The Second Meeting of the Asia/Pacific Aerodrome Assistance Working Group (AP-AA/WG/2)

Bangkok, Thailand, 27 to 30 January 2020

Agenda Item 3: Aerodrome Certification and Safety Management System

GENERIC AERODROME CERTIFICATION PROCEDURE MANUAL

(Presented by Philippines)

SUMMARY

This Working Paper presents a generic aerodrome certification procedure manual for the consideration by AP-AA/WG.

1. DISCUSSION

1.1 With reference to AP-AA/WG Task 1/3 (c), Philippines presents a generic aerodrome certification procedure manual which was modified from an existing manual used in Philippines.

1.2 The generic manual is available in **Attachment A**.

2. ACTION BY THE MEETING

2.1 The Meeting is invited to review and amend the generic aerodrome certification procedure manual as appropriate.

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CIVIL AVIATION AUTHORITY

GENERIC AERODROME CERTIFICATION PROCEDURE

Foreword

This manual is a Civil Aviation Authority (CAA) safety programme document. It contains processes determined to be necessary in supporting operational safety at aerodromes and heliports in the ~~Republic of the Philippines~~[State]. This manual is being issued under the authority of the Director General of Civil Aviation, CAA.

Copies are available at the office of:

~~The Director General~~[Post holder]

~~Civil Aviation Authority MIA Road corner~~
~~Ninoy Aquino Avenue Pasay City,~~
~~1300~~[Address]

This document may be amended from time to time as necessary, and the Director General of CAA will provide such amendment service.

The term "Head, " as referred to in this manual describes the most senior CAA officer responsible for certification, registration and continuing safety oversight functions and surveillance of aerodromes, heliports and air navigation services including the issuance of Permit to Operate to operators of aerodromes and heliports. The incumbent official holding this position reports directly to the Director General, Civil Aviation Authority.

Comments from staff members of CAA, stakeholders (or members of the) concerned aviation industry users and public about the contents of this manual are welcome. Clarifications or inquiries can be directed to:

~~The Head,~~Head of Aerodrome Standards

~~Aerodrome & Air Navigation Safety Oversight Office~~
~~(~~RERGULATORY) ~~~~[Office]
Civil Aviation Authority
~~MIA Road corner Ninoy Aquino Avenue~~
~~Pasay City, 1300~~[Address]
Telephone: ~~(632) 9442290~~
Email: ~~aanso.CAA@gmali.com~~

Ammendments

Record of amendment			
Number	**Date Applicable**	**Date Entered**	**Entered by:**
1	30 April 2009	New edition	

Record of corrigenda			
Number	**Date Applicable**	**Date Entered**	**Entered by:**

Revision History

The Manual of Aerodrome Regulatory Procedures revisions are as indicated by the changes listed in the following table.

Version Number	Version date	Items affected	Details
0.1	June 2008	Complete manual	Initial draft edition compiled for review and comment by CAA staff.
1.0	July 2008	Complete manual	First edition
1.1	September 2008	Complete manual	New organization chart inserted. Title for Head, Aerodrome & Air Navigation Oversight Office inserted
1.2	September 2008	Complete manual	Editorial amendments
2.0	April 2009	Complete manual	Title, editorial changes, 'ATO' to 'CAA', aeronautical study procedure inserted, references to DG CAA and legislation included
3.0	April 2017	Complete manual	Chapter 1: Inserted acronyms Chapter 2: Revision of Regulatory Bases (Aerodrome Certification, Registration and PTO) Chapter 3: Additional procedures for Permit to Operate (PTO)/Flowcharts/Regulatory Requirements Chapter 4: Amendment of Flowcharts and incorporation of additional procedures Chapter 5: Revised flowchart for Aerodrome Registration Chapter 6: Inserted procedures for PTO/flowcharts Chapter 7: Revised flowchart for Authorizing Approved Persons Chapter 8: Inserted Supplemental Procedures Chapter 9: Complete amendment of Aeronautical study and Safety Assessment Chapter 10: Dealing with Conflict between Environment and Safety Appendices: Additional Sample Letters/Forms /Checksheets/Checklists, renaming of checklists/forms

List of Effective Pages

Table of Contents

Chapter 1 – Aerodrome Certification

1.1 Introduction

This section applies to aerodrome operators who must obtain a certificate, and other applicants applying for a certificate, under the provisions of ~~Civil Aviation Regulations governing Aerodromes (CAR-Aerodromes)~~[State's aviation legislation/regulation] for a specific aerodrome. This section is provided to ensure that aerodrome certificates are correctly and consistently issued through a five-phase aerodrome certification process using a common format taking into account the following:

a) process for assessing the applications;

b) process for issuing aerodrome certificates;

c) legislation governing aerodrome certificates;

d) staff responsibilities; and

e) Forms and Letters to be used.

1.1.1 Guidelines

In accordance with ~~CAR-Aerodromes 2.2.005~~[legislation/regulation], an operator of an aerodrome that is used for international or domestic operations by any aircraft with ~~(if the aircraft has~~ a maximum passenger seating capacity of more than ~~thirty (30)~~[number specified by the legislation] must obtain an aerodrome certificate for that aerodrome.

Note: This paragraph should be written in accordance with the State's legislation which may have different qualifying criteria e.g. seat capacity, traffic volume, international / domestic operations, etc.

1.1.2 Key Functions

The ~~Head, RERGULATORY~~Head of Aerodrome Standards is responsible for identifying those aerodromes that are required to be certified under the provisions of [legislation/regulation]~~CAR-Aerodromes~~.

The ~~Head, RERGULATORY~~Head of Aerodrome Standards shall be the initial contact point for an aerodrome operator seeking a certificate for their aerodrome. The workflow process shall be coordinated with the ~~Chief ARCID~~[post] who will track the progress of the application.

An application for certification of an aerodrome must be accomplished on the approved CAA form detailed in Appendix C.2, Aerodrome Certification Application Checklist (Form AGA-ACAC-001).

The Assigned Aerodrome Inspector (AAI) shall be responsible for assessing the applications and advising the applicants by way of standard letters, about the certification regulatory progress. (See sample letter form on Appendix A.1 of the manual).

1.2 Aerodrome Certification Process

1.2.1 The CAA certification and approval process is designed so that continuous interaction, from the applicant's initial inquiry to the issue or denial of the requested certificate/approval by the CAA is maintained to ensure the applicant's proposed programmes, systems, arrangements, facilities, documentation, personnel and intended methods of compliance are thoroughly reviewed, evaluated and tested by use of the five-phase process. The certification process is envisioned to be completed in ~~18 months~~[timeline specified by State] minimum for airports that are already operating. For new airports this process may take longer depending on applicable local and national regulations.

1.2.2 The five certification phases are:

a) PHASE 1: Initial Certification Process (0-6 months)
b) PHASE 2: Documentation Phase (3 months)
c) PHASE 3: On-Site Verification
d) PHASE 4: Issuance of Aerodrome Certificate
e) PHASE 5: Surveillance

1.2.3 Approval Procedure for Aerodrome Certification

Certification Process Flow Charts are detailed in Section 4.6.

The flow charts on these pages depict the various phases of the aerodrome certification process.

1.2.4 Procedure

The ~~Head, RERGULATORY~~Head of Aerodrome Standards receives the application package and advises the AAI by minute along with the task number. He also inputs or creates a system by means of reference details, computer based or manually.

Upon receiving the office minute and application, the Assigned Aerodrome Inspector (AAI) shall:

PHASE 1 – INITIAL CERTIFICATION

1. Aerodrome operator applies for certification

a) Open a file, reference the application and Aerodrome Manual, if available, and conduct certification briefing using Appendix C.1, Aerodrome Certification Information Checklist (Form AGA-001-ACIC).

b) Determine the fee based on the applicable legislation/regulation, complexity of the application and advise the aerodrome operator.

c) Proceed with the assessment upon payment of the application fee.

2. ~~ARCID/RERGULATORY~~[Post] assesses the legal and operational requirements

a) Confirm if the applicant is the owner of the land or has permission from the landowner to operate the site as an aerodrome.

b) Make an assessment of the aerodrome operator's documentation, including the Aerodrome Manual, if available, ensuring that:

- the application is in accordance with the requirements and signed by an appropriate person using Appendix C.2, Application Form Checklist (Form AGA-002-AFC);
- a current copy of the Aerodrome Manual has been received;
- the Aerodrome Manual is in the approved form per ~~CAR- Aerodromes 2.2.070~~[regulation] as detailed in Appendix C.3, Aerodrome Certification Manual Format Checklist (Form AGA-003-ACMFC);
- the Aerodrome Manual includes the requirements of [regulation]~~CAR- Aerodromes 2.2.065~~ and detailed in Appendix C.4, Aerodrome Certification Manual Contents Checklist (AGA-004-ACMCC); and

c) Assess the personnel qualification requirements to ensure competence of aerodrome `personnel with safety functions and level of resources (for prospective operators).

d) Liaise with FSIS, ATS and ANS on operational issues and obtain an agreement as necessary. Inputs for operational assessment should be sought from the following services as appropriate:

i. Flight Standards Inspectorate Service (FSIS).

ii. Air Traffic Services (ATS).

iii. Communication Navigation Surveillance Service (CNSS).

3. Meeting with the aerodrome operator

- Certification process and deadlines.
- Certification Toolkit with self-assessment checklist provided.
- Fees and Charges.

4. Aerodrome Operator develops and submits the aerodrome manual

- Provide Technical Assistance if requested

5. CAA conduct Technical Inspections of the aerodrome

- Nomination of the Technical Inspection team
- Planning of the Technical Inspection activities, times and dates
- Notification and confirmation to the Aerodrome Operator
- Conduct Technical Inspections

6. ~~ARCID/RERGULATORY~~[Post] **assembles the on-site verification team.**

7. ~~ARCID/RERGULATORY~~[Post] **completes the Technical Inspection within 30 working days after the conduct of Technical Inspection and furnishes the Aerodrome Operator.**

PHASE 2 – AERODROME MANUAL REVIEW AND ACCEPTANCE

8. **Analysis of the aerodrome manual and acceptance:**

   - Review the procedures set out in the Aerodrome Manual. [regulation]~~CAR-Aerodromes 2.2.015 (c)~~ require that for the manual to be acceptable, it must comply with ~~CAR-Aerodromes 2.2.065~~[regulation] as detailed in Appendix C.5 Aerodrome Certification Manual Contents Checklist (AGA-005-ACMCC).
   - Review of operational staff and competency detailed in [regulation]~~CAR- Aerodromes 2.2.093 and MOS 3.1.4.2~~.
   - Aerodrome Manual Acceptance in accordance to [regulation]~~CAR-Aerodromes 2.2.087~~ and inclusion in accepted ~~RERGULATORY~~ Aerodrome Manual registry.

9. **CAA/Operator schedules the on-site verification audit and preparation**

PHASE 3 – ON-SITE VERIFICATION AUDIT

10. **Conduct of on-site verification, and determine if the:**

    - aerodrome manual of procedures make satisfactory provision for the safety of aircraft in accordance with [regulation]~~CAR-Aerodromes 2.2.015~~;
    - operator can properly operate and maintain the aerodrome in accordance with [regulation] and Aerodrome Manual~~CAR-Aerodromes 2.2.015~~ such as the level of resources, qualification and competence of personnel;
    - aerodrome facilities and equipment are in accordance with the [regulation] and Aerodrome Manual~~MOS 3.1.3.1(a) as required by CAR-Aerodromes 2.2.015~~; and
    - operator has implemented an acceptable Safety Management (SMS) for the aerodrome.
    - Infrastructure, obstacle limitation surfaces, visual and non-visual aids and aerodrome equipment for the use of aeroplanes comply with [regulation] and Aerodrome Manual;
    - ~~a full-scale emergency exercise has been conducted as part of the aerodrome operator's Airport Emergency Plan (AEP).~~RFF services

are provided in accordance with [regulation] and Aerodrome Manual; and

- Aerodrome's wildlife hazard management complies with [regulation] and Aerodrome Manual

~~*Note: Prior to the granting of interim aerodrome certificate (Phase 4), CAA validates aerodrome operator's AEP during a full scale emergency exercise by conducting a first-hand evaluation of the exercise to assess the suitability of the emergency plan of the aerodrome operator to cope with the different types of emergencies. CAA shall also review the outcome of the exercise to improve its effectiveness.*~~

11. On-site verification audit report sent to the operator.

12. Operator submits Corrective Action Plans (CAPs).

13. CAA assesses the aerodrome operator's proposed CAPs off site.

- if CAPs are unacceptable or inadequate, the aerodrome operator shall confer with CAA until CAPs are acceptable.

14. CAA accepts the CAPs and conduct on site validation, if appropriate.

PHASE 4 – ISSUANCE OF AERODROME CERTIFICATE

15. Granting of ~~Interim (Temporary)~~ Aerodrome Certificate

a) If the application is accepted, proceed to Item 15(~~b~~c). Depending on the capability of applicant, the certificate issued could be an interim or a permanent one.

