

**Proposal to establish an industrial park at
Meenaar, 18km east of Northam**

**Industrial Lands Development Authority and the
Department of State Development**

**Report and recommendations
of the Environmental Protection Authority**

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Summary and recommendation

The proponents, the Department of State Development and the Industrial Lands Development Authority, propose to establish an industrial park at Meenaar, 18km east of Northam and adjacent to the Great Eastern Highway. The park is to cater for mainly agricultural and mineral processing industries.

The site was identified by the Avon Community Development Foundation (ACDF), a public group interested in attracting industry to the area. The site was chosen because of its relatively poor environmental and agriculture value, poor groundwater quality, suitable soils for wastewater treatment systems, its remoteness, and the necessity to be located near a major road, railway, and water supply. Of the site area of 639 ha, only 290 ha is proposed for development. The remainder, which includes 80ha of natural bushland, will be used for an internal buffer zone. As most land in the area is cleared, the bushland has conservation value. The proponents intend to augment the bushland area with natural vegetation thus improving its overall conservation value.

The proposal was referred to the Environmental Protection Authority (EPA) in January 1992. The Authority set the level of assessment at Consultative Environmental Review (CER). The CER document was released for a 4 week public review period which commenced 16 March and closed on 13 April 1992. There were six Government and public submissions.

The Authority has assessed the potential environmental impacts of the proposal, as described in the CER, and utilised additional information supplied by other Government agencies, the public and the proponent. Additionally, senior officers of the Environmental Protection Authority carried out several site inspections and discussed environmental issues with members of the public and relevant government authorities.

In reaching its conclusion, the EPA identified the main environmental issue related to the size of a buffer zone so as to manage potential impacts from noise, air emissions (including gases and particulates), odour, leachates, risk and hazard to the public, groundwater drawdown and contamination. The proponent has made a comprehensive list of commitments covering the environmental issues raised during the assessment including buffer provision and waste disposal (Appendix 1). The proponent has assured the EPA that it would not permit an industry to be established in the Park that cannot meet all environmental criteria as required by the EPA at the Park boundary or closest residences.

Accordingly, the EPA recommends that the proposal is environmentally acceptable and could proceed subject to the information given in the CER, in answers to questions raised during the assessment, and commitments made by the proponent.

Recommendation

The Environmental Protection Authority has concluded that the proposal to establish a heavy industrial estate at Meenaar is environmentally acceptable and could proceed as described in the Consultative Environmental Review and in responses to questions raised during the assessment, and subject to commitments given by the proponents.

In reaching this conclusion, the Environmental Protection Authority identified the main environmental factor requiring consideration to be separation of existing residents from potential impacts such as noise, air emissions (including gases and particulates), odour, leachates, risks, groundwater drawdown and contamination. The Authority believes that these issues are addressed by the commitments made by the proponents and the proponents' assurance that no industry would be established in the Park which could not comply with the Environmental Protection Authority's environmental requirements at the Park boundary and the nearest residences.

The EPA concludes that the proposal should be considered as an exercise in changing the landuse of the site from rural to one for heavy industry, and the extension of existing services (infrastructure) onto the site.

The EPA notes that there is no buffer zone proposed around the industrial park to ensure that people cannot live any closer to the park than current residences.

This has two important consequences:

- . all industries proposed for the park would need to meet normal guidelines, standards and criteria for environmental protection at the boundary of the park and at the nearest residence. This means that should houses be built closer to the site than currently exists, operation standards for industry may need tightening commensurably; and
- . proposals for industries to be located in the park would be required to demonstrate to the EPA that they are able to meet operating standards at the park boundary both individually and cumulatively.

Should a buffer zone be established sometime in the future, then the Authority would review its position.

1. Introduction

The proponents, the Department of State Development and the Industrial Lands Development Authority, propose to establish an industrial park at Meenaar, 18km east of Northam and adjacent to the Great Eastern Highway. The park is to cater for mainly agricultural and mineral processing.

The site was identified by the Avon Community Development Foundation (ACDF), a public group interested in attracting industry to the area. The site was chosen because of its relatively poor environmental and agriculture value, poor groundwater quality, suitable soils for wastewater treatment systems, its remoteness and the necessity to be located near a major road, railway, and water supply. Of the site area of 639 ha, only 290 ha is proposed for development. The remainder, which includes 80ha of natural bushland, will be used for an internal buffer zone. As most land in the area is cleared, the bushland has conservation value. The proponent intends to augment the bushland area with natural vegetation thus improving its overall conservation value.

