



International Civil Aviation Organization

CAR/SAM REGIONAL PLANNING IMPLEMENTATION GROUP (GREPECAS)

**Fifth Meeting of the GREPECAS Aerodromes and Ground Aids /
Aerodrome Operational Planning Subgroup (AGA/AOP/SG/5)**

Montevideo, Uruguay, 20 to 24 November 2006

AGA/AOP/SG/5-WP/23

30/10/06

**Agenda Item 6: Review of other Technical Matters
 6.4 Airport Environmental Management System**

REVIEW OF OTHER TECHNICAL MATTERS

(Presented by the Secretariat)

SUMMARY

Airports are large size facilities whose implementation and operation interfere with the environment and, especially, in the structuring of the urban space and in its social and economic relations. The need for surveillance and management of such interference is the result, on one hand, of the growing importance of matters related to environmental preservation and, on the other, of the evolution of managerial administration methods that continually seek for the association between the economy of resources and the provision of better services to users and the community. Taking the above into consideration the joint, coordinated and effective work of the National and Municipal Environmental Authorities and Civil Aviation and Airport authorities is of utmost importance. This will allow a timely and objective action to minimize the environmental impact effects maintaining harmony between the aeronautical system management and the neighbouring community activities.

References:

- ICAO, RLA/92/031 Handbook of Environmental Protection for Airports
- ICAO State Letter AN 1/17-06/77, 3 October 2006
- ICAO State Letter AN/ 1/17-05/91, 30 September 2006
- ICAO, State Letter AN 1/17-IND/06/20, 8 September 2006
- ICAO 35th Assembly Resolutions, Doc 9848

1. Introduction

1.1 ICAO and the Environment

Matters related to the environment within ICAO are receiving great attention; proof of this is that the environment issue is part of their Strategic Objectives and corresponding Specific Activities. The Committee on Aviation Environmental Protection (CAEP) is responsible for maintaining the objective of *Minimizing* the damaging effects of civil aviation on environment. This Committee has

held six Meetings since 1986. The CAEP is comprised of 21 States and 12 Observers. The CAR/SAM Regions only have two (2) representatives (Argentina and Brazil).

1.2 *Environmental Transformations*

Environmental transformations within the AGA field are divided in three different stages: the first corresponds to planning and evaluation of facilities/expansion of infrastructure (vertical & horizontal) and the airport services, the second is related to the construction and expansion of the aerodrome capacity and the third considers the maintenance and operation of the infrastructure and ground services. These transformations consider both negative and positive aspects and impacts. *See Appendix A.*

1.3 *Impacts Identification*

The identification of impacts that would result in conflicting situations between the airport and the environment could be originated in the physical, biotic and anthropic ambiances. Within such classification, the impacts may also be identified as direct, indirect or induced.

1.4 *Legal and Normative Aspects*

In the case of environmental protection linked to the aeronautical activity in all their spectrum, each State must be attentive to the orientation provided by ICAO and to the national legislation and regulations, able to make viable its own decisions in this filed. Also, each State should observe the compliance of its commitments before the international community to which, within the modern concept of interdependence, the responsibility of each country is increased as far as the facts that it generates of that happen in its territory pass over its boundaries and come to affect the environment in global way.

1.5 *Environmental Monitoring Actions*

The environmental monitoring actions may be basically of different nature, a follows: monitoring actions, environmental management actions, regional integration actions and emergency actions.

1.6 *Relationship between the Airport and Local Authorities on Environmental Matters*

The diverse importance of airports in the environment where they are located, its dynamic, the complexity of its operations seen from a systemic perspective motivate the need for an integrated, harmonious and cooperative relationship coordinated with its environment i.e with the community (local authorities, policy and economic opinion sectors, mainly those organizations linked with the environment).

2. *Declaration of ICAO permanent merged practices and policies related to the protection of the environment (Res A35-5 ICAO Assembly)*

2.1 This issue is especially relevant for all the organizations, professionals and technicians, mainly those linked to an aeronautical system; especially aircraft operators and airport administrators. In carrying out its responsibilities, ICAO requires that the signatory States and Territories strive to: “limit or reduce the number of people affected by significant aircraft noise; limit or reduce the impact of aviation emissions on local air quality; and limit or reduce the impact of aviation greenhouse gas emissions on the global climate; planning and arrange the use of vicinity terrains to allow safety and effective operations to

improve the environment quality, in addition; the effective performance of the aspects and impacts related to use on non renewable resources, liquid and solid residues, land erosion, the flora and fauna.

