



WORKING PAPER

COUNCIL — SPECIAL MODEL SESSION

Subject No. XX: Challenges relating to the projected shortages of skilled aviation personnel

**NEXT GENERATION AVIATION PROFESSIONALS'
REQUIREMENTS FOR SUSTAINABLE DEVELOPMENT**

(Presented by the Russian Federation)

EXECUTIVE SUMMARY

Challenges associated with a shortage of skilled aviation personnel have been a matter of special attention of the aviation community more than 10 years. The 1st NGAP Symposium in 2010 opened a new era for coordinated efforts of the international aviation community aimed at the fastest solution of these global challenges. It is obvious that the efficiency and goal-directedness of training of the next generation of aviation professionals (NGAP) is one of the key elements for successful realization of this initiative. This document provides some suggestions that may not only attract the interest of young people to work in the aviation industry, but also could improve productivity of training processes, as well as could help to retain young qualified professionals within the aviation sector by creating favorable conditions for a NGAP's advanced training and career development.

Action: The Council is invited to:

- a) *consider* a creation of ICAO NGAP Task Force (NGAP TF) for a gathering of best training practices in order to develop SARPs for training and developing competence of the professionals, including qualification requirements for various aviation professions, as well as for harmonization of certification requirements for specialized training organizations;
- b) *invite* ICAO Member States to assist in the work of the NGAP TF through development of proposals based on national NGAP development programs and their best practices;
- c) *recommend* to regional civil aviation organizations together with industry to develop regional activities programmes aimed at promoting aviation professions for young people and supporting NGAP on-the-job training at aviation's manufacturing and operating enterprises;
- d) *consider* establishment of a unified global and/or regional databases of aviation professionals, which will include their current status and competence level for better planning of aviation sector needs for aviation professionals;
- e) *consider* establishing the NGAP Section at the time of Assembly Sessions and other ICAO High level events.

<i>Strategic Objectives:</i>	This working paper relates to all Strategic Objectives
<i>Financial implications:</i>	Funding under the ICAO Regular Programme budget and through voluntary funds for NGAP development programs.
<i>References:</i>	Documentation of the Next Generation Aviation Professionals Symposium, Montreal, March 1-4, 2010.

1. INTRODUCTION

1.1 Air transportation is one of the fastest growing transport systems, the development of which is global in nature. Considering forecasted annual five percent rate of air traffic growth around the world, in the coming decades, the need for new highly qualified professionals will only increase.

1.2 However, in the last decade serious problems have been revealed associated with global shortage of qualified aviation professionals, not only with regard to shortage of flight crews, but also even largely, with regard to shortage of ground qualified maintenance personnel including air traffic control specialists.

1.3 Besides the increase in the required number of professionals, one of the most important factors in this challenge is also the increase in their professional skill level, which directly affects the safety, security and efficiency of air traffic. That is to say, the international civil aviation community faces the challenge of providing sustainable NGAP development.

2. RECRUITING IN AVIATION

2.1 To ensure the availability of professionals in the long-term perspective, it is necessary to use an integrated approach at various stages of the future professionals' development. Formation of interest in aviation should begin from childhood. Involving young people into aviation world should begin as early as at elementary school age. At this stage, the family has a major influence, as well as extra-curricular activities in school.

2.2 An important role in shaping hobbies and interests of children is that of the family. Often, children follow their parents' example. So special attention should be paid to the families of aviation professionals. It is necessary to provide all conditions for these parents to familiarize children with their work, and not only tell about aviation, but show it to children from inside. There is a wide variety of methods, which could be used, including so-called "parent days" when aviation professionals with their children can visit aviation enterprises they work at. Aviation enterprises may organize visits to exhibitions, air shows and other events related to aviation for their employees with children.

2.3 It is necessary to provide professionally oriented support for schools (lectures, meetings with representatives of aviation professions, etc.) and extracurricular activities such as visits to museums and exhibitions related to aviation, and aviation enterprises. Indeed, sometimes it is enough just to show a cockpit to teenagers and let them sit in the pilot's seat, in order to arouse their interest in aviation. Perhaps it is worth providing facultative studies at schools on the history of aviation and its modern development. Specially made computer games related to aviation can also play a role in promoting the aviation industry

2.4 Aviation enterprises itself should play a more intensive role in recruiting future aviation professionals. To do this, personnel departments at aviation enterprises probably should establish specialized programs targeted to the popularization of aviation professions among adolescents and young people. Lectures and meetings with aviation experts can be organized, as well as excursions to enterprises, and open days at institutions dedicated to training of aviation professionals, familiarity with training devices and flight simulators. It is possible to organize excursions to civil aviation enterprises, where one can show the work of technical support and control services usually invisible for non-professionals.

2.5 One of the directions of their activities should be popularization of aviation by establishing new aviation museums and expanding existing ones, holding exhibitions, creation of documentaries, etc.

3. EDUCATION AND TRAINING

3.1 Activities on creation of conditions for a future recruiting of aviation professionals to the industry should continue at students' stage. It is reasonable to let students be acquainted with their future profession from their first days in university, so that they get more interested in their future profession during training.