~~a)~~b) If unacceptable, advise the applicant of all the shortcomings including any additional steps that needs to be taken prior to the issuance of certificate, and allocate another processing period (Return to 1[b]). Alternatively, refuse the application and prepare a draft letter, see sample letter on Appendix A.2 "*Refusal to Grant an Aerodrome Certificate".*

~~b)~~c) If the application is accepted, the AAI shall forward to the ~~Head, RERGULATORY~~Head of Aerodrome Standards the completed Checksheet for Aerodrome Certificate Issuance (Appendix B.8) for confirmation of acceptance.

~~c)~~d) The ~~Head, RERGULATORY~~Head of Aerodrome Standards (or delegate) shall review the Checksheet for Aerodrome Certificate Issuance and if satisfied:

- obtain the certification number and update the certification file;
- recommend approval of the application to the DG;
  - notice of approval
  - Aerodrome Certificate and if applicable, attach conditions/restrictions
- update the certification file with signed Aerodrome Certificate; and

- return the signed Aerodrome Certificate and the completed Checksheet for Aerodrome Certificate Issuance to the AAI.

d)e) The AAI shall:

- place a copy of the Aerodrome Certificate on the aerodrome file and the CAA copy of the Aerodrome Manual;
- place the completed Checksheet for Aerodrome Certificate Issuance on the aerodrome file;
- advise the applicant by the standard approval letter telling that the application has been approved. (See Appendix A.1 for sample letter). The original Aerodrome Certificate may be forwarded to the operator with the standard letter.

e)f) For the permanent/interim Aerodrome Certificate, once the application is approved, the AAI will initiate a NOTAM endorsing all aerodrome particulars to be included in the Aeronautical

Information Publication (AIP). The AAI shall ensure that a copy of the NOTAM is addressed to the aerodrome operator.

f)g) The AAI places the aerodrome on the mandatory surveillance/inspection schedule:

- for Interim/Temporary aerodrome certificate, at leastwithin 6 months after the issuance and 1 month prior to expiration; and
- for permanent aerodrome certificate at least once a year from date of approval of permanent aerodrome certificate.

g)h) Advise the Head, RERGULATORYHead of Aerodrome Standards of the process completion, and brief the concerned CAA-RERGULATORY staff about the newly certified aerodrome.

Certificates are granted in accordance with CAR-Aerodromes 2.2.030[regulation on (Duration of Aerodrome Certificate).].

On occasion where condition(s) are placed on an aerodrome certificate under CAR-Aerodromes 2.2.025[regulation], the AAI shall consult with the Head, RERGULATORYHead of Aerodrome Standards through Chief ARCID. If condition/s is/are required:

- the reason for each condition shall be notified to the applicant in writing; and
- each condition will be set out in a notice to the applicant.

PHASE 5 – SURVEILLANCE INSPECTION

16. Surveillance

a) Within 6 months after the issuance of interim/temporary aerodrome certificate and 1 month prior to the expiration of the certificate, AAI will conduct the surveillance inspection to determine progress on all CAPs and to assess whether the Aerodrome operator maybe granted a permanent Aerodrome Certificate.

b) When an aerodrome's corrective actions have not been taken within acceptable timelines and after coordination with the operator, CAA shall increase its oversight on the aerodrome operator. The scope of increased oversight may cover specific subjects or be all-encompassing.

c) The AAI should notify the aerodrome operator in writing:

- that it is being placed under increased oversight and outline the subjects concerned and the details of the oversight schedule;
- the reasons for the increased oversight and what it consists of; and
- what actions are required by the aerodrome.

d) When an aerodrome is placed under increased oversight, CAA should:

- carry out appropriate oversight actions on the subjects concerned;
- follow very carefully the implementation of the corrective actions plan; and
- allocate sufficient time/resources to the oversight of the concerned aerodrome.

e) The oversight actions carried out under increased oversight are the same as those carried out normally, but are more exhaustive and address all the subjects concerned.

f) When increased oversight is concluded on an aerodrome for a specific subject, AAI shall advise the aerodrome operator in writing, stating the end of the procedure and the reason.

g) The aerodrome certificate can be amended, suspended or revoked according to the outcome of the increased oversight.

1.3 Amendment of Aerodrome Certificate

1.3.1 Introduction

CAA may, provided that the requirements of ~~CAR-Aerodromes 2.2.010, 2.2.015, and 2.2.080~~ [regulations] are met, amend an aerodrome certificate where:

i) there is a change in the use or operation of the aerodrome; or

ii) there is a change in the boundaries of the aerodrome; or

iii) the holder of the aerodrome certificate requests the amendment; or

~~iii)~~iv) the change is necessary as a result of surveillance activities as specified in Para. 1.2.4 Section 16~~.~~

1.3.2 Procedures

a) In case of change in ownership or management of the aerodrome, the

new aerodrome operator or manager shall apply for a transfer of the aerodrome certificate in accordance with ~~CAR-Aerodromes 2.2.056~~[regulation].

b) If the aerodrome operator requests an amendment to the aerodrome certificate, such request shall be accompanied by:

i) a detailed account of the proposed amendment including the reasons for the amendment;

ii) an assessment of the safety risks associated with any change in use or operation of the aerodrome including, where appropriate, the findings of any aeronautical study undertaken by or on behalf of the aerodrome operator; and

iii) particulars of any consequential changes to the AIP, aerodrome manual, aerodrome emergency plan and other associated manuals.

c) CAA may amend an aerodrome certificate so as to restrict or prohibit specific operations at the aerodrome if the aerodrome operator breaches the conditions of the type of use endorsed by the aerodrome certificate. CAA shall provide written notice of intention to amend an aerodrome certificate stating the reasons for the proposed amendment.

1.4 Refusing an Application for Certification

1.4.1 If the AAI is not satisfied that the:

a) aerodrome meets the necessary standards; or

b) applicant can operate and maintain the aerodrome in a safe and proper manner; or

c) Aerodrome Manual and Safety Management System (SMS) are acceptable~~,~~

~~(~~then~~)~~ the application shall be refused.

1.4.2 Written notification of the reason(s) for refusal to certify an aerodrome must be provided within fourteen (14) days to the applicant, in accordance with ~~CAR-Aerodromes 2.2.020~~[regulation] (See standard letter form on Appendix A.2).

1.4.3 The decision to refuse an application is a reviewable decision. Unsuccessful applicants must be advised in writing of the reasons for the refusal to grant the aerodrome certification. All notifications advising the refusal to certify an aerodrome must be reviewed by the ~~ARCID~~ [post] and if appropriate by the ~~Enforcement and Legal Service (ELS)~~Legal Branch of the CAA before sending to the applicant.

1.4.4 Applicants, who must be taking further steps to correct any deficiencies before an aerodrome can be certified, are responsible for notifying the AAI when the required work has been completed.

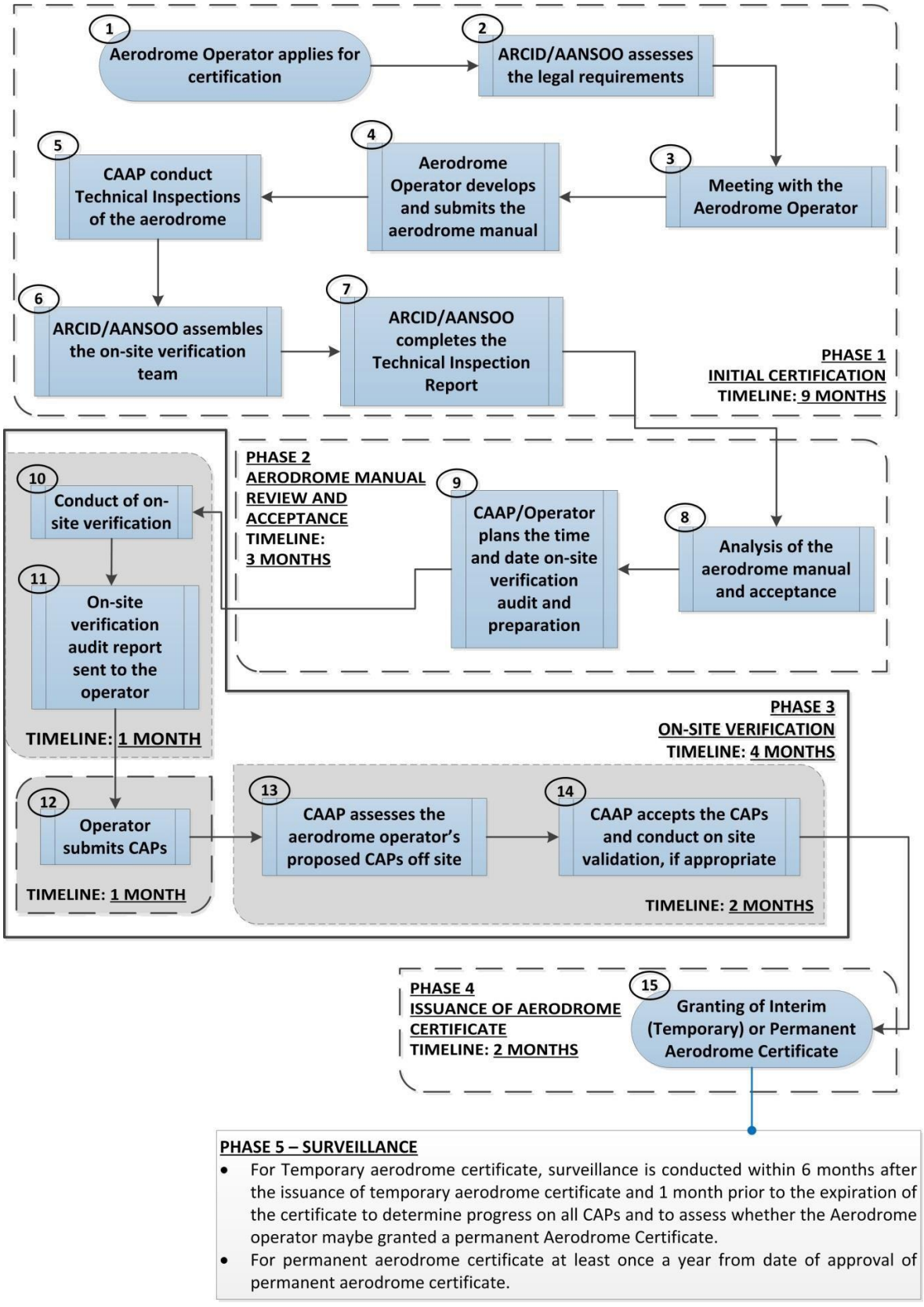
1.5 Aerodrome Certificate Issue Checksheet

1.5.1 The Aerodrome Inspector and ~~Head, RERGULATORY~~Head of Aerodrome Standards must complete the Checksheet for Aerodrome Certificate Issuance (Form AGA-008-CACI) to ensure that each step of the aerodrome certification procedure is completed. (A sample checksheet form is in Appendix B.1).

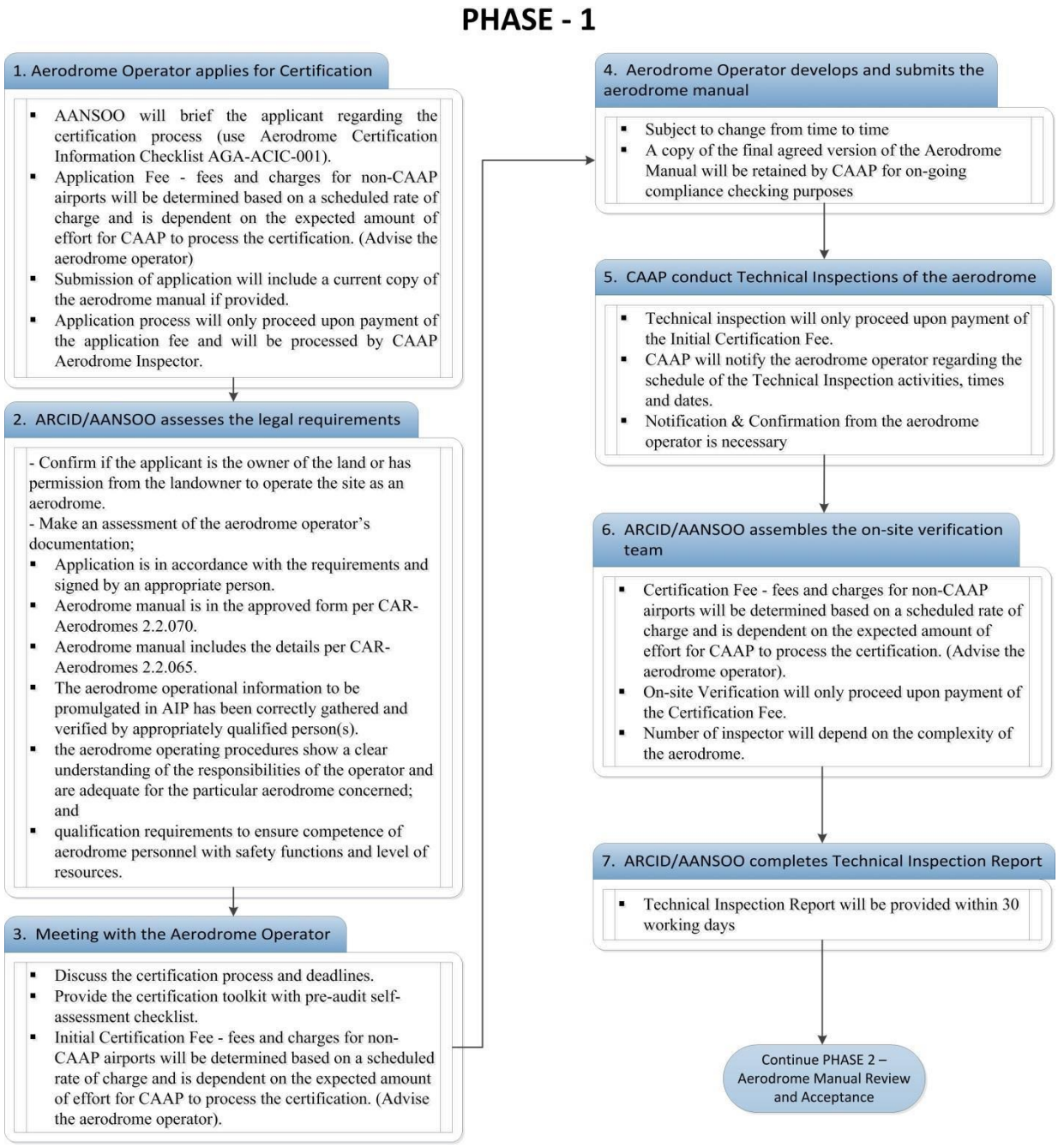
1.5.2 Satisfactory completion and acceptance of each item should be indicated by a tick mark in the relevant checkbox. The date on which the item was accepted must also be indicated on each checkbox. On completion of processing, the AI must sign and date the completed form and file it on the aerodrome file.

