

> Environmental Management Issues

Camden Airport
Airport Environment Strategy
2005



> Environmental Management Issues

This chapter deals with:

- identification of sources of environmental impact associated with 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 CAL 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 regulatory requirements to be addressed in an AES. Notwithstanding this requirement, any development identified in the MP on flood liable land will be the subject of the development assessment process. This process includes considering the guiding principles contained within relevant Flood Management DCPs adopted by Camden Council and the NSW Floodplain Management Manual. 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. CAL 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 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 Camden Airport contribute significantly less than this and so are a very small contributor to the total emissions into the Sydney airshed. Most of the 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 the Camden Airport was undertaken 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 are 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.

Since preparation of the 2000 AES, the National Pollutant Inventory (NPI) has been established by the 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. Two of Camden Airports tenants, BP Australia Limited (Air BP Camden) and The Shell Company of Australia Ltd (Shell Camden Airport Depot), have submitted NPI reports.

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

- bulk petroleum fuel storage and refuelling activities;
- point sources including aircraft maintenance activities;
- vehicle traffic to, from and on the Airport;
- aircraft engine ground runs; and
- dust, including possible asbestos fibres, generated during construction or building maintenance activities.

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 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 compliance with the Airports Act 1996 are progressively reviewed by CAL during environmental audits.

Emissions generated from vehicle traffic to, from and on Camden Airport are not expected to be significant, as Camden Airport is not used for regular passenger services.

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:

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

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:

CAL will:

1. continue annual environmental audits 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. consider air quality requirements and options for minimising emissions of air pollutants in the development assessment and approval process at the Airport (including ozone depleting substances) (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 (ongoing);
5. promote and encourage the use of alternative fuels and other measures to reduce emissions of air pollutants at the Airport (ongoing); and

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6. maintain the asbestos register and implement an asbestos management plan (ongoing).
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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 CAL 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 Airport is located adjacent to the Nepean River. Rain that falls on the Airport is concentrated and collected through a system of pipelines, box culverts and open drains which ultimately discharge into Nepean River via points on the Airport boundary.

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);
- aircraft refuelling, washing and maintenance;
- construction and maintenance activities;
- bulk liquids storage; and
- vehicle traffic on the Airport.

There are three fuel depots at the Airport, which are operated by tenants. All of these facilities are small and do not include mobile refuelling tankers. In-ground tanks and Bowsers are located adjacent to the aprons, which allows a hose to be extended from the Bowser to the refuelling point on the aircraft. There are no bunds or rainwater collection systems incorporated into any of the facilities to contain spillage or contaminated run-off. One tenant operates a mobile tanker containing 4,000 litres of Avgas.

CAL will liaise with DIPNR as required to ensure environmental integrity of this catchment area.

Groundwater

There is no known contaminated groundwater at Camden Airport. However, the following potential sources of groundwater pollution have been identified and addressed by this AES:

- leakage from underground fuel tanks (no leaks are known to have occurred at the Airport);
- spillage of fuels and chemicals;
- chemical use (such as pesticides/herbicides); and
- historic activities, such as landfilling.

The risk of groundwater contamination is managed through investigating and monitoring the potential sources of contamination and modification of work practices where required to minimise the risk.

Wastewater

CAL, like many business operations, generates some wastewater. 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.

Contaminated wastewater is either discharged to septic tanks on the site 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:

- the stormwater monitoring program for Camden Airport was reviewed and a risk assessment conducted to assess the priority surface water catchments and issues;
- stormwater monitoring was undertaken;
- 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;

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- annual refresher training for incident reporting and spill management was held for the Airport's Duty Operations Officers and Grounds Staff; and
- 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.

Targets:

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

Actions:

CAL 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;

- 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; 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); and

4. continue to liaise with DIPNR as required to ensure environmental integrity of this catchment area (ongoing).

4.3 Soil Quality

4.3.1 Environmental Issues

Identification of Contaminated Sites

Since the Airport was established, it has housed various processes and activities that have been identified as potential sources of soil contamination (eg. waste dumping, refuelling and light aircraft maintenance). One known area of soil contamination associated with waste dumping has been identified at the Airport. In addition, minor surface contamination has been noted from time to time adjacent to tenant's facilities and is usually associated with maintenance activities and the storage of used waste oil awaiting recycling.

