

Development of a Jindalee Over-The-Horizon radar in Western Australia

Department of Defence

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

**Environmental Protection Authority
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1. Introduction

As part of the defence initiatives announced by the Commonwealth Government in 1986, it was proposed that a Jindalee Over-The-Horizon Radar System would be established to cover the north of Australia. One of the radar facilities is to be built in Western Australia, in the Eastern Goldfields near Laverton.

When the proposal was referred to the Environmental Protection Authority by the Department of the Arts, Sport, the Environment, Tourism and Territories (DASETT) in April 1990, the Authority considered that the best means of addressing environmental issues associated with the development was through the preparation of a Public Environmental Review. Following consultation with DASETT, this level of assessment was set by the Commonwealth Minister for the Environment.

The proposal involves the acquisition of land owned by the Crown but currently subject to pastoral leases issued by the Western Australian Department of Land Administration. Under these circumstances, the Authority would normally undertake a formal assessment itself. However, in accordance with the Memorandum of Understanding that exists between the State and Commonwealth Governments, defence projects are subject to the Commonwealth environmental assessment process, although the Environmental Protection Authority has the opportunity to provide advice throughout the process. Considerable consultation was undertaken during the preparation of the PER, which was released for public comment for 6 weeks, until 12 September 1991.

This report is the Authority's advice to the Department of the Arts, Sport, the Environment, Tourism and Territories on this proposal. Although it is not a report prepared in accordance with Section 44 of the Environmental Protection Act, and therefore not subject to the appeal provisions of the Act, the Authority has submitted this report to the Minister for the Environment and has made it available for public information.

2. The proposal

The proposed Jindalee Over-The-Horizon Radar System comprises two components, a transmitter and a receiver. These are located at separate sites (Figure 1).

Site selection criteria for each of these sites are quite strict, and relate to flatness of the ground, sufficient area of suitable land, and specific ground characteristics. Following an extensive review of 49 possible sites in a study area between Mt Magnet and Laverton, two sites near Laverton were preferred.

The proposed receiver site is located on Erlistoun Station, some 55 km north west of Laverton. A total of approximately 7800 ha of land would be acquired by the Commonwealth Government for this facility, but only 80 ha would be developed. The remainder would remain available for pastoral uses but is needed to protect the facilities on the site from interference. Access would be by road from Laverton.

Approximately 2200 ha of White Cliffs Station, some 50 km north east of Laverton, would be purchased by the Commonwealth Government for the transmitter site. Only 55 ha would be developed.

Facilities to be developed at each site would include:

TRANSMITTER SITE (White Cliffs Station)	RECEIVER SITE (Erlistoun Station)
Transmitter building and control room	Receiver building
Power station and fuel storage	Power station and fuel storage

