

PROPOSED TRANSMISSION LINE INTERCONNECTIONS  
FOR THE ALUMINIUM SMELTER  
REPORT AND RECOMMENDATIONS BY THE  
ENVIRONMENTAL PROTECTION AUTHORITY

DEPARTMENT OF CONSERVATION AND ENVIRONMENT  
PERTH, WESTERN AUSTRALIA

BULLETIN 198

JUNE 1985



DEPARTMENT OF CONSERVATION AND ENVIRONMENT  
WESTERN AUSTRALIA

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STATE ENERGY COMMISSION OF WESTERN AUSTRALIA

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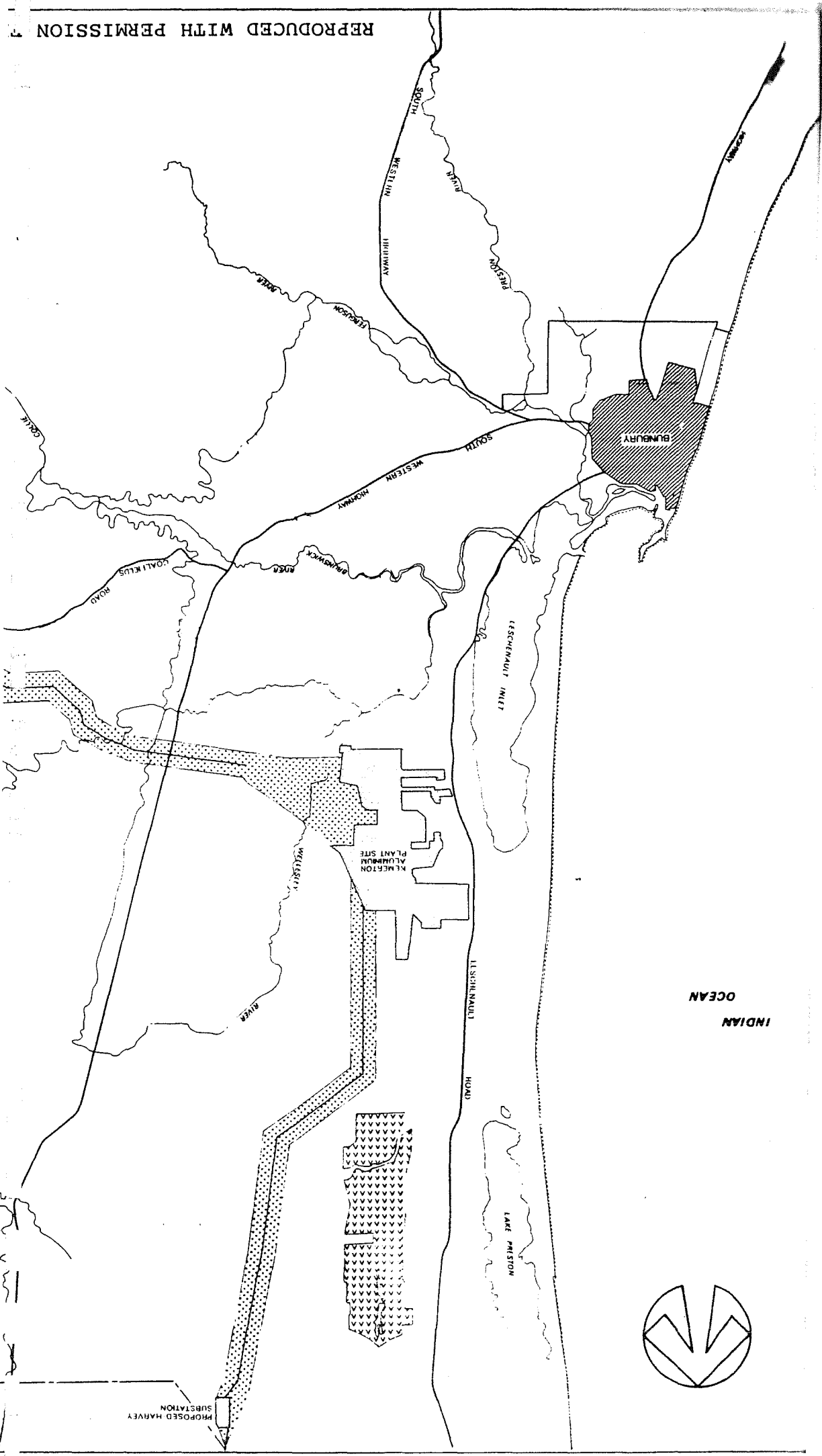
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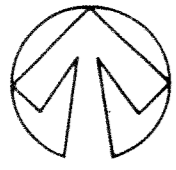
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## CONTENTS

