THE 2nd RUNWAY OPENED ON AUGUST 2, 2007!!
As the First International Airport in Japan to meet Global Standards!!
What is the Eco-Island Report?

1. The Eco-Island Report 2007 reports on the environmental preservation initiatives carried out at the airport island in fiscal 2006 (starting April 1, 2006, and ending March 31, 2007) in accordance with the Kansai International Airport Environmental Management Plan (Eco-Island Plan) and in reference to the Environmental Reporting Guideline 2003 (issued by the Ministry of Environment in March 2004). Part of the report also includes information about initiatives for FY 2007.

2. The targeting period of the Eco-Island Plan is FY 2007 in which the second runway opens. By the end of FY 2007, we evaluate the achievement of the plan and, on the basis of the result, devise a new plan [Provisional title] New Kansai International Airport Environmental Management Plan (Eco-Island Plan).

3. We have received expert opinions on the adequacy of our overall approach to the environment ("Third party comments" in this report) in order to improve this report and enhance the environmental preservation initiatives of our company and Kansai International Airport. In addition, a questionnaire is attached to this report so as to receive opinions and comments from readers.

<Report scope>
The report focuses on the activities of Kansai International Airport Co., Ltd. and includes all activities performed by airport island users and contractors, coordinated through the Kansai International Airport Airline Operation Council, as well as by 7 other subsidiaries including the Kansai International Airport Land Development Co., Ltd.

<Data Composition>
Data are arranged in the following composition.

| Data on overall Kansai International Airport |
| Data on facilities/equipments and business activities managed by Kansai International Airport Co., Ltd. |
| Data subject to office environmental management by Kansai International Airport Co., Ltd. |
| Data on other facilities/equipments, business activities, etc. |
| Data on facilities/equipments and business activities not managed by Kansai International Airport Co., Ltd. (Energy consumption by the activities of airport island contractors, etc.) |

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Environmental Preservation at Kansai International Airport

Kansai International Airport’s Strategic Perspective for Surrounding Environment

Project of constructing Kansai International Airport was initiated to cope with increasing demand of air transport and to tackle noise pollution that has arisen around the former inland airport. With a theme of “Constructing an airport which could co-exist and co-prosper with the region without causing any pollution” in our mind, the Airport was constructed 5 kilometers off the Senshu District and opened in September 1994. And after 13 years, on August 2, this year (2007), we have seen the opening of the second runway. Thinking that we owe all such achievements entirely to your kind understanding and support, I would like to take this chance to express my deepest appreciation to you.

As I mentioned, the motivation to develop Kansai International Airport itself was originally derived to protect from noise pollution, an airport’s basic problem. In addition, we have been actively engaged in preservation measures in order to minimize a bad attention to prevent air and water pollution. Those measures include construction of our own sewage treatment center and incineration center for the first time at a Japanese airport in order to process waste water and garbage within airport site. In June 2001, we drew up “Kansai International Airport Environment Management Plan” (nicknamed “Eco-Island Plan”) as a guideline to comprehensively cope with environmental issues of the whole airport island. Under the plan, we have endeavored to make our airport by tackling thirty targeted goals of environmental indices, including energy-saving as a measure against global warming. With completion of the second runway, we firmly resolve once again to establish recycling systems and further promote energy-saving in order to reduce impact on the environment by reducing carbon dioxide emissions as a measure against global warming.

Thus as the first leader among the 21st century model airport, we further pledge to co-exist with environment, and your continuous understanding, cooperation and patronage to our environmentally-friendly airport would be greatly appreciated.

August, 2007

Kansai International Airport’s Measures Taken to Preserve Surrounding Environment

Every year Kansai International Airport officially releases a progress report on conservation measures for the surrounding environment taken under “Kansai International Airport Environmental Management Plan” (nicknamed “Eco-Island Plan”) drawn up in 2001 as a form of “Eco-Island Report”. Among the cases picked up in the Report were our continuous efforts to create an airport without such public nuisances as aircraft noise, with minimum harmful impact on environment thanks to the introduction of low-pollution cars and energy-saving measures, and one that is nature-friendly airport as shown by our introduction of seaweed beds. We have also endeavored to involve local residents and customers by providing opportunities for learning about the environment and environmental information itself.

Consequently we had the honor of receiving the Minister of Economy, Trade and Industry’s Award, at 2006 All Japan Conference of Excellent Cases for Energy-saving. This reward was based on our efforts to develop an “Energy-saving Air-Conditioning Control System” automatically operated together with “Passenger Information System” for the gate lounge area in the Passenger Terminal Building.

Furthermore, in May 2007 we set up a JHFC Japan Hydrogen & Fuel Cell) Kansai Airport Station within our airport island. We will cooperate with a demonstration project of new energy such as hydrogen and fuel cell, aimed at eventual practical use by monitoring performance of hydrogen-engines and fuel cell cycles.

I believe that over the last five years the measures we have taken for the conservation of the environment have steadily produced results. As the current “Eco-Island Plan” is to expire at the end of this fiscal year, we are firmly determined under the next measures to create “an airport which cares for global environment and is convenient to utilize and pleasure to visit”.

August, 2007

Features of Kansai International Airport

- An offshore airport designed to preserve the natural environment
- Japan’s first airport to be operational around-the-clock
- Extensive network of international and domestic routes to make transit extremely easy and fast
- Easy access by railway, limousine bus, and high-speed sea-raft
- Sewage Treatment Center and Incineration Plant to treat the airport island’s waste

Kansai International Airport 2nd Phase plan

The Kansai International Airport’s 2nd phase construction project involves the development of 2nd airport island, adjacent to the 1st airport island, the construction of 4,000m B runway and related facilities. Facilities to be brought into service on August 2, 2007 are limited to those which are essential for takeoff and landing, such as runway and taxiways.

* Facilities development, such as terminal building, parking spots and cargo handling facilities, will proceed on priority and step-by-step basis in accordance with air transport demand and management status.

Outline of “Limited opening facilities in Service”

- Facility for takeoff and landing
  - Runway (Length 4,000m width 60m)
  - Taxiways
    - Parallel Taxiway : 1
    - Perpendicular Taxiways: 4
    - High-speed Exit Taxiways: 6
    - Connecting Taxiways: 1
  - Air Navigation Facilities
    - ILS* Approach Lights, Aviation Weather Service Facilities, Runway and Taxiway Lights, etc.

Outline of Kansai International Airport

- Opening date September 4, 1994
- Location Southeast Osaka Bay, approx. 5km off the coast of Senshu
- Scale
  - Area
    - 1st Airport island: Approx. 510 hectares
    - 2nd Airport island (planned total area): Approx. 545 hectares
  - Runway
    - Runway A (Length 3,500m Width 60m)
    - Runway B (Length 4,000m Width 60m)
  - Airport Access bridge Combined Bridge for road and railway use
  - Length 3.7km

Photograph on April 6, 2007

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Status of Airport use

As for international flight, the number of arrivals and departures in FY 2006 marked record-high 73,860 exceeding the past highest 72,251 recorded in FY 2005. As for domestic flights, they surpassed the previous year’s level due to the reviewing of the use at Osaka Airport (Itami) and subsequent increase in the number of flights. As for the number of international passengers, the number exceeded that of previous fiscal year due to the increased number of flights. The number of the tourists of domestic flights surpassed the previous fiscal year’s result 2 years in a row also due to the increased number of flights.

The volume of the cargo in the international flight registered year-on-year losses throughout the previous fiscal year and thus the volume decreased than that of previous fiscal year. As for domestic flights, they grew over the previous fiscal year’s level sequentially due to the increased number of flights.

As for the topic in 2006, benefitted from largely increased number of international flights especially for the China route, a record-high 726 flights per week at peak time was marked in the winter schedule. Additionally, for 2007 summer schedule, a higher record breaking figure of 776 flights per week was marked.

With the opening of the second runway on August 2, 2007, we expect that the aircraft movements, the number of passengers and cargo volume will greatly increase in the near future.
Overview of Airport Island Contractors

Overview of Airport Island Contractors (As of July 2006)

- **The number of contractors**: About 320 companies
- **Main types of business**
  - Governmental organization: airline, aircraft-related service business; passenger service; food and restaurant business
  - Other services: shop
- **The number of employees**: About 15,000

(1) **Air transportation service**
- Airlines

(2) **Aircraft-related service**
- Ground service
- In-flight meal
- Aircraft fuel supply

(3) **Passenger service**
- Travel agency
- Pick-up service for passenger
- Bank
- Railway services
- Bus and other service

(4) **Cargo service**
- Cargo-related agency

(5) **Other services**
- News report
- Facilities management
- Environmental sanitation
- Security

(6) **Food and restaurant business**
- Restaurant

(7) **Retailing business**
- Shop

Overview of Kansai International Airport Co., Ltd. (<KIAC>)

- **Head office**: 1-Sennshuku-Ita, Izumisano City
- **Capital**: 810.9 billion yen (As of March 31, 2007)
- **Main business**: Construction, operation and maintenance of Kansai International Airport
- **Project cost**: 94.2 billion yen (FY 2006)
- **Operating revenue**: 105.7 billion yen (FY 2006)
- **Operating profit**: 25.7 billion yen (FY 2006)
- **Established**: October 1, 1984
- **The number of employees**: 399

Overview of Subsidiaries of Kansai International Airport Co., Ltd.

