International Civil Aviation Organization

FIFTEENTH MEETING OF THE ASIA/PACIFIC AIR NAVIGATION PLANNING AND IMPLEMENTATION REGIONAL GROUP (APANPIRG/15)
Bangkok, Thailand, 23 to 27 August 2004

Agenda Item 3: CNS/ATM Implementation and Related Activities

MANAGING THE ENVIRONMENTAL IMPACT OF AIR TRAFFIC SERVICES AND ITS PLANNING

(Presented by IATA)

SUMMARY

This paper discusses the increased importance of aviation's impact to the environment. It discusses how ICAO has been mandated to address where aviation can limit or reduce the emission of greenhouse gases. APANPIRG has a responsible role in addressing environmental matters, and needs to consider the environmental issues when defining CNS/ATM systems, including the environment savings of new routes, terminal procedures and ground movements.

This paper also addresses the need to establish a simple and cost effective common methodology to assess and document environmental benefits to airspace and CNS/ATM planning initiatives and calls on ICAO, APANPIRG and States to commit to a more proactive approach to environmental management and pursue the use of operational measures that can limit or reduce the environmental impact of aircraft engine emissions

1. INTRODUCTION

1.1 Scientific research, political activity and media attention have familiarised the world with the issue of climate change and its apparent causes and consequences. Consequently aviation continues to be questioned and critiqued of its contribution to gaseous emission and noise pollution. Like the Y2K bug in 1998, it is a secondary issue today that in a matter of time will turn into a global challenge to aviation.

2. DISCUSSION

21. The Kyoto protocol will commit industrialised countries to cut their emissions of greenhouse gases between 2008 to 2012 to levels that are 5.2 per cent below 1990 levels. As of July 2004, 84 Parties have signed and 124 Parties have ratified or acceded to the Kyoto Protocol. Once legally binding, the Kyoto Protocol will affect global industries in the following ways:

- Higher energy costs to reduce demand for gasoline and electricity

- Changing fuel specifications; reduced sulphur content in gasoline
- Substantial expansion of natural gas exploration, production and delivery systems as natural gas replaces coal at utilities
- Implementation of a global emissions trading scheme.

2.2 Global emissions trading is not the buying and selling of emissions themselves, but to the trading of rights to emit greenhouse gases into the atmosphere. This requires further agreement on how to allocate carbon trading permits and distribute the revenue generated. Emissions trading will include:

- Carbon dioxide
- Methane
- Nitrous oxide
- Hydrofluorocarbons
- Perfluorocarbons
- Sulphur hexafluoride

2.3 A provision was included in the Kyoto Protocol calling for industrialized countries to pursue the limitation or reduction of aviation gases through ICAO. Therefore ICAO has the mandate to review how aviation can limit or reduce the emission of greenhouse gases

2.4 The ICAO 33rd General Assembly instructed the Council to promote the use of operational measures as a means of limiting or reducing the environmental impact of aircraft engine emissions and to submit at each ordinary session of the Assembly for review a consolidated statement of continuing ICAO policies and practices related to environmental protection. The ICAO Committee on Aviation Environmental Protection (CAEP) has been addressing environment issues and has recently developed the Operational Opportunities to Minimize Fuel Use and Reduce Emissions (Circular 303/AN/176). ALLPIRG/4 addressed environmental issues and concluded that "ICAO Regional Offices and PIRGs support ICAO/CAEP efforts to expand the methodology for the quantification of CNS/ATM environmental benefits to each region by collecting data" The APANPIRG TOR's requires APANPIRG to monitor implementation of air navigation facilities and services, taking into account environmental matters. It is clear that ICAO, APANPIRG and contracting States have a valuable role to play to address and minimise the use of fuel and its associated gaseous emissions.

2.5 More must be done in the Asia Pacific region. ICAO airspace planning forums should promote regional awareness of environment issues, pursue environmental saving initiatives, document environment benefits, promote environmental saving programmes and implement measures to reduce emissions.

2.6 There is significant room for improvement in the management of aircraft operations in Asia Pacific. Operational improvements that should be more vigorously pursued include:

a) Shortening air routes,
b) Promoting flexible flight planning,
c) Promoting RNAV and RNP over continental airspace,
d) Further expansion of RVSM,
e) Pursuing reduced separation,
f) Promote dynamic sharing of airspace between civil and military,
g) Promoting flex-tracks, DARP and UPRs in oceanic airspace
h) Promoting RNAV/FMS procedures in TMAs,
i) Promoting Continuous Descent Approaches (which can save 450-900 lbs fuel per flight),

j) Promoting Collaborative Decision Making to reduce ground delays and reroutes,

k) Promoting cruise climbs and oceanic step climbs.

2.7 In order to promote awareness, environmental savings of CNS/ATM should be addressed and environmental benefits documented. Where simple formulas or tables exist, environmental savings should be quantified to routes in the air navigation plan, proposals to airspace planning forums and in report documentation. IATA will do its part in documenting environmental savings to its proposals. Common methodology and standardisation of benefit analysis is important and CAPE should be requested to provide the ICAO Regional Offices and PIRGs with a standard format and the analytical tools for determining environmental benefits. The determination of environment benefits should not be a costly exercise but to the greatest extent possible it should be a simple and cost effective methodology to assess environmental benefits.

2.8 In summary, it is important for the ICAO Asia Pacific Regional Office, State ATS Providers, APANPIRG and its associated bodies to assess the environmental impact of specific implementation plans and to promote those benefits to the government policy makers faced with making the necessary commitments to CNS/ATM systems implementation

3. ACTION BY THE MEETING

3.1 APANPIRG is requested to:

a) recognise the mandate for ICAO to review how aviation can limit or reduce the emission of greenhouse gases;

b) recognise the mandate for APANPIRG to address environmental matters, and therefore the need to consider the environmental issues when defining CNS/ATM systems, including the environment savings of new routes, terminal procedures and ground movements;

c) note the need to establish a simple and cost effective common methodology to assess and document environmental benefits to airspace and CNS/ATM planning initiatives; and

d) commit to a proactive approach by promoting the use of operational measures that can limit or reduce the environmental impact of aircraft engine emissions.

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