Agenda Item 6:   **Analysis of environmental protection and sustainable development of air transport**

c) Follow up of the activities of the special team on the next generation of aeronautical professionals (NGAP)

(Presented by the Secretariat)

SUMMARY

This working paper presents information on ICAO initiatives concerning training requirements and those related to qualified and competent aeronautical professionals to support short, medium and long term requirements of the aeronautical community and training planning for developing the competencies of air navigation personnel in the SAM Region, in support of the NGAP initiative.

References:

- ICAO NGAP initiatives http://www2.icao.int/en/NGAP/default.aspx;
- Electronic bulletin EB 2010/40 (28 September 2010);
- CIAC/10 meeting report (Lima, Peru, 8-12 November 2010);
- GREPECAS/16 meeting report (Punta Cana, Dominican Republic, 28 March to 1 April 2011;
- Seminar/Workshop on the Plan for the implementation of the performance-based air navigation system in the South American Region -- Plan for the implementation of performance-based air navigation in the SAM Region (Lima, 9-13 May 2011);
- Doc 9956 - Global and Regional 20-year Forecasts – Pilots, Maintenance Personnel, Air Traffic Controllers (*English only*);
- 37th ICAO Assembly (Montreal, 28 September — 8 October 2010); and
- High-Level Safety Conference (Montreal, 29 March - April 2010).

ICAO strategic objective:	*A - Safety* *C – Environmental protection and sustainable development of air transport*

1.   **Background**

1.1   The international community recognises that, in the short term, there will be a deficiency of trained professionals in the various fields of aviation, taking into account, amongst other aspects, that a good portion of the current generation of aeronautical professionals is about to retire, and that new qualified and competent aeronautical professionals to replace them are not widely available in view of the competition with other areas of the industry.

1.2   In order to face future aeronautical requirements, there is a need to harmonise the level of competence in the different aeronautical disciplines, and to identify new types of jobs.

1.3   The statistical studies conducted by the aeronautical community worldwide, as contained in ICAO Doc 9956 - *Global and Regional 20-year Forecasts – Pilots, Maintenance Personnel, Air Traffic Controllers (English only)*, show that:

    a)   During the next 20 years, airlines will have to add 25,000 new aircraft to the 17,000 aircraft already in existence in the larger commercial fleets;

    b)   By 2026, 480,000 new technicians will be required to maintain such aircraft, and about 350,000 pilots to fly them; and

    c)   Between 2005 and 2015, 73% of air traffic controllers in the United States will retire.

1.4   In view of the importance of the aforementioned items and in order to ensure that a sufficient number of new competent and qualified professionals are available to operate, manage and maintain the future international air transport system, ICAO launched the initiative of the next generation of aeronautical professionals (NGAP).

1.5   NGAP is an ICAO initiative for finding solutions to the lack of aeronautical professionals with the right profile to meet civil aviation requirements. The aeronautical community has determined that the supply of aeronautical professionals does not meet the demand. Part of this is due to the fact that, in the last few years, aviation has lost its appeal, mainly due to lack of possibilities of making a good career and of having labour stability.

1.6   In May 2009, the NGAP task force was established, and this was decisive to support the preparatory work of the NGAP Symposium, which was held in ICAO Headquarters on 1-4 March 2010. The NGAP working group consists of representatives of the industry, training centres, regulatory institutions and international bodies. Its short-term objectives are to develop an inventory of planned human resources, to identify and support initiatives related to the next generation of aviation professionals, and to look for ways of harmonising training regulations.

1.7   The NGAP Symposium had more than 400 participants (including more than 80 students) from 71 States and 14 international organisations, reflecting the interest of the aeronautical community on this matter.

1.8   The 37th ICAO Assembly (Montreal, 28 September —8 October 2010) supported the work of the special NGAP team, and confirmed the need to prepare guidelines for harmonising and standardising aeronautical personnel training requirements.

1.9   The High-Level Safety Conference (HLSC) (Montreal, 29 March-1 April 2010) recommended that States and international organisations support the work of the NGAP special team.

1.10   In order to keep the aeronautical community informed about the function and activities--conducted and planned--of the NGAP, ICAO has posted all the relevant information in the following website: http://www2.icao.int/en/NGAP.

2.   **Discussion**

2.1   In parallel with activities related to the NGAP, ICAO developed in 2010 the civil aviation training policies, which appear in **Appendix A** to this working paper. This training policy will allow ICAO to start endorsing aeronautical training institutions by the end of 2011.