The proposal was referred to the Environmental Protection Authority (EPA) in January 1992. The EPA set the level of assessment at Consultative Environmental Review (CER). The CER document was released for a 4 week public review period which commenced 16 March and closed on 13 April 1992.

During the environmental assessment of the proposal the EPA utilised information supplied by other Government agencies, the public and the proponent. Additionally, officers of the EPA carried out site inspections and discussed environmental issues with interested members of the local community.

2. Description of the proposal

2.1 Background

The proposal is to develop a well planned environmentally acceptable industrial park approximately 18 km east of Northam and 15 km west of Meckering (Fig.1). It is proposed to develop the park in two stages. Stage 1 is for Ashton Rare Earth Ltd plant and Stage 2 for unspecified industry at this point in time.

It is proposed to set up the Meenaar Industrial Park Advisory Board which will be responsible for its management. The Board would be made up of representatives from the State Government, the Avon Community Development Foundation and other community representatives.

2.2 Need for the proposal

No major inland heavy industrial park exists in Western Australia although many raw materials are generated inland. This results in the raw materials being processed elsewhere, causing loss of employment opportunities in the region of origin. The Meenaar site has been given a high priority by the proponents, due to the rare earth plant proposed by Ashton Rare Earths Ltd.

2.3 Potential industries for the park

The types of industries identified by the proponent as having potential for the industrial park are:

- Minerals Processing:-rare earths (eg Ashton Rare Earths Ltd) polishing powders, speciality magnets, inorganic colours, foundry, stoneworks, gypsum and kaolin processing

- Agricultural Processing-grain processors, flour mill, malt, biscuits/confectionery, noodles/cereals, woollen mill, seed cleaners, sheep skins
- Miscellaneous-clothing manufacturers, distribution centre, agricultural chemicals distribution and batching.

2.4 The site and services

Most of the site is cleared agricultural land. Uncleared land will be protected and augmented by native vegetation on cleared land to create a buffer zone around the perimeter of the site. It is proposed to divide the park into mineral processing and agricultural produce processing areas with a small centrally located area (Fig. 2) set aside for SECWA, Telecom services and shops.

The site is adjacent to the Great Eastern Highway, the Kalgoorlie railway line and the Goldfields and Agricultural water pipeline, and high voltage electricity. Gas storage facilities, sewerage, septic tanks and leach drain systems will be developed by the individual industries as required.

2.5 Waste disposal

Industries producing liquid waste will be responsible for treating it to EPA's requirements. Reuse of wastewater will be encouraged. Wastewater disposal may be by irrigation or evaporation if acceptable to the EPA. Pond residues could be covered with earth and rehabilitated or removed to an approved landfill site. Liquid wastes not suitable for either treatment or disposal on site could be disposed of at the Industrial Waste Treatment Facility at Forrestdale.

Options for the disposal of solid waste include recycling, landfilling, storage at the Mount Walton intractable waste disposal site (following separate assessment) or return to source. Each industrial proposal will require approval for its method of disposal by the EPA. The initial industry proposed for the Park, the Ashton Rare Earths Ltd secondary processing facility, intends to return its solid waste to the mine site at Mount Weld, east of Laverton.

2.6 Monitoring

It is proposed that a groundwater monitoring programme will be established in conjunction with the EPA, Water Authority of Western Australia (WAWA,) industry and the (yet to be established) Meenaar Industrial Park Advisory Board to check for any leakage into the groundwater. Should any impacts occur on the groundwater, the industry operating the treatment system pond will be required to establish a recovery programme acceptable to the EPA, WAWA and the Board.

2.7 Buffer zone

A buffer zone (349 hectares) is proposed between the perimeter of the core industrial zone up to the boundary of the Park in order to ameliorate effects such as noise and air quality on the surrounding neighbours. The present zoning of the land surrounding the park does not allow for further subdivision and provides a further separation between the park and the residences of the adjoining land owners. The buffer zone has been designed to maintain the natural bushland of the site and also improve aesthetics by screening the industrial park from passing traffic and the nearest neighbours.

3. Potential environmental impacts and management as given in the Consultative Environmental Review

3.1 Introduction

The proponents have identified the major environmental issues as those relating to the size of the buffer zone; namely noise, air quality (gases, dust and odours), leachates and risks and hazards. Other issues identified were liquid and solid waste disposal.