2.2 ***CAEP/7 (State Letter AN 1/17-IND/06/20, 8 September 2006)***

The Seventh Meeting of the Committee on Aviation Environmental Protection (CAEP/7) will be held in Montreal from 5 to 16 February 2007, during this Meeting all the proposals related to aircraft engine emissions, including the amendment of Annex 16, Volume II, the market-based options to limit or reduce emissions; and proposals related to aircraft noise, including the amendment of Annex 16, Vol. I, will be reviewed. It is of utmost importance that the CAR/SAM States join these type of Meetings as observers during a first phase.

2.3 ***Reduction/mitigation of GHG emissions in the aviation sector (State Letter AN 1/17 - 06/77 3 October 2006)***

Market-based measures are expected to allow the aviation sector flexibility to achieve environmental goals at far less cost than traditional regulatory measures. Voluntary measures or activities are one of the market-based measures that have been discussed and considered by ICAO. Voluntary measures established through voluntary agreements which set out a specific environmental goal, as well as the responsibilities of the aviation sector and public organizations involved, could be particularly attractive and useful as a first step for the reduction/mitigation of GHG emissions. A template for voluntary agreements between the aviation sector and public organizations has been developed and is available on the ICAO website at: http://www.icao.int/icao/en/env/Caep_Template.pdf. Interested States should fill the questionnaire attached to the aforementioned State Letter.

2.4 ***Handbook of environmental protection for Airports***

Considering that GREPECAS Conclusion 12/80 is completed, it should be determined when the *Handbook of environmental protection for Airports* will be available for the consultation of States and Territories.

3. ***Airport environment Control as a Corporate strategy***

Environmental control is an issue that involves the organizations in all their areas. In this sense, it is of utmost importance that the initiatives to protect the environment be supervised and supported by the most senior staff members in an Organization. The protection of the environment should be a commitment included in the vision, mission and policies of an organization and it should assume strategic objectives and well defined goals. To achieve the aforementioned the design and implementation of an Airport Environmental Strategy Control Corporate Strategy is required. The proposal of a strategy that represents the implementation is included in **Appendix B** to this working paper.

4. **Discussion**

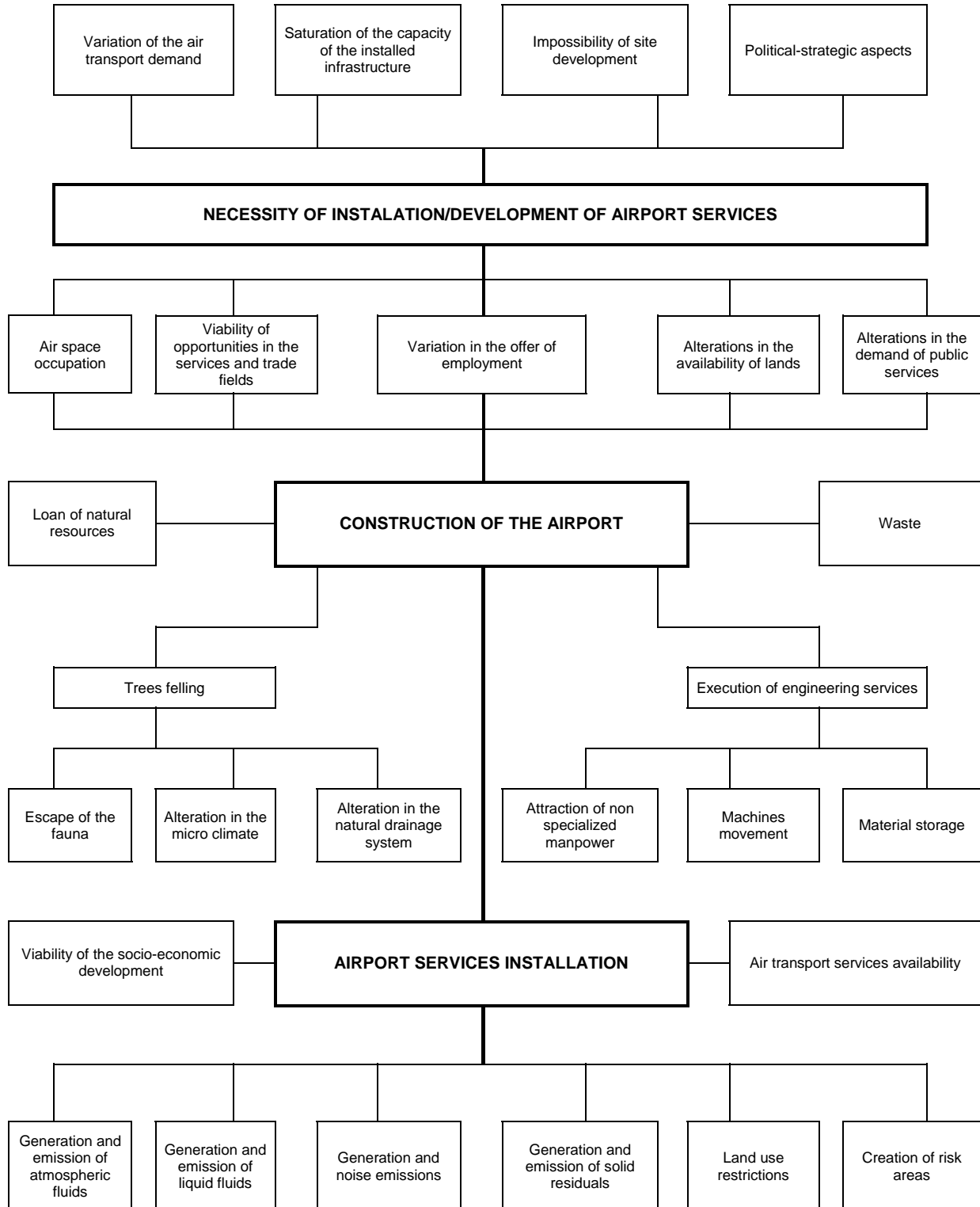
4.1 Considering the aforementioned aspects, it could be concluded that the environment control is an element that condition the planning, design, operation, maintenance and certification of aeronautical systems. Therefore, it should be part of the development corporate strategy. This will allow an effective assessment and appreciation of the community and therefore a comfortable relationship.