2.2   The training policy includes a process to endorse training organisations and courses, covering all aspects of safety and security, and supplements the work of the special team on the next generation of aviation professional (NGAP).

2.3   The ICAO civil aviation training policy enables the implementation of an integrated framework whereby any training provided by ICAO or third parties is assessed to ensure consistency with the most stringent training course design and development standards, in support of training organisations and courses.

2.4   The NGAP working group will complete by December 2011 the development of competencies for most of the functions of Annex 1 – *Personnel Licensing*, including airline pilots (ATPLs), air traffic controller (ATCO), air traffic safety electronics personnel (ATSEP) and maintenance personnel. In this regard, the publication of Amendment 170 to Annex 1 is foreseen for 17 November 2011, as well as the publication of an air navigation service planning document for training (PANS/TRG).

2.5   Likewise, the NGAP task force supports the development of a policy and criteria for institutions that are approved to provide training related to *Annex 1 – Personnel Licensing* and training for government safety inspectors.

2.6   Regional dissemination of the NGAP initiative is being done through regional conferences on NGAP. To date, three regional conferences have been held: South Korea, Morocco, and Romania.   Likewise, the holding of a Fourth Regional on the New Generation of Aeronautical Professionals (NGAP) and TRAINAIR *PLUS* - Americas, has been coordinated to be held in Quito, Ecuador, on 14-16 November 2011.

2.7   The main objectives of ICAO for these NGAP conferences are:

> a)   Raise awareness and establish effective communication links at regional level on NGAP matters with the States, regional organisations, operators, the industry, training centres and students;
>
> b)   Provide a regional forum for the exchange of good practices and experience on various matters related to NGAP;
>
> c)   Reach out to a new generation: open discussions between ICAO, the aeronautical community and the students, with a view to setting an objective and better channelling NGAP initiatives; and
>
> d)   Promote aviation as an exciting career for future professionals. Hence, student participation is essential.

2.8   ICAO has scheduled a second symposium on the next generation of aviation professionals on 11-13 April 2012. At this symposium, all the results of the activities conducted by the special NGAP team, as well as the activities carried out by States in this regard, will be presented.

2.9   In the SAM Region, meetings with the Directors of Civil Aviation Training Centres (CATCs) are conducted on a yearly basis to assess current and future air navigation requirements. The first CATC meeting was held in Lima, Peru, in November 1996. They continued to be held until 2003 (CATC/7) and, after a period of inactivity, the CATC/8 meeting was held in November 2008. The last meeting (CATC/10) was held in Lima, on 8-12 November 2010. The Eleventh Meeting of Directors of Civil Aviation Training Centres (CATC/11) was held in Quito, Ecuador, on 17-18 November 2011, following the Fourth Regional Conference on the Next Generation of Aviation Professionals (NGAP) and TRAINAIR PLUS - Americas. The reports and documentation produced by the CATC meetings are available on the website of the ICAO SAM Regional Office:
http://www.lima.icao.int/MeetProg/MeetingProgramme.asp.

2.10   Taking into account the new requirements derived from the implementation of the ATM Operational Concept, SAM States are contemplating plans for developing the competencies of air navigation personnel, taking into account the global air navigation plan initiatives, as well as the new provisions and requirements for their implementation in the short and medium term, as specified in the performance-based air navigation system implementation plan for the SAM Region, which appears in **Appendix B** to this working paper.

2.11   Taking into account the aforementioned aspects, the GREPECAS/16 meeting approved Conclusion 16/5 – *CNS/ATM training programme for developing the competencies of aeronautical professionals in the CAR/SAM Regions,* so that the States of the Region may do the follow up and review the results of NGAP activities, establish training programmes in accordance with the performance objectives identified in the performance-based implementation plans of the Region (*Performance-based air navigation system implementation plan for the SAM Region*) and inform the respective ICAO Office by the end of September 2011.

2.12   In this respect, and in order to have competent and qualified professionals in the various aeronautical fields, SAM States should do the follow up of NGAP activities and consider implementing their results. Likewise, they shall have a training plan to ensure the competence of current and future aviation professionals.