3.2 Buffer zone

To ensure potential environmental impacts on neighbours are minimised the proponents have set aside 349 ha or 55% of the proposed Park as buffer, and has placed a self-imposed restriction that no industry will be allowed establish in the Park, if it cannot meet all EPA's requirements for control of impacts at the Park boundary and the closest residence.

3.3 Waste disposal

The proponents cannot forecast the type of industries that will be established in the estate, consequently cannot provide waste disposal facilities at this stage. It will be the responsibility of each industry to meet the requirements of the EPA for waste disposal. The CER presents options for liquid waste disposal such as evaporation, irrigation, recycling and the use of the Health Department's liquid waste treatment facility at Forrestdale. For solid waste, the options presented include recycling, landfill, storage at Mount Walton, or return to mine sites where appropriate.

4. Summary of public and government agencies' submissions

4.1 Introduction

Nine public and government submissions on this proposal were received by the EPA. A list of those who made submissions is given in Appendix 2. The Authority specifically notes the high quality of the individual public submissions.

4.2 Specific issues raised in submissions and the proponent's responses.

Comments from submissions could be broadly classified as follows:

- buffer zone issues such as securing a proper buffer zone, potential impacts from noise, air emissions, dust, leachates, surface runoff, odours and amenity on local residents;
- solid and liquid waste disposal;
- land clearing;
- transport;
- power supply;
- public consultation; and
- rehabilitation.

The proponents have addressed the issues relating to the potential environmental impacts with commitments, which are listed in Appendix 1, and in the answers to questions raised in submissions (Appendix 3). The key element of the proponents' response has been to make commitments which would be largely carried out by the proposed Meenaar Industrial Park Advisory Board.

5. Environmental impacts and management identified by EPA

5.1 Buffer zone

The establishment of an industrial estate is primarily a planning exercise, involving the development and provision of infrastructure, the capacity for synergies between industries which choose to locate together, and the opportunity to manage potential environmental impacts in a coherent, integrated manner.

The Authority has assessed the potential environmental impacts of the proposal, as described in the CER, and utilised additional information supplied by other Government agencies, the public and the proponent. Additionally, senior officers of the Environmental Protection Authority carried out several site inspections and discussed environmental issues with members of the public and relevant government authorities.

The major environmental issue is the provision of a buffer zone. With an appropriate buffer zone, issues such as noise, air emissions, odour, leachates, risk and hazard and groundwater contamination are more easily able to be managed properly. The proponent has developed a comprehensive list of commitments covering the environmental issues raised during the assessment (Appendix 1). The proponents do not propose to establish, identify or manage a buffer zone outside of the industrial park. The proponents have dealt with this issue by setting aside 55% of the area of the estate as buffer zone and assuring the EPA that no industry will be established in the Park which could not meet the EPA's environmental protection criteria at the boundary of the Park and at the nearest residences.

Accordingly, the Environmental Protection Authority recommends that the proposal is environmentally acceptable and could proceed subject to the information given in the CER, in answers to questions raised during the assessment, and commitments made by the proponent.

Recommendation

The Environmental Protection Authority has concluded that the proposal to establish a heavy industrial estate at Meenaar is environmentally acceptable and could proceed as described in the Consultative Environmental Review and in responses to questions raised during the assessment, and subject to commitments given by the proponents.

In reaching this conclusion, the Environmental Protection Authority identified the main environmental factor requiring consideration to be separation of existing residents from potential impacts such as noise, air emissions (including gases and particulates), odour, leachates, risks, groundwater drawdown and contamination. The Authority believes that these issues are addressed by the commitments made by the proponents and the proponents' assurance that no industry would be established in the Park which could not comply with the Environmental Protection Authority's environmental requirements at the Park boundary and the nearest residences.

The EPA considers that it could be necessary or desirable to make minor and non-substantial changes to the designs and specifications of the proposal which were examined as part of the EPA's assessment. Accordingly, the EPA considers that subsequent statutory approvals for this proposal could make provision for such changes, where it can be shown that the changes are not likely to have a significant effect on the environment.

5.2. Environmental criteria

As for other industrial site studies, the Authority sets out below key environmental criteria used as a basis for providing comments on the Meenaar Industrial Park.

