Proposed 132kV transmission line, Manjimup to Beenup mineral sands mine

State Energy Commission of Western Australia

Report and recommendations
of the Environmental Protection Authority

Environmental Protection Authority
Perth, Western Australia
Bulletin 707
October 1993

THE PURPOSE OF THIS REPORT

This report contains the Environmental Protection Authority's environmental assessment and recommendations to the Minister for the Environment on the environmental acceptability of the proposal.

Immediately following the release of the report there is a 14-day period when anyone may appeal to the Minister against the Environmental Protection Authority's report.

After the appeal period, and determination of any appeals, the Minister consults with the other relevant ministers and agencies and then issues his decision about whether the proposal may or may not proceed. The Minister also announces the legally binding environmental conditions which might apply to any approval.

APPEALS

If you disagree with any of the contents of the assessment report or recommendations you may appeal in writing to the Minister for the Environment outlining the environmental reasons for your concern and enclosing the appeal fee of $10.

It is important that you clearly indicate the part of the report you disagree with and the reasons for your concern so that the grounds of your appeal can be properly considered by the Minister for the Environment.

ADDRESS

Hon Minister for the Environment
12th Floor, Dumas House
2 Havelock Street
WEST PERTH WA 6005

CLOSING DATE

Your appeal (with the $10 fee) must reach the Minister's office no later than 5.00 pm on 28 October, 1993.

Environmental Impact Assessment (EIA)
Process Timelines in weeks

Date	Timeline commences from receipt of full details of proposal by proponent	Time (weeks)
9/8/93	Proponent Document Released for Public Comment	
6/9/93	Public Comment Period Closed	4
17/9/93	Issues Raised During Public Comment Period Summarised by EPA and Forwarded to the Proponent	2
28/9/93	Proponent response to the issues raised received	1.5
15/10/93	EPA reported to the Minister for the Environment	3

ISBN. 0 7309 5637 7
ISSN. 1030 - 0120
Assessment No.813

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Summary and recommendations

In 1991, the State Energy Commission of Western Australia presented the Environmental Protection Authority with a number of alternatives for supplying power to the proposed Beenup mineral sands mine. These alternatives included on-site generation by the mining company, alternative technologies such as solar and wind power and a number of transmission line options.

The State Energy Commission's preferred option was for a 132kV transmission line from a substation at Manjimup to the mine. This option was found environmentally acceptable by the Authority subject to a number of recommendations. One of the recommendations was that the line should go underground through areas of Karri forest with high conservation value which equated to a length of approximately 6.2km. The State Energy Commission decided that this would make that option unviable economically and chose to proceed with a route from Picton to the mine via Great North Road.

In June 1993 the State Energy Commission decided to investigate another route from the Manjimup substation (figure 1). This proposal was outlined in a Consultative Environmental Review prepared by the State Energy Commission as part of the environmental impact assessment process. The Consultative Environmental Review was advertised for public comment and 55 submissions were received by the Environmental Protection Authority.

Of these submissions, 48 were from the public and seven were from Government agencies. The submissions raised a number of issues including health effects from electromagnetic fields, visual amenity, impact on farming operations, clearing of forest, clearing of remnant vegetation on farms, alternative supply options, economic issues, lifestyle, Aboriginal sites, wetland destruction, the spread of weeds, heritage listed areas, dieback, impact on fauna, soil erosion, fire risk, chemical pollution, compensation for lost forest and waste disposal from camp sites.

Many of these issues have been addressed by the State Energy Commission either in their original commitments or in new commitments made as a result of the public review process.

After considering the issues raised in submissions and the information in the Consultative Environmental Review, the Environmental Protection Authority determined that the bases for acceptability of this proposal are to minimise clearing in areas with identified national estate values and native forest in the powerline easement, and to minimise the risk of Phytophthora spread and soil erosion. After considering these factors, the alignment should be designed to minimise visual intrusion.

The Environmental Protection Authority has made recommendations on each of these key issues which it believes would make the management of the issues environmentally acceptable.

Accordingly, the Authority concludes that the proposal is environmentally acceptable subject to the recommendations below being converted into stringent Environmental Conditions.

Recommendation 1

The Environmental Protection Authority concludes that the proposal by the State Energy Commission of Western Australia for the supply of power to the Beenup mineral sands mine via a 132kV power transmission line from Manjimup is environmentally acceptable.

In reaching this conclusion the Environmental Protection Authority identified the main environmental factors requiring detailed consideration as:

- **clearing in areas proposed for listing on the Register of the National Estate;**
- **clearing in state forest;**
- **dieback management;**
- **soil erosion (particularly in stream reserves); and**
- **visual resource management.**

The Environmental Protection Authority concludes that the environmental factors mentioned above have been addressed adequately by either environmental management commitments given by the proponent or by the Environmental Protection Authority's recommendations in this report.

Accordingly, the Environmental Protection Authority recommends that the proposal could proceed subject to:

- **the Environmental Protection Authority's recommendations in this assessment report; and**
- **the proponent's commitments.**

Clearing in Areas with National Estate Values

The area to the south of the Donnelly River crossing at Palings Bridge (figure 1) is listed on the Interim List of the Register of the National Estate. Because of this the proponent was proposing to place the line on the north side of Palings Bridge. However, there is an existing cleared swathe on the south side of the bridge. It would be environmentally preferable to take advantage of this clearing when constructing the line to minimise clearing of forest with national estate values.

Recommendation 2

The Environmental Protection Authority recommends that at the crossing of the Donnelly River the line be placed to take maximum advantage of the existing cleared area on the southern side of Palings Bridge.

Adjacent to Coronation Road the transmission line traverses approximately 1.5km of an area on the Interim List of the Register of the National Estate (figure 1). Normally the Authority would prefer infrastructure such as roads and powerlines to be kept in the same easement to prevent additional disturbance to the environment. However, in this case, the Authority in keeping with its principle of minimising clearing believes the alignment should not be along along Coronation Road but considers the corridor should be as proposed provided the alignment is inside the clearfelled section of this route.

The line traverses uncut forest for approximately half of the 1.5km length and in this area it should be located along an existing forest track to minimise clearing. The exact alignment of the line in this section should be determined on the ground with the aim of minimising clearing, and in particular minimising the clearing of large old Karri trees.

Recommendation 3

The Environmental Protection Authority recommends that where the transmission line crosses the area proposed for listing on the Interim List of the Register of the National Estate in Gray Forest Block it:

a) is located within the 1984 clearfelled area where possible; and

b) is located along the forest track in the uncut area such that clearing of older large Karri trees is minimised in consultation with the Department of Conservation and Land Management.

Clearing in State Forest

At the conclusion of this assessment the proponent will have approval for a powerline corridor 200m wide. The exact centreline of the transmission line can still be positioned within the corridor to minimise environmental impacts including visual impacts, the potential for soil erosion and the removal of mature timber. This should be done in consultation with the Department of Conservation and Land Management.

Recommendation 4

The Environmental Protection Authority recommends that within the approved powerline corridor the centreline of the transmission line should be determined by the proponent to the requirements of the Department of Conservation and Land Management.

The transmission line shadows Stewart Road for approximately 10km. The proponent has proposed that the line be placed approximately 400m to the south of Stewart Road to avoid visual impacts. This however will result in unnecessary clearing of good quality forest.

Recommendation 5

The Environmental Protection Authority recommends that the transmission line should run beside Stewart Road within the cleared area to avoid unnecessary clearing of the forest.

Dieback Management

Preventing the spread of dieback was identified at an early stage as an issue that the State Energy Commission would need to manage stringently. The Authority has not made a specific recommendation on this issue because it believes that the measures put in place by the State Energy Commission in consultation with the Department of Conservation and Land Management, and the flexibility of the alignment within the corridor as per Recommendations 4 and 6 will safeguard against any dieback concerns.

Soil Erosion

Some of the areas that the line traverses have steep slopes. The impact of the line can be mitigated to some extent by placing the powerline in the best position within the approved corridor as per Recommendation 4. In addition, the State Energy Commission have made a number of commitments aimed at minimising soil erosion. The Authority has not made a recommendation on this issue but expects that the State Energy Commission will act in a responsible manner and use best possible practise when managing soil erosion.

Visual Resource Management

Where the transmission line comes off the Darling Scarp east of the Vasse Highway, the State Energy Commission and the Department of Conservation and Land Management are currently trying to find the best corridor alignment to minimise visual impacts and the risk of dieback spread. The Authority considers that as the intent of this exercise is to lessen the environmental impact of the transmission line, some flexibility in locating the line in this area is acceptable.

Recommendation 6

The Environmental Protection Authority recommends that in the vicinity of the Vasse Highway the transmission line corridor should be determined by the proponent to the requirements of the Department of Conservation and Land Management.

1. Background

In 1991, the State Energy Commission of Western Australia presented the Environmental Protection Authority with a number of alternatives for supplying power to the proposed Beenup mineral sands mine. These alternatives included on-site generation by the mining company, alternative technologies such as solar and wind power and a number of transmission line options.

