



*International Civil Aviation Organization*

**Regional Aviation Safety Group - Middle East**

**Fifth Meeting (RASG-MID/5)**  
**(Doha, Qatar, 22-24 May 2016)**

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**Agenda Item 2: Global Developments related to Aviation Safety**

**ENHANCING SUPPORT FOR  
SAFETY MANAGEMENT IMPLEMENTATION**

*(Presented by the Secretariat)*

**SUMMARY**

The first amendment to Annex 19 was adopted by the ICAO Council on 2 March 2016 and will become effective on 11 July 2016 with an applicability date of 7 November 2019. A summary of the changes introduced are outlined in this working paper.

ICAO is working on the following tasks to enhance the support for the implementation of State Safety Programmes (SSPs) and Safety Management Systems (SMS) :

- a) a revision to the *Safety Management Manual (SMM)* (Doc 9859);
- b) an update to the ICAO Safety Management website;
- c) an update to the ICAO Safety Management Standardized Training Programme; and
- d) an update to the USOAP SSP-related protocol questions (PQs).

Additional plans include the delivery of a webinar in July 2016 to communicate ICAO's enhanced support of safety management implementation and the delivery of three regional symposia, followed by a series of regional safety management seminars.

The plans for including the SSP-related protocol questions in the scope of USOAP activities have also been agreed based on the implementation support plans outlined above.

Action by the meeting is at paragraph 8.

**REFERENCES**

- EB 2015/56, dated 4 December 2015
- EB 2015/55, dated 19 November 2015
- Second HLSC 2015 Report (Doc 10046)
- State letter AN 8/3.1-16/16, dated 1 April 2016
- Safety Management Manual (SMM) (Doc 9859), third edition

## 1. INTRODUCTION

1.1 As a result of the Second High-level Safety Conference 2015 (HLSC 2015) held at ICAO Headquarters in Montréal from 2 to 5 February 2015, the Montréal Declaration on Planning for Aviation Safety Improvement called upon ICAO to continue assisting States in implementing safety-related Standards and Recommended Practices (SARPs) and an effective safety oversight system through additional guidance material, training and tools.

1.2 Conclusion 2/1 b) related to implementing State safety programmes (SSP) highlights that additional guidance and sharing of experiences are necessary for States to further develop and implement SSPs. It is important to note that the applicability for the existing safety management provisions as originally introduced continue to apply; the changes only relate to the Annex 19 Amendment 1 provisions with the November 2019 applicability.

## 2. AMENDMENT 1 TO ANNEX 19

2.1 The first amendment to Annex 19 — *Safety Management* was adopted by the ICAO Council on 2 March 2016 and will become effective on 11 July 2016 with an applicability date of 7 November 2019. State letter AN 8/3.1-16/16, dated 4 April 2016 provides the contents of the amendment. A summary of the changes introduced are outlined below.

2.2 Integration of the State Safety Oversight (SSO) Critical Elements (CEs) and SSP provisions was carried out in response to the need to define the relationship between the eight CEs of a SSO system and the SSP provisions, the proposed amendments to Chapter 3 of Annex 19 integrate all provisions related to a State's safety management responsibilities. In addition, the proposed integration of provisions related to a State's safety management responsibilities, elevates the elements of the SSP framework, currently contained in Attachment A of Annex 19, to SARPs. The impact on States will depend on the progress made in implementing their SSP thus far and will require States to update their SSPs and amend their legislation.

2.3 Amendment 1 also extends the applicability of SMS to organizations responsible for the type design and manufacturing of engines and propellers, which is facilitated by the recognition of these organizations in Annex 8 — *Airworthiness of Aircraft*. For areas of aviation activity that fall outside of the scope of Annex 19, but have the potential to introduce hazards to the safe operation of aircraft, existing service providers should address these activities as part of their SMS through interface management. A note has been added to the beginning of Appendix 2 to Annex 19 to indicate that the service provider's interfaces with other service providers and subcontractors can have a significant contribution to the safety of its products or services. New and amended provisions for Chapter 4 and Appendix 2 have also been provided to facilitate SMS implementation.

2.4 The amended provisions related to the protection of safety data, safety information and related sources, elevate Appendix B of Annex 19 to the status of an Appendix. This upgrades the principles of protection from guidance material to SARPs and thus provides greater impetus for their implementation. Another important element of the adopted provisions is that safety data and safety information in voluntary reporting systems are accorded protection through a Standard to ensure their continued availability and greater uniformity among States. The protection of safety data and safety information in mandatory reporting systems, which differs among various legal systems, is reflected in a Recommendation.

