International Civil Aviation Organization

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WORKING PAPER

FIFTH MEETING OF THE ALLPIRG/ADVISORY GROUP

(Montreal, 23 – 24 March 2006)

Agenda Item 2.7: Environmental benefits of CNS/ATM Systems

FUEL COSTS AND THE ENVIRONMENT

(Presented by International Air Transport Association (IATA))

SUMMARY

This paper presents concerns expressed by the international air transport industry relating to aviation fuel costs and the environment. It is acknowledged that some air navigation service providers ANSPs are making significant efforts to improve their operations, route networks and terminal area (TMA) operations. However, there is a need to recognize that recent impact of fuel costs, as well as environmental concerns, are becoming significant industry issues. The cost of jet fuel for the international operators rose sharply in 2005. Every ton of fuel burned generates four times its weight in emissions.

IATA suggests that actions by PIRGs, can lead not only to substantive savings for the air transport system, but also significantly reduced impact on the environment.

Action by ALLPIRG is in paragraph 5.

1. INTRODUCTION

1.1 IATA has established a Fuel Campaign to secure reduction of fuel burn worldwide. The campaign comprises:

- Development and distribution of IATA Guidance Material on Fuel Conservation;
- Expert "GO TEAMS" visiting Member airlines and conducting a detailed fuel audit against a checklist provided in the IATA Guidance Material.These visits in late 2005, have identified reduction potentials between 4 and 12%;
- Promotion of recommendations developed by the IATA Flight Operations and the Engineering Maintenance Working Group;
- "Save-one-Minute" campaign to press for route improvements, infrastructure enhancements, reduced flight times and improved ANSP operational efficiency.

1.2 IATA is also a long time contributor to the work of CAEP, having participated in the production of ICAO Circ 303, *Operational Opportunities to Minimize Fuel Use and Reduce Emissions*", and workshops to disseminate these best practices. The IATA guidance material includes Industry best practices, a free copy of which can be found at: http://www.iata.org/whatwedo/fuel/fuelaction/fuel_conservation.htm.

1.3 Some air navigation service providers have actively pursued efficiency measures, and their efforts have been very successful in 2005:

- More than 300 significant route improvements in Africa, America, Asia and Europe, which saved Air transport more than US$ one billion in fuel costs;
- Implementation of Reduced Vertical Separation Minima (RVSM) in the Americas which saved more than US$ 500 million;
- Agreement with 20 states and Eurocontrol to introduce improved practices and procedures.

2. ECONOMICS

2.1 Critical developments in 2005 have led to fuel prices reaching all-time highs and further increased the demand for IATA's support in this area.

- IATA estimated that the average total airplane operating cost per minute has been increased from $USD100 to USD$120 in 2005;
- Total Jet A1 Fuel Consumption in 2005 was approx. 55 billion US Gallons;
- Saving just one minute on every flight would save the industry $4.2 billion in total operating cost;
- If all commercial air transport aircraft reduced their weight by just 1 kg per aircraft per year, $1 million in fuel would be saved.

3. ENVIRONMENTAL ASPECT

3.1 Fuel optimization is of the essence. Most technological solutions have already been implemented. Therefore, efficiency needs to be achieved through the aforementioned practices and existing market forces. Airlines constantly strive to optimise and improve the fuel efficiency of aircraft engines and operations. In addition to further improvements in engine and airframe technology, gains from infrastructure and air navigation improvements will be essential in order to further offset adverse environmental effects from aircraft noise and emissions.

3.2 IATA has pledged to work on behalf of its Members to increasing awareness at ICAO, States, Original Equipment Manufacturers and Air Navigation Equipment Suppliers on impact related to Fuel Consumption. Balancing society's growing demands for air transport and the need to mitigate the impacts associated with engine emissions poses a fundamental challenge. Continuous improvements in technology have substantially reduced all emissions from modern aircraft.

4. CONCLUSION

4.1 The cost of air transport can be significantly reduced by relatively simple measures Airlines have been able to make significant progress in minimizing environmental impact and reducing their own operating costs, while ensuring required economic growth, and a continued drive for improved

operational efficiency. The already high technological and operational standards within the air transport industry make additional improvements increasingly difficult and costly to achieve. The industry needs a strong commitment from all stakeholders to continue to reduce fuel use and emissions.

5. ACTION BY ALLPIRG

5.1 The ALLPIRG/5 Meeting is invited to

a) note the information provided in this working paper; and

b) adopt the following conclusions:

Draft Conclusion 5/x – Globally coordinated ATS routes

That PIRGs:

a) establish a global consolidated, prioritized list of routes and terminal area (TMA) improvements in close coordination with airspace users; and

b) work with neighbouring PIRGs/States/air navigation service providers (ANSPs) to accelerate international route improvements.

Draft Conclusion 5/x – TMA structure and area navigation

That States:

a) employ area navigation in all TMAs, including appropriate arrival and departure procedures, to improve efficiency and reduce emissions around airports; and that, in special cases where there are particularly challenging obstacles and where air traffic density is very high and additional approach paths are possible, then the more precise and contained required navigation performance (RNP) procedures be employed; and

b) review operations, procedures and training of controllers to ensure the optimum management of air traffic services.

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