



Environmental Policy 2006



EXECUTIVE SUMMARY

Jersey Airport is one of the Island's most important assets. It is a key contributor to Jersey's economy supporting the finance industry and bringing massive economic benefits to the Island with its many air links to the United Kingdom, other British Islands and destinations in Europe. The Airport provides invaluable business and tourism links for Jersey which would be very limited without air travel.

At Jersey Airport we look to meet the needs of the Island for air travel and transport while minimising the impacts on the environment.

This policy is presented as ongoing evidence of our commitment to the environment where we continually strive to improve our environmental performance. At the Airport we actively identify and monitor the impacts we have on the environment, working in unison with the identified environmental needs of the Island. This is achieved by employing methods and standards that meet and often exceed the demands of local environmental laws.

This document details all the environmental issues we believe directly affect us in our daily operations. It includes the measures we have taken, or will take in the future, to protect the environment in and around the Airport.

Julian Green
Airport Director
June 2006

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GLOSSARY

BOD	Biochemical Oxygen Demand (BOD) – Is used to determine the pollution strength of wastewaters and the quality of receiving waters. It is a measure of the oxygen required for the biochemical degradation of organic matter.
Chapter 2 Aircraft	Older, noisier aircrafts which include BAC1-11, Boeing 727, and Boeing 737-200 (many now equipped with hush kits).
De-icers	Chemicals products used to prevent ice from building up on aircraft and to remove ice from the runway, including Kilfrost ABC, which is a glycol product and Clearway 3, which is composed primarily of potassium acetate.
Evaporative Cell	A cell that allows the water collected from the Fire Training Ground (FTG) to evaporate, while leaving any pollutants confined within the cell.
First Flush	Compounds, such as de-icers, hydrocarbons and metals build up on runways, aprons, taxiways and stands during dry spells before the rain. The first flow of water into the stormwater drains after the rain, with the potential to contain such compounds is termed the <i>First Flush</i> .
Greywater	Wastewater that can be stored and reused for a limited range of purposes. Greywater is distinct from wastewater that has been contaminated with sewage, which is known as foul water. For more information visit http://www.ciria.org/suds .
Hydrocarbons	Hydrocarbons are the simplest organic compounds. Containing only carbon and hydrogen, they can be straight chained, branched chain or cyclic molecules. Hydrocarbons are found in those products derived from petroleum such as petrol, diesel fuel and gas supplies.
Terrazzo Floor	A floor made primarily of hardwearing materials, such as marble, that is designed to last for up to 100 years.
Water Resources	Water Resources in Jersey include groundwater, surface water and inland waters. There is a Law in Jersey to protect water resources from pollution (Water Pollution (Jersey) Law 2000). For more information visit http://www.env.gov.je .

INTRODUCTION



Demand

Jersey is the largest and southernmost of the six Channel Islands. Jersey Airport spans an area of approximately 135 hectares and is located in St. Peter in the west of the Island. The Airport serves the whole Island, is relied on heavily for many of the services and goods available in Jersey and is vital for business links and tourism. In past years more and more people have used the Airport, which has therefore grown with this increasing demand. In 2004 alone Jersey Airport had 1,543,611 passengers and processed 629,005 pieces of hold luggage, 1,458,114 pieces of hand luggage and 6,000 tonnes of cargo. The Airport now offers direct connections to over 45 destinations, satisfying the increased demand for direct flights.

Impact on the Environment

As the Airport has grown with increased demand, the impacts on the environment have intensified. A larger site with more people increases the risk of litter, contamination, consumption and waste. This effect on the environment has to be continually assessed. An Environmental Impact Assessment (EIA) is completed for proposed developments at the airport and a monitoring scheme is implemented where required.



The main environmental issue that affects this Airport is its water management system. A huge investment has been made to improve drainage and to minimise the impact of any possible pollutants originating from the Airport. Although this is fundamental, this policy also details other issues relating to the environment such as energy consumption, which is an important environmental issue at the Airport.

Future Plans

Plans exist for developments at the Airport over the next five years including:

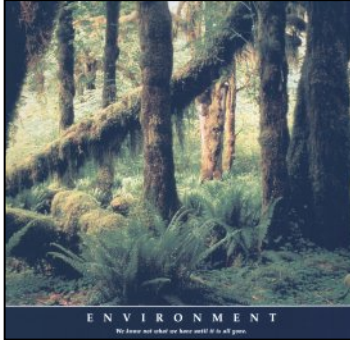
- Re-housing of the air traffic control and the electronics department from the existing energy inefficient, asbestos clad buildings into a central operations building and Air Traffic Control (ATC) tower.
- Further drainage systems and improvements to the existing drainage sites.
- Improved noise control and with the provision of facilities to allow Fixed Ground Power.
- Apron and runway civil engineering works, which include environmental protection works.

This environmental policy details the initiatives and developments currently underway. It sets out our policies with regard to water, noise, waste, air quality, energy, ecology, emergency procedures and future improvements.

For further explanation of terms found in this document in **bold**, please refer to the glossary.

OVERVIEW OF ENVIRONMENTAL NEEDS

Why do we need to be environmentally conscious?

