> Environmental Management Issues

Bankstown Airport

Airport Environment Strategy
2005

> Environmental Management Issues

This chapter deals with:

- identification of sources of environmental impact associated with Airport and non-Airport operations, including sources identified since the approval of the 2000 AES;
- objectives and targets for the management of the identified environmental impacts;
- environmental achievements undertaken by BAL since the approval of the 2000 AES; and
- measures for preventing, controlling or reducing environmental impacts associated with Airport operations, including timeframes and any studies, reviews or monitoring proposed to be carried out. The timeframes are indicated in brackets at the end of each measure as within two years of commencement of the AES, within five years or ongoing.

Where changes have been made to the objectives and targets from those contained in the 2000 AES, the changes have been identified in this AES.

The following environmental aspects are considered in this chapter:

- air quality, including the release of ozone depleting substances;
- water quality;
- soil quality;
- noise;
- flora and fauna;
- heritage;
- waste;
- resource use, including "greenhouse gas" emissions from energy use; and
- social and community.

Flood management is not addressed by this AES and is not required by the regulations requirements to be addressed in the AES. Notwithstanding the requirement, as detailed planning for development identified in the MP gets underway, BAL will conduct further flood studies. The MP commits BAL to undertaking these studies taking into consideration the guiding principles of the NSW Floodplain Management Manual. BAL will utilise the Georges River Flood Management Committee flood model and will undertake to share the results of flood modelling with BCC and the Committee.

The objectives, targets and management actions in relation to "Emergency Preparedness and Response" detailed in the 2000 AES have not been incorporated in this AES as they are not required by the regulatory requirements to be addressed in the AES. BAL addresses these matters through its Aviation and Network Business Unit.

4.1 Air Quality

4.1.1 Environmental Issues

The NSW Government's Air Quality Management Plan, entitled Action for Air (NSW Government, 1998) identified the key areas for action for managing Sydney's air quality over the next 25 years. Airport related air quality issues were not regarded as significant in the Action for Air document. Instead motor vehicles and wood fire heating were identified as the major sources of concern for pollutants in the Sydney Basin.

Aviation emissions were found to be a very minor contributor to total Sydney airshed emissions with the largest airport, namely Sydney, projected to contribute in 2020 only 0.6% of total carbon monoxide, 3.6% of total carbon monoxide, 3.6% of oxides of nitrogen and 0.4% of non-methane hydrocarbons. General Aviation airports such as Bankstown Airport contribute significantly less than this and so are a very small contributor to the total emissions into the Sydney airshed. Most of these emissions would be from aircraft exhaust, which are regulated by DoTaRS through the Air Navigation (Aircraft Engine Emissions) Regulations.

A review of the air quality issues associated with Bankstown Airport was undertaken in December 1999. Since total Airport emissions had been estimated to be a small contributor of total emissions into the Sydney airshed and ground-based emissions were considered to comprise a small proportion of total Airport emissions, it was concluded that general ambient monitoring of Airport emissions was not warranted as it would not provide useful information on the effectiveness of control measures.

An Air Quality Impact Assessment was subsequently undertaken for Bankstown Airport in November 2002. The assessment involved dispersion modelling for the following identified sources of air emissions:

- fuel storage tanks at the Airport's bulk fuel storage facilities; and
- emission stacks at selected tenant facilities.

The AUSPLUME model was used to estimate ground-level pollutant concentrations that were then compared with legislative criteria. Based on the modelling results, it was concluded that the sources were small operations in terms of emissions and that they did not create adverse air quality impacts in the local airshed. Predictions of ground-level concentrations of pollutants in the closest residential areas and surrounding communities were insignificant and well below criteria.

Since the 2000 AES, the National Pollutant Inventory (NPI) has been established by DEH. The NPI is an Internet database (www.npi.gov.au) that gives information on the types and amounts of pollutants being emitted to the environment. Five of Bankstown Airport's tenants, including Hawker de Havilland, Qantas Airways Ltd (Qantas Defence Services), BP Australia Limited, Mobil Oil Australia Pty Ltd and The Shell Company of Australia Ltd, have submitted NPI reports previously.

The following sources of air emissions from activities at the Airport have been identified and addressed by this AES:

- point sources including stacks, storage of solvents, exhausts from paint spray booths, cooling towers, etc;
- fuel storage and refuelling operations;
- vehicle traffic to, from and on the Airport;
- aircraft engine ground runs;
- dust, including possible asbestos fibres, generated during construction or building maintenance activities; and
- ozone depleting substances, such as some refrigerants (chlorofluorocarbons) and fire-suppressants (halons).

The most common sources of potential impact on air quality are associated with Tier 1 tenant operations, as evidenced by the NPI reports. Tenants are responsible for demonstrating that their air emissions, including from those point sources, chemical or fuel storages, vehicular traffic, aircraft engine ground runs or dust generated during construction activities, are compliant with the requirements of the Airports Act 1996. Records of Airports Act 1996 compliance are progressively reviewed by BAL during environmental audits.

Current vehicle emissions from Bankstown Airport can mainly be attributed to the local workforce. Emissions generated from vehicle traffic to, from and on Bankstown Airport will increase in proportion to the growth in on-site employment and aircraft passenger levels as documented in the MP.

The provision of improved access to public transport, cycle-ways and pedestrian facilities, as discussed in the surface access development concept in the MP, and the substitution of private transport trips with public transport will help to reduce vehicle emissions and improve air quality overall.

Management of air quality at the Airport takes into consideration relevant statutory requirements including the Airports Act 1996, the Airports (Environment Protection) Regulations 1997, the Ozone Protection and Synthetic Greenhouse Gas Management Act 1989, the National Environment Protection (Ambient Air Quality) Measure and the National Environment Protection (Diesel Vehicle Emissions) Measure.