Since 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.

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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:

- three high risk sites, comprising bulk fuel storage facilities, which were under review; and
- one low risk 'site', comprising asbestos in buildings.

Contaminated Site Management

CAL 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 AEOs. 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 CAL 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 CAL 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 CAL 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.

The Action Plan of the Hawkesbury-Nepean Environmental Planning Strategy 1997 has recommended that identification and mapping of the location of acid sulphate soils and potential acid sulphate soils before any change in land use is required.

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 DAs 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;
- implementation of a 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;
- a Phase 1 Contaminated Site Investigation was undertaken of the Airport;
- an assessment of potential contamination associated with a small historical landfill on the site and no significant contamination was identified;
- a review of diesel storage compliance was conducted;
- integrity testing was undertaken of some of the underground fuel storage tanks at the site; and
- Tier 2 and 3 tenant environmental audits assessed work and storage practices resulting in identification of potential soil contamination issues.

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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. Minimise the potential health and ecological impacts associated with contaminated soil.
3. Comply with the requirements of the Airports Act 1996 and the Airports (Environment Protection) Regulations 1997.

Actions:

CAL will:

1. continue to develop and improve the Environmental Site Register (ongoing);
2. update the Site Contamination Register as required (ongoing);
3. consider the risk of soil pollution and potential presence of acid sulphate soils 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 CAL policy regarding, new fuel storage facilities tank installations (ongoing);
 7. conduct annual environmental audits of Tier 1 tenants and selected Tier 2 tenants to assess compliance with the 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).
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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 by this AES:

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

Ground-based noise criteria are provided in Schedule 4 of 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.

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A copy of these rules has been provided to tenants. The engine ground running rules are reviewed by CAL 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 CAL 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 16). The modelling was undertaken to determine the Australian Noise Exposure Forecasts (ANEFs), a requirement of the Airport Master Plan, which are used to assist land-use planning.

In addition to the ANEFs, CAL 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 already in place at Camden Airport. CAL supports these mitigation strategies. These include:

- restriction of circuit training operations (touch and go movements) to between 6:00 am and 11:00 pm Monday through Friday, and 6:00 am and 8:00 pm Saturday and Sunday;
- the utilisation of the 06 direction for noise abatement;
- aircraft operating in the 24 and 28 directions are required to fly right hand circuits; and
- the tracking of aircraft and helicopters over rural rather than residential land.

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, CAL's investigation results, action and the response to the complainant;
- liaison with tenants undertaking aircraft maintenance operations regarding ground running activities;
- the DA Statement of Environmental Effects (SEE) requires consideration of noise and vibration emissions, and preparation of a Noise and Vibration Control Plan, as appropriate, for all DAs; and
- CAL has adopted a number of management actions to reduce and monitor the impacts of Airport ground-based noise on neighbouring residents, including the following:
 - designated run-up areas have been made and all tenants are aware of these areas; and
 - maintenance run-ups are limited 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 in managing aircraft noise.

Targets:

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

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Actions:

CAL will:

Ground-based noise

1. require all developments to address noise and vibration impacts during development planning (ongoing);
2. conduct annual environmental audits of Tier 1 tenants and selected Tier 2 tenants to assess compliance with the Airports (Environment Protection) Regulations 1997 (ongoing); and
3. maintain the Noise Complaint Register (ongoing).

Aircraft noise

4. update and report aircraft noise modelling every 5 years through the Master Plan process (within 5 years);
 5. support measures by AirServices Australia to manage aircraft noise impacts (ongoing); and
 6. facilitate discussions on aircraft traffic with the Airport community through Camden Airport Community (CAPCOM) (within 5 years).
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The Bio-diversity Group of Environment Australia advised in 2000, through the consultation process, that the River Flat Forest has been classified as an endangered ecological community under the NSW Threatened Species Act 1995. The forest may include five species considered regionally significant and nine species considered vulnerable and inadequately conserved in Western Sydney. In addition, one species, *Eucalyptus benthamii*, which is listed as vulnerable under the Endangered Species Protection Act 1992 and the NSW Threatened Species Act 1995 was last located on the Airport in 1997 but was not observed during the May 1997 floristic survey.