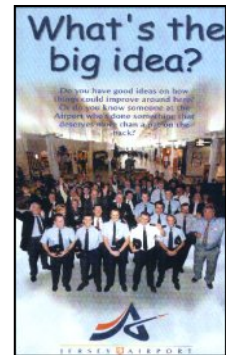


The world in which we live in is one of increasing development, use of resources, industrialisation, urbanisation and intensification of agriculture. All ecosystems, including human communities, have thresholds of tolerance for pollution and disturbance. Therefore we must identify the environmental impacts of our activities and enforce measures to reduce such impacts so that we do not adversely affect our environment.

The threat of diminishing resources creates the need for careful use of natural reserves. Non-renewable sources such as coal, gas and oil must all be used cautiously.

Who needs to be environmentally friendly?

We are all responsible for the protection of our environment and must all be vigilant to ensure the sustainability of these resources. At Jersey Airport we promote environmental awareness and strive to encourage staff and customers to make suggestions for improvements. This is done through our monthly 'What's the big idea?' scheme or directly from the public.



Green Day: Gerard Le Claire Environmental Trust

Green Day takes place on the last Friday in September each year. The main purpose of Green Day is to try and get people to think about using an alternative form of transport for one day. Green Day is one of Gerard Le Claire Environmental Trusts key fund-raising initiatives for the year, which enables the Trust to support local environmental projects throughout the rest of the year. The Airport supports the policies and the practices that the Trust advances to sustain the environmental riches of the Island and the planet for the benefit of this and future generations. On Green Day in 2005 the Airport got involved with the local community and held the Airport Runway Cycle to raise funds for the Trust. <http://www.gerardleclairertrust.org>.



[Gerard Le Claire Environmental Trust: Airport Runway Cycle 2005](#)

What does Jersey Airport do to be environmentally friendly?

We have created this document as a testament to how we believe we affect the environment and the measures we are taking to safeguard the Airport's surrounding environment. This policy is presented as ongoing evidence of our commitment to meet or exceed legal requirements, preventing pollution and continually improving environmental performance. It has been written with reference to:

- States of Jersey (1995) 2000 and Beyond, Strategic Policy Review.
- Airport Operators' Association (AOA) (2001) Environmental Guidance Manual for Airports (www.aoa.org.uk).
- States of Jersey: Planning and Environment Committee (2002) Jersey Island Plan. (<http://www.planning.gov.je>).
- States of Jersey: Environment Department (2004) An Environmental Monitoring Strategy for Jersey (http://www.env.gov.je/ems_summary.asp).
- States of Jersey (2005) The State of Jersey: A report on the condition of Jersey's environment.
- States of Jersey (2005) Solid Waste Strategy: Changing the way we look at waste.

This Environmental Policy integrates the Drainage Strategy into its strategic view of environmental management of its operations. Together these two documents outline those measures that enable the Airport to meet the development policies contained within the Island Plan. Of particular relevance to the proposals contained within the Drainage Strategy are the following States' policies:

- Policy G1: Sustainable Development.
- Policy G3: Quality of Design.
- Policy G5: Environmental Impact Assessments.



At the Airport we actively identify and continually monitor the impacts we have on the environment. We take responsibility for the impacts we cause and we are dedicated to continue minimising environmental pollution in all our activities at the Airport. As well as direct effects the Airport has on the environment, we recognise that we can influence services we employ from other sources.

At Jersey Airport it is essential that we are working in unison with the environmental needs of the Island. Therefore we have adopted those Environmental Objectives that have been produced by the States of Jersey forming part of '2000 and beyond, Strategic Policy Review' including the following:

- To ensure that the development and management of natural resources does not limit choices in the future.
- To integrate pollution control and waste minimisation to prevent environmental deterioration.
- To reduce consumption of non-renewable energy.
- To reduce the detrimental impact of traffic on people's lives.

- To avoid over-exploitation/consumption of the Island's mineral and water resources.
- To conserve and protect the marine environment.
- To protect the Island's natural ecosystems and conserve the associated flora and fauna.
- To limit the impact of noise and other nuisances.
- To ensure compliance with international commitments.
- To raise levels of environmental awareness and responsibility.

Source: <http://www.environment.gov.je/policy.asp>.

WATER

Jersey is an Island where the protection of the Islands **water resources** and environs are essential duties for Jersey Airport. Furthermore, there is an obligation on the Airport to take action to minimise potential pollution under the Water Pollution (Jersey) Law 2000, regulated by the Environment and Public Services Department.



Drainage Strategy

There are many factors contributing to possible water pollution risks of an airport and we consider this the most important issue to confront. In 2002, Jersey Airport published a Drainage Strategy outlining a set of proposals



for managing surface water runoff generated from the airfield operations. The document established the pollution risks associated with the eight catchments within the Airport boundaries reflecting the environmental sensitivity of the receiving ground and surface waters. This process enabled the Strategy to evolve a set of options and proposals for improvements to the surface water management systems, as well as outlining protocols for monitoring performance. Furthermore the Strategy prioritises future works at the airfield and provides a means of integrating the Drainage Strategy with wider Airport policies and aspirations.

Many of the recommendations and procedures outlined in the 2002 Drainage Strategy have been adopted and associated works completed, many of which are briefly detailed in this document. The Airport appointed consultant ecologists Penny Anderson Associates Ltd in 2005 to review the Strategy, focusing on:

- The extent to which the Strategy proposals have been implemented.
- The performance of the improvements made since 2002.
- Re-establish a set of proposals and policies for the future development of the surface water management on the airfield.

The broad conclusions of this review included:

- The management of the surface water runoff systems (such as in-situ spillage containment and oil interception) at the Airport continue to meet the highest standards.
- The future construction of the new South-South West Surface Water Treatment System will protect Les Ormes Valley, which is one of the most environmentally and ecologically sensitive areas around the Airport.
- A new water quality-monitoring scheme will need to be adopted to support drainage management and meet statutory requirements for the quality of surface water discharges.

The implementation of the Drainage Strategy and the potential environmental benefits that derive from the protection and enhancement of surface waters around the airfield support those principles enshrined in the draft Water Resources (Jersey) Law.

Drainage and Water Cleaning Techniques

Jersey Airport covers approximately 135 hectares and is separated into eight discrete catchment areas. Water from each catchment is collected and guided into an outfall and a pollution attenuation facility.

The most common outfall in place is a 'standard' or traditional fuel, oil and sediment interceptor. Here, surface runoff is collected by drainage inlets located around the concrete pavements of the runway, taxiway and aprons, and pipe fed into concrete structures sunk in the ground. The interceptors are split into a series of chambers and use the principle of water and oil separating. Any fuel/oil that exists in the surface runoff will run into the interceptor, where it will float on the surface. The sediment will either fall to the bottom or be captured by the floating fuel/oil mixture. The water leaves the interceptor and returns to the water table through a submerged pipe well below the waterline, while the fuel/oil is trapped ready for collection as required (but at least annually) by specialised technicians.

The following paragraphs will detail those measures which Jersey Airport has taken to safeguard the Island's water resources including:

- Southern Surface Water Treatment System
- Fire Training Ground (FTG)
- Alpha Taxiway Surface Water Treatment System.

Southern Surface Water Treatment System (Pond 303)



**Southern Surface Water Treatment System
(Pond 303)**

During runoff events, water discharges through an oil interception system and then flows through the Southern Surface Water Treatment System, Pond 303. The runoff is further diverted into channels that run along the outer edge of the pond floor and discharge the water via a series of notches across the vegetated floor of the pond to the central collection and discharge channel. All base flow and rising water levels during storm water events are now biologically filtered before discharge. The system enhances biodiversity by providing a botanically rich wet marsh

habitat on the floor of the pond. Changes made in the operational activities within the Southern Catchment have meant that the potential for pollution, particularly related to de-icer products, is low.

Fire Service at Jersey Airport: Fire Training Ground

Jersey Airport maintains an Airport Rescue and Fire Fighting Service (ARFFS) without which the airport could not operate. However, because of the training procedures and resources used by this service there has to be some safeguarding for the environment against exposure to potentially polluting materials.

In the 1970s Jersey ARFFS introduced the use of foam for fire fighting training. A training rig was installed in 1991 which was used for training with equipment that would be used in an emergency situation. Also, practising in an environment in which an emergency would occur (i.e. the Airport) is a requirement as stated by Civil Aviation Publications (CAP) and Fire Service Memoranda.



To investigate the impact of training operations at the FTG on water resources, a series of investigations were carried out in 1998 and 1999. Since 1999, a regular groundwater and surface water-monitoring programme has been implemented. The investigation ascertained that, because the foam employed was not totally biodegradable, persistent residues existed within the groundwater.

In order to address the findings of the investigation, Jersey Airport drew up a remediation and reinstatement scheme for the entire area of the old FTG. A new FTG was designed and constructed and it was opened in September 2004. The following unique design philosophy was adopted in accordance with Jersey's protection of water resources:

Surface runoff from the fire training ground catchment, excluding that generated during training, would be contained and stored beneath the site and managed either through harvesting for use in fire fighting training or through evaporation (evaporative cell).

The fire-training rig has been designed to reflect a wide range of incident scenarios and the ability to use LPG as an alternative to fuel oils, thereby providing environmentally sustainable management of the FTG. In addition the FTG now has a dramatically reduced demand on mains water.



Owing to the success of the new FTG it is now also used as a training facility for the deployment of de-icers. De-icers are not used as part of the exercise; instead water originating from the evaporation cell at the FTG is used, again reducing the demand on mains water.

The design and operation of the new FTG is unique and clearly demonstrates a commitment to sustainable management of water resources. Jersey Airport aims to control any pollutants that may cause water contamination throughout the Airport and will continue to monitor

every aspect of surface and groundwater to ensure the ongoing effectiveness of its drainage system.

Mitigation Measures

The main problem faced by the Airport Rescue and Fire Fighting Service with regard to the environment is the use of foam for fire fighting purposes. As detailed above the new FTG was constructed to prevent persistent residues associated with foams escaping into the environment. In addition the Airport has adopted the use of training foams that have a reduced impact on the environment also reducing costs. Similarly the Airport also uses de-icers (that do not contain the pesticide triazole) and cleaning products that also have reduced impacts on the environment.

Aircraft Wash Down Stand

In order to improve the usage of the drainage systems a dedicated wash area for aircraft has been constructed. This is an area situated on the south apron, which is surrounded by a continuous drain and is attached to a valve that can be directed to either the surface runoff or foul drainage, depending on the nature and status of the runoff. This diversifies the use of the drainage systems and helps to eliminate any possible migration of potential pollution.

Alpha Taxiway Surface Water Treatment System

During the winter at the Airport there is an essential need for the occasional use of **de-icers**, accepted by the Jersey New Waterworks Company. De-icers are used both by the Airport and the airlines to de-ice the aircraft, runway and taxiways. They are used to remove, and further prevent the creation of ice deposits on the runway, without which aircraft could not take-off/land. The potential pollution risk to the ecology, groundwater and surface water by the infrequent use of de-icers is being overcome not only by adopting de-icers that have a reduced impact on the environment, but also by the use of aeration ponds and reedbed system, the first of which was constructed in 2003 in the Eastern Catchment. The system, one of only two of its kind in Europe, encompassed a number of runoff management systems including:



[Alpha Taxiway Reedbeds](#)

- In-situ spillage containment and management.
- Hydrocarbon (bypass) interception.
- Capture and balancing of the first 10mm of a runoff event.
- By-pass of clean storm flows.
- Hydraulic balancing and aeration of the first 10mm of a runoff event.
- The use of reedbed filtration systems to polish the effluent before discharge to surface waters.

In the winter, the aeration pond, with its 1000 m³ capacity, is designed to treat the **first flush** from the aprons, taxiways and stands at the Airport. This environment encourages the natural degradation of the constituents of the incoming waters. This treatment of the first flush can reduce the **BOD** of the incoming waters by a significant amount. Furthermore, the reedbed facilitates the removal or ‘polishing’ of any residual constituents of those waters directed from the aeration pond.



[Alpha Taxiway Aeration Pond](#)

The capturing and treatment of the **first flush** is a commonly used approach and reedbeds are being widely used throughout the UK as a means of providing a sustainable treatment for potentially polluted surface water runoff.

Additional reedbeds are being introduced into other areas of the Airport. For further information about reedbed technology visit www.reedbed.com, a detailed website about how this form of water drainage safeguards the environment from possible pollutants.

Utilities Management: Water

The Airport has achieved improved water efficiency in the terminal through innovative design and careful management of the terminal building. All future designs at the airport will look to minimise the demand on the Island’s resources as it has done previously. In particular, future designs would look at installing water saving devices including the use of rainwater and **greywater**. The Airport actively supports recycling water, as this was one of the main design criteria for the new FTG.

NOISE

Noise is an issue at all airports and is compounded by the growth of suburban areas around some airports. Although Jersey Airport is not situated near the main town of the Island, it is surrounded by a number of residential areas.

Noise Sources

Noise disturbance from an airport is generated by numerous sources. The aircraft themselves produce a large majority of the noise while in the air, when taxiing, engine testing, taking off and producing reverse thrust upon landing. Furthermore, when aircraft are parked at the arrival/departure gates they run generators to produce power and pre-conditioned air. In addition to the aircraft noise other sources such as traffic, construction and runway cleaning add to the problem. However, there have been substantial reductions in the noise generated by new aircraft.

Traffic

Inevitably, a busy airport creates more bus, taxi and car traffic around the perimeter and beyond from employees, business partners and customers.

Cleaning

Cleaning the runway in the evening is of utmost importance to the safety of aircraft. Twice a week the runway is swept and cleaned to remove any debris that may be hazardous. This is especially true during the winter, when any snow has to be removed to enable aircraft to take-off and land. Obviously this has to be done after the last aircraft has left the runway and this means the task is undertaken between 21.30 and midnight, outside official flying hours.

Minimisation of Noise

Jersey Airport employs a number of measures to minimise the nuisance caused by noise and this is detailed in the following paragraphs.

Strict flight regulations are in place, dictating the official flying hours allowed by any inbound or outbound aircraft. These hours run from 05:30 to 21:30, and permission to operate outside these hours can only be granted by the Airport's Executive Officer or the Airport Director. These hours are generally perceived to be reasonable and so very little upset is caused to the local residents.

In addition to this, noise abatement procedures dictate how an aircraft may be operated in the vicinity of the airfield (i.e. power should be reduced as much as is safely practical). Furthermore in 1999 the Airport banned the operation of **Chapter 2** aircraft, except under certain circumstances such as an emergency and the international

air display, thus eliminating the noisier, more disturbing planes from the equation. This has made way for the quieter, cleaner aircraft engines. Constant descent procedures are in place for all landing aircraft.

Jersey Airport commissioned the Environmental Studies Section of the Department of Operational Research and Analysis (DORA), part of National Air Traffic Services Ltd (NATS), to conduct a study into the noise exposure contours around the Airport. In brief, this study found that the ban of Chapter 2 aircraft in 1999 had significant benefit over noise levels measured in 1997 before the ban. It found that the contour areas were reduced by approximately 45% and that the noise emission levels of commercial aircraft has reduced dramatically, in some cases by up to 10 dB(A). 'Noise zones' around the Airport have been considerably reduced in area; simulation indicates a massive reduction of 42%.



Jersey Airports Major Flight Operators

Fixed Ground Power

The principal complaint received by the Airport in terms of the environment is the noise generated by aircrafts' Auxiliary Power Units (APUs). These are used for power and pre-conditioning air on-board aircraft when they are stationary at a gate. To overcome this, the Airport is installing fixed ground power (FGP) at the gates on the north apron. This will provide the same service for the aircraft but would help to minimise the noise levels and reduce exhaust emissions.



The roads that link the Airport to the rest of the Island are not considered a problem in the area, as they are main roads serving major centres of population. The additional traffic the Airport generates is of little consequence to the overall traffic noise levels in the area. However, roadside banks have been constructed in recent years to limit any potential nuisance, complimented with tree planting to further reduce ground noise from aircraft.

Future Construction Projects

Future construction projects at the Airport are planned with care. Engineers, project managers and contractors pay particular attention to the possible environmental disturbances that may be caused to local areas. Prior to construction work, the Airport will invite the local community to discuss the projects with them; where the meetings indicate general approval, the plans go ahead. The success of past construction projects has been dependant on such communication. It has also meant that during construction work, few complaints have been received.

WASTE

Effective and successful waste management is of utmost importance due to the volumes of people using the Airport in any one year. As the statistics show over 1.5 million people used Jersey Airport in 2004.

Waste Management

Jersey Airport produces approximately 500 tonnes of waste products per year - including paper and foodstuffs - from several areas of the Airport's activities. Waste is minimised, where possible, by:

- Following the waste hierarchy where possible.
- Implementation of life cycle assessments of projects at the design stage.
- Reuse of materials where possible (for construction purposes i.e. topsoil, crushed concrete).
- Recycling of materials where possible.
- Careful purchasing (a document has been produced by Engineering Services at the Airport on *Efficient and Environmentally Friendlier Purchasing* and is in accordance with the States of Jersey Corporate Purchasing Policy).
- Controlled waste management.
- Segregation of combustibles from the waste stream to go to the Islands Energy from Waste Plant.
- Segregation of metals and glass for recycling on the Island.
- Electronic mail for both internal and external communications.
- Encouraging the use of recycled materials in construction specifications.

Where waste is unavoidable, careful and controlled disposal is paramount. Every type of waste has to be dealt with responsibly by the Airport, which is committed to:

- Providing a paper recycling facility: an easily accessible centralised delivery/collection point for the whole Airport.
- Providing an aluminium can recycling scheme, both for passengers using the terminal and the catering services available.
- Recycling any recovered oil/fuel from the interceptors and any other sources of oil, for example from the fire station.
- Selecting products and services that use minimal packaging, thus generating as little waste as possible at the Airport.
- Including a waste management system in any new developments at the Airport where applicable.
- Continually checking the site for any contamination caused by spillage or other such accidents and subsequently carrying out any remedial work that might be necessary.
- Constantly assessing the facilities, products and services in place at the Airport and reviewing their impact and effectiveness.



- Continually developing the waste management techniques at the Airport in accordance with the progression of waste management practices on the Island (States of Jersey: Planning and Environmental Committee (2002): Jersey Island Plan).

Jersey Airport has introduced these measures to help minimise the overall waste produced and encourage recycling. Furthermore other companies operating at the Airport are encouraged to manage their waste with care. As Jersey works to keep pace with best practice in waste management so too will the Airport. The Airport will be adopting those principles recently published in the States of Jersey Waste Strategy 2005 in the near future (<http://www.gov.je/wastestrategy/index.asp>).

A specific body regulates each of the three main types of waste that occur at the Airport. The foul waste is directed to the mains sewer and is controlled by the Environment and Public Services Department. The Agriculture and Fisheries Department controls the disposal of foodstuffs. Chemical waste is controlled and stored in accordance with the Public Services Department guidelines. The chemical waste produced is carefully managed and stringent waste management procedures are adhered to. Any chemicals, excluding oil and fuel but including batteries and hazardous waste has to be returned to the manufacturers in the UK or disposed of locally in accordance with Waste Legislation.

Where airlines bring chemicals to the Airport they must be:

- Accompanied by a Control of Substances Hazardous to Health Regulations (COSHH) assessment.
- Clearly labelled.
- Adequately and appropriately contained and stored with sufficient preventive measures.

The Airport ensures that where chemicals are brought to the Airport they are managed in accordance with the Airports management procedures.

Where disposal is unavoidable the Airport uses closed skips to remove waste and these skips are regularly transported to Bellozanne for emptying. Using closed skips removes the hazard posed by birds that would, if given the chance, be attracted by the rubbish.

Recycling Scheme

One of the recycling schemes underway at the Airport is the storage and re-use of concrete and topsoil. Concrete that is removed from any site at the Airport is crushed and stockpiled, until the next project requires these materials. The recent excavation of the reedbeds produced large quantities - at least 7,000 tonnes - of mudstone and this was subsequently used as the infill and sub-base material for the Alpha Taxiway project. In turn the concrete from the former taxiway is currently being stored and



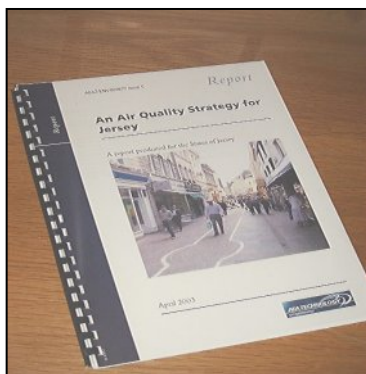
Former Alpha Taxiway

will be used to help complete the engineering works on the apron and runway in 2005 - 2008. The old concrete removed from the apron and runway will then be stored and so on. The use of the reedbed mudstone for the taxiway saved the Airport over £200,000.

Soils are also recycled during Airport projects by using an earth works balance approach. This ensures that no materials are either taken off site or imported onto the site, thus minimising the environmental impact, particularly traffic impact on local roads and on sourcing new materials from other sites on or off the Island.

AIR QUALITY

Preserving air quality is incredibly important and directly affects us all. The Island is fortunate in some respects because there is constant refreshment by offshore winds, which help to rejuvenate the air around Jersey. However, these winds sometimes bring in the pollutants, which Jersey, in turn, has to counteract. With all this in mind Jersey Airport views this matter very seriously and strives to minimise air pollution, thus maintaining clean, fresh air for us all.



Air Quality in Jersey

Currently there is no air pollution legislation in Jersey; nevertheless the States of Jersey is committed to adopting European Environmental Legislation. Jersey is a signatory to:

- The 1991 Geneva Protocol on Control of Emissions of Volatile Organic Compounds or their Transboundary Fluxes.
- The 1998 Sofia Protocol on the Control of NO_x and their Transboundary Fluxes.

Jersey is also working towards extension of:

- The 1998 Aarhus Protocol that targets heavy metals aiming to cut emission from industry, combustion processes and waste incineration.
- The 1999 Gothenburg Protocol to abate acidification, eutrophication and ground-level ozone that sets emissions for sulphur, NO_x, VOCs and ammonia.

In addition to this Jersey has an obligation under the United Nations Framework Convention on Climate Change (UNFCCC), which includes the reduction of targets for greenhouse gases (GHGs) in their international commitments.

In Jersey the primary pollutant is Nitrogen Dioxide (NO₂) (which is formed when nitrogen oxide comes into contact with the atmosphere), resulting mainly from transport and industrial emissions. While 40% comes from road transport, the Airport makes some contribution to the total. These figures derive from the work of the Air Quality Sub-group formed in 1999 by the Planning and Environment's Monitoring Group (for further information please visit www.health.gov.je). This group of qualified people from agencies including the Environment and Public Services Department and the Airport, produced an air strategy for Jersey as a whole. The group took samples of air quality at various places around the Island, including Jersey Airport.

Air Quality at the Airport

There are a number of potential sources of air pollutants at the Airport. The main sources are aircraft when they are taking off and landing, during taxiing and engine testing. The use of vehicles around the Airport, airside and

landslide, also contributes to the level of pollutants at the Airport. The only other potentially significant emission sources from the Airport, is from the central heating units, the heating vents, power plants and cooking fumes.

Improving Air Quality

Jersey Airport is striving to improve air quality in and around the Airport all the time. In recent years aircraft have been manufactured with cleaner engines and older aircraft have been withdrawn from service to help minimise pollution. These improvements will continue as newer and more advanced engines are produced and begin to replace the older, less efficient engines. In addition the new FTG has been designed to provide the ability to use LPG as an alternative to fuel oils thereby reducing the emissions to air during fire training exercises.

Future developments at the Airport include the installation of Fixed Ground Power (FGPs) at some of the aircraft parking stands; these are initially envisaged at the north apron. The use of FGPs will reduce exhaust emissions that would otherwise be released if ground power units were used.

Public Transport

Connex, the bus company, provides a regular and reliable Airport service to and from St Helier. The Airport supports this service and we will strive to increase the use of buses by our customers through a campaign based at the Airport. In addition, the Airport charges customers for the use of the car parking facilities, which not only provides an income for the Airport but also encourages customers to think of alternative methods for travelling to the Airport (hopefully by using public transport). The Airport can also be accessed via a cycle route. We actively encourage our customers and employees to take alternative methods of transport when we support Green Day (Gerard Le Claire Environmental Trust), which raises environmental awareness.

Airport Vehicles

The Airport has a fleet of its own vehicles that are used to move in and around the Airport and to monitor and maintain Airport sites. These vehicles are serviced at least twice a year for roadworthiness and emission levels. The idea of converting some of the vehicles to LPG (gas) and the use of electrically powered vehicles was researched recently but was not economically viable. There are also several vehicles used airside by handling agents for the transportation of baggage - tugs and the like. These vehicles are also monitored for roadworthiness and clean exhaust emissions. The Airport has recently reduced the size of the vehicle fleet. All baggage vehicles used at the Airport are electric. This was decided during the construction of the terminal building as a way of preventing fumes and furthering our commitment to the environment.

ENERGY



The Sources of Energy

Energy can be created by several means both renewable, such as solar, tidal and wind, and non-renewable, such as from burning oil and coal. The Airport is committed 'To reduce the consumption of non-renewable energy' as stated in the States of Jersey '2000 and beyond, Strategic Policy Review'.

Energy Consumption

Airport management has always been aware of the high energy consumption at the Airport resulting from the number of passengers using services and the all night security lighting, which has been in place since the 11th September 2001 disaster. Despite this, energy has been used more efficiently in recent years and energy consumption per m³ has reduced significantly. A lot of the energy consumed by the Airport is re-charged to business partners who use this utility. The Airport monitors its energy consumption on a monthly basis.

According to the Airport Operators' Association (AOA) Environmental Guidance Manual for Airports (2001) the principal users of energy at airports include:

- Heating, ventilation and air-conditioning systems
- Lighting
- Hot water systems
- Passenger and baggage handling facilities
- Construction activities
- Aircraft and vehicles
- Machinery
- General office equipment.

Energy Efficiency and Measures to Reduce Consumption

To help minimise this utilisation of energy, the Airport is implementing and encouraging the careful use of power around the Airport. We are fully committed to the reduction of power consumption and this is being achieved by:

- Installing power saving photocopiers and computers.
- Running communication programmes to raise awareness of energy consumption.
- Printing standardised headed paper for all departments to reduce cost and wastage.
- Using low energy lighting throughout the Airport and hangars.
- Fitting automatic sensors for lights. Motion sensors are used to turn lights on when the room is in use and then automatically turn off after a set period of no movement. Photocells are used within the

terminal building, which monitor the natural light and switch on the artificial lights once the natural light begins to fade.

- Carrying out regular Airport vehicle servicing to improve efficiency and save fuel.
- Providing showers so employees are encouraged to cycle to work.
- Encouraging customers to use the bus service and coaches to and from the Airport to save fuel.

The Airport recognises that major improvements in water and energy efficiency can be made by careful and innovated facilities design.

The Terminal Building

In 1997 the terminal building was commissioned; it now houses the departures hall, the offices of several Airport business partners, a restaurant, a bar, several retail outlets and duty free facilities. In addition the terminal building houses a number of Airport departments. This building was designed to ensure we maximised the energy saving potential.



The building was designed and built to the latest building by-laws and in some aspects exceeds these

statutory requirements, to produce an extremely environmentally efficient building. The terminal was carefully designed and includes:

- Better heat loss coefficients (0.39 in the terminal building compared to the 0.45 required).
- Heat regulating sensors.
- Durable **terrazzo** floors.
- Syphonic drainage system on the roof of the building.
- Integral air-conditioning units negating the need for several single units, which would demand much more space.
- Pink cladding made from re-constituted stone to imitate the use of granite in Jersey buildings.

In addition to this the building has large areas of glass windows. These windows offer two major benefits. They allow large amounts of natural light, which minimises the need for artificial lighting within the building. They also provide solar benefits, which help reduce the amount of energy needed to maintain a comfortable temperature within the terminal.

Future Designs

The Airport is committed to evaluating and installing, where possible, energy efficient systems that also meet our business needs. This includes energy efficient electrical systems, low wattage lighting, heat recovery systems and

heat exchangers. This extensive use of heat pumps at the airport over the last 15 years indicates our commitment to this philosophy. We would also always try and use the natural resources available such as natural light. If this is possible then this is best achieved at the concept stage through architectural and engineering design.

The Airport's current business plan addresses the issue of energy consumption and strives to continue to put energy efficient systems into all Airport buildings, reducing the consumption of fuel such as oil, electricity and products that require a high energy input for manufacture.

ECOLOGY, BIRD CONTROL AND LANDSCAPE MANAGEMENT

Jersey is a signatory to the Convention on Biological Diversity, which asks that habitats and species be conserved through the production of species and habitat action plans, forming a baseline for monitoring. The States of Jersey '2000 and beyond, Strategic Policy Review' require that *'We protect the Island's natural ecosystems and conserve their associated flora and fauna'*.



Ecological Issues at the Airport

At Jersey Airport, all potential risks have to be identified and eliminated to protect the travelling public and those that work within its perimeter. The most significant ecological issue is the presence of wildlife in and around the Airport (especially airfields), which can pose significant risk to aircraft. While preserving the landscape and eco-system, the Airport has a duty of care to manage the immediate environment to reduce this risk.

Bird Control

Bird strikes are a serious threat to aviation safety around airports and therefore must be deterred from using the airfield. The Airport has an airfield land management plan which aims to optimise landscape appearance and biodiversity values, whilst minimising bird strike risk, including:

- Grass management: which maintains grass height around the airfield to an optimum 6”.
- Weed control with the use of appropriate herbicides.
- Active bird dispersal methods, a non-ejector 12 bore shotgun (audible blast used for bird scaring).
- A dedicated bird control unit.
- Limitation put on driving on the grass areas.

Jersey Airport is now very proactive in bird dispersal: conducting regular inspections of the Airport site.



Managing Biodiversity

The Airport encourages developing wildlife area away from the operational areas, where appropriate management encourage flora and fauna. In recent years the Airport has adopted two complementary approaches to biodiversity around the airfield. On the one hand systems have been put in place, which protect wildlife from the potential impacts of surface water runoff from the airfield. This has manifested itself in the construction

of water treatment systems, such as for the Alpha Taxiway and new water management schemes like that adopted for the FTG. These approaches ensure that biodiversity within the wider context of the Airport are not compromised. In addition, the Airport has created new habitats around the airfield that enhance biodiversity without generating concerns over air safety. The modifications to Pond 303 (the Southern Surface Water Treatment System), for example, have created a marsh area important for butterflies and dragonflies and the reedbed established as part of the Alpha Taxiway is good for a wide range of invertebrates and small birds. The Airport also monitors the biological quality of the streams around the airfield and the results so far indicate that current operations are not affecting detrimentally these watercourses.

As part of the ongoing water-monitoring programme, additional ecological and chemical studies at the wetlands will commence in the near future.

Landscape

Jersey Airport is situated close to the sandy shores on the western side of the Island and to an important Site of Special Interest (SSI). It has areas of grassland and heathland to the north of the Airport, while to the east and the south it is more built up with a number of major link roads. Preserving the local natural habitat is very important to the Airport and all of the sites around the Airport are managed as carefully as possible to require the least amount of interference, minimising any potential problems and reducing the need for intervention.



Northern Heathland

The grasslands and heathlands to the north of the Airport stretch well beyond Airport property and provide a habitat for many types of wildlife. This catchment of the Airport is deemed low risk and the Environment and Public Services Department has established areas of natural vegetation. The restoration of headland contours at the FTG as part of the remediation works was carried out to screen the FTG and provide an additional area for grassland habitat. During the construction of the new FTG, areas of lichens and moss, unusual in their diversity, were saved and translocated into this northern heathland area and have re-established successfully. Otherwise there has been very little impact in the area. This has all helped to preserve the local natural environment, much frequented by walkers.

EMERGENCY PROCEDURES

Accidents and events can cause an impact on the Environment. The Airport adopts a preventative approach whereby the following techniques are used to minimise impacts on the environment and the subsequent use of emergency procedures including:

- Dedicated incident response team.
- Emergency plans.
- Emergency drills.
- Identification of high-risk areas.
- Environmental Packs and Fuel Spill Containers.
- Regular inspections of above ground tanks and pipework also providing adequate containment.
- Clearly labelled bulk storage tanks.
- Drainage system with shutoff/isolation valves.
- Oil-water interceptors.

Even when such precautionary management approach is adopted some accidents and incidents remain unavoidable.

In recent years the Airport has developed comprehensive water drainage strategies which clearly focus on the environmental impact of spillages reaching ground and surface waters. To counteract any possible pollution an emergency procedure has been drawn up which details the strict procedures that have to be adhered to in the event of this situation developing. Depending on the severity and location of the spill and the prevailing weather conditions, different procedures will apply. However, in all instances releasing spilt products into the drainage system is avoided wherever possible.

Airport Rescue & Fire Fighting Service – Fuel Spillages

Minor spillages can be dealt with using Environmental Packs and or the Fuel Spill Container. The first response to a spillage is to absorb any spilt product using the appropriate mats (contained in the Environmental Packs/Fuel Spill Container). Furthermore the Engineering Services Sweeper machine can be used if required once the majority of the spilt product has been absorbed. Foams may also be applied to the spillage depending on the ignition risk.



Where a major spillage occurs priority actions are taken to contain the spilt product, ensuring that it does not enter the drainage system. The Environmental Packs and Fuel Spill Container are used initially in the same manner as for minor spillages detailed above. In addition the Fuel Company has a trailer fitted with fuel spill

equipment, which is owned by Shell but can be used as required by the Airport. This trailer has a large inflatable pool capable of containing large fuel spills.

Chemical Spillages

The States Fire and Rescue Service (SFRS) who have specialised experience and resources, deal with chemical spillages other than fuels; however, the principle of containing any spillages remains the same as that for fuel detailed above.

Contaminated absorbents used as part of emergency procedures are carefully managed and responsibly disposed of. Minimising the risk of ignition is taken into consideration when selecting of tools and equipment used to manage spillages and the subsequent management of contaminated materials.

FUTURE DEVELOPMENTS

This document has highlighted the current environmental control measures used at Jersey Airport. This section is dedicated to the main future developments at the Airport, which will help to further minimise any adverse impacts on the environment.

Intercept Valves

Water which runs off buildings, aircraft and concreted pavements generally flows into the surface drainage system via interceptors. The introduction of valves to the intercept system creates the ability for the Airport to choose whether or not the surface water runs directly through the interceptor. The benefit of such a system is in the increased control over the Airport's drainage system, which allows the interceptors and pipes to be closed in the event of a pollution incident. This would reduce the overall maintenance time and cost, while still ensuring the surface water is safe and unpolluted.

Reedbeds

A review of the Drainage Strategy in 2005 suggested that a new surface water drainage treatment system is required from the South, South-West Catchment to protect Les Ormes Valley. The proposed drainage option involves the construction of new bypass oil interceptors followed by an aeration-balancing (containment) pond capable of storing the first 10mm of a wash-off event (deemed 'dirty' water) from the South, South-West Catchment. Once the 'dirty' water has been aerated for a prescribed number of days in the containment pond it would be slowly released into a reedbed treatment system to provide final polishing before discharging to Les Ormes Valley. The design and operational principles adopted for this catchment are broadly the same as those used to develop and operate the Alpha Taxiway Runoff Treatment System. The use of oil interception, hydraulic balancing, aeration and reedbed filtration offers a sustainable low-cost package for ensuring that runoff from this catchment does not impose any future constraints on the ecological, nature conservation and amenity value of the Les Ormes Valley.

Operations Building and ATC Tower

With the new central operations building and ATC Tower, the Airport is committed to evaluating and installing, where possible, energy efficient systems that also meet our business needs. This includes energy efficient electrical systems, low wattage lighting, heat recovery systems and heat exchangers. This extensive use of heat pumps at the airport over the last 15 years indicates our commitment to this philosophy. We would also always try and use the natural resources available such as natural light. If this is possible then this is best achieved at the concept stage through architectural and engineering design.

CONTACTS

If there are any enquiries or questions about this Environmental Policy, or any other environmental issue relating to the Airport, please do not hesitate to contact one of our team, who will be happy to answer any query you might have.

Head of Engineering Services	01534 492304	driscoll.s@jerseyairport.com
Deputy Head of Engineering Services	01534 492304	rabet.a@jerseyairport.com
Head of Customer Services	01534 492266	read.s@jerseyairport.com

For any further information about Jersey Airport, please visit our web site at www.jerseyairport.com.