1. **Kansai International Airport Land Development Co., Ltd. (KALD)**
   - **Capital**: 500 million yen
   - **Main business**: Development and lease of Kansai International Airport land
   - **Established**: June 11, 1998
   - **The number of employees**: 22 (As of Apr 1, 2007)

2. **KIA Facilities Engineering Co., Ltd. (KFE)**
   - **Capital**: 40 million yen
   - **Main business**: Maintenance of runways and buildings on the airport island
   - **Established**: July 30, 1993
   - **The number of employees**: 179 (As of Apr 1, 2007)

3. **KIA Fueling Service Co., Ltd. (KAFS)**
   - **Capital**: 1 million yen
   - **Main business**: Operation of aircraft fuel supply facilities on the airport island
   - **Established**: July 1, 1992
   - **The number of employees**: 101 (As of Apr 1, 2007)

4. **KIA Security Co., Ltd. (KIAS)**
   - **Capital**: 20 million yen
   - **Main business**: Security, fire and disaster prevention on the airport island
   - **Established**: July 17, 1991
   - **The number of employees**: 235 (As of Apr 1, 2007)

Environment-related information about Contractors

- **International Express Co., Ltd.**
- **Kansai International Airport Co., Ltd.**
- **Kansai International Airport Land Development Co., Ltd.**
- **Kansai International Airport Station, West Japan Railway Company**
- **KDDI Corporation**
- **Kansai International Airport Co., Ltd.**
- **Kansai International Airport Environmental Center, Kaneka Electric Power Co., Ltd.**
- **Kansai International Airport (Consolidated service, customs broker, freight agency)**
  - http://www.knt.co.jp/kouhou/enviro.html
- **Service Offices at Kansai International Airport, Japan Airlines Co., Ltd.**
  - http://www.nexco.co.jp/kouhou/airport/index.html

*ISO 14001 is an international standard for environmental management system established by the International Organization for Standardization in order to reduce the environmental load which can be caused by the activities of companies and institutions.*
### 2. Environmental management and monitoring systems

#### KIAC’s environmental management system

On January 2001, KIAC established an Environmental Management Committee to discuss various plans and issues related to environmental management. With the President serving as the chairperson of the committee and the Vice President as its vice chairperson, the committee has been deliberating the enactment and review of basic policies and plans related to environmental management.

Furthermore, an environmental management director is assigned to guide and monitor the implementation of the various plans in each of the company’s divisions. The committee works to achieve continual improvement by examining how efforts to implement the policies established in the Eco-Island Plan are proceeding, subjecting the techniques being pursued as well as the degree to which objectives have been met in an annual assessment and reviewing them as necessary.

As part of the company’s internal auditing system, Audit Office staff led by a full-time auditor have been working on the environmental monitoring of the 2nd phase airport island construction project and on our environmental preservation initiatives twice a year since December 1999.

#### The Airport Island’s environmental management system

About 320 business establishments with about 15,000 employees are involved in the operation of Kansai International Airport including KIAC and its seven subsidiaries, governmental organizations, airlines, the aircraft maintenance, passenger service, and food industries.

In order that the measures and policies decided in the “Eco-Island plan” can be smoothly pursued, action to spread awareness of the policies and promote cooperation is taken by Kansai International Airport Airline Operation Council.*

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Furthermore, our website designed for use by contractors (called “Environmental Plaza”) provides various types of environmental information and encourages exchange of opinions. See p.6 for a list of such environmental information sources provided by contractors.

#### Environmental monitoring system

With the aim of monitoring environment around Kansai International Airport, KIAC enacted, and is periodically executing, a monitoring plan for aircraft noise, air and water quality and marine organisms in order to identify the effects of airport operation and construction on the surrounding natural environment under the guidance and advice of the Kansai International Airport Environmental Surveillance Organization (consisting of the Osaka prefectural governor and the mayors of 9 cities and 4 towns in Senhu).

The results of monitoring are reported to the relevant administrative organizations in the form of monthly and annual reports and are also exhibited at the Kansai International Airport Environmental Center.

Survey Results are also released on the websites of the Kansai International Airport Co., Ltd. and Kansai International Airport Land Development Co., Ltd.

- **URL:** http://www.kald.co.jp/kankyo/friendly/japanese/index.html

#### Primary environmental monitoring initiatives

**Aircraft noise pollution survey**

Noise pollution produced by commercial aircraft is monitored at 11 regular observation station and 20 periodic fixed-point observation sites.

**Water quality survey**

Quarterly survey is conducted to figure out the status of water quality and grasp its variation character at marine areas around the airport island targeting at such items as total nitrogen and total phosphorus which are specified in the national environmental standards.

**Marine organism survey**

Quarterly survey of plankton, fish, and rock-dwelling organisms is conducted in the ocean around the airport.

**Air quality survey**

Climatic data (wind direction and velocity) as well as air pollutants (nitrogen oxide, sulfur dioxide, and suspended particulate matter**) are continuously measured at the regular observation stations located at three points on the coast opposite the airport.

**Flow of releasing the results of environmental monitoring and other information**

General environmental monitoring data from local government

- **Provision**
- **Collection**

Data from measurements and surveys

- **Guidance and requests**
- **Subsidiaries, etc., Construction workers, etc.**
- **Reporting**
- **KIAC KALD**

Residents in the area concerned

- **Information release**
- **KIAC KALD**

*1: Kansai International Airport Airline Operation Council
*2: Environmental Plaza
*3: Suspended particulate matter (SPM)

1 µm equals 1/1000 of a millimeter

**Particulate matter suspended in the atmosphere of 10 µm and below in diameter**

1 µm (1/1000 of a millimeter)
Kansai International Airport was built 5 kilometers off the coast of Senshu as an offshore airport with the construction principle of “regard for the environment, and prosperous co-existence with the local community”. All efforts were made to ensure environmental preservation during the construction of the airport including detailed assessment of environmental impact and a course of action to seek the local consensus on the new airport plan, setting a precedent for proceeding of large-scale public works in Japan. Since the opening in 1994, we have been engaged in environmental monitoring related to airport operations while promoting the 2nd phase project for the second runway construction, and the second runway was opened on August 2, 2007. Meanwhile, Japan, as a nation, is reviewing its socioeconomic activities and stepping toward the establishment of recycling-based society. In this regard, we believed it necessary to conduct voluntary management of the airport's operation and minimize its effect on the environment of Osaka Bay and surrounding areas.

Kansai International Airport established the Kansai International Airport Environmental Management Plan (the Eco-Island Plan) in June 2001 for the period through to FY 2007, aiming at the reduction of negative environmental impact which may be caused by the facility (and its operation) and minimize its effect on the environment of Osaka Bay and surrounding areas. In promoting the plan we seek not only to meet environmental standards as part of environmental conservation targets, but also to realize “a human- and environmentally-friendly airport”. We will take leadership in managing the plan. We act not only as one of the company, but also, as the airport administrator. We grasp and evaluate comprehensively the results of the efforts for the preservation of the environment in the whole airport island to encourage the island’s contractors’ voluntary initiatives. Those achievements are summarized in the annual Eco-Island Report.

Key points and future direction

Kansai International Airport was built 5 kilometers off the coast of Senshu as an offshore airport with the construction principle of “regard for the environment, and prosperous co-existence with the local community”. All efforts were made to ensure environmental preservation during the construction of the airport including detailed assessment of environmental impact and a course of action to seek the local consensus on the new airport plan, setting a precedent for proceeding of large-scale public works in Japan. Since the opening in 1994, we have been engaged in environmental monitoring related to airport operations while promoting the 2nd phase project for the second runway construction, and the second runway was opened on August 2, 2007. Meanwhile, Japan, as a nation, is reviewing its socioeconomic activities and stepping toward the establishment of recycling-based society. In this regard, we believed it necessary to conduct voluntary management of the airport's operation and minimize its effect on the environment of Osaka Bay and surrounding areas. In promoting the plan we seek not only to meet environmental standards as part of environmental conservation targets, but also to realize “a human- and environmentally-friendly airport”. We will take leadership in managing the plan. We act not only as one of the company, but also, as the airport administrator. We grasp and evaluate comprehensively the results of the efforts for the preservation of the environment in the whole airport island to encourage the island’s contractors’ voluntary initiatives. Those achievements are summarized in the annual Eco-Island Report.

After the project period comes to the end in FY 2007, the year of the opening of the second runway, the current plan is going to be evaluated, and “A Provisional title New Kansai International Airport Environmental Management Plan (Eco-Island Plan)” with its period until 2012, is scheduled for reviewing.

Key objectives of the Eco-Island Plan

1. A pollution-free Airport
   The airport shall reduce the impact of aircraft noise so that aircraft operations do not disturb the daily lives of area residents.

2. An Airport with low negative environmental impact
   While practicing the conventional measures, new measures focused on the prevention of the source of the problem will be selectively taken. The airport strives to complete recycling circle by practicing an optimum consumption and minimum occurrence of waste through effective use of resources and energy.

3. An Airport that values nature and serves as a meeting place
   The airport shall work to create relaxing space and the habitat environment crafted around viable ecosystem by making the most of its unique characteristics of an offshore airport.

4. An airport that coexists with the local communities and its users
   In order to have its activity well understood, the airport releases the information on the state of environmental condition: the airport shall promote the dialogue and partnership between the local community by expanding the means of providing information and by deepening exchanges.

FY 2006 environmental preservation initiative topics

1. Commended “Minister of Economy, Trade and Industry’s Award” at FY 2006 All Japan Conference of Excellent Cases for Energy-saving (P.24)
   The energy saving efficiency of the air conditioning control system at the boarding gate waiting area of the terminal building was evaluated, and we were commended “Minister of Economy, Trade and Industry’s Award” at FY 2006 All Japan Conference of Excellent Cases for Energy-saving.

2. Presentation at “Eco-Products 2006”
   Aiming at the diffusion of ecology-related products and transmission and exchange of environmental information, one of the nation's largest comprehensive environmental exhibition Eco-Products 2006 was held at Tokyo Big Sight in December 2006. Kansai International Airport Co., Ltd. set up the “Airport Booth” in cooperation with the Civil Aviation Bureau (Ministry of Land, Infrastructure and Transport), Narita International Airport Corporation and Central Japan International Airport Co., Ltd. to publicize our approach to environmental preservation. Not only an easy-to-understand explanation of the activities at Kansai International Airport was made by panel and video display, but also a quiz game and other various events were held.

