



Agenda Item 2: Air Navigation Matters
2.4 Human Resources Strategy and Training for the Next Generation of Aviation Professionals (NGAP)

STRATEGIC ENHANCEMENTS TO HUMAN RESOURCES TRAINING AND MANAGEMENT

(Presented by the Secretariat)

SUMMARY	
This Working Paper presents recent ICAO guidance on human resources related matters and proposes actions to develop a CAR Regional Aviation Training Plan.	
References:	
• Doc 9426 - <i>Air Traffic Services Planning Manual</i> • NACC/DCA/2 Report, Tegucigalpa, Honduras, 11 – 14 October 2005 • NACC/DCA/3 Report, Punta Cana, Dominican Republic, 8-12 September 2008. • Next generation of Aviation Professionals (NGAP) Symposium • GREPECAS CNS/ATM/SG/01 Report, Lima, Peru 16 – 19 March 2010	
Strategic Objectives	<i>This working paper is related to Strategic Objectives A and D.</i>

1. Introduction

1.1 Bearing in mind that *human performance* is centered on human capacities and limitations, which have an impact on safety and efficiency of air operations and systems performance, the NACC/DCA/2 Meeting agreed that the objective of human resources planning is to ensure that Civil Aviation Administrations have qualified personnel in the different air navigation services. To this end, through Conclusion 2/27 – *Human resources and Training Planning*, it was recommended that Civil Aviation Authorities initiate as soon as possible, the human resources and training planning process required to implement the new emerging systems. The administrations should therefore develop human resources and training planning programmes in the different aeronautical fields.

1.3 Moreover, the Third Meeting of North American, Central American and Caribbean Directors of Civil Aviation formulated the following related conclusions:

CONCLUSION NACC/DCA/3/11 HUMAN RESOURCE PLANNING AND TRAINING IN THE NAM/CAR REGIONS

That those States/Territories/International Organizations that do not have Human Resource Planning for air navigation services, safety oversight and civil aviation security consider the guidance material included in Appendix A to this part of the Report, and

- a) *develop, not later than 30 September 2009, a five-year Human Resource Plan including a civil aviation personnel training programme that includes the implementation and operation of the ATM system, safety oversight and civil aviation security; and*
- b) *promote the participation of specialists in activities sponsored by ICAO (courses, seminars, workshops, etc.) taking into account that such activities are aimed at complementing and updating civil aviation personnel training.*

CONCLUSION NACC/DCA/3/12 AERONAUTICAL TRAINING STRATEGY FOR THE CAR REGION

That ICAO, in coordination with the CAR Region States, develop a regional training strategy that includes:

- a) *determining CAR States training needs;*
- b) *develop regional instructors to train CAR Civil Aviation Administration aeronautical technical personnel;*
- c) *agreements to share training plans and programmes among the CAR Civil Aviation Training Centres (CATCs), taking into account the ICAO technical cooperation programmes;*
- d) *develop regional training guidelines in accordance with the ICAO TRAINAIR programme guidelines; and*
- e) *present progress on this regional strategy at the NACC/DCA/4 Meeting.*

2. Discussion

ICAO USOAP findings

2.1 Based on the USOAP's results, many deficiencies are related to a lack of qualified and experienced personnel, suitable training, license/certification system, and authorities regulating and supervising service providers' performance.

Next Generation of Aviation Professionals

2.2 Additionally, in the future years, the demand for aviation professionals will exceed supply. Training capacity will be insufficient to meet demand; and learning methodologies do not match the learning styles of the next generation.

2.3 Civil aviation is facing some difficulties: wholesale retirements in the current generation of aviation professionals, accessibility to affordable training, competition with other industry sectors for skilled employees, a lack of harmonization of competencies in some aviation disciplines, and a lack of awareness by the "next generation" of the types of aviation jobs available.

2.4 Moreover, regulators, members of industry, trainers and education providers, clearly need to coordinate the human resource data collection process. ICAO gathered some interesting and astonishing numbers as follows:

- In the next 20 years, airlines will have to add 25,000 new aircraft to the current 17,000-strong commercial fleet.
- By 2026, 480,000 new technicians will be required to maintain these aircraft and over 350,000 pilots to fly them.
- Between 2005 and 2015, 73% of United States air traffic controller population is eligible for retirement.

2.5 There are many tools to make use of and many approaches, to ensure sufficient numbers of aviation professionals are developed for the future, from human resource planning tools to new learning technologies and methodologies that are well adapted to the next generation. Civil Aviation must be part of the solution to ensure a large and well-trained next generation of aviation professionals.