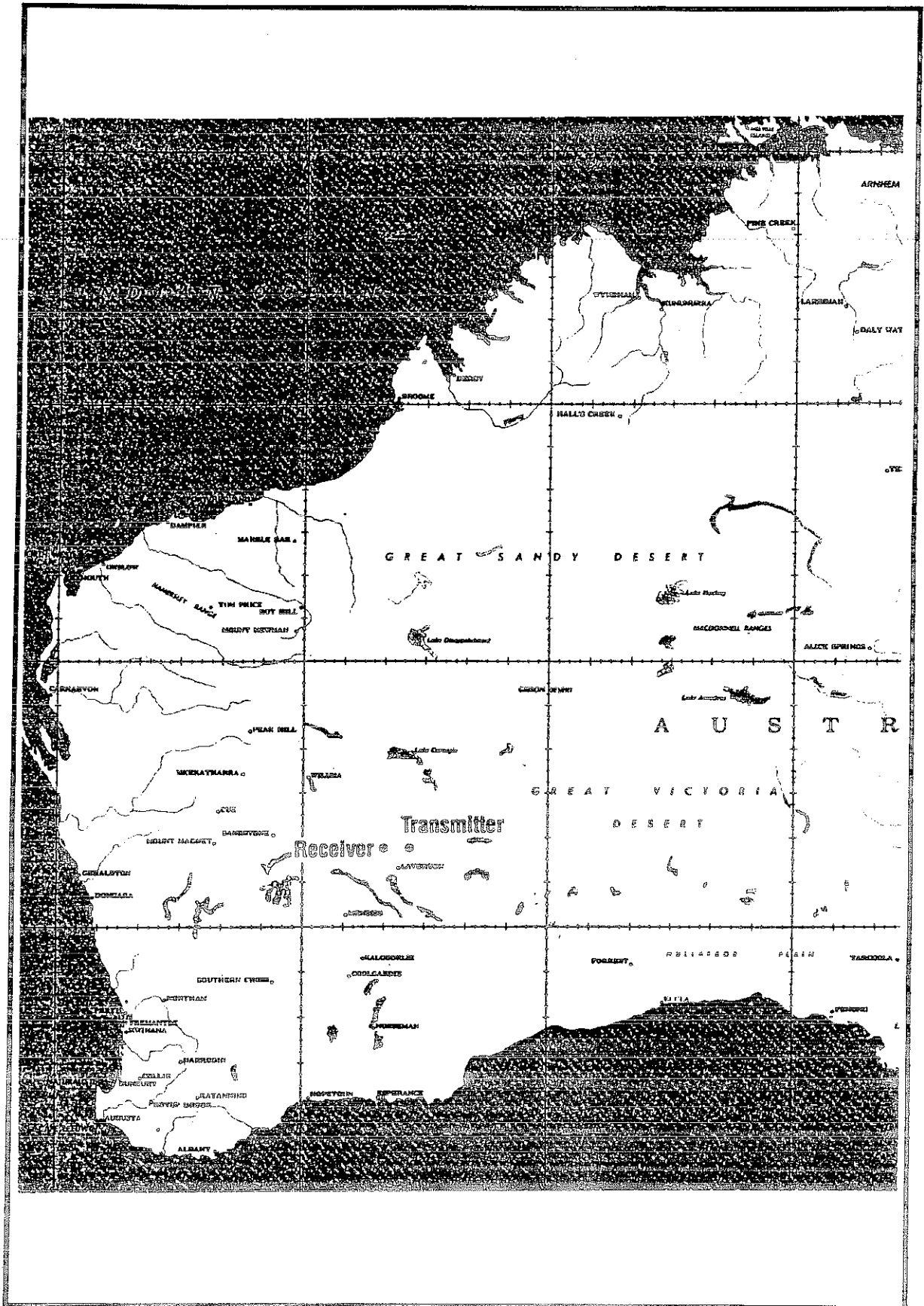


Figure 1. Location of transmitter and receiver sites (PER)

TRANSMITTER SITE (White Cliffs Station)	RECEIVER SITE (Erlistoun Station)
Workshop	Engineering workshop
Dormitory and amenities building	Amenities building
Contractor's residential building	Residential buildings
Pump house	Pump house
Sewerage treatment facility	Sewerage treatment facility
Equipment storage	Equipment bunkers
Helipad and possible future landing ground	Helipad and possible future landing ground

Other facilities which will be required are water supply borefields and road access for each site. Telecommunication facilities will need to be established to each site and the existing network from Laverton may need upgrading.

3. Public review

In accordance with Commonwealth procedures, the PER describing the proposal was released for public comment for six weeks, closing on 12 September 1991. One public submission was received during that time. That submission supported the proposal, and offered suggestions in terms of naming the facility, public viewing and camouflage.

Throughout the preparation of the PER, the Department of Defence established and maintained a public information programme, with a view to ensuring that all local residents were aware of the progress of the project. Comments were sought prior to finalisation of the PER. In addition, the Department of Defence closely consulted with relevant local authorities and State Government agencies.

While it may be perceived that the receipt of only one public submission suggests that the public review period was not productive, it is more likely that the combination of effective community consultation and addressing of local concerns in the PER has meant that the community as well as local authorities and Government agencies are satisfied with the proposal and commitments given for future consultation.

4. Environmental impact and management

The Authority has prepared this report to serve two functions. The first is to provide advice to the Commonwealth Department of the Arts, Sport, the Environment, Tourism and Territories in relation to the environmental effects of the proposal. This advice will be incorporated within that Department's advice to the Commonwealth Minister for the Environment. The second is to provide environmental advice to the State Government, through the Western Australian Minister for the Environment.

As a consequence of this proposal being assessed under Commonwealth environmental legislation, the Authority adopted the approach in this assessment of ensuring that environmental issues of interest or concern to the EPA should be adequately addressed during preparation of the PER, or be subject to appropriate environmental commitments given in the PER. Once acquired by the Commonwealth Government, the Western Australian Government

and the Shire of Laverton have no specific control over activities on the Commonwealth land. Therefore, it was important that issues of interest or concern to State agencies and the local authority were resolved prior to the change of ownership and supported by suitable commitments in the PER.

The Department of Defence has proceeded through the environmental impact assessment and public consultation process with the desire to establish sound, long term relations with the local community and State Government.

