

# **Proposed additional developments, Jandakot Airport**

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**Federal Airports Corporation**

**Advice of the Environmental Protection Authority to the  
Commonwealth Environment Protection Agency**

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**Environmental Protection Authority  
Perth, Western Australia  
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## THE PURPOSE OF THIS REPORT

This report is the Environmental Protection Authority's submission to the Commonwealth Environment Protection Agency on the Draft Environmental Impact Statement produced by the Federal Airports Corporation entitled "Proposed Additional Developments Jandakot Airport".

This submission is not a report under Part IV of the Environmental Protection Act, and there are no provisions for appeals against the Authority's views expressed in the submission.

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## Summary and recommendations

The Federal Airports Corporation has proposed a number of additional developments at the Jandakot Airport with the aim of enabling the airport to become financially self-supporting while fulfilling Perth's General Aviation needs. The proposed development plan has four main features (refer Figure 2):

- development of additional aviation facilities including a fourth runway, hangars, servicing bays and aircraft parking areas (63 hectares);
- a short term silica sand extraction operation at the south-east corner of the property (34.5 hectares);
- a garden estate to accommodate commercial and other business activities, possibly including light manufacturing, warehousing, and golf complexes (160 hectares); and
- the setting aside of bushland to be managed for conservation (96 hectares).

The Jandakot Airport is located on Commonwealth land, and as such, is subject to Commonwealth environmental assessment procedures under the *Environment Protection (Impact of Proposals) Act 1974*. The Commonwealth Minister for Environment, Sport and Territories called for the preparation of an Environmental Impact Statement for the proposal.

The Western Australian *Environmental Protection Act, 1986* does not apply, therefore, this report forms the Environmental Protection Authority's submission to the Commonwealth Environment Protection Agency. This report is not subject to appeal, and there will not be any Environmental Conditions set on the proposal by the Western Australian Minister for the Environment.

The Environmental Protection Authority considers that there are a number of key environmental issues which need to be addressed in the assessment of this proposal.

### *System Six Recommendation M94*

The System Six Study identified that the vegetation on the Jandakot Airport land is dense and largely undisturbed, contains some unusual species, and is of regional significance. The Study also identified that there were species of fauna present which had disappeared from many other localities around Perth. Recommendation M94 stated that "the Commonwealth of Australia (should) retain as much uncleared land as possible". At present there is approximately 237 hectares of uncleared Banksia woodland on the airport.

### *Register of the National Estate*

The System Six land at Jandakot Airport has been nominated for entry in the Register of the National Estate. The Register of the National Estate was established under the *Australian Heritage Commission Act 1975*, and is an inventory of significant natural and cultural places in Australia. The land was nominated because it was recognised that the remnant of Banksia woodland at Jandakot Airport is one of the best examples of this vegetation type in the Perth region, it provides important habitats for migratory and nomadic species of fauna, and habitats for rare and endangered fauna.

### *Flora and Fauna*

There are a number of rare and endangered species of fauna on the site, and several Priority Listed species of flora.

### *Jandakot Mound Groundwater*

The Jandakot Airport land is located on the Jandakot Groundwater Mound, within a declared Underground Pollution Control Area as administered by the Water Authority of Western

Australia. Most of the airport land is within a Source Protection Priority 2 Area. This area has groundwater protection as a high priority, though limited and managed land development can be acceptable subject to strict controls.

The airport site is also within both Area A and B of the draft Environmental Protection (Jandakot Mound Groundwater) Policy which has been produced by the Environmental Protection Authority for the protection of the Jandakot Mound. Area A covers the top of the mound and is between the public water supply borelines. The draft Policy states that urban, industrial, and horticultural development should not take place, and that controls should be placed on the use of groundwater, filling of land, and discharge of contaminants. This Policy is yet to be finalised and would not apply to the airport site, though the management principles would still be valid.

### *Noise*

Proposals which generate noise are usually required to conduct operations so that noise emissions do not unreasonably impact on surrounding land users. Noise emissions are usually governed by a specific set of noise conditions which set acceptable levels of noise for different days and different times of day.

### *Conclusion and Recommendations*

The Authority has evaluated all components of this proposal within the context of the key environment issues discussed above, and has concluded that the proposal requires substantial modification in order to be environmentally acceptable.

## **Recommendation 1**

**The Environmental Protection Authority has concluded that the proposal for additional developments at Jandakot Airport requires substantial modification in order to be environmentally acceptable and accordingly, recommends adoption of the recommendations in this report.**

Retention of conservation area of 96 hectares out of approximately 237 hectares of uncleared Banksia woodland has been proposed by the proponent, and it has been argued that development of the remainder of the Banksia woodland on site is required to finance the management of the conservation area. Whilst the type of management proposed is commendable, only a small fraction of the area of the Banksia woodland of conservation significance will be kept. The conservation area is also fragmented, and has a high boundary to area ratio which increases the vulnerability of the area to environmental degradation. It is not identified in the Draft Environmental Impact Statement whether this conservation area includes Banksia woodland of the greatest value on the site.