### **3. FOURTH EDITION OF THE SAFETY MANAGEMENT MANUAL**

3.1 The current work programme of the Safety Management Panel (SMP) includes the development of guidance material to support the amendment of Annex 19. The Safety Information Protection Implementation Group (SIP IG) was established and held its first meeting in Montréal from 13 to 15 April 2016. The SIP IG comprises of safety and legal experts from the SMP and Safety Information Protection Task Force (SIP TF). Their terms of reference include assisting the Secretariat on helping Member States with the implementation of provisions related to the protection of safety data, safety information and related sources, as it correlates with safety management activities.

3.2 The Secretariat has developed a strategy for the 4th edition of the *Safety Management Manual (SMM)* (Doc 9859) that includes a streamlined version of the document complemented by an enhanced ICAO safety management website. The document would include guidance material to address the full range of subjects covered by Annex 19, Amendment 1, and risk-based approaches to managing safety identified during the HLSC 2015. A draft Table of Contents accompanied by explanatory notes is found in **Appendix A**. The expected publication date of the 4th edition of the SMM is July 2017. The *Safety Oversight Manual* (Doc 9734), Part A — *The Establishment and Management of a State's Safety Oversight System* and Part B — *The Establishment and Management of a Regional Safety Oversight Organization* are also expected to be updated in the same timeframe.

3.3 The enhanced ICAO safety management website <http://www.icao.int/SafetyManagement> would include the examples currently found in the SMM and provide a mechanism for the sharing of best practices. Recognizing the challenges faced in implementing SSP and SMS “commensurate with the size and complexity” of each organization and the wide range of service providers addressed by Annex 19, the website will support the provision of multiple examples. This will emphasize the need for an SSP or an SMS to be tailored to the specific needs of each State and service provider. In addition, as experience in the implementation of safety management grows and the tools continue to evolve, the web-based format will allow for continuous update. States, regional organizations, international organizations and service providers will be invited to share their examples as one means to share best practices.

3.4 Examples will initially be posted in the language submitted with accommodation made for translated versions to be posted in the future based on the demonstrated usefulness of the examples. To accommodate States that do not have adequate internet access, the Secretariat is exploring options to allow the website material to be readily downloaded. The launch of the website is expected in July 2017 along with the availability of an update to the ICAO SSP gap analysis tool on iSTARS/SPACE <http://www.icao.int/safety/istars/pages/intro.aspx> to reflect Amendment 1 to Annex 19, and the development of a new SMS gap analysis tool.

### **4. SAFETY MANAGEMENT TRAINING PROGRAMME**

4.1 ICAO offers a safety management online course (<http://store1.icao.int/index.php/safety-management-training-programme-safety-management-systems-sms-and-state-safety-programme-ssp-training.html>), that will provide State regulatory and administrative personnel involved in SSP with knowledge of how to implement, administer or participate in SMS operations. The modules of the course include: Module 1, *Safety Management Fundamentals*; Module 2, *ICAO Safety Management provisions*; Module 3a, *State Safety Programme (SSP)*; Module 3b, *Safety Management Systems (SMS)*.

4.2 The safety management online course will be updated to reflect Amendment 1 to Annex 19 with phase 1 of the update expected to be released in July 2016 to coincide with the effective date of the amendment. A separate module, Module 2a, to explain the changes introduced with the amendment is being developed and will be provided to those who have already taken the online course since its initial release at no additional cost. Phase 2 of the Safety Management online course update to be released in July 2017 will further reflect the 4th edition of the SMM and will include an additional module on safety information protection (SIP).

4.3 To complement the safety management online course, a Safety Management for Practitioners Course aims to provide regulatory and service provider staff involved in the implementation of SSP and SMS with an understanding of operational safety management processes and practical examples. The classroom course incorporates the use of a software tool to demonstrate how the efficiency of safety management activities can be enhanced. This hands-on course is conducted in English and is one week (30 training hours) in duration. Qualification and experience requirements, as well as the approval process, for instructors can be found in **Appendix B**. The Global Aviation Training office is accepting nominations for instructors and requests for the delivery of the Safety Management for Practitioners Course through the ICAO Regional Offices.

## **5. ADDITIONAL SUPPORTING ACTIVITIES**

5.1 A Safety Management Webinar will be available in mid-July 2016 and is expected to address:

- a) the benefits of safety management;
- b) an explanation of the changes introduced with Amendment 1 to Annex 19;
- c) enhanced guidance material to support safety management implementation;
- d) ICAO training activities; and
- e) additional supporting activities.