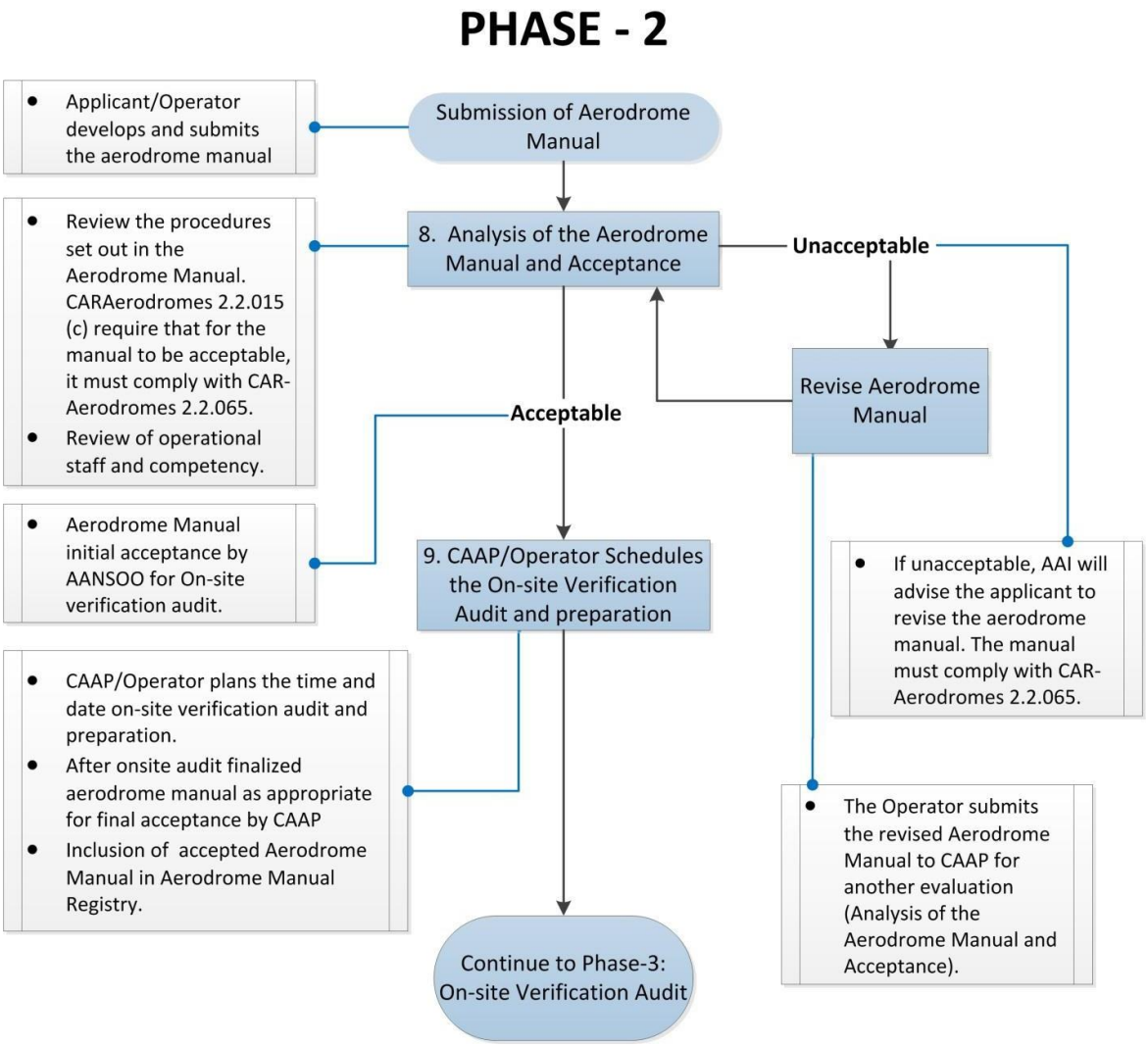
1.6 Aerodrome Certification Flowcharts

1.6.1 Aerodrome Certification Process

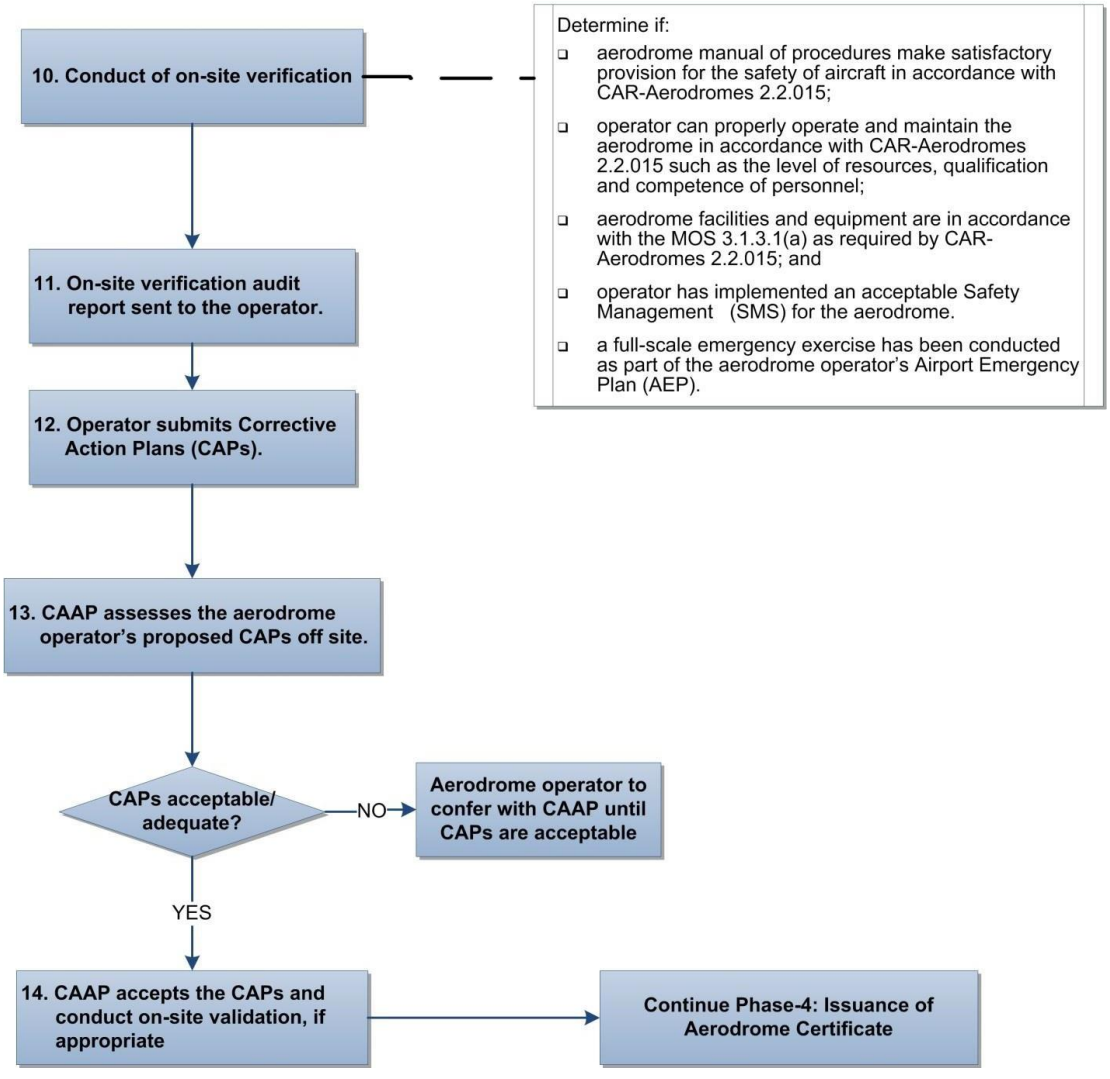


1.6.2 Flowchart for Phases of Certification

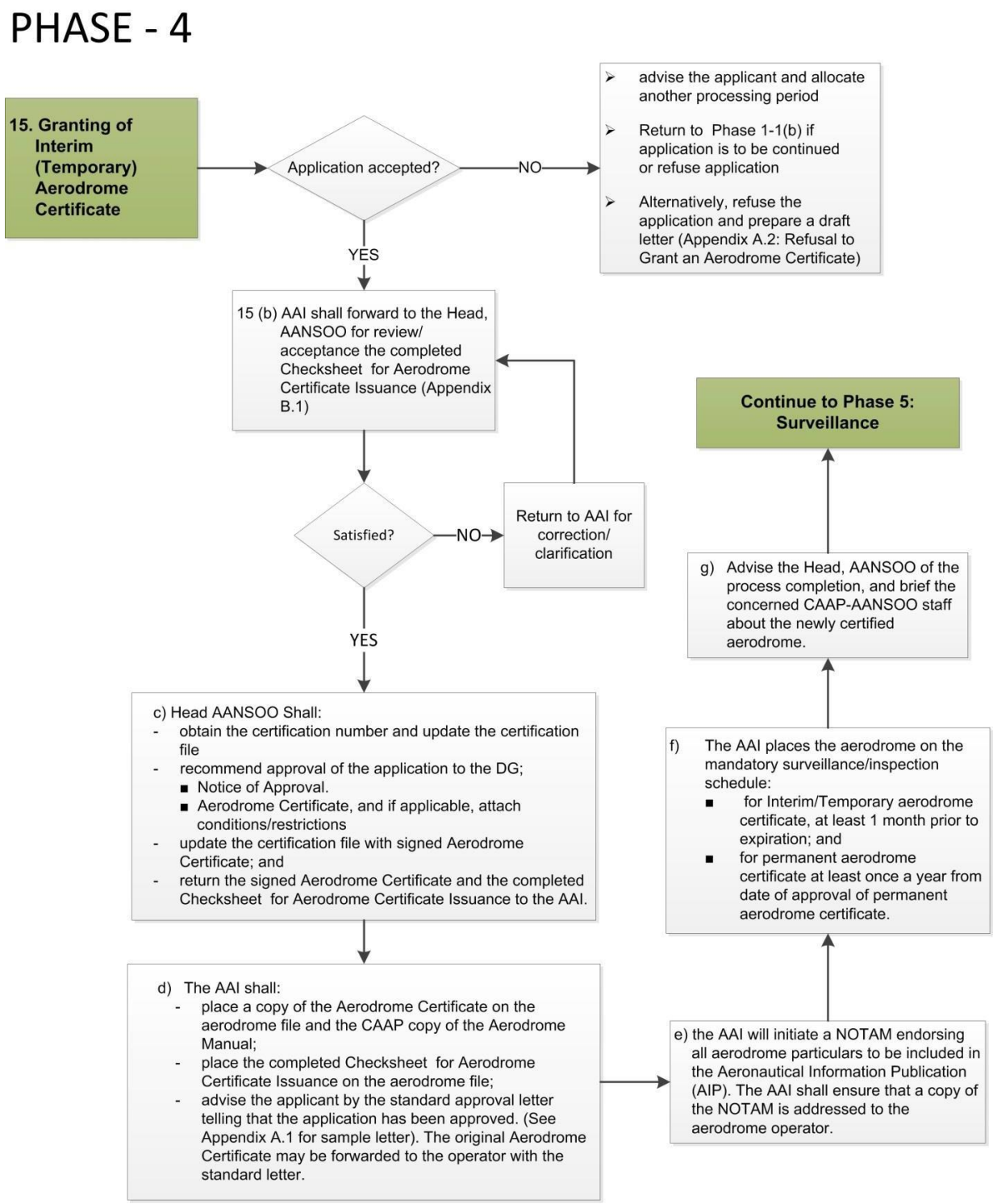



PHASE - 2
Applicant/Operator develops and submits the aerodrome manual
Submission of Aerodrome Manual
Review the procedures set out in the Aerodrome Manual. CARAerodromes 2.2.015 (c) require that for the manual to be acceptable, it must comply with CAR-Aerodromes 2.2.065.
Review of operational staff and competency.
8. Analysis of the Aerodrome Manual and Acceptance
Unacceptable
Revise Aerodrome Manual
Acceptable
Aerodrome Manual initial acceptance by AANSOO for On-site verification audit.
9. CAAP/Operator Schedules the On-site Verification Audit and preparation
If unacceptable, AAI will advise the applicant to revise the aerodrome manual. The manual must comply with CAR-Aerodromes 2.2.065.
CAAP/Operator plans the time and date on-site verification audit and preparation.
After onsite audit finalized aerodrome manual as appropriate for final acceptance by CAAP
Inclusion of accepted Aerodrome Manual in Aerodrome Manual Registry.
The Operator submits the revised Aerodrome Manual to CAAP for another evaluation (Analysis of the Aerodrome Manual and Acceptance).
Continue to Phase-3: On-site Verification Audit