3.   **Suggested action**

3.1   The Meeting is invited to:

a)   take note of the information contained in this working paper;
b)   review the civil aviation training policies shown in Appendix A to this working paper;
c)   participate at the Fourth Regional Conference on the Next Generation of Aviation Professionals (NGAP) and TRAINAIR *PLUS* -- Americas, to be held in Quito, Ecuador, on 14-16 November 2011, and at the Eleventh Meeting of Directors of Civil Aviation Training Centres (CATC/11) to be held in Quito, Ecuador, on 17-18 November 2011;
d)   analyse the results of ICAO NGAP initiatives presented in this working paper; and
e)   establish national training programmes, taking into account the training plan for the development of the competencies of air navigation personnel, shown in Appendix B to this working paper, and inform the SAM Regional Office by the end of December 2011.

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EB 2010/40   28 September 2010

ICAO CIVIL AVIATION TRAINING POLICY

1.   ICAO has adopted a new training policy featuring an endorsement process of training organizations and training courses. The new training policy addresses all areas of aviation safety and security and will complement the work of the Next Generation of Aviation Professionals (NGAP) Task Force. The ICAO civil aviation training policy enables the implementation of a comprehensive framework to ensure that all training provided by ICAO or third parties will be assessed to ensure it meets vigorous standards for the design and development of training courses.

2.   The civil aviation training policy will be supplemented by an endorsement package including specific criteria which will be developed by the end of 2010. These criteria will extend the Organization's ability to implement key activities relating to training and testing derived from its strategic objectives.

3.   Training institutions that are currently endorsed will be reassessed within the next triennium. Those seeking new endorsements of training activities are responsible for developing and/or offering courses that fully meet ICAO standards and methodological requirements, including its current objective of evolving toward more competency- and performance-based training approaches, where applicable.

Enclosure:
   ICAO Civil Aviation Training Policy

Issued under the authority of the Secretary General

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ATTACHMENT

ICAO CIVIL AVIATION TRAINING POLICY

Scope

1. ICAO has an important role to play in ensuring that the civil aviation community, and especially States, have access to the pool of qualified professionals they need to support the safe, secure and sustainable development of air transport.

2. ICAO's role shall essentially be achieved through the facilitation, support and harmonization of efforts made by States and industry; the development of Standards and Recommended Practices (SARPs), Procedures for Air Navigation Services (PANS), and air transport policies; and the provision of advice and guidance material.

3. The training policy is applicable to all training provided by ICAO Bureaus, Regional Offices and training organizations issuing a certificate of completion or a certificate of achievement with an ICAO logo.

4. Seminars and workshops aimed at informing States and other stakeholders of ICAO SARPs, PANS, air transport policies and guidance material and at facilitating their implementation are not considered as aviation training, education or testing for the purpose of this policy.

5. All ICAO training and testing activities shall be designed, developed and offered in accordance with set standards and best practices for that discipline.

Basic principles

6. The training policy shall be in compliance with Assembly Resolution A36-13 Appendix H and all other Assembly Resolutions dealing with training, recognizing that aviation training is the responsibility of the States and that ICAO should not participate in the operation of training facilities but should encourage and advise operators of such facilities.

7. Training delivery is considered as a support function and not as a core function of ICAO. It shall only be undertaken when it is determined that:

   a) it is necessary to support States in the implementation of ICAO SARPs, PANS, air transport policies and guidance, the rectification of identified deficiencies, or another ICAO activity; or

   b) it can promote and foster ICAO's strategic objectives and produce adequate revenue to ensure self-sustainability without affecting ICAO's capability to carry out its core functions.

8. Aviation training activities provided by a third party using the ICAO name or logo shall meet the following requirements:

   a) be in direct support of the strategic objectives of ICAO;

   b) be in full compliance with ICAO SARPs, PANS, air transport policies and guidance;

   c) use of the ICAO logo will be in full conformity with the policies concerning the use of the logo; and

   d) be subjected to an appropriate ICAO endorsement mechanism.

9.   The intellectual property of ICAO shall be protected.

10.   No harm to ICAO's reputation shall result from training activities provided by a third party using the ICAO name or logo.

11.   Training activities provided by ICAO may be charged in accordance with paragraph 7.7 of *The ICAO Financial Regulations* (Doc 7515). This charge, together with interest earnings or earnings from investments thereon, shall be used to fund training activities or reimburse all, or part, of the costs incurred by ICAO in the generation, promotion and administration of these training and testing services.

12.   Training activities provided by ICAO may be funded using either funds provided by Member States or organizations or funds generated by ICAO's own activities.

Implementing policy

13.   Aviation training mentioned in the basic principles above includes any training or related testing activities undertaken directly by ICAO or by a third party using the ICAO name or logo.