These options included:

- Picton (near Bunbury) to Beenup via Great North Road;
- Picton to Beenup via Margaret River; and
- Manjimup to Beenup.

The State Energy Commission's preferred option was for a 132kV transmission line from a substation at Manjimup to the mine. During the assessment the Authority decided that an above ground transmission line was unacceptable in some areas along Waistcoat Road. This was due to the high conservation value of mature stands of Karri along this route.

Given this finding, the Authority recommended to the Minister for the Environment that the preferred route was environmentally acceptable subject to a number of recommendations. The most significant from the State Energy Commission's point of view was a recommendation that the line should go underground through areas of Karri forest with high conservation value.

This equated to a 6.2km length of line in several small sections. The State Energy Commission decided that this would make that option unviable economically and chose to proceed with the route from Picton to the mine via Great North Road which, whilst longer, did not carry the cost penalty of putting the line underground.

In June 1993 the State Energy Commission decided to investigate another route from the Manjimup substation. This proposal was outlined in a second Consultative Environmental Review prepared by the State Energy Commission as part of the environmental impact assessment process. The main difference in the new proposal is a concerted effort on the State Energy Commission's behalf to avoid areas of old growth Karri forest such as those along Waistcoat Road in the earlier proposal.

2. The proposal

A detailed description of the proposal can be read in the State Energy Commission's Consultative Environmental Review document.

The proposal is for a 132kV transmission line approximately 90km long to be supported on steel or concrete poles (figure 1).

The line originates at a substation approximately 10km south of Manjimup and from there generally follows: Palings Road to 400m before the intersection with Coronation Road; turns south west and parallels Coronation Road to the Vasse Highway; crosses the Vasse Highway and parallels Stewart Road until the intersection with South Coast Road; shadows South Coast Road until it branches off to go between the Chester and Paget Nature Reserves; traverses private property to the mine site.

The State Energy Commission have adopted two clearing profiles, which explain how the forest will be cleared around the line, one for the Darling Plateau and another for the Scott Coastal Plain (see figure 2).

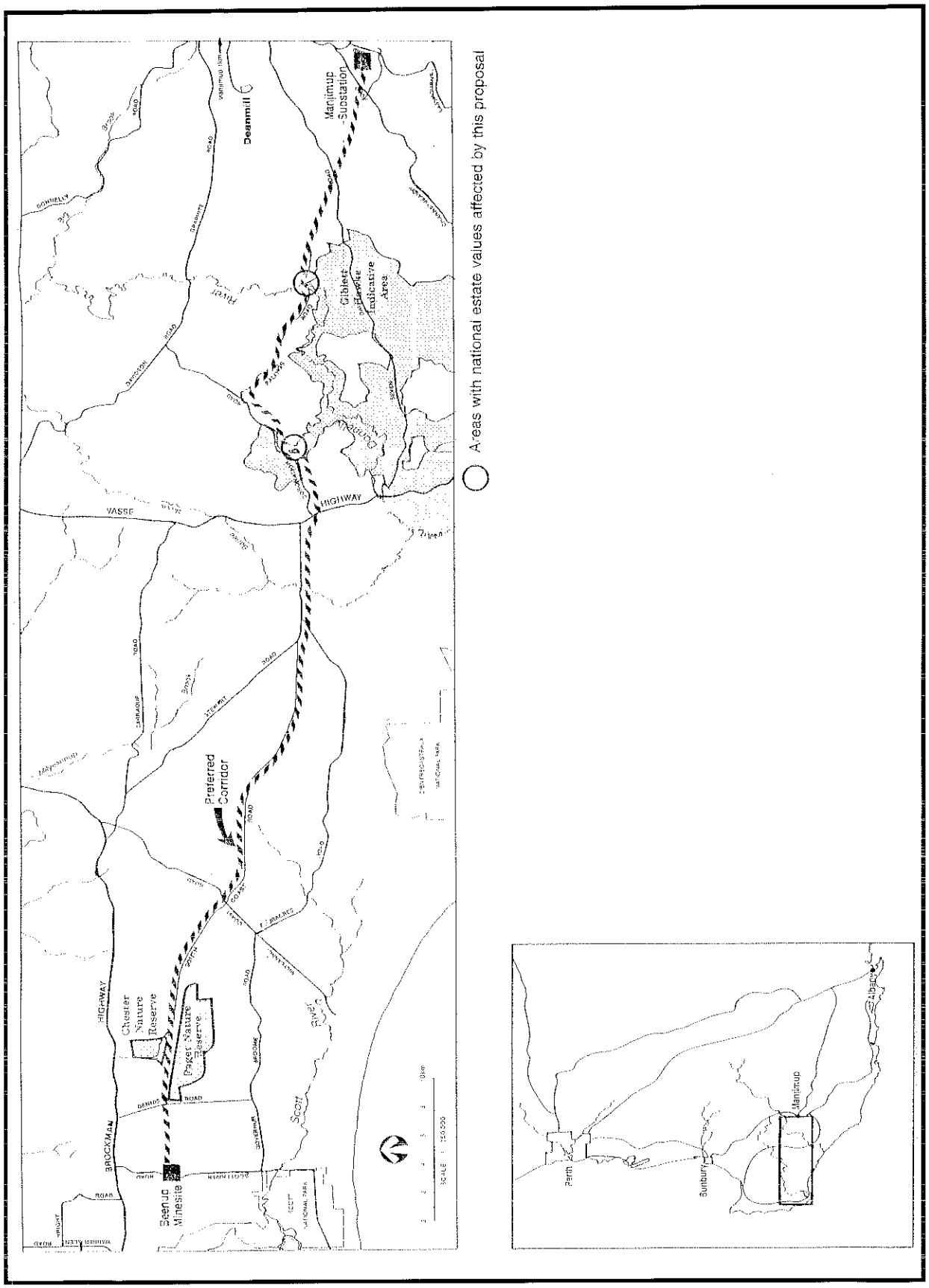
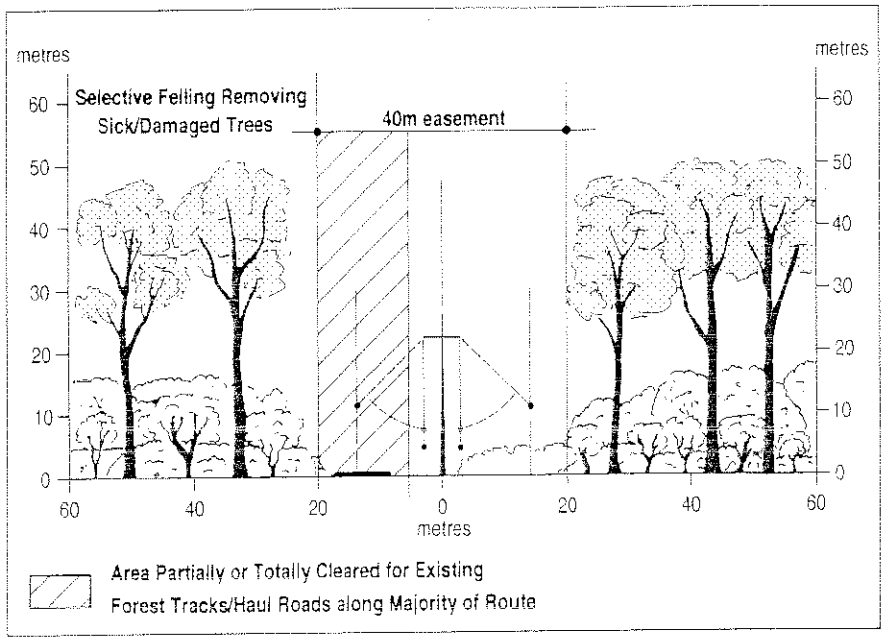
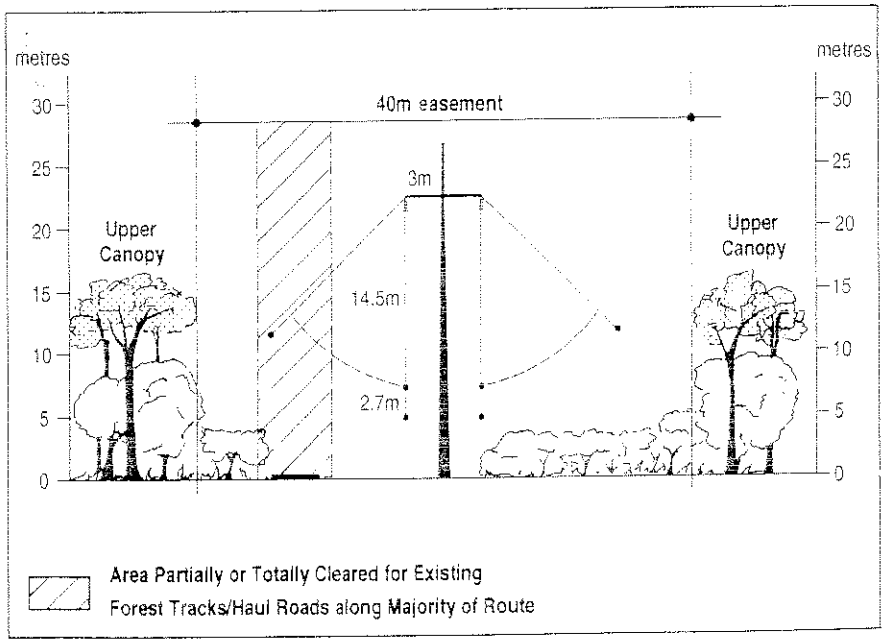