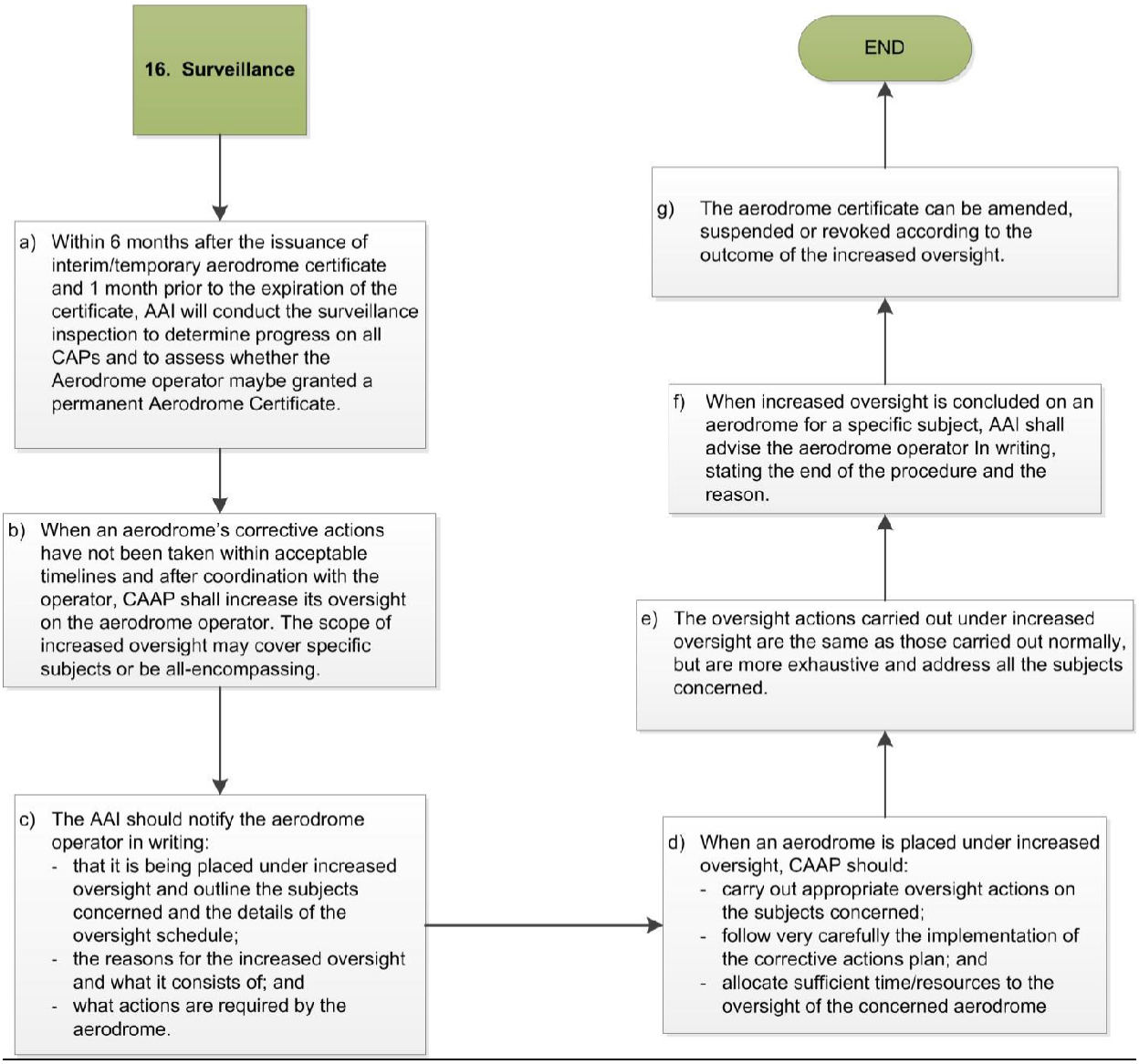
PHASE - 3


10. Conduct of on-site verification
Determine if:
aerodrome manual of procedures make satisfactory provision for the safety of aircraft in accordance with CAR-Aerodromes 2.2.015;
operator can properly operate and maintain the aerodrome in accordance with CAR-Aerodromes 2.2.015 such as the level of resources, qualification and competence of personnel;
aerodrome facilities and equipment are in accordance with the MOS 3.1.3.1(a) as required by CAR-Aerodromes 2.2.015; and
operator has implemented an acceptable Safety Management (SMS) for the aerodrome.
a full-scale emergency exercise has been conducted as part of the aerodrome operator's Airport Emergency Plan (AEP).
11. On-site verification audit report sent to the operator.
12. Operator submits Corrective Action Plans (CAPs).
13. CAAP assesses the aerodrome operator's proposed CAPs off site.
CAPs acceptable/ adequate?
NO
Aerodrome operator to confer with CAAP until CAPs are acceptable
YES
14. CAAP accepts the CAPs and conduct on-site validation, if appropriate
Continue Phase-4: Issuance of Aerodrome Certificate

[First grant could be permanent or interim certificate]



PHASE - 5


16. Surveillance
a) Within 6 months after the issuance of interim/temporary aerodrome certificate and 1 month prior to the expiration of the certificate, AAI will conduct the surveillance inspection to determine progress on all CAPs and to assess whether the Aerodrome operator maybe granted a permanent Aerodrome Certificate.
b) When an aerodrome's corrective actions have not been taken within acceptable timelines and after coordination with the operator, CAAP shall increase its oversight on the aerodrome operator. The scope of increased oversight may cover specific subjects or be all-encompassing.
c) The AAI should notify the aerodrome operator in writing:
- that it is being placed under increased oversight and outline the subjects concerned and the details of the oversight schedule;
- the reasons for the increased oversight and what it consists of; and
- what actions are required by the aerodrome.
d) When an aerodrome is placed under increased oversight, CAAP should:
- carry out appropriate oversight actions on the subjects concerned;
- follow very carefully the implementation of the corrective actions plan; and
- allocate sufficient time/resources to the oversight of the concerned aerodrome
e) The oversight actions carried out under increased oversight are the same as those carried out normally, but are more exhaustive and address all the subjects concerned.
f) When increased oversight is concluded on an aerodrome for a specific subject, AAI shall advise the aerodrome operator In writing, stating the end of the procedure and the reason.
g) The aerodrome certificate can be amended, suspended or revoked according to the outcome of the increased oversight.
END

1.7 Continued Surveillance

1.7.1 The continuing validity of an aerodrome certificate shall be based on the satisfactory outcome of surveillance activity of CAA in compliance with ~~CAR-Aerodromes 2.2.015~~[regulation] and will include assessment of the effective implementation of aerodrome operator's SMS, in terms of monitoring and analyzing safety occurrences and trends and taking appropriate action in a timely manner ~~(details of SMS assessment is contained in SMS Requirements for Aerodrome Operators and Aerodrome SMS Acceptance and Surveillance Program)~~.

1.7.2 SMS effective implementation is part of a continued validity requirements for certified airports which is covered in the surveillance program and where all aspects of the aerodrome certification and operation are taken into account (see Appendix E: Checklist, ARCID Surveillance Policy, Procedures and Programme).

1.7.3 An overall assessment of the continued validity of the aerodrome certificate must be indicated in the surveillance report laying out the complied conditions/requirement as per ~~CAR-Aerodromes 2.2.015, MOS 3.1.3 and in Section 5 of ARCID Aerodrome Certification Programme~~[regulation].

1.7.4 The mandatory annual surveillance shall include periodic review of the aerodrome operator's accepted aerodrome manual to ensure the accuracy of the Aerodrome Manual necessary for the safe and efficient operation of aircraft at the aerodrome or safety of air navigation.

1.8 Procedures in Dealing with Deficiencies Found During Aerodrome Surveillance Activities

1.8.1 Introduction

The effectiveness of a programmed surveillance relies on the implementation or resolution of the non-confirming findings. This very important element starts with the submission of the corrective action plan submitted by the concerned aerodrome operator within the time limitation prescribed and accepted by the CAA.

The fact that a corrective action is required is a declaration that the inspected service provider has been found to be operating below the minimum requirements and therefore would need to make the necessary changes to ensure continued capability.

It is the responsibility of the inspected aerodrome operator to resolve the identified findings within the prescribed time. The relevant Inspectorate shall monitor the implementation of agreed/accepted CAPs to ensure that all safety deficiencies are addressed in a timely manner.

1.8.2 Procedures

a) Notification of reported/observed deficiencies/non-compliance.

AAI ~~or relevant ARCID inspector~~ shall notify the aerodrome operator as soon as information of the reported/observed non-compliance or deficiencies is available, in accordance with procedures for corrective actions detailed in Aerodrome Inspectors Handbook (AIH) ~~Chapter 5~~.

b) Corrective Actions

i) On receipt of an audit or inspection report, the organization concerned is required to submit a Corrective Action Plan (CAP) within an agreed period.

ii) The CAP is a written confirmation by the aerodrome certificate holder detailing the measures they intend to implement, to address all of the findings of non-compliance. The CAP must incorporate actions that at least will remedy the deficiency in the short term and prevent a future re~~-oc~~currence.

iii) Failure to compile a CAP or failure to comply with the deadline for submission of the CAP or failure to implement the measures outlined in the CAP may result in enforcement action, including possible sanctions against an aerodrome certificate and/or imposition of a fine.

iv) Every CAP generated as a result of findings communicated to an aerodrome certificate holder, following an inspection or audit, must contain, as a minimum:

(1) The recommendations/elements in need of improvement;

(2) Planned corrective action(s);

(3) Identification of the person(s) responsible for implementing and finalizing the corrective action; and

(4) Time frame for completion.

v) Where the CAA has not received advice that corrective action has been taken by the due date, the aerodrome operator is to be advised that it is overdue, and that the CAA expects the matter to be resolved within ten (10) days. If a formal notice has not been received with satisfactory closing action, within the ten (10) day period, the aerodrome certificate holder should be advised in writing by the audit leader that unless immediate action is taken to close the findings then action may be taken against the aerodrome certificate holder in accordance regulatory provisions.

vi) In cases where the aerodrome certificate holder being audited or inspected does not implement action regarding the findings made by the audit team because it disagrees with any of them, it should direct a formal written notice of disagreement to the Director General, laying down the reasons for the disagreement. The Director General may review this and determine subsequent action in accordance with the regulatory requirements and the best interests of safety for

the industry ~~within the Philippines~~. And where the aerodrome operator has agreed with the findings but has not implemented the agreed CAPs, procedure for increased oversight as detailed in (c), increased oversight shall apply.

vii) The team leader is responsible to ensure that a follow-up audit or inspection takes place as necessary after the actions mentioned in the CAP have been advised as completed, in order to ensure that the stated corrective action has taken place within the agreed time frame, and that the corrective action has been successful in ensuring compliance with the aerodrome standards and/or other regulatory obligation.

viii) The ~~Head, RERGULATORY~~Head of Aerodrome Standards~~O,~~ is responsible for maintaining a database of audit and inspection findings. Each team leader is to enter their respective results onto this database, and review the contents on a regular basis to ensure that timeframes are being respected and overdue actions are identified.

c) Increased Oversight

When an aerodrome's corrective actions have not been taken within acceptable timelines and after coordination with the operator, CAA shall increase its oversight on the aerodrome operator. The scope of increased oversight may cover specific subjects or be all-encompassing.

i) The AAI should notify the aerodrome operator in writing:

(1) that it is being placed under increased oversight and outline the subjects concerned and the details of the oversight schedule;

(2) the reasons for the increased oversight and what it consists of; and

(3) what actions are required by the aerodrome.

ii) When an aerodrome is placed under increased oversight, CAA should:

(1) carry out appropriate oversight actions on the subjects concerned;

(2) follow very carefully the implementation of the corrective actions plan; and

(3) allocate sufficient time/resources to the oversight of the concerned aerodrome.

iii) The oversight actions carried out under increased oversight are the same as those carried out normally, but are more exhaustive and address all the subjects concerned.

iv) When increased oversight is concluded on an aerodrome for a specific subject, AAI shall advise the aerodrome operator in writing, stating the end of the procedure and the reason.

v) In cases where despite implementation of increased oversight, the aerodrome operator is unable to maintain the required safety

standards/requirements with which it has been certified, CAA will institute applicable enforcement actions.

d) Enforcement Options:
Note: The enforcement options should be tally with the State's legislation, regulations and procedures.

i) There are several enforcement options available to the CAA as a result of findings following an audit or an aerodrome inspection. These options include, but may not be limited to:

(1) Written notification of corrective action required together with follow-up inspections as necessary;

(2) Provision of education and/or guidance as to how compliance may be achieved;

(3) Formal warnings;

(4) Requirement for re-training or re-certification of facilities, personnel; and equipment;

(5) Suspension of an aerodrome certificate pending rectification of deficiencies;

(6) Revocation of an aerodrome certificate; or

(7) Legal action to impose penalties (fines).

ii) Selection of enforcement action

(1) The selection as to which enforcement action to take with aerodrome certificate holders following the identification of findings will be dictated by the prevailing circumstances. Actions taken up to d)i)(4) may be initiated by the ~~Head, RERGULATORY~~Head of Aerodrome Standards and are to be ~~reported~~ recommended to the DG.