4.1.2 Environmental Achievements

The important environmental achievements in relation to air quality issues during the period of the 2000 AES were:

- Hawker De Havilland conducted testing of emissions of volatile organic compounds (VOCs) from the trichloroethene vapour degreasing bath at its facility, with satisfactory results;
- Qantas Defence Services (now Qantas Heavy Maintenance) completed extensive overhauls of their exhaust and extraction systems and decommissioned a trichloroethene bath;
- Turbomecca (a Tier 2 tenant) established a stack monitoring program for its facility;
- an Air Quality Impact Assessment was conducted to model and estimate ground-level pollutant concentrations from identified sources of air emissions at the Airport, including fuel storages and stacks;

- Airport tenants that trigger threshold limits have commenced NPI reporting;
- tenants identified during audits as having halon-based fire extinguishers were advised that they must be appropriately disposed of; and
- a register of buildings containing asbestos in building materials was prepared.

4.1.3 Objectives, Targets and Management Measures

Table 4.1 contains the objectives, targets and proposed measures that will be implemented to prevent, control or reduce the impacts of operations at the Airport on air quality (including ozone depleting substances).

Table 4.1
Air Quality Objectives, Targets and Management Measures

Objectives:

1. Prevent or minimise air pollution (including minimising the release of ozone depleting substances) to the extent practicable and comply with regulatory requirements.

Targets:

1. Comply with the requirements of the Airports Act 1996 and Airports (Environment Protection) Regulations 1997.

Actions:

BAL will:

1. continue annual environmental audit of Tier 1 tenants and selected Tier 2 tenants to assess compliance with the Airports (Environment Protection) Regulations 1997 (including management of ozone depleting substances) (ongoing);
2. assess air quality requirements and options for minimising emissions of air pollutants (including ozone depleting substances) in the development assessment and approval process at the Airport (ongoing);
3. monitor the annual tenant NPI reports for those who trigger NPI reporting thresholds and pursue options for reducing emissions of air pollutants with tenants during the environmental audit (ongoing);
4. monitor the aggregate Airport emissions report undertaken by NSW EPA every 5 years and pursue options for reducing emissions of air pollutants (within 5 years);
5. promote and encourage the use of alternative fuels and other measures to reduce emissions of air pollutants at the Airport (ongoing); and
6. maintain the asbestos register for the Airport and implement an asbestos management plan (ongoing).

The 2000 AES included the following target:

"Maintain the contribution of the Airport to local air pollution to 1992 MAQS estimates."

This target is unclear in its meaning and BAL has, therefore, not continued with this target. This target has been replaced by the target to comply with the Airports Act 1996 and Airports (Environment Protection) Regulations 1997.

4.2 Water Quality

4.2.1 Environmental Issues

Surface Water

The whole of Bankstown Airport lies within the catchment of the Georges River, a major regional waterway located immediately to the west of the Airport. The Georges River has been subject to pollution in the past as a result of industrial and residential developments in the catchment.

The State Government's commitment to protect the Georges River catchment is presented in the document "Shaping the Georges River Catchment" prepared by the former NSW Department of Urban Affairs and Planning (DUAP, now the DIPNR).

Rain that falls on the Airport is collected through an extensive system of pipelines, box culverts and open drains which ultimately discharge via five points on the Airport boundary into Georges River. Two of the discharge points have significant catchments upstream and off the Airport. The catchments of these drains include industrial and commercial, as well as residential, areas which have potential to impact upon the quality of surface water draining onto the Airport.

A number of activities at the Airport have the potential to affect the water quality of the Georges River. The following sources of potential surface water pollution on the Airport have been identified and addressed by this AES:

- spills and leaks through aircraft servicing and maintenance (including washing and refuelling);
- vehicle refuelling, washing and maintenance;
- construction and maintenance activities;
- bulk liquids storage; and
- vehicle traffic to and from the Airport.

To reduce the potential impacts of water pollution on the Georges River, pollution control devices in the form of absorbent booms have already been constructed on two discharge drains. The booms are designed to absorb hydrocarbons which, being lighter than water, float on the water surface and are trapped on the absorbent boom material.

Surface water quality monitoring has been undertaken at the discharge points. Monitoring results have indicated some slight exceedances of surface water quality limits listed in Schedule 2 of the Airports (Environment Protection) Regulations 1997 for several contaminants, including copper, lead and zinc.

Groundwater

The structural and textural characteristics of the Ashfield Shale underlying the site determines the hydrogeological regime of the area. The shale has negligible primary porosity and permeability. Some secondary permeability exists in fractures within the shale. Groundwater in the shale is generally low in volume and poor (brackish) in quality with concentrations of some metals often naturally elevated.

Perched groundwater may exist in localised fill areas overlying the weathered shale, particularly following rain.

Groundwater is not used as a resource in the area for drinking water purposes.

The following sources of potential groundwater pollution have been identified and addressed by this AES:

- contaminated sites;
- leakage from underground fuel tanks;
- spillage of fuels and chemicals;
- chemical use (such as pesticides/herbicides); and
- historic activities, such as landfilling.

Groundwater monitoring has been undertaken at two areas within the Airport that have been associated with historic in-ground disposal of wastes, including night-soil and solid wastes. Groundwater monitoring undertaken annually over the last several years has indicated slight exceedances of groundwater quality limits listed in Schedule 2 of the Airports (Environment Protection) Regulations 1997 for some contaminants, including surfactants, cadmium, cyanide, copper, lead and zinc. BAL will investigate these exceedances further in consultation with the AEO and if necessary will conduct additional monitoring to allow BAL and the AEO to manage this issue appropriately.

Wastewater

Bankstown Airport, like many commercial and industrial areas, generates wastewater. Wastewater includes any discharges to the sewerage system. The following sources of wastewater have been identified and addressed in this AES:

- washing of aircraft or vehicles;
- parts washing;
- grease traps;
- oil interceptors; and
- industrial processes.

Wastewater is either discharged to sewer under agreement with Sydney Water Corporation or removed by a contractor for off-site disposal.

