International Civil Aviation Organization

WORKING PAPER

A41-WP/209[1]
EX/95
2/8/22

ASSEMBLY — 41ST SESSION

EXECUTIVE COMMITTEE

Agenda Item 16: Environmental Protection – General Provisions, Aircraft Noise and Local Air Quality

CONTRIBUTIONS AND PROGRESS IN CIVIL AVIATION IN LATIN AMERICA REGARDING NOISE AND LOCAL AIR QUALITY

(Presented by El Salvador and supported by Member States of the Latin American Civil Aviation Commission (LACAC)[2])

EXECUTIVE SUMMARY

This working paper presents the progress achieved by the Latin America region in environment matters, with emphasis on noise and local air quality, on the basis of Annex 16, Volumes I and II, as well as Resolution A40-17 adopted at the 40th session of the ICAO Assembly. Member States of the Latin American Civil Aviation Commission (LACAC) have proactively promoted initiatives to improve environmental performance, with action taken on noise abatement, improving local air quality, reduction in greenhouse gas emissions and airport facility planning, which have been achieved owing to aviation regulations or other initiatives that have improved socio-environmental conditions in areas around airports.

Action: The Assembly is invited to:

a) take note of information presented;
b) take into account the progress of Latin American States in environmental protection and initiatives for compliance with ICAO standards on the subject;
c) continue to build States' capacity through seminars and workshops on the environment; and
d) promote specific action to give access to funding, training and the transfer of technology to developing States such as those in Latin America.

Strategic Objectives:	This working paper relates to the Environmental Protection Strategic Objective.
Financial implications:	Additional financial resources are required for the implementation of initiatives on the environment.
References:	

[1] Spanish version provided by El Salvador.

[2] Argentina, Aruba (Kingdom of the Netherlands), Belize, Bolivia (Plurinational State of), Chile, Colombia, Costa Rica, Cuba, Ecuador, Guatemala, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, Dominican Republic, Uruguay and Venezuela (Bolivarian Republic of).

1. INTRODUCTION

1.1 According to the Convention on Biological Diversity (2016), the Latin America and the Caribbean (LAC) region is host to a rich biological diversity: it has roughly 70 per cent of terrestrial life on Earth and a diversified flora and marine and freshwater fauna. Biomass in the LAC region varies from wetlands and coastal ecosystems to deserts, tropical forests, extensive savanna grasslands and high-altitude Andean habitats.

1.2 In keeping with ICAO's strategic objectives, environmental topics have been widely addressed by the Latin American Civil Aviation Commission (LACAC) through its groups of specialists, with documents and instruments being drafted as a result to assist in the application of the same noise abatement and local air quality standards encouraged by ICAO as those promoted by each Latin American State in its domestic laws.

2. DISCUSSION

2.1 With regard to noise, the States have incorporated requirements into their respective laws in order to minimize its environmental impact in consonance with the provisions of Volume I of Annex 16. El Salvador's civil regulation RAC-21, "Regulation on procedures for acceptance of certificates of aviation products" provides that the Civil Aviation Authority will issue a noise approval certificate for aircraft that has undergone recognition or certification, once it meets the applicable standards laid down in ICAO's Annex 16.

2.2 In Ecuador, compliance with the provisions of its existing environmental law, which applies to the aviation sector, is ascertained by monitoring the noise and, if it exceeds permissible levels, by taking mitigation measures where applicable. All airports in Ecuador currently meet the standards set by the country's Environment Ministry.

2.3 In Panama, Annex 16, Volume I, has been adopted through the Civil Aviation Regulation of Panama, Book XIX, Parts I and II, and on ascertainment of stage compliance, a noise approval certificate is issued for applicant Panamanian-registered aircraft. Moreover, the largest national air operator has added new and more operationally fuel-efficient aircraft and the B-737 Max to its fleet. Communities in the vicinity of the country's domestic and international airports have thus been less affected and complaints by the public and communities settled in surrounding areas have declined. Furthermore, Panama invests yearly in the maintenance of its woodlands, parks and protected areas which are home to the country's trees, stubble, sea grass and mangroves that are major carbon dioxide absorbers, so that Panama ranks third in the world as a carbon negative country.

2.4 In Peru, action taken by the State to reduce the effects of aircraft noise includes Law No. 30370, regulating the environmental management of aircraft noise, in addition to NTC-001-2013 on maximum noise levels for national and foreign aircraft operating within Peruvian territory and Supreme Decree No. 005-2019-MINAM on acceptance procedures and issuance of noise approval certificates, setting maximum permissible aircraft noise limits for aircraft operating within the national territory.

2.4.1 Moreover, in accordance with the Regulations Law No. 27261, General Civil Aviation Law, prior DGAC authorization is required for any aerodrome construction, rehabilitation, expansion, improvement and modification and, to be granted authorization, the applicant must include an environmental impact study that must be compatible with the normal course of community life and environmental protection, in accordance with Law and the regulations and technical annex thereto. Owing to supervision and oversight under these provisions, airport activity can comply with existing national and international standards by identifying and mitigating impacts and thus act on commitments undertaken in the instrument on the environment.

2.5 In Argentina, the National Civil Aviation Authority (ANAC) has established an environmental policy (Resolution 299/2017) and the Airport Environmental Management Manual (joint Resolution with ORSNA 02/2019), which supports the environment in terms of air quality.