(2) No action to initiate the actions mentioned in d)i)(5)-(7) inclusive will be taken without the prior approval of the Director General and after consideration of CAA ~~Enforcement and Legal Service (ELS)~~Legal Branch.

~~(3) For full details of considerations and action to be taken regarding enforcement action, refer to the CAA ELS Enforcement Manual.~~

1.9 Risk Categorization

1.9.1 Introduction

Depending on the nature of the risk, three methodologies can be used to evaluate whether it is being appropriately managed:

a) Method type "A". For certain hazards, the risk assessment strongly depends on specific aeroplane and/or system performance. The risk level is dependent upon aeroplane/system performance (e.g. more accurate navigation capabilities), handling qualities and infrastructure characteristics. Risk assessment, then, can be based on

aeroplane/system design and validation, certification, simulation results and accident/incident analysis;

b) Method type “B”. For other hazards, risk assessment is not really linked with specific aeroplane and/or system performance but can be derived from existing performance measurements. Risk assessment, then, can be based on statistics (e.g. deviations) from existing operations or on accident analysis; development of generic quantitative risk models can be well adapted;

c) Method type “C”. In this case, a “risk assessment study” is not needed. A simple logical argument may be sufficient to specify the infrastructure, system or procedure requirements, without waiting for additional material, e.g. certification results for newly announced aeroplanes or using statistics from existing aeroplane operations.

1.9.2 Risk assessment process

a) The risk assessment takes into account the probability of occurrence of a hazard and the severity of its consequences; the risk is evaluated by combining the two values for severity and probability of occurrence.

b) Each identified hazard must be classified by probability of occurrence and severity of impact. This process of risk classification will allow the aerodrome to determine the level of risk posed by a particular hazard. The classification of probability and severity refers to potential events.

c) The severity classification includes five classes ranging from “catastrophic” (class A) to “not significant” (class E). The examples in Table 4.9-1, adapted from Doc 9859 with aerodrome-specific examples, serve as a guide to better understand the definition.

d) The classification of the severity of an event should be based on a “credible case” but not on a “worst case” scenario. A credible case is expected to be possible under reasonable conditions (probable course of events). A worst case may be expected under extreme conditions and combinations of additional and improbable hazards. If worst cases are to be introduced implicitly, it is necessary to estimate appropriate low frequencies.

e) The probability classification includes five classes ranging from “extremely improbable” (class 1) to “frequent” (class 5) as shown in Table 4.9-2.

f) The probability classes presented in Table 4.9-2 are defined with quantitative limits. It is not the intention to assess frequencies quantitatively; the numerical value serves only to clarify the qualitative description and support a consistent expert judgement.

g) The classification refers to the probability of events per a period of time. This is reasoned through the following:

   i) many hazards at aerodromes are not directly related to aircraft movements; and

   ii) the assessment of hazards occurrence probabilities can be based on

expert judgement without any calculations.

h) The aim of the matrix is to provide a means of obtaining a safety risk index. The index can be used to determine tolerability of the risk and to enable the prioritization of relevant actions in order to decide about risk acceptance.

i) Given that the prioritization is dependent on both probability and severity of the events, the prioritization criteria will be two-dimensional. Three main classes of hazard mitigation priority are defined in Table 4.9-3:

   i) hazards with high priority — intolerable;

   ii) hazards with mean priority — tolerable; and

   iii) hazards with low priority — acceptable.

j) The risk assessment matrix has no fixed limits for tolerability but points to a floating assessment where risks are given risk priority for their risk contribution to aircraft operations. For this reason, the priority classes are intentionally not edged along the probability and severity classes in order to take into account the imprecise assessment.

Table 1.9-1: Severity classification scheme with examples

Severity	Meaning	Value	Example
Catastrophic	- Equipment destroyed - Multiple deaths	A	- collision between aircraft and/or other object during take-off or landing
Hazardous	- A large reduction in safety margins, physical distress or a workload such that the operators cannot be relied upon to perform their tasks accurately or completely - Serious injury - Major equipment damage	B	- runway incursion, significant potential for an accident, extreme action to avoid collision - attempted take-off or landing on a closed or engaged runway - take-off/landing incidents, such as undershooting or overrunning

Major	- A significant reduction in safety margins, a reduction in the ability of the operators to cope with adverse operating conditions as a result of an increase in workload or as a result of conditions impairing their efficiency - Serious Injury - Injury to persons	C	- runway incursion, ample time and distance to avoid collision (no potential for a collision) - collision with obstacle on apron/ parking position (hard collision) - person falling down from height - missed approach with ground contact of the wing ends during the touchdown - large fuel puddle near the aircraft while passengers are on-board
Minor	- Nuisance - Operating limitations - Use of emergency procedures - Minor incident	D	- hard braking during landing or taxiing - damage due to jet blast (objects) - expendables are laying around the stands - collision between maintenance vehicles on service road - breakage of drawbar during pushback (damage to the aircraft) - slight excess of maximum take-off weight without safety consequences - aircraft rolling into passenger bridge with no damage to the aircraft needing immediate repair
Negligible	- Few consequences	E	- slight increase in braking distance - temporary fencing collapsing because of strong winds - cart losing baggage

Table 1.9-2: Probability classification scheme

Probability class	Meaning
5 Frequent	Likely to occur many times (has occurred frequently)
4 Reasonably probable	Likely to occur sometimes (has occurred infrequently)
3 Remote	Unlikely to occur (has occurred rarely)
2 Extremely remote	Very unlikely to occur (not known to have occurred)
1 Extremely improbable	Almost inconceivable that the event will occur

Table 1.9-3: Risk assessment matrix with prioritization classes

Risk Probability	*Risk severity*				
	Catastrophic **A**	Hazardous **B**	Major **C**	Minor **D**	Negligible **E**
Frequent **5**	5A	5B	5C	5D	5E
Occasional **4**	4A	4B	4C	4D	4E
Remote **3**	3A	3B	3C	3D	3E
Improbable **2**	2A	2B	2C	2D	2E
Extremely Improbable **1**	1A	1B	1C	1D	1E

1.10 Procedures in Dealing with Operational Hazard Reports/Safety Reports (OHR/SR)

1.10.1 Description

This procedure is intended to be used by Aerodrome Inspectors in processing, assessing and in determining course of action/s (within 3 days) to be taken to address safety issues arising from reported Operational Hazard Reports (OHRs) and safety reports from aerodrome stakeholders. Filing and follow-up actions are also included in the procedure.

1.10.2 Objective

To address in a timely and structured manner safety issues from OHRs and safety reports related to aerodrome operations.

1.10.3 Roles and Responsibilities

a) AI-Responsibility includes:

i) Assessing OHR report based on established category for appropriate action;

ii) Recommending to Chief AGA action necessary to address assessed safety issue by:

(1) Conducting safety assessment/inspection and submitting recommendations to Chief AGA if warranted/applicable and/or

(2) Developing/drafting the corresponding Notices/Memos for relevant stakeholders;

iii) Coordinating and developing course/s of action/s on above recommendation;

iv) Reviewing and assessing the proposed recommendations and/or corrective actions/feedback by concerned organizations;

v) Ensuring action/s taken by concerned organization are appropriately implemented to address safety issues;

vi) Ensuring that database is updated and corresponding report is filed.

b) AGA Chief-Responsibility includes:

i) Reviewing and assessing OHR/report and analyze recommendation of AI for appropriate action;

ii) Coordinates and endorse recommendation/s to RERGULATORY Chief;

iii) Reviewing AI reports;

iv) Reviews the feedback/ corrective action/s taken by the concerned organization are appropriate and sufficient;

c) AGA Secretary -Responsibility includes:

i) Records and updates OHR reports and feedbacks including the inspection reports and memorandum prepared by the AI;

ii) Monitor and follow-up the concerned organizations feedback or corrective action/s and coordinates with AI and AGA Chief.

1.10.4 Procedures

a) Operational Hazard Reports/Safety Reports (OHR/SR) is forwarded to RERGULATORY from Aerodrome Development and Management Services (ADMS).

b) RERGULATORY Admin forwards the received OHR/SR to the AGA Secretary.

c) Upon receiving the OHR/SR, the AGA Secretary shall perform the following tasks:

i) Records and encodes OHR/SR.

ii) Coordinates with the AGA Chief to determine the Assigned Inspector (AI).

iii) Classifies the OHR/SR according to areas of concern (Wildlife, OLS, Runway Incursion/Excursion, etc.)

d) The AGA Secretary shall endorse the OHR/SR to the AI as instructed by the AGA Chief and the AI shall perform the following tasks:

i) Assesses and determines the criticality and urgency of the SR/OHR using the table OHR-1

ii) Coordinates with concerned organizations relative to SR/OHR

iii) Conducts Safety Inspection if necessary

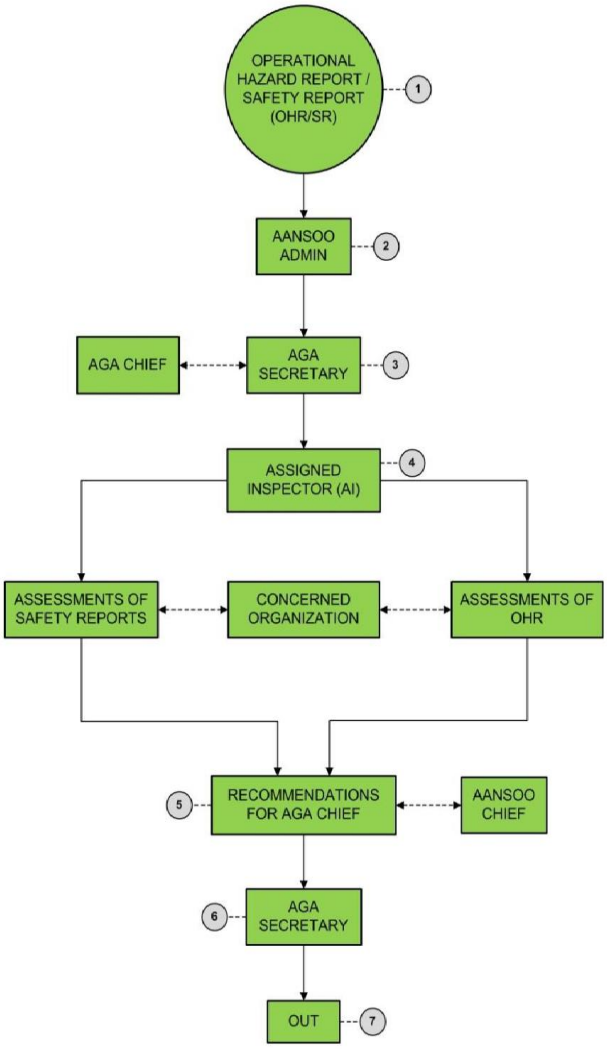
iv) Prepares a Recommendation/Memo to concerned service for action and endorses to AGA Chief

e) The AGA Chief shall review and evaluate the submitted recommendations and endorses to RERGULATORY Chief for further evaluation and signature.

f) The AGA Secretary encodes the Report/Memo to AGA Database.

g) Once encoded to the AGA database, the AGA Secretary forwards the Report/Memo to the concerned organization and monitors feedback.