5.2.1 Sulphur dioxide

Some heavy industry produces sulphur dioxide. For the establishment of an industrial estate on a "greenfield" site to be acceptable, the Environmental Protection Authority uses the approach as outlined in the Environmental Protection (Kwinana) (Atmospheric Wastes) Policy 1992 and associated regulations. The policy states that a 1-hour average sulphur dioxide levels at the nearest residence should be less than 350 micrograms per cubic metre for almost all of the time (commonly taken to be 99.9% of the time) and should never exceed 700 micrograms per cubic metre.

5.2.3 Noise

Heavy industry produces noise and usually operates twenty four hours per day. Noise emissions from an industrial estate should not cause or contribute to noise levels in excess of:

- 40 dB(A) between 10.00 pm and 7.00 am;
- 45 dB(A) between 7.00 pm and 10.00 pm on any day, and between 7.00 am and 7.00 pm on Saturday, Sunday and any gazetted public holiday, and
- 50 dB(A) between 7.00 am and 7.00 pm Monday to Friday inclusive, but excluding gazetted public holidays,

as measured at the nearest affected noise sensitive premises

These levels should not be viewed as normal operating levels. They are the upper limit above which action will be taken by the Environmental Protection Authority. The Environmental Protection Authority considers that noise below these levels is not unreasonable provided it does not include tonal components, impulses or other intrusive characteristics.

5.2.4 Dust

The concentration of airborne dust contributed by any premises licensed under the Environmental Protection Act should not exceed the acute impact level of 1000 micrograms per cubic metre, averaged over 15 minutes, at the boundary of the premises. For the longer term, at residences the NH&MRC guideline of an annual mean of 90 micrograms per cubic metre, measured over 24 hour periods should not be exceeded.

5.2.5 Risks and hazards

Present criteria for individual fatality risk levels are given in the EPA Bulletin 611 as follows:

- | |
|---|
| <ul style="list-style-type: none">(a) A risk level in residential zones of one in a million per year or less, is so small as to be acceptable to the Environmental Protection Authority.(b) A risk level in "sensitive developments", such as hospitals, schools, child care facilities and aged care housing developments of between one half and one in a million per year is so small as to be acceptable to the Environmental Protection Authority.(c) Risk levels from industrial facilities should not exceed a target of fifty in a million per year at the site boundary for each individual industry, and the cumulative risk level imposed upon an industry should not exceed a target of one hundred in a million per year.(d) A risk level for any non-industrial activity located in buffer zones between industrial facilities and residential zones of ten in a million per year or lower, is so small as to be acceptable to the Environmental Protection Authority. |
|---|

The size of any buffer zone between industrial and residential areas is dependent on the type and number of hazardous industries, the hazardous properties of the materials involved, the quantity and physical conditions of the materials stored, and meteorological and topographical conditions.

6. Conclusion

Based on the information supplied in the CER and additional information supplied by the proponent during the assessment, the Environmental Protection Authority has concluded that the proposal to establish a heavy industrial estate at Meenaar is environmentally acceptable.

In reaching this conclusion, the Environmental Protection Authority identified the main environmental issue as provision of a buffer zone around the core industrial area of the Park. The EPA believes that the commitments and assurances given by the proponent regarding its control on new industries wishing to set up in the Park, by the future Meenaar Industrial Park Advisory Board, is acceptable.

The EPA concludes that the proposal should be considered as an exercise in changing the landuse of the site from rural to one for heavy industry, and the extension of existing services (infrastructure) onto the site.

The EPA notes that there is no buffer zone proposed around the industrial park to ensure that people cannot live any closer to the park than current residences.

This has two important consequences:

- all industries proposed for the park would need to meet normal guidelines, standards and criteria for environmental protection at the boundary of the park and at the nearest residence. This means that should houses be built closer to the site than currently exists, operation standards for industry may need tightening commensurably; and
- proposals for industries to be located in the park would be required to demonstrate to the EPA that they are able to meet operating standards at the park boundary both individually and cumulatively.

Should a buffer zone be established sometime in the future, then the Authority would review its position.