The Management Plan for the Conservation Zone at the Airport identified 5 plant species considered “regionally significant” and 13 species “vulnerable” in Western Sydney.

These woodland and forests are considered by CAL to comprise environmentally significant within the meaning of the Airports (Environment Protection) Regulations 1997 areas (see Section 2.6.). CAL will aim to conserve and protect these areas. Management objectives and action plans relating to flora species and vegetation communities are provided in Section 4.5.3.

4.5 Flora and Fauna

4.5.1 Environmental Issues

Flora

Camden Airport has largely been cleared of its original, native trees except for a narrow belt of River-flat Forest along the banks of the Nepean River. Part of this remnant vegetation is regrowth following several years of sand mining within this area. Severe disturbance to trees, undergrowth and the soil has occurred where sand mining took place.

A flora survey was carried out in May 1997 and descriptions of the flora are sourced from that survey. The River Flat Forest consists of mature trees up to 20 metres in height providing a canopy cover of 40 to 60 per cent with an understorey of shrubs. The trees are dominated with River Peppermint, Blue Box, occasional Forest Red Gum and Ribbon Gum changing to casuarina species closer to the Nepean River. The shrub layer includes species of acacia and melaleuca and the ground community includes various types of native grasses. The continuity within natural vegetation communities is restricted to narrow belts adjacent to waterways, highlighting their conservation importance.

Fauna

The disturbance and clearing over the majority of the Airport, which has reduced the vegetative cover (except for grasses) to the river bank and river fringe and garden or parklike plantings within the Airport’s developed areas, has had a significant impact on the fauna of the Airport, which contains few native mammal species.

The River Flat Forest provides faunal habitat in the form of hollow tree limbs and trunks, a dense shrub layers, grass layers and aquatic habitat formed by drainage lines. These habitats favour smaller birds and ground dwelling mammals. A range of common birds, mammals, marsupials, reptiles and amphibians has been identified on the site, and other species may be present.

The Habitat Protection Plan No.3 of the Hawkesbury - Nepean River System prepared by the NSW Fisheries has recommended that native vegetation (including trees, shrubs and grasses) be retained wherever possible, particularly where it is within 50 metres of a water body, wetland, river or stream (as measured from the top of the bank or shore).

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The Camden Residents Action Group and Cobbitty Progress Committee have historically expressed concern over the presence of noxious weeds on the airport and that a habitat was provided for feral animals, particularly rabbits which are a problem to neighbouring properties.

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 while the Threatened Species Conservation Act 1995 (NSW) does not strictly apply to the site as it is Commonwealth land, CAL generally seeks to comply with the Act where appropriate.

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 Management Plan for the Conservation Zone at the Airport was prepared;
- a Registered Property Agreement was completed with the NSW Department of Land and Water Conservation (DLWC, now DIPNR) as part of a broader Council/DIPNR program to improve the health of the Nepean River. The Agreement addresses a woody weed control program and bush regeneration; and
- Greening Australia commenced a woody weed removal and control program for bushland areas at the Airport on behalf of Camden Airport, DLWC and Camden Council.

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

Flora and Fauna Management Objectives, Targets and Management Measures

Objectives:

1. Conserve the River Flat Forest at the Airport.
2. Contribute to the protection of native flora and fauna and their habitat on and around the Airport.

Targets:

1. Comply with 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 River Flat Forest at the Airport. For this reason CAL proposes a target of no net loss of native vegetation coverage in the River Flat Forest.
3. No net increase in the number of bird strike incidents per year.

Actions:

CAL will:

1. Monitor the frequency of bird strike incidents and implement measures to reduce such frequency as necessary (ongoing); and
2. Maintain and comply with the Registered Property Agreement and continue to work with DIPNR, Camden Council and Greening Australia to improve the health of the Nepean River (ongoing).

The 2000 AES contained an objective and a target in relation to sensitive sites as defined in Section 2.8 of this AES. As the Airport does not contain any identified sensitive sites, this objective is not contained in this AES.

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.

Impacts on 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.

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Indigenous Heritage

Camden Airport has largely been cleared of its original, native vegetation except for a narrow belt of River-flat Forest adjacent to the Nepean River. Part of this remnant vegetation is regrowth following several years of sand mining within this area. Severe disturbance to trees, undergrowth and the soil has occurred where sand mining took place. Some undisturbed areas of River-flat Forest do occur and these areas particularly have the potential for Aboriginal sites and artifacts to be present. A search of the NSW NPWS Aboriginal Sites Register in 2000 did not identify any known Aboriginal sites within the boundaries of Camden Airport.