1.10.5 Flowchart – Procedure for dealing with Operational Hazard Reports/Safety Reports (OHR/SR)



	ACTIONS/ACTIVITY
1	• OPERATIONAL HAZARD REPORTS/SAFETY REPORTS (OHR/SR) IS FORWARDED TO AANSOO FROM AERODROME DEVELOPMENT AND MANAGEMENT SERVICES (ADMS).
2	• AANSOO ADMIN FORWARDS THE RECEIVED OHR/SR TO THE AGA SECRETARY
3	• UPON RECEIVING THE OHR/SR, THE AGA SECRETARY SHALL PERFORM THE FOLLOWING TASKS: - RECORDS AND ENCODES OHR/SR - COORDINATES WITH THE AGA CHIEF TO DETERMINE THE ASSIGNED INSPECTOR - CLASSIFIES THE OHR/SR ACCORDING TO AREAS OF CONCERN (WILDLIFE, OLS, RUNWAY INCURSION/ EXCURSION, ETC.)
4	• THE AGA SECRETARY SHALL ENDORSE THE OHR/SR TO THE AI AS INSTRUCTED BY THE AGA CHIEF AND THE AI SHALL PERFORM THE FOLLOWING TASKS: - ASSESSES AND DETERMINES THE CRITICALITY AND URGENCY OF THE SR/OHR USING THE TABLE OHR-1 - COORDINATES WITH CONCERNED ORGANIZATIONS RELATIVE TO SR/OHR - CONDUCTS SAFETY INSPECTION IF NECESSARY - PREPARES A RECOMMENDATION/MEMO TO CONCERNED SERVICE FOR ACTION AND ENDORSES TO AGA CHIEF
5	• AGA CHIEF REVIEWS AND EVALUATES THE SUBMITTED RECOMMENDATIONS AND ENDORSES TO AANSOO CHIEF FOR FURTHER EVALUATION AND SIGNATURE.
6	• AGA SECRETARY ENCODES THE REPORT/MEMO TO AGA DATABASE
7	• ONCE ENCODED TO THE AGA DATABASE, THE AGA SECRETARY FORWARDS THE REPORT/MEMO TO THE CONCERNED ORGANIZATION AND MONITORS FEEDBACK

1.11 Procedures for Monitoring Operational Hazard Reports/Safety Reports (OHR/SR) Feedback

1.11.1 Procedures

a) Operational Hazard Reports/Safety Reports (OHR/SR) Feedback is forwarded to RERGULATORY from concerned organization.

b) The RERGULATORY Admin forwards the received OHR/SR Feedback to the AGA Secretary.

c) Upon receiving the OHR/SR Feedback, the AGA Secretary shall perform the following tasks:

i) Records and encodes OHR/SR Feedback.

ii) Forwards the OHR/SR Feedback to the Assigned Inspector.

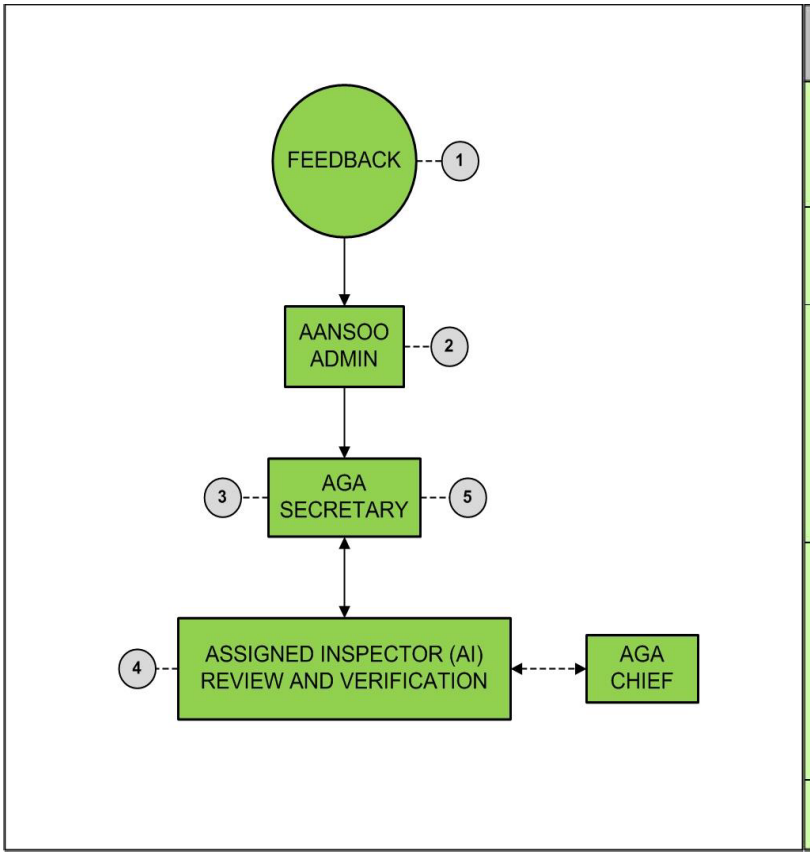
d) The AI shall perform the following tasks:

i) Reviews and verifies the OHR/SR Feedback.

ii) Coordinates with AGA Chief for review and comments.

e) AGA Secretary updates the OHR Records.

1.11.2 Flowchart – Procedure for monitoring with Operational Hazard Reports/Safety Reports (OHR/SR) Feedback



	ACTIONS/ACTIVITY
1	• OPERATIONAL HAZARD REPORTS/SAFETY REPORTS (OHR/SR) FEEDBACK IS FORWARDED TO AANSOO FROM CONCERNED ORGANIZATION.
2	• AANSOO ADMIN FORWARDS THE RECEIVED OHR/SR FEEDBACK TO THE AGA SECRETARY
3	• UPON RECEIVING THE OHR/SR FEEDBACK, THE AGA SECRETARY SHALL PERFORM THE FOLLOWING TASKS: - RECORDS AND ENCODES OHR/SR FEEDBACK - FORWARDS THE OHR/SR FEEDBACK TO ASSIGNED INSPECTOR
4	• ASSIGNED INSPECTOR (AI) SHALL PERFORM THE FOLLOWING TASKS: - REVIEWS AND VERIFIES THE OHR/SR FEEDBACK - COORDINATES WITH AGA CHIEF FOR REVIEW AND COMMENTS
5	• AGA SECRETARY UPDATES THE OHR RECORDS.

1.12 Procedures for Dealing with Safety Critical Data (SCD)

1.12.1 Description

This procedure is intended to be used by Aerodrome Inspectors in processing and assessing all relevant aerodrome aeronautical data and information for publication or for issuance of notices to stakeholders.

1.12.2 Objective

To provide timely and reliable aerodrome aeronautical data and information, in accordance with CAA and ICAO integrity and accuracy requirements to aerodrome operators/service providers/end users and other relevant stakeholders.

1.12.3 Roles and Responsibilities

a) AI-Responsibility includes:

   i) Evaluate/assess the validity of Safety Critical Data (SCD) published and/or received from Aerodrome Development and Maintenance Services (ADMS)/Third Party base on the current Manual of Standard and other governing regulation; third parties will be verified/referred with the ADMS or competent authorities for compliance requirements and good standing;

   ii) Assess and review the submitted data and prepare a memorandum/notice to the ADMS/ Third Party for any discrepancy in coordination with AGA Chief for action necessary to address the findings in the evaluated documents; and

   iii) Prepare memorandum for Director General's (DG's) approval for the scheduled publication and/or notices on aerodrome aeronautical data to the Aeronautical Information Service (AIS).

b) AGA Chief-Responsibility includes:

   i) Analyze/check the submitted report/recommendation by the AI prior to the corrective measure(s)/action(s) to be undertaken by the assign AI;

   ii) Make endorsement to the RERGULATORY Chief the recommendation of AI; and

   iii) Review the corrective action(s) formulated by the assign AI.

c) AGA Secretary -Responsibility includes:

   i) Receive, record and encode in the database all document pertaining to safety critical data issues;

   ii) Coordinate with AGA Chief for the assign AI who will undertake the task; and

   iii) Logging-out of the safety critical data documents soon as the findings were addressed.

1.12.4 Procedures

a) Safety Critical Data (SCD) is forwarded to RERGULATORY from Aerodrome Development and Management Services (ADMS)/Third Party and the RERGULATORY Admin shall forward the received SCD to the AGA Secretary.

b) Upon receiving the SCD, the AGA Secretary shall perform the following tasks:

   i) Records and encodes SCD.

   ii) Coordinates with the AGA Chief to determine the Assigned Inspector (AI).

c) The AGA Secretary shall endorse the SCD to the AI as instructed by the AGA Chief and the AI shall evaluate/assess the validity of SCD based on the current Manual of Standard and other governing regulation.

d) If there were any findings/discrepancy on SCD upon evaluation, the assigned inspector shall prepare a memorandum/notice to the ADMS/Third Party and coordinate with the AGA Chief to address the findings on the evaluated SCD.

e) The AI shall verify whether an immediate/urgent notification is required if there were no discrepancies on the evaluated SCD.

f) If the SCD does not require an immediate/urgent notification, the AI shall prepare a request for publication in AIP.

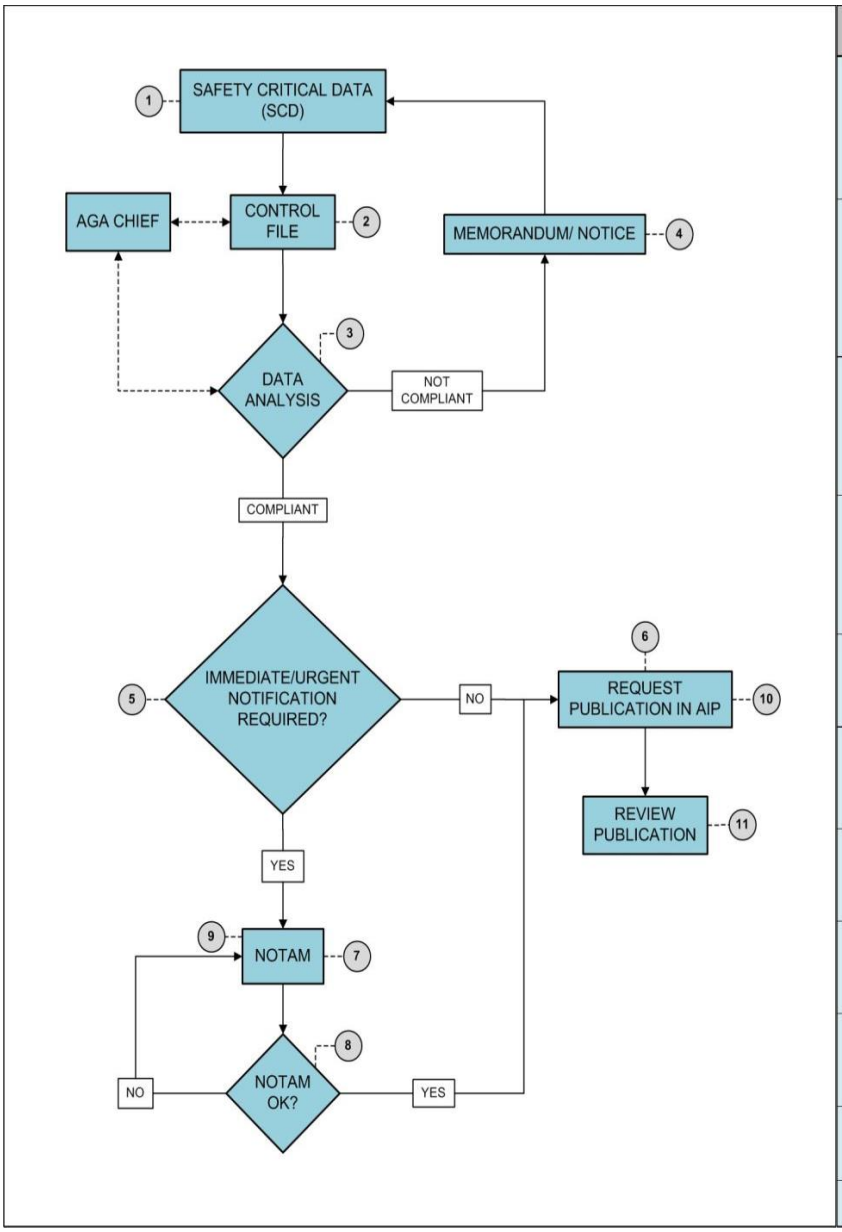
g) The AI shall prepare a request for NOTAM from the concerned service providers if the SCD requires an immediate/urgent notification.

h) Upon receiving the NOTAM from the concerned service provider, the AI shall review/evaluate if the requested NOTAM is ok or not.

i) The AI shall request for another NOTAM from the concerned service providers if the reviewed NOTAM is not ok.

j) The AI shall review the published SCD in AIP.

1.12.5 Flowchart – Procedure for dealing with Safety Critical Data (SCD)



	ACTIONS/ACTIVITY
1	• SAFETY CRITICAL DATA (SCD) IS FORWARDED TO AANSOO FROM AERODROME DEVELOPMENT AND MANAGEMENT SERVICES (ADMS)/THIRD PARTY AND THE AANSOO ADMIN FORWARDS THE RECEIVED SCD TO THE AGA SECRETARY
2	• UPON RECEIVING THE SCD, THE AGA SECRETARY SHALL PERFORM THE FOLLOWING TASKS: - RECEIVES, RECORDS AND ENCODES SCD - COORDINATES WITH THE AGA CHIEF TO DETERMINE THE ASSIGNED INSPECTOR (AI).
3	• THE AGA SECRETARY SHALL ENDORSE THE SCD TO THE AI AS INSTRUCTED BY THE AGA CHIEF AND THE AI SHALL EVALUATE/ASSESS THE VALIDITY OF THE SCD BASED ON THE CURRENT MANUAL OF STANDARDS AND OTHER GOVERNING REGULATION.
4	• IF THERE WERE ANY FINDINGS/DISCREPANCY ON SCD UPON EVALUATION, THE ASSIGNED INSPECTOR SHALL PREPARE A MEMORANDUM/NOTICE TO THE ADMS/THIRD PARTY AND COORDINATES WITH THE AGA CHIEF TO ADDRESS THE FINDINGS ON THE EVALUATED SCD
5	• THE AI SHALL VERIFY WHETHER AN IMMEDIATE/URGENT NOTIFICATION IS REQUIRED IF THERE WERE NO DISCREPANCIES ON THE EVALUATED SCD.
6	• IF THE SCD DOES NOT REQUIRE AN IMMEDIATE/URGENT NOTIFICATION, THE AI SHALL PREPARE A REQUEST FOR PUBLICATION IN AIP
7	• THE AI SHALL PREPARE A REQUEST FOR NOTAM FROM THE CONCERNED SERVICE PROVIDERS IF THE SCD REQUIRES AN IMMEDIATE/URGENT NOTIFICATION
8	• UPON RECEIVING THE NOTAM FROM THE CONCERNED SERVICE PROVIDER, THE AI SHALL REVIEW/EVALUATE IF THE REQUESTED NOTAM IS OK OR NOT
9	• THE ASSIGNED INSPECTOR SHALL REQUEST FOR ANOTHER NOTAM FROM THE CONCERNED SERVICE PROVIDERS IF THE REVIEWED NOTAM IS NOT OK.
10	• IF THE REVIEWED NOTAM IS OK, THE AI SHALL PREPARE A REQUEST FOR PUBLICATION IN AIP
11	• THE AI SHALL REVIEW THE PUBLISHED SCD IN AIP.

