



**Agenda Item 4**

**Review of Task Forces Activities, CARSAMPAF and ALACPA**

4.8 Progress in the activities of the Latin American and Caribbean Association of Airfield Pavements ALACPA

(Presented by ALACPA Technical and Communications Director)

**SUMMARY**

The purpose of this working paper is to inform the participants of the Seventh Meeting of the GREPECAS Aerodromes and Ground Aids/Aerodrome Operational Planning Subgroup (AGA/AOP/SG/7) about the actions carried out and activities developed by the Executive Board of the Latin American and Caribbean Association of Airfield Pavements (ALACPA).

**References:**

- Report of the V Annual Seminar of Airfield Pavements, First Business Meeting of Airfield Pavements and Third Workshop of Airfield Pavements Design –FAARFIELD- for North America, Central America, the Caribbean and South America (NAM/CAR/SAM), México City, México, from 27 to 31 October 2008.
- Report of the ALACPA VI Airfield Pavements Seminar, IV FAA Workshop and II Business Workshop, San Pablo, Brazil, from 26 to 30 October 2009.

1.0 **Introduction**

1.1 In the ALACPA VI Airfield Pavements Seminar, IV FAA Workshop and II Business Workshop, Sao Paulo, Brazil, from 26 to 30 October 2009, and according to ALACPA Organic and Operational Regulation, the election of the new Executive Board presently in office took place. This will be responsible of conducting ALACPA during the following two (2) years, namely 2009 and 2011.

1.2 The new Executive Council is composed by the following members:

- William B. Fullerton, Chairman
- Gilberto Vásquez Alanís, Vice-chairman
- Wilhelm Funcke, Secretary and Treasurer
- Gustavo Fernández Favarón, Technical and Communications Director
- Gonzalo Rada, Academic Director
- Fernando Ratto, Administration Director
- José M. Martínez Cal, South American and Caribbean Coordinator

1.3 It is worth to mention, that within the Executive Council composition, as in any other forum, professionals from different aeronautical activity such as aviation authorities, businessmen, consultants and airport administrators coexist. This particular mix of professionals is enriched by discussions and having different points of view, without missing their main objective which is improving the quality of the standards in aerodromes pavements for the region.

## 2.0 **2008/2009 Activities**

2.1 In 2008, the V Annual Seminar of Airfield Pavements, First Business Meeting of Airfield Pavements and Third Workshop of Airfield Pavements Design FAARFIELD for North America, Central America, the Caribbean and South America (NAM/CAR/SAM), was held in Ciudad de México, México, from 27 to 31 October 2008. The host was ASA, the State Company of Airports and Special Services. The seminar was a success; developed in 8 technical sessions, it covered a large number of areas from pavement design, operational safety, maintenance, field demonstrations, runway friction clinic to FAARFIELD workshop presented by the Federal Aviation Administration (FAA) from the USA. More Than 170 attendees from 14 countries participated: Administrators, Professionals, Consultants, Manufacturers, and mainly, Government Officials from Latin America, the Caribbean and the USA. Directly or indirectly everybody was involved in airport pavements activities. Technical sessions were complemented by the participation of 15 companies involved in the construction and maintenance of airport pavements.

2.2 The workshop presented by the FAA, has become a regular activity in ALACPA seminars. The latest upgrades in software for flexible and rigid airport pavement design are made available to all the participants, as well as PCN determination, retro calculation, etc. These software has been provided by the FAA even before their official release. The professionalism and permanent collaboration from the FAA colleagues is worth to be pointed out.

2.3 The participation of the Boeing Company is also important, specially their experience in the pavement-aircraft interaction study. Regarding technical presentations, the different experiences, especially information from other countries with a variety of climates, geographies and resources, producing a large range of experiences and methodologies that could be applied by the different administrations or airport operators.