4.2.2 Environmental Achievements

The important environmental achievements in relation to water quality issues during the period of the 2000 AES were:

Surface Water

- The stormwater monitoring program for Bankstown Airport was reviewed and a risk assessment conducted to assess the priority surface water catchments. A Bankstown Airport Stormwater Quality Investigation was subsequently undertaken for Catchment 1, which captures stormwater run-off from 90% of the Bankstown Airport's tenants.

- Monthly newsletters to tenants and operators at the Airport have included advice on various matters relevant to protection of surface water quality including storage of fuels and chemicals, spill clean-up and operation of spray painting facilities.
- Work was undertaken with three tenants in older premises at Bankstown Airport to eliminate or ensure their stormwater discharges to the stormwater system were in compliance with the Regulations.
- A copy of the Spill Incident Procedures for Tenants and an Environmental Incident Investigation Report were included in the Environmental Handbook distributed to Tier 2 and Tier 3 tenants at the Airport.
- Annual refresher training for incident reporting and spill management was held for the Airport's Duty Operations Officers and Grounds Staff.
- Improved work practices are considered to have resulted in the improvements in stormwater quality at Bankstown Airport with a reduction in the level of contaminants found in stormwater samples.
- Stormwater monitoring was undertaken in the high and medium risk catchments at Bankstown Airport and the stormwater monitoring program is ongoing.
- A fuel storage tenant undertook cleaning and testing of their forecourt runoff collection system to ensure that stormwater draining from the forecourt complied with discharge criteria.
- A surface water collection tank was installed at the Bunnings Warehouse located on Milperra Road.

Groundwater

- Groundwater monitoring was undertaken from the piezometers associated with Landfill 1 and Landfill 2, which did not indicate significant migration of contaminants from the landfills.
- Groundwater investigations, including a risk assessment and a review by a NSW EPA Accredited Site Auditor, were conducted at the Hawker de Havilland and Qantas Heavy Maintenance (formerly Qantas Defence Services) sites. Groundwater monitoring is ongoing at these sites. No active remediation works are considered warranted for the site.
- Groundwater investigations were conducted at several fuel storage facilities. Monitoring indicated minor groundwater contamination at one facility, which is in the process of further investigation and remediation.

Wastewater

- A register of tenant's Trade Waste Agreements was compiled in the Environmental Sites Register.

4.2.3 Objectives, Targets and Management Measures

Table 4.2 contains the objectives, targets and proposed measures that will be implemented to prevent, control or reduce the impacts of operations at the Airport on water quality.

Table 4.2
Water Quality Objectives, Targets and Management Measures

Objectives:

1. To prevent or minimise surface or groundwater pollution.
2. Detect and manage the risk of groundwater pollution at known contaminated sites.
3. Liaise with other organisations to contribute to an improvement in overall water quality in the Georges River.

Targets:

1. Comply with the requirements of the Airports Act 1996 and Airports (Environment Protection) Regulations 1997.

Actions:

BAL will:

1. Develop and implement a Stormwater Management Plan and a Groundwater Management Plan as part of the EMS (within 2 years). The Plans will include the following actions:
   - consideration of water quality requirements and promotion and encouragement of options for collection of stormwater for beneficial reuse in the development assessment and approval process at the Airport (refer to Section 4.8 on Resource Use);

- monitoring of performance of tenants (including existing bulk fuel storage facilities) in operating and maintaining surface water and in-ground collection and treatment systems in areas which have the potential to be impacted by petroleum hydrocarbons and reporting of non-compliances to the AEO;
- regular stormwater and groundwater monitoring targeting areas of particular risk;
- annual environmental audit of Tier 1 tenants and selected Tier 2 tenants to assess compliance with Airports (Environment Protection) Regulations 1997;
- random inspections of tenant facilities to visually inspect stormwater systems;
- incident reporting and response program for surface water, wastewater and groundwater;
- assessment of options for managing the impacts of pollutants in stormwater discharges from paved areas;
- continued use of floating booms to collect pollutants in surface water at discharge drains exiting the Airport; and
- tenant consultation through monthly newsletters and random audits to remind tenants of water quality impacts of their operations.

2. develop a policy regarding the design of fuel storage tank installations (within 2 years).
3. require new lessees to undertake a base-line study of groundwater quality at the commencement and termination of the lease, if the new or existing activities are considered to be a high potential risk to groundwater quality (ongoing).

4.3 Soil Quality

4.3.1 Environmental Issues

Identification of Contaminated Sites

Bankstown Airport was established in 1940 and numerous activities and processes have been undertaken that have been identified as potential or actual sources of soil contamination (e.g. night-soil and solid waste landfilling, refuelling, spray painting and heavy engineering).

Since the preparation of the 2000 AES, the Environmental Site Register, which is a database of information and records, has been further developed. It includes a Contaminated Site Register that identifies sites at the Airport that are suspected or confirmed as being contaminated. Each site has a risk ranking (high, medium, low) to indicate the risk of the site being contaminated. The status of the Contaminated Site Register is reported in the Annual Environment Reports and as at 30 June 2003, there were the following potential sources of environmental impact:

- ten high-risk sites of which six sites are under review for potential reclassification to a lower risk;
- two medium risk sites; and
- one low risk ‘site’, being the various older buildings containing asbestos.

The high-risk sources of suspected or confirmed soil and possibly groundwater contamination are mainly associated with:

- potential leakage from underground tanks, pipelines and hydrant systems;
- fill material brought onto the Airport; and
- industrial activities on the Airport, including storage and handling of chemicals.

Contaminated Site Management

BAL has developed and is implementing three tiers of contaminated site management strategies, aimed at:

- preventing future contamination of soil and groundwater;
- identifying, assessing and recording known or suspected contaminated sites; and
- managing and where appropriate remediating existing contaminated sites to a level unlikely to pose a risk to human health and the environment, in consultation with the AEO. No contaminated sites have been identified at the Airport as currently requiring remediation. Some sites may require remediation in the event of redevelopment. The need for remediation would be considered during the development planning and assessment stage.