3. Protection and recovery of seashore native vegetation (P.28)
   On the land behind seawall of the 2nd phase airport island, about 6,000 square meters of vegetation zone of Hamanadeshiko (Dianthus japonicus) and about 1,500 square meters of other wild species were created to foster the native variety as part of a project aiming at the protection and recovery of seashore native vegetation on Osaka Bay.

4. Seaweed bed formation around the 2nd phase airport island (P.27)
   KALD conducted a monitoring to trace the growth of introduced seedling and to verify the bed formation.

5. Information system (P.26)
   Information system”, which shows airplane departure and arrival.

6. Energy saving (P.24)
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12. Seaweed bed formation around the 2nd phase airport island (P.27)
    KALD conducted a monitoring to trace the growth of introduced seedling and to verify the bed formation.
5. Primary policy objectives and compliance status

### Primary policy

#### [1] A pollution-free Airport

- **Eco-Island Plan FY 2007 objectives**
  - Request the organizations concerned for relevant action prior to the inauguration of the facilities constructed in the 2nd phase project.
  - Request the airlines to cooperate for the thorough reduction and sorting of the waste.

#### [2] An Airport with low negative environmental impact

- **Reduction of air pollutant emissions**
  - Introduction of aircraft with lower emission of air pollutants (APUs)
  - Through implementation of idling stop practice

- **Reduction of ground emission**
  - Introduction of low-emission vehicles (LEVs)
  - Conversion of airport fuel to that of low-emission gas

- **Improvement of rainwater drainage system**
  - Implementation of rainwater drainage system
  - Thorough implementation of idling stop practice

- **Promotion of utilization of public transportation**
  - Urging the use of public transportation

- **Improvement of tanker fuel**
  - Treatment of exhaust gas at incineration plant

- **Waste handling and recycling**
  - Biomass incineration as a waste disposal method
  - Promotion of recycling and general waste

### Compliance status

- An operation method of avoiding as much as possible the increased impact of aircraft noise on land areas is proposed and requested for the compliance with in the aircraft operation plan in the in-house draft of 8th Airport Development Plan,

- Request was made to Kansai International Airport Airline Operations Committee for observation of flight paths.

- Countersample works against television signal interference were completed in 2001. Since the opening of the airport, 12,143 household have undergone the countersample work. No new occurrence has been seen thereafter. Hence, no countersample works since FY 2002.

- In December 2003 the “Office Environmental Management Manual” was revised, where the introduction of low-emission vehicles was specified.

- Changeover to Crude A tanker fuel was implemented in FY 2000 to start ongoing operation.

- The “Office Environmental Management System” was established in FY 2001, where the introduction of low-emission vehicles was specified.

- Messages in scrolling text on flight boards and appeals through the website for contractors were implemented.

- A hydrogen filling station was set up in the airport island and experimental operation of the hydrogen-powered vehicles and fuel cell-powered vehicles started (May 2003).

- Improvement demonstration test for incinerators, emission of air pollutants fell substantially to below the control value, thanks to dramatically improved combustion efficiency of the installed shredding machine as proved in the combustion improvement demonstration test for incinerators, emission of air pollutants fell substantially to below the control value, and that to dioxin, to well below standards.

- The risk of the 1st bag filler was renewed to maintain constant efficacy of controlling air pollutants emission.

- The “Regulations Governing the Use of Waste Processing Facilities” was enacted and enforced in October 2002.

- In FY 2002, 60% of aviation security facilities in two systems each in FY 2004.

- Maintenance of consistent treatment levels and encourage the use of reclaimed water.

- Battery replacement of long-life products, where 11 outdoor cubicle batteries for apron lighting and 4 for lighting was implemented.

- A hydrogen filling station was set up in the airport island and experimental operation of the hydrogen-powered vehicles and fuel cell-powered vehicles started (May 2003).

- The “Regulations Governing the Use of Waste Processing Facilities” was enacted and enforced in October 2002.

- Through the constant operation of the controlling facilities, the quality of freight demand in satisfactory level below the waste water standard. The reclaimed water was used for the cleaning of park surface in the construction works, as well as for watering of trees. FY 2004 performance: 65% in volume of waste water reused in the total water supply (i.e. tap water and waste water).

- Implementation of facilities specially designed to reduce the pollution load discharged from the airport’s rainwater drainage system.

- Adoption of the products that conform to the Law on Promoting Green Purchasing such as 100% recycled paper and recycled toner cartridge.

- Implementation of facilities specially designed to reduce the pollution load discharged from the airport’s rainwater drainage system.

- Attract mud collectors to collection tubs.

- The problem in disposing waste was sorted out and accordingly the sorting and disposal was requested in the construction works.

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- The “Regulations Governing the Use of Waste Processing Facilities” was enacted and enforced in October 2002.

- Maintenance of consistent treatment levels and encourage the use of reclaimed water.

- Encourage green purchasing and work to realize optimum consumption and minimum waste.

- Implementation of facilities specially designed to reduce the pollution load discharged from the airport’s rainwater drainage system.
5. Primary policy objectives and compliance status

**Primary policy**

<table>
<thead>
<tr>
<th>[2] An Airport with low negative environmental impact</th>
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<tbody>
<tr>
<td>• Reduction and recycling of Industrial Waste</td>
</tr>
<tr>
<td>• Effective use of residual product of construction</td>
</tr>
<tr>
<td>• Promotion of energy saving and introduction of natural energy</td>
</tr>
<tr>
<td>• Management of CFC's substitute etc.</td>
</tr>
<tr>
<td>• Conservation of natural environment</td>
</tr>
<tr>
<td>• Creation of environmental reports</td>
</tr>
<tr>
<td>• Dialogue and cooperation with local community</td>
</tr>
<tr>
<td>• Provision of opportunities to learn about the environment</td>
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<table>
<thead>
<tr>
<th>Eco-Island Plan FY 2007 objectives</th>
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<tbody>
<tr>
<td>Request the relevant contractors for reuse of plastic waste of packaging.</td>
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<tr>
<td>Encourage the appropriate processing and recycling of industrial wastes as well as measures to control waste.</td>
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<tr>
<td>Effective use of residual product of construction.</td>
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<tr>
<td>Promotion of energy saving.</td>
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<tr>
<td>Study the feasibility of the introduction of natural energy. (FY 2003 objective)</td>
</tr>
<tr>
<td>Create a list of equipment that uses CFC etc., and regularly check the usage.</td>
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<tr>
<td>Enlarge area covered by seaweed beds and work for fast seaweed bed formation.</td>
</tr>
<tr>
<td>Plant trees in the airport island as much as possible. Study measures to promote the greening of the 2nd phase airport island. (FY 2006 objective)</td>
</tr>
<tr>
<td>Pursue landscape conservation of the 1st phase airport island. Study the policy in practicing the guidelines for the preservation of landscape in the 3rd phase airport island (FY 2008 objective).</td>
</tr>
<tr>
<td>Preserve water quality of the internal water. Establish spaces where airport users can feel an affinity with the waterscape.</td>
</tr>
<tr>
<td>Strive to collect information concerning complaints and enrich the processing system of complaints against airport noise.</td>
</tr>
<tr>
<td>Create year-on-year environmental reports.</td>
</tr>
<tr>
<td>Work to diversify the media used to disseminate information and actively engage in the exchange between local communities.</td>
</tr>
<tr>
<td>Reception of the visitors at the Kansai International Airport Environmental Center.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Compliance status</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Sorting in collecting waste packaging materials used for international freight, as well as its recycling, is being practiced.</td>
</tr>
<tr>
<td>• Problems in waste treatment were sorted out facility-by-facility, and sorted disposal and prevention of illegal waste dumping were accordingly requested to the contractors. (July 2003)</td>
</tr>
<tr>
<td>• As to the waste packaging materials generated at duty-free shops of KIA's direct management, their being locked and new waste was requested to the relevant managing agents.</td>
</tr>
<tr>
<td>• Leakage: our cleaning system for air-conditioners was adopted. Cleaning and reuse of the filters damaged in the time air-conditioners or room air-conditioners was practiced. Among the purchase of filters was reduced to FY 1998, as a result of reviewing of the period of replacement and the number of filters in stock. (As a result of these reductions, the energy of the air-conditioners were decreased, and the energy saving was practiced.)</td>
</tr>
<tr>
<td>• Effective use of spite of the construction projects in the Frequently conducted for the selection of the new phase construction.</td>
</tr>
<tr>
<td>• Office Environmental Management Manual was enacted. Its implementation has been checked annually since FY 2001.</td>
</tr>
<tr>
<td>• A council for energy saving was established in FY 2002, where research, analysis and countermeasures as well as planning have been conducted.</td>
</tr>
<tr>
<td>• Lighting control of air-conditioners pump; integration of transformer for high-voltage current; adoption of automatic shutoff of lavatory basin, LDD lamp was adopted as artificial lighting in 2nd phase airport island. Further energy saving measure is being considered.</td>
</tr>
<tr>
<td>• Studies for low-cost measures to be continued.</td>
</tr>
<tr>
<td>• Periodic checks of the equipment using CFC were carried out biannually for 13 units of emergency chillers (using R-22, HCFC-22), as well as 92 units of packaged air-conditioners and 59 units of air-conditioners (using R-22, HCFC-22) in order to prevent the use of CFC. Periodic checks of the equipment using CFC were also carried out biannually for 13 units of emergency chillers (using R-22, HCFC-22), as well as 92 units of packaged air-conditioners and 59 units of air-conditioners (using R-22, HCFC-22) in order to prevent the use of CFC.</td>
</tr>
<tr>
<td>• Studies for low-cost measures to be continued.</td>
</tr>
<tr>
<td>• A video program titled &quot;Genten(Starting Point)&quot; to publicize the environmental conservation measures taken by Kansai International Airport was produced and distributed to the organizations concerned.</td>
</tr>
<tr>
<td>• A pamphlet titled &quot;Approach to Environmental Conservation and Creation&quot; was prepared and given out at the symposium held in commemoration of 30th anniversary of the establishment of the &quot;Law Concerning Special Measures for Sets Island Sea Environmental Conservation&quot; and &quot;Kansai International Airport(1957-2007)&quot;.</td>
</tr>
<tr>
<td>• A council for energy saving was established in FY 2002, where research, analysis and countermeasures as well as planning have been conducted.</td>
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<tr>
<td>• Energy saving was practiced: operation of air-conditioners pump; integration of transformer for high-voltage current; adoption of automatic shutoff of lavatory basin, LDD lamp was adopted as artificial lighting in 2nd phase airport island. Further energy saving measure is being considered.</td>
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</tr>
</tbody>
</table>

*1: Sporebag A bag containing pickled pieces of mature seaweed.
6. Environmental preservation initiatives
[1] Creating a pollution-free airport

Key points and future direction

Kansai International Airport was built 5 kilometers off the coast of Senshu. The location was so decided in order to reduce the effects of aircraft noise. The company will continue to monitor aircraft noise.

