



ASSEMBLY — 39TH SESSION

EXECUTIVE COMMITTEE

Agenda Item 23: ICAO Civil Aviation Training Policy and Capacity Building in Aviation

TRAINING – LABOR OF SPECIALIZED ORGANIZATIONS IN THE ARGENTINE REPUBLIC

(Presented by Argentina)

EXECUTIVE SUMMARY

This working paper has as a main objective to spread the advances and the efforts of the Argentinean State in the area of training in the aeronautical industry. The role of the specialized aeronautic centers of instruction, which allows the development and setting of training courses, workshops and seminars according to the needs of the officials and professionals of the member States, is also detailed. This activity guarantees the development of processes trending to upgrade the professional standards of the aeronautical personnel. The management and organizational structure of the Instituto Panamericano De Aviación Civil (IPAC)² along with the granting of five (5) scholarships as a contribution to training are also presented.

The Assembly is invited to:

- a) take notice of the efforts being made by the Latin -American region and Argentine in particular, in the field of capacitation through IPAC and the Centro de Instrucción, Perfeccionamiento y Experimentación (CIPE);
- b) invite Member States to participate in common initiatives to actively encourage aeronautical training in the Pan-American region;
- c) propose the Council the creation of an Ad hoc committee, to deepen the strategies in the matter of competency-based language testing;
- d) promote the flow of reports, papers and issues related to the competency-based language problem among member States;
- e) be aware of the progress status of ICAO's web site translation into Spanish; and
- f) promote the offer of five (5) scholarships for TRAINAIR PLUS and AVSEC courses in the Argentine Republic.

<i>Strategic Objectives:</i>	This paper relates to the Safety, Air Navigation Capacity and Efficiency and Security & Facilitation Strategic Objectives.
<i>Financial Implications:</i>	Not applicable.
<i>References:</i>	

¹ English and Spanish versions provided by Argentina.

² T's.N: Panamerican Civil Aviation Institute

1. INTRODUCTION

1.1 The Argentine Republic has been making important efforts in the field of capacitation for the development of the aeronautic industry staff in a national, regional and international level. This is done through the effort of the specialized instruction centers, whose work encourage the implementation and execution of courses, workshops and seminars which are adequate to the particular needs of the public officers and specialists of the member States. This is aimed at facilitating the development of processes with the purpose to enhance the educational standards of the aeronautic staff.

1.2 As part of these efforts after the 21st Assembly of the Comisión Latinoamericana De Aviación Civil (CLAC)³, held in Antigua Guatemala, in November 2014, and in the first meeting of the Executive Committee, the Argentine Republic, in its role of Focal Point in the macro task of “Training”, has started an arduous task aiming at setting up, running and developing the IPAC.

1.3 The continuous and gradual material, judicial and financial- advances, along with the regional studies about the current state of affairs of training needs for the civil aviation management have been presented progressively in the Group of Experts on Economic, Political and Legal Affairs in Air Transport (GEPEJTA), in the Assembly and in CLAC’s Executive Committee. These training needs have been detected throughout surveys, statistical analysis, charts elaboration and other activities aiming at IPAC’s relaunching.

1.4 On the grounds of those advances, in the LXXXVII Meeting of the Executive Committee of the CLAC, held in the month of March, 2016 in the City of Mendoza (Argentine Republic), IPAC’s operation statute was approved, so that through its practice, the Pan-American region is able to provide a suitable academic offer to the training necessities of the Member States. Likewise, a Financing Agreement between the Argentinean Aeronautical Authority and the CLAC was subscribed, for the provision of technical cooperation aiming at the implementation, consolidation and running of the Institute.

1.5 IPAC was constituted as an international authority with legal identity and own patrimony. It is set up in Ciudad Autónoma de Buenos Aires, Argentine Republic and it will turn into an international center of training, research and consultancy in the civil aviation field, as a non-profit organization, backed by an international cooperation and communications network, seeking for levels of excellence with specialists of acknowledged prestige.

1.6 IPAC is made up of the following units for its administration. Its members will deliver their office for four (4) years with the possibility of being re-elected: The Executive Committee; the Director, who will be designated by International Public Contest of Background Qualifications; Vice Director; the General Secretary; the Academic Department; the Research and Assessment Department and; the Legal and Administrative Department.

1.7 IPAC’s vision is to foster, update and guarantee the training of civil aviation personnel and international air commercial transportation in the area of management, along with other national training centres.

1.8 IPAC’s fundamental objectives are: to identify the training and qualification needs concerning civil aviation; to implement and to administer research and assessment plans on the integration of air transport in Latin America; to deepen the studies related to the investigation of aviation accidents, the harmonization of norms and procedures of air transport and civil aviation at regional level; to contribute to the improvement of efficiency and safety in the civil aviation industry; to strengthen

³ T’s N: Latinamerican Civil Aviation Commission

collaboration in the academic and cultural fields and to update legislation in the matter of civil aviation in the region.