No sites of indigenous significance have been identified on, or adjacent to, the Airport.

Areas proposed for future development may be subjected to archaeological assessments as considered appropriate in consultation with the AEO. If during development an item of Aboriginal heritage significance is discovered, work will stop immediately and CAL's Environment Manager will be contacted to arrange further investigation and consultation with the Tharawal Local Aboriginal Land Council as appropriate.

Non-indigenous Cultural Heritage

The Airport site was developed by the Macarthur-Onslow family in the 1930s with the original Airport hangar still in use today. The Airport was used by the RAAF during the Second World War and a number of the hangars used at that time remain on the site.

In 2004, a new Commonwealth heritage management system was introduced through the Environment Protection and Biodiversity Conservation Act 1988, which included the creation of the National Heritage List and the Commonwealth Heritage List. Camden Airport has not been included on either of those lists.

A Heritage Assessment of Camden Airport was undertaken in 2003. A Heritage Management Strategy is being prepared for the Airport. Early indications are that there are some buildings of particular heritage significance which have scope to be conserved. Heritage Management Plans will be developed as part of the Heritage Management Strategy for future developments at the Airport.

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 achievement in relation to heritage issues during the period of the 2000 AES was:

- an assessment of non-indigenous heritage was undertaken at Camden Airport.

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 and conserve 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.

Actions:

CAL 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); and

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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).
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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 repeated in this AES.

The targets in the 2000 AES have been updated in this AES 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 impacts such as water pollution, air pollution, soil contamination and resource consumption.

No waste is disposed to land on the site.

CAL 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 Camden Council via their regular garbage service. Wastes collected from public areas including the litter bins are disposed of by CAL into a skip bin located in the CAL works compound.

There is no centralised recycling system and recycling initiatives are left to individual tenants due to the low levels of waste generated at the airport.

4.7.2 Environmental Achievements

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

- articles regarding waste management and encouraging recycling have been included in the monthly newsletters distributed to tenants and operators at the Airport; and
- CAL undertook a preliminary review of tenants' waste generation at the airport and concluded that the current volumes of most waste streams 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.
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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 and the Protection of the Environment Operations (Waste) Regulation 1996 with respect to waste management, particularly hazardous, industrial and liquid wastes.
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Actions:

CAL will:

1. undertake an annual environmental audit 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);

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3. encourage tenants, through correspondence, environmental audits and awareness programs to reduce, reuse and recycle their waste where practicable (ongoing); and
 4. continue litter inspections through Airport grounds (ongoing).
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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.

CAL 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 in 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 CAL 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 state government authority which has a mission to reduce the level of greenhouse gas emissions in NSW by investing in the commercialisation and use of sustainable energy technologies.

The CAL fleet is only small (approximately 2 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 has been considered but is not considered appropriate given the location of the Airport with respect to the Nepean River.

4.8.2 Environmental Achievements

One environmental achievement at the Airport was in relation to water harvesting. The Air Cadets, upon the recommendation of CAL, installed two rain-water tanks as part of the renovations of the Air Cadets accommodation quarters in 2004. This initiative sets a positive example for future developments at the airports.

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.

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3. Convert waste to a resource where practicable (eg: green waste)

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 waste as a substitute for new resources where practicable..

Actions:

CAL 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 on 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 the CAL 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

CAL is committed to good Airport neighbour relationships and engagement with the local community on a number of issues, including the environment. CAL issues 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:

- preparation and distribution of Annual Public Environment Reports; 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.

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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 CAL's stakeholders and the community.
4. Be, and be perceived as, responsible managers of environmental issues.

Targets:

1. Produce an Annual Public Environment Report for the community.
2. Establish an annual environmental excellence award for tenants.

Actions:

CAL will:

1. produce an Annual Public Environment Report for the community;
 2. produce and circulate a monthly tenant Newsletter; and
 3. establish an annual environmental excellence award for tenants.
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The objectives and targets in the 2000 AES have been revised in this AES to incorporate progress since the approval of the 2000 AES.