Management of current tenant activities is generally done through the requirements of the Airports Act 1996 and strict lease clauses concerning environmental performance and development controls that are imposed upon all tenants.

A procedure exists for BAL and the AEO to assess Tier 1 and Tier 2 tenant sites upon the expiry of their lease or, for a proposed change of land use, for the requirement to conduct a contamination investigation. Tenants may also voluntarily conduct contamination investigations at any stage during their tenancy.

A system has also been developed for investigating unoccupied sites that are being proposed for use by current or potential Tier 1 and Tier 2 tenants. This involves BAL and the proponent agreeing on the scope of a 'baseline' contamination investigation for the proposed site, the results of which can then be compared to a contamination investigation performed by the tenant (if required, as per the aforementioned procedure) at the end of their lease period. In this way, contamination caused by the tenant during the lease period should be detected.

Other measures employed by BAL and the AEO for assessing and monitoring soil quality at the Airport include environmental audits, which allow for regular inspection and assessment of all sites at the Airport.

4.3.2 Environmental Achievements

The important environmental achievements in relation to soil contamination during the period of the 2000 AES were:

- continued development and improvements to the Environmental Site Register;
- ongoing update of the Site Contamination Register;
- development of a register of underground fuel storage tanks;
- implementation of a requirement for all DA to include a statement as to how the tenants comply with the AES;
- development and implementation of a procedure for managing importation of fill material to ensure contaminated fill is not brought onto site;
- new lessees are required to undertake a base-line study of soil quality at the commencement and termination of the lease, if the AEO suspects contamination may be an issue;
- a number of contaminated site investigations were undertaken by BAL and tenants, including:
  - a Phase 1 Contaminated Site Investigation of Bankstown Airport;
  - soil and groundwater investigations at Hawker de Havilland and Qantas Heavy Maintenance (formerly Qantas Defence Services) sites;
  - an investigation of fill material at a landfill site;
  - a number of underground storage tank (UST) investigations to assess the risk of leaks to soil and groundwater;
  - a number of preliminary contamination assessments (ie baseline assessments); and
  - a compliance review for BAL's diesel storage compound.
- Tier 2 and 3 tenant environmental audits assessed work and storage practices resulting in identification of potential soil contamination issues;
- site assessments enabled the removal of two sites from the Contaminated Site Register; and
- underground storage tanks were decommissioned at BP's fuel storage facility.

4.3.3 Objectives, Targets and Management Measures

Table 4.3 contains the objectives, targets and proposed measures that will be implemented to prevent, control or reduce the impacts of operations at the Airport on soil quality.

Table 4.3
Soil Quality Objectives, Targets and Management Measures

Objectives:
1. To prevent, detect and where appropriate remediate soil contamination.
2. Minimise the potential health and ecological impacts associated with contaminated soil.
3. Prevent the spread of ground contamination to neighbouring lands.
Targets:
1. No occurrences of soil contamination from future activities on existing "clean" sites.
2. Register and manage as appropriate known contaminated sites.

3. Comply with the requirements of the Airports Act 1996 and Airports (Environment Protection) Regulations 1997.

Actions:

BAL will:

1. continue to develop and improve to the Environmental Site Register (ongoing);
2. update the Site Contamination Register as required (ongoing);
3. consider the risk of soil pollution during the development planning and approval process (ongoing);
4. continue to implement and monitor the procedure for managing importation of fill material to ensure contaminated fill is not brought onto site (ongoing);
5. continue to implement and monitor the requirement for new lessees to undertake a base-line study of soil quality at the commencement and termination of the lease, if the AEO suspects contamination may be an issue (ongoing);
6. adhere to BAL policy regarding new fuel storage tank installations (ongoing);
7. conduct annual environmental audits of Tier 1 tenants and selected Tier 2 tenants to assess compliance with Airports (Environment Protection) Regulations 1997 (ongoing);
8. conduct random inspections of tenant facilities to visually inspect facilities and activities which have potential to cause soil pollution (ongoing); and
9. implement an incident reporting and response program for soil pollution (within 2 years).

4.4 Noise

4.4.1 Environmental Issues

Ground Based Noise

In accordance with the Airports (Environment Protection) Regulations 1997, noise sources considered in the preparation of this AES include ground-based activities within the Airport boundaries, including noise generated from ground-based aircraft operations, except when taxiing, taking off and landing.

Noise generated by aircraft in flight is addressed below.

The following sources of ground-based noise have been identified and addressed in this AES:

- ground running of aircraft;
- aircraft servicing;
- mechanical plant and servicing equipment;
- non-aviation industrial activities;
- road traffic;
- operation of fixed audible alarm or warning systems; and
- construction activities.

Ground-based noise criteria are provided under the Airports (Environment Protection) Regulations 1997, against which the AEO can enforce compliance. However, for ground-based aircraft operations, the Regulations do not define the limit of “excessive noise” at which regulatory action may be taken.

Engine ground running rules have been developed for the Airport which identify the times and locations for permissible aircraft ground running. A copy of these rules has been provided to tenants. The engine ground running rules are reviewed by BAL biennially, or as required by the AEO, and approved by the AEO.

Tenants are reminded of their obligations with regards to noise management associated with all ground-based activities during the environmental audits and through the monthly tenant newsletters.

A Noise Complaint Register is maintained by BAL to enable recording and investigation of noise complaints in relation to ground-based activities at the Airport. Follow-up action with tenants is undertaken when required.

Aircraft Noise Management

Aircraft noise modelling was conducted for the MP (Section 24). The modelling was undertaken to determine the Australian Noise Exposure Forecasts (ANEFs), a requirement of the MP, which are used to assist land-use planning.

In addition to the ANEFs, BAL undertook N60 modelling for the MP to better assist the community to understand the noise impacts associated with the forecast aircraft movement traffic. The N60 noise modelling presented in the MP measures and presents the number of noise events greater than

60 decibels over a specified period of time over particular flight paths. Noise levels greater than 60 decibels are generally considered to be intrusive to persons conducting a conversation.