The Authority considers that the conservation area proposed does not meet the intention of System Six Recommendation M94, and does not adequately provide for the management of the rare and endangered fauna and priority listed species of flora on site. A substantial modification of the proposal is needed to meet the intent of System Six and ensure adequate conservation and management of significant areas of Banksia woodland.

## **Recommendation 2**

**The Environmental Protection Authority recommends that specific information be obtained on the relative qualities of the Banksia woodland on the Jandakot Airport site and the management requirements of rare and endangered species, in order that the size and location of the conservation area can be properly defined.**

Once an adequate conservation area has been defined, its its tenure for conservation should be secured in perpetuity.

### **Recommendation 3**

**The Environmental Protection Authority recommends that following the identification of an appropriate Conservation Area, security of tenure for the Conservation Area(s) should be established so that its protection and management could not be compromised at some later stage.**

The proposed commercial development covers an area of 160 hectares. This land is intended to be developed as a garden estate, therefore leaving bushland undisturbed for a potentially long period of time. There is no guarantee however, that this land would remain in this state. The Authority considers that in light of System Six Recommendation M94 and Recommendation 2 above, consideration should be given to significantly reducing the amount of land to be set aside for commercial development.

### **Recommendation 4**

**The Environmental Protection Authority recommends that the size of the area proposed for commercial development should be reduced, and that area which would no longer be included in the commercial development be included in the Conservation Area.**

The type of land use which could take place within a commercial area would also need to be controlled so that pollution of groundwater does not result.

### **Recommendation 5**

**The Environmental Protection Authority recommends that controls be placed on the type of development which can take place on the Airport site. It is specifically recommended that industrial, horticultural, and urban uses not be permitted. In addition, there should be no storage (including above ground) of significant potential pollutants on the Priority 2 Source Protection Area.**

The proposed on-site disposal of effluent has potential to degrade groundwater for public water supply and is therefore not acceptable.

### **Recommendation 6**

**The Environmental Protection Authority recommends that the proponent be required to provide a reticulated sewerage system to the site which removes all wastewater and liquid waste from any developments on the airport site from the site to a proper sewerage system and treatment plant.**

The proposal to mine silica sand at the airport could be acceptable if sound environmental management is applied. However, it cannot be determined at this stage whether the area of land proposed for mining is acceptable until the definition for the conservation area required by Recommendation 2 has taken place.

### **Recommendation 7**

**The Environmental Protection Authority recommends that the proposal to mine silica sand in the location proposed be after the evaluation contained in Recommendation 2.**

## **Recommendation 8**

**The Environmental Protection Authority recommends if any silica sand mining is found environmentally acceptable that a detailed rehabilitation management plan should be prepared to meet the requirements of the Commonwealth Environment Protection Agency in consultation with appropriate State Government agencies. A mechanism which guarantees that the rehabilitation will be undertaken as proposed should be determined to meet the requirements of the Commonwealth Environment Protection Agency prior to commencement of mining.**

If the area proposed for sand mining in the Draft Environmental Impact Statement remains as proposed following the definition required in Recommendation 2 of the conservation area, the buffer strip surrounding the area will need to be reconsidered. This is so that an effective connection can be provided to the Jandakot Botanic Park, and so that potential noise and dust impacts are adequately managed. The area identified could form part of the conservation area.

## **Recommendation 9**

**The Environmental Protection Authority recommends that further consideration be given to the size and location of the buffer surrounding any area proposed for silica sand mining so that the dual objectives of providing a noise and dust buffer, and of providing a connection to the proposed Jandakot Botanic Park outside the airport site is achieved.**

There are a number of activities within the proposed aviation and commercial areas which have the potential to produce wastes which could pollute the groundwater unless they are appropriately managed. The type of waste management proposed for these industries in the Draft Environmental Impact Statement is acceptable subject to connection to reticulated sewerage, though there is a need to identify a mechanism which will clearly define ultimate responsibility for ensuring that waste management measures are properly enforced, and for undertaking any remediation of pollution which may accidentally occur.

## **Recommendation 10**

**The Environmental Protection Authority recommends that controls be put in place to ensure that all waste management operations on the Jandakot Airport site are properly enforced, and that the ultimate responsibility for undertaking any necessary remediation be clearly established to the satisfaction of the Commonwealth Environment Protection Agency.**

There are a number of existing polluted areas at the airport but the area of main concern contains the petroleum hydrocarbon pollution plume which originated from a fuel storage facility. The Federal Airports Corporation and BP Australia Limited are currently preparing a plan to manage this issue in consultation with the Water Authority of Western Australia.