5.2 To share the work developed in support of the implementation of Annex 19, ICAO plans to deliver three symposia to provide a forum for participants to exchange ideas and operational experiences and contribute to the future of safety management. The symposia will provide an important information-sharing opportunity for regulators, service providers, operational personnel and all aviation professionals involved in safety-management activities. Regional safety management seminars are expected to be delivered shortly after the symposia, with a plan to provide ten over the course of twenty-four months in all of the ICAO regions. These seminars are expected to provide a means for sharing of best practices at a regional level and an opportunity for the further collection of examples to be posted on the ICAO safety management website for those unable to participate.

## **6. UPDATE TO USOAP SSP-RELATED PROTOCOL QUESTIONS AND MONITORING ACTIVITIES**

6.1 The SSP-related Universal Safety Oversight Audit Programme (USOAP) protocol questions (PQs), initially published in November 2014, are expected to be updated in July 2017 with the publication of the 4th edition of the SMM. States with a USOAP effective implementation above 60% should perform a self-assessment using the SSP-related PQs after performing the SSP gap analysis indicated above as a means to progress SSP implementation.

6.2 The commencement of monitoring activities using the SSP-related PQs has been postponed until January 2018, (Ref. EB 2015/56, dated 4 December 2015 and EB 2015/55, dated 19 November 2015) and then only for selected States which agree to receiving an audit using the updated PQs, prior to the applicability date of Annex 19, Amendment 1. Beginning in January 2020, the threshold for the applicability of the SSP-related PQs will be based on 2020-2022 Global Aviation Safety Plan (GASP) objectives.

## 7. CONCLUSION

7.1 States need additional support in order to meet the objectives outlined in the Doc 10004, *2014-2016 Global Aviation Safety Plan*. The Secretariat has developed a strategy that would provide additional guidance material, tools and a mechanism for the sharing of experiences in implementing SSP and SMS in accordance with the outcomes of the HLSC 2015. Updates to the safety management training are also underway. The commencement of USOAP activities to include SSP-related protocols has also been planned in line with the availability of the guidance and training. The timelines for the activities discussed in this paper can be found in **Appendix C**.

## 8. ACTION BY THE MEETING

8.1 The meeting is invited to urge States to:

- a) continue the implementation of SSP and report on progress using the SSP GAP Analysis Tool on iSTARS/SPACE and completing the USOAP PQ self-assessments on the OLF;
- b) identify any additional areas of clarification needed or additional subjects that need to be covered in the 4th edition of the SMM;
- c) assist the Secretariat in identifying appropriate examples and tools for inclusion in the update to the ICAO safety management website;
- d) identify potential instructors for the Safety Management for Practitioners Course that meet the qualifications found in **Appendix B**; and
- e) consider what additional activities could be provided by ICAO to support the implementation of SSP.

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**APPENDIX A**

**SAFETY MANAGEMENT MANUAL (SMM), 4TH EDITION  
 PROPOSED TABLE OF CONTENTS**

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### EXPLANATORY NOTES

1. The draft table of contents has been coordinated with the Safety Management Panel (SMP). The paragraphs below highlight the origin of each additional chapter and section proposed.
2. The contents of Chapter 2, Fundamentals, are reduced to include just the basic concepts of safety management with some of the content moved to other chapters to allow further elaboration. Integration of management systems has been included under the SSP/SMS implementation planning in Sections 8.6 and 9.4, respectively.
3. New chapters have been included in the proposed table of contents to address Safety Culture (proposed Chapter 3), The Protection of Safety Data, Safety Information and Related Sources (proposed Chapter 4), Safety Data and Safety Information Collection, Analysis, Sharing and Exchange (proposed Chapter 5), and Scalability (Chapter 7). There is currently limited treatment of these topics under Chapter 2 and elsewhere.
4. The contents of the proposed Chapter 6 are updated to address risk-based oversight concepts that were discussed during the HLSC 2015, with the description of the Annex 19 provisions proposed to be covered throughout the SMM. Conclusion 2/1 a) under “Strategies for managing aviation safety” identified a risk-based approach as an effective means for States to manage new and existing aviation activities. Conclusion 2/1 a) also identified the need for additional guidance material to assist States in developing performance-based regulations (currently limited treatment in Chapter 2). The Secretariat is working on this guidance and proposes to include it in the SMM. A new section is also proposed to address the comments received during the consultation phase of the amendment to Annex 19, indicating the need to include the benefits of implementing safety management to support States in promoting implementation.
5. The Global Aviation Safety Plan (GASP) is intended to complement the Global Air Navigation Plan (GANP) which proposed aviation system block upgrades (ASBUs) to be introduced into the aviation system to support the increased growth in traffic expected over the next fifteen years. Annex 11 requires that before changes are introduced into the aviation system a safety assessment be performed. The Procedures for Air Navigation Services (PANS) - Aerodromes (Doc 9981) and PANS – ATM (Doc 4444) also include address the performance of safety assessments. The Secretariat would propose including a section in the SMM to clarify how this term relates to safety risk assessments and to further explain how a safety assessment should be performed in the context of change management (currently in Chapter 2).
6. The proposed new Chapter 7 on Scalability is intended to support the implementation of SSP/SMS “commensurate with the size and complexity” of the organizations services and products and will emphasize the importance of a performance-based rather than a prescriptive approach. This chapter will describe in general the concept of scalability with more specific treatment related to SSP/SMS to be provided in Sections 8.6 and 9.4 on implementation planning.
7. The material in existing Chapter 4, proposed Chapter 8, will need to be updated to reflect Amendment 1 to Annex 19 which integrates the critical elements of a safety oversight system with the State safety programme elements. A review of the amended State safety management SARPs as well as