	<u>PAGE</u>
1. SUMMARY	3
2. BACKGROUND	3-4
3. THE PROPOSAL	3-4
4. ALTERNATIVES	4
5. ENVIRONMENTAL IMPACTS AND MANAGEMENT	4-6
6. PUBLIC SUBMISSIONS	6
7. SUBMISSIONS FROM GOVERNMENT AGENCIES	6-8
8. CONCLUSIONS	8-9






INDIAN OCEAN



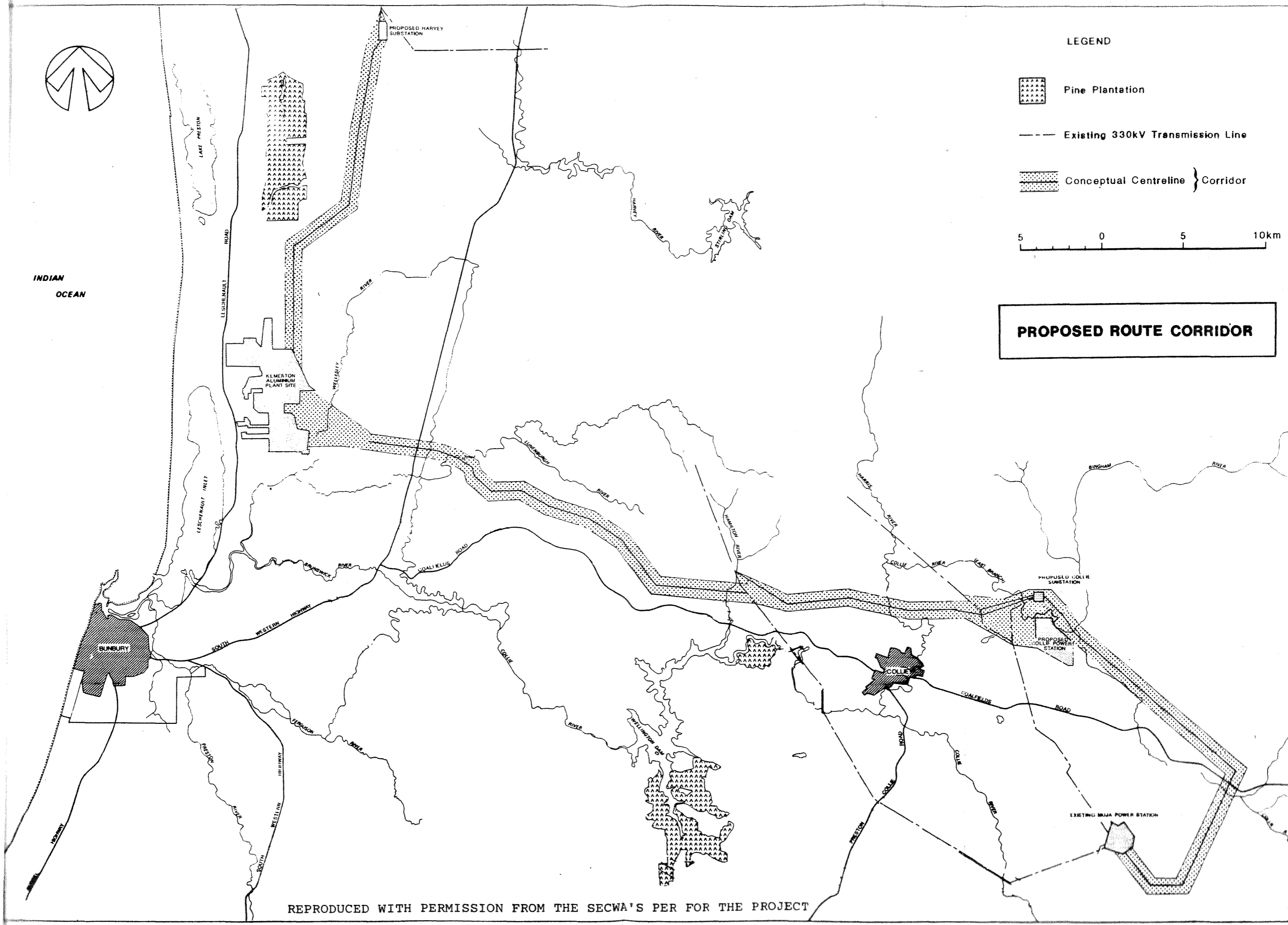
INDIAN OCEAN

LEGEND

-  Pine Plantation
-  Existing 330kV Transmission Line
-  Conceptual Centreline } Corridor