## **Recommendation 11**

**The Environmental Protection Authority recommends that the groundwater pollution remediation plan currently being prepared be formally referred to the Western Australian Environmental Protection Authority prior to being finalised.**

The proposal to construct a fourth runway at the airport will increase its ultimate capacity from 450 000 movements per year to 500 000 movements per year. It is extremely difficult to assess the likely changes in noise environment due to the introduction of this fourth runway. However, considering the current capacity of the airport and the orientation of the new runway, the Authority does not consider that the existing noise impacts from the airport will increase significantly as a result of the construction of the new runway.

It is apparent however, that some residents in the general vicinity are already experiencing high noise impacts from existing operations. The Authority considers that a more effective system is required to manage existing noise impacts, regardless of whether a fourth runway is constructed.

### **Recommendation 12**

**The Environmental Protection Authority recommends that a more effective strategy for the management of noise complaints regarding noise activity be developed. This management strategy should clearly identify which agency is responsible for controlling noise impacts resulting from specific aviation activities, what measures are in place to control noise activities, and what action will be taken and by who if these measures are not followed by pilots. This management strategy should be to the satisfaction of the Commonwealth Environment Protection Agency.**



# 1. Introduction

The Jandakot Airport is located in the City of Cockburn and is approximately 18 km south of the centre of Perth (refer Figure 1). The Airport is located on Commonwealth land, and the proponent of the project for additional developments on the airport land is the Federal Airports Corporation. The Corporation is a Commonwealth Government Business Enterprise which was established under the *Federal Airports Corporation Act 1986* to own and operate Australia's major domestic and international airports, including Jandakot Airport (Dames and Moore, 1993).

Development proposals such as this one on Commonwealth land are subject to assessment and approval under the Commonwealth Government's *Environment Protection (Impact of Proposals) Act 1974*. Jandakot Airport is not legally subject to the jurisdiction of any State or Local Government Authorities, including the Western Australian Environmental Protection Authority and its *Environmental Protection Act, 1986*.

This report therefore forms the Environmental Protection Authority's submission to the Commonwealth Environment Protection Agency. This report is not subject to appeal, and there will not be any Environmental Conditions set on the proposal by the Western Australian Minister for the Environment.

## 2. Description of proposal

The Federal Airports Corporation has put forward a development plan for the Jandakot Airport with the intention that this plan will enable the airport to become financially self-supporting while fulfilling Perth's General Aviation needs. The main features of the plan are:

- development of additional aviation facilities including a fourth runway, hangars, servicing bays and aircraft parking areas (63 hectares);
- a short term silica sand extraction operation at the south-east corner of the property (34.5 hectares);
- a garden estate to accommodate commercial and other business activities, possibly including light manufacturing, warehousing, and golf complexes (160 hectares); and
- the setting aside of bushland to be managed for conservation (96 hectares).

It is not intended that all the facilities mentioned be constructed at once, but rather that they are staged and constructed as required (Dames and Moore, 1993).

The proposed layout for each of the proposal's separate elements is as shown in Figure 2.

The Commonwealth Minister for Environment, Sport and Territories called for the preparation an Environmental Impact Statement for the proposal.

## 3. Key environmental issues

There are a number of environmental issues the Environmental Protection Authority considers should be addressed during assessment of this proposal. The following is a discussion of the key environmental issues.