1.9 With the intention of reaching those objectives, IPAC will carry out the following functions: to design, program and deliver courses, seminars, workshops, conferences and meetings, as well as other similar events, to extend the knowledge in all civil aviation areas of expertise, to establish agreements of technical cooperation, collaboration and investigation/research, to produce reports, bibliographical and documentary material and to develop educational activities of research and consultancy directed to the field of civil aviation.

1.10 The Centro de Instrucción, Perfeccionamiento y Experimentación (CIPE) , dependent on the National Civil Aviation Administration (ANAC), will act as one of the main providers of IPAC in the Pan-American Region as well.

2. PROPOSAL

2.1 From the CIPE and now from the IPAC, the Argentine Republic continuously works to design, program and deliver courses of different areas of expertise, with the purpose of inducing an improvement process tending to upgrade professional standards of the personnel related to civil aviation and, more specifically, those of international commercial air transportation. In this WP, we present our progress in two particular issues: The stress impact in relation to the functions of aviation personnel and implementation of a Language Proficiency Certification Process.

2.2 The problem of stress impact in relation to the functions of the aeronautical staff is supposed to fulfill, is nowadays a subject of great interest and concern in different spheres. In order to soften its consequences, the Argentine Republic is developing a process of setting up a “Stress Management Program” called Mindful Systems⁴, based on the principles of Mind-Body Medicine, and supported by cutting edge scientific research developed in the most prestigious universities worldwide⁵ and practically applied in the different sectors of aeronautical activity (refer to Attachment A to see the program).

2.3 In addition to the « Stress Management Program », the Argentine Republic is committed to work in the pursuit of the harmonization in the implementation of the evaluation criteria and has designed and implemented a Language Proficiency Certification Process (Competency-Based Language Assessment) in the English language that has, for the time being, certified 79% of the operational staff (refer to Attachment B to see the process).

2.4 Regardless of all these efforts and aiming at seeking accessibility and integration of the Spanish-speaking aeronautical community, CIPE has translated ICAO’s home page and web-browser interface into Spanish, and it is committed to update it monthly. Thus, a wider access to ICAO’s latest developments is provided for Spanish-speaking-aeronautical community.

2.5 In view of the above and as a commitment for the professional development of civil aviation staff, the Argentine State, will grant five (5) scholarships to candidates of different member States who apply to attend TRAINAIR PLUS and AVSEC courses offered by CIPE.

⁴ <http://www.mindfulsystems.com.ar>

⁵ UCLA, YALE, Harvard, NYU, UMASS, Universidad de Carnegie and Universidad de Liebig

APPENDIX A

THE PROBLEM OF STRESS IMPACT

1. The problem of stress impact is widely recognized by the world aeronautic community, given the importance of the control of the intervening human factor in aviation, in relation to error mitigation pursuing to obtaining the highest standards in the matter of safety. In this sense, ICAO has established approaching policies to this problem through the *Human Factors Training Manual* (Doc 9683-AN/950) and its related documents.

2. So, one of the most important factors, and one of the hardest to deal with, is the high level stress a person is subjected to, which has its origin in a countless amount of factors that are related to the surroundings, his personal life and the working context.

3. For that reason, some world-wide organizations have started developing for some years now, study documents that outline working policies on staff stress management regarding critical incidents, for instance, the document issued by the “European Organization for the Safety of the Air Navigation^{6 7}”. Among other precedent, we can also mention notes of study of “The International Journal of Aviation Psychology⁸” and the “National Air Transportation Association⁹”.

4. On the other hand, it should be noted that more than 4000 scientific research papers in the matter of neurosciences¹⁰, guarantee that the Mind-Body medicine approach to the stress problem produces structural changes in the areas of the brain associated to integrated thought, concentration, mental approach, memory, adequate handling of emotions and resistance to stress, which ends up in positive changes in behavior and the maximization of the capacity of critical situation analysis, increasing functional and operational performance.

5. The main lines of investigation associate Mindful Systems practices with:

- **STRESS:** The reduction of levels of stress (measured on the basis of the reduction of cortisol levels), which directly repels in the overall health and the correct operation of the nervous system. The regular practice elevates the stress tolerance “threshold”.
- **ATTENTION AND BEHAVIOR:** It promotes the stability and the attention control, producing greater “attention efficiency”, which impacts on a greater self-control ability and the reduction of automaticity in the answer.
- **EMOTIONS:** The vital cycle of emotional state diminishes, reducing the levels of “reactivity” and enhancing glee levels, since it reduces depression and it increases self-acceptance and self-knowledge, helping the practitioner to detach from his own reactions, to see them from

6 Human Factor Module. Critical Incident Stress Management. Eurocontrol (HUM.ET1.ST13.3000-REP-01)

7 Critical Incident Stress Management. Eurocontrol (CISM_Guidance_V2_Oct08_GUL_HUM)

8 Impact of Mindfulness Training on Physiological Measures of Stress and Objective Measures of Attention Control in a Military Helicopter Unit. Published online 2016 May 10. doi: 10.1080/10508414.2015.1162639

9 Effective Training Tools for the Air Traffic Control Industry.

10 Darren J. Good Pepperdine University Christopher, J. Lyddy Case Western Reserve University, Theresa M. Glomb University of Minnesota, Joyce E. Bono University of Florida, Kirk Warren Brown Virginia Commonwealth University, Michelle K. Duffy University of Minnesota, Ruth A. Baer University of Kentucky, Judson A. Brewer University of Massachusetts Medical School, Sara W. Lazar, Harvard Medical School y del Dr John Ratey, principal promotor de los estudios de Medicina Mente-Cuerpo en Harvard Medical School entre otros.

different approaches, with greater clarity and perspective, allowing for control of the own mind and everything going on inside it.