**PROPOSED ROUTE CORRIDOR**



REPRODUCED WITH PERMISSION FROM THE SECWA'S PER FOR THE PROJECT

LEGEND



Pine Plantation



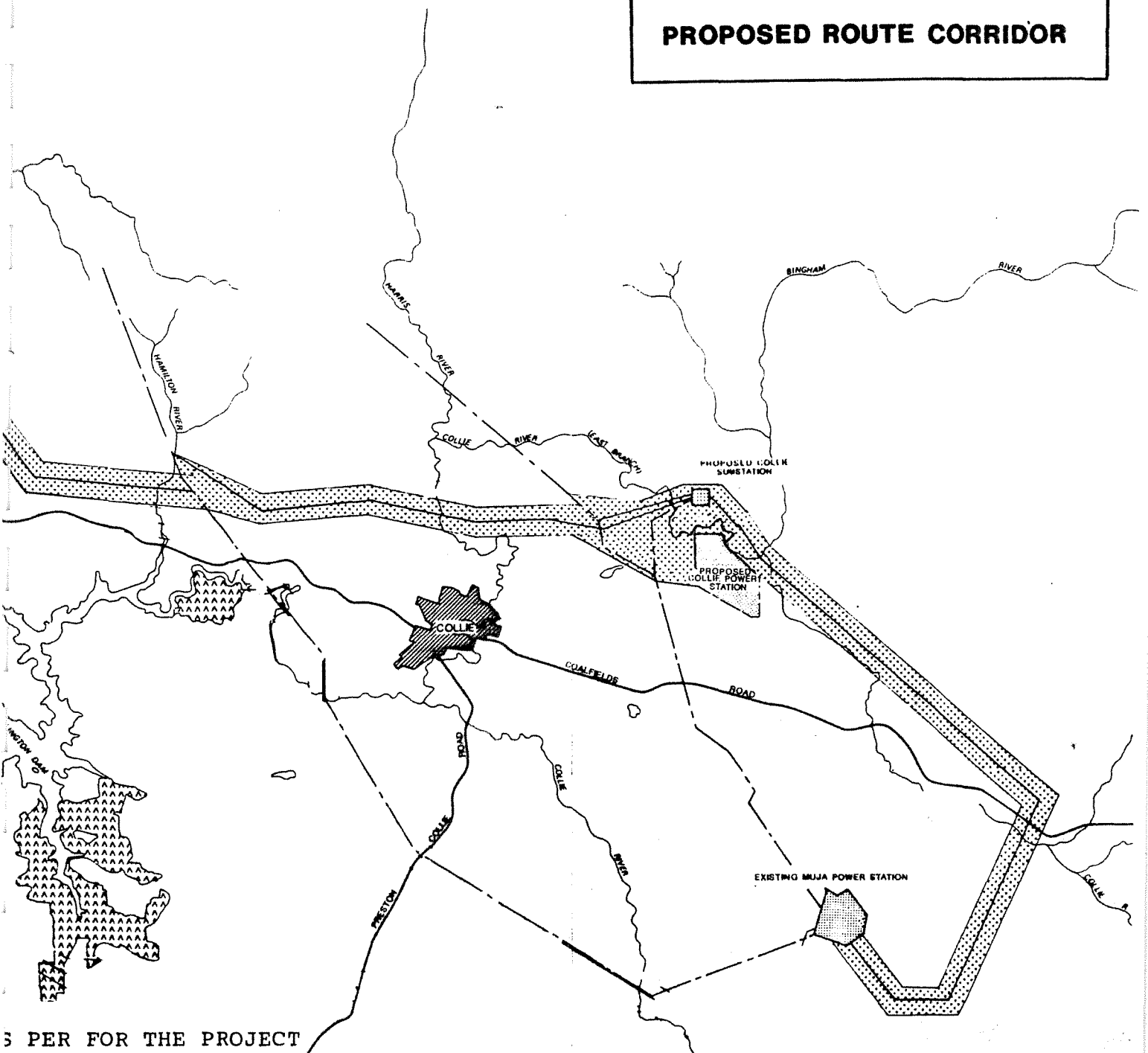
Existing 330kV Transmission Line



Conceptual Centreline } Corridor



**PROPOSED ROUTE CORRIDOR**



5 PER FOR THE PROJECT

## 1. SUMMARY

The SECWA has proposed the construction and operation of two 330 kV overhead transmission lines with associated facilities to supply the proposed aluminium smelter at Kemerton, north of Australind, from the existing integrated power grid.

The project is of course dependent upon the aluminium smelter project proceeding.