1.13 Procedures in Dealing with Height Clearance Issues (HCP, HL and Denied)

1.13.1 Description

This procedure is intended to be used by Aerodrome Inspectors and staffs in processing, assessing and in determining course of action/s to be taken to address safety issues arising from Height clearance applications.

1.13.2 Objective

To address in a timely and structured manner safety issues arising from HCP application/s.

1.13.3 Roles and Responsibilities

a) HEIGHT CLEARANCE CLIENT-Responsibility includes:
   i) Obtain and Fill-up Height Clearance (HC) Application Form.
   ii) Submit all pertinent requirements at Aerodrome Development and Management Services (ADMS).
   iii) Secure Order of Payment form at ADMS.
   iv) Pay the corresponding charges at Collection Office.
   v) Provide ADMS a copy of receipt.

b) AERODROME DEVELOPMENT AND MANAGEMENT SERVICE (ADMS)-Responsibility includes:
   i) Receive and ensure that the submitted documents are complete and duly signed with seal by a licensed Civil/Geodetic Engineer.
   ii) Issue Order of Payment to the applicants.
   iii) Assign the application to the designated HC Evaluator.
   iv) Evaluate the HC Application if approve or denied.
   v) Submit the Application to HCP Head for review and signature.
   vi) If denied (ADMS, ATS, ANS), Prepare Denied Permit with Memo Letter and to be forwarded to RERGULATORY for further review.
   vii) If Approved, Prepare Height Clearance Permit and endorse to the ADMS Director for signature.
   viii) Forward Approved HCP to ATS Flight Control procedure

c) AIR TRAFFIC SERVICE (ATS)-Responsibility includes:
   i) Evaluate the application Permit if approve or denied.
   ii) If denied, prepare Denied Letter to DDG citing reasons of disapproval and to be forwarded to RERGULATORY for further review
   iii) If Approved, Height Clearance Permits will be endorsed to the ATS Director for signature.

iv) Forward Approved HC Permit Air Navigation Service.

d) AIR NAVIGATION SERVICE (ANS)-Responsibility includes:

i) Evaluate the application Permit if approve or denied.

ii) If denied, prepare Denied Letter to DDG citing reasons of disapproval and to be forwarded to RERGULATORY for further review

iii) If approved, Height Clearance permits will be endorse to the ANS Director for signature;

iv) Forward Approved HC Permit to RERGULATORY.

e) AERODROME AND AIR NAVIGATION SAFETY OVERSIGHT OFFICE (RERGULATORY)-Responsibility includes:

i) Receive and encode HCP Application in the AGA Database and attach AGA Evaluation Form/Tracer.

ii) Review HCP and sign AGA tracer on HCP application by assigned AGA Inspector/Technical Assistant.

iii) After review and signature, endorse the HCP application to AGA Chief for review and signature.

iv) The HCP Application will be endorsed to other concerned division for further evaluation.

v) If there are any discrepancy/findings upon the evaluation of HCP Application, endorse/forward HCP Application to concerned service provider.

vi) After evaluation by all divisions, RERGULATORY Chief will sign the recommendation then forward to AGA secretary for encoding in the AGA Database.

vii) AGA Secretary shall endorse the HCP Applications to the RERGULATORY Admin Secretary for endorsement to DDG.

1.13.4 Procedure

a) The Height Clearance Client applies and submits all requirements at Aerodrome Development and Management Service (ADMS).

b) ADMS shall review the submitted documents with checklist and issue an order of payment form to client.

c) The HC Client pays for the corresponding charges at Collection Office and provides a copy of the receipt to ADMS.

d) Upon receiving the copy of the receipt from the client, the ADMS shall perform the following tasks:

i) Assigns the application to a designated HC Evaluator.

ii) Evaluates the HC Application if Approve or Denied.

iii) Submits the HC Application to HCP Head for review and signature.

iv) Prepares a Height Clearance Permit and

Height Clearance Evaluation Form and endorses to the ADMS Director for signature.

e) If Denied, ADMS shall prepare a Denied Permit with Memo Letter to DDG including a letter to the Client with reason of disapproval and forward HC Application to RERGULATORY for further review.

f) Approved HCP Application shall be forwarded to ATS Flight Procedure for evaluation.

i) Upon receiving the HCP Application, the ATS shall perform the following tasks:

(1) Assigns the Application to a designated HC Evaluator.

(2) Evaluates the HCP Application if Approve or Denied.

(3) Submits the HCP Application to HCP Head for review and signature.

(4) Prepares a Height Clearance Evaluation Form and endorses to the ATS Director for signature.

g) If Denied, ATS shall prepare a Letter of Denial to DDG citing reasons of disapproval and forward HCP Application to RERGULATORY for further review

h) Approved HCP Application shall be forwarded to ANS for evaluation.

i) Upon receiving the HCP Application, ANS shall perform the following tasks:

(1) Assigns the Application to a designated HC Evaluator.

(2) Evaluates the HCP Application if Approve or Denied

(3) Prepares a Height Clearance Evaluation Form and endorses to the ANS Director for signature.

i) If Denied, ANS shall prepare a Letter of Denial to DDG citing reasons of disapproval and forward HCP Application to RERGULATORY for further review.

j) Approved HCP Application shall be forwarded to RERGULATORY for evaluation.

i) Upon receiving the HCP Application, the AGA Secretary shall perform the following tasks:

(1) Encodes HC on AGA Database.

(2) Attaches Evaluation Form/Tracer on HCP Application.

(3) Endorses the HCP Application to assigned HC Evaluator.

ii) The Assigned Inspector shall perform the following tasks:

(1) Reviews HCP and signs the AGA HCP Tracer.

(2) Endorses HCP Application to AGA Chief for review and signature.

iii) The AGA Chief shall review and sign the AGA HCP Tracer for

endorsement to other concerned division for further evaluation.

k) If there were any discrepancies/findings upon the evaluation of the HCP Application, RERGULATORY shall coordinate with the concerned service provider.

l) RERGULATORY Chief shall sign the recommendation for approval of HCP Application after evaluation by all RERGULATORY Divisions and forwards the HCP Application to AGA Secretary.

   i) AGA Secretary shall encode the evaluated HCP Application and forwards to the RERGULATORY Admin for endorsement to DDG.

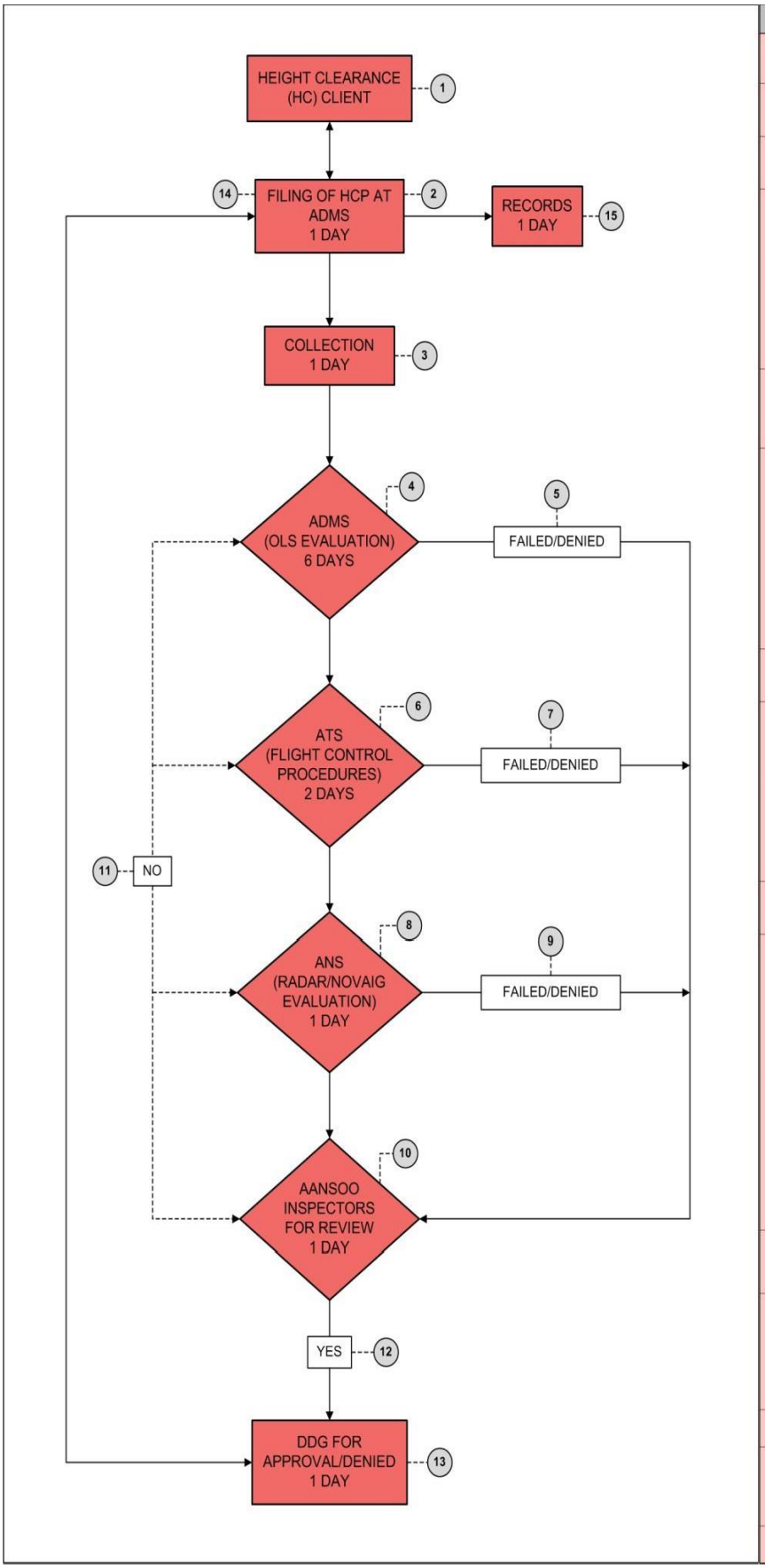
m) RERGULATORY Admin forwards the HCP Application to DDG for Approval/Denial and signature.

n) The ODDG shall forward the signed HCP to ADMS.

   i) ADMS shall release the Approved/Denied HCP to the Client and copy furnishes Airport concerned/Area Manager concerned.

o) ADMS shall forward the HCP to Records Section for mailing to Airport/Area Manager.