3.2 Meetings with professionals from aviation enterprises and representatives of personnel departments should be included into curriculum of a specialized universities and colleges. To facilitate young professionals' adaptation at their future working place, aviation enterprises should organize working places for students suitable for concurrent work and education (part-time working day). Moreover, the possibility of on-the-job training at various enterprises should be provided. Some of these initiatives are already in place but their effectiveness is extremely low as there is neither system, nor training program, nor guidelines. Within this framework, the aviation community should urge the enterprises to establish well-structured programmes for hiring young professionals without any working experience.

3.3 Where it is possible, in order to ensure affordable education it is necessary to organize specialized training facilities for a professional training established by aviation enterprises. Such approach would help to train ready-to-work professionals within relatively short time. In this case, the aviation enterprise could take upon oneself a student fee on the terms that after the qualified professional will continue work at the enterprise for a specified period. This scheme would help to reduce recruitment needs of qualified professions within a comparatively short timeframe.

3.4 Having said this it would be appropriate to summarize some measures, which could improve quality and efficiency of young professionals' training:

- a) to organize on-the-job training at aviation's manufacturing and operating enterprises, focused on obtaining necessary aeronautical experience and qualification skills, which allows to undergo a professional certification upon graduation;
- b) to include lectures and workshops with the assistance of professionals from leading enterprises into university syllabuses;
- c) to organize seminars with representatives of allied aviation and scientific organizations;
- d) to incentivize interest to get acquainted with advanced technologies, equipment and aircraft's design at manufacturing enterprises.

4. PROFESSIONAL CAREER BUILDING AND STAFF RETAINING

4.1 It is no surprise that most of young professionals place a priority on opportunity to have a career development rather than to higher salary or initial working conditions. It should be considered as one of the most important factors for a staff retaining. To this end, any young professional has to be sure that his performance has direct relation to a career building since his first day of working at the enterprise.

4.2 Nowadays, quite often, one of the main reasons that force young professionals to change their professional choice are lack of motivation and absence of clear and real outlook of career progress in the aviation industry. In many cases it can be explained by insufficient motivation of enterprises in creation of the new generation of professionals as skilled practitioners, which could be capable in the future of fulfilling functions important for development of the aviation as a whole rather than just doing well their current duties.

4.3 It is important to provide following conditions for young professionals' within-post career development:

- a) qualification trainings and courses;
- b) training at aviation's manufacturing enterprises with issuance of certificates meeting various qualification criteria;
- c) supplementary studying in related fields and trades for self-improvement;
- d) attending workshops, symposiums and conferences;
- e) visiting enterprises that are leading in their professional field to get to know advance developments and directions of the aviation industry development;

4.4 It is also important to set relations between NGAPs and the older generation of aviation professionals, who can share experience, give advices, and suggest best way how to find a solution or needed information. This aspect plays an important role in shaping and developing a young professional. For this purpose, mentors should be assigned in order to support young professionals (maybe for extra payment).

4.5 Another good solution could be establishing of the Young Professionals' Board at the enterprise. This body may unite young professionals to share the knowledge they gained and to discuss organizational and technical ideas, and civil aviation issues as well. Trainings, workshops and qualification courses could be organized as part of the board activities. It seems reasonable to organize meetings of the board members at various (regional and multinational) levels at symposiums or conferences. Participation in these events is one of the key factors in developing qualifications of the new generation of aviation professionals, as well as the feeling of belonging to the aviation community.

5. THE TASK OF FORMING THE GLOBAL AVIATION COMMUNITY

5.1 Taking into account a globalization of transport and equipment unification, it is reasonable to make efforts to establish an informal community of aviation professionals. Organization of forums and conferences at web sites of aviation equipment manufactures and airlines with the assistance of the leading experts of enterprises as moderators may be the important trigger of the process. Here it will be possible to put questions and discuss various professional issues with colleagues and receive qualified answers. These forums and conferences may also be used to organize online meetings with developers and testers of new aviation equipment and leading experts from airlines.

6. ADDITIONAL SUGGESTIONS

6.1 In the following some suggestions for the system of continuing education and further training of young specialists:

- a) to develop SARPs for training and developing competence of the professionals, including qualification requirements for various aviation professions;
- b) to harmonize certification requirements for specialized educational organizations, as well as for aviation professionals with various levels of competence;
- c) to establish a global and/ or regional databases of aviation professionals including their current status and competence level;
- d) to hold on regular basis conferences and meetings on issues of staff training with the involvement of personnel departments of aviation enterprises and young professionals;
- e) to involve NGAP in ICAO panels' activities as panel members' consultants;
- f) to establish for NGAP 'career development opportunities programs' in national and international organizations;
- g) to support establishing an Internet community of aviation professionals (establishing and supporting forums and conferences with the involvement of experts of manufacturing enterprises and operating organizations as moderators);
- h) to establish the NGAP Section at the time of Assembly Sessions and other ICAO High level events.

7. CONCLUSION

7.1 In order to solve the challenge of the global shortage of the aviation professionals and achieve sustainable quantitative and qualitative development of NGAP, it is important to make globally coordinated and targeted efforts at the national and international levels in the near future while understanding these efforts as an investment to the successful future of aviation.

7.2 In addition, these efforts should lead to a well-structured and efficient system of NGAP recruiting, training and qualification growth.

7.3 Particular attention should be paid to retaining of already trained specialists by creating prospects for career and professional growth.