The Authority identified:

- permanent clearing of vegetation,
- wind and water erosion,
- waste management,
- maintenance of water movement, especially sheetflows, and
- socio-economic effects on existing communities,

as specific issues that needed to be examined in the PER. A number of issues were also raised by the Department of Defence, Department of the Arts, Sport, the Environment, Tourism and Territories and other agencies, and these were included in the PER.

As the PER was being prepared, details of the proposal became firmer and the scale and scope of potential impacts were better defined. For instance, although the location of the transmitter and receiver sites was nominated in the Notice of Intent prepared by the Department of Defence in April 1990, they were not finalised until March 1991, and one of them was changed during that time. The scale of the receiver facility also changed and the area needed for both sites was progressively refined. In addition, the contractor for the facilities was not appointed until December 1990, and each tender had adopted a different approach to undertaking the contract. This was particularly important in terms of the number and disposition of personnel allocated to the facilities.

In terms of the issues identified by the EPA, the PER provides clear indications of the expected scope of potential impacts and details of proposed management to minimise the impact. Table 6.1 in the PER outlines the biophysical impacts and their management while Table 6.2 summarises the socio-economic impacts. These impacts are discussed in greater depth in Section 6 of the PER. These potential impacts are intended to be addressed through the implementation of an Environmental Management Programme, which would be prepared in stages to reflect the construction and operational phases on the sites. Section 7 of the PER provides details of the content and timing of the Environmental Management Programme.

The following table outlines some of the major issues addressed in the PER and comments are provided in relation to management of these issues.

Table 1. Issues addressed in PER and summary of management proposed

ISSUE	MANAGEMENT
permanent clearing of vegetation	<ul style="list-style-type: none"> • unavoidable (up to 135 ha for both sites) • some revegetation where possible • necessary for fire protection • local and regional loss of habitat minor • stock control and exclusion where necessary
wind and water erosion and control	<ul style="list-style-type: none"> • erosion control measures implemented • maintenance of water flows across site

ISSUE	MANAGEMENT
waste management	<ul style="list-style-type: none"> • sewerage treatment plant • solid wastes disposed at Shire's approval • containment of fuel spills
Structures and aesthetics	<ul style="list-style-type: none"> • borrow areas will be set back from roads • use existing construction materials where possible • landscape facilities
water supply	<ul style="list-style-type: none"> • no effect on current users • monitor quality and treat • may operate dual class water supply
noise and electromagnetic emissions	<ul style="list-style-type: none"> • buffer zone minimise interference to facilities • public exclusion from portions of sites • noise suppression and suitable plant selection
demographic changes	<ul style="list-style-type: none"> • construction camp on site • few people living on site (two families at each site plus rostered staff) • contract personnel may live in region • continued liaison with local and regional agencies
Aboriginal cultural values	<ul style="list-style-type: none"> • additional site inspections will be undertaken • no known archaeological or ethnographic sites affected • continued liaison with Aboriginal people
Decommissioning	<ul style="list-style-type: none"> • developed areas will be rehabilitated • structures will be removed

Each of the environmental issues have been considered by the Authority, along with the proposed safeguards and management commitments outlined in the PER. The Authority considers that the Department of Defence and its contractor (Telecom Australia) have minimised the environmental impacts that could arise from the implementation of this proposal. Further, their commitment to prepare and implement the Environmental Management Plan will assist in the establishment of a facility which should not cause long term environmental problems, and allows for amendments to management based on direct experience. Given the nature of this proposal, being spread over two sites and constructed and operated by a contractor rather than the proponent direct, clear control and responsibility is important. The PER outlines management responsibilities and provides for effective control.

The Authority considers that the proposal to construct and operate a Jindalee Over-The-Horizon Radar near Laverton by the Department of Defence can be implemented without causing unacceptable environmental impacts.

Recommendation 1

The Environmental Protection Authority has concluded that the proposal to develop a Jindalee Over-The-Horizon Radar Facility near Laverton, as modified during the process of interaction between the proponent, the Environmental Protection Authority, the public and government agencies that were consulted, is environmentally acceptable.

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

- **clearing of vegetation;**
- **waste disposal;**
- **water management; and**
- **socio-economic impacts on the existing community.**

The Environmental Protection Authority notes that these environmental factors have been addressed adequately by environmental management commitments given by the proponent.

Accordingly, the Environmental Protection Authority recommends that the proposal could proceed, subject to the proponent's commitments to environmental management as detailed in Section 7 of the Public Environmental Report.

5. Reference

Department of Defence (1991), Development of a Jindalee Over-The-Horizon Radar in Western Australia — Public Environmental Report.