



Agenda Item 3: Hazard identification and safety risk management

Content of the Safety Study / Safety Plan (Safety Case)

(Presented by the Secretariat)

Summary	
This working paper presents information on the safety study and the content of the same is submitted for consideration of the Workshop/Seminar.	
References: <ul style="list-style-type: none">• Doc. 9859 - SMM Manual• CAP 760 <i>Guidance on the Conduct of Hazard Identification, Risk Assessment and the Production of Safety Cases</i>	
ICAO Strategic objectives	<i>A – Safety</i> <i>D – Efficiency</i>

1 History

1.1 The objective of the safety assessment documentation is to provide a permanent record of the final result of safety assessment and the arguments and proofs, demonstrating that the risks associated with the implementation of the system proposed or the changes that have been eliminated or have been adequately controlled, and reduced to a tolerable level.

1.2 While the documentation of safety assessment is catalogued within the safety assessment process as a last step, a significant amount of the documentation will be already produced during the previous steps.

1.3 In addition to the description of the result of safety assessment, the documentation should contain a summary of the methods used, the risks identified, and the mitigating measures required to find the safety assessment criteria. The risk form should always be included. The documentation should be prepared in detail, so that someone reading it will be able to see the decisions reached and also the justification adopted to classify the risks as acceptable or tolerable. This summary should also include the names of the personnel who participated in the assessment process.

1.4 Following is the content, for the study of safety.

2 Analysis

2.1 SCENARIO

- The scenario must be established for each one of the implementation programme:
 - a) Performance-based navigation Implementation – RNAVT in upper airspace of the South American Region; and
 - b) ATS routes network Optimisation in the SAM Region (ATSRO).
- It should include who has approved the RNAV5 and/or ATSRO programmes
- Identify parts involved, if applicable.

2.2 DESCRIPTION OF THE SYSTEM

- The system will be described for each one of the programmes. Examples:
 - a) Airspace from FL 250 and upper
 - b) Separations used
 - c) Air traffic volume in such airspace
 - d) How many routes are candidate to be RNAV5 implemented
 - e) Which ATS services does the concerned airspace provide
 - f) Available communications
 - g) Available navigation systems
 - h) Available surveillance systems
 - i) Available MET services
 - j) Available AIS services
 - k) Available SAR services

2.3 HAZARD IDENTIFICATION PROCESS

- Hazards and consequences that will affect operations as a result of the implementation programme (RNAV5 or ATSRO), will be identified

2.4 SAFETY RISKS ASSESSMENT PROCESS

- The following should be included here:
 - a) Risk analysis as regards probability
 - b) Risk analysis as regards severity
 - c) Assessment of risk tolerability

2.5 SAFETY RISKS CONTROL/MITIGATING PROCESS

- The existing differences to support operations in upper airspace will be identified, and if applicable, new measures for control or mitigation of safety risks.
- Recommendations comprise:
 - a) A list of recommendations if applicable.
 - b) Description of the conclusion reached.

2.6 RECORD OF IDENTIFICATION OF HAZARDS AND SAFETY RISK MANAGEMENT

- Record of identification of hazards and safety risk management: the hazard identification and risk management form will be completed (**Appendix A** to this working paper). This form is used to leave a record of the risks identified and the measures adopted. The record should be permanently kept in the “safety library” to provide evidence of safety risk management, and reference for future risk assessments.
- Having identified and marked safety risks, the existing defences against the same should be identified. These defences must be further assessed as regards its adequacy. If it is found that they are less than adequate, then additional measures shall be prescribed.
- It should also be considered that the referred document could also incorporate an executive summary, and if such were the case, a list of the acronyms used in the same.

3. Suggested actions

3.1 The Workshop/Seminar is invited to take note of the information provided and to:

- a) Express your points of view regarding the content of the Safety Study
- b) With the comments expressed, approve the content of the Safety Study; and
- c) Approve the use of the Hazard and Risk Management Identification Form shown in **Appendix A** to this working paper.

APPENDIX A

HAZARD AND RISK MANAGEMENT IDENTIFICATION FORM

Type of operation or activity	Generic hazard	Specific hazard component	Consequence related to hazard	Current defences to control risk and risk rate	Further actions to reduce the risk and resulting risk rate	Responsible person