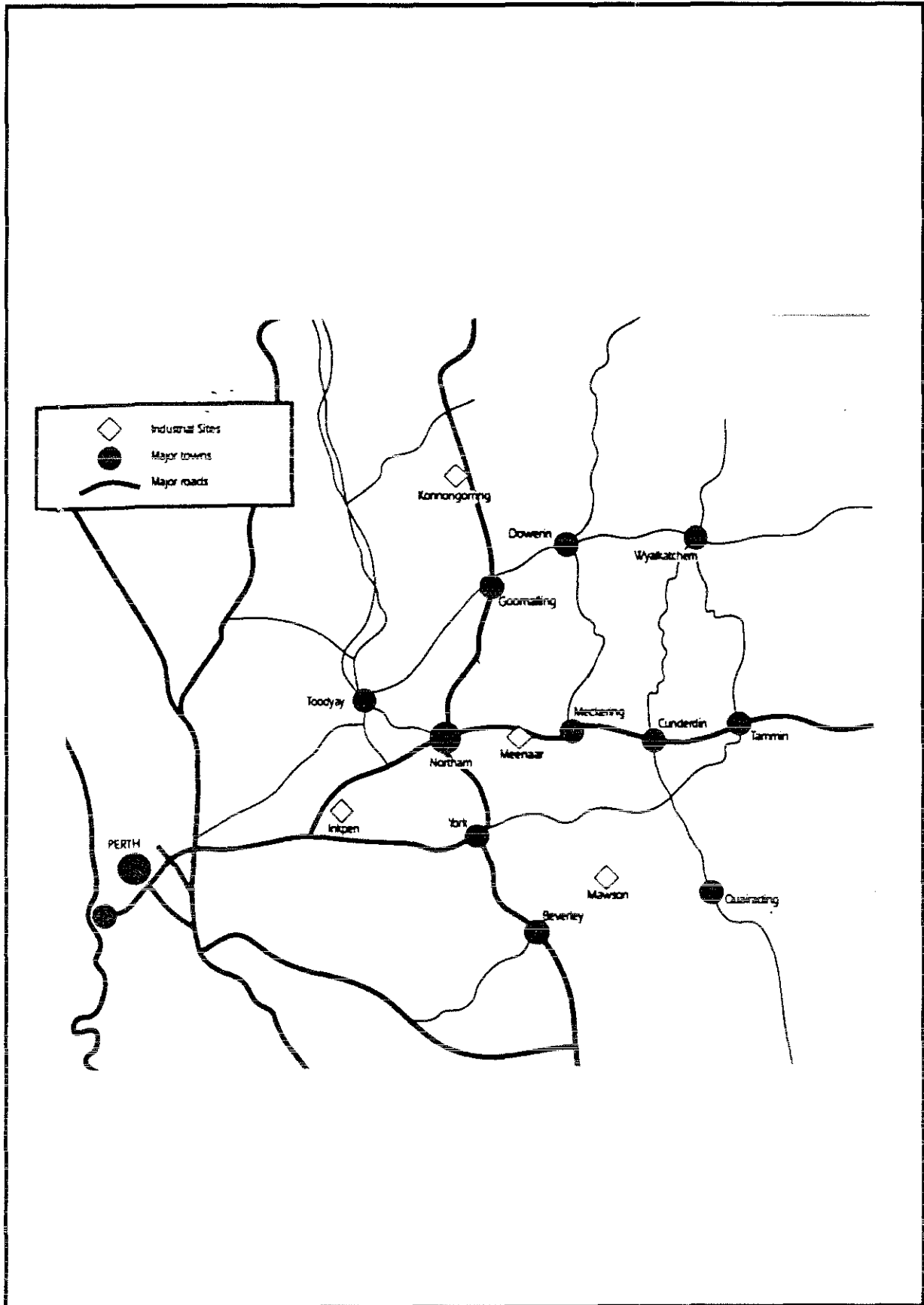


Figure 1. Industrial sites in the Avon region identified by the Avon Community Development Foundation



Figure 2. An aerial view of Meenaar Industrial Park showing the area set aside for utilities which divides Stage 1 from Stage 2 developments

Appendix 1

Commitments

APPENDIX I

ENVIRONMENTAL COMMITMENTS

General Commitments

The Proponents will adhere to the proposal as assessed by the Environmental Protection Authority and will fulfil the commitments made below.

The Park will be developed according to all relevant Government statutes and agency requirements, and to the satisfaction of the Environmental Protection Authority.

Waste Management Commitments

Waste water treatment and disposal systems built within the park will be designed and installed by a recognised water/wastewater treatment contractor to the satisfaction of the Environmental Protection Authority.