2.4 Other important achievement during 2008 was the optimization of the web page [www.alacpa.org](http://www.alacpa.org), which, besides providing institutional information, it distributes technical information for visitors, promoting knowledge and improving operational safety culture within the region aerodromes.

2.5 During the 2008/09 period, the Executive Council held more than 12 meetings via teleconference, and more than 700 emails were exchanged. Planning and reporting activities were carried out by active members in their areas of responsibility. However, the most important achievement in this period was the organization of the Seminar held last month in Sao Paulo.

2.6 This year, the ALACPA VI Airfield Pavements Seminar, IV FAA Workshop and II Business Workshop was held in Sao Paulo, Brazil from 26 to 30 October 2009, The host was INFRAERO, the state administrator for a network of more than 60 airports, who is also responsible for the airspace. More than 150 attendees from 14 countries participated in the seminar, Administrators, Professionals, Consultants, Aircraft manufacturers and mainly Government Officials from Latin America and the Caribbean, as well as constructing companies, services and products suppliers. All the attendees had the opportunity to exchange experiences and knowledge, increasing their technical skills and operational safety levels.

2.7 The Seminar, developed during an intense working week, offered 12 technical sessions, including different issues such as runway friction (evaluation, conservation, recuperation techniques, etc.), destructive and non-destructive evaluation methods (HFWD), pavement design and evaluation methods, aircraft-pavement interaction, rehabilitation experiences in different countries, quality control and assurance, new non-destructive evaluation equipment, aeronautical operation safety jobs, and many other issues of interest in the region.

2.8 The Federal Aviation Administration introduced to the participants the latest version of the pavement design software FAARFIELD 1.3 and the Advisory Circular AC 150/5320-6E, officially released in the United States September 30<sup>th</sup> 2009. This new AC replaces AC 150/5320-6D used for pavement design until last month. The fourth FAA workshop also presented the latest version of the FAA software suite: COMFAA PCN, BAKFAA, FEAFAA and PROFAA. COMFAA PCN provides a great solution for PCN evaluation since this new version considers the aircraft mix with their individual ACN's and allows the evaluation of different PCN's as result the critical aircraft influence.

2.9 Regarding the non destructive pavement evaluation using FWD, a technique which is becoming widely used in the Region for repair, evaluation and maintenance strategies. BAKFAA, is capable of retro-calculation for aircraft with complex gear which have been incorporated lately. For concrete pavement design, there is a very effective tool developed using the finite elements concept, the FEAFAA program.

2.10 Lastly, a very important matter for airport pavements in the Region, and recently incorporated in the last Annex 14 amendment, is the evaluation of pavement roughness. The FAA presented the PROFAA software, providing a great working tool in this area. The highlight was the participation of Boeing and EMBRAER, presenting papers in runway roughness, tire pressure, and their influence in pavement structure and PCN. The importance of surface maintenance and treatment for aircraft-pavement interaction.

2.11 The technical sessions were completed with speakers from several countries, in topics such as improvement in operational navigation safety, through the application of surface treatment techniques to achieve friction (modified asphalt mixtures, transversal grooving, micro-glomerates, porous mixtures, etc.). Friction methods, evaluation equipment, and the importance of reliable data (equipment calibration, whatever its function is, mainly friction and HFWD). The sessions also included presentations on new rehabilitation and maintenance products, as well as techniques presented by commercial members, offering all the necessary information.

2.12 The lines above provide an idea on the magnitude of this event, the technical level achieved and the technical update given to the participants. The main objective through the seminar was to provide an environment for discussion and exchange of experiences among the States in the Region. Regarding the organization, two actions were implemented for the first time in this seminar, one prior to the event and the other one after it. The first one related to pre-registration (via Web page), which eased the normal registration in these types of events, and the second and final, related to a survey for determining the level of service in general and the technical topics dealt with. The results were highly positive and concerns and subjects were gathered for the next seminar. Three countries have formally offered to be host of the next Seminar: Panama, Costa Rica and Ecuador.