The noise modelling in the MP takes into account a number of AirServices Australia's noise impact management measures that are in place at Bankstown Airport. BAL supports these mitigation strategies. These include:

- restriction of circuit training operations (touch and go movements) to between 6 am and 11 pm, Monday to Friday, and to between 6 am and 'last light' on weekends;
- where possible, direction of fixed wing flying training (circuits) to Runway 11R/29L to the maximise the extent of circuits done over open space and commercial/industrial areas to the south of the Airport;
- night circuits for aircraft operations are referred to the southern side of the airport; and
- flight paths that direct helicopter training primarily over industrial areas to the south of the Airport.

4.4.2 Environmental Achievements

The important environmental achievements in relation to noise issues during the period of the 2000 AES were:

- a Noise Complaint Register was commenced that records the nature of a noise complaint, BAL's investigation results, action and the response to the complainant;
- following a number of noise complaints, the Aircraft Engine Ground Running Guidelines for Bankstown Airport were reviewed and amended in accordance with recommendations of the AEO to allow for engine idling outside aircraft hangars, at low engine power, for periods of no longer than 15 minutes. The amendment was communicated to all tenants;
- liaison with tenants undertaking aircraft maintenance operations ground-running activities;
- the DA and SEE were amended to require noise and vibration emissions be addressed. The proponent will be required to prepare a Noise and Vibration Control Plan where potential noise impacts are considered significant;
- adoption of a number of management actions to reduce and monitor the impacts of Airport ground-based noise on neighbouring residents, including the following:
  - specific run-up areas have been designated and tenants made aware of these areas; and
  - limiting of maintenance run-ups to 7:00 am to 8:00 pm (local time), Monday to Friday and 8:00 am to 6:00 pm (local time) on Saturdays and Sundays.

4.4.3 Objectives, Targets and Management Measures

Table 4.4 contains the objectives, targets and proposed measures that will be implemented to prevent, control or reduce the noise impacts of operations at the Airport.

Table 4.4
Noise Management Objectives, Targets and Management Measures

Objectives :

1. To prevent or minimise ground based noise and support AirServices Australia in managing aircraft noise.

Targets:

1. Comply with the requirements of the Airports Act 1996 and the Airports (Environment Protection) Regulations 1997.

Actions:

Ground-based Noise
BAL will:

1. commence implementation of a non-aviation buffer zone to provide reduction in impacts of aircraft ground running noise on nearby residents, in accordance with the Master Plan (within 5 years);
2. commence development of a ring road to accommodate traffic volumes and reduce movements of heavy vehicles on residential streets, in accordance with the Master Plan (within 5 years);
3. require all developments to address noise and vibration impacts during development planning (ongoing);

4. undertake annual environmental audits of Tier 1 tenants and selected Tier 2 tenants to assess compliance with Airports (Environment Protection) Regulations 1997 (ongoing);
5. maintain the Noise Complaint Register (ongoing); and
6. undertake a biennial review of Engine Ground Running Rules (within 2 years).

Aircraft Noise

BAL will:

7. update and report aircraft noise modelling every 5 years through the Master Plan process (within 5 years);
8. support measures by AirServices Australia to manage aircraft noise impacts (ongoing); and
9. develop an aircraft noise management plan and facilitate discussions on aircraft traffic with the community through the BACCF (within 5 years).

4.5 Flora and Fauna

4.5.1 Environmental Issues

The Airport is located within an urban setting and, except for the bushland adjacent to Deverall Park, vegetation is limited to open grasslands, isolated pockets of re-growth shrub and garden or park-like plantings within the Airports developed areas. A range of common native and exotic birds, mammals, reptiles and amphibians are present on the Airport.

Bushland adjacent to Deverall Park is the only remaining area of bushland at the Airport. It is subject to a Plan of Management and will be protected from clearing.

There are no environmentally significant areas at the Airport as defined by the Airports (Environment Protection) Regulations 1997 identified by reason of significant flora and fauna. Ongoing Airport operations have minimal impact upon native flora and fauna. Sources of impact on flora and fauna include bird strike and weed growth.

Bird strike risk is managed by the Airport Duty Operations Officer using "bird shot" warning blasts to keep birds away from the Airport.

Management of flora and fauna at the Airport is subject to the provisions of the Environment Protection and Biodiversity Conservation Act 1999 and the Threatened Species Conservation Act 1995.

4.5.2 Environmental Achievements

The important environmental achievements in relation to management of flora and fauna during the period of the 2000 AES were:

- a Bushland Plan of Management for Reserves in Immediate Vicinity of Bankstown Airport has been prepared by Bankstown City Council, in consultation with BAL, which includes the bushland adjacent to Deverall Park. The Plan outlines biophysical resources and characteristics, conservation significance, vegetation health, values and opportunities, impacts and management issues and implementation; and
- an Ibis Management Plan has been developed for the Georges River by Bankstown City Council that has been reviewed by BAL and is taken into consideration by BAL in its bird hazard management program.

4.5.3 Objectives, Targets and Management Measures

Table 4.5 contains the objectives, targets and proposed measures that will be implemented to prevent, control or reduce the impacts of operations at the Airport on native flora and fauna.

Table 4.5
Native Flora and Fauna Management Objectives, Targets and Management Measures

Objectives:

1. Conserve bushland adjacent to Deverall Park as a habitat, protecting its flora and fauna values.
2. Contribute to the protection of native flora and fauna and their habitat on and around the Airport.

Targets:

1. Comply with the requirements of the Airports Act 1996, the Airports (Environment Protection) Regulations 1997, the Environment Protection and Biodiversity Conservation Act 1999 and the Threatened Species Conservation Act 1995.

2. Significant scope exists to conserve the bushland adjacent to Deverall Park. For this reason BAL proposes a target of no net loss of vegetation at the bushland adjacent to Deverall Park.
3. No net increase in the number of bird strike incidents per year.