14.   The use of the ICAO name or logo for training or testing activities undertaken by a training institution shall be subject to an ICAO endorsement mechanism.

Endorsement

15.   ICAO may endorse any training activity and/or facility which meet established requirements. ICAO also reserves the right to withdraw endorsement of any training activity and/or facility which fails to meet those established requirements.

16.   An ICAO endorsement indicates that the delivered training programmes, facilities and instructors meet the criteria of quality and relevance needed to ensure that the skills and knowledge necessary to implement SARPs are provided.

17.   The endorsement indicates that training programmes, facilities and instructors are managed in such a way as to effectively support learning for performance improvement.

18.   Endorsement is used to extend ICAO's ability to implement key activities derived from strategic objectives involving training and testing. Institutions endorsed for a training activity remain responsible for fully meeting ICAO requirements.

19.   Endorsement will be granted only after an assessment conducted by ICAO confirms that established requirements are met.[1] The full costs related to endorsement will be borne by the State or institution.

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[1] Requests for the endorsement of safety-related training activity should be sent to acr@icao.int through the appropriate civil aviation authority (CAA) of a Member State.

Requirements for the endorsement of Aviation Security Training Centres are available on request under isd@icao.int. Requests for endorsing a training centre need to be officially sent via the CAA (appropriate authority) of a Member State.

APPENDIX B

<table>
<tr><td colspan="6">REGIONAL PERFORMANCE OBJECTIVE: SAM/HR 01
Planning of training for development of personnel competence in air navigation system</td></tr>
<tr><td colspan="6">Benefits</td></tr>
<tr><td>Safety</td><td colspan="5">• Reinforces safety</td></tr>
<tr><td>Environmental protection and sustainable development of air transport</td><td colspan="5">• Information available with a level of quality that is appropriate to the requirements.
• Personnel duly trained as instructors in the ATM operational concept.
• Personnel duly trained to manage, operate and maintain the air navigation system..
• Increases situational awareness of the personnel.
• Provides for quality air navigation services.</td></tr>
<tr><td colspan="6">Metrics</td></tr>
<tr><td colspan="6">• Number of States that meet the training requirements in the ATM Operational Concept.
• Number of CATCs certified by ICAO or by States</td></tr>
<tr><td colspan="6">2012 - 2018
Strategy</td></tr>
<tr><td>ATM OC COMPONENTS</td><td colspan="2">TASKS</td><td>PERIOD</td><td>RESPONSIBILITY</td><td>STATUS</td></tr>
<tr><td rowspan="8">AOM,
AO
AUO
DCB ATM-SDM
CM
TS</td><td>a)</td><td>Develop the training programme for air navigation service personnel to respond to the new challenges, taking into account ICAO documentation.</td><td>2012-2013</td><td>Regional Project</td><td>Valid</td></tr>
<tr><td>b)</td><td>Follow up the activities of the New Generation of Aviation Professionals (NGAP) Special Team and implement the results in the region.</td><td>201-12 - 2016</td><td>States</td><td>Valid</td></tr>
<tr><td>c)</td><td>Establish a group of trainers in the ATM Operational Concepts to train instructors in the SAM Region</td><td>2012-2013</td><td>Regional Project</td><td>Valid</td></tr>
<tr><td>d)</td><td>Prepare guides for training, planning and the ATM Operational Concept.</td><td>2013-2014</td><td>Regional Project</td><td>Valid</td></tr>
<tr><td>e)</td><td>Prepare a programme for instructors on training, planning and the ATM Operational Concept.</td><td>2013-2014</td><td>Regional Project</td><td>Valid</td></tr>
<tr><td>f)</td><td>Strengthen Civil Aviation Training Centres (CATCs) of the Region through certification, evaluation and follow up</td><td>2012 – 2014</td><td>Regional Project States</td><td>Valid</td></tr>
<tr><td>g)</td><td>Conduct courses on training, planning and the ATM Operational Concept</td><td>2013-2016</td><td>States</td><td>Valid</td></tr>
<tr><td>h)</td><td>Monitor the training and updating of air navigation personnel</td><td>2016-2018+</td><td>GREPECAS States</td><td>Valid</td></tr>
<tr><td>Relation-ship with GPIs</td><td colspan="5">The updating and training of aeronautical personnel is a cross-cutting issue for all ATM system areas.</td></tr>
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