

**Proposed integrated waste disposal facility
Eastern Goldfields Western Australia**

Health Department of Western Australia

Change to ministerial condition

**Environmental Protection Authority
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In 1988 the Environmental Protection Authority reported on a proposal by the Health Department of Western Australia for an integrated waste disposal facility at Mt Walton, about 100km north east of Koolyanobbing. The Authority and the Government approved the project.

The facility was to consist of a high temperature incinerator for organochlorine wastes (including PCBs), and a burial facility for low level radioactive wastes. Two major sources of wastes were to be Rhone Poulenc's proposed rare earth plant (radioactive wastes) and the proposed petrochemical plant (organochlorines), but neither project has proceeded.

In its assessment of the proposed integrated disposal facility, the Authority recommended that the Health Department develop Environmental Management Programmes for specific aspects of the proposal. The Environmental Management Programmes were to be subject to public review and be to the satisfaction of the Environmental Protection Authority. These requirements were reflected in the Minister for the Environment's conditions set for the project.

The Authority has recently assessed three Environmental Management Programmes developed by the Health Department. In one of these it is proposed to transport PCBs and a limited quantity of low level medical radioactive wastes by road. The quantity of wastes involved is much smaller than originally envisaged in the 1988 proposal, and the maximum which could be required to be taken to Mt Walton would be the equivalent of about 100 truckloads. The wastes are currently stored in different parts of the State, including the metropolitan area and several mining company sites.

The Minister's Environmental Conditions set for the original project refer to rail transport of wastes (Appendix 1), and the Authority's report and recommendations clearly stated a preference for rail transport.

In accordance with Section 46 (1) of the Environmental Protection Act, the Minister for the Environment has asked the Authority to report on the desirability of amending the Minister's Environmental Conditions to allow for road transport for a limited amount of wastes to the Mt Walton site.

Organochlorines (including PCBs) are not acutely toxic, but are of major concern if exposed to fire. Low level radioactive wastes require proper disposal in a site developed for the purpose.

The Authority considers that road transport would be environmentally acceptable because of the small volume of wastes, scattered locations of PCBs, high integrity packaging, and adherence to the Dangerous Goods (Road Transport) Regulations. Notwithstanding this the Authority considers that appropriate transport management procedures should be put in place, including escort vehicles, trained crews with appropriate equipment, and radio contact with an operations centre.

Hence the Authority believes road transport of small quantities should not cause direct concern to any community through which the wastes would be transported.

Recommendation

The Environmental Protection Authority recommends that the Ministerial Statement dated 26 October 1988, be amended to provide for road transport for the limited amount of wastes outlined in the Health Department's Environmental Management Programme "Transport and Storage of Wastes at the Integrated Waste Storage Facility East of Mt Walton".

Appendix 1

**Statement that a proposal may be implemented
(pursuant to the Environmental Protection Act 1986)**

**Proposed integrated waste disposal facility
Eastern Goldfields Western Australia**



MINISTER FOR ENVIRONMENT

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

PROPOSED INTEGRATED WASTE DISPOSAL FACILITY
EASTERN GOLDFIELDS WESTERN AUSTRALIA

HEALTH DEPARTMENT OF WESTERN AUSTRALIA

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 in the Public Environmental Report (copy of commitments attached).
2. Prior to construction of the proposal, the proponent shall undertake a drilling programme at the chosen site to confirm (or otherwise) the absence of potable water and to confirm (or otherwise) that the depth of clay is in excess of 15 metres, and forward results to the Environmental Protection Authority for assessment.
3. Prior to construction, the proponent shall undertake biological surveys to the satisfaction of the Environmental Protection Authority, to indicate the impact of the facility on any rare and/or endangered species.
4. Prior to construction, the proponent shall undertake a survey to the satisfaction of the Registrar of Aboriginal Sites, to determine if any Aboriginal sites exist on the project area.