5. **Suggested Action**

5.1 This Working Paper is presented for the consideration of the Meeting in order to make any comments deemed necessary.

APPENDIX A

ENVIRONMENTAL TRANSFORMATIONS



APPENDIX B

Corporate Strategy for environmental control (Ref. Sydney Airport Corporation Limited)

A.- Introduction

- Aerodrome Location.
- Aerodrome Components.
- Aerodrome Socio-economic Significance.
- Aerodrome Environmental Context.
- Aerodrome History development.
- Aerodrome Management.

B.- Environment Strategy

- Environment Requirements
 - National /State Level / Municipality
- Master Planning
- Define a Corporate Strategy to achieve goals and objectives with their correspondent management and performance indicators.
- Benchmarking

C.- Environmental Management

- **Legislative Context**
 - ICAO Regulations/ State Regulations / AAC Regulations/ Municipality Regulations
- **Organization, duties and responsibilities**
 - Vision
 - Mission
 - Organization
 - Management
 - Environmental Management Unit / Committee
- **Environmental Management**
 - Policy
 - Strategies
 - Tactics
 - Evaluation and risk management
 - Awareness and Training
 - Audit Programme
 - Review and feedback
 - Annual Report
- **Development approval process**
 - Overview
 - Approval of processes
 - Terms of reference for obligations

D.- Action Plan to be developed within the next XX years

- Description
- Relation with interested groups (legislation and standards – Government, States, Municipalities, NGOs, International groups related to environment matters.
- Noise (Noise Contours- dB(A)
 - Mobile sources (aircraft, UPS, vehicles)
 - Fixed sources (SPS..)
- Gas emissions (VOCs, CO₂, CO, NO_x, H₂O, SO₂, PM₁₀, smoke) in kg/day
 - Fixed sources
 - Mobile sources
 - Civil works
- Water quality (Take periodical water samples)
- Land (erosion) and underground nappas.
- Flora and wildlife
- Works of art
- Dangerous Goods
- Environmental Emergencies (Contingency Plans)
- Solid and liquid waste
- Non-renewable resources (use)

E.- Master Plan Development Concepts

- Description
- Airside and environmental issues development
- Terminal and environmental issues
- Cargo Terminal and environmental issues
- Corporate Aviation Area and environmental issues
- Landside and environmental issues
- Business Development and environmental issues
- Aspects Matrix v/s environmental issues and Aerodrome development

E.- Public Consultation

- Consultation Process
- Work Meetings
- Public exhibition of the Preliminary Draft

References (related literature)

Appendices

- Regulations / Comparative Matrix Benchmarking (with other Aerodromes)

- B3 -

Figures

Location Plan / Aerial photograph / Organizational Chart / Environmental Management Unit Chart / Aspects description Matrix – AD impacts / Tables-Figures Aerodrome emissions regarding the entire City/ Environmental Communications Emergencies Diagram.

- END -