



THIRTEENTH AIR NAVIGATION CONFERENCE

Montréal, Canada, 9 to 19 October 2018

COMMITTEE B

- Agenda Item 6: Organizational safety issues**
Agenda Item 6.3: Monitoring and oversight
6.3.1: The evolution of the Universal Safety Oversight Audit Programme (USOAP) continuous monitoring approach (CMA)

MANAGEMENT OF FATIGUE IN AIR TRAFFIC CONTROLLERS

(Presented by Uruguay, supported by the SAM States²)

EXECUTIVE SUMMARY

This working paper presents the requirements to be fulfilled for the implementation of the fatigue management of air traffic services for the year 2020. As well as the inclusion thereof in the activities of the Continuous Monitoring Approach (CMA) of the Universal Safety Oversight Audit Programme (USOAP) activities considering their impact on aviation safety.

Action: The Conference is invited to:

- a) take note of the information presented in this working paper regarding the tasks that should be developed for the implementation of the amendment on the fatigue risk management system (FRMS); and
- b) considering the proposal for the inclusion of air traffic services fatigue management requirements in the air navigation services (ANS) audit protocol of the CMA of the USOAP.

¹ English and Spanish versions provided by Uruguay.

² Supported by 13 Contracting States (Argentina, Bolivia (Plurinational State of), Brazil, Chile, Colombia, Ecuador, Guyana, Panama, Paraguay, Peru, Suriname, Uruguay and Venezuela (Bolivarian Republic of)).

1. INTRODUCTION

1.1 The safety of civil aviation is the most important goal of the International Civil Aviation Organization (ICAO), this was recognized by the ICAO Assembly that adopted Resolution A26-9 on flight safety and human factors. By virtue of said Resolution, the Air Navigation Commission formulated the following objective for the task in question:

“Increase operational safety by urging the States to be more aware and attentive of the importance of human factors in civil aviation operations, adopting texts and practical measures in relation to these factors, based on the experience gained by States, elaborating and recommending appropriate amendments to the existing texts of the Annexes with regard the role of human factors in current and future operational environments ... “

1.2 The safety oversight systems are responsible for ensuring that there are adequate defenses to protect against unsafe latent conditions. These defenses include aspects such as legislation, regulations, inspections, audits to identify systemic safety deficiencies.

1.3 History of accidents continually shows that human performance failures are causes or contributing factors of accidents, where human errors are indexes of operational safety system failures, so, to fully understand the natural capabilities and limitations of human performance, safety auditors must have strong practical knowledge of the human factors.

2. DISCUSSION

2.1 We will discuss specific guidelines to help the auditors monitoring surveillance safety to verify the implementation of Standards and Recommended Practices (SARPs) directly related to human performance and human limitations.

2.2 The human being is the most flexible, adaptable and valuable part of the aeronautical system, but it is also the most vulnerable to influences that can negatively affect their behavior, alluding to the fact that "human error" is the cause of most accidents, but the expression "human error" allows us to conceal underlying factors that should be revealed if we want to prevent accidents, this being the starting point and not the end point of the investigation.

2.3 Safety audits should seek ways to minimize or prevent human errors of all kinds, which may endanger safety, to meet them we must develop an understanding of the operational contexts that facilitate errors, without ignoring that the total elimination of human error would be an illusory goal, so the challenge consists in learning to manage in safety conditions the errors that occur.

2.4 Below is an analysis of human errors operations-oriented

- Procedural error: unintentional, which includes slips, lapses or faults in the execution of the aeronautical regulations or procedures.
- Communication error: unintentional that constitutes an erroneous communication, either of interpretation, lack of communication of the pertinent information.
- Decisional Operational error: not intentional in making decisions and compromising safety.

- Intentional Error of noncompliance: constitutes a voluntary deviation to the regulation or procedures.

2.5 Some factors that can affect human performance are: motivation, personality and attitudes, communication and fatigue among others. Specifically, we want to refer to fatigue, as a consequence of the Amendment 50B of Annex 11 — *Air Traffic Services* on the management of fatigue of air traffic controllers that has an application date of November 5, 2020. It should be noted that the period between the date of that the amendment will take effect and the implementation date is longer than usual due to the nature and complexity of the proposal and in order to give States the time needed to develop, research-based, regulations on the management of the fatigue that comply with its context.

2.6 The amendment concerning the air traffic controllers (ATCOs) fatigue management, offers minimum standards for managing the risks associated with fatigue, by complying with prescriptive limitations while managing risks using safety management system (SMS) processes, or an approach based on performance that requires the air navigation services provider (ANSP) to implement a Risk Management System associated with fatigue (FRMS).

2.7 In this regard, States should develop regulations that prescribe time limitations that take into account acute and cumulative fatigue, circadian factors and type of work that is performed, they will identify:

- a) maximum: number of hours in a service period; number of consecutive working days; number of working hours in a given period; and time in the workplace; and
- b) minimum; duration of the periods out of service, number of days out of service required in a given period; and duration of breaks between periods of time in the workplace in a period of service.

2.8 With respect to the FRMS, the States must decide on the establishment and promulgation of the regulations of the FRMS, elaborate the corresponding processes and guidelines as well as expand the training of civil aviation safety inspectors.

3. APPLICATION TASK LIST

3.1 In order to implement Amendment 50B of Annex 11, States should ensure that regulators and safety inspectors, gain adequate knowledge of the subject, so that the necessary training should be provided,

3.2 In the event that there are already regulations on prescriptive limitations for ATCOs, they should be reviewed according to the new SARPS, so it is highly recommended to consult with the industry as it has experience in the subject.

3.3 At the same time, each State must decide on the establishment of the regulation of the FRMS, elaborate the corresponding processes and guidelines as well as increase training of civil aviation safety inspectors; and

3.4 Surveillance of fatigue management of ATCOs should be integrated into the program of regular surveillance of safety oversight inspectors.

4. CONCLUSIONS

4.1 Fatigue can bring safety impact, decreasing the ability of an ATCO to perform all operational tasks. A lower risk of a decrease in the level of performance among ATCOs due to fatigue will result in higher safety margins when carrying out critical operational activities for safety.

4.2 The regulations of prescriptive limitations related to the possible need to acquire knowledge in the matter and consulting industry to address the delicate issue of working hours. The continuous monitoring of these regulations will be an addition to the ordinary surveillance program of the State, but not to the surveillance activities of the SMS in case of implementing FRMS.

4.3 Regulations on prescriptive limitations of hours of service will produce safety benefits. In some States, the development of related processes that require such regulations may also result in improvements in the efficiency of the provision of air traffic services. However, in general, the regulations of prescriptive limitations of hours of service probably do not have an impact on operational efficiency. In contrast to the regulation of the FRMS, where it exists, offers greater benefits of flexibility and efficiency than the prescriptive approach for managing fatigue while maintaining or increasing safety margins at the same time.

4.4 When the decision to establish FRMS regulations for ANSP is adopted, probably the State has prepared, or is in the process of elaborating, an FRMS regulation for air line operators. This will greatly alleviate the significant costs of establishing an FRMS approval process and the consequent initial monitoring responsibilities.

4.5 The inclusion of fatigue requirements for air traffic services in the activities of USOAP CMA will allow more rapid and effective implementation of Amendment 50B of Annex 11.

— END —