■ Steps to reduce the effects of aircraft noise

An environmental impact assessment was conducted around the airport, assuming predetermined flight paths and aircraft operation methods in order to reduce the effects of aircraft noise. Results showed that almost all of the range in which noise was estimated to exceed WECPNL*1 70 remained in the sea zone.

Kansai International Airport continuously monitors and periodically surveys aircraft noise, and release the results. The measurements at all observation stations and survey points in the land area meet the environmental standard (70 or less [unit : WECPNL]).

[Steps to reduce the effects of aircraft noise]

• Countermeasures for sources of noise
  - Transition to low-noise aircraft*2
  - Flight paths and Aircraft operation methods
  - Departing aircrafts should gain altitude over Osaka Bay to a sufficient enough level after takeoff.
  - Flight paths restricting aircraft to airspace over the Akashi Strait and the Kitan Strait have been established for aircraft arriving or departing late at night or in the early morning.
  - A series of “Reduced-noise flight procedures”*3 has also been adopted for aircraft approaching the airport from the Kitan Strait.
• Our initiatives
  - KIAC continues to monitor the observance of established flight paths and altitudes.
  - Through Kansai International Airport Airline Operation Council, the company has requested member airlines for strict observance of the established flight paths and due attention to noise reduction.

Results of aircraft noise monitoring at Kansai International Airport (FY 2006)

Reference: Results of aircraft noise monitoring at Osaka International Airport (OSA Regional Civil Aviation Bureau)

<table>
<thead>
<tr>
<th>Project</th>
<th>Affected households</th>
</tr>
</thead>
<tbody>
<tr>
<td>Improvements of Yukada-television signal relay facility</td>
<td>About 200,000</td>
</tr>
<tr>
<td>Improvements of Matsunara television signal relay facility</td>
<td>About 5,000</td>
</tr>
<tr>
<td>Installation of Akihmura SHF television signal relay facility</td>
<td>4,732</td>
</tr>
<tr>
<td>SHF parabolic reception facility at individual residences</td>
<td>1,276</td>
</tr>
<tr>
<td>SHF complementary joint reception facility</td>
<td>2,300</td>
</tr>
<tr>
<td>Joint reception facility</td>
<td>3,694</td>
</tr>
</tbody>
</table>

* Includes households transferred to municipal cable television systems (5,945)

 Initiative to eliminate pollution caused by the airport

■ Steps to solve television signal interference

The airport completed construction designed to alleviate television signal interference caused by aircraft in FY 2001 based on the “Kansai International Airport Co., Ltd. Television Signal Interference Policy Framework.”

KIAC is committed to act continuously in concert with affected organizations to address quickly any new signal interference problems arising from increase of flights into and out of the airport.

Summary of improvement project construction

<table>
<thead>
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<tr>
<th>Project</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Installation of CHF television signal relay station</td>
<td>141</td>
</tr>
<tr>
<td>Cooperation with cable television companies</td>
<td>369</td>
</tr>
</tbody>
</table>

■ Overview of complaints and inquiries related to aircraft noise and our responses

[Aircraft noise]

The result of environment monitoring of aircraft noise (P.8) show that noise levels met the environmental standard at all observation points. The number of complaints and inquiries reached as high as 263 in FY 1998 when new flight paths were adopted, and have since declined.

Most of the complaints and inquiries were along the lines of “the aircraft fly at low altitudes” and “do aircraft observe their flight paths?” Surveys were conducted in concert with the Civil Aviation Bureau, the Ministry of Land, Infrastructure and Transport (MLIT), and the results were released. KIAC will also continue to address complaints and inquiries.

• Contact: Airport Planning And Engineering Department, Environmental group
  - Kansai International Airport Co., Ltd.
  - TEL: 072-455-2177
  - Airport Information Center
  - Kansai International Airport Co., Ltd.
  - TEL: 072-455-2500 (Nighttime and holidays)

[Television interference]

Complaints or inquiries about poor reception have mainly been related to the request for additional measures from the residents in the environs of the areas where countermeasures had already been taken or request for reestablishing those measures. KIAC will keep seriously addressing those complaints and inquiries.

• Contact: Airport Planning And Engineering Department, Environment group
  - Kansai International Airport Co., Ltd.
  - TEL: 072-455-2177

<table>
<thead>
<tr>
<th>Aircraft arrivals and departures at Kansai International Airport</th>
<th>Number of incidents</th>
</tr>
</thead>
<tbody>
<tr>
<td>76</td>
<td>79</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Television signal interference complaints and inquiries</th>
<th>Number of complaints</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>23</td>
</tr>
</tbody>
</table>
Key points and future direction

In an effort to reduce emission levels of air pollutants from parked aircraft, all the airlines that are in service at Kansai International Airport are requested to encourage the use of fixed (ground-based) power facilities*. In addition, restrictions on the use of auxiliary power units (APUs), an initiative which might be called an “Aircraft version no-idling campaign”, were specified in a January 2003 AIP* (Aeronautical Information Publication). The airport continues to promote the use of fixed power facilities with the cooperation of the AGP Corporation that responsible for the installation and operation of the facilities.

- **Encouraging the use of fixed (ground-based) power facilities**

The power required by parked aircraft to run systems such as air conditioning is provided by a small, onboard gas turbine known as an auxiliary power unit (APU).

As part of its effort to minimize the levels of air pollutants emitted from these APUs, the airport developed fixed (ground-based) power facilities (GPU) which can supply electricity and air conditioning in the aircraft parking apron and asked all airlines that are in service at Kansai International Airport to switch to the source of power they choose to these facilities. At the same time the airport made a statement to the same effect in AIP (effective date: January 23, 2003).

Overall rate of use of the fixed power facilities (including mobile type) in FY 2006 is 91% and 39.4% for domestic and overseas airlines respectively, with an average of 68.8% that shown a tendency to increase, and when comparing with the project launched in FY 2001, there was about 8% increase. From now onwards, in cooperation with the AGP Corporation (an operator of the fixed power facilities), the airport is encouraging and requesting the airlines to further use such facilities.

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In August 2006, Kansai International Airport and Rinku Town was selected as a region for disseminating and promoting the use of CNG (compressed natural gas)-powered vehicles. KIAC will positively continue to promote the spread of CNG-powered vehicles in the future.

In May 2007, we installed hydrogen station within the island. We will cooperate in monitoring hydrogen engine and fuel cell vehicles, as well as experimenting with fuel cell co-generation systems.

### Autonomous management of vehicle use

As a company specified under NOx and PM Law, KIAC has made administrative efforts to reduce the volume of vehicle traffic and annually reported the results to the Osaka Prefectural Governor, based on the “Plan for management of automobile use*” which was established in September 2002 to reduce emission levels of NOx and particulate matters (PMs) emitted from vehicles.

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Key points and future direction

We implement appropriate processing of the waste generated in the airport island and pursue its recycling and reduction of waste.

Reducing and recycling waste products

KIAC enacted the “Regulations Governing the Use of Waste Processing Facilities” in October 2002 to enhance the reduction and recycling of the garbage (general waste) generated in the airport island. The regulations clarify the sorting and disposal of the waste were clarified. In July 2003, KIAC requested the contractors for sorting of the waste at disposal and prevention of illegal dumping. The waste treated at the Clean Center is separated into the following.

- Burnable garbage
- Glass bottles
- Nonburnable garbage
- Glass dishes, pottery dishes, empty bins (broken), metal waste
- Garbage containing recoverable resources
  - Wooden materials, clothes, bags, grass clippings, wooden products
- Recyclable material
  - Wooden materials, clothes, bags, grass clippings, wooden products
- Bulky burnable garbage
- Kitchen waste, wooden waste, non-recycled paper
- Rag, others
- Burnable garbage
- Glass bottles, empty bottles (broken)
- Nonburnable garbage
  - Glass dishes, pottery dishes, empty bins (broken), metal waste
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  - Wooden materials, clothes, bags, grass clippings, wooden products
- Recyclable material
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- Bulky burnable garbage
- Kitchen waste, wooden waste, non-recycled paper
- Rag, others

The 2nd phase island reclamation project had accepted dirt generated in the 1st phase construction (about 750,000 m³ as of June 7, 2006 when the 1st phase construction was completed). The project has also accepted, since FY 2002, the dirt generated in the public projects outside the airport island (about 80,000 m³ had been accepted as of March 2006).

