Consolidation of the Aerodrome SMS elements into the Aerodrome Manual

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Part 1：Introduction

- 1： Background
- SMS requirement: In A14 V1(**Fourth Edition July 2004):**

  - *1.4.6 As of 24 November 2005, a certified aerodrome shall have in operation a safety management system*.

- DOC 9859: 3 editions now, and changed dramatically

Part 1： Introduction

- 2： Introduction of A19： higher status
- A19 was developed in response to Recommendations provided by the Directors General of Civil Aviation Conference on a Global Strategy for Aviation Safety (Montréal, 20 to 22 March 2006) (DGCA/06) and the High-level Safety Conference (Montréal, 29 March to 1 April 2010) (HLSC/2010) regarding the need for an Annex dedicated to safety management. The Air Navigation Commission (186-8), having determined these issues to be of sufficient scope and importance, agreed to establish the Safety Management Panel (SMP) to provide recommendations for the development of this Annex.

Part 1： Introduction

- 2： Introduction of A19： higher status
- Consolidating all overarching safety-related provisions in six other Annexes into a new Annex.

Part 1： Introduction

- 3： Implementation: unsatisfactory(USOAP data)
- As of 31 December 2010, 177 States had been audited through the USOAP under the comprehensive systems approach. A summary of the audit results reveals that a large number of the States audited have not yet certificated or established a process for the certification of aerodromes. Many States have neither developed nor issued guidance to regulatory staff and aerodrome operators on the use of aeronautical studies for evaluating the granting of exemptions or exceptions to requirements. Most States have not ensured that aerodrome operators implement a safety management system (SMS) as part of their aerodrome certification process.

Part 2： Discussion

- 1： The shortcomings in A19
- there are some illogical provisions in A19--- it is inappropriate to incorporate "documentation" and "coordination of emergency response planning" into "safety policy and objectives", besides, "continuous improvement of SMS" should not become an "element", instead it is the inevitable phase for SMS implementation, therefore should not be part of SMS elements.

Part 2：Discussion

- 1： The shortcomings in A19

- Shortcomings with the "4 components-12 elements" framework:

  - Components are not necessary, coz in reality, what is implemented is those 12 elements;

  - Can 10 elements be ok which can cover those 12 elements?

Part 2：Discussion

- 1： The shortcomings in A19
- 10 SMS elements or building blocks are proposed in the <Guidance material on developing airport SMS in China> (promulgated in 2008):
- 1) Safety policy (including safety culture and airport commitments)
- 2) Safety objectives (including annual and long-term safety objectives and approaches to measure them etc.)
- 3) Organizational structure and responsibilities (including airport safety committee, appointment of key safety personnel, as well as responsibilities and accountabilities etc.)
- 4) Safety education and training (including types/substance etc. of education and training)

Part 2： Discussion

- 1： The shortcomings in A19
- 5) Documentation management (including classification of documents and procedures of document collection/dissemination/reporting/storage/analysis etc)
- 6) Information management (including classification of information and procedures of information collection/dissemination/reporting/storage/analysis etc)
- 7) Risk management (including hazard identification, risk assessment and mitigation)
- 8) Safety investigation (including investigation on accident, incident and safety occurrences)
- 9) Emergency response (which covers any kind of airport emergencies including aircraft emergencies in "airport emergency planning" of Doc 9137-AN/898)
- 10) Safety audit and oversight (Including safety oversight, performance management and internal audit)

Part 2： Discussion

- 1： The shortcomings in A19
- It should be noted that these 10 elements are minimum requirements, airport operators are encouraged to develop more elements depending on their own resources(such as safety culture etc.) .More than that, the element "continuous improvement of SMS" is covered in the <Guidance material on developing airport SMS in China> not as an "element", but as a requirement for SMS implementation.

Part 2： Discussion

- 2： The importance of implementation of SMS can not be overestimated
- SMS is in general a kind of philosophy or concepts to service providers to better find out any risk-related deficiencies and take effective solutions accordingly. In this context, the implementation of SMS is most important. It is obvious to everyone that it is better to implement 3 elements than just have 10 elements available in written forms while not a single element has been implemented. So SMS should be implemented in real world ,say aerodrome daily operation, instead of just a show-case for CAA inspection or audit.

Part 2: Discussion

- 2: The importance of implementation of SMS can not be overestimated

- Example: appendix 2 in A19: The service provider shall develop and maintain an SMS manual as part of its SMS documentation.

  - Is the state required to certify SMSM? If not, then it is just a show-case!