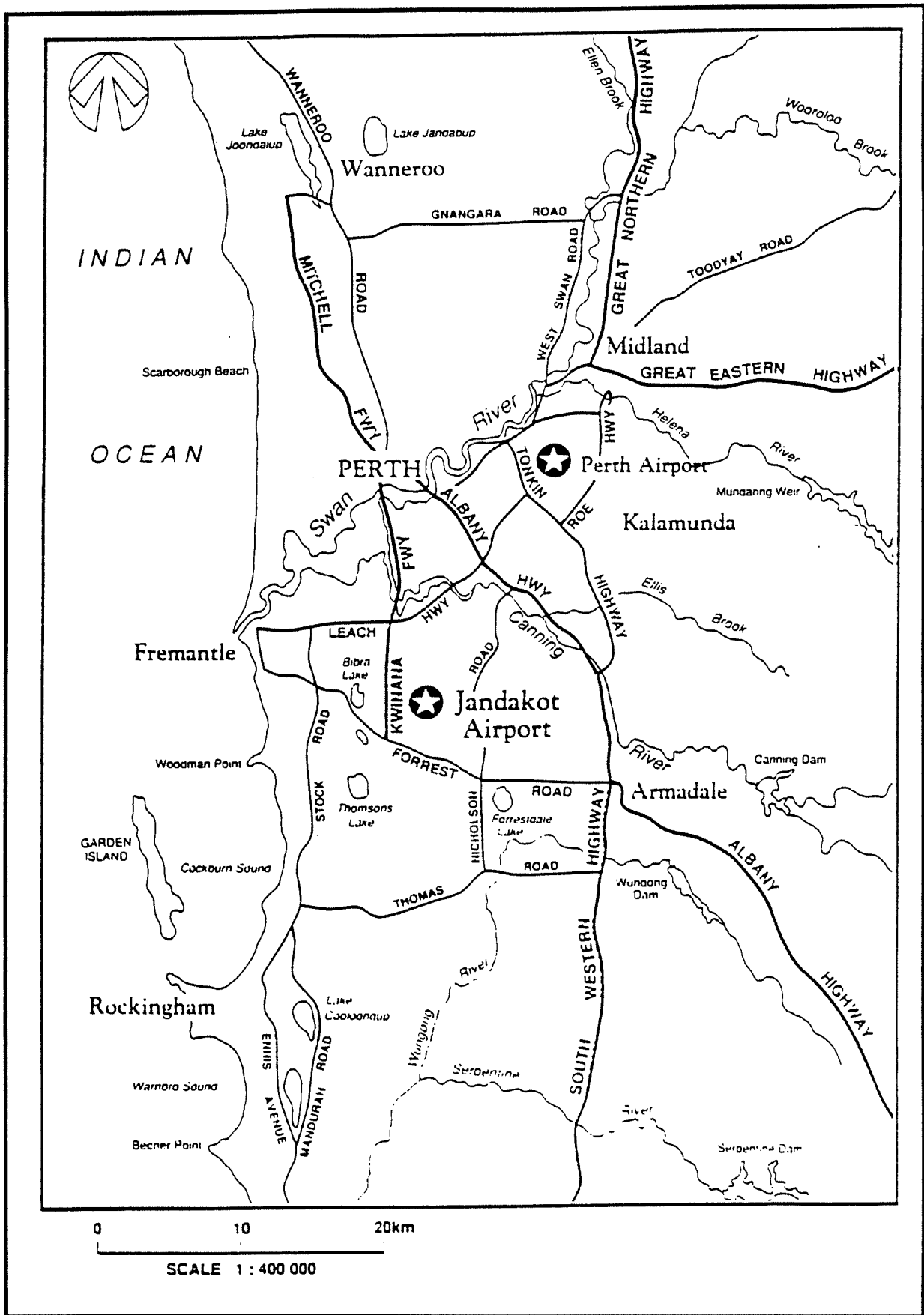


Figure 1: Location plan (Source: Dames & Moore)





## 3.1 Conservation values

### 3.1.1 System Six Recommendation M94

In 1972, the Environmental Protection Authority established the Conservation Through Reserves Committee to make recommendations with respect to National Parks and Nature Reserves of the State. Western Australia was divided into twelve different Systems each representing a natural and demographic entity. The Perth metropolitan area was included within the Darling System, that is System Six.

System Six covers the most intensively used part of the State where land values are high and where competition for differing land uses is often intense. The study attempted to define those parts of the region which should be kept mainly natural so as to preserve certain conservation, recreation and landscape values. This study identified 108 areas in the metropolitan region, and 101 areas in the adjoining country region, which are recognised to be of regional conservation significance, and/or a regional representation of biological and physical values, and made recommendations for their management (Environmental Protection Authority, 1983). The results of this study were endorsed by the Western Australian Government in 1983.

One of the key issues to be addressed in the assessment of this proposal is the effect of this proposal on System Six Recommendation M94.

Recommendation M94 states that:

"the Commonwealth of Australia (should) retain as much uncleared land as possible".

The preamble to the recommendation states that:

"Over half of the Jandakot Airport is uncleared. The vegetation is predominantly low open-forest of banksia, sheoak, Christmas trees and prickly bark, and in the north-eastern section low woodland of paperbark with swamp banksia and Christmas tree. One of the understorey species, *Leucopogon kingianus*, is an unusual heath known from only three other localities, all of which are vulnerable to surrounding development. The vegetation is undisturbed, with a dense understorey, which is largely due to the effective system of fire breaks within the airport.

The airport's fauna includes the ant *Iridomyrmex conifer* which has disappeared from many localities around Perth.

To enhance the area's high conservation value it is important that management consideration be given to retaining and encouraging the growth of local indigenous flora where possible." (Environmental Protection Authority, 1983).

The Draft Environmental Impact Statement states that approximately 237 hectares of Banksia woodland remains uncleared on the airport site.

The proposal to develop additional facilities at the airport will require clearing of a significant portion of the area identified by Recommendation M94.

### 3.1.2 Register of the National Estate

The land at Jandakot Airport which was subject to the System Six Recommendation M94 was nominated for entry in the Register of the National Estate in 1991. The Register of the National Estate is an inventory of significant natural and cultural places in Australia.