Prior to construction of such waste water treatment facilities each industry will be required to supply details of location and design to both the Meenaar Industrial Park Management Committee and the Environmental Protection Authority and obtain approval of these prior to commencing construction.

In the event of leakage from the ponds causing an environmental impact, as defined by the EPA, immediate action will be taken to stop the leakage so that the environmental impact is rectified to the satisfaction of the EPA.

Solid waste will be disposed of in a manner satisfactory to the Environmental Protection Authority.

The proponents will initiate a study incorporating the Avon Community Development Foundation and local shires to locate a suitable industrial waste site as soon as environmental approval for the Meenaar site has been received from the Minister for the Environment.

Disposal methods for solids remaining in evaporation ponds will be approved by the EPA.

Noise

The proponent will ensure that noise emissions from the industrial park will meet the following criteria:

1. The proponent shall ensure that the noise emissions from the park do not cause or contribute to noise levels in excess of:

- . 50 dB(A) slow from 7 am to 7 pm Monday to Saturday inclusive but excluding gazetted public holidays;
- . 40 dB(A) slow from 10 pm to midnight and from midnight to 7 am every day; and
- . 45 dB(A) slow at all other times:

when measured:

- (1) at any point on or adjacent, used for residential or other noise-sensitive purposes; and
 - (2) at a height between 1.2 and 1.5 metres above ground level and at a distance greater than 3.5 metres from any reflecting surface other than the ground.
2. Where the combined level of the noise emissions from the project and the normal ambient noise exceed the levels specified in condition 1, this condition shall be considered to be contravened only when the following criteria are also met at the measurement point:
 - . the noise emissions from the premises are considered to be audible by the Environmental Protection Authority; and
 - . the noise emissions from the premises are identifiable by the Environmental Protection Authority as emanating from the project.
 3. Noise emissions shall not cause unacceptable annoyance due to tonal or impulsive components. These characteristics shall be assessed by the Environmental Protection Authority.
 4. Exemption may be granted from conditions 1 and 3 in respect of any premises used for residential purposes by the negotiation of a written agreement with the occupier(s) of that premises. Such agreement shall be acceptable to the Environmental Protection Authority.

Emissions

Sulphur Dioxide

The proponent will ensure that 1-hour average sulphur dioxide levels at the nearest residence will be less than 350 micrograms per cubic metre for almost all of the time (99.9%) and should never exceed 700 micrograms per cubic metre.

Dust

The proponent will ensure that concentration of airborne dust contributed by any premises within the park shall not exceed the acute impact level of 1,000 micrograms per cubic metre averaged over 15 minutes at the boundary of the premises. For the longer term, at residences an annual mean of 90 micrograms per cubic metre, measured over 24 hour periods, will not be exceeded.

Risks and Hazards

The proponent will ensure that individual risk levels are maintained within the guidelines established by the Environmental Protection Authority in Bulletin 611.

A cumulative model of risk levels on the site will be generated to ensure this commitment is met.

ADDITIONAL COMMITMENT MADE BY THE PROPONENT DURING THE ASSESSMENT PERIOD

The proponent commits to reasonably resolve environmental and social issues if they arise within a buffer zone of 2 km from the boundary of the industrial land in the estate to the satisfaction of the Minister for the Environment.

Appendix 2

**List of government agencies and members of the public
who made a submission**

Health Department of Western Australia
Water Authority of Western Australia
Social Impacts Unit, Department of State Development
Conservation Council of Western Australia
Northam Environmental Society, Northam, WA 6401
Ashton Minerals Ltd, West Perth, WA 6872
A Cooke, Grass Valley, WA 6403
R Heyhoe, Grass Valley, WA 6403
P W Laird, Meckering 6405

Appendix 3

Responses to public submissions

QUESTIONS RAISED BY THE PUBLIC DURING THE PUBLIC REVIEW PERIOD

Solid waste disposal

1. Industrial solid waste disposal is managed by the Health Department. Has the proponent communicated with the Health Department on this issue?
2. Is the Shire of Northam aware that the proponent intends using its landfill facilities for waste disposal and if so, has the Shire agreed that such a practice is acceptable? The Government's experience at Kemerton has been that the issue of solid waste was not properly addressed initially. Does the proponent have a strategy to ensure that the same problem will not arise for the Meenaar Estate
3. Is the proponent aware that :
 - . any industry producing intractable waste may have to dispose of the waste at Mt Walton and hence would need to discuss the issue with the Health Department ?
 - . a dedicated landfill facility may be required for industrial solid waste disposal and if so, what provision has the proponent made to ensure that this facility can be put in place before a proponent requires it?
 - . if any wastewater treatment lagoon is used for treating sewage, the proponent for that system requires Health Department approval?
 - . for liquid wastes, not suitable for treatment and disposal on site, the proponent may be required by the Health Department to have it treated at the Health Department's Industrial Wastewater Treatment Facility in Perth