### 3.0 **ALACPA Status**

3.1 Regarding the institutional aspect, ALACPA currently has more than 250 associates from more than 20 States in the NOR/CAR/SAM and other ICAO Regions. The Executive Board and their

collaborators are professionals from various countries such as, United States, England, Mexico, Argentina, Peru, Brazil, Costa Rica, Panama, etc.

3.2 One of the main objectives of ALACPA is achieving quality standards for airport pavement in the Region, by dealing with areas related to planning, design, construction and maintenance management, to provide a safe and efficient pavement surface for air operations. This is the reason for which ALACPA is responsible to contribute towards the elimination/mitigation of deficiencies in the CAR/SAM aerodromes.

3.3 Through technical seminars, our Association has consolidated itself in the Region as the only technical forum related to airport pavements in collaboration with States for the improvement of the knowledge of the professionals dedicated to this area.

#### 4.0 **Purposes of ALACPA**

4.1 Support the States which are part of the International Civil Aviation Organization (ICAO) in the compliance of their standards and recommendations regarding aerodrome pavement planning, design, construction and maintenance.

4.2 Provide assistance to public and private organizations, operators, airport administrations and all involved in civil aviation. Disseminate better practices for aerodrome pavement planning, design, construction and maintenance.

4.3 Carry out annual seminars and participate with other international organizations such as ICAO, Airports Council International (ACI), Federal Aviation Administration (FAA), Air Line Pilots Association (ALPA) and others, to present the results of the studies and investigations in the aerodrome pavements area, with the objective of exchanging experience and knowledge.

4.4 Promote the awareness and remedy to the environmental impact regarding aerodrome pavement activities.

4.5 Promote investigations, studies, workshops, seminars, courses, meetings, among other things, relative to aerodrome pavement planning, design, construction, material selection, maintenance and management systems.

4.6 Carry out annual meetings of the association, either separate or together with events of international organizations and its specialized working groups to present results of studies and investigations carried out by the North American, Caribbean and South American States, as well as other countries, with the aim of exchanging experience and knowledge.

4.7 Create awareness on the importance of aerodrome pavements for the carrying out of safe airport operations.

#### 5.0 **FAA seminars and workshop**

The annual ALACPA seminar has the aim of providing a forum to present and discuss ideas, concepts and results of studies and investigations carried out and related with aerodrome pavements. Its ultimate objective is to exchange experiences and knowledge. The first seminar was held in Santa Cruz, Bolivia, in July 2002. Subsequent seminars were held Lima, Bogota, Mexico and Sao Paulo.

#### 6.0 **Actions of ALACPA**

6.1 Survey – Specifications for flexible pavements, based on performance. ALACPA supported a project on Airfield Asphalt Pavement Technology Program (AAPTP) to carry out a number of interviews to the various actors working in the design, construction and management of airport pavements. The objective of these interviews was to gain from the experience of the airport operators and pavement experts around the world, in support of the development of specifications within a behaviour-based environment. To this end, the Project developed a list of 57 candidates to interview. Some were aircraft manufacturers, airport operators, military, consultants, governmental officials, experts and contractors. Eight (8) of the candidates to the interview were from international agencies, which included one aircraft manufacturer, airport operators, personnel from government agencies and consultants.

6.2 Collaboration from Airports Council International – Latin American Caribbean (ACI-LAC). ALACPA has allied with the ACI-LAC Operations Committee, Technical Committee and Security Committee at the meeting of the general board of said organization, Medellin, April 2008. Collaboration activities forming part of the 2008 work program for both organizations are the following:

- Study of the pavement condition at the main airports in the Region, including roughness and structural capacity.
- Study of the RESA (runway end safety area) situation at the main airports in the Region.
- Establish a friction control equipment calibration and certification centre.
- Prepare a comparative study on security programs regarding constructions at main aerodrome sites with operations.

7.0 **Action suggested**

7.1 The Meeting is invited to take note, review and comment on the present working paper.

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