Figure 1. Study area showing areas with national estate values. Source: CER — Dames & Moore



DARLING PLATEAU



SCOTT COASTAL PLAIN

Figure 2. Proposed clearing profiles. Source. CER — Dames and Moore

3. Affected environment

The affected environment is described in detail in the Consultative Environmental Review. Aspects of the environment particularly relevant to this proposal include the following:

- the route crosses three distinct geomorphic units, the Darling Plateau, the Darling Scarp and the Scott Coastal Plain;
- the Darling Plateau generally supports a higher forest canopy than the Scott Coastal Plain which gives rise to the two clearing profiles;
- forest in varying condition occurs along virtually all of the route;
- this forest is dominated in different areas by Karri, Marri and Jarrah or a combination of these species;
- forest along much of the route is subject to logging for timber production;
- some areas of older forest which have regrown from logging occur along the route;
- there are a number of logging haul roads and forest tracks along the route which the line will take advantage of to minimise clearing; and
- the average annual rainfall is high by Western Australian standards at over 1000mm. This has implications for soil erosion and dieback risk.

The line does not cross any national parks or nature reserves, but it crosses two areas proposed for listing on the Interim List of the Register of the National Estate.

4. Alternatives

When a proposal is presented to the Environmental Protection Authority for assessment, an evaluation of alternatives is usually required. It was decided at the commencement of this assessment that an evaluation of alternatives was not necessary. This was for two reasons:

1. The State Energy Commission had already undertaken a comprehensive evaluation of power supply alternatives in the 1991 assessment; and
2. Alternatives put forward by proponents in the environmental review process must be a serious alternative that the proponent would use if necessary for environmental, economic or other reasons. The State Energy Commission indicated that, as they already have an approval for the line from Picton, if the option put forward in this proposal was not environmentally acceptable, they would proceed with that approved route.

5. Public submissions

The Consultative Environmental Review was released for four weeks public review closing on Monday 6 September 1993. During this time 48 public and seven Government submissions were received.

41 of the 55 submissions supported the State Energy Commission's proposal as presented because they did not want the transmission line to come from Picton along the route approved in 1991. These submissions were generally from the farming community along the Picton route who are concerned about the impact on farming operations and health from a transmission line crossing their properties.

The total range of issues raised by submittors was extensive and included (not in any order):

- health effects from electromagnetic fields;
- visual amenity;
- impact on farming operations;
- clearing of forest;

- clearing of remnant vegetation on farms;
- alternative supply options;
- economic issues;
- lifestyle impacts;
- the possibility of Aboriginal sites along the route;
- wetland destruction;
- the spread of weeds;
- heritage listed areas;
- dieback;
- impact on fauna
- soil erosion;
- fire risk;
- chemical pollution;
- impacts on existing and proposed nature reserves;
- compensation for lost forest; and
- waste disposal from camp sites.

A list of issues sent to the State Energy Commission and their response is included in Appendix 1. The Authority has reviewed these issues during its assessment and considers that the issues have been addressed through commitments made by the State Energy Commission or recommendations within this report.

6. Environmental issues and management

After considering the issues raised in submissions, information in the Consultative Environmental Review and site visits by members and staff of the Environmental Protection Authority, it was decided that the basis for acceptability of the proposal revolved around management of the following issues:

- clearing in areas with national estate values;
- clearing in state forest;
- dieback management;
- soil erosion (particularly in stream reserves); and after considering the the above factors;
- visual resource management.

With the management of the issues listed above by recommendations in this report or commitments made by the State Energy Commission, the Authority considers that the proposal is environmentally acceptable.

Recommendation 1

The Environmental Protection Authority concludes that the proposal by the State Energy Commission of Western Australia for the supply of power to the Beenup mineral sands mine via a 132kV power transmission line from Manjimup is environmentally acceptable.

In reaching this conclusion the Environmental Protection Authority identified the main environmental factors requiring detailed consideration as:

- **clearing in areas proposed for listing on the Register of the National Estate;**
- **clearing in state forest;**

- **dieback management;**
- **soil erosion (particularly in stream reserves); and**
- **visual resource management.**

The Environmental Protection Authority concludes that the environmental factors mentioned above have been addressed adequately by either environmental management commitments given by the proponent or by the Environmental Protection Authority's recommendations in this report.

Accordingly, the Environmental Protection Authority recommends that the proposal could proceed subject to:

- **the Environmental Protection Authority's recommendations in this assessment report; and**
- **the proponent's commitments.**

6.1 Clearing in areas with national estate values

The Register of the National Estate is a list of places within Australia with certain values including natural, historical and Aboriginal/ethnographic values. The Register is administered by the Australian Heritage Commission in Canberra. Whilst the Register legally only applies to Commonwealth proposals, State Governments generally respect the intention of the Register and manage the areas in a manner compatible with their conservation objectives.

The transmission line affects two areas proposed for listing on the Interim list of the Register of the National Estate. These are the forest on the south side of Palings Bridge at the Donnelly River crossing, and a neck of forest running between Iffley and Gray Forest Blocks on Coronation Road approximately 5km north east of the Coronation Road/Vasse Highway intersection (figure 1).

In the 1991 assessment, the Authority recommended that in some areas with National Estate values the transmission line should be put underground. The Authority has decided that this approach is not necessary for this assessment for the following reasons:

1 The forest with National Estate values is not of the same conservation value as that identified in the 1991 proposal.

2. The line traverses only 1.5km of forest with National Estate values as opposed to 11km for the 1991 proposal.

3. The Australian Heritage Commission has stated that this proposal has significantly less impact on National Estate values than the 1991 proposal.

Because of this, the Authority has determined that provided the impacts on the vegetation are minimised, it is acceptable for the line to remain above ground through this sector.

In the first area, the State Energy Commission planned to put the line on the north side of Palings Road at Palings Bridge to minimise impacts on the area with National Estate values. However, there is an existing cleared area on the south side of the bridge. The Authority considers it would be appropriate to utilise this clearing for the transmission line.

Recommendation 2

The Environmental Protection Authority recommends that at the crossing of the Donnelly River the line be placed to take maximum advantage of the existing cleared area on the southern side of Palings Bridge.

At the second area proposed for listing on the Interim List of the Register of the National Estate (approximately 1.5km wide) it is proposed that the line will shadow one of the Department of Conservation and Land Management's forest management boundaries. This is set back 400m

from Coronation Road. Normally the Authority prefers services to be concentrated in road reserves. However, there is an opportunity to minimise clearing by taking advantage of clearfelled areas.

The 1.5km length of line can be located in a 1984 clearfelled area for approximately 0.7km and this will have less impact than if the line is traversing uncut forest. For the rest of the 1.5km the line will shadow a forest track. The exact alignment along this track should be determined on the ground to minimise the clearing of larger old Karri trees, particularly around the creek crossing in this section.

Recommendation 3

The Environmental Protection Authority recommends that where the transmission line crosses the area proposed for listing on the Interim List of the Register of the National Estate in Gray Forest Block it:

a) is located within the 1984 clearfelled area where possible; and

b) is located along the forest track in the uncut area such that clearing of older large Karri trees is minimised in consultation with the Department of Conservation and Land Management.

The Department of Conservation and Land Management is proposing to log along Coronation Road so that a 200m buffer is left as opposed to the 400m buffer that exists now. It has been suggested that as the transmission line is proposed to shadow the management boundary it could actually be located along this new boundary 200m from Coronation Road. However, as the forest is currently all uncut along this new line, the Authority considers it appropriate that the line remain at the 400m distance through the area with National Estate values. There are no apparent environmental benefits in shifting the line to the proposed new boundary.

6.2 Clearing in state forest

At the conclusion of this assessment the State Energy Commission potentially will have approval for a powerline corridor 200m wide along the 90km length of line. As the width of actual clearing will be a maximum of 40m, the exact centreline of the transmission line can still be moved around within this corridor to minimise environmental impacts. Engineering design for the transmission line will be a determining factor but the main environmental issues that should also be taken into account during this exercise include:

- visual resource management;
- the potential for soil erosion (particularly in stream reserves); and
- minimising the removal of mature timber and other significant vegetation.

The Department of Conservation and Land Management are the most experienced body for dealing with these issues in the southern forests and thus the Authority believes it is appropriate that they oversee the selection of the final centreline.

Recommendation 4

The Environmental Protection Authority recommends that within the approved powerline corridor, the centreline of the transmission line should be determined by the proponent to the requirements of the Department of Conservation and Land Management.