Garbage processed in the airport island in FY 2006

- Garbage collected (total): 12,327
  - Burnable garbage: 11,143
  - Nonburnable garbage: 404
  - Garbage containing recoverable resources: 780

Clean Center (Incineration Plant)

- Garbage transported to final disposal site: 1,579
  - Recycled garbage: 1,042

Promotion of green purchasing

Our policy in the procurement process is to select green products*2. At the replacement of copiers in FY 2002, the copier’s compatibility with PC-LAN (for the future use) was considered not to mention its qualification as green product. And the ratio of recycled paper ingredient for the copy paper was standardized to be 100%. Furthermore, the purchase of the green product of office supplies is being promoted.

In addition, batteries were replaced with long-life batteries (double-lived compared with conventional types) and recycled toner is adopted in copying.

Green purchasing initiatives by contractors

A survey of island contractors about their green purchasing efforts was conducted in May 2007. Based on the responses to the questionaires by 166 contractors, following pictures have emerged.

- The ratio of contractors who are aware of green purchasing increased (58%) when compared with previous year, whereas the ratio stayed at about the same level up to last year (57%). We will continue to put efforts to the promote the awareness enhancement and PR in the future.

- The ratio of contractors who are “aware of green purchasing” at purchasing products and services over half up to 63%. The product categories most likely to involve green purchasing considerations are “office and printing paper”, followed by “general office supplies”.

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*1: Characteristics of “Regulations Governing the Use of Waste Processing Facilities”
- Garbage is categorized into five types: four types (i.e. “Burnable garbage”, “Nonburnable garbage”, “Garbage containing recoverable resources” and “Bulky burnable garbage”) to be processed at the Clean Center (incineration plant) and one (“Industrial waste products and recoverable resources”) to be processed at the Clean Center.
- Glass bottles and metal waste (except for aluminum can) are categorized as “recyclable material”.
- The regulations standardize the specifications of garbage bins to be deployed at collection sites.

*2: Green products
- Environmentally-friendly products that reflect the basic philosophy laid out in the Law on Promoting Green Purchases which was established in April 2000. In selecting products, KIAC refers to the “Environmental database for selecting products” run by the Green Purchasing Network (GPN) online at http://gpn-db.mediapress-net.com/gpn-db/index.html

Initiatives by contractors to reduce waste

(Domestic airlines)

Garbage removed from aircraft at Kansai International Airport accounts for nearly 25% of whole domestic waste. In line with the efforts to reduce the total volume of waste, JAL and ANA are working to sort garbage in the aircraft cabins.
- Aluminum cans are being collected and sorted out by cabin staff in an activity named “Aluminum Can Dream” campaign (JAL).
- Newspaper is also collected and sorted in the cabins.

(In-flight meals plant)

Carbonization of food waste has been practiced since April 2001. From FY 2006, food waste is being dehydrated and burned in the Clean Center.

Green purchasing

Office and printing paper
Packaging paper
Toilet paper
Office supplies
Copiers/Printers
Personal computer
Office furniture
Lighting equipment
Electronic appliances
Uniforms/clothes
Equipment
Vehicle

Building and civil engineering materials
Others

The ratio of the contractors who are aware of green purchasing increased (58% → 63%) when compared with previous year, whereas the ratio stayed at about the same level up to last year (57% → 56% → 58%). We will continue to put efforts to the promote the awareness enhancement and PR in the future.
Reclaimed water

Substances generated by combustion of atmospheric nitrogen or nitrogen*1: Nitrogen Oxides (NOx)

the air via an induced draft fan and a stack. The volumes of dust, sulfur

the reactor, dust is removed through an exhaust gas fi lter-type precipitator

exhaust gases generated in the incinerator enter the reactor via waste heat

function to remove nitrogen oxides by catalysis and humidity-regulator-typed

supported by fully equipped facilities such as filter dust separator with

terms of fl u-gas treatment, particular attention has been paid to adequate

Fluidized bed incineration equipment is adopted in the Incineration Plant. In

*(Nitrogen oxides*1)

measurements

Exhaust gas

measurements

Exhaust gas measurements (dioxina)

Exhaust gas measurements (nitrogen oxides)*

Note: the standard value in the law is 180ppm

Overview of wastewater treatment facility

Fluidized bed incineration equipment is adopted in the Incineration Plant. In terms of fl u-gas treatment, particular attention has been paid to adequate emission control and harmonization with ambient surrounding, which are supported by fully equipped facilities such as filter dust separator with function to remove nitrogen oxides by catalysis and humidity-regulator-typed fly ash stabilizing treatment equipment.

Exhaust gas flow

After being cooled from temperature of 800–950°C in a gas cooling chamber, exhaust gases generated in the incinerator enter the reactor via waste heat utilization facilities such as the air heaters used to prevent white smoke. In the reactor, dust is removed through an exhaust gas filter-type precipitator and white toxic gases are eliminated. The gases processed are released into the air via an induced draft fan and a stack. The volumes of dust, sulfur oxides, hydrogen chlorides and nitrogen oxides at the stack outlet are limited to rigorous criteria of less than 0.02g/m²N, 20ppm, 30ppm and 70ppm, respectively.

Incineration Plant exhaust gas treatment

After domestic wastes generated on the airport island are separated into categories such as burnable garbage and garbage containing recoverable resources, burnable garbage is incinerated at the Incineration Plant. Exhaust gases generated during the incineration process are treated with a filter-type precipitator. The installation of a garbage shredder has significantly improved the furnace’s incineration efficiency and lowered the concentration of air pollutants in exhaust gases to levels dramatically below the exhaust gas standards established by the Air Pollution Control Law. Dioxin levels are also well within established standards.

Heat produced during the incineration process serves as a heat source for the air heaters used to prevent white smoke*2, and hot water produced by high-temperature water heaters is used as tap water inside the Incineration Center as well as in its heating.

Wastewater treatment facility (Sewage Treatment Center)

Wastewater from the Passenger Terminal Building and other airport facilities is separated into domestic wastewater and industrial wastewater and treated as such. The former is treated using advanced methods such as activated sludge circulation nitrification/denitrification method, chemical clarification (coagulation/segmentation), rapid sand fi ltration, etc. Special wastewater undergoes preprocessing by the specific contractor at the original site of discharge, and then forwarded to the Sewage Treatment Center for advanced treatment. Wastewater after being treated by advanced methods is utilized as a resource for use in airport lavatories and watering of plants with the surplus water being discharged into the sea.

Utilization of reclaimed water at Kansai International Airport

In the airport island, reclaimed water is used for flush toilets and watering the trees as well as for the cleaning of the painted surfaces of civil engineering constructions and vehicles. 576 thousand m³ of reclaimed water was used in FY 2006.

<table>
<thead>
<tr>
<th>Water supply (number of persons)</th>
<th>Change in annual water supply</th>
<th>Quality of water released from the Sewage Treatment Center</th>
<th><img src="image" alt="Graph" /></th>
</tr>
</thead>
<tbody>
<tr>
<td>Tap water</td>
<td>Reclaimed water</td>
<td>Recharged water</td>
<td></td>
</tr>
<tr>
<td>6.0</td>
<td>5.5</td>
<td>5.9</td>
<td>6.5</td>
</tr>
</tbody>
</table>

Wastewater treatment facility (Sewage Treatment Center)

Sewage treatment equipment: Activated Sludge (Nitrification/Denitrification Method), Chemical & Physical Clarification

Special wastewater undergoes preprocessing by the specific contractor at the original site of discharge, and then forwarded to the Sewage Treatment Center for advanced treatment. Wastewater after being treated by advanced methods is utilized as a resource for use in airport lavatories and watering of plants with the surplus water being discharged into the sea.

Treatment Capacity

Domestic wastewater 10,050m³/day
Special wastewater 3,300m³/day

2,306m³ and 338m³ of domestic and special wastewater was treated on a daily average basis in FY 2006, respectively.

2,000m³ and 300m³ of domestic and special wastewater was treated on a daily average basis in FY 2006, respectively.

[2-3] Creating an airport with low negative environmental impact Part III

Environmentally-friendly treatment of exhaust gas and wastewater

Key points and future direction

Efforts to reduce Incineration Plant exhaust gases include the installation of a garbage shredder, which has increased incineration efficiency and helped to ensure air pollutant emission levels that continue to clear applicable standards dramatically. KIAC is committed to continue the level of its outstanding incineration management.

Consistent operation of the Sewage Treatment Center has maintained the excellent water quality of discharged wastewater well within the levels established by relevant wastewater standards. Use of reclaimed water is also helping to reduce the levels of water pollutants discharged into Osaka Bay. KIAC is committed to continue its record of consistent treatment and reclaimed water usage.

Advanced wastewater treatment

As to the wastewater discharged from island facilities, KIAC is taking measures with the utilization of the water resource and prevention of negative impact on the surrounding environment in mind: wastewater is reclaimed after treatment and reused to reduce the bust size of water to be discharged into Osaka Bay and to eventually curb the pollutional load. KIAC’s water quality control laboratory is equipped with advanced devices and facilities and conducts rigorous control of quality of water starting from tap water to wastewater about to be discharged into Osaka Bay.

Utilization of reclaimed water at Kansai International Airport

In the airport island, reclaimed water is used for flush toilets and watering the trees as well as for the cleaning of the painted surfaces of civil engineering constructions and vehicles. 576 thousand m³ of reclaimed water was used in FY 2006.

Amount of annual water consumption and discharge at Kansai International Airport (FY 2006)

<table>
<thead>
<tr>
<th>Water supply &amp; reclaimed water supply facility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment outline</td>
</tr>
<tr>
<td>Water supply</td>
</tr>
<tr>
<td>1,020,000m³</td>
</tr>
<tr>
<td>576,000m³</td>
</tr>
</tbody>
</table>

Amount of water consumption and discharge at Kansai International Airport (FY 2006)

<table>
<thead>
<tr>
<th>Water supply &amp; reclaimed water supply facility</th>
</tr>
</thead>
<tbody>
<tr>
<td>Equipment outline</td>
</tr>
<tr>
<td>Water supply</td>
</tr>
<tr>
<td>1,020,000m³</td>
</tr>
<tr>
<td>576,000m³</td>
</tr>
</tbody>
</table>

*1: Nitrogen Oxides (NOx)

Substances generated by combustion of atmospheric nitrogen or nitrogen in the fuel. They cause acid rain and photochemical smog.

