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### ASSEMBLY — 39TH SESSION

#### EXECUTIVE COMMITTEE

**Agenda Item 20: Environmental Protection – Aircraft Noise – Policy, Standardization and Implementation Support**

**Agenda Item 21: Environmental Protection – Aircraft Engine Emissions Affecting Local Air Quality - Policy, Standardization and Implementation Support**

#### ADDRESSING AIRCRAFT NOISE AND LOCAL AIR QUALITY IMPACTS

(Presented by the United States)

#### REVISION NO. 1

##### EXECUTIVE SUMMARY

ICAO and its Member States have committed to not only limit or reduce the number of people affected by significant aircraft noise, but also to reduce the impact of aviation emissions on local air quality. ICAO and its Member States have taken significant steps to reduce noise and local air quality impacts through policy, standards and guidance. The United States wishes to recognize the progress in each of these areas and encourage Member States to refrain from setting operational restrictions based on environmental standards.

**Action:** The Assembly is invited to:

- encourage States to refrain from setting operational restrictions based on ICAO environmental emissions certification standards;
- encourage States to follow the Balanced Approach to aircraft noise management, and avoid seeking operational restrictions until all other potential solutions have been exhausted;
- reaffirm the commitment to the Balanced Approach, including the Guidance on the Balanced Approach to Aircraft Noise Management (Doc 9829), recognizing that operating restrictions should not be applied as a first resort and only after consideration of each of the other elements;
- endorse the Committee on Aviation Environmental Protection's (CAEP) recommendation to the ICAO Council for the translation of the smoke certification standard's number limit line into an engine non-volatile particulate matter (nvPM) emissions standard and recognize it as another step towards reducing aviation emissions at the source; and
- recognize the progress and ongoing work to address the impact of emissions on local air quality and to support further work in developing a stringency level for the engine nvPM emissions standard that will replace the smoke number standard.

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| <i>Strategic Objectives:</i>   | This working paper relates to Strategic Objective E – Environmental Protection. |
| <i>Financial implications:</i> | No additional resources requested.                                              |

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| <i>References:</i> | ICAO Doc 9829 – Guidance on the Balanced Approach to Aircraft Noise Management |
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## 1. INTRODUCTION

1.1 ICAO and its Member States have committed to not only limit or reduce the number of people affected by significant aircraft noise, but also reduce the impact of aviation emissions on local air quality. ICAO and its Member States have taken significant steps to reduce noise and local air quality impacts through policy, standards and guidance. The United States wishes to recognize the progress in each of these areas and encourage further efforts to reduce aviation noise and local air quality impacts.

## 2. REDUCING NOISE IMPACTS

2.1 In February 2013, the Committee on Aviation Environmental Protection (CAEP) recommended the adoption of the “Chapter 14” aircraft noise standard. The United States is currently undertaking rulemaking to adopt the ICAO “Chapter 14” aircraft noise standard as the “Stage 5” standard under U.S. law. We strongly urge States to not introduce operational restrictions on aircraft that comply with the noise certification Standard of Annex 16 Volume I, Chapter 4 and/or 14.

2.2 In 2001, ICAO adopted the Balanced Approach to aircraft noise management. Since then, the Balanced Approach has consistently been reaffirmed by ICAO Member States as the appropriate policy for reducing aircraft noise and is reflected in 2013 Resolution A38-17. The Balanced Approach is comprised of four principal elements: 1) reduction of aircraft noise at source; 2) land-use planning and management measures; 3) noise abatement operational procedures; and 4) operating restrictions, with the goal of addressing the noise problem in the most cost-effective manner.

2.3 The Balanced Approach calls for a tailored airport-by-airport approach to addressing noise, and therefore each of the elements should be considered. However, it should be noted that, as agreed at the 33rd Assembly in 2001 and reaffirmed since, operating restrictions should not be applied as a first resort but only after consideration of the benefits to be gained from the other elements and in a manner which is consistent with Appendix E of Assembly Resolution A38-17.

2.4 The United States has experienced increasing public and political complaints about aircraft noise exposure as the result of the implementation of Performance-Based Navigation (PBN) and other procedural changes due to improvements in technology. Due to this increase in noise-related concerns, the United States continues to focus on implementation of the Balanced Approach to reduce noise impacts on our communities. The Federal Aviation Administration (FAA) uses a noise management framework which incorporates all elements of the Balanced Approach. Recently, the United States has provided heightened focus in areas such as community involvement, noise abatement operational procedures and research on the impact of aviation noise. In fact, the FAA recently updated a version of its Community Involvement Manual. In addition, the FAA Noise Compatibility Planning Program (14 CFR Part 150) is a regulatory program under which airports develop plans to manage and address aircraft noise. Separately, in order to obtain an operating restriction, airports must make an application to the FAA, under 14 CFR Part 161, and demonstrate a number of factors, including demonstrating that there is a noise problem that is not sufficiently addressed through the other elements of the Balanced Approach and that the restriction is reasonable, cannot be achieved through less burdensome means, and is not a burden on interstate commerce.

2.5 The United States encourages other ICAO Member States to continue to support the Balanced Approach and consistently apply it in addressing noise. In particular, focusing solely on

operating restrictions as a means to reduce noise is not consistent with the Balanced Approach. Instead, States should look to all principles of the Balanced Approach and pursue operating restrictions only after consideration of the benefits to be gained from other elements of the Balanced Approach and consistent with ICAO Assembly Resolution A38-17.

### **3. REDUCING IMPACT OF EMISSIONS ON LOCAL AIR QUALITY**

3.1 Addressing the potential local air quality impacts from aircraft engine emissions is an important element of reducing the impacts of aviation on the environment. Aircraft engine emissions from non-volatile particulate matter (nvPM) have the potential to impact local air quality. While emissions from aircraft are just one source of the total contributions to local air quality, it is important to develop an improved scientific understanding of aviation's impacts and to take measures to further reduce the impacts of these emissions.

3.2 In February 2016, CAEP approved and recommended ICAO adoption of a new nvPM standard for aircraft engines set at a regulatory level that matches the smoke number visibility standard. This new standard mandates that all new and in-production engines of rated thrust >26.7 kN certify for nvPM emissions whose date of manufacture of the individual engine is on or after 1 January 2020. Adoption of the nvPM standard is the first step of a two-step standard setting process agreed to by CAEP Members to replace the smoke number standard and further reduce the local air quality impacts of aviation. In order to successfully achieve reductions in local air quality impacts, the United States encourages Member States to continue to pursue a first stringency to the engine nvPM emissions standard by the CAEP/11 meeting in February 2019. Furthermore, the United States supports adding nvPM emissions from aircraft engines to CAEP's technology review and goals setting process.

### **4. ACTION BY ASSEMBLY**

4.1 The Assembly is invited to:

- a) encourage States to refrain from setting operational restrictions based on ICAO environmental emissions certification standards;
- b) encourage States to follow the Balanced Approach to aircraft noise management, and avoid seeking operational restrictions until all other potential solutions have been exhausted;
- c) reaffirm the commitment to the Balanced Approach, including the Balanced Approach Guidance Document (Doc 9829), recognizing that operating restrictions should not be applied as a first resort and only after consideration of each of the other elements;
- d) endorse the Committee on Aviation Environmental Protection's recommendation to the ICAO Council for the translation of the smoke certification standard's number limit line into an engine non-volatile particulate matter (nvPM) emissions standard and recognize it as another step towards reducing aviation emissions at the source; and

- e) recognize the progress and ongoing work to address the impact of emissions on local air quality and to support further work in developing a stringency level for the engine nvPM emissions standard that will replace the smoke number standard.

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