After crossing the Vasse Highway the transmission line runs parallel to Stewart Road for approximately 10km. The State Energy Commission has proposed that the line be placed approximately 400m to the south of Stewart Road. The reasoning for this is to avoid visual impacts along Stewart Road which is planned to become a major tourist route.

The Authority considers that whilst the tourism values of the region are important, they are largely based on the forest itself. It therefore seems inappropriate to clear portions of the forest to protect those tourism values. Given that Stewart Road already has a significant visual impact on the landscape, the Authority considers that the line should be located directly adjacent to the road so it is added to this area of existing impact rather than creating new impacts on other forest areas in good condition.

Recommendation 5

The Environmental Protection Authority recommends that the transmission line should run beside Stewart Road within the cleared area to avoid unnecessary clearing of the forest.

The point was also made in some submissions that the clearing required for the State Energy Commission's transmission line proposal is very small compared to the amount of clearing that the Department of Conservation and Land Management undertake each year for timber production. Whilst on statistics this appears to be a valid point, the operations of the timber industry are undertaken under a Government approved framework. In addition, areas logged will regenerate while the powerline corridor will be a permanent feature. Any new impact on the forest needs to be judged on its own merits and not against existing approved operations.

6.3 Dieback management

Controlling the spread or introduction of dieback was identified by the State Energy Commission as an important issue during the 1991 assessment and it has again proposed measures to manage the impact. Many of the submissions also raised it as an issue.

The Authority has not made a specific recommendation on this issue because it believes that the measures put in place by the State Energy Commission in consultation with the Department of Conservation and Land Management, and the flexibility of the alignment within the corridor as per Recommendation 4 will ensure this issue is managed.

6.4 Soil erosion

Some of the areas that the line traverses have steep slopes. The impact of the line can be mitigated to some extent by positioning the powerline appropriately within the approved corridor as required by recommendation 4. In addition to this the State Energy Commission has made a number of commitments aimed at minimising soil erosion. The Authority has not made a specific recommendation on soil erosion.

However, the expectation is that the State Energy Commission, in consultation with agencies with experience in this field such as the Department of Conservation and Land Management will act in a responsible manner and use best possible practise when managing soil erosion.

6.5 Visual resource management

The transmission line comes off the Darling Scarp east of the Vasse Highway in an area with great potential for visual impact. The State Energy Commission in consultation with the Department of Conservation and Land Management are currently trying to find the best corridor alignment to minimise these visual impacts and the risk of dieback spread.

The Authority considers that as the intent of this exercise is to lessen the environmental impact of the transmission line, some flexibility in locating the corridor in this area is acceptable.

Recommendation 6

The Environmental Protection Authority recommends that in the vicinity of the Vasse Highway the transmission line corridor should be determined by the proponent to the requirements of the Department of Conservation and Land Management.

7. Conclusion

The Environmental Protection Authority considers that the environmental impacts of this proposal are not overwhelming and can be minimised or avoided by the State Energy Commission utilising appropriate environmental management techniques.

In particular, the proposal has significantly less environmental impact than the 1991 proposal due to the selection of a route that avoids Karri of high conservation value. Because of this the Authority has not made a recommendation that sections of the line be put underground.

Accordingly, the Authority concludes that the proposal is environmentally acceptable subject to the recommendations made in this report being converted into stringent Environmental Conditions and the proponent adhering to these conditions and their commitments.

The Recommended Environmental Conditions which implement Recommendations 1 to 6 are detailed below.

8. Recommended environmental conditions

Based on the assessment of this proposal and recommendations in this report, the Environmental protection Authority considers that the following Recommended Environmental Conditions are appropriate.

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 (which are not inconsistent with the conditions or procedures contained in this statement) made in the Consultative Environmental Review and in response to issues raised following public submissions. These commitments are consolidated in Environmental Protection Authority Bulletin 707 as Appendix 1. (A copy of the commitments is 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. Where, in the course of that detailed implementation, the proponent seeks to change those designs, specifications, plans or other technical material 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 Management of Forest Clearing in Areas With National Estate Values

4-1 In areas with national estate values, the proponent shall minimise clearing.

4-2 Prior to construction, the proponent shall design the location of the centreline of the transmission line at the Donnelly River crossing to take maximum advantage of the cleared area on the southern side of Palings Bridge and to achieve the objective of Condition 4-1.

4-3 The proponent shall construct the transmission line crossing at the Donnelly River to the requirements of Condition 4-2.

4-4 Prior to construction, the proponent shall design the location of the centreline of the transmission line crossing the area proposed for listing on the Interim List of the Register of the National Estate in Gray Forest Block such that it is located:

- within the area clearfelled in 1984 northeast of the creek crossing; and
- along the forest track in the uncut area south west of the creek crossing such that clearing of older large Karri trees is minimised in consultation with the Department of Conservation and Land Management,

and to achieve the objective of Condition 4-4.

4-5 The proponent shall construct the transmission line crossing in Gray Forest Block to the requirements of Condition 4-4.

5 Management of Forest Clearing Generally

Minor changes can be made to the powerline route within the approved corridor to minimise environmental impacts such as clearing on slopes and in stream reserves.

5-1 Prior to construction, the proponent shall, within the approved transmission line corridor, design the location of the centreline of the transmission line to the requirements of the Department of Conservation and Land Management.

5-2 The proponent shall subsequently construct the transmission line to the requirements of Condition 5-1.

6 Stewart Road

The line was to be offset from Stewart Road due to visual impacts but this will result in unnecessary clearing of good quality forest.

6-1 Prior to construction, the proponent shall design the location of the centreline of the transmission line within the area cleared for Stewart Road such that the amount of new clearing necessary is minimised.

6-2 The proponent shall subsequently construct the transmission line to the requirements of Condition 6-1.

7 Visual Resource Management

The proponent and the Department of Conservation and Land Management are currently determining a corridor near the Vasse Highway to minimise visual impact.

7-1 Prior to construction, the proponent shall design the location of the centreline of the transmission line in the vicinity of the Vasse Highway to the requirements of the Department of Conservation and Land Management.

7-2 The proponent shall subsequently construct the transmission line to the requirements of Condition 7-1.

8 Time Limit on Approval

The environmental approval for the proposal is limited.

8-1 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 by way of a request for a change in the condition under Section 46 of the Environmental Protection Act. (On expiration of the five year period, further consideration of the proposal can only occur following a new referral to the Environmental Protection Authority.)

9 Compliance Auditing

In order to ensure that environmental conditions and commitments are met, an audit system is required.

9-1 The proponent shall prepare periodic "Progress and Compliance Reports", to help verify the environmental performance of this project, in consultation with the Environmental Protection Authority.

Procedure

The Environmental Protection Authority is responsible for verifying compliance with the conditions contained in this statement, with the exception of conditions stating that the proponent shall meet the requirements of either the Minister for the Environment or any other government agency.

If the Environmental Protection Authority, other government agency or proponent is in dispute concerning compliance with the conditions contained in this statement, that dispute will be determined by the Minister for the Environment.

9. Bibliography

Environmental Protection Authority, 1991, Beenup Power Supply, Report and Recommendations Bulletin 603, Perth, Western Australia

McArthur & Associates, 1991, Manjimup - Beenup Power Supply, Forest Conditions along Proposed Transmission Line Corridor, Perth, Western Australia

State Energy Commission of Western Australia, 1991, Beenup Power Supply Consultative Environmental Review, Perth, Western Australia

State Energy Commission of Western Australia, 1993, 132kV Transmission Line, Manjimup to Beenup Consultative Environmental Review, Perth, Western Australia

Appendix 1

Proponent's response to submissions

Proponent's commitments

PROPOSED 132 KV TRANSMISSION LINE, MANJIMUP TO BEENUP MINERAL SANDS MINE (813)

STATE ENERGY COMMISSION OF WESTERN AUSTRALIA

RESPONSE TO SUBMISSIONS

132KV TRANSMISSION LINE

MANJIMUP TO BEENUP

CONSULTATIVE ENVIRONMENTAL REVIEW

SEPTEMBER 1993

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INTRODUCTION

This report presents SECWA's response to the issues and queries raised in submissions made by interested groups and individuals on the proposed Manjimup to Beenup 132kV transmission line subsequent to the release of the CER for public comment on 9 August 1993.

As part of the response to the various issues raised in the submissions, SECWA has made a number of new commitments and has renewed and, where necessary, amended the commitments made in the CER documents.

Details of all commitments are contained in the Appendices of this report.

KEY ISSUES

Note: a. The terms "CER" and "the document" should be understood to refer to the 132KV TRANSMISSION LINE, MANJIMUP TO BEENUP CONSULTATIVE ENVIRONMENTAL REVIEW, ESD 49/93.

b. The "**Document Reference**" listed refers the reader to relevant sections of the CER.

CONSERVATION

Issue: 1 *The powerlines should go underground where it crosses areas with National Estate Value as determined by the Australian Heritage Commission and the Department of Conservation and Land Management and in old growth forest areas.*

Response: SECWA believes that the CER details adequate measures to minimise the environmental impact of the line on these areas.

