AVIATION ENVIRONMENT CIRCULAR 3 OF 2010

File No. 04-01/2010-AED Dated: August 10, 2010

Subject: Voluntary Measures for Overall Improvement in Fuel Efficiency with Co-benefit of Reduction of GHG Emissions in the Indian Aviation Sector.

1. PURPOSE

The objective of this circular is to voluntarily improve the overall fuel efficiency by all stakeholders in aviation sector and as co-benefit to reduce emissions of carbon dioxide (CO₂) by adopting simple but effective measures to meet a specific goal.

The goal is annual improvement in Fuel Efficiency [fuel/RTK] above the current scenario over a 5-year period from 2010-2015.

RTK has been chosen as the preferred metric based on the metric adopted by International Air Transport Association (IATA) for calculating fuel efficiency. This metric provides a better indication of the actual social-economic performance of the sector in combination with fuel use data.

Achievements can be evaluated against a baseline of actual past emissions or a projection of baseline forecasted emissions depending upon the current growth.

2. BACKGROUND

ICAO Circular 303 on “Operational Opportunities to Minimize Fuel Use and Reduce Emissions” focuses on a compilation of operational measures that achieve near-term reductions in aircraft emissions, and in supporting ground
operations. The circular is based on the understanding that the most effective way to minimize aircraft emissions is to minimize the fuel used in operating each flight. It identifies areas where improvements can be made. It is intended to inform and describe the knowledge gained by the civil aviation industry and not to be used as the basis for any regulatory action. According to the Circular 303, the operational opportunities and techniques to minimize aircraft fuel use can be categorized as follows:

a) Fly the most fuel efficient aircraft type for the sector;
b) Fly the most fuel efficient route;
c) Fly at the most fuel-efficient speed;
d) Operate at the most economical altitude;
e) Maximize the aircraft's load factor;
f) Minimize the empty weight of the aircraft;
g) Load the minimum fuel to safely complete the flight;
h) Minimize the number of non-revenue flights; and
i) Maintain a clean and efficient airframe and engines.

There are other operational options also e.g. reduce aerodynamic drag through efficient distribution of load and technological options that may be considered as well. Clearly, all these options may not necessarily be practicable or cost effective, but some may offer fuel reduction. Technological options could include:

a) Installation of winglets on aircraft;
b) Engine retrofits and/or upgrades;
c) Re-engining aircraft;
d) Use of aerodynamically clean aircraft surface; and
e) Regular maintenance to correct aerodynamic deterioration.

Some of the options listed above are more easily accomplished by the airlines. However, others require actions by other organizations that are not controlled by the airlines. For example, some options may require the involvement of airline employee unions, air traffic controllers, manufacturers, or other stakeholders. However, some airlines may find these options attractive and therefore choose to pursue them with the appropriate stakeholders.

3. Reporting on Fuel Efficiency and Emissions

The stakeholders shall report the progress towards achieving the goal on an annual basis. Many airlines collect data regarding environmental performance for
their internal business planning purposes and some publishes detailed data as part of their annual reports. Generally, data collection should be a by-product of good environmental and management practices. Appropriate procedures and practices for data collection improve reporting and can be used to evaluate progress. The airline community itself will also have an interest in reviewing this information.

4. Interim Progress

The stakeholders may publish reports on a regular basis detailing the progress made toward achieving the goal. The aim of these reviews should be to assess progress and to determine further actions necessary for reduction in emissions. However, if fundamental changes have occurred, these reviews may also provide an opportunity for the stakeholders to assess possible changes in the goal (either increases or decreases).

The outcome of interim progress could be used in the meetings of the CAEP, its Steering Group, and all appropriate Working Groups on aviation environmental issues.

5. Format for Reporting Voluntary Fuel Efficiency Improvement and Co-benefits of GHG Reduction by stakeholders

The fuel consumption data and Revenue Tonne Kilometer (RTK) values may be submitted to DGCA in a prescribed format as given in the Annexure – I. The data is required to be submitted on quarterly basis starting from January 2010. The report for the previous quarter should reach DGCA office latest by 15th of the first month of next quarter.

(Dr. Nasim Zaidi)
Director General of Civil Aviation
1. Name of the organization

2. Type of aircraft for which fuel efficiency is being considered

3. Name of the quarter/year

4. Total fuel consumption (in liters)

5. Corresponding RTK value

6. Percentage reduction in fuel consumption (from previous quarter)

7. Fuel efficiency (Liters/RTK)

8. Percentage improvement in fuel efficiency (from previous quarter)

9. List of voluntary measures adopted

10. Reasons for no improvement in fuel efficiency (if any)

Date: ____________________________

Signature of Head of Environment cell of the organization

Verification by DGCA