Actions:

BAL will:

1. facilitate, under an Agreement with Bankstown City Council, management of bushland adjacent to Deverall Park as a native habitat conservation zone and nature walk (within 5 years);
2. undertake ongoing liaison with external stakeholders as required regarding management of native flora and fauna at the Airport (ongoing); and
3. monitor the frequency of bird strike incidents and implement measures to reduce such frequency as necessary (ongoing).

The 2000 AES contained objectives in relation to significant areas as defined in Section 2.6. As the Airport does not contain any identified significant areas in relation to flora and fauna, this objective is not contained in this Section.

The 2000 AES contained an objective relating to sensitive sites as defined in Section 2.8 of this AES. The bushland adjacent to Deverall Park is the only sensitive site at the Airport, which is to be managed in accordance with actions outlined above.

4.6 Heritage

4.6.1 Environmental Issues

Day-to-day operations at the Airport do not have a significant impact upon heritage items at the Airport.

In general, impacts upon heritage items may occur if there is a lack of maintenance or if uncontrolled development occurs.

The heritage items need to be conserved from such sources of impact. Hence, heritage items are considered in this section for management purposes.

Items of Indigenous Cultural Heritage

As indicated in Sections 2.6 and 2.7, no sites or items of indigenous significance have been identified on, or adjacent to, the Airport.

Although the setting in which the Airport lies would have been a favourable location for Aboriginal habitation, prior to European arrival, the whole of the Airport has been extensively cleared and regraded over the majority of its area to make it suitable for its present purpose. Hence, the potential for the occurrence of Aboriginal sites and artifacts is considered to be low. Discussions with representatives of the Gandangarra LALC in 2000 also reportedly confirmed that Aboriginal sites were unlikely to be found at the Airport. There are no known Aboriginal Sites at the Airport listed on the:

- Department of the Environment and Heritage's Register of National Estate (RNE);
- NSW Department of Environment and Conservation's Aboriginal Sites Register; or
- Bankstown City Council's Bankstown Local Environment Plan 2001 in its Heritage Schedule.

Areas for proposed future development may be subjected to archaeological assessments as considered appropriate in consultation with the AEO. An Archaeological Assessment of Indigenous Heritage Values was conducted for the South East Development Precinct in January 2003. A representative of the Gandangarra LALC participated in the assessment and no indigenous relics, archaeological resources or places of archaeological significance were identified during the field survey.

However, BAL and its tenants will take care when disturbing land in areas that have not been altered by past land-filling. Should a relic be discovered, work will stop immediately and BAL's Environment Manager will be contacted to arrange further investigation.

Non-indigenous Cultural Heritage

The present site of the Airport was first identified for development by the Department of Civil Aviation (DCA) in 1929 as a second training aerodrome for Sydney.

There was no activity on the site until the Department of Air acquired an area of 255 hectares during World War II for development as a RAAF establishment, No 2 Aircraft Park. The main reason for selecting

Bankstown was its close proximity to the Clyde Engineering Works at Granville where Avro-Anson aircraft production was carried out.

A De Havilland complex (now Hawker de Havilland) was established on the Airport in 1942 to produce Mosquito aircraft and parts for the war effort. During World War II the Airport was first a RAAF station, then a base for the US Army Air Corps and finally a Royal Naval Fleet Air Arm Station, HMS Nabberly.

After the war, responsibility for the Airport reverted to the RAAF as the home of its No 2 Stores Depot. The use of Bankstown Airport for the transfer from Sydney Airport of light aircraft, private flying and aircraft manufacture commenced in 1946. The RAAF relinquished the last of its Bankstown Airport land to the Department of Aviation in 1980.

In 2004, a new Commonwealth heritage management system was introduced through the EPBC Act which included the creation of the National Heritage List and the Commonwealth Heritage List. Bankstown Airport has not been included on either of these lists.

Bankstown Airport has been listed for heritage purposes on the:

- DEH's RNE as an indicative place, as opposed to a formal entry. This indicates that it is still under assessment by DEH. Specific elements have not yet been nominated for formal entry on the RNE. The changes to the Commonwealth heritage regime will mean that no further listings will now take place on the RNE;
- NSW DEC's State Heritage Inventory (SHI) as an item of environmental heritage. It is not known whether the listing relates to the Airport as a whole and/or specific elements. It is not listed on the NSW State Heritage Register (SHR); and
- Bankstown City Council's Bankstown Local Environment Plan (LEP) 2001.

A Heritage Assessment of Bankstown Airport was undertaken in 2003, which will form the basis of a Heritage Management Strategy which is being prepared. Early indications are that there are some buildings of particular heritage significance which have scope to be conserved, together with the chevron shaped alignment at the southern end of Airport Avenue.

Indigenous and heritage values at the Airport will be investigated during the planning stages of developments and protected during the construction stage in accordance with the Heritage Management Strategy.

4.6.2 Environmental Achievements

The important environmental achievements in relation to heritage issues during the period of the 2000 AES were:

- an assessment of non-indigenous heritage was undertaken at the Airport;
- assessment of indigenous heritage in the South East Precinct of Bankstown Airport, which involved participation of the Gandangarra LALC. No items of heritage significance were identified; and
- consultation has commenced with the Gandangarra LALC regarding heritage issues.

4.6.3 Objectives, Targets and Management Measures

Table 4.6 contains the objectives, targets and proposed measures that will be implemented to prevent, control or reduce the impacts of operations at the Airport on Aboriginal and non-Aboriginal heritage.

Table 4.6
Aboriginal and non-Aboriginal Heritage Management Objectives, Targets and Management Measures

Objectives:
1. Identify, preserve and protect sites of indigenous and non-indigenous heritage significance located within the Airport.
Targets:
1. Compliance with the requirements of the Airports Act 1996 and Airports (Environment Protection Regulations) 1997 and the Environment Protection and Biodiversity Conservation Act 1999.
2. Scope exits to conserve buildings of particular heritage significance and the chevron shaped alignment of the hangars at the southern end of Airport Avenue.