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26 OCT 1988

5. Prior to commissioning, the proponent shall prepare an Environmental Management Programme (EMP) to the satisfaction of the Environmental Protection Authority. The EMP shall be made available to the public and shall include:
 - . size of the incinerator;
 - . operational procedures;
 - . transportation of the wastes;
 - . details of packaging of the wastes;
 - . emergency procedures;
 - . protection of any rare or endangered species found on or near the site;
 - . disposal of waste containers and other solid wastes from the facility;
 - . a monitoring programme.
6. Prior to commissioning, the proponent shall undertake, for all stages of the transport operation, the following:
 - . establish detailed specifications for waste loading, transfer and unloading areas;
 - . outline specific safeguards for rail containers and their contents;
 - . detail plant site storage and handling requirements, including fire safety;
 - . identify responsibility for the various aspects of transport and transfer operations;
 - . prepare contingency plans for dealing with spillages should they occur; and
 - . liaise with the local communities over emergency procedures.

The above matters shall be included in the Environmental Management Programme and shall be to the satisfaction of the Environmental Protection Authority and relevant Government agencies.

7. The proponent shall report the results of the monitoring programme to the Environmental Protection Authority at six monthly intervals. These results shall be made available to the public following their consideration by the Environmental Protection Authority.
8. Prior to commissioning, the proponent shall prepare a hazard and safety management strategy for the incinerator, to the satisfaction of the Environmental Protection Authority and relevant Government agencies.
9. Any proposal to dispose of wastes other than those specified in the Public Environmental Report at the Integrated Waste Disposal Facility, shall be referred by the proponent to the Environmental Protection Authority for assessment. No such wastes shall be disposed of at the facility unless it is found to be environmentally acceptable to do so following referral and assessment.
10. The proponent shall be responsible for decommissioning the facility and rehabilitating the site and its environs to the satisfaction of the Environmental Protection Authority.
11. The proponent shall, at least six months prior to decommissioning, prepare a decommissioning and rehabilitation plan to the satisfaction of the Environmental Protection Authority.
12. The proponent shall obtain a Works Approval (prior to construction) and a Licence (prior to commissioning) for the proposed facility under the provisions of Part V of the Environmental Protection Act 1986.
13. For any proposal to dispose of "other wastes" referred to the Environmental Protection Authority pursuant to Condition 9, and subsequently found to be acceptable, the proponent shall prepare (to the satisfaction of the Environmental Protection Authority) an Environmental Management Program, which shall include the issues listed in Conditions 5 and 6 for that proposal.


Barry Hodge, MLA
MINISTER FOR ENVIRONMENT

25 OCT 1988

SUMMARY OF COMMITMENTS

The Health Department makes the following commitments relating to this proposal to establish an integrated hazardous waste disposal facility.

- . The entire operation will be controlled by the Health Department of WA.
- . The facility will be owned and operated by the Health Department of W.A.
- . The facility will only be used for wastes generated in Western Australia.
- . Biological and archaeological site surveys will be undertaken prior to final selection of a site for the facility.
- . Site management will include the provision of fencing and signposting around the site, to discourage access by fauna and unauthorised personnel.
- . Construction activities at the plant site will be undertaken in accordance with statutory requirements, and appropriate management techniques will be implemented to ensure that noise and dust levels are acceptable.
- . Storage, handling and transport of wastes will be carried out only by properly trained and fully qualified operators.
- . Wherever possible, transportation of waste will be by rail.
- . Organochlorine wastes will be tested before transport to the disposal facility to allow optimum incineration control for each type of waste.
- . All wastes consigned for transport will be in double containment.
- . Waste unloading and preparation for incineration will be automated as far as economically possible to minimise chances of worker exposure.
- . Equipment will be provided in the incinerator unloading area to contain spills and to remove excessive levels of vapours from sealed containers.
- . Liquids awaiting incineration will be stored in a liquids tank farm that will provide full fire control, spillage containment and vapour control for all waste liquids stored.
- . Containers such as capacitors will be drained and prepared for treatment in the incinerator using automatic equipment.
- . Waste feed to the incinerator will be achieved by positive displacement metered pumping through an atomising lance for liquids and by a ram feed into an air lock for solids.

