



**Fifth Meeting of the Programmes and Projects Review Committee (PPRC/5)**  
 Mexico City, Mexico, 16 to 18 July 2019

**Agenda Item 5: Review of GREPECAS Programmes and Projects and Subsidiary Groups**

**5.10 Progress report of the Latin American and Caribbean Association of Airfield Pavements (ALACPA)**

**FOLLOW-UP OF THE ACTIVITIES OF THE LATIN AMERICAN AND CARIBBEAN ASSOCIATION OF AIRFIELD PAVEMENTS (ALACPA) AS SUPPORT FOR THE ICAO NACC AND SAM OFFICES**

(Presented by ALACPA)

**EXECUTIVE SUMMARY**

This Working Paper presents a summary of the activities that the Latin American and Caribbean Association (ALACPA) carries out together with the ICAO NACC and SAM Regional Offices, aiming at complying with the common objective: “To Contribute to the States on the compliance of the ICAO Standards and Recommended Practices (SARPs), towards the elimination and/or mitigation of the airfield pavement deficiencies in the AGA Area of the CAR/SAM Regions”.

<b>Action:</b>	Invite the Meeting to take note of the activities and to comment on the challenges that are identified inside their respective administrations and those that ALACPA can give support, in coordination with the ICAO NACC and SAM Regional Offices.
<i>Strategic Objectives:</i>	<ul style="list-style-type: none"> <li>• Safety</li> <li>• Capacity and Efficiency of the Air Navigation Area</li> </ul>
<i>References:</i>	<ul style="list-style-type: none"> <li>• Doc 9750 – Global Air Navigation Plan (GANP), 6<sup>th</sup> Ed.</li> <li>• Doc 10004 – Global Aviation Safety Plan (GASP)</li> <li>• Annex 14, Vol. I, Aerodrome Design and Operations</li> <li>• ALACPA’s By-Law</li> </ul>

**1. Introduction**

1.1 The sixth Edition of the Global Air Navigation Plan (GANP) has identified, in the benchmark of its Basic Building Blocks (BBB’s), the aerodrome design and maintenance as a fundamental block of the driving force for the Aerodrome Operations. ICAO has also recognised the BBB as the fundamental blocks for the implementation of the navigation area improvements. Furthermore, in order to guarantee a good implementation of the air navigation improvements, it is necessary to implement the SARPs, which are the essential part of the BBB.

1.2 The Global Safety Plan (GASP) has pointed out that the States need to guarantee adequate infrastructure, in the air navigation area and aerodromes, to give support for safer operations.

1.3 ICAO has recognised that poor friction coefficient of the runway pavements is an important predecessor of the higher risks of aviation accidents and incidents related to runway excursions. This parameter should be maintained at the levels established by the States, taking into consideration a correct pavement maintenance plan and the adequate runway pavement design criteria in order to avoid runway excursions.

1.4. Finally, the ICAO Annex 14, Vol. I establish the obligation (standard) of the States to keep pavement maintenance programmes, according to its Chapter 10, as follows:

*10.2.1 The surfaces of all movement areas including pavements (runways, taxiways and aprons) and adjacent areas shall be inspected and their conditions monitored regularly as part of an aerodrome preventive and corrective maintenance programme with the objective of avoiding and eliminating any foreign object debris (FOD) that might cause damage to aircraft or impair the operation of aircraft systems.*

1.5 In addition, this Working Paper presents on how ALACPA is providing support to ICAO, promoting the good-design of pavements through new design techniques and best practices as well as efficient maintenance in benefit of the Safety Strategic Objective.

## **2. Background on ALAPCA**

2.1 2.1. The Latin America and Caribbean Association of Airfield Pavements (ALACPA) was found in 2002, when a group of participants of the Seminar on Airfield Pavements and Short Course on the Aircraft/Pavement Interaction, Aerodromes and Ground Aids, organised by ICAO and carried out in Santa Cruz de la Sierra, Bolivia, decided to accept the challenge to create an Airfield Pavement Technical Association, unprofitable organization, encompassing the Latin America and the Caribbean Regions. Later on, in October 2003, in Monterrey City, Mexico, during the Third GREPECAS AGA-AOP/SG3, ICAO the first draft of the ALACPA´s By-Law was approved.

2.2 The key objective of ALACPA is “To Contribute to the States on the compliance of the ICAO Standards and Recommended Practices (SARPs), towards the elimination and/or mitigation of the airfield pavement deficiencies in the AGA Area of the CAR/SAM Regions”. As being so, ALACPA has carried out bi-regional events (CAR/SAM) and other cooperation activities, since 2002, focusing on the implementation of improvements on the pavement maintenance and design of runways, taxiways and aprons of the CAR/SAM Regions.