The Environmental Protection Authority has assessed the proposal following the preparation and public release of a Public Environmental Report prepared by the SECWA.

The Authority has concluded that the project is acceptable environmentally in general terms and recommends accordingly.

## RECOMMENDATION 1

The EPA recommends that the project proceeds in accordance with commitments made in the PER for the project and subject to the recommendations and conclusions contained in section 5 of this report.

## 2. BACKGROUND

The State Energy Commission of Western Australia (SECWA) has proposed the construction and operation of two 330 kV overhead transmission lines, two 330 kV substations and associated interconnections to meet the requirements of the proposed aluminium smelter project at Kemerton, about 5.5 km north of Australind. The smelter project is subject to a separate environmental assessment as are other infra-structure components.

The 330 kV interconnection proposal was referred to the EPA which called for the preparation of a Public Environmental Report (PER). The EPA had only recently introduced this level of environmental impact assessment, and, in the case of this project, believed that an Environmental Review and Management Programme was not required.

The PER was received by the EPA in December and it was subsequently released for a six-week public review period, ending 17 April 1985. The public review period was timed to coincide with the release of the ERMP for the aluminium smelter.

## 3. THE PROPOSAL

To ensure security of supply, the SECWA plans to construct two separate 330 kV transmission lines to the aluminium smelter. One will connect a proposed new

substation on an existing 330 kV line near Harvey with the plant. The other will run from Muja Power Station to the plant with a future substation at the proposed Collie Power Station site and interconnections with the two existing 330 kV lines. About 100 km of line will be needed in total. A new substation will be constructed on the aluminium plant site at Kemerton.

The PER indicated a preferred corridor of 1 km width, within which a 60 metre easement will be selected to contain the transmission lines.

#### 4. ALTERNATIVES

Given that the starting and end points (Muja and Kemerton) are fixed, there are a limited number of realistic alternative routes available to provide two separate lines to the smelter. The EPA believes that the preferred corridors have been selected using sound criteria and endorses them, subject to the minor alterations described below.

The SECWA has proposed two minor alterations to the preferred corridor as shown in the PER. This was at the request of affected land owners. The resultant deviation has been agreed to by all affected parties and is in fact an improved alignment environmentally as well. The Authority endorses the deviation.

The EPA notes that the preferred corridor from Muja to the aluminium plant is not the least cost alternative but has been favoured on environmental grounds.

#### 5. ENVIRONMENTAL IMPACTS AND MANAGEMENT

##### 5.1 Forests

The EPA notes that the preferred corridor has been discussed in detail with the Department of Conservation and Land Management which is in broad agreement.

However in its submission to the EPA on this project, the Department of Conservation and Land Management raised the issue of compensation for loss of forest values incurred by the project.

The EPA's position in this regard is that where projects from either the public or private sectors have the potential to affect forest values significantly through, for example, direct loss of forest or attributable degradation of the forest by the spread of jarrah dieback disease, then this contributes to the overall environmental costs of the project and should be considered when decisions are made on such projects.



## 5.2 Agriculture

The EPA notes the concerns expressed in submissions that the potential impacts from construction and maintenance on irrigated agricultural land may be significant.

The points raised by the Department of Agriculture and the Shire of Harvey should be addressed during construction. In particular, the section between Kemerton and the foot of the Darling Scarp has been recommended for construction during summer to reduce impacts.

## 5.3 Erosion

The PER does not give sufficient details of preventive measures to be taken during construction to avoid erosion, particularly of access tracks.

The EPA considers that, prior to construction, the SECWA prepares management procedures giving such details and discusses them with the Commissioner for Soil Conservation and the Department of Conservation Environment. Included in the management procedures should be an explanation of measures to be taken to mitigate against increasing stream turbidity.

## 5.4 Water Resources

Potential turbidity problems should be addressed in the management programme outlined in 5.3 (above). This is especially applicable to the Wellington Dam and Brunswick River catchments.

The EPA points out the Public Works Department's requirements for reforestation in the Wellington Dam Catchment.

## 5.5 Aboriginal sites

When determining the 60 metre easement for the transmission lines, the requirements of the Aboriginal Heritage Act should be fulfilled.

## 5.6 Aesthetics

The EPA commends the selection of the preferred corridor on aesthetic grounds. The Authority understands from the PER that the same care will be taken in selecting the 60 metre easement. The EPA draws the SECWA's attention to the comments made by the Shire of Harvey in this regard.

## 5.7 Rare flora

The SECWA should note the requirements of the Wildlife Conservation Act with respect to rare flora. The EPA believes a further botanical

Survey for rare flora should be undertaken in the winter-spring once the 60 metre easement within the corridor has been determined.

