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COMMITTEE B

Agenda Item 7: Operational safety risks
7.1: Facilitation of data-driven decision-making in support of safety intelligence to support safety risk management

FATIGUE MANAGEMENT APPROACH IN BRAZIL

(Presented by Brazil)

EXECUTIVE SUMMARY

Fatigue management is not something new. Nevertheless, due to its complexity and hard impact on crew members' lives and business, it remains a current issue. This paper presents the latest scenario on how Brazil is proposing regulation to manage human fatigue in civil aviation.

1. INTRODUCTION

1.1 Global discussions on fatigue risk management systems (FRMS) made several States analyse and review their flight time limitations (FTLs) even before the ICAO issued the *Manual for the Oversight of Fatigue Management Approaches* (Doc 9966) in 2012.

1.2 In Brazil, since 1984 there is a federal law that defined FTLs for all and each type of civil aviation operation (Law n. 7183/84). In 2009, when the industry seemed more sensitive about discussing fatigue risk, the well-known flaws of the federal law started to be questioned. In this regard, the national pilot union and several regular air operators showed interest in engaging the process of modernising the rules and modifying the current law, not only to permit FRMS regulation, but also to change FTLs and other requirements.

1.3 The complexity of discussion was not only focused on FRMS regulation itself, but on the new decisions on FTLs. After some years involving all stakeholders, including the Senate and Congress, a new federal law has been approved in August 2017.

2. FATIGUE MANAGEMENT CHANGES BRIEFLY

2.1 The recent approved Brazilian law on crew fatigue management (Law n. 13475/17) has brought the FRMS possibility. Along with it, it has empowered the Brazilian National Civil Aviation Agency (ANAC) to approve exceptions to the limits prescribed in the law itself in accordance with pre-established requirements.

2.2 These changes led to a 3-level model on managing fatigue, from the purely prescriptive to a performance-based approach. The result is the recently proposed Brazilian Civil Aviation Regulation n. 117 (RBAC 117). RBAC 117 is a Brazilian new regulation that must be aligned with federal laws, other ANAC´s regulations and labour requirements.

2.3 The new law and the RBAC 117 will be integrally in force in a very short time period. From March 2020, operators will be able to choose what best fit their operations. They may opt to meet the limits prescribed in the law; they may wish, in accordance with RBAC 117, to adopt more extensive operation limits due to their needs; or they may opt to develop an entire FRMS to solve a specific issue or try a new experience.

Near term (March 2020) Law n. 13.745/17 + RBAC 117	**Previously** Law n. 7183/84
Fatigue risk management system (FRMS) • Operational limits as approved • Optional for operators • As described in Doc 9966 • ANAC´s approval required	FRMS was not possible.
Fatigue risk management (FRM) • Limits enlarged with compensation and follow-up • Training for all personnel involved • FSAG defined and active • Risk procedures defined • Reports detailed • SMS running • ANAC´s approval required • RBAC 117 (App. B and C)	Enlarged limits were not possible.
Prescriptive • Law n. 13.745/17 + RBAC 117 (App. A).	Prescriptive • Only Law n. 7183/84.

2.4 RBAC 117 is comprised of the following three Appendices:

a) Appendix A of RBAC 117 complements the law in determining operators' and crew members' obligations in respect to fatigue management. It also details on board facilities.

b) Appendix B of RBAC 117 is applicable to public transport services – multi-pilot operations. It is more elaborated as it details complex operations, meaning operations with augmented flight crew, operations that cross three time zones or more, or operations comprised of not acclimated crew members.

c) Appendix C of RBAC 117 is similar to Appendix B, but it is not applicable to complex operations.

2.5 In few words, the substantial altered and sustained requirements are as follows:

a) specific airport indicated as base due to distance and traffic in big cities as Rio de Janeiro, São Paulo and Belo Horizonte – not only the city;

b) roster publishing monthly – not weekly (with exceptions in high seasons and cargo);

c) night flight duty from 1800 to 0600 – not from sunset to sunrise;

d) late night operations defined between 0000 to 0600, and limited to four in a week;

e) consecutive late-night duties limited to two;

f) weekly cumulative flight duty time of 44 hours, achieving 60 hours with FRM;

g) monthly cumulative flight duty time of 176 hours – remains;

h) days-off increased to ten within a month for regular operators – eight previously;

i) flight duty time from nine to thirteen hours depending on starting time, for unaugmented operations – eleven hours previously;

j) flight duty time from fourteen to eighteen hours depending on starting time, on board facilities and number of additional pilots, for augmented operations – twenty hours possibility previously;

k) acclimatization conditions inserted, including unknown state of acclimatization; and

l) less than three time zones crossing to be considered acclimated – remains.

3. CHALLENGES AND EXPECTATIONS

3.1 Defining FTLs and all the requirements involved is not a simple task. There are not straight numbers indicated by ICAO, nor only one way of doing so. Changing FTLs have a great impact on how things have been done for years, both for operators and State.

3.2 From the regulator point of view, it has been a challenge to develop RBAC 117 and all related supporting material. It was not about amending an existing regulation, but rather creating a new one.

3.3 More efforts are expected in a very near future. Inspectors will have to be well trained to get to know both the new law and RBAC 117 and learn procedures to supervise operators. FRMS approval will be more complex considering that every case is singular, and some indicators cannot be foreseen.

3.4 It is expected that the new law, together with ANAC regulations, will:

a) stimulate fatigue reports;

b) increase self-knowledge of crew members;

c) improve data control on human factors matters;

d) foster partnerships with universities and research centres; and

e) raise performance-based approaches in Brazil.

4. CONCLUSION

4.1 Brazil´s regulations on fatigue management have recently changed. We are now in a transition period – changing of FTLs and possibility of FRMS. This time is necessary for all to adapt.

4.2 Fatigue management is an ongoing issue. Revising FTLs and changing requirements are not enough if a real fatigue management is not pursued. Limitation defined by the States are essential, but they are not more than a starting point from which risk management starts.

4.3 FRMS may help enhance the human factors issues in aviation through a data-driven process. Nevertheless, it shall not be the rule from the very first time. Experience in risk management is also required.

4.4 We believe that States need more training on how to best oversee FRMS in a practical way and would profit a lot for sharing information on this matter.

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