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Agenda Item 4: Safety Oversight Developments

STATE SAFETY PROGRAMMES

(Presented by the Secretariat)

SUMMARY

State Safety Programmes refer to the full range of national roles, legislation, processes, initiatives and activities which enable aviation to be run in a safe manner, in accordance with the provisions of the Chicago Convention. Experience in Europe has identified a number of areas in which certain elements of State Safety Programmes may be further supported and enhanced through action taken by ICAO, notably with regard to Safety Management Systems, improved Safety Oversight and better use of Recommendations. **Action:** The Meeting is invited to take the action proposed at paragraph 5.

1. Introduction

1.1 State Safety Programmes refers to the full range of national roles, legislation, processes, initiatives and activities which enable aviation to be run in a safe manner in accordance with the provisions of the Chicago Convention. Within this scope, national bodies exercise specific functions in the regulatory, investigation, operations and service-provision fields.

1.2 Experience in Europe has identified a number of areas in which certain elements of State Safety Programmes may be further supported and enhanced through action taken by ICAO.

2. Safety Management Systems

2.1 The increase of air traffic volume will require additional measures in order to maintain an adequate level of safety. Therefore, new ways to manage safety have to be explored in order to analyze the safety of flight operations and air traffic management in a total systems approach.

2.2 An effective Safety Management System (SMS) is a systematic approach to managing safety by the development of safety policies, procedures and practices to allow an organization to achieve its safety objectives. Similar to other management functions, safety management requires planning, organizing, communicating and providing direction. To maintain the safety of the whole aviation system, it is important to ensure consistency in the use of SMS across all sectors and disciplines of the different parts of the aviation system, including the safety oversight and regulatory functions, thus closing the safety loop.

2.3 The full potential of SMS will only be realized when the concept is adopted on a global basis by all Contracting States and, through States, by as many aviation organizations as possible. The positive experience gained in Europe in the introduction of safety management systems in flight operations, air traffic management and airport operations should encourage implementation on a global basis.

2.4 As a follow-up to the 35th Assembly, initiatives have been taken by several European States, in cooperation with EUROCONTROL, to study new approaches in the area of risk modeling, safety validation methodologies and the identification of critical interfaces.

2.5 Presently there is no internationally-agreed safety validation methodology that will cover all aspects of the new concepts for major changes in air transport, particular in ATM. The implementation of the ICAO global ATM concept has resulted in the development of regional and national operational concepts requiring national supervisory authorities and service providers to assess the impact on safety. Harmonization of the safety validation methodology is considered essential to achieve a standardized approach at global level. The development of the international standard should be carried out in cooperation with the Contracting States, appropriate organizations and the aviation industry.

3. Safety Oversight

3.1 SARPS / Standards for Safety Oversight

3.1.1 States bear responsibility for safety oversight of operators and services within their national civil aviation systems. Usually, such oversight is enacted through national regulatory bodies which seek to ensure compliance with established rules and procedures.

3.1.2 In Europe, standardized rules and processes for the application of safety oversight in the fields of aerodrome and air navigation services (ANS) are in force. These rules provide a level playing field for the certification of ANS services, as well as a mechanism to give due credit to safety management systems implemented and operated by service-providers.

3.1.3 Implementation of such rules and processes has shown distinct benefits in providing clarity and harmonization of safety oversight activities. It has also served as a platform for building the necessary resources and expertise levels in national regulatory bodies, as well as providing a benchmark against which training of regulatory personnel can be developed.

3.1.4 The benefits of such an approach are not limited to particular aviation sectors, but may be increased through wider application across aviation as a whole. It is therefore recommended that ICAO develop standards and related guidance material to facilitate the development of national safety oversight organizations as a means of reinforcing this essential element of the overall safety programme.

3.2 Cooperation Between States on Safety Oversight

3.2.1 States are facing new demands for oversight of the air transport industry, which require the establishment or enhancement of national regulatory bodies equipped with a wider range of resources and skills than before. Considerable efforts are being put into the development of national safety regulatory functions through increased resources and training.

3.2.2 However, safety oversight is made more complex by the necessity of bi-lateral or multilateral arrangements. For instance, this is the case in the ATM field, where cross-border service-provision, as well as emerging multi-national airspace structures require corresponding regulatory and oversight arrangements. This has led States to also consider the possibility of sub-regional cooperative arrangements aimed at pooling national facilities and knowledge, with a view to achieving more effective safety oversight.

3.2.3 Experience has shown that States require guidance on their legal position when entering into such cooperation arrangements, and also on the practical measures which will enable national regulatory bodies to function effectively within a potentially more complex institutional situation.

4. Better Use of Safety Recommendations

4.1 Paragraph 6.5, 6.7 and 6.10 of Annex 13 of the Chicago Convention "Aircraft Accident and Incident Investigation," explains the circumstances under which "the State conducting the investigation of an accident or incident shall release the Final Report as soon as possible" and how "a State that receives a safety recommendation shall inform the proposing State of the preventive action taken or under consideration, or reasons why no action will be taken," and in which cases ICAO shall be provided with the final report.

4.2 Some States have established an obligation for every addressee of a safety recommendation to answer, with a time limit, along the lines of paragraph 6.10 mentioned above and have already imposed that the action they have taken following safety recommendations are released to the public.

4.3 On the other hand, a large number of recommendations have a general safety impact and could interest other States that are not direct addressees. Today it is very difficult for a State to know the whole set of safety recommendations issued by the various investigation bodies. Moreover some States have also taken safety related actions not directly inspired by incident/accident report analysis. Finally, some recommendations are addressed to international civil aviation organizations.