guidance related to the delegation of State safety management responsibilities are reflected in the proposed table of contents. A new section on SSP maturity assessment has also been included.

8. Guidance on the need to first establish a mature State safety oversight system before proceeding to SSP implementation in order to achieve the objectives highlighted in the GASP is also shown for inclusion in the proposed Chapter 8. This should include a reference to Doc 9734, Safety Oversight Manual, Part A — The Establishment and Management of a State’s Safety Oversight System, which will be updated in parallel with Doc 9859.

9. Updates to the existing Chapter 5, proposed Chapter 9, include reflecting slight changes to the SMS framework as well as including a description of the amended Annex 19 SARPs for service providers, SMS common acceptance, guidance material for international general aviation and guidance on interface management to support the Note on interface management added to the beginning of Appendix 2 of Annex 19, Amendment 1. A new section on SMS maturity assessment has also been included.

10. Guidance related to achieving an acceptable level of safety performance in a State is proposed to be included in a new Chapter 10. Guidance on safety performance indicators is included here (currently in Chapter 2) and addresses the HLSC 2015 Conclusion 2/1 b) under “Implementing a State safety programme (SSP)”, that safety performance indicators (SPIs) are needed to enable States to monitor and measure safety performance. Guidance on setting of safety performance targets is also proposed for inclusion in this chapter along with guidance on the interface between the SSP and the SMS of the service providers with respect to safety performance.

11. As the guidance being developed above reaches a mature stage it will be shared with the appropriate expert groups to solicit feedback.

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**APPENDIX B**

**SAFETY MANAGEMENT PRACTITIONER'S COURSE  
INSTRUCTOR QUALIFICATION AND EXPERIENCE REQUIREMENTS**

**1. ESSENTIAL QUALIFICATIONS AND EXPERIENCE:**

- a) a first level university degree in science, engineering, or in a related field. A technical qualification in aviation such as a commercial pilot licence may be accepted in lieu of the university degree;
- b) at least 3 years total operational experience at any of the following service providers: aircraft operator, approved maintenance organization, aerodrome operator or air traffic services provider;
- c) at least 2 years' experience directly involved in the implementation and/or operation of SSP/SMS at a State, regional organization, international organization or service provider level;
- d) knowledge of ICAO Annex 19 Standards and Recommended Practices (SARPs), and of the ICAO Safety Management Manual (Doc 9859);
- e) effective presentation skills, instruction and facilitation skills and the ability work in a multicultural environment including the appreciation of, and sensitivity to, cultural differences; and
- f) Experience with Microsoft Office – Word and PowerPoint

**2. DESIRABLE QUALIFICATIONS AND EXPERIENCE:**

- a) experience working in an international environment;
- b) awareness of ongoing developments in safety management; and
- c) experience as an instructor on a full or part-time basis.

**3. APPROVAL PROCESS TO INCLUDE:**

- a) successful completion of the ICAO Training Instructors Course (TIC) or equivalent;
- b) successful completion of the ICAO Safety Management Online course;
- c) successful completion of the Safety Management for Practitioners Course (one to be held in Montréal after the Assembly in October 2016);
- d) instructor's briefing and preparation for delivery of the Safety Management for Practitioners Course (one planned in Madrid in July 2016); and
- e) OJT during an actual course.

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APPENDIX C

TIMELINES FOR DELIVERY OF ENHANCED SUPPORT FOR  
SAFETY MANAGEMENT IMPLEMENTATION