The majority of the route traverses areas managed by CALM for timber production and National Estate areas are not completely protected from logging as shown in Plate 2 of the CER.

A recommendation to underground any section of the line route would not be acceptable to SECWA because of the substantial/overwhelming costs involved and the precedent which would be set for future projects.

Issue: 2 *An equivalent area of land cleared should be added to the conservation estate.*

Response: SECWA will provide seedlings to replace trees removed on private property and will replace an equivalent area of vegetation as that removed from the Warren River Reserve, as required by the Water Authority of WA.

Issue: 3 *The loss of vegetation is unacceptable by today's standards.*

Response: SECWA believes that the amount of vegetation which will be removed for the construction of the line is not significant when considered in a regional context.

Issue: 4 *No estimate of the area of forest lost is given in the CER. Do SECWA know how much of each forest type will be cleared?*

Response: An accurate estimation of the amount and type of forest which will be removed prior to line construction will not be possible until the precise line route has been determined and finalised.

LAND MANAGEMENT

Issue: 9 *Whatever precautions are taken to prevent the spread of dieback, it is almost inevitable that construction and maintenance of the line will spread the disease. Can SECWA guarantee that their operations will not spread dieback?*

Response: SECWA will develop a comprehensive dieback hygiene programme in conjunction with CALM to ensure that its on-site operations will not spread dieback. It will be mandatory that all SECWA's and its contractors' personnel fully comply with this programme at all times.

To this end SECWA is more than confident that the spread of dieback will be prevented during its operations.

Document Reference: Section 6.1.2.4 and 6.8 and Commitment 8.

Issue: 10 *Campsites along the route should not be located in vested OR unvested reserves.*

Response: SECWA will not locate campsites in these areas.
See revised Commitment 20 in Appendix B of this report.

Document Reference: Section 6.21.

Issue: 11 *There is a large potential for land degradation from this proposal including:*

- *soil erosion*
- *sedimentation of waterways*
- *dieback*
- *chemical pollution*
- *fire risk*
- *weeds*

Response: SECWA has already developed management proposals to mitigate the above impacts in the CER.

Document Reference: Sections 6.2, 6.5, 6.8, 6.12, 6.16, and 6.18 and the related Commitments.

Issue: 12 *All studies (flora, fauna, dieback) must be completed before construction commences.*

Response: SECWA have given commitments to undertake all the above studies prior to the clearing and construction.

Document Reference: Sections 6.3, 6.8 and 6.14 and Commitments 3, 8 and 14.

Issue: 18 *A line on cleared farmland is preferable to a line through the forest for environmental and fire risk reasons.*

Response: The farmland to the west of the Vasse Highway is subject to inundation in the winter and SECWA has selected an alignment which, circumvents this problem.

SECWA believes that the management controls outlined in the CER will ensure that this route is environmentally acceptable.

Document Reference: Section 6 and Related Commitments.

ECONOMICS

Issue: 19 *The Manjimup route does not minimise environmental impact or economic cost as the real costs of loss of forest, habitat destruction and loss of conservation values have not been considered.*

Response: The economic analysis undertaken during the preparation of the 1991 CER clearly showed that a Manjimup route was the most viable. Costs associated with factors such as habitat destruction and loss of conservation value are not tangible costs and so were not included in this analysis.

These factors are taken into account during the EPA's assessment of the project.

Issue: 20 *Compensation should be paid to the State for any forest lost.*

Response: This matter will be resolved within Government.

Issue: 21 *The power supply issue should have been assessed within the overall mineral sands mine project.*

Response: It is not for SECWA to determine whether a development project such as this should be assessed in total or in its component parts.

Issue: 22 *The cost of all the alternatives is not in the CER but the cost of supplying power should rest with the company and not the taxpayer.*

Response: The relative costs of the Manjimup and Picton Options were discussed in the 1991 CER.

MDL will cover the costs of the Manjimup Option.

SUBMISSION 1

Note: a. The terms "CER" and "the document" should be understood to refer to the 132KV TRANSMISSION LINE, MANJIMUP TO BEENUP CONSULTATIVE ENVIRONMENTAL REVIEW, ESD 49/93.

b. The "**Document Reference**" listed refers the reader to relevant sections of the CER.

GENERAL

Question 1: *Why is this assessment necessary when SECWA already has an approved route?*

Answer: The Government requested that SECWA re-examines the Manjimup to Beenup route in response to requests by landowners affected by the Picton via Great North Road route.

Question 2: *The Palings/Coronation Road route was assessed in 1991. Why must it be reassessed now?*

Answer: The Palings/Coronation Road route was identified during the 1991 Corridor selection process, however it was not included for detailed assessment in the 1991 CER as the Waistcoat Road route was determined to be the preferred route during discussions with CALM, Local Councils and the local community.

Issue: 1 *Project Timetable*

Response: SECWA would base the timetable for the project on the requirements of its customer, MDL.

Issue: 2 *No economic data was included in the CER.*

Response: An economic analysis has not been included in this CER as the document concentrates on the environmental and social benefits at the Palings Road/Coronation Road option versus the Waistcoat Road and Great North Road options. Also the economic argument put forward in the 1991 CER is still relevant as the cost of the Palings Road/Coronation Road option is equivalent to that of the Waistcoat Road option. The reader is referred to the previous CER for this information.

Issue 3: *Any economic comparison between the Picton via Great North Road route and the Palings/Coronation Road route should include the relative costs of compensation to the public for the loss of forest values, wood production, nature conservation, recreation and the visual impact of the line.*

Response: These elements cannot be included in the economic analysis of this project as economic comparisons must be based on tangible data.

Issue: 4 *SECWA has not provided any costing to support the claim that on site generation is uneconomic.*

Response: This issue was dealt with in the assessment of the previous CER.

1.1 BACKGROUND

Issue: 5 *The Picton via Great North Road option also meets the criteria set in the CER for the route selection but it avoids all impact on AHC identified areas.*

Response: SECWA agrees that the Great North Road route meets the selection criteria but the latter portion of the statement is incorrect. The Great North Road route does traverse the Blackwood River National Estate area.

Issue: 6 *The CER does not clearly state how much emphasis is placed on environmental versus social factors.*

Response: SECWA ensures that due consideration is given to both environmental and social issues during the selection of the line route.

1.4 TIMING

Issue: 7 *"SECWA claim the power is required on site in mid 1995 and have submitted a superficial CER because of limited time. The same justification was used in 1991 but no work commenced."*

Response: SECWA's timetable for this project is based upon the requirements of its potential customer, MDL. The CER has been prepared in accordance with the EPA's guidelines and is not considered 'superficial'.

2.0 NEED FOR THE PROPOSAL

Issue: 8 *"Despite the SECWA claim that the powerlines will reinforce the existing power supply to Augusta there is no mention of the link in the CER. Neither is any costing supplied to prove the claim that on-site generation is to (sic) expensive."*

Response: Beenup will initially be provided with a supply, for construction purposes, from the existing 22kV distribution system. This line will subsequently be used to feed power back into the existing system once a substation is established at the mine site and the 132kV supply is available.

The issue of on-site generation was addressed in the 1991 CER, Section 3.3.

3.0 CORRIDOR SELECTION

Issue: 9 *All the options identified in the previous CER should have been included in this CER.*

Response: This CER was prepared in accordance with the EPA's requirements and guidelines.

Issue: 10 *The CER does not identify the total area of forest, particularly Karri forest, affected by the route.*

Response: As the precise route centreline has not been determined, an accurate analysis of the total area of forest and the forest types affected by the project is not possible at this time.

Issue: 11 *The line should be placed immediately adjacent to Stewart road to minimise the need for new clearing.*

Response: Locating the line adjacent to Stewart Road would have major visual impact and substantial clearing would still be required.

Issue: 12 *Placing the line at an offset to Stewart Road will increase the risk of dieback spread and the impact of the line upon rare flora.*

Response: CALM is currently undertaking a detailed dieback survey of the entire route at SECWA's request. A rare flora survey will also be undertaken in October 1993. The results of both surveys will be discussed with CALM. Should areas of unacceptable risk/impact be identified the line route will be adjusted accordingly.

The dieback hygiene programme developed for the line construction will also be adhered to during easement maintenance for the life of the line.

Document Reference: Section 6.1.2.4, 6.8 and 6.14 and Commitments 8, 14.

Issue: 13 *West of the Vasse Highway the line should be located along the boundary of state forest and private property to minimise clearing, the risk of spreading dieback and to facilitate the servicing of future property developments in the area.*

Response: South Coast Road has been selected as the preferred alignment for the following reasons:

- South Coast Road is an existing access track.
- The private property/State forest boundary area is subject to inundation during winter.
- The South Coast Road alignment reduces the visual impact of the line and was preferred by the local community.
- The quality of the forest is low.
- Ground conditions are better along South Coast Road than along the boundary of the state forest.
- Opening a new track along the boundary of the state forest is likely to have a greater impact on the spread of dieback than utilising an existing track as proposed.
- This line provides bulk power and cannot be used to directly service domestic customers.
- See the response to Issue 12 for more information on dieback management.