2.6 In Mexico, noise maps were updated in 2021 in order to produce a much more highly precise noise map for each airport. The results of the measurements are being shared with stakeholders for decision-making purposes. The update has revealed a decline in noise levels (55 to 60 decibels, 60 to 65 decibels, 65 to 70 decibels, 75 to 80 decibels and more than 80 decibels) at all airports, which is due largely to the use of a more precise measurement method.

2.6.1 Considerable amounts have been invested to improve the infrastructure in order to have sufficient operational capacity and fast-track exits have been constructed on most runways, giving aircraft a more direct route to and from terminal buildings. Investment has been made in the procurement of electric vehicles as aircraft tow tractors. Airlines are being assisted in reducing their carbon emissions by ensuring that taxiing procedures are swift and efficient for aircraft after landing and before take-off. This shortens the distance that aircraft must cover and, consequently, the amount of fuel burned, thus substantially reducing carbon emissions.

2.6.2 Preventive and remedial maintenance of vehicles, aircraft, installations and equipment is monitored. Natural barriers, such as vegetation, are used to prevent the dispersion of particles in the area around airports. Work is under way on an energy efficiency and decarbonization plan to prevent emissions of gases and particles associated with air quality.

2.7 The Cuban State has acquired new aircraft with better technology and lower noise emissions and has improved approach and take-off procedures. Furthermore, procedures have been drafted for engines to be started on an apron in remote positions away from the parking slot, leading to appreciable noise reduction during aircraft take-off and landing, as a result of noise abatement on the apron and aircraft taxiing areas. The acquisition of new aircraft with better technology implies lower fuel consumption owing to the modernization of onboard aircraft equipment. Moreover, approach routes and procedures have been improved, which has led to lower emissions, as noted in yearly reports by operators (national requirement).

2.8 The State of Chile is operating a noise monitoring system at Arturo Merino Benítez Airport in order to reduce the noise variable in runway use. Furthermore, noise maps of the primary network of airports have been drawn up for consideration as a valid tool in national planning instruments, and the operation of stage 2 aircraft has been prohibited. As from 2021, new aircraft operating within the national territory must be at stage 4. The diminution of the footprint on the noise map of Arturo Merino Benítez Airport since 2016 is noteworthy.

2.8.1 With regard to air quality at Arturo Merino Benítez Airport, gas emissions from supporting vehicles on the apron are checked monthly at random. Action is also taken to monitor emissions from aircraft operation support vehicles, clean runways and taxiing routes, replace GS/APU power units by electrical connections on the boarding bridge, monitor engine start up (aircraft tow without using the engines), manage apron traffic and reduce LTO cycles. In addition, the installed advance surface movement guidance and control system (A–SMGCS) has helped to reduce local air pollution airports.

2.9 The Venezuelan State has, in Venezuela’s civil aviation law RAV36, set maximum permissible noise emission limits for subsonic jet aeroplanes, rotor-propelled aircraft, supersonic aircraft, tilt rotor aircraft and helicopters and they apply to all national and foreign air operators operating or intending to operate in, from and to the country. In accordance with the provisions of RAV36, a noise approval certificate certifying that the aircraft meets the requirements of adequacy and safety from the standpoint of the emission of intense noises or sounds, is issued pursuant the provisions of the International Civil Aviation Convention, Annex 16.

2.10 With regard to land-use planning and management, requirements relating to the application of sustainable development indicators have been included and have enabled States periodically to audit and scale environmental action in terms of aircraft noise (pollution in the vicinity of the aerodrome), air quality (pollution in areas close to the aerodrome where emissions from aerodrome activities can have an effect), waste (total waste production, broken down by organic, hazardous or recyclable category), inventory of greenhouse gases (total GHG emissions by mobile and fixed surface sources), biodiversity (direct and indirect impact of the airport on the diversity of fauna and flora in surrounding areas), water resources (final consumption and its effects on the quality of water resources used inside the airport), use of materials and resources (reuse).

2.11 Provisions on land-use planning and management have been included in national regulatory frameworks, and aspects of the protection of safety in air operations have been included in environmental regulations, as in the domestic laws of the State of Guatemala.

3. CONCLUSION

3.1 The Member States of LACAC, aware of the importance of environmental protection, have regionally and individually promoted major initiatives to improve the environmental performance of the sector.

3.2 Consideration is being given to the need for coordination in the work of the various stakeholders (civil aviation authorities, airport franchise holders, airlines) or of persons specifically in the environmental field, such as national environmental authorities in the various States. This would lead to the concentration of efforts, resources, technology and/or diagnostic measurement tools and the establishment of environmental performance indicators.

3.3 Access and capacity-building should be facilitated for developing countries, such as the Latin American States, with the support of ICAO and/or developed States, for land-use planning, noise and air quality, with a view to insertion in the standards and recommended practices by ICAO**.**

3.4 The Member States of LACAC acknowledge the valuable efforts and guidance of the International Civil Aviation Organization in environmental topics relating to air transport and urge it to continue that work and assistance to States in order to strengthen activities connected with care for and protection of the planet’s environmental systems.

4. The Assembly is invited to:

a) take note of information presented;

b) take into account the progress of Latin American States in environmental protection and initiatives for compliance with ICAO standards on the subject;

c) continue to build States’ capacity through seminars and workshops on the environment; and

d) promote specific action to give access to funding, training and the transfer of technology to developing States such as those in Latin America.

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