1.13.5 Flowchart – Procedure for dealing with Height Clearance Issues (HCP, HL and Denied)



	ACTIONS/ACTIVITY
1	• THE HEIGHT CLEARANCE CLIENT APPLIES AND SUBMITS ALL REQUIREMENTS AT AERODROME DEVELOPMENT AND MANAGEMENT SERVICE (ADMS).
2	• ADMS SHALL REVIEW THE SUBMITTED DOCUMENTS WITH CHECKLIST AND ISSUE AN ORDER OF PAYMENT FORM TO CLIENT.
3	• THE HC CLIENT PAYS FOR THE CORRESPONDING CHARGES AT COLLECTION OFFICE AND PROVIDES A COPY OF THE RECEIPT TO ADMS.
4	• UPON RECEIVING THE COPY OF THE RECEIPT FROM THE CLIENT, ADMS SHALL PERFORM THE FOLLOWING TASKS: - ASSIGNS THE APPLICATION TO A DESIGNATED HC EVALUATOR - EVALUATES THE HC APPLICATION IF APPROVE OR DENIED - SUBMITS THE HC APPLICATION TO HCP HEAD FOR REVIEW AND SIGNATURE - PREPARES A HEIGHT CLEARANCE PERMIT AND HEIGHT CLEARANCE EVALUATION FORM AND ENDORSES TO THE ADMS DIRECTOR FOR SIGNATURE
5	• IF DENIED, ADMS SHALL PREPARE A DENIED PERMIT WITH MEMO LETTER TO DDG INCLUDING A LETTER TO THE CLIENT WITH REASON OF DISAPPROVAL AND FORWARD HC APPLICATION TO AANSOO FOR FURTHER REVIEW.
6	• APPROVED HCP APPLICATION SHALL BE FORWARDED TO ATS FLIGHT PROCEDURE FOR EVALUATION. • UPON RECEIVING THE HCP APPLICATION, THE ATS SHALL PERFORM THE FOLLOWING TASKS: - ASSIGNS THE APPLICATION TO A DESIGNATED HC EVALUATOR - EVALUATES THE HC APPLICATION IF APPROVE OR DENIED - SUBMITS THE HC APPLICATION TO HCP HEAD FOR REVIEW AND SIGNATURE - PREPARES A HEIGHT CLEARANCE EVALUATION FORM AND ENDORSES TO THE ATS DIRECTOR FOR SIGNATURE
7	• IF DENIED, ATS SHALL PREPARE DENIED LETTER TO DDG CITING REASONS OF DISAPPROVAL AND FORWARD HCP APPLICATION TO AANSOO FOR FURTHER REVIEW
8	• APPROVED HCP APPLICATION SHALL BE FORWARDED TO ANS FOR EVALUATION • UPON RECEIVING THE HCP APPLICATION, ANS SHALL PERFORM THE FOLLOWING TASKS: - ASSIGNS THE APPLICATION TO A DESIGNATED HC EVALUATOR - EVALUATES THE HC APPLICATION IF APPROVE OR DENIED - PREPARES A HEIGHT CLEARANCE EVALUATION FORM AND ENDORSES TO THE ANS DIRECTOR FOR SIGNATURE
9	• IF DENIED, ANS SHALL PREPARE DENIED LETTER TO DDG CITING REASONS OF DISAPPROVAL AND FORWARD HCP APPLICATION TO AANSOO FOR FURTHER REVIEW
10	• APPROVED HCP APPLICATION SHALL BE FORWARDED TO AANSOO FOR EVALUATION • UPON RECEIVING THE HCP APPLICATION, THE AGA SECRETARY SHALL PERFORM THE FOLLOWING TASKS: - ENCODES HC ON AGA DATABASE - ATTACHES EVALUATION FORM/TRACER ON HCP APPLICATION - ENDORSES THE HCP APPLICATION TO ASSIGNED HC EVALUATOR • THE ASSIGNED INSPECTOR SHALL PERFORM THE FOLLOWING TASKS: - REVIEWS HCP AND SIGNS THE AGA HCP TRACER - ENDORSES HCP APPLICATION TO AGA CHIEF FOR REVIEW AND SIGNATURE • THE AGA CHIEF SHALL REVIEW AND SIGN THE AGA HCP TRACER FOR ENDORSEMENT TO OTHER CONCERNED DIVISION FOR FURTHER EVALUATION
11	• IF THERE WERE ANY DISCREPANCIES/FINDINGS UPON THE EVALUATION OF THE HCP APPLICATION, AANSOO SHALL COORDINATE WITH THE CONCERNED SERVICE PROVIDER
12	• AANSOO CHIEF SHALL SIGN THE RECOMMENDATION FOR APPROVAL OF HCP APPLICATION AFTER EVALUATION BY ALL AANSOO DIVISIONS AND FORWARDS THE HCP APPLICATION TO AGA SECRETARY. • AGA SECRETARY SHALL ENCODE THE EVALUATED HCP APPLICATION AND FORWARDS TO THE AANSOO ADMIN FOR ENDORSEMENT TO DDG
13	• AANSOO ADMIN FORWARDS THE HCP APPLICATION TO DDG FOR APPROVAL/DENIAL AND SIGNATURE
14	• THE ODDG SHALL FORWARD THE SIGNED HCP TO ADMS. • ADMS SHALL RELEASE THE APPROVED/DENIED HCP TO THE CLIENT AND COPY FURNISHES AIRPORT CONCERNED/AREA MANAGER CONCERNED
15	• ADMS SHALL FORWARD THE HCP TO RECORDS SECTION FOR MAILING TO AIRPORT/AREA MANAGER

Chapter 2 – Aeronautical Study

2.1 Introduction

An aeronautical study is a study of an aeronautical problem to identify possible solutions, and to select a solution that is acceptable without degrading safety. A comprehensive aeronautical study allows both the aerodrome operator and the CAA to be convinced that safety and regularity of operations of aircraft are not compromised in any way.

Where an aerodrome operator is not able to comply with any standard stipulated in the MOS, an aeronautical study may be conducted to assess the impact of deviations from the standards and recommended practices. The purpose of such studies is to present assessments of alternative means of ensuring the safety of aircraft operations, to estimate the effectiveness of each alternative and to recommend procedures to compensate for the deviation.

An aeronautical study is most frequently undertaken during the planning of a new airport or new airport facility, or during the certification of an existing aerodrome or subsequently, when the aerodrome operator applies for an exemption, as a result of development or a change in the aerodrome operational conditions from a specific standard contained in the MOS.

Aerodrome operators should consult their stakeholders, senior management and affected divisions/departments in their organizations prior to the conduct of an aeronautical study. These consultations would allow the proposed deviation to be viewed from different perspectives and the different parties involved would be aware of the proposed deviation. The aeronautical study should also be approved by the senior management of the organization before it is submitted to CAA for acceptance.

Aerodrome operators should note that the CAA official(s) may choose to participate in the conduct of an aeronautical study as an observer where appropriate.

2.2 When an Aeronautical Study is Appropriate

An aeronautical study may be conducted when aerodrome safety standards cannot be met despite the best efforts of the aerodrome operator or proponent to comply with mandatory requirements. An aeronautical study should be prepared by an aerodrome operator and should as a minimum, comply the procedures contained in this document.

2.3 Rationale for an Aeronautical Study

The outcomes of an aeronautical study are to develop and present alternative means to ensure the safety of aircraft operations, to identify the effectiveness of alternative options identified, and to establish procedures or conditions to compensate for non-compliance with statutory requirements.

An aeronautical study will deal matters beyond mere compliance with the published standards. An aeronautical study must assess the impact of deviations from regulatory requirements and safety policy and present alternative effective safety related options. An aeronautical study is usually required where the cost of correcting a violation of a standard, either at design stage or to cater for operational changes, is excessive but the non-conformance aspects of the problem may be overcome by additional, alternative or procedural means that offer both practicable and reasonable solutions.

A technical analysis is generally the mechanism used to justify a deviation on the grounds that an equivalent level of safety can be attained by other means. In conducting or reviewing a technical analysis, inspectors will be required to draw on their practical experience and specialized knowledge, and to consult other specialists in relevant areas when necessary. When considering alternatives, it is essential to bear in mind the safety objective of the regulatory requirements so that the intent of a regulation, standard or policy directed initially to providing for public safety is not circumvented.

2.4 Parts of an Aeronautical Study

An aeronautical study submitted to the CAA for determination of acceptability should comprise the following parts:

a) Aim of the Study;
b) Background;
c) Safety Assessment;
d) Recommendations;
e) Conclusion; and
f) Monitoring of the Deviation

2.4.1 Aim of the Study

a) The aim of the study should be explicitly stated. Itshould:

i) address the safety concerns;

ii) identify safety measures to be put in place to ensure safe aircraft operations in an aerodrome; and

iii) make reference to the specific SARP in the MOS which the study is meant to address.

An example to illustrate this would be as follows:

"The aim of this aeronautical study is to address the operation of Code F aircraft in a Code 4E airport, <name of airport> and to put in place <list of safety measures> necessary to ensure safe operation of Code F aircraft in <name of airport> with reference made to <reference to specific SARP>... "

2.4.2 Background

a) Information on the current situation faced by the aerodrome operator, current procedures that have been put in place and other relevant details should be clearly stated and explained in this sub-section. Clear explanation should be provided, particularly on the following:

i) what is the current situation?

ii) where are the areas that will be affected by the proposed deviation?

iii) when will the operator be able to comply with the specific standard if it is due to development of the aerodrome?

iv) why is there a need to review the current processes and procedures?

v) how will the proposed deviation affect the operation of aircraft at the aerodrome?

An example to illustrate this would be as follow:

"Currently, <name of airport> is Code 4E airport with some Code 4F capabilities. These Code 4F capabilities includes <list of the Code 4F capabilities>... <Name of airport> is required to handle Code F aircraft by <proposed date> and the following <list of affected areas> will be affected. Development of the <affected areas> is proposed to commence on <proposed date> and to be completed by <proposed date>. By then, <name of airport> will be upgraded to a Code 4F airport.

Upgrading <name of airport> from Code 4E to Code 4F airport requires the reviewing <name of processes and procedures that need to be reviewed> to ensure safe aircraft operation.

In addition, during this development, operation of aircraft at <name of airport> will be affected in the following ways..."

2.4.3 Safety Assessment

a) Safety assessment is the identification, analysis and elimination, and/or mitigation of risks to an acceptable level of safety. This should be in accordance with the aerodrome Safety Management System (SMS) that is required to be put in place by the aerodrome operator - a key aerodrome certification requirement.

b) The primary objective of a safety assessment is to assess the impact of a safety concern such as a design change or deviation in operational procedures at an existing aerodrome.

c) Such a safety concern can often impact multiple stakeholders; therefore, safety assessments often need to be carried out in a cross- organizational manner, involving experts from all the involved stakeholders. Prior to the assessment, a preliminary identification of the required tasks and the organizations to be involved in the process is conducted.

2.5 Process of Safety Assessment

2.5.1 Description

A safety assessment is initially composed of four basic steps:

a) definition of a safety concern and identification of the regulatory compliance;

b) hazard identification and analysis;

c) risk assessment and development of mitigation measures; and

d) development of an implementation plan for the mitigation measures and conclusion of the assessment.

A. Safety concern and identification of the regulatory compliance

Any perceived safety concern is to be described in detail. It is first analyzed to determine whether it is retained or rejected. If rejected, the justification for rejecting the safety concern is to be provided and documented.

Compliance with the appropriate provisions in the regulations applicable to the aerodrome is evaluated and documented.

The corresponding areas of concern are identified before proceeding with the remaining steps of the safety assessment, with all relevant stakeholders.

If a safety assessment was conducted previously for similar cases in the same context at an aerodrome where similar characteristics and procedures exist, the aerodrome operator may use some elements from that assessment as a basis for the assessment to be conducted. Nevertheless, as each assessment is specific to a particular safety concern at a given aerodrome the suitability for reusing specific elements of an existing assessment is to be carefully evaluated.

B. Hazard identification

Hazards related to infrastructure, systems or operational procedures are initially identified using methods such as brain-storming sessions, expert opinions, industry knowledge, experience and operational judgment. The identification of hazards is conducted by considering:

a) accident causal factors and critical events based on a simple causal analysis of available accident and incident databases;

b) events that may have occurred in similar circumstances or that are subsequent to the resolution of a similar safety concern; and

c) potential new hazards that may emerge during or after implementation of the planned changes.

Hazards and its associated risks, potential outcomes or consequences and control/mitigation measures should be recorded in a hazard log when information becomes available. This log should be constantly updated throughout the aeronautical study life-cycle (*See Table A: Hazard Log*).

The appropriate safety objective for each type of hazard should be defined and detailed. This can be done through:

a) reference to recognized standards and/or codes of practices;
b) reference to the safety performance of the existing system;
c) reference to the acceptance of a similar system elsewhere; and
d) application of explicit safety risk levels.

Safety objectives are specified in either quantitative terms (e.g. identification of a numerical probability) or qualitative terms (e.g. comparison with an existing situation). The selection of the safety objective is made according to the aerodrome operator's policy with respect to safety improvement and is justified for the specific hazard.

C. Risk assessment and development of mitigation measures

The level of risk of each identified potential consequence is estimated by conducting a risk assessment (See Appendix C). This risk assessment will determine the severity of a consequence (effect on the safety of the considered operations) and the probability of the consequence occurring and will be based on experience as well as on any available data (e.g. accident database, occurrence reports).

Risk control/mitigation measures should be developed to address the potential hazard or to reduce the risk probability or severity of the consequence. There are three broad categories for risk control/mitigation and they are as follows:

a) **Avoidance -** the operation or activity is cancelled as the risks exceed the benefits of continuing the operation or activity;
b) **Reduction -** The frequency of the operation or activity is reduced, or action is taken to reduce the magnitude of the consequences of the accepted risks; and
c) **Segregation of exposure -** Action is taken to isolate the effects of the consequences of the hazard or build-in redundancy to protect against it.

All risk mitigation measures are evaluated for the effectiveness of their risk management capabilities. The exposure to a given risk (e.g. duration of a change, time before implementation of corrective actions, traffic density) is taken into account in order to decide on its acceptability.

Table A: Hazard log

Note: The purpose of this Table A is to provide aerodrome operations with a suggested hazard log for safety assessment of an aeronautical study. Aerodrome operators may use this log as a guide to formulate his own log. This log should be constantly updated throughout the aeronautical study life cycle.

A sample hazard log for safety assessment of an aeronautical study is as shown below:

S. N°	Type of operation or activity	Generic hazard	Specific components of the hazard	Hazard-related consequences	Existing defences to control safety risk(s) and safety risk index	Further action to reduce safety risk(s) and resulting safety risk index
1	*Aircraft operation*	*Operation of Code 4F aircraft in <name of airport>. Code F aircraft using runway for landing and takeoff.....*		☐ *Wing tip collision at <parking bay numbers>.* ☐ *Loss