*2: Air heater used to prevent white smoke

Air heater is used to increase dryness of exhaust gas by getting heated air mixed with the exhaust gas so that the white smoke discharged from chimneys does not reduce visibility at the control of the plane or rigid control in the cockpit or control room.

*3: Chemical Oxygen Demand (COD)

A typical indicator of seawater pollution that shows mainly the degree of pollution by organic matter.
In July 2006, airport island’s Passenger Terminal Building and Aeroplaza were designated as Class 1 specific plant[1] which is obligated to take energy saving measures as specified in the Law Concerning the Rational Use of Energy (enacted in April 2006). In response to the designation, KIAC’s in-house energy conservation committee, which had been studying the way of practicing rational use of energy, has summarized a “medium and long-term plan” in September 2006.

In the coming years, in accordance with the “Office Environmental Management Manual” revised in December 2002, KIAC will promote this plan and work to implement green purchasing and energy conservation in performing its internal activities or to realize paperless offices through the use of electronics, say, e-mail, as well as encouraging the introduction of low-emission vehicles.

* **Promoting energy conservation**

As to the electricity, heating/cooling energy (and gas) consumption at KIAC-managed facilities, KIAC established in-house Energy Conservation Committee in FY 2002 and, through the committee, has been investigating actual condition, analyzing results of survey, taking countermeasures and working out programs toward energy conservation.

In consequence of such organized efforts, energy consumption decreased year by year, and the least consumption amount among the past 6 years is recorded in FY 2006 with 8% decrease when compared with FY 2001, the first year when the project launched.

Our aim is to achieve the goal of the average of 1% decrease per year set by the Energy Conservation Law when comparing with that of FY 2001, the year that this project was launched.

### Key points and future direction

<table>
<thead>
<tr>
<th>Category</th>
<th>Volume</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electricity consumption</td>
<td>(133,070,000kWh)</td>
<td>*1</td>
</tr>
<tr>
<td>Gas consumption</td>
<td>15,424,000m³</td>
<td>*4</td>
</tr>
<tr>
<td>Aircraft fuel</td>
<td>1.640,804m³</td>
<td>(SKL)</td>
</tr>
<tr>
<td>Gasoline, light oil</td>
<td>80,000L</td>
<td>*3</td>
</tr>
<tr>
<td>Tap Water consumption</td>
<td>1,020,000m³</td>
<td>(425,216L)</td>
</tr>
</tbody>
</table>

**Note:** *1* Consumption in the facilities subject to energy-saving measures by KIAC.

**Output**

<table>
<thead>
<tr>
<th>Category</th>
<th>Volume</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cargo volume</td>
<td>16,680,000t</td>
<td>*3</td>
</tr>
<tr>
<td>OOD waste</td>
<td>2.6t</td>
<td>(12,327t)</td>
</tr>
<tr>
<td>Recycle amount</td>
<td>16,518t</td>
<td>(1,042t)</td>
</tr>
<tr>
<td>General waste</td>
<td>1,042t</td>
<td>(12,327t)</td>
</tr>
</tbody>
</table>

**Note:** *3* Waste generated from the Clean Center and KIAC.

### Mass balance of environmental load at Kansai International Airport (FY 2006)

Based on the operational data of Kansai International Airport, the environmental load mass balance of the airport has been worked out.

**Note:** *1* The data of the whole Kansai International Airport, ( ) are the data of KIAC’s managed facilities

### Thoroughgoing stopping of vehicle engine idling

As part of the efforts to reduce nitrogen oxides and carbon dioxides emission from vehicles, KIAC is urging the drivers to turn off the engines while parking by installing sings on the Passenger Terminal Building platforms, or at the parking areas for buses and taxis as well as in the cargo areas. Training sessions for the drivers who are operating in the restricted areas include lessons on the importance of stopping engines whenever possible.
Promoting office environmental management in Kansai International Airport Co., Ltd.

As part of initiative to reduce the environmental load in its office work, KIAC prescribed the "Office Environmental Management Manual", which took effect on April 1, 2001. The guidelines put forth in this document seek to reduce the consumption of electricity, water and heat, while encouraging green purchasing practice. Although consumption of electricity, gasoline and office paper and garbage disposal increased in FY 2004 because of many events held in celebration of the 10th anniversary of the opening of the airport, we could attain the reduction in FY 2005 in many items in part through the integration of the offices. In FY 2006, though there is some increase in the electricity, gasoline and light oil consumption, the usage of other items has been decreased. In addition, when compared with the FY 2001 figure when the project began, the consumption of electricity, water and heat, while encouraging green purchasing practice. Although consumption of

(1) Reduction in electricity consumption
(2) Reduction in heating energy consumption
(3) Reduction in cooling energy consumption
(4) Reduction in tap water consumption
(5) Reduction in gasoline consumption
(6) Reduction in diesel oil consumption

Office Environmental Management Manual

- **Objectives**
  1. Reduce energy consumption.
  2. Reduce tap water consumption.
  3. Reduce heating and cooling energy consumption.
  4. Reduce gasoline consumption.
  5. Reduce office paper consumption.
  6. Reduce garbage and aggressively implement the policy of sorting in collecting garbage.
  7. Encourage green purchasing (environmentally-friendly products).
  8. Introduce low-emission vehicles.

- **Implementation of environmental initiatives by island contractors**

  A survey of contractors to gauge their efforts in environmental conservation was conducted in May 2007. The responses from 166 contractors to the questionnaires are summarized as follows.

  - The ratios of implementation of "minimization of paper data", "efficient use of copy paper" and "sorting and disposal of garbage" are high.
  - The ratios of implementation of "introduction of low-emission vehicles" and "use of solar energy" are low as they cost higher compared to other measures do.
  - Though there is not a big difference compared to last year, as for the implementation of "minimum use of disposable goods", 10% decrease in last year in comparison with the year before last year, but returned to a level of the year before last year again this year.

Through the committee established with the island contractors, the status is expected to be improved through the promotion of increased awareness of environmental conservation among the contractors.
Seaweed beds were formed at the 1st phase airport island in order to contribute to creation of habitats for marine life in Osaka Bay. Kansai International Airport Land Development Co., Ltd., in addition to positioning wave-dissipating blocks with grooves along the gently sloping rubble mound type seawall that was selected for use in most of the 2nd phase airport island seawall, executed a variety of aggressive and creative means, including seaweed seeding. Though it took 7 years to create the seaweed beds of the 1st phase airport island, a plan has been pursued to create seaweed beds of the 2nd phase airport island in just 3 years.

The airport is also working to preserve water quality at the internal water surface created between the 1st and 2nd phase airport islands and to greenify surrounding areas. Finally, KIAC environmental preservation efforts focusing on the greennification of the 2nd phase airport island include ongoing investigations of planning methods that augment grasses with plants that are natural to the coastline in the area around the airport.

### Suppling seaweed seedlings

Based on the results of monitoring the 1st phase airport island seawall, a total of 3,200 wave-dissipating blocks with grooves (developed for the construction of the 2nd phase airport island) were placed at five locations along the 2nd phase airport island seawall for use in seaweed formation. Ongoing efforts to foster quick seaweed bed formation (in three years) focus on supplying of seaweed seedlings by a variety of means, including the placement of sponge bags with Sargassum filicinum and Eisenia bicyclis.

In addition, transfer of 18 algal blocks with significant *Eisenia bicyclis* growth from the 1st phase airport island seawall in March 2002 helped to maintain a consistent supply of seedlings from core seaweed bed. The seaweed bed formation project brought about the increase in the area of epiphytic seaweed around the 1st and the 2nd airport islands to 41 hectares in FY 2006, or about 9% of such area on whole Osaka Bay (1994 survey data).

### Environmental consideration for little terns*1

About 2,400 little terns (endangered species category II: Vulnerable (VU)) were observed to have migrated to the 2nd phase airport island in FY 2003 when land reclamation was in progress. In order to execute construction work smoothly and continuously and seek as much as possible the coexistence with little terns several measures have been taken in and around the construction sites since FY 2004: in the construction zone where the works proceed during the period from April to August (time for the species to migrate to the island and build a nest), crow mock-ups and recorded calls of crow and glittering tapes were used to keep them elsewhere; outside the construction zone, whitish earth and sand was placed and smoothed and decoys (dummies of little tern) were used to lure them to that site. As a result, about 1,800 little tern were observed in FY 2004. While, in FY 2005 about 390 were observed in late April to mark the largest figure for the period. And in FY 2006 with prevention measures were taken in the construction site, at most 600 little terns were observed in the end of July.

To carry out an objective of recovering and protection of seaside plants on the coast of Osaka Bay, breeding areas of Hamanadeshiko (Dianthus japonicus Thunb.), Hamabossu (Lysimachia mauritiana Lam.), Hamahirugao (Calystegia soldanella), and Hamagou (Vitex rotundifolia), etc., were created in the southeast part of the 2nd airport island. KIAC is considering to create in cooperation with the local communities around the airport the habitats of indigenous species in the 2nd airport island using their seeds which will be gathered from the plants growing in the breeding area in the future.

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*1: Little tern (*E.S. albifrons*), a migratory bird of sea-gull family. Approximately 30cm in length. It migrates to the Japanese seashore and breeds in Osaka Bay in spring and leaves in autumn. The species is designated for the Ministry of Environment as an endangered species category II(Vulnerable (VU)), the species which is facing the growing danger of extinction.
The plaza is operated by Kansai Airport Research Institute.