Actions:

BAL will:

1. complete the Heritage Management Strategy for the Airport by the end of 2004;
2. develop Heritage Management Plans for new developments that may impact upon heritage items, including adaptive reuse of individual buildings where practicable (ongoing);
3. undertake additional investigations as required, in consultation with relevant organisations, to identify indigenous and/or non-indigenous heritage sites during the planning stage for new developments (ongoing); and
4. consider indigenous heritage aspects in interpretative features of the bushland area adjacent to Deverall Park (with BAL to consider potential renaming of the area) (within 5 years).

The second objective in the 2000 AES relating to other organizations is considered to be addressed in the first objective of this AES relating to sites of indigenous and non-indigenous heritage significance and is therefore not contained in this AES.

The targets in the 2000 AES have been updated to reflect that the Airport has undertaken heritage investigations and to take into account legislative obligations.

4.7 Waste

4.7.1 Environmental Issues

Airport operations generate a range of wastes which require off-site disposal. Types of waste vary from office waste such as paper, through to aircraft maintenance wastes such as oil, metal and plastic.

Waste generation and management is a potential source of environmental impact including water pollution, air pollution, soil contamination and resource consumption.

No waste is disposed to land on the site.

BAL and each separate tenant are responsible for the disposal of their waste. This is achieved through services offered by private waste disposal companies who supply small, transportable skip bins or by Bankstown City Council via their regular garbage service. Wastes collected from public areas including the litter bins are disposed of by BAL into a skip bin located in the BAL works compound.The environmental audit of tenants' premises in November 1996 indicated a high degree of recycling of certain waste types including oils, solvents and metals, particularly aluminium. Many of the commercial offices, including those of BAL, recycle office wastes including paper, glass bottles and aluminium cans. There is no centralised recycling system and recycling initiatives are left to individual tenants.

4.7.2 Environmental Achievements

The important environmental achievements in relation to waste management during the period of the 2000 AES were:

- BAL met with the Western Sydney Waste Board in May 2001 and subsequently sought the assistance of the Regional Illegal Dumping (RID) Squad to address illegal disposal of waste at Bankstown Airport. BAL developed a positive working relationship with the RID Squad. BAL reports all illegal dumping or witnessed littering incidents on or adjacent to Airport land to the Squad. There have been a number of fines issued for illegal dumping and littering;
- articles regarding waste management and encouraging recycling have been included in the monthly newsletters distributed to tenants and operators at the Airport;
- a Waste Audit of BAL facilities, including the Management Centre and Grounds Compound, was conducted and a Paper and Cardboard Recycling Program for BAL facilities was established; and
- BAL undertook a review of tenants' waste generation and concluded that the volume of most waste streams generated by the Airport companies was insufficient to warrant in-house recycling programs.

4.7.3 Objectives, Targets and Management Measures

Table 4.7 contains the objectives, targets and proposed measures that will be implemented to prevent, control or reduce the impacts of waste generated from operations at the Airport and/or stored at the Airport.

Table 4.7
Waste Management Objectives, Targets and Management Measures

Objectives:

1. Comply with the principals of the waste management hierarchy of avoid, reuse, recycle and disposal, where practicable.
2. Have regard to State and Commonwealth regulatory guidelines in relation to waste management.

Targets:

1. Review options for waste reduction, reuse and recycling and set targets where practicable.
2. Comply with the Protection of the Environment Operations Act 1997 (NSW) and the Protection of the Environment Operations (Waste) Regulation 1999 (NSW) with respect to waste management, particularly hazardous, industrial and liquid wastes.

Actions:

BAL will:

1. undertake annual environmental audits of Tier 1 and selected Tier 2 tenants to assess compliance with NSW waste legislation and the principals of the waste hierarchy (ongoing);
2. consider waste management options in the design and construction of new developments at the Airport (ongoing);
3. continue to encourage tenants, through correspondence, environmental audits and awareness programs to reduce, reuse and recycle their waste (ongoing);
4. continue litter inspections through Airport grounds (ongoing); and
5. continue working with the RID Squad to minimise the frequency of illegal dumping at the Airport (ongoing).

The objectives in the 2000 AES have been consolidated and updated in this AES to make reference to regulatory guidelines in relation to waste management. Similarly the targets have been consolidated and revised in this AES to reflect regulatory requirements.

4.8 Resource Use

4.8.1 Environmental Issues

Resource use is a source of environmental impacts at the Airport and is addressed in this section of the AES.

The main resources used at the Airport comprise energy (electrical and fuel) and water. The ways these resources are used include:

- heating and lighting;
- air conditioning;
- industrial processes;
- public and private road transport; and
- aircraft activity.

BAL will continue to focus on addressing greenhouse gases from the first four sources identified above – all of which generate greenhouse gases due to energy and fuel consumption.

The use of electrical energy has an impact on the generation of greenhouse gases (carbon dioxide in particular) through the burning of fossil fuels in the power generation process. Reductions in the power needs of the Airport or inefficient or excessive energy use will, in a small way, help reduce the greenhouse gas effect.

Proponents of new developments will be encouraged to consider energy efficiency and water efficiency re-use options in future development proposals, which will be considered by BAL when reviewing DAs.

DEUS will be approached to offer assistance and advice, as permitted by the Sustainable Energy Development Act 1995, in reducing greenhouse gas emissions focusing on energy efficiency. DEUS is a NSW Government department, with a mission to reduce the level of greenhouse gas emissions in NSW by investing in the commercialisation and use of sustainable energy technologies.

BAL will investigate the use of alternative fuels in the BAL vehicle fleet.

The BAL fleet is only small (approximately 10 vehicles), and while the conversion of the fleet to alternative fuel sources would only make a small contribution to improvements in local air quality or greenhouse gas emissions, any conversion would be used to show-case opportunities to other business vehicle fleets on and off the Airport.