Issue: 14 *"The utilisation of Jack Track, Four Acres and Governor Broome road would appear to be more consistent with the advantages identified by the proponent in 6.1.1. There would appear to be very little difference in length but considerable difference in the amount of clearing involved and natural values at risk of damage".*

Response: This issue was dealt with to the EPA's satisfaction in the previous CER.

Issue: 15 *The CER claims there is a "high" level of support for the Manjimup route however it does not identify in which community the support lies.*

Response: Feedback from SECWA's public consultation programme both during and after the preparation of the 1991 CER showed a high level of support for the Manjimup option in the communities of Busselton, Capel, Manjimup and Margaret River.

4.2 LINE EASEMENTS

Issue: 16 *The claim that SECWA will relinquish all interest in the balance of the corridor is misleading as the CER states that diseased/damaged trees will be felled outside the easement area.*

Response: SECWA will not be acquiring an "interest" by way of lease or easement in any area outside the 40m wide strip of land described as the easement area, however, SECWA is required under its Act to remove any trees which pose a threat to the line. Hence, SECWA must remove any diseased/damaged trees from outside the easement which upon falling could damage the line. This work will be undertaken in consultation with CALM who will be undertaking the initial clearing of the route.

Document Reference: Section 6.1.2.1.

4.4 LINE CONSTRUCTION

Issue: 17 *"The need to have access to each pole is stated. This means that unless the poles are adjacent to Palings road duplication of tracks will be required with an increase in impact on the forest."*

Response: New access track will only be created if absolutely necessary ie where the line crosses untracked areas of forest or in areas of steep slope where access off existing tracks is not available.

Document Reference: Section 6.2 and Commitment 2.

Issue: 18 *Section 4.4 page 11 states that "all above ground vegetation" would be removed from the easement. This is not necessary if "scrub rolling" is employed. The stumps of felled trees should also be left in situ to help stabilise the soil.*

Response: Section 4.4 states that the clearing will be done in accordance with the clearing profiles. Section 6.1.2.1 which discusses the clearing profiles states that stumps will be retained wherever possible and that understorey vegetation will be dealt with in a manner which leaves the top soil and root stock intact, as suggested above.

5.2.4 VEGETATION

Issue: 19 *The flora information presented in the CER is superficial. The claim that the project will have an insignificant impact on species less than 2m in height is incorrect as the burning of windrows will have a significant impact on these plants.*

Response: SECWA undertook a Autumn flora survey during the preparation of the 1991 CER and a spring survey will be conducted in October 1993.

Windrows will be kept clear of identified populations of significant flora and every effort will be made to minimise the impact of construction activities on the vegetation.

See amendment to Commitment 14 in Appendix B of this report.

Document Reference: Commitment 13.

5.3.7 ETHNOGRAPHY AND ARCHAEOLOGY

Issue: 20 *An Ethnographic/Archaeological survey should have been done prior to the preparation of this CER.*

Response: SECWA is committed to undertake an Ethnographic/Archaeological survey of the entire line route prior to clearing.

Document Reference: Section 6.7 and Commitments 7 and 24.

5.3.9 VISUAL RESOURCES

Issue: 21 *The CER's treatment of the visual resource issue is too simplistic.*

Response: Section 6.17 recognises that the construction of access tracks and the clearing of vegetation within the line easement would have some impact on the visual resources of the region. However locating the line adjacent to existing forest tracks would minimise this impact considerably.

A number of proposals have been developed to manage the impact of the line in significant areas, such as the crossing of the Vasse Highway and the Darling Scarp, and these will be implemented when the project proceeds.

Document Reference: Section 6.17 and Commitments 12 and 21.

6.1 VEGETATION CLEARING

6.1.1 Impact

Issue: 22 *The statements contained in the 'Impact' section contradict those made in other sections of the CER.*

Response: Section 6.1.1 contains general statements regarding the impact associated with vegetation clearing. Proposals for the management/mitigation of the impacts are contained in Section 6.1.2.1 which discusses the clearing methods to be used.

See also the response to Issue 18.

Issue: 23 *The CER claims that the advantage of using the existing haul roads is that "it is not necessary to construct a new maintenance track for the completed line", when section 4.4 and section 4.5 clearly state that permanent access to the poles would be required.*

Response: SECWA requires access to each pole position. Where the line is located adjacent to existing tracks access to each pole will be made from this permanent track as required. Thus, new access tracks will only be constructed where the line traverses untracked areas of forest or where the terrain makes it necessary to create alternative access to the poles.

Document Reference: Commitment 2.

6.2.1 Management

Issue: 24 *The clearing prescriptions for the Darling Plateau and Scott Coastal Plain are not included in the CER.*

Response: Sections 6.1.2.1, 6.1.2.2 and 6.1.2.3 and Figure 9 detail the clearing prescriptions for the two areas named.

Clearing for line construction will be done by CALM.

Issue: 25 *Figure 9 indicates that SECWA will require a 120m wide management zone in forest >20m in height.*

Response: The dimensions shown on the bottom of the Darling Plateau indicate the scale of the sketch, they do not nominate a management zone as suggested above.

The easement area will be cleared by CALM in accordance with the clearing prescriptions given in the CER. Diseased/damaged trees outside this area which upon falling could impact upon the line will be selectively felled and removed.

6.1.2.1 Clearing within Easements

Issue: 26 *The CER states that stumps will be retained where possible but no criteria is given.*

Response: The precise clearing methods to be used on the line will be developed in consultation with CALM and in accordance with the undertakings given in the CER, once the corridor has been approved.

Issue: 27 *SECWA should install "suitably robust and low maintenance erosion control structures along the easement".*

Response: The need for any such erosion control structures will be discussed with CALM and implemented as part of the clearing of the line route.

Document Reference: Section 6.2 and Commitment 2.

Issue: 28 *Figure 9 shows a 6m wide vegetation free area underneath the line but the CER does not detail whether this area will be maintained by mechanical means or the use of chemicals.*

Response: Figure 9 gives a schematic representation of the appearance of the easement it is not intended to be an absolutely accurate reflection of the final appearance of the area.

The only portions of the easement which will be kept relatively free of vegetation are the access track, where permanent access is required, and the area immediately around the pole.

Issue: 29 *The CER does not address the need to maintain dieback hygiene during line maintenance or to control public access in dieback free areas.*

Response: Section 6.1.2.4 states that the dieback hygiene procedures developed in conjunction with CALM will be maintained throughout the life of the line.

It is envisaged that these procedures will address the issue of preventing public access to any new access tracks created during the construction of the line.

See new Commitment 28 in Appendix B of this report.

6.2 SOIL EROSION

6.2.1 Impact

Issue: 30 *"The CER does not address the fact that approximately 6km of the proposed route parallels streams, and will involve significant clearing of stream zones, the logging of which is prevented by Ministerial condition imposed on the implementation of the Forest Management Plans in order to prevent damage to the aquatic habitat!"*

Response: This issue has been specifically addressed for the crossing of the Donnelly River. SECWA will ensure that clearing in these sensitive areas will be done in accordance with CALM requirements.

Document Reference: Sections 6.2 and 6.12 and Commitments 2 and 11.

6.3.2 Management

Issue: 31 *"It is of concern that SECWA expect (sic) to be given permission to proceed with the project prior to undertaking the flora and fauna surveys, which would allow them to specify there (sic) impact on the environment or amend the proposal in light of the survey."*

Response: The flora and fauna surveys cannot be undertaken until a line route has been determined. The CER seeks approval for a 200m wide corridor not a precise line route.

SECWA is currently consulting with CALM regarding a reasonably accurate route alignment.

It is, therefore, inappropriate to undertake detailed flora and fauna surveys for the CER. Instead, SECWA has made a commitment to perform these surveys prior to clearing and to adjust the nominated line route to avoid significant areas wherever necessary.

Document Reference: Commitments 3 and 14.

6.4 LANDUSE

6.4.1 Impact

Issue: 32 *"This section does not identify forestry as a landuse to be considered, despite the fact that a significant proportion of the line affects multiple use forest."*

Response: SECWA recognises that forestry is a significant landuse issue; however, when considered in a regional context the impact of the line route on forest production is minimal.

APPENDIX B

Issue: 33 *"The information in Appendix B clearly refers to the study done in 1991. There is a significant distance of the line which is not common to the proposal. This is evident on Figure B1 where the information presented and discussed clearly relates to work done on the Storry Block portion of the Palings Road/Waistcoat Road alignment."*

Response: SECWA agrees that the original study carried out in 1991 was in relation to the Waistcoat Road route; however, Section B1 of the current CER includes relevant information from the previous study plus information gathered in June 1993 to cover the Palings Road/Coronation Road alignment. The whole Storry forest block was surveyed during the 1991 study which explains why the additional information available for this area is shown on Figure B1.

SUBMISSION 2

Note: a. The terms "CER" and "the document" should be understood to refer to the 132KV TRANSMISSION LINE, MANJIMUP TO BEENUP CONSULTATIVE ENVIRONMENTAL REVIEW, ESD 49/93.

b. The "**Document Reference**" listed refers the reader to relevant sections of the CER.