Part 2： Discussion

- 3： SMS elements should be "rooted" in the Aerodrome Manual(AM).
- The reasons are as follows:
  - first, a link or bridge should be built between SMS concepts and aerodrome operation, instead of SEPARATING those two, making SMS as a completely "isolated" from real world;
  - secondly, there have been more than one "manual" in today's most airports: AM, ISO quality manual; ISO environment manual etc. The addition of SMS manual as required by A19 will make airport operators find it difficult to implement all manuals;
  - thirdly, if the airport operators are required to have a SMS manual separately from AM, then the daily routine work of those airport front-line operation stuff will remain unchanged, hence having no positive effect on airport safety.

Part 2：Discussion

- 3： SMS elements should be "rooted" in the Aerodrome Manual(AM)
- PANS-Aerodromes is another ICAO initiative to help the contracting states to comply with A14 SARPs where the whole content of Aerodrome Manual has been drafted as follows:
    - 1. List of updates
    - 2. Aerodrome administrative data
    - 3. Description of the aerodrome
    - 4. List of authorized non compliances
    - 5. Duties, means and procedures of the applicant to ensure safety in each area
    - *5.1. aerodrome data and reporting*
    - *5.2. access to movement area*
    - *5.3. aerodrome emergency plan*
    - *5.4. rescue and fire-fighting*
    - *5.5. inspection of movement area*
    - *5.6. maintenance of the movement area*

Part 2： Discussion

- 3： SMS elements should be "rooted" in the Aerodrome Manual(AM)

  – *5.7. snow and ice control, and other meteorological hazardous situations*
  – *5.8. visual aids and aerodrome electrical systems*
  – *5.9. aerodrome works-safety*
  – *5.10. apron management*
  – *5.11. apron safety management*
  – *5.12. vehicle control on the movement area*
  – *5.13. wildlife hazard management*
  – *5.14. obstacles control*
  – *5.15. removal of disabled aircraft*
  – *5.16. handling of hazardous materials*
  – *5.17. low visibility operations*
  – *5.18. protection of sites for radar and navigational aids*
  – *5.19 Protection of Radiofrequency*

  – *6. Safety management system*

And DOC 9774 has the same requirement!

Part 2: Discussion

- 3: SMS elements should be "rooted" in the Aerodrome Manual(AM)

- In general, it is clear that it will be not appropriate for airport operator to provide a separated so-called SMS Manual for CAA approval/acceptance while its AM remains unchanged.

Part 2: Discussion

- 4: The detailed requirement in regard to the Implementation of SMS
- not only in chapter 6 as per PANS-Aerodromes, but also in all other subsequent chapters,
  - Reason: airport operation stuff focus more on those chapters which are related more closely with their daily work.
- The difference between chapter 6 and other chapters is as follows: Chapter 6 covers all SMS elements and provides generic requirements for the airport operators, while reference can be made for the remaining chapters, with the specific task-related requirements being covered in each corresponding chapters

Part 2: Discussion

- 5: A model AM available
- It was developed after two years of extensive effort jointly accomplished by all stakeholders(airport operators, CAA, the academia etc) in China. As a sample, the following outlines the content of one chapter (which covers 5.5(inspection of movement area) and 5.6(maintenance of the movement area) of the PANS-Aerodromes) is proposed as follows:.

Part 2： Discussion

- ## 5：A model AM available
- General
- Safety objectives
- Organizational structure and responsibilities
- Documentation
- Airfield pavement management(including inspection and maintenance)
- Non-pavement management
- Management of airfield drainage facilities
- Airfield fences management
- Parameter roads management
- Emergency response(vehicle/COM tools failure during inspection, adverse weather operation)
- Management of tools and equipment
- Snow removal and de-icing/anti-icing(applied only to those snow/ice-covered airports)
- Safety information management
- Risk management
- Safety audit and oversight(including contractors/service providers)
- Safety education and training

Part 2：Discussion

- 6：SMS audit

- \<SMS audit guidance material\> developed to make sure that the relevant requirements be implemented, together with a "Civil Aviation Safety Audit Programme"(CASAP, 2007)

- SMS has become the inalienable part of the daily work of all operation stuff in China. Moreover, the following target has been almost realized: one-manual-covers-all.

Part 3：Action by the Conference

- 4：Implementation: unsatisfactory(USOAP data)
- The Conference is invited to note the information contained in this Paper:
  - a) SMS elements should be consolidated into AM;
  - b) the illogical provisions pointed out in 2.1 of this paper; and
  - c) a model AM has been available for use for airport operators.

THANKS!