Partnership with Kansai Airport & Airport Community Plaza, a facility built on the coast opposite the airport island to promote PR activities of Kansai International Airport. Meanwhile, KIAC has been dispatching the staff as guest teachers to local schools and organizing airport tours since FY 2002 to introduce the various works being done at the international airport, encouraging local residents to have an affinity for the airport.

Overall environmental information is available at the website of KIAC and KALD on a specific section for releasing environmental information related to the airport. We are committed to continuously provide the information in an easy-to-understand manner.

Providing places and opportunities for learning about the environment

[Partnership with Kansai Airport & Airport Community Plaza, a place for hands-on learning about nature and the environment]

The Kansai Airport and Airfront Community Plaza was established in Kaizuka City in April 2001 as a place where visitors can have fun of learning about Kansai International Airport as well as the surrounding areas striving to develop along with the airport and about the environment. KIAC regards the plaza as one of the important facilities for the publicity of the airport, and will transmit information through the plaza.

Providing information in a variety of ways

The environmental information related to the Kansai International Airport’s project is being disclosed on the specific environmental information page at the websites of KIAC and KALD where the results of environmental monitoring related to the airport operation and 2nd phase construction and other information such as Eco-Island Plan are released. KIAC worked to publicize its stance in environmental conservation by making presentations at Eco-Products exposition or distributing pamphlets introducing environmental-related initiatives in 2nd phase construction project and environmental conservation such as seaweed bed creation. In addition, the company created a video program entitled “Genten (Starting point)” to publicize the environmental conservation initiatives at Kansai International Airport, the copies of which were distributed to the relevant organizations and agencies.

KIAC has also made presentations at the booths on such occasions as the Sakai Nighttime Fish Market (July) for the publicity of airport’s various environmental initiatives.

Environmental information available online

Kansai International Airport Co., Ltd. http://www.kiac.co.jp
Kansai International Airport Land Development Co., Ltd. http://www.kald.co.jp

Key points and future direction

KIAC has not only been active in cooperating in the events held in promotion of exchange with local residents such as “Fish Market” (held by Osaka Prefecture Joint Association of Fishermen’s Cooperatives) and tours of the 2nd phase airport island site (held by Kansai International Airport Land Development Co., Ltd. (KALD)), but also positive in creating a lively atmosphere on the airport island through planning and inviting various events aiming to entice people to visit the island. KIAC is also active in communicating with local residents through provision of information to the Kansai Airport & Airfront Community Plaza, a facility built on the coast opposite the airport island to promote PR activities of Kansai International Airport. Meanwhile, KIAC has been dispatching the staff as guest teachers to local schools and organizing airport tours since FY 2002 to introduce the various works being done at the international airport, encouraging local residents to have an affinity for the airport.

Overall environmental information is available at the website of KIAC and KALD on a specific section for releasing environmental information related to the airport. We are committed to continuously provide the information in an easy-to-understand manner.

Partnership with local communities

[Kansai International Airport CS Improvement Conference]*4

In December 2003, KIAC established Kansai Airport CS Improvement Conference (Chairperson: Atsushi Murayama, President of KIAC) consisting of all airlines, tenants and government bodies operating in Kansai International Airport. The conference members are striving toward satisfaction of airport users through the efforts to improve the services by sharing complaints information, to take an instance.

In April 2005, SKYTRAX, a British aviation industry quality research company, which makes comprehensive assessments of airport worldwide, announced the “AIRPORT of the YEAR 2005”. Kansai International Airport (KIX) was ranked the 4th worldwide in terms of airport and terminal amenities, adequacy with passenger facilities, service quality and access/transit. In addition, in April 2007 Kansai International Airport was also ranked the 1st in Middle East & Asia area (Annual Freight Flow between 0.5M tons ~ 1M tons) in the “2007 Air Cargo Excellence Survey” of a British Air Cargo Magazine “Air Cargo World” (Established in 1942) that evaluates service, facility, customs clearance, security, etc. Encouraged by such a nomination, KIX will aspire for the materialization of a quality airport for the satisfaction of as many users as possible.

[Kanku Summer Festival and various other events]

The airport organizes various events aiming to realize a convenient and pleasant-to-visit airport. Especially in the summer in FY 2006, from July 8 to September 3, “Kanku (Kansai airport) Summer Festa” was held with continuing to discount the toll of the airport access bridge to 500yen on every weekend as same last year, and also with various events subtitled “Create Summer memory with your children in Kansai International Airport”.

On the other events such as Christmas event in November and December, and “Kanku Spring Festa” in March, were held. During those period, also event named “KIX Travel Fair”, “Street Fair” and new event such as “Japan Coast Guard Patrol Vessel Experience” on Marine day.

In the same way as until now, seeking cooperating of local residents, we will try to draw as many visitors as possible to the airport and make them feel familiar with the airport.

[“Let’s Create Airport Island”]

KALD has now established a custom of holding the event “Let’s Create Airport Island” throwing open the 2nd phase airport island to general public and have them learn firsthand the grandeur of the 2nd phase construction site through various programs in the event and eventually foster peoples’ attention and affection toward this construction project, which is regarded as one of the world’s most advanced marine projects.

The FY 2006 event took place on August 26, 2006 on the about 519ha land that has so far emerged. The program included “PET bottle rocket launching”, “Paper plane workshop”, “Drawing jumbo jet on the sand”. While, “Cruising around Airport Island” (around the 1st and the 2nd islands) and other events were held on the sea. Favoring by good weather, about 6,000 people joined the event and enjoyed a pleasant time feeling the grand scale of the 2nd airport island.

1) * Kansai International Airport CS Improvement Conference
KIAC established the conference in December 2003 to address the issues of “1) through practice of the creed “Customer, the foremost priority” and “Improvement of customer satisfaction” across the whole airport, in concert with the groups and organizations from airlines, tenants and governmental bodies.

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7. Objectives of FY 2007 initiatives

Key points and future direction

KIAC is cognizant of the requirement of society for environmentally-sound management, and committed to create “an environmental-friendly 21st century airport” observing the principle stated at the construction of Kansai International Airport. Based on this stance, the company will pursue the environmental initiatives advocated in “Eco-Island Plan”. Furthermore, in FY 2007, we evaluate the plan up to now, and examine the “New Kansai International Airport Environmental Management Plan (Provisional title) (Eco-Island Plan)” with its period until FY 2012.

Aircraft Noise

KIAC continues to monitor aircraft noise and conducts periodical monitoring of aircraft flight paths and altitude. In addition, when local residents make complaints or inquiries related to aircraft noise, the company works to obtain the understanding of residents by providing polite, timely answers to questions and complaints about aircraft noise, in collaboration with the Civil Aviation Bureau, MLIT.

Steps to prevent global warming (Reduction of carbon dioxide emission)

KIAC is going to promote measures for prevention of global warming focusing on the Passenger Terminal Building and Aeroplaza, significant consumers of energy, based on the “Medium- and long-term Energy Conservation Plan” established in May 2004 under the “Law Concerning the Rational Use of Energy”.

- By overall activities of Kansai International Airport .......................................................... 536,000t (FY 2005: 553,000t)
- By facilities, equipment and business activities under the management of KIAC ...................... 58,000t (FY 2005: 60,000t)

*Note: The above estimation is based on carbon dioxide emission from aircrafts, offices and tenants managed by KIAC, the Energy Center, heat supply companies, other contractors and incoming vehicles.

Initiatives for minimizing negative environmental impact

KIAC surveyed the use of fixed (ground-based) power facilities, an alternative to the APUs, by parked aircrafts. The utilization rate in FY 2006 turned out to be about 70%. Showing a tendency to increase, the company will continue to promote the farther utilization of fixed power facilities through the campaign, while informing the Kansai International Airport Airlines Operation Council (AOC) of survey results and requesting for its cooperation in the promotion.

The company is committed to work in accordance with the “Office Environmental Management Manual” to grasp the proceeding of initiatives and thus control the efforts made in pursuit of the reduction of environmental load, such as the reduction of the company’s energy consumption. Plans are also underway to introduce low-emission vehicles when updating the fleet.

Constant operation of the Sewage Treatment Center located in the 1st phase airport island has maintained the excellent water quality of discharged wastewater well within the levels established by relevant wastewater standards. We are committed to maintain the Center’s satisfactory performance, and also encourage the use of reclaimed water for construction work or for maintenance of the facilities in the 1st phase airport island to eventually reduce the level of pollutants in water to be discharged into Osaka Bay.

Efforts to reduce emission of the air pollutants in the 2nd phase airport island construction project are being continued through the use of high-quality fuels (crude A and diesel) or construction equipment modified to reduce exhaust gas emission. Kansai International Airport Land Development Co., Ltd. will continue its environment-friendly construction practices making use of its environmental management system, which has obtained ISO14001 certification.

We will make efforts to use construction equipment modified to reduce exhaust gas and reduce the air pollutants emission in repairs and maintenance work on the 1st phase airport island.

As to be processing and disposal of the waste generated in the airport island, KIAC has enacted “Regulations Governing the Use of Waste Processing Facilities” and has explained these rules to contractors in order to raise awareness. As for FY 2007 KIAC will continue to work toward thorough implementation of sorting at collection and promotion of the reduction and recycling of waste. Waste such as asphalt generated by island construction projects, will be recycled whenever possible.

Consistent with its emphasis on reducing the consumption level of all energy traceable to fossil fuels to the greatest extent possible, the airport will proceed with the introduction of energy-conserving equipment such as high-efficiency fluorescent lighting. In addition, adoption of natural energy such as solar power and wind power, the viability of low-power-consumption LED illumination for aeronautical lighting and the possibility of adopting natural energies such as solar power and wind power are also being considered.

Diffusion and promotion of the use of low-emission vehicles

In May 2007, a Hydrogen service station has been set up in the airport island. It is planned to collect various data regarding the actual use of the station and, until 2010, it will be enacted to monitor the hydrogen-powered-engine vehicle and battery powered bicycle and demonstrate experiment of fuel-cell cogeneration system.