2.6 To this end, the next generation of aviation professionals (NGAP) initiatives were launched to ensure that enough qualified and competent aviation professionals are available to operate, manage and maintain the future international air transport system. In May 2009, the NGAP Task Force was created and was instrumental in supporting the preparatory work for the NGAP Symposium conducted at ICAO from 1 to 4 March 2010. The NGAP Task Force held its second meeting on 5 March 2010 after the symposium and established a work programme that will address the enhancement of training for flight crew, air traffic management and aircraft maintenance personnel to meet the demands of new procedures and increasingly complex technologies. The High-level Safety Conference (HLSC), held in Montréal in March 2010, recommended that States and international organizations should support the work of the NGAP Task Force.

2.7 The second meeting of the NGAP Task Force recognized that several aviation professions deserved attention and that competencies should be developed for them. To develop materials in a timely and effective manner, however, it was decided to follow a phased approach. Participants of the task force volunteered to contribute to sub-groups which have been created for the following deliverables.

a) **Accreditation/endorsement**

Deliverable: Support the development of a policy and criteria for institutions that are approved to deliver Annex 1 — *Personnel Licensing* related training and Government Safety Inspector training by October 2010 which will allow voluntary ICAO endorsement of aviation training institutions by the end of 2010.

b) **Flight crew licenses**

Deliverable: Develop competencies for flight crew in the left seat, check airmen and instructors for large aeroplanes (greater than 5 700 kg) powered by turbine engines by December 2011.

c) **Air traffic management professionals**

Deliverable: Develop competencies for air traffic controllers and air traffic safety electronics personnel (ATSEP) by December 2011.

d) **Second NGAP symposium and outreach**

Deliverable: Lead the Organization in planning the next global symposium and/or alternative event scheduled provisionally in late 2011.

Deliverable: Develop and implement a communication strategy to reach out to the next generation of aviation professionals.

GREPECAS CNS/ATM SG 1 Meeting

2.8 GREPECAS CNS/ATM/SG 01 Meeting developed a list of short and mid-term training requirements to be used as a reference for CAR/SAM States guidance on the development of their aeronautical training programmes (Appendix D to Agenda Item 6 of CNS/ATM/SG/01 Report). Also draft *guidelines for the preparation of a GNSS training programme based on GBAS and SBAS* (Appendix E to Agenda Item 6 of CNS/ATM/SG/01 Report).

2.9 The efficiency of an air navigation organization and emerging technologies needs personnel to comply with minimum professional proficiency requirements, with skills and knowledge necessary to manage the work duties. Proficiency in human factors is the element driving the evolution of the organization so that it may develop its potential.

2.10 As a first step, the organization's capacity of available human resources should be assessed and the number of required personnel planned in line with particular duties of each post and to each work unit should be calculated, taking as a basis the forecast air traffic demand, the tasks or roles of the personnel as well as the workloads. The analysis should be in line with the mission, targets and evolution of the organization foreseen in the long term. Additional elements to be taken into account are weekly rest periods, vacations and other foreseen leaves. For example, guidance is available on Doc 9426 for ATS personnel.

2.11 Considering all the above mentioned activities and guidelines, and in attention to the NACC/DCA Conclusions, the Meeting is invited to approve the following draft conclusion:

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CAR REGIONAL AVIATION TRAINING PLAN

That, in order to plan for the provision of aviation training required for 2012 – 2016 in the CAR Region:

- a) C/CAR States/Territories review and consider the recommendations of the Next generation of Aviation Professionals (NGAP) Symposium;
- b) ICAO send a letter to States/Territories by 31 July 2010 requesting information on future aviation training required by its personnel and provided by recognised institutions offering aviation training in its State/Territory, for replies to be received by ICAO by **30 September 2010**;
- c) ICAO send a letter to International Organisations by 31 July 2010 requesting information on aviation training required by its members' personnel and aviation training provided in the CAR Region by its Organisation and/or members, for replies to be received by ICAO by **30 September 2010**;

- d) ICAO:
 - i) analyse the information provided by States/Territories/International Organisations;
 - ii) prepare a report on regional aviation training needs in States/Territories for 2012 - 2016;
 - iii) prepare a directory of existing aviation training providers in the region recognised by States/Territories/International Organizations;
 - iv) identify the future aviation training required for which there are presently no suitable providers in the Region;
 - v) recommend options for the development and provision of the additional future training required;
 - vi) prepare a regional plan for aviation training provision for 2012 – 2016; and
 - vii) circulate these documents to States/Territories/International Organisations by 30 November 2010 for review and comments, for replies to be received by ICAO by **31 January 2011**;
- e) ICAO prepare and present the draft regional training plan for the CAR Region for 2012 – 2016 to the NACC/WG/3 Meeting to be held in Guatemala in April 2011; and
- f) ICAO revise and present the final regional training plan for the CAR Region for 2012 – 2016 to the NACC/DCA/4 Meeting to be held in June 2011.

3. **Suggested Actions**

3.1 The Meeting is invited to:

- a) consider within the State/Territory national human resources planning, the results and the on-going tasks of the Next Generation of Aviation Professional activities, as well as the guidance developed by GREPECAS; and
- b) review and approve the draft conclusion presented in paragraph 2.11.