



DIRECTORS GENERAL OF CIVIL AVIATION-MIDDLE EAST REGION

Third Meeting (DGCA-MID/3) (Doha, Qatar, 27-29 April 2015)

Agenda Item 7: **Environnemental Protection**

AIRCRAFT NOISE MANAGEMENT

(Presented by the Secretariat)

SUMMARY

This paper highlights the need to monitor and control noise around the airports.

Action by the meeting is at paragraph 3.

1. INTRODUCTION

1.1 Aircraft noise is the most significant cause of adverse community reaction related to the operation and expansion of airports. This is expected to remain the case in most regions of the world for the foreseeable future. Public pressure against existing operations and the development of new infrastructure could have a negative influence on the future growth of the aviation industry.

1.2 Reducing or limiting the effect of aircraft noise on people and the communities they live in is one of ICAO's environmental goals. However, the forecast growth in aviation will result in an increase in the number of people impacted by such significant aircraft noise. This may lead to an increasing community opposition to future airport development and growth.

1.3 Appendices C, D, E, F and G to Resolution A38-17 cover the issue of aircraft noise in general, while Appendices C, E and F, in particular, contain the principal elements and the basic components of a process for implementing the concept of the "Balanced Approach" to manage aircraft noise at international airports.

2. DISCUSSION

2.1 The ICAO environment-related technical activities are undertaken by the Committee on Aviation and Environmental Protection (CAEP). This Committee assists the Council in formulating policies, and developing and updating Standards and Recommended Practices (SARPs) on aircraft noise and aircraft engine emissions.

2.2 The Balanced Approach needs to be implemented with equal emphasis given to all of its four elements; reduction of noise at source, land use planning, noise abatement operation procedures and operational restrictions. Because local conditions need to be taken into account, the implementation will continue to be on an airport-by-airport basis.

Noise Abatement Operational Procedures

2.3 The meeting may wish to note that noise abatement operational procedures are being implemented to provide noise relief from both arriving and departing aircraft around airports. These procedures contribute to reducing noise levels in the vicinity of airports. Noise abatement operational procedures can be classified into three broad categories:

1- *Noise abatement flight procedures*

- Continuous Descent Operations (CDO); Noise Abatement Departure Procedures (NADP); Modified approach angles, staggered, or displaced landing thresholds; Low power/low drag approach profiles; and Minimum use of reverse thrust after landing.

2- *Spatial management*

- Noise preferred arrival and departure routes; Flight track dispersion or concentration; and Noise preferred runways.

3- *Ground management*

- Hush houses and engine run up management (location/aircraft orientation, time of day, maximum thrust level); Auxiliary power-unit (APU) management; Taxi and queue management; Towing; and Taxi power control.

2.4 It is to be noted that, there are numerous system constraints that prevent or hinder the implementation of Noise Abatement Procedures in general in particular capacity requirements, airport/ground equipment, economic constraints, airport configuration, terrain and obstacles, etc.

2.5 The magnitude and scope of the reductions, as well as the specific procedures to be used to achieve them, should be determined through a comprehensive noise study, taking into consideration all positive and negative impacts on safety and environment. The status of implementation of Noise Abatement Operational Procedures and utilization of the Noise Monitoring Systems at International Aerodromes in the MID Region is at **Appendix A**.

Airport management plans

2.6 When identifying the baseline noise situation, if an airport has an existing management or master plan, it can be a valuable tool to help estimate future noise levels. Existing management plans often include information about air traffic, for example, the number of landings and take-offs per aircraft type and runway direction, at present and for a planned period into the future.

2.7 Management plans tend to include information on the number of people affected by aircraft noise, or other environmental indicators within certain zones surrounding the airport, and any land-use restrictions already in place within those zones. They may also include housing requirements and restrictions and noise contours for current and planned traffic corresponding to the noise index used for establishing the above-mentioned housing restrictions.

2.8 In addition to any information that may be available in an existing management plan, other current and agreed-to noise mitigation measures should be taken into account in establishing the baseline. These would include measures such as noise abatement operational procedures and existing operating restrictions.

Land use planning and management

2.9 The objective of compatible land-use planning is to direct incompatible land use (such as houses and schools) away from the airport environs and to encourage compatible land use (such as industrial and commercial use) to locate around airport facilities. While not the only compatibility issue, aircraft noise has been the main issue of airport land-use compatibility conflicts.

2.10 Effective land-use measures should be identified early in order to have the most significant and lasting benefits over the long term. This is particularly appropriate to land-use planning at existing airports where it is recognized that the ability to make immediate land-use changes is limited.

2.11 As stated by the ICAO Assembly, ICAO Contracting States are urged, where the opportunity still exists, to minimize aircraft noise problems through preventive measures such as:

- locating new airports in an appropriate place, such as away from noise-sensitive areas;
- taking the appropriate measures so that land-use planning is taken fully into account at the initial stage of any new airport or of development at an existing airport;
- defining and updating zones around airports associated with different noise levels taking into account population levels and growth as well as forecasts of traffic growth and establishing criteria for the appropriate use of such land, taking account of ICAO guidance;
- enacting legislation, establishing guidance or using other appropriate means to achieve compliance with those land-use criteria; and
- ensuring that reader-friendly information on aircraft operations and their environmental effects are available to communities near airports.

2.12 The airport authority should work closely with those authorities responsible for land-use management to educate them regarding the noise impact of aviation operations.. ICAO Contracting States should provide a leadership role by encouraging local and regional authorities to implement land-use planning and management around airports through appropriate early action and cooperative mechanisms between interested stakeholders, such as coordination committees.

2.13 Based on all of the foregoing, the meeting may wish to agree on the following Draft Conclusion:

DRAFT CONCLUSION 3/X: NOISE MONITORING AND CONTROL

That, States be urged to:

- a) allocate necessary resources and develop Action Plans for noise monitoring and control; and*
- b) send progress reports on implementation status to the ICAO MID Regional Office before 1 December 2015.*

3. ACTION BY THE MEETING

3.1 The meeting is invited to agree to the Draft Conclusion at para 2.13.