Buffer zones

4. Is the proponent aware the use of the term "buffer zone" throughout the report is unconventional ? The normal use refers to some sort of annulus which completely encapsulates the industrial site. In the CER, the term refers to odd bits of proposed undeveloped land throughout the proposed industrial estate. Would the proponent clarify its understanding of this issue. This is central to the value of the commitment given by the proponent on buffer zones during the assessment period.
5. The proponent indicated that a railway reserve and main road constitutes a suitable buffer zone for protection of residents to the north of the site. Can the proponent explain how this buffer would offer suitable buffering against gas emissions, odours, noise at night, dust, (particulates) and leachate from wastewater treatment ponds and evaporation ponds, and risks and hazards?
6. A nearby resident has developed a chemical free farm and a conservation reserve (with tourist and economic value) close to the boundary of the proposed estate. What assurance can the proponent give that local residents will not be impacted upon and what does the proponent intend doing if an impact is identified?

Noise

7. When the proponent discusses noise in the CER, does the discussion assume that the source is near ground level? Is the proponent aware that elevated sources of noise should not be treated in the same manner as ground sources in terms of attenuation? If yes, why has the issue not been addressed in the CER. Also, why have noise refraction effects not been properly considered.

8. Does the proponent believe that the commitment of 100dB (A) at the park boundary will ensure the EPA night-time criterion of 40 dB(A) at any existing residence. Could the proponent explain the basis of this commitment.

Monitoring

9. Is the proponent prepared to monitor the activities of the estate for potential environmental impacts. If yes, is the proponent prepared have the monitoring programme carried out by an independent body?
10. Is the proponent prepared to carry out precommissioning monitoring of atmospheric conditions so as to assist the EPA in further assessment of individual proposals for the estate as they arise?

Clearing land

11. Is the proponent willing to prepare an overall plan for the estate to ensure that existing bushland is not cleared for further development? Will the proponent make a commitment not to clear any of the remnant vegetation on the site?

Transport

12. Is the proponent willing to ensure that rail is the preferred option for transporting goods to and from the estate? Is the proponent prepared to make a commitment to this effect?

Power

13. Why has the route for power supply not been given in the CER. Will the route impact on local residents, landowners, or the environment?

Public Consultation

14. Is the proponent prepared to consult with the local residents and have a community panel established?

General

15. Concern has been expressed over the likelihood that the site may ultimately have leaking pond systems and high smoking chimneys that will affect the amenity of the area and hence have social and financial impacts on the local residents. Can the proponent comment on the likelihood of this occurring?
16. Can the proponent explain why local residents should not be concerned about overflow from ponds and contaminated stormwater runoff entering their properties in the event of an earthquake or a severe storm?
17. Is the proponent prepared to revegetate areas on site which are affected by salt?

PROPONENT'S RESPONSE TO QUESTIONS RAISED BY THE PUBLIC TO THE CER

Solid Waste Disposal

1. The proponent and the Health Department are both members of the Interdepartmental Working Party on Industrial Waste Management established by the Industrial Land Co-ordinating Committee.

The terms of reference of this Committee include the identification of areas suitable for solid industrial waste landfill and for evaporation ponds for waste generated from established sites and for proposed industrial areas.

A study brief, entitled "Study Brief for Location of an Industrial Waste Site to service Kemerton, Kwinana and Meenaar", has been issued to consultants. Timetable for the above study is for completion within six months of the consultant being commissioned.

Senior personnel from the Health Department have reviewed and approved the study brief and the timetable.

2. As stated in Section 7.5 of the Report, "it is the intention of the proponent to work in conjunction with the Meenaar Park Management Board, the Avon Community Development Foundation and the Local Shires to locate a site suitable for disposal of solid industrial wastes in accordance with the requirements of the relevant Government agencies. This programme will be initiated immediately environmental approval for the site has been received".