#### 5.8 Roads

The EPA draws to the attention of the SECWA, the Shire of Harvey's comments on local road usage.

The Authority considers that this is a matter for resolution between the respective agencies.

#### 5.9 Private airstrip

The future use of the private airstrip on the Brentwood Grazing Company's land should be taken into account when determining the position of the line.

### 6. PUBLIC SUBMISSIONS

One public submission was received during the public review period.

A local property owner gave reasons why the line should not be located on his property. The SECWA has advised the EPA that the proposed alignment of the line will not pass across his land.

### 7. SUBMISSIONS FROM GOVERNMENT AGENCIES

A total of twelve submissions were received from local authorities and State Government agencies.

#### RECOMMENDATION 2

The EPA recommends that the SECWA takes the comments made by Government agencies into account during the delineation of the transmission line easement within the corridor and during construction and operational phases of the line and takes action upon them where appropriate.

A summary of comments follows:

#### 7.1 Department of Agriculture

Supported the concept of PERs but believed they should not be used where proposals encompass a wide range of soils, landforms, geological provinces or habitats;

- the PER failed to address adequately the possibility of soil erosion and give details of measures to be taken to avoid problems;
- problems may be experienced with construction on irrigated land.

## 7.2 Department of Conservation & Land Management

- concurred with preferred corridor route and acknowledged liaison between CALM and SECWA;
- commented on aspects of rare flora including the recommendation that further botanical survey work be done in winter-spring;
- pointed out that the PER implies that where the corridor crosses State forest, the forest values are degraded;
- corrected part of Section 5.1.2 of the PER by pointing out that the transmission line route is within the low rainfall zone of the jarrah forest;
- made reference to the principle of compensation for loss of forest, and remedial treatment in the event of forest degradation by jarrah dieback disease caused by the project.

## 7.3 Health Department of Western Australia

- Clean Air Section of the Health Department pointed out that dust control measures (para 1.9, page 4-6 of the PER) should be introduced to prevent potential problems arising.

## 7.4 Department of Lands and Surveys

- The Department has no objections to the preferred corridor.

## 7.5 Main Roads Department

- Made no comment.

## 7.6 Department of Mines

- Made no comment.

## 7.7 Western Australian Museum

- The requirements of the Aboriginal Heritage Act need to be satisfied;
- inadequate work done on fauna.

## 7.8 Public Works Department

- equivalent reforestation of areas cleared within the Wellington Dam Catchment is necessary;
- potential turbidity problems from access roads in the Wellington Dam and Brunswick River Catchments need addressing.

### 7.9 Westrail

- Westrail outlined the conditions which should be followed where the transmission line crosses Westrail facilities.

### 7.10 Shire of Collie

- The Shire of Collie wrote to the SECWA objecting to a section of the preferred corridor because of its affect on private property. The SECWA sent a copy of the Shire of Collie's letter and its reply to the Department of Conservation and Environment. The Authority is of the opinion that the criteria used for selecting the preferred corridor are sound and accepts the SECWA's arguments for not relocating the corridor as requested by the Shire of Collie. The Authority points out that the transmission line will need careful planning within the corridor to minimise potential impacts on private property.

### 7.11 Shire of Harvey

- Council supports the preferred routes and notes that the corridor from Harvey to Kemerton is situated west of irrigated land;
- interference with a private airstrip on Pt Lot 7 Wellesley Road should be avoided;
- SECWA should compensate Council for any deterioration of local, unsealed roads;
- agricultural values, especially on irrigated land should be maintained, therefore construction should proceed on irrigated land over the summer;
- final transmission line route should minimise visual impact.

### 7.12 Shire of West Arthur

- No comment.

## 8. CONCLUSIONS

The Public Environmental Report prepared for this project was the first PER assessed by the EPA.

The Authority introduced this level of assessment to fill a need in its environmental impact assessment process for public review of environmental analyses of proposals for which an Environmental Review and Management Programme is not warranted.

In the case of this proposal, the EPA considered that the separate environmental assessments being undertaken for the smelter project and other infrastructure elements cover many of the issues which would normally be addressed in an ERMP.

The PER for the project sets a commendable standard for such documents. Environmental considerations were incorporated at the start of project planning. Environmental issues have been addressed concisely but adequately. Potential impacts have been identified and, in general, acceptable management provisions delineated. This has made the EPA's task of report on the project considerably easier and is therefore reflected in this report.

The EPA believes that the project can proceed on environmental grounds subject to the commitments made in the PER and the recommendations in this report.