The Register was established under the *Australian Heritage Commission Act 1975*. Under this legislation, Commonwealth Ministers and agencies must not take any action that would adversely affect any place on the Register unless:

- there is no feasible and prudent alternative;
- all measures that can reasonably be taken to minimise adverse impacts are taken; and

- the Australian Heritage Commission is given an opportunity to comment on the proposal.

Listing of an area does not change the ownership, management or use of the place, nor does it mean that the Commonwealth Government holds the view that the area should be a national park or public reserve. The Register is used as a basis for the development of programmes to protect, improve and present properties and places forming part of the national estate.

In November 1992, following review of the nomination by the Australian Heritage Commission, the System 6 land at Jandakot Airport was added to the Interim List of the Register of the National Estate (Dames and Moore, 1993). An objection has been lodged against the intention to Register.

This land was nominated because it was recognised that the remnant of Banksia woodland at Jandakot Airport is one of the best examples of this vegetation type in the Perth region, and is therefore regionally significant. It provides important habitats for many migratory and nomadic species of fauna, and feeding resources for Carnaby's Black Cockatoo (*Calyptorhynchus funereus latirostris*), whose populations have declined markedly within the region. The diversity and density of the lower strata of vegetation is particularly outstanding on a regional basis, and the site supports a rich fauna representative of the Banksia woodlands on the Swan coastal Plain. A number of uncommon or rare species also occur (refer section 3.1.3). As a remnant and relatively undisturbed area of Banksia woodland, the area provides important research and study opportunities (Australian Heritage Commission, 1993).

### 3.1.3 Flora and fauna

There were a number of different species of fauna found on the site by WG Martinick and Associates Pty Ltd (1990). This study found that the site is rich in all groups except frogs because of the dryness of the site, and small mammals due to their absence locally. Evidence of the presence of three species gazetted as rare or likely to become extinct was found, including the Numbat (*Myrmecobius fasciatus*), a small lizard (*Keruster kubeata*), small snakes (*Vermicella calanotos*, *Demansia psammophis ssp. reticulata*) and the ant (*Iridomyrmex conifer*).

No declared rare flora was found on the site, though there are some Priority listed species (Dames and Moore, 1993).

## 3.2 Groundwater protection

The airport land is located on the Jandakot Groundwater Mound, within a declared Underground Pollution Control Area as administered by the Water Authority of Western Australia. There are two Source Protection Priority Areas within the Jandakot Airport land, these being Priority 2 and 3. Water protection in Priority 2 areas has a high priority, though limited and managed land development is usually tolerated subject to strict controls. Priority 3 areas usually cover existing urban areas or areas planned for urban development. The same land use controls as Priority 2 areas are also applied, but they are less restrictive, seeking to manage incompatible land uses rather than to exclude them.

A draft Environmental Protection (Jandakot Mound Groundwater) Policy has been issued by the Environmental Protection Authority for the protection of the groundwater of the Jandakot Mound.

Essentially, the current draft Environmental Protection Policy has the policy area divided into two areas, A and B. Within Area A, which covers the top of the mound and is between the public water supply borelines, urban, industrial, and intensive agricultural development are not permitted and there are further controls on the use of groundwater, filling of land, and discharge of contaminants. In Area B these activities may take place provided environmental objectives are met.

This draft Policy is being finalised by the Authority following the review of submissions, and a revised draft Policy will be forwarded to the Minister for the Environment. The Minister may then consult with people and agencies affected by the Policy, and when satisfied, may approve that Policy by order in the Government Gazette. Unless otherwise specified by the Minister, the approved Policy must be reviewed within seven years of gazettal (Environmental Protection Authority, 1993).

The Jandakot Airport is within both Area A and B of the draft Policy, though it is recognised that the Airport would not be subject to the provisions of this Policy because it is Commonwealth land. It is considered however, that the requirements contained in this Policy should still apply.

### **3.3 Noise**

Noise is an issue of concern for both the proposed sand mining operations and the management of the airport.

When assessing proposals which generate noise impacts in Western Australian, the Environmental Protection Authority normally applies a standard set of noise conditions. It is generally stated that the proponent should conduct operations so that noise emissions do not unreasonably impact on the surroundings.

More specifically, the proponent is required to ensure that noise levels at residences are:

- 40 dB(A) from 10pm to 7am, every day;
- 45 dB(A) from 7pm to 10pm every day;
- 45 dB(A) from 7am to 10pm Sunday and Public Holidays;
- 50 dB(A) from 7am and 7pm on Monday to Saturday; and
- 65 dB(A) when measured at or near the boundary of premises that are not noise-sensitive premises (other industries);

The proponent is also required to ensure that noise emissions from those activities which are of concern to occupiers of noise-sensitive premises do not exhibit tones, amplitude and frequency modulation, and impulsiveness of a nature which increases the intrusiveness of the noise.