This programme will be run in conjunction with the study described for Kwinana, Kemerton and Meenaar.

The local Shires will be involved in this study as they have been involved from the inception of the Meenaar project.

For example, if appropriate, land fill for solid waste disposal will be dependent upon the individual proponent and the nature of the waste. Consideration could be given to areas of the Park that are currently degraded grazing land that could be filled, re-contoured top soiled and revegetated to complement existing remnant bushland.

3. i. Intractable Waste - It is not envisaged that intractable waste will be generated by the types of industry proposed for Meenaar. However, as discussed in the CER, should such wastes be generated the appropriate place for disposal would be Mount Walton. Such disposal would be discussed as they arise with the Health Department as operator of the Mount Walton site.

- ii. See answer to question 1.
- iii. The current proposal does not include a wastewater treatment lagoon for treatment of sewage. If such a proposal was made by any industry wishing to locate within the park that industry would need to seek appropriate approvals from EPA, Water Authority and Health.
- iv. The potential use of the Forrestdale Industrial Liquid Waste Facility has been discussed in the CER. Any industry wishing to locate within the park that would generate liquid waste requiring treatment through Forrestdale would need to seek the appropriate approvals from EPA and Health Department.

Buffer Zones

- 4. In the proposal there are two parts to the buffer zone which makes up the buffer distance between industry and residences. These are:
 - i. the distance between industry and the boundary of the park.
 - ii. the distance between the boundary of the park and the nearest neighbours.

Review of the article "Recommended Buffer Distances for Industrial Residential Air Emissions (Publication No.AO2/86 (Revised July 1990))" indicates that for the types of industry (Section 5.3 of CER) expected to locate within the park, recommended buffer distances are between 100-500 metres.

Agricultural Processing	Recommended Buffer Distances
grain processors	300
flour mill	300
malt	300
biscuit/confectionary	100
noodles/cereals	N/A
woollen mill	200-500
seed cleaners	N/A
sheep skins	N/A

Mineral Processing

rare earths)	
polishing powders)	
speciality magnets)	300-500
inorganic colours)	
speciality foundry)	
stoneworks		100
gypsum and kaolin processing		300-500

It is not anticipated that plants requiring major buffer distances will be located within the park. Such industries include:

Paper or paper pulp - involving combustion of sulphur or sulphur containing materials	5000
Petroleum refineries	2000
Aluminium refinery	2000

The nearest neighbours to the park are two residences over 500 metres from the boundary of the park. However, the homestead to the south of the park has a large section of remnant vegetation between it and the industrial land and as such will be 1½ - 2 km from the nearest industry.

Other residences are over 1½ km from the industrial areas of the park.

Consequently buffer distances from residences to industry meet those specified within the document quoted above.

In order to give further protection to residences commitments have been made in regard to:

- . leachates
- . noise
- . sulphur dioxide
- . dust

In addition it is noted that the railway and road reserves form part of the buffer zone between the park and residents to the north of the site.

5. Environmental Commitments given in Appendix I of the CER are given to ensure minimal impact on nearby residents. Should an impact arise the Minister for the Environment considers unacceptable the problem will be rectified to the satisfaction of that Minister.
6. The impacts of industry in the park will be contained within the boundaries of the Park. Monitoring will be undertaken to ensure that this is the case. Should monitoring identify a problem or an unacceptable impact the Management Committee will ensure that this is addressed.
- 7.&
8. Discussion of noise in the CER was given as an example of Management and Control of Noise.

Commitments in regard to noise at the nearest residences have been given in Appendix I.

Monitoring

9. &
10. A monitoring programme will be established for the park by the Meenaar Advisory Board's Environmental Monitoring Working Committee prior to the commencement of industrial operations. Monitoring programmes will also be established by individual industries as agreed with the responsible authorities (EPA, WAWA). Results of these monitoring programmes will be reported to the relevant authorities with copies to the Park Management Board. The Environmental Monitoring Working Committee will be able to check any results or carry out independent sampling should I consider such a programme necessary.

11. Clearing Land

Figure 14 in the CER clearly shows that industrial land has been established on the cleared area of the park. Buffer zones will be planted to augment the current vegetation on the site.

This principle will be maintained throughout the detailed planning of the site.

12. Transport

A high standard of both road and rail access are available to the site. The preferred option for transporting goods to the site will be determined by individual companies in association with the appropriate regulatory authorities.