SECTION 1.0 INTRODUCTION

1.1 Background

Issue: 1 *The CER identifies only one option and this option was dismissed in the original CER.*

Response: The Palings/Coronation Road option was identified during the original Manjimup to Beenup corridor selection study. It was not included for detailed assessment in the 1991 CER as the Waistcoat Road option was nominated as the preferred route during discussions with CALM, Local Councils and the local community.

SECTION 2.0 NEED FOR THE PROPOSAL

Issue: 2 *The CER claims that the powerlines will reinforce power supplies to Augusta and Margaret River however no information is provided to explain how this will be achieved.*

Response: The possible benefits to the Augusta/Margaret River power system are mentioned in the CER as supplementary information only.

The following details are not included in the CER since the prime purpose of the line is to supply electricity to the Mineral Sands mine. Beenup will initially be provided with a supply, for construction purposes, from the existing 22kV distribution system. This line will subsequently be used to feed power back into the existing system once a substation is established at the mine site and the 132kV supply is available.

SECTION 3.0 CORRIDOR SELECTION

Issue: 3 *The CER fails to discuss the impact of the line in terms of the loss of productive forest it will cause.*

Response: The CER notes forest production as an existing landuse issue but it does not include detailed discussion on the impact of the loss of areas of productive forest as this impact is considered minimal when viewed in a regional context.

SECTION 4.0 DESCRIPTION OF PROPOSED DEVELOPMENT

4.2 LINE EASEMENT

Issue: 4 *The CER states that only a 40m wide easement is required, however, this is not correct as the document also states that "profile falling of trees outside the easement" will be required.*

Response: The clearing prescriptions described in the document do not require "profile falling" outside the 40m wide easement area. Section 6.1.2.2 and 6.1.2.3 clearly states that outside the easement only trees assessed by CALM as being diseased/damaged and capable of falling onto the line will need to be selectively felled.

Document Response: Section 6.1

4.4 LINE CONSTRUCTION

Issue: 5 *The need for permanent access to each pole position will require the creation of an access track to each site and the retention of this track for subsequent maintenance.*

Response: New access tracks will only be created where necessary, i.e. where the line traverses untracked sections of forest or where the slope off an adjacent track prohibits access to the pole position.

Where the line is located adjacent to existing tracks these will be used for access, with small landings created to give access to each pole position if necessary.

SECTION 5.0 PROJECT AREA ENVIRONMENT

5.2.4 VEGETATION

Issue: 6 *It is not correct to claim that activities such as the creation of access tracks, clearing, windrowing, burning and maintenance will have only a minimal impact on significant flora species if they are less than 2m in height.*

Response: SECWA will undertake a flora survey of the entire line route prior to clearing. The results of this survey will be made available to the relevant authorities and, where necessary, the line route will be adjusted to avoid sensitive areas.

SECWA will also ensure that all clearing activities and the design of the line and access track minimise any impact on significant areas.

See amended Commitment 14 in Appendix B of this report.

Document Reference: Section 6.14 and Commitments 13 and 14.

5.2.5 FAUNA

Issue: 7 *No field surveys for fauna have been undertaken for the project and the list of species provided in the CER does not include a Schedule 1 mammal which is likely to occur along the corridor.*

Response: SECWA has given a commitment to carry out a fauna survey of the entire line route prior to clearing.

Document Reference: Commitment 14.

5.3.7 ETHNOGRAPHY AND ARCHAEOLOGY

Issue: 8 *There has been no survey for Aboriginal sites along the easement corridor.*

Response: SECWA has given a commitment to carry out a survey of Archaeological and Ethnographic sites prior to the commencement of clearing. The results of the survey will be made available to the WA Museum and SECWA will adjust pole locations to avoid the destruction of identified sites.

Document Reference: Section 6.7 and Commitments 7 and 24.

5.3.9 VISUAL RESOURCES

Issue: 9 *A more detailed commitment is required to ensure that the visual impact of the line is properly managed.*

Response: SECWA believes that the corridor selected for the line has minimal visual impact on the surrounding environment since the great majority of the route will be located adjacent to either existing logging haul roads or forest tracks.

The CER also identifies a number of sensitive areas, such as:

- Entry into State Forest
- Seven Day Road crossing
- Bibbulmun Track crossing
- Donnelly River crossing
- Vasse Highway/Darling Scarp crossing
- Milyeannup Coast Road crossing
- Exit from State Forest

and SECWA intends to prepare detailed management plans to minimise the visual impact in these areas.

Document Reference: Section 6.17 and Commitments 12 and 21.

SECTION 6 ENVIRONMENTAL CONSEQUENCES AND MANAGEMENT

6.1 VEGETATION CLEARING

6.1.1 Impact

Issue: 10 *Statements made about the clearing methods in this section are inconsistent with statements made in other sections of the document.*

Response: This section is intended as a brief statement on the potential impacts of the clearing operations. As such, only general comments are made regarding the clearing methodology. The more detailed discussion of the clearing prescriptions is addressed in the "Management" section 6.1.2.

6.1.2.1 Clearing Within the Easement

Issue: 11 *Figure 9 indicates that a 120m wide management zone is required for forest >20m in height.*

Response: The dimensions shown on Figure 9 on the clearing profile diagram for the Darling Plateau are intended only to provide scope to the drawing. They do not indicate a required management zone.

As stated in 6.1.2.2 only tall trees assessed by CALM as being diseased/damaged and capable of falling onto the line would be selectively felled outside the 40m wide easement area.

6.1.2.4 Easement Maintenance

Issue: 12 *Figure 9 shows a vegetation free zone approximately 6 metres wide under the line. This area is a potential source of erosion and there is no indication as to how this area is to be maintained.*

Response: Figure 9 is intended as a schematic representation of the proposed clearing profile and not an accurate drawing of the final appearance of the easement area.

The only portions of the easement which will be kept relatively free of vegetation are the access track, where permanent access is required, and the area immediately around the pole.

6.2 SOIL EROSION

6.2.1 Impact

Issue: 13 *The CER fails to address the issue that approximately 6km of the proposed route parallels stream reserves. Clearing in these areas is likely to cause erosion.*

Response: This issue was specifically addressed for the crossing of the Donnelly River and SECWA will ensure that clearing in these sensitive areas will be done in accordance with CALM's requirements.

Document Reference: Sections 6.2 and 6.12 and Commitments 2 and 11.

SUBMISSION 3

Note: a. The terms "CER" and "the document" should be understood to refer to the 132KV TRANSMISSION LINE, MANJIMUP TO BEENUP CONSULTATIVE ENVIRONMENTAL REVIEW, ESD 49/93.

b. The "**Document Reference**" listed refers the reader to relevant sections of the CER.

Issue: 1 *Clearing of the line route should not take place until MDL have given a written undertaking to proceed with the project.*

Response: SECWA will not arrange clearing activities until a firm written commitment has been received from MDL.

See New Commitment 29 in Appendix A of this report.

Issue: 2 *A widespread fauna survey of the route must be completed prior to clearing commencing.*

Response: SECWA has given a commitment to perform a fauna survey prior to the commencement of clearing. The results of this work will be made available to the relevant authorities and the line route adjusted or mitigation measures developed to minimise any identified impact.

Document Reference: Sections 5.2.5 and 6.3 and Commitment 3.

Issue: 3 *A flora survey must be completed prior to clearing commencing.*

Response: An autumn flora survey has already been completed for the line route and SECWA has given a commitment to perform a spring flora survey prior to the commencement of clearing. This work will be done in October 1993.

The result of this work will be made available to the relevant authorities and the line route adjusted or mitigation measures taken to minimise any identified impact.

Document Reference: Sections 5.2.4 and 6.14 and Commitment 14.

Issue: 4 *A comprehensive dieback management plan must be formulated prior to clearing commencing and workers must be instructed regarding hygiene practices.*

Response: CALM is currently doing a dieback survey of the line route on SECWA's behalf. The results of this work will be used to develop a hygiene programme for the clearing, construction and maintenance phases of this project.

Document Reference: Section 6.1.2.4 and 6.8 and Commitment 8.

Issue: 5 *The powerline should be located along existing roads for the entire route. Visual impact should not be considered more important than the additional loss of vegetation caused by locating the line through forest.*

Response: The route detailed in the CER utilises existing forest tracks and logging haul roads wherever possible. SECWA believes that any visual impact associated with the line is a very important issue particularly where there is potential to affect public roads and tourist routes such as Coronation Road, the Vasse Highway and Stewart Road. It is for this reason that SECWA prefers to maintain a vegetation buffer between the road and the line where the line parallels these roads.

This approach is consistent with CALM's current management practices which are aimed at preserving a buffer of vegetation around these roads.

Document Reference: Section 6.17 and Commitment 12 and 21.

Issue: 6 *The line should be located across cleared farmland wherever possible.*

Response: This issue was addressed in the previous CER.