In relation to the above, "noise-sensitive premises" means any land or building that is used as a residence, guest house, hotel, motel, caravan park, school, church, hospital, or as an office or consulting rooms, where such office or consulting rooms are not located in an industrial area.

These conditions, however, are not appropriate for aircraft, particularly around airports used by light aircraft and for training such as Jandakot and it is considered that the LDN is more appropriate in these situations. LDN is a daily 'average noise level' from the operation of aircraft with a 10 dB(A) penalty added into the hourly average between 10.00pm and 7.00am.

The Authority considers that no aircraft involved in flying training should land at or take off from the airport between the hours of 10.00pm and 7.00am on any day. Aircraft operations should be managed such that noise emissions, as measured at any residential premises in occupation by an occupier who has not, in writing, indicated that higher noise levels are acceptable, do not exceed 60 dB(A) LDN. A noise monitoring system which provides hourly statistical data should be installed to determine LDN levels and noise sources which exceed 65 dB LA(slow) for more than 15 seconds.

## **4. Environmental evaluation of development proposals**

The Authority has examined all components of this proposal within the context of the key environmental issues discussed above and has concluded that the proposal requires



modification in order to be environmentally acceptable. Each individual aspect of the proposal is discussed below.

## **Recommendation 1**

**The Environmental Protection Authority has concluded that the proposal for additional developments at Jandakot Airport requires substantial modification in order to be environmentally acceptable and accordingly, recommends adoption of the recommendations in this report.**

### **4.1 Conservation area**

The Federal Airports Corporation has proposed that 96 hectares of land from the 237 hectares of uncleared Banksia woodland be set aside for conservation, and that development of the remainder of the Banksia woodland on site is necessary to finance the management of the conservation area. The Federal Airports Corporation has proposed a commendably high level of management. However, the area proposed to be set aside for conservation at Jandakot Airport is fragmented, and has a high boundary-area ratio. Less than half of the area proposed is in one manageable piece (south-western area), and the Federal Airports Corporation's proposal to intensively manage the Conservation Area is limited to this parcel of land. In addition, it is not identified in the Draft Environmental Impact Statement whether this conservation area includes Banksia woodland of the greatest value on the site. Therefore, the intent of System Six Recommendation M94 has not been achieved through this proposal.

Given that the Airport site has been identified as regionally significant by the System 6 Recommendation M94, the identification of an adequate conservation area should be the first consideration in the preparation of a development plan for the Airport land. The presence of rare and endangered fauna species, and Priority Listed flora also requires that the identification of a conservation area which would meet their management needs be of ultimate importance in the preparation of a land use plan for the Airport site.

## **Recommendation 2**

**The Environmental Protection Authority recommends that specific information be obtained on the relative qualities of the Banksia woodland on the Jandakot Airport site and the management requirements of rare and endangered species, in order that the size and location of the conservation area can be properly defined.**

Once an adequate conservation area has been defined, its management in perpetuity for conservation should be secured.

## **Recommendation 3**

**The Environmental Protection Authority recommends that following the identification of an appropriate Conservation Area, security of tenure for the Conservation Area(s) should be established so that its protection and management could not be compromised at some later stage.**

## **4.2 Commercial development**

### **4.2.1 Conservation values**

The proposed commercial development covers an area of 160 hectares. Although this area is proposed to be a garden estate where areas of bushland could remain undisturbed for a potentially long period of time, this area could all be eventually developed for commercial purposes at some later stage, resulting in the loss of the Banksia woodland. At the very least the area would be increasingly fragmented and therefore vulnerable to degradation.

The Authority considers that in light of the System Six Recommendation M94, and the comments made in section 4.1, consideration should be given to significantly reducing the amount of land to be set aside for commercial development. This should be done in the context of the evaluation of area to be set aside for conservation with the aim of maximising the amount of Banksia woodland remaining uncleared and protected within a conservation area.

### **Recommendation 4**

**The Environmental Protection Authority recommends that the size of the area proposed for commercial development should be reduced, and that area which would no longer be included in the commercial development be included in the Conservation Area.**

### **4.2.2 Groundwater protection**

As highlighted in the draft Environmental Impact Statement, there are a wide range of uses which could take place within the commercial development area. Appendix C of the draft Environmental Impact Statement "Draft land Use Zoning and Technical Guidelines for Development at Jandakot Airport" indicate a number of uses including, manufacturing, service trades, horticulture, transportation, communication, retail, entertainment and recreation, golf courses, caravan parks, and residential.

If the draft Environmental Protection (Jandakot Mound Groundwater) Policy were to be applied, no urban, industrial, or intensive agricultural development giving rise to nutrients could take place on a large part of the airport site, and there would be controls on the use of groundwater, filling of land, and discharge of contaminants. Uses which require high nutrient and chemical applications such as golf courses are also deemed environmentally unacceptable. It is considered therefore, that some of the uses which could take place within a commercial development area at the Airport are not appropriate in terms of protection of groundwater.