The primary and secondary combustion chambers will be operated at 15mm negative pressure to control fugitive emissions with facility to vary solids retention times and to achieve specified minimum temperatures, gas retention times and excess oxygen content in the flue gas.

An air pollution control system using either a wet or dry scrubber system will be installed to limit particulate and gaseous emissions to acceptable levels.

A combination of automatic and manual controls will be used to monitor and control the system.

Gaseous residues will be disposed of by enhanced atmospheric dispersion.

Aqueous residues will be contained and evaporated. Regular testing will be carried out.

Solid residues will be disposed of as landfill on-site.

Provision for emergency services will include firewater supply, foam dousing (or similar) in flammable liquid storage areas, firebreaks, emergency washing facilities, visual and audible alarms and contingency planning.

Specific emergency contingency planning will be implemented prior to the commencement of waste transport and disposal.

Standards set by United States agencies for incinerator efficiency will be adopted for the proposed disposal facility, these being that the Destruction and Removal Efficiency of the incinerator will be not less than 99.9999% and that the combustion efficiency will be not less than 99.9%.

Other standards for residues from PCB incineration will be as prescribed by the Environmental Protection Authority.

The standard for organochlorine levels in the workplace set by the US national regulatory authorities will apply.

Ground level concentrations of organochlorines will not exceed prescribed levels.

Contamination in all solid waste from the incinerator will be less than 2ppm which is well below allowable levels in the United States.

On-site liquid wastes will be fully contained and generally disposed of by evaporation unless they result from spillage in which case they will be fed into the incinerator.

Solid residues including remnants of burnt waste containers and residue from evaporation ponds will be disposed of as landfill. Monitoring of leachates will be carried out to ensure no pollution occurs from this waste.

A monitoring programme will be implemented involving continuous and intermittent sampling, testing and monitoring of plant operating conditions together with soil and leaf sampling and testing from around the incinerator site.

The Department of Occupational Health, Safety and Welfare will be asked to assist the Health Department to develop comprehensive guidelines for safe handling of waste during storage, transport and destruction operations and to specify first aid provisions for all personnel.

All personnel involved in the handling of wastes will be specifically trained in safety and emergency response procedures. This training will be coordinated by the Health Department in association with the Department of Occupational Health, Safety and Welfare, Department of Mines, Radiation Health Branch, Westrail, EPA and the Trades and Labour Council of W.A.

A thorough medical surveillance programme will be provided to give baseline and progressive personal health data throughout and beyond the employment period for each worker.

First aid and hygiene measures will be provided at the disposal facility.

The need for full protective clothing during normal operations will be evaluated just prior to the time that the facility becomes operational. Sufficient protective clothing will be provided at the site to cover emergency situations.

Noise levels in the disposal plant will comply with the Noise Abatement (Hearing Conservation in Workplaces) Regulations, 1983.

The requirements of the Commonwealth Code of Practice on Radiation Protection in the Mining and Milling of Radioactive Ores 1987 and of other relevant current and future Codes of Practice dealing with radioactive wastes will be met.

A baseline radiation survey will be carried out at the disposal facility when site selection is completed.

Airborne dust concentrations, AMAD where applicable and alpha and beta activities will be measured.

A comprehensive radiation monitoring and health surveillance programme will be implemented.

ICRP annual dose limits will not be exceeded and all radiation exposures will be kept as low as reasonably achievable, economic and social factors being taken into account. Designated worker annual radiation doses will not exceed 25 millisievert per year.

Radiation protection assessments given in this PER for containerised wastes will be verified before use of such containers.

Monitoring of radiation levels will continue over the life of the project.

The Health Department will prepare annual reports for Parliament and for an initial five year period, for submission to the EPA, on the environmental management and monitoring commitments given in this document.

The Health Department will initiate and co-ordinate a Control Committee to oversee the design, commissioning and operation of the facility. This Committee will include local representatives in its membership.

The Health Department will initiate and co-ordinate a Community Liaison Committee to provide local residents with information on the operation of the facility.