4.4 It would be beneficial for States to take advantage of the work already done and to share its experience. Therefore, ICAO could also allow, through its FSIX internet site, direct access to actions taken by international organizations following recommendations as well as actions taken by a State, in order to improve safety when this action does not follow an incident/accident recommendation.

4.5 In order to allow States to have a proactive safety approach, it would be useful for ICAO to implement a process to identify, among all the recommendations it receives, the ones which have a general safety impact and release them on its FSIX internet site.

4.6 This process will facilitate and also complement the implementation of recommendation 2.1d) 2) of resolution 3/1 "safety framework for the 21st century" as approved by the 2006 DGCA Global Safety Strategy Conference, which states that, "ICAO should consider improvements in the process in developing and adopting SARPs by making more systematic use of recommendations published by accident investigations bodies." This process would be a meaningful source of information for the Global Aviation Safety Plan.

4.7 Regarding this point, the European States have noticed that the Council, during its 179th session, has asked the Secretary General to develop a formal process to examine the safety recommendations sent to ICAO and to perform appropriate actions as necessary. The proposals outlined supplement this initiative.

4.8 The necessity to standardize the ECCAIRS (electronic reporting system) in the Region for the exchange of critical safety information among States and the ICAO Safety Data Collection Programme emanates from the following sources:

- implementation and support of SMS;
- fostering of a standardized electronic reporting system in the ADREP taxonomies for the analysis of safety critical information;
- amendments to Annex 13 for 2009 to implement the gathering of reports from critical safety information related with aircraft air proximity (Airprox) and runway incursions; and
- ADREP/ECCAIRS Accidents/Incidents storage database for trend analysis.

4.9 The Air Navigation Programme under A1 –SMP-SMP3, Safety Data and Risk Analyze Collection and Processing, identifies the need for ICAO to build a comprehensive safety data system in order to assess existing and impending safety hazards.

4.10 Based on the above, there is a need to increase both the coverage and depth of the safety data and information available for assessment in the Accidents/Incidents Data Reporting (ADREP) system, and the data from SMS, AIRPROX and runway incursions. The NACC Regional office has great interest to implement the Safety Management Systems and the Electronic Reporting Systems (ECCAIRS) database in the ICAO taxonomies.

4.11 The database has the capacity to provide both programmes with needed options to serve as storage and to provide a variety of combinations for operational reports including human factors (SHELL model) assessments in order to analyze safety data and be able to graph information.

4.12 The NACC Regional Office, along with the Human Factors Section of ICAO Montreal, has given SMS training to the following States and numerous ANSPs during 2007:

- Aruba
- Central American Civil Aviation Directors and COCESNA
- Costa Rica (two events)
- El Salvador
- Guatemala
- Jamaica
- México (*Grupo Aeroportuario Centro Norte (OMA)* in Monterrey México)
- Netherlands Antilles
- Nicaragua

4.13 In order to support the gathering of safety data from the SMS programme, safety data and risk assessment, accidents and serious incidents; address the process of gathering safety critical and risk information in the ADREP system and to establish base lines to compare data within the Region, the NACC Office and the AIG section, conducted ECCAIRS (electronic reporting data base) courses in the following States during 2007:

- Costa Rica- (Mexico, COCESNA, Dominican Republic, and ICAO Mexico Regional Office)
- Mexico (course conducted for the DGAC, ANSPs and the Aeronautical Industry in general)
- Jamaica (OECS Anguilla, Antigua and Barbuda, Dominica, Grenada, Montserrat, St. Lucia, St. Kitts and Nevis', St. Vincent & the Grenadines, Barbados, Trinidad & Tobago, Haiti, and Guyana.

5. Conclusion

5.1 The Meeting consider the following recommendations:

a) support State Safety Programme development in accordance with the Chicago Convention provisions by identifying certain elements which may be provided by ICAO, in particular to promote the implementation of SMS by Contracting States across all safety-related disciplines and the commitment to the earliest possible implementation of SMS on a global basis by all Contracting States and by as many aviation organizations as possible in the Contracting States;

b) facilitate the use of risk models by Contracting States and the aviation industry as a State Safety Programme component;

c) gather world-wide data that facilitates quantification of risk models (as discussed above) by ICAO and sharing data on occurrences and aircraft operations by standardizing a single reporting electronic database (ECCAIRS) in the CAR region ;

d) globally develop standards and guidance material to harmonize the safety validation methodologies of major ATM changes taking into account study results by Contracting States and organizations;

e) develop standards and related guidance material for the implementation of SMS, applicable in all aviation sectors, addressing the necessary capabilities, processes and expertise requirements for national and regional safety regulatory bodies;

f) develop guidance material for State Safety Programmes around four components of ICAO SMS framework: safety policy and objectives, safety risk management, safety assurance and safety promotion.

g) amend paragraph 6.10 of Annex 13 so that:

1) a time limit is provided for the preliminary response to a safety recommendation; and

2) the Contracting State that receives safety recommendations as a direct addressee shall release the preventive actions taken, actions under consideration, or the reasons why no action will be taken, while Contracting States which are not direct addressees of such safety recommendations shall also release the same information when they take actions;

h) create a structure within ICAO to be able to analyze, review and dispatch safety recommendations, which have a permanent safety impact, issued by the investigating bodies of Contracting States in order to identify and launch appropriate actions internationally.

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