



Agenda Item 2: Review of Air Navigation Matters
2.2 Air Navigation specific activities:
2.2.3 Aerodromes and Ground Aids (AGA)
• Aeronautical Studies

STATES SURVEY ON AERONAUTICAL STUDIES TO PRESENT ACCEPTABLE MEANS OF ENSURING SAFETY OF AIRCRAFT OPERATIONS AT AERODROMES

(Presented by the Secretariat)

SUMMARY	
This working paper addresses the importance of conducting a survey of States on aeronautical studies to present acceptable means of ensuring safety of aircraft operations at aerodromes, regarding the implementation of aerodrome certification and according to GREPECAS Decision 15/22. The survey will also provide support to the GREPECAS AGA/AOP/SG Task Force on Aeronautical Studies.	
References:	
- Annex 14, Volume 1 – Aerodromes design and operations. - Manual on Certification of Aerodromes (Doc 9774)	
Strategic Objectives	<i>This working paper is related to Strategic Objectives A8 and D1.</i>

1. Introduction

1.1 One of the major challenges of the CAR Region in the process of the certification of aerodromes is undertaking aeronautical studies in order to assess the impact of deviations from compliance with the aerodrome SARPs as permitted in Annex 14, Volume I, and national regulations.

1.2 An aeronautical study may be carried out when certain specified aerodrome standards cannot be met as result of development and physical characteristics. Such a study is most frequently undertaken during the planning of a new airport or during the certification of an existing aerodrome.

1.3 It is important for States/Territories to recognize that aeronautical studies may not be conducted in cases of deviations from standards, if not specifically permitted in Annex 14, Volume I.

1.4 In aeronautical studies, technical analysis will provide justification for a deviation on the grounds that an equivalent level of safety can be attained by other means. It is generally applicable in situations where the cost of correcting a problem that violates a standard is excessive but where the unsafe effects of the problem can be overcome by some procedural means and/or restrictions that offer both practical and reasonable solutions.

1.5 In conducting a technical analysis, inspectors will analyze relevant data and draw upon their practical experience and specialized knowledge. They may also consult other specialists in relevant areas. When considering alternative procedures in the deviation approval process, it is essential to bear in mind the safety objective of the aerodrome certification regulations and the applicable standards so that the intent of the regulations is not circumvented.

1.6 In some instances, the only reasonable means of providing an equivalent level of safety is to adopt suitable restrictions or procedures and to require, as a condition of certification, that cautionary advice be published in the appropriate AIS publications.

1.7 The determination to require caution will be primarily dependent on two considerations:

- a) a pilot's need to be made aware of potentially hazardous conditions; and
- b) the responsibility of the Civil Aviation Authority to publish deviations from standards that would otherwise be assumed under certificated status.

2. Discussion

2.1 In order to increase the level of awareness by States/Territories at both regulatory and operational levels, regarding the need to address aeronautical studies for aerodrome operations safety, a questionnaire has been developed to obtain information from States on this topic.

2.2 According to GREPECAS Decision 15/22 – *Survey on Aeronautical Studies in the AGA Field*, the ICAO NACC Regional Office circulated the questionnaire contained in the **Appendix** to this working paper, through State Letters Ref. N 1/15.3 – EMX0012 dated 12 February 2009, and N 1/15.3 – EMX0462 dated 11 May 2009. This questionnaire should have been completed and returned by 30 March 2009.

2.3 To date, only Barbados, Cuba, Dominican Republic, French Antilles, Nicaragua and the United States have completed the questionnaire from the CAR Region. Considering these responses and taking into consideration that the AGA/AOP/SG Meeting has been postponed to November 9 to 13, 2009, CAR Region States/Territories are encouraged to review the questionnaire attached to this working paper, complete and submit it to the ICAO NACC Regional Office by **23 October 2009**.

2.4 The objective of the survey is to consult States/Territories regarding the level of compliance of ICAO standards and recommended practices by airport operators as well as from the relevant aeronautical authority regarding the process of airport certification and the use of aeronautical studies as specified in Annex 14, Volume I.

3. Recommended action

3.1 The Meeting is invited to:

- a) take note of this working paper, review and complete the questionnaire attached in the Appendix; and
- b) submit the questionnaire to the ICAO NACC Regional Office by **23 October 2009**.

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APPENDIX

STATE QUESTIONNAIRE REGARDING THE USE OF AERONAUTICAL STUDIES TO DETERMINE AN ACCEPTABLE LEVEL OF SAFETY OF AIRCRAFT OPERATIONS AT AERODROMES

The objective of this questionnaire is to help the AGA Aeronautical Studies Task Force establish criteria for the use of aeronautical studies in the aerodromes and ground aids (AGA) field to determine an acceptable level of safety at aerodromes where permitted by the aerodrome specifications contained in Annex 14 — *Aerodromes* Volume I — *Aerodrome Design and Operations*.

1) Does the aerodrome legislation in your State allow you to conduct an AGA aeronautical study to assess the impact of deviations from the aerodromes specifications contained in Vol. I to Annex 14 to the Convention on International Civil Aviation and National Regulations?
2) Does the aerodrome legislation in your State consider AGA aeronautical studies to evaluate acceptable means of ensuring the safety of aircraft operations and assess the effectiveness of each means and recommend procedures to compensate for the deviation from the specifications and National Regulations?
3) Does your State's aerodrome legislation provide with sufficient guidelines for technical analysis in order to provide justification for a deviation from the specifications and National Regulations on the grounds that an equivalent level of safety can be attained by other means?
4) Is there any specific aeronautical study carried out in the AGA field that has been validated by the regulatory authority in your State?

5) If your answer to question 4 is yes, would your State be willing to share your experience in this specific topic in a seminar/workshop organised by ICAO?
6) In case your answer to question 2 was negative, would your State consider useful including the concepts mentioned in questions 2 and 3 in your aerodromes legislation?
7) If your State is interested in guidelines to generate legislation on AGA aeronautical studies, what technical criteria would you consider useful?
8) An aeronautical study is a study of an aeronautical problem to identify possible solutions and select a solution that is acceptable without degrading safety. In case of an aeronautical study that has been approved by the authority and an accident has occurred in relation to the deviation of a specific specification and/or National Regulation, this generates responsibility with the parties involved and the authority. What is the opinion of your State regarding this issue?
9) Do you consider that aeronautical studies are useful in the aerodrome certification process, as long as they are validated by the State aerodrome authority?
10) Are there any comments your State would like to contribute regarding AGA aeronautical studies?