### **Recommendation 5**

**The Environmental Protection Authority recommends that controls be placed on the type of development which can take place on the Airport site. It is specifically recommended that industrial, horticultural, and urban uses not be permitted. In addition, there should be no storage (including above ground) of significant potential pollutants on the Priority 2 Source Protection Area.**

The Federal Airports Corporation proposes to dispose of all sewage and wastewater on site through the use of conventional septic systems, or if population densities increase, may install other systems such as small aerobic treatment units or packaged treatment plants. This is considered to be environmentally unacceptable, and should not be permitted. The Airport's location on a Public Water Supply Area and Underground Water Pollution Control Area, coupled with the scope of development proposed would necessitate that it be connected to a reticulated sewerage system to ensure protection of the groundwater.

## **Recommendation 6**

**The Environmental Protection Authority recommends that the proponent be required to provide a reticulated sewerage system to the site which removes all wastewater and liquid waste from any developments on the airport site from the site to a proper sewerage system and treatment plant.**

## **4.3 Sand mining**

The proposed silica sand mining operation would require the removal of approximately 45 hectares of Banksia woodland. The area proposed for sand mining has recently been burnt as part of the airport's fire management program.

A re-assessment of the conservation area is required before it could be determined whether it is environmentally acceptable to extract silica sand from this particular area of the airport. If the evaluation of the relative values of the flora and fauna as in Recommendation 2 shows that an appropriate Conservation Area can be identified which does not include the area proposed for silica sand mining, then the Authority considers that this aspect of the proposal could be acceptable subject to sound environmental management.

## **Recommendation 7**

**The Environmental Protection Authority recommends that the proposal to mine silica sand in the location proposed be after the evaluation contained in Recommendation 2.**

## **Recommendation 8**

**The Environmental Protection Authority recommends if any silica sand mining is found environmentally acceptable that a detailed rehabilitation management plan should be prepared to meet the requirements of the Commonwealth Environment Protection Agency in consultation with appropriate State Government agencies. A mechanism which guarantees that the rehabilitation will be undertaken as proposed should be determined to meet the requirements of the Commonwealth Environment Protection Agency prior to commencement of mining.**

If the area proposed for sand mining in the Draft Environmental Impact Statement remains, it abuts an area which has been identified as Banksia woodland which is to be protected within the Jandakot Botanical Park. A buffer strip has been provided along the boundary of the sand mine area so that there can be some connection between the Conservation area proposed within the Jandakot Airport site and the Banksia Botanical Park. The proposed 40 metre buffer would not be adequate to achieve the stated aims if it includes the 20 metre firebreak. The buffer would also be essential to assist in the management of noise and dust impacts. The area identified could then be included within the conservation area.

## **Recommendation 9**

**The Environmental Protection Authority recommends that further consideration be given to the size and location of the buffer surrounding any area proposed for silica sand mining so that the dual objectives of providing a noise and dust buffer, and of providing a connection to the proposed Jandakot Botanic Park outside the airport site is achieved.**



## 4.4 Aviation

### 4.4.1 Groundwater protection

The development of further aviation facilities at the Jandakot Airport has the potential to pollute groundwater. Although the existing aviation development area is shown as Source Protection Priority 3, obviously in recognition of existing development, it is within Area A and B of the draft Environmental Protection (Jandakot Mound Groundwater) Policy 1993 (refer Section 3.2). As such, care will be required in the management of facilities so that pollution does not result. The management commitments given by the Federal Airports Corporation are adequate in this regard. There is concern however that the responsibility for waste management from facilities such as maintenance and paint stripping operations rest with the individual companies who lease the land. This is not entirely appropriate given that contamination has resulted in the past. It is considered that some mechanism be developed to ensure that the ultimate responsibility for any necessary remediation be clearly established.

### Recommendation 10

**The Environmental Protection Authority recommends that controls be put in place to ensure that all waste management operations on the Jandakot Airport site are properly enforced, and that the ultimate responsibility for undertaking any necessary remediation be clearly established to the satisfaction of the Commonwealth Environment Protection Agency.**

As discussed in the Draft Environmental Impact Statement, there are a number of sources of groundwater contamination, the one of greatest concern being a petroleum hydrocarbon pollution plume extending from a fuel depot site within the Aviation Area. Although the pollution plume may not be moving directly towards the Water Authority's present Jandakot borefield, it is within the core of influence and is close to the top of the Jandakot Groundwater mound. The plume does not currently affect any groundwater users, though it does require management.