Farmland on the Scott River Plains is subject to inundation during winter. As SECWA requires year round access to the line for maintenance purposes this would necessitate the construction of a permanent track which would be expensive and have the potential to disrupt farming activities. The South Coast Road section of the proposed route is located on relatively high ground and provides good access all year round.

Issue: 7 *"Should the Manjimup option be approved, areas of high conservation value eg P26 (5.3.11), must have an underground line as per previous recommendations of the EPA. (Bulletin 603, Dec 1991)"*

Response: SECWA believes that the CER details adequate measures to minimise the environmental impact of the line on these areas.

The majority of the route traverses areas managed by CALM for timber production and National Estate areas are not completely protected from logging as shown in Plate 2 of the CER.

A recommendation to underground any section of the line route would not be acceptable to SECWA because of the substantial costs involved and the precedent which would be set for future projects.

Issue: 8 *Dennis Road and Governor Broome Road should be used for the line in preference to the section which runs between the Paget and Chester Nature reserves for the following reasons:*

(a) *"there is a high risk of spreading dieback into this area".*

(b) *"there is a severe risk of fire from both construction and (the) powerline".*

(c) *"the line would necessitate major roadworks including causeways, culverts, large quantities of fill (dieback risk), which would act as a barrier and have other detrimental environmental effects."*

(d) *"there may be adverse consequences to the drainage system of the Scott River. Is a hydrological survey to be undertaken so as to ascertain turbidity and water volume variations?"*

(e) *there is a high concentration of priority listed species in the area which would be susceptible to the alteration of drainage patterns and the spread of dieback. These species include Meziella trifata which was thought to be extinct but has been identified in Chester Forest Block.*

Response: Points a and e are addressed in the responses to issues 4 and 3 respectively.

(b) All SECWA's transmission lines are designed, constructed, operated and maintained in compliance with the Standards of Australia including fire prevention. It is also a legislative requirement that SECWA complies with all Bushfire Board's requirements during all on-site activities associated with this transmission line.

Document Reference: Section 6.18 and Commitment 17

(c) SECWA has given a commitment to manage the construction of the access track in this area to minimise the potential impact on the adjacent nature reserves.

Document Reference: Section 6.15 and Commitment 15.

(d) SECWA believes that the construction of the line will have minimal impact on the drainage system of the Scott River since only approximately 6km of new access track will be created and vegetation will be allowed to regenerate to a height of 4m within the easement area.

Document Reference: Section 6.1 and 6.15 and Commitment 15.

Issue: 9 *The CER does not take into account the impact that the clearing of 400ha of forest will have on the greenhouse effect.*

Response: This issue has not been addressed in the CER as the area of forest to be removed for the project is not considered significant in a regional context.

It should also be remembered that the easement area will not be totally devoid of vegetation for the life of the line, as regeneration to a height of 4m is acceptable. SECWA has also agreed to replace an area of vegetation equivalent to that removed from the Warren River Reserve in accordance with the requirements of the Water Authority of WA.

Document Reference: Sections 6.1 and 6.5 and Commitment 6.

Issue: 10 *The CER should have included information on the relative merits of alternative energy sources both renewable and non-renewable.*

Response: This issue was dealt with to the EPA's satisfaction in the 1991 CER and in MDL's ERMP on the mine.

Issue: 11 *"SECWA should be required to replace forest cleared with forest of equal conservation value, this to be given a conservation vesting."*

Response: SECWA will be replacing an area of vegetation equivalent to that removed from the Warren River Reserve in accordance with the requirements of the Water Authority of WA.

Document Reference: Section 6.5 and Commitment 6.

APPENDIX A

LIST OF COMMITMENTS

APPENDIX A

Note: Commitments marked with an asterisk * have been amended. Refer to Appendix B.

8.0 LIST OF COMMITMENTS

The following commitments have been developed by SECWA to reduce the potential impact of transmission line construction and maintenance in the study area. They would be implemented at the appropriate time and to the satisfaction of the registered land proprietor and/or relevant authority.

1 - Clearing Profiles

SECWA undertakes the commitment to ensure that the clearing methods and profiles described in Sections 6.1.2.1, 6.1.2.2, 6.1.2.3 and 6.1.2.4 are enforced during the construction and operation of the transmission line.

2 - Erosion of Soils

In areas where impacts to soils are expected to be high, the following commitments were developed by SECWA:

- wherever possible, no new access would be constructed;
- no widening or upgrading of existing access road;
- permanent closure of access not required for operation and maintenance;
- position poles to avoid sensitive features;
- place poles at maximum feasible distance from major drainage crossings; and
- implement a clearing methodology developed to minimise the risk of soil erosion.

3 - Fauna Survey

SECWA will complete fauna survey for the approved corridor prior to the commencement of clearing and construction to identify habitats potentially affected by the line. Where possible, poles will be placed to avoid sensitive habitats.

4 - Agricultural Land

On agricultural land, the easement will be aligned with field boundaries to the greatest extent practicable and the poles will be set near paddock boundaries, service roads etc., to minimise the impact to farm operations and agricultural production.

In areas where poles are potentially visible to local residents, they will be located, wherever possible, to take advantage of vegetation backdrops and terrain to reduce their visibility on the skyline.

- o wherever possible and practical, camp sites shall be located adjacent to stockpile sites; and
- o wherever possible and practical, camp sites shall be located adjacent to, or as close as possible to, existing access roads.

Every effort shall be made to establish camps in areas with the following characteristics:

- o soil conditions are suitable for sewage effluent disposal;
- o no excavation is required prior to camp establishment;
- o some form of environmental degradation exists in the area; and
- o minimal visual impact would result from the establishment of a camp site.

Existing cleared sites will be selected wherever possible.

21 - Poles Locations

Structures will be placed so as to avoid sensitive features (e.g. rare flora, water courses, etc.) and/or to allow conductors to clearly span the features, within limits of standard poles design. This would minimise the amount of sensitive features disturbed and/or reduce visual contrast.

22 - Road Crossings

At highway, road or trail crossings, poles are to be placed at maximum feasible distance from the crossing.

23 - New Road Alignments

The alignment of any new access roads will follow landform contours, provided that such alignment does not additionally impact resource values. This would minimise ground disturbance and/or reduce scarring.

24 - Personnel Instruction

Prior to construction, all supervisory construction personnel will be instructed by SECWA and CALM officers on the protection of cultural and ecological resources and will be briefed on all agreed stipulations.

25 - Areal Limits of Construction

The areal limits of construction activities will be predetermined by SECWA in consultation with registered land proprietors, with activity restricted to and confined within those limits. All construction vehicle movement outside the easement will be restricted to predesignated roads.

26 - Electromagnetic Fields

SECWA is committed to the health, safety and welfare of its employees and all members of the public and will always design and operate all its plants and facilities prudently within current health guidelines as established by Australian health authorities. One such authority is the Australian National Health and Medical Research Council.

SECWA will continue to monitor and sponsor research and to review its EMF policy in the light of the most up-to-date research findings on power frequency electric and magnetic fields.

27 - Community Liaison

Throughout the construction of the transmission line SECWA will endeavour to keep the local community and interested parties informed about the progress of the project.

APPENDIX B: NEW AND AMENDED COMMITMENTS

APPENDIX B: NEW AND AMENDED COMMITMENTS

Note: Amendments and new commitments are shown in italics.

14. Rare Flora Survey

SECWA makes the commitment to undertake a comprehensive spring survey of vegetation within the corridor, prior to the commencement of surveying and clearing. The survey of the vegetation will identify locations of rare flora and the line will be re-routed or mitigation measures formulated in consultation with CALM to avoid or minimise the potential impact on rare flora.

Windrows will not be located within sites identified as containing significant species and SECWA will adopt the measures listed below to minimise disturbance to these areas:

- *Poles will not be erected within significant species sites (SSS).*
- *Access tracks will be located outside SSS wherever possible.*
- *Digging and grading will not be permitted within SSS.*
- *Traffic across SSS will be restricted to that required for laying out the conductors, wherever possible.*

20. CAMP SITES

Camp sites will be selected in consultation with relevant authorities to comply with the following requirements:

- no camp sites shall be located in vested *or unvested* reserves, eg National Parks and Flora and Fauna Reserves;
- camp sites shall not be located on the flood-plains of major rivers or streams;
- wherever possible and practical, camp sites shall be located adjacent to stockpile sites; and
- wherever possible and practical, camp sites shall be located adjacent to, or as close as possible to, existing access roads.

Every effort shall be made to establish camps in areas with the following characteristics:

- soil conditions are suitable for sewage effluent disposal;
- no excavation is required prior to camp establishment;
- some form of environmental degradation exists in the area; and
- minimal visual impact would result from the establishment of a camp site.

Existing cleared sites will be selected wherever possible.

28. *MAINTENANCE*

SECWA will ensure that all future maintenance work complies with the requirements of the dieback hygiene procedures developed in conjunction with CALM for this project.

29. *COMMENCEMENT OF WORK*

SECWA will not commence clearing activities until a firm written commitment has been received from Mineral Deposits Limited (MDL).