The storage of stormwater run-off for future re-use as a source of non-potable water will continue to be considered. There are large expanses of grass, small gardens, and a golf course and playing fields adjacent to the airport. Irrigation of these areas may in the future become practical and profitable with the growing demand for and depletion of Sydney's existing town water resources.

4.8.2 Environmental Achievements

Important environmental achievements in relation to resource use issues during the period of the 2000 AES were:

- incorporating additional insulation to reduce energy consumption from heating and cooling into a major building refurbishment;
- engaging in dialogue with Sydney Water Corporation and energy generators/distributors to identify future opportunities for using land and roof areas at the Airport for water harvesting or power generation;
- joining the Green Building Council of Australia (GBCA). In June 2003, Bankstown Airport became the first airport in Australia to join the GBCA. This membership raises the profile of BAL in the property industry and reinforces BAL's commitment to sustainable development at the Airport. The membership also provides access to sustainable design resources and keeps us abreast of emerging technologies and initiatives. GBCA has developed a GreenStar rating tool, which rates buildings for their sustainability and resource efficiency. It is BAL's intention that sustainability be a feature of future developments at all airports and the Green Star rating tool be adopted in the design phase. Tenants are also being encouraged to include water harvesting and energy efficiency design in new developments at the DA phase;
- installing a BAL funded 20,000 litre rainwater tank into the Bunnings Warehouse development, for irrigation of the store nursery to showcase to other tenants. It is estimated that this tank can supply about 500,000 litres of water per year to Bunnings that would otherwise have come from Sydney's main water supply;
- signing up to Sydney Water's 'Every Drop Counts' program in 2003 to explore opportunities for water savings and efficiencies; and
- receiving $15,600 in funding from the former Sustainable Energy Development Authority for a feasibility study for co-generation to reduce greenhouse emissions as part of a new industrial project being proposed at Bankstown Airport in 2002/2003. Although BAL was successful in receiving funding, the study did not proceed because the proposed project was cancelled.

In addition, the largest single consumer of water at the Airport is Hawker de Havilland. Hawker de Havilland has joined Sydney Water's 'Every Drop Counts' program, which has achieved significant savings in water usage at the facility.

4.8.3 Objectives, Targets and Management Measures

Table 4.8 contains the objectives, targets and proposed measures that will be implemented to prevent, control or reduce the impacts of resource use associated with operations at the Airport.

Table 4.8
Resource Use Management Objectives, Targets and Management Measures

Objectives:
1. Conserve natural resources through efficient use of energy, water and other materials.
2. Incorporate where practicable the principals of ecologically sustainable development in future development of the Airport.
3. Convert waste to a resource where practicable.
Targets:
1. Identify opportunities to reduce consumption of water and energy at the Airport and set targets for reduction.
2. Identify options for re-use of water and waste as a substitute for new resources where practicable.
Actions:
BAL will:
1. develop sustainability guidelines for development at the Airport (within 2 years);
2. consider water harvesting on new developments (ongoing);

3. consider water re-use options for greywater in new developments (ongoing);
4. consider energy conservation in design of future developments (ongoing);
5. review co-generation opportunities (within 2 years);
6. consider renewable energy options for power generation on new projects where practicable (ongoing);
7. investigate the use of alternative fuels in BAL's vehicle fleet (within 5 years); and
8. approach DEUS to seek assistance and advice, as permitted by the Sustainable Energy Development Act 1995, in reducing greenhouse gas emissions focusing on energy efficiency (within 2 years).

An additional objective and target, beyond those contained in the 2000 AES, has been included in this AES to address re-use of waste where practicable.

4.9 Social and Community

4.9.1 Environmental Issues

BAL is committed to good Airport neighbour relationships and engagement with the local community on a number of issues, including the environment. BAL has established a BACCF as means of facilitating communication between the Airport and the community. BAL also issues quarterly community newsletters and an Annual Public Environment Report to inform the community of environmental issues at the Airport.

4.9.2 Environmental Achievements

The important environmental achievements in relation to social and community issues during the period of the 2000 AES were:

- establishment of the BACCF in May 2004;
- sponsorship of an annual environmental excellence award for local schools; and
- preparation and distribution of Annual Public Environment Reports, quarterly community newsletters, and monthly tenant newsletters which include environmental issues.

4.9.3 Objectives, Targets and Management Measures

Table 4.9 contains the objectives, targets and proposed measures that will be implemented to prevent, control or reduce the impacts of operations at the Airport on the community.

Table 4.9
Community Impact Management Objectives, Targets and Management Measures

Objectives:

1. Act as a good neighbour and undertake reasonable and practicable actions to prevent or minimise impacts from the Airport.
2. Be open and frank with stakeholders and the community regarding Airport operations.
3. Maintain a consultative network that conveys Airport information to BAL's stakeholders and the community.
4. Be, and be perceived as, responsible managers of environmental issues.

Targets:

1. Production of an Annual Public Environment Report for the community.
2. Production of quarterly community newsletters.
3. Biannual meetings of the BACCF.

Actions:

BAL will:

1. produce an Annual Public Environment Report for the community;
2. produce and distribute quarterly community newsletters to a minimum 15000 households;
3. organise meetings of the BACCF at least half-yearly;
4. establish an Annual Environmental Excellence Award for tenants (within 2 years);
5. continue the Annual Environmental Excellence Award for local schools;
6. produce and circulate the monthly tenant Newsletter;

7. facilitate, under an agreement with Bankstown City Council, the management of the bushland adjacent to Deverall Park as a native habitat conservation zone, with interpretive walks to be used for environmental education by the community (within 5 years);
8. provide public recreation areas under lease to Bankstown City Council for use by the community as detailed in the MP; and
9. continue the provision of public access to Henry Lawson Drive via internal roadways.

The objectives and targets in the 2000 AES have been revised in this AES to incorporate progress since the approval of the 2000 AES.