2.3 Fifteen Annual Seminars were carried out, as follows: Lima (2003), Bogota (2015), Lima (2007), Miami (2010), Buenos Aires (2011), Panamá (2012), México (2013), Santiago de Chile (2014), Cartagena de Indias (2015), Panama (2016), Quito (2018) and Costa Rica (2019).

### 3. Activities in 2019

3.1 According to the ALACPA's Working Plan, the XV Seminar on Airfield Pavements, XIII FAA Workshop, VIII Short Course on Airfield Pavement Maintenance were carried out in San José, Costa Rica, From 17 to 21 June 2019).

3.2 On Thursday, 20 June 2019, ALACPA's had its Annual Assembly, when its Board of Directors, 2018-2019, presented its report on activities and plans for the future. They were approved by the membership. The current ALACPA's Board is:

- President: **Mr. Fernando Ratto, M.Sc.**
- Vice-president: **Prof. Claudia Azevedo (D.Sc.)**
- Secretary: **Mr. Augusto Díaz**
- Administrative Director: up to 07/2019, **Dr. Gonzalo Rada, Ph.D.** and from 08/2019, **Mr. Giovanni Bruni**
- Promotion and Technical Director: **Mr. Gustavo Fernández Favarón, M.Sc.**
- Academic Director: **Mr. José Mauricio Ortiz Orden**
- Coordinator for South America: **Ms. Karen Camarena**
- Coordinator for Central America and The Caribbean: **Mr. Jorge Castro, M.Sc**

3.3 More than 140 participants and 27 States attended the Seminar. Over 30 speakers delivered 35 technical presentations related to standards, investigation, construction, pavement management and maintenance. The event agenda and the technical presentations can be found at <https://www.alacpa.org>.

3.4 The objective of the 15th version of the ALACPA's Seminar was to promote the implementation of Pavement Management Systems (PMS). The States and ICAO have identified PMS as an acceptable mechanism to maintain the aerodrome pavements able to guarantee Safety conditions, regularity and/o efficiency of the air navigation. Besides the technical presentations on best practices and experiences, a survey was carried out as a complementary activity. The results of this survey are found at <http://www.alacpa.org/2019-ALACPA-Resultado-ENCUESTA-OnLine.pdf>.

3.5 Likewise, the Short Course on Pavement Maintenance, in its 2019 version (Workshop), focuses on the discussion, among the participants, on advantages and disadvantages of the use of asphalt concrete dense mix, with application of grooving versus Porous Friction Course (PFC) versus Stone Matrix Asphalt (SMA). This issue was planned based on the experience of some aerodrome operators on the application of SMA, which are not shown the expected performance in some cases. A Report with the Conclusions of the Workshop can be found at <http://www.alacpa.org/20190620-FLIMSY-XV-ALACPA-MTTO-Course.pdf>.

### 4. Technical Support to the Objectives of The ICAO NACC and SAM Offices

4.1 As being the Regional Forum for Airfield Pavements, ALACPA is in close collaboration with the ICAO AGA Regional Officers for the identification of actions that can give support to the SARP's implementation related to airfield pavement design and maintenance management.

4.2 In this regard, ALACPA is currently in process of updating the “Rapid Guide on Pavement Maintenance, in accordance to ICAO Annex 14”. This work was initiated by ACI-LAC inside RASGPA (Regional Aviation Safety Group Pan-America). At this moment, this guidance material is under Spanish revision before its translation to English and its presentation during the next RASGPA ESC Meeting (2019).

4.3 In addition, as a result of the ALACPA’s 15th Seminar, Working Groups are in coordination for the elaboration of documents that materialise four aspects proposed by the General Assembly. They are: G1 “Roughness and Friction”, G2 “Standards”, G3 “Structure” and G4 “Maintenance”. The expected products are:

- Comparative analysis or design guidance for the use of asphalt concrete dense mix with grooving *versus* PFC *versus* SMS (G3)
- Comparative analysis of software for Pavement Management Systems (G4)
- Position paper on the inconvenience of the IRI (International Roughness Index) for runway requirements and a proposal on how to evaluate runway roughness (G1+G2)
- Translation of technical documents for helping ALACPA’s members (G2)

## **5. Suggested Action**

5.1 The Meeting is invited to:

- a) Take note on the information provided on this Working Paper;
- b) Analyse the Appendix A to this Working Paper;
- c) Comment on topics that currently are challenges to States, where ALACPA could collaborate.
- d) Invite the audience to participate on the next ALACPA’s XVI Seminar on Airfield Pavements, XIV FAA Workshop and IX Short Course on Airfield Pavement Maintenance. The place of the event will be informed through invitation letters.