- **COGNITIVE ABILITY:** It improves the handling areas of the cognitive ability such as “operative memory” and “fluid intelligence”, facts that derive in the increase of “cognitive flexibility”. It allows your own mind’s control at the time of approaching a problem and reacting to an impulse.
- **HEALTH:** It fortifies the immunological system and it improves the comprehensive functionality of the body, reduces diseases linked to stress, chronic states of anxiety, panic, insomnia, depression, addictions, et cetera. It allows for the achievement of a suitable balance of the chemistry of the brain and the main regulatory neurotransmitters as dopamine (which calms the mind and is associated to learning, satisfaction and level of attention), norepinephrine (which amplifies the signals that influence attention, motivation and impulsiveness) and serotonin (which influences humor, impulsiveness, anger and aggressiveness). It additionally stimulates the production of inhibiting neurotransmitters like GABA (Gamma Amino Butyric Acid), which contributes to release anxiety, induce a state of calm, eliminate tension and balance sleep disorders.
- **STRUCTURAL CHANGES IN BRAIN AREAS ASSOCIATED TO INTEGRATED THOUGHT:** They increase concentration and memory (prefrontal cortex and hippocampus) that undergo changes that allow a greater efficiency. The practice promotes neuroplasticity effects, which help to reverse the process of “erosion” of neuronal networks caused by chronic stress and which allow for the development of integral benefits at a cognitive level, which even persist once the activity is interrupted.

6. In the Argentine Republic, this program has been fostered by an interdisciplinary team composed of health and aeronautical professionals, and includes four specific areas of training and development: Mindful Stretching, Mindful Fitness, Mindful Training and Mindful Leadership. These four areas of training are supplemented in an integral system developed to keep the excellence level that the performance of on-the-job- trainee demands over time, allowing for a greater degree of efficiency and well-being.

APPENDIX B

COMPETENCY-BASED LANGUAGE ASSESSMENT PROCESS

1. By the end of the 90s, studies showing an association between safety and the English linguistic competence of pilots and air traffic controllers have been disclosed by ICAO, being this linguistic deficiency one of the most important factors in the matter of aviation incidents.
2. In this sense, ICAO Assembly adopted the A32-16 Resolution in 1998 so that the Council urged to direct the Air Navigation Commission to consider, with a high level of priority, the matter of English language proficiency and to complete the task of strengthening the relevant provisions of Annexes 1 and 10; aiming that Member States develop policies to ensure that operative personnel is proficient in conducting and comprehending radiotelephony communications in the English language. Subsequently, the Proficiency Requirements in Common English Study Group (PRICESG) assisted the Secretariat in carrying out a comprehensive elaboration of the first edition of ICAO's *Manual on the Implementation of ICAO Language Proficiency* (Doc 9835) in 2004.
3. The A36-11 Resolution instructed the Council to support the States in their implementation of the language proficiency requirements (LPRs) by supporting globally harmonized language testing criteria (ICAO Circular 318, Language Testing Criteria for Global Harmonization **2009**), aiming at improving the air transport safety standards.
4. Diverse interpretations of ICAO requirements as regards linguistic competence, usually lead to certain differences in the application of the language testing criteria in the region. This has been shown in different regional and international events organized to promote the reflection on this concern, such as those of the International Civil Aviation English Association (ICAEA) or the Interregional English Language Proficiency Workshop (held in Kuwait, from 9 to 15 November 2015). Undoubtedly, as point number 5 points out in the A38-8 Resolution adopted by ICAO 38th Assembly in 2013, it is necessary that States cooperate regionally in the implementation of the LPRs.
5. CIPE has the privilege to hold worldwide acknowledgement in competency-based language training and assessment for Air Navigation Service Operators, among others. CIPE has an outstanding performance in Aeronautical English and Phraseology courses, as well as workshops and seminars.
6. In order to join and strengthen the work done by ICAO to face the challenges that the standardization of LPRs implementation at a regional level means, CIPE's proposal is centered in:
 - 1) Setting up an Ad hoc team in the scope of the Council to agree on and design strategies that help to harmonize, in the Spanish-speaking region, the competency-based language training and assessment processes among key operational civil aviation staff, in all the Spanish-speaking region.
 - 2) Promoting the awareness and discussion about LPRs implementation tools, through regional and/or interregional workshops offering its own facilities and resources. The results of such meetings will stand as an input to step forward in the definition of harmonization strategies.
 - 3) Editing and publishing papers related to the English language competency problem, with CIPE's own resources and inviting the rest of the States to take part in. This effort will promote the circulation of important information within the Regional States, providing the creation of a documentation center that meets the best practices of both, training and assessment.