A draft management plan has been produced by the Federal Airports Corporation and BP Australia Limited in consultation with the Water Authority of Western Australia. This plan has not yet been officially referred to the Environmental Protection Authority.

### Recommendation 11

**The Environmental Protection Authority recommends that the groundwater pollution remediation plan currently being prepared be officially referred to the Western Australian Environmental Protection Authority prior to being finalised.**

### 4.4.2 Noise

The proposal to construct a fourth runway at Jandakot Airport will increase the Jandakot Airport's ultimate capacity from 450 000 movements per year to 500 000 movements per year, a 10% increase in aircraft movement. The new runway will duplicate an existing runway which is used approximately 14% of the time, though obviously when weather conditions require the use of these runways they would be used intensively for that period of time.

The introduction of the fourth runway will increase noise levels from individual aircraft for some residences in Glendale Crescent and Lakes Way Jandakot. It is extremely difficult to assess the other likely changes in noise environment due to the introduction of this fourth runway. Comparison of the 1989/90 Australian Noise Exposure Index map (calculated from the actual numbers and types of aircraft which used Jandakot during this year), with the

ultimate capacity Australian Noise Exposure Forecast map shows significant changes in noise exposure for a number of locations around the airport. However these could be attributed to changes in the algorithm on which the model is based, changes in the routes taken by aircraft, particularly those on circuit training, and predicted changes in the type and noise characteristics of the aircraft anticipated to be using the airport in the future.

However, considering the current capacity of the airport, and the orientation of the new runway, the Authority does not consider that the existing noise impacts from the airport will increase significantly as a result of the construction of the new runway, though it is apparent that some residents in the general vicinity are already experiencing high noise impacts from existing operations. Preliminary measurements carried out by the Environmental Protection Authority indicate that noise levels approaching 80 dB LA are being experienced by some residents. This is well beyond what would normally be considered an acceptable level of noise but may be acceptable once the figures are computed over time. (refer section 3.3).

It has been argued by the Federal Airports Corporation that the rezoning of land around the airport has not always taken into account the potential noise impacts, and therefore has allowed residences to establish in areas which are affected by aviation activities at the airport. The general practice in considering rezonings has been to follow the Civil Aviation Authority land use recommendations and the Standards Association of Australia AS 2021. This recommends that residential development not be permitted on land which is within the 25 or greater Australian Noise Exposure Forecast (ANEF) contour, and that residential development of land between the 20 and 25 ANEF contours should only be permitted if noise control features are incorporated during the design and construction of buildings.

Whilst the ANEF system is used throughout Australia to predict potential noise impact on surrounding land, the Authority is concerned at the ability of the ANEF system to accurately predict aircraft noise annoyance, particularly with airports such as Jandakot Airport which is for light aircraft and used in large part for circuit training by relatively inexperienced pilots. It has been observed that complaints lodged regarding noise do not always correlate to the ANEF contours. As there is no other system currently in place, the Authority continues to recommend that a conservative approach should be adopted by State and local government planners when using the ANEF system as a decision making tool.

In terms of noise management, residents have raised the issue of types of aircraft operating from Jandakot, and aircraft deviating from the flight paths used to develop the ANEI and ANEF contours presented in the draft Environmental Impact Study. It has been argued that some aircraft in use have higher noise levels and noise emission characteristics which make them unacceptable. There is also concern regarding the way in which current noise complaints are dealt with, and the level of commitment of both the Civil Aviation Authority and the Federal Airports Corporation in managing existing noise impacts and noise complaints.

The Authority considers that existing noise impacts from Jandakot Airport need to be managed better, regardless of whether the fourth runway is constructed.

## **Recommendation 12**

**The Environmental Protection Authority recommends that a more effective strategy for the management of noise complaints regarding noise activity be developed. This management strategy should clearly identify which agency is responsible for controlling noise impacts resulting from specific aviation activities, what measures are in place to control noise activities, and what action will be taken and by who if these measures are not followed by pilots. This management strategy should be to the satisfaction of the Commonwealth Environment Protection Agency.**

It may be advisable to set up an emergency response system which deals with noise complaints immediately after they have been lodged, so that residents can appreciate that their views and

problems are being seriously considered by Airport management and the Civil Aviation Authority.

## 5. Conclusion

The Environmental Protection Authority has reviewed the draft Environmental Impact Statement for additional developments at Jandakot Airport, and has concluded that significant modifications are required to make the proposal environmentally acceptable. The recommendations made in this report are intended to assist the proponent in modifying the proposal.

## 6. References

Australian Heritage Commission, (1992) Print out of Interim Listing.

Dames and Moore (1993), *Draft Environmental Impact Statement Proposed Additional Developments at Jandakot Airport*, Federal Airports Corporation, Perth Western Australia.

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W G Martinick and Associates Pty Ltd (1990) *Jandakot Airport Fauna Survey*, Perth Western Australia.