



ASSEMBLY — 37TH SESSION

EXECUTIVE COMMITTEE

Agenda Item 17: Environmental protection

ENVIRONMENTAL PROTECTION MEASURES IN THE CIVIL AVIATION SECTOR

(Presented by India)

EXECUTIVE SUMMARY

This information paper presents the initiatives taken by India towards mitigating the noise and carbon emissions from domestic and international air operations. The paper describes various measures taken by regulatory authorities, airlines, air navigation service providers and airport operators in reducing noise and carbon emissions.

<i>Strategic Objectives:</i>	This working paper relates to Strategic Objective C, <i>Environmental Protection – Minimize the adverse effect of global civil aviation on the environment.</i>
<i>Financial implications:</i>	No additional resources required.
<i>References:</i>	No references.

1. INTRODUCTION

1.1 With the growth and development of air transport, aviation environment has been adversely affected by noise and carbon emissions issues globally. ICAO has been addressing these issues for the last few decades. In the recent time, emphasis has been given to address these issues through the Committee on Aviation Environmental Protection (CAEP) and the Group on International Aviation and Climate Change (GIACC). A High-level Meeting was convened at ICAO Headquarters to review the Programme of Action as developed by GIACC in order to achieve the aspirational goals. A DGCA Climate Group has been also constituted at ICAO to review the Resolution on climate change for the 37th Assembly.

2. DGCA'S COMMITMENT

2.1 In line with ICAO's Programme of Action and in order to have a sustainable growth of the sector in India, DGCA has initiated necessary measures broadly classified in three categories:

- Noise mitigation measures;

- Emissions reduction initiatives; and
- Promotion of biofuels in the aviation sector.

3. NOISE MITIGATION MEASURES

3.1 The following actions have been initiated by DGCA:

- Adopting Continuous Descent Approach;
- Setting of Noise Complaints Cell at airports;
- Land-use Planning and Management Issues;
- Mixed Mode Operations at airports having more than one runway;
- Constructions of Sound Barriers along runways, where required;
- Restricted use of Thrust Reversers at runways;
- Installation of Noise Monitoring and Tracking System;
- Plotting of Noise Contours around airport;
- Identification of Airport Zone in the airport vicinity;
- Threshold noise limits for airports; and
- Restriction on Aircraft Engine Ground-Run, etc.

4. EMISSIONS REDUCTION INITIATIVES

4.1 The following actions have been initiated by DGCA:

i. Aircraft Related Technological Developments

- a) Retrofitting and upgrade improvements on existing aircraft;
- b) Adopting aggressive fuel efficiency methods;
- c) Setting of short, medium and long term fuel conservation goals;
- d) Adopting latest fuel management strategy;
- e) Planning for using biofuels as alternative to fossil fuel; and
- f) Fixing of winglets, riblets, etc.

ii. Operational Improvements

- a) Minimizing dead weights;
- b) Improving load factors;
- c) Improving ground operations & pilot trainings;
- d) Ensuring maintenance schedule to be strictly followed;
- e) Tailoring aircraft selection for a particular sector/route;
- f) Adopting Continuous Descent Approach; and
- g) Adopting Low Power Low Drag Approach.

iii. Improved Air traffic Management and Infrastructure use

- a) Improving pre-departure planning;
- b) Developing fuel efficient flight departure procedures;
- c) Improving taxing and parking methods;
- d) Identifying the bottlenecks in air traffic management;

- e) Adopting electrical/gas/alternative fuels operated ground vehicles;
- f) Replacing GPUs by direct electrical supply;
- g) Improving public transport system in airports;
- h) Restricted use of APUs and GPUs; and
- i) Switching over to aerobridge mounted electrical ground power.

5. PROMOTION OF BIOFUELS IN THE AVIATION SECTOR

5.1 DGCA is planning to promote the use of biofuels (drop-in fuels) in the aviation sector. An Advisory Group has been formed at DGCA by drawing members from stakeholders, research organizations, academia and aircraft and engine manufacturers. The prime objective of this group would be to advise ways and means to promote the use of biofuels in aviation. An Inter-ministerial group has also been formed involving concerned ministries such as Ministry of Environment & Forests, Ministry of New and Renewable Energy, Ministry of External Affairs, etc. to draw a roadmap leading to sustainable growth of aviation in the country without adding any further carbon to the environment.

5.2 In order to address this issue appropriately, a dedicated portal has been created at DGCA website. An environmental circular on Improvement of Airport Environment by Restricted use of APU/GPU has been issued wherein the stakeholders have been advised to switch over to Aerobridge Mounted Fixed Electrical Ground Power to protect the local air quality at all such airports. Other circular has been issued wherein restrictions have been imposed for aircraft engine ground run-up during day and night times. Further, airport service providers have been asked to dedicate an isolated area for engine ground run-up. In order to reduce the carbon dioxide emissions, another circular has been issued highlighting the measures that help in improving the fuel efficiency.

5.3 DGCA is also developing procedures for implementation of Continuous Descent Approach at Indian airports. This procedure will not only reduce the noise levels during approach but will also reduce the fuel burn during approach leading to overall reduction in CO₂ emissions. DGCA plans to carry out a noise study in the vicinity of Indira Gandhi International Airport, Delhi in order to notify the permissible noise level at this airport. Workshops and Seminars on environmental issues have been planned under US-India Aviation Cooperation Program (ACP).

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