Additionally, in Kansai International Airport and Rinku Town District, the council is established to promote the initiatives aiming at the introduction of 109 units of CNG (Compressed Natural Gas)-powered vehicles in 3 years from 2006. The exhibition of CNG-powered vehicle was held in August 2006, as one of these promotions.
8. Third party comments

After reading the “Eco-Island Report 2007”

1. Environment preservation as an Airport Company

Most parts of the environmental load in the Airport are caused by the contractors that use the Airport. Therefore, the environmental preservation activities of Airport Company are to urge these contractors changed into environmental preservative ones. In 2001, Kansai International Airport Co., Ltd. launched the “Eco-Island Plan”, targeting at the island contractors with various events carried out actively, and it ought to be evaluated highly.

2. The result of “Eco-Island Plan”

The “Eco-Island Plan” is coming to close in FY 2007, and a new Environmental Management Plan is going to be set in FY 2008. The established activities, as we can understand to see the detail of main measure items, have adopted the method that listed up the environmental load of Kansai International Airport comprehensively and achieve the feasible measures steadily. Such a method is considered as appropriate under the situation that wide-range environmental consideration as an airport island is requested and the expected achievement can be seized.

3. Towards the development of a New Environmental Management Plan

From FY 2008, the new Environmental Management Plan will be set, and it should be pushed forward based on these achievements. Therefore, it is necessary to set priorities clearly in the environmental preservation activity in the future. Even if the environmental problem diverges into many branches, the plan and practice that reflected priorities is necessary because the each importance should be different. Furthermore, the quantification of the objective also should be taken into consideration.

4. Further Effort to Environmental Enlightenment

Although both environmental enlightenment and education are being actively done, in that aspect, measures that are reflected with the characteristic of International Airport are expected. International Airport may be just a passage point for many people, but it is also the place where many people gather. The enlightenment activities targeting the travelers should be examined, even if they may be difficult, as the contribution to society is an important theme for an airport company.

Graduate School of Business Administration, Kobe University
Professor, Katsuhiko Kokubu
9. Environmental Accounting

An experimental approach to environmental accounting

With the background of the high cost structure resulting from its being an offshore airport, KIAC has been making, since FY 2002, and experimental approach to environmental accounting in the assessment of the costs and benefits in order to execute the company's environmental preservation policies more effectively.

An instance of the assessment using environmental accounting is as follows. Although the largest among the environmental preservation costs has been that of reclamation costs for the airport island, which was built 5 km off the coast of Senhfu to reduce the effects of aircraft noise, it has not been included in the account results cited in this section on the ground that the method of quantitative measurement of aircraft noise has not been established yet. Instead, effect of wastewater/waste (garbage) treatment with known quantitative method of measurement is cited here.

The total environmental preservation costs in FY 2006 amounted to 7,075 million yen, down 54 million yen over the previous fiscal year. Environmental preservation benefits were figured out for the individual items based on the reduced amount of negative environmental load, i.e. "standard value of emission reduced by the law", minus "emitted/discharged environmental load". COD and NOx values were chosen for the calculation as the items to represent the performances at the Sewage Treatment Center and Clearing Center (Incineration Plant), respectively: the former represents the level of negative environmental load of wastewater discharged into Osaka Bay, and the latter, the level of emission of pollutants caused by incineration of wastes (garbage).

In order to integrate and evaluate the effects of environmental preservation based on several environmental indicators, KIAC also tried to convert the effects into monetary equivalents using LIME integration factor.*1

When calculated using LIME method, the total effect of environmental preservation (originally expressed in amount of substances) was evaluated to be 6.65 million yen.

Economic internal benefits were expressed in terms of total amount of savings attained through the implementation of environmental preservation initiatives. The savings turned up to be 0.74 million yen.

Cumulative costs of environmental monitoring and research

Total sum of 7.4 billion yen has been spent on environmental monitoring and research during the item from the opening of airport to FY 2006 on such items as aircraft noise, flight path/air height, air quality, and water quality/bottom sediment quality/organisms in sea area including the cost of maintenance and renewal of monitoring facilities.

Environmental Accounting

Accounting method

• Method: LIME (Life Cycle Impact Assessment Method based on Endpoint modeling)
• Institutional: Kansai International Airport Co., Ltd.
• Accounting period: April 1, 2006 to March 31, 2007
• Classification method of items of environmental preservation costs items were classified in compliance with the "Environmental Conservation Cost Classification Manual 2000" (Ministry of the Environment) and in consideration of the specific characteristics of the airport.
• Items of environmental preservation costs
  - Cost in project area: Costs for social contributions to the Environment (CDD), land costs related to the Incineration Plant and the Sewage Treatment Center, facilities costs, etc.
  - Water-related savings: Water-saving/maintenance costs, etc.
  - Management costs: Costs for social contributions to the Environment (CDD), research costs related to environmental preservation

Environmental preservation benefits

<table>
<thead>
<tr>
<th>Environmental preservation benefits</th>
<th>Monetary equivalents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sewage Treatment Center</td>
<td>2,000 yen</td>
</tr>
<tr>
<td>Incineration Plant</td>
<td>4,400 yen</td>
</tr>
<tr>
<td>Total</td>
<td>6,400 yen</td>
</tr>
</tbody>
</table>

*1 LIME Integration Factor
LIME is an abbreviation for Life cycle impact assessment Method based on Endpoint modeling.

Environmental timeline

<table>
<thead>
<tr>
<th>Year</th>
<th>Month</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1972</td>
<td>12</td>
<td>The Council for Civil Aviation held a meeting with the local community.</td>
</tr>
<tr>
<td>1974</td>
<td>10</td>
<td>KIAC conducted Family Fishing Survey (through to September).</td>
</tr>
<tr>
<td>1978</td>
<td>5</td>
<td>KIAC conducted trial flights to determine noise pollution levels at 3 candidate sites (Senhfu, Kobe, and Akashi).</td>
</tr>
<tr>
<td>1978</td>
<td>6</td>
<td>KIAC conducted surveys of 3 candidate sites to investigate an air pollution caused by commercial aircraft.</td>
</tr>
<tr>
<td>1978</td>
<td>7</td>
<td>KIAC conducted the flight surveys.</td>
</tr>
<tr>
<td>1979</td>
<td>1</td>
<td>KIAC published &quot;Survey Guidelines.&quot;</td>
</tr>
<tr>
<td>1981</td>
<td>12</td>
<td>The &quot;Environmental Impact Assessment Preparatory Document&quot; was submitted to the Governor of Osaka Prefecture.</td>
</tr>
<tr>
<td>1982</td>
<td>6</td>
<td>KIAC established Environmental Surveillance Organization was established.</td>
</tr>
<tr>
<td>1983</td>
<td>5</td>
<td>&quot;Environmental Impact Assessment&quot; was submitted to the Governor of Osaka Prefecture.</td>
</tr>
<tr>
<td>1984</td>
<td>6</td>
<td>KIAC Environmental Impact Assessment Plan was established, and environmental monitoring began.</td>
</tr>
<tr>
<td>1984</td>
<td>7</td>
<td>A public water reclamation permit was obtained for the 1st phase construction project, and 1st phase construction began.</td>
</tr>
<tr>
<td>1985</td>
<td>5</td>
<td>KIAC received environmental management system (ISO 14001) certification.</td>
</tr>
<tr>
<td>1985</td>
<td>6</td>
<td>KIAC established the Environmental Management Committee.</td>
</tr>
<tr>
<td>1985</td>
<td>7</td>
<td>KIAC received the &quot;Monument of the Millennium&quot; award from the American Society of Civil Engineers.</td>
</tr>
<tr>
<td>2001</td>
<td>9</td>
<td>KIAC participated in the exhibition of &quot;Eco-Products 2004&quot; for the first time.</td>
</tr>
<tr>
<td>2002</td>
<td>11</td>
<td>KIAC established the Kamai International Airport CS Improvement Conference.</td>
</tr>
<tr>
<td>2002</td>
<td>12</td>
<td>&quot;The Plan for Environmental Monitoring of the Construction and Operation of KIX&quot; was established.</td>
</tr>
<tr>
<td>2003</td>
<td>12</td>
<td>KIAC conducted surveys at 3 candidate sites to investigate an air pollution caused by commercial aircraft.</td>
</tr>
<tr>
<td>2004</td>
<td>9</td>
<td>KIAC participated in the exhibition of &quot;Eco-Products 2004&quot; for the first time.</td>
</tr>
<tr>
<td>2005</td>
<td>7</td>
<td>The 2nd Phase Construction Project Environmental Impact Assessment was submitted.</td>
</tr>
<tr>
<td>2005</td>
<td>12</td>
<td>The 2nd Phase Construction Project Environmental Impact Assessment Preparatory Documents was submitted.</td>
</tr>
<tr>
<td>2006</td>
<td>3</td>
<td>KIAC conducted Family Fishing Survey (through to September).</td>
</tr>
<tr>
<td>2006</td>
<td>5</td>
<td>KIAC established Environmental Impact Assessment Preparatory Document.</td>
</tr>
<tr>
<td>2006</td>
<td>6</td>
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<td>2006</td>
<td>7</td>
<td>KIAC received the &quot;Monument of the Millennium&quot; award from the American Society of Civil Engineers.</td>
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<td>2006</td>
<td>8</td>
<td>KIAC published &quot;Survey Guidelines.&quot;</td>
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<td>2007</td>
<td>1</td>
<td>KIAC published &quot;Eco-Island Report 2002&quot; for the first time.</td>
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</tr>
</tbody>
</table>

Integrated factor: This factor, proposed along with a characterization factor for environmental categories and a damage factor for protection targets, is acclaimed as a Japanese version of the new LIME (Life Cycle Impact Assessment Method based on Endpoint modeling) and can identify the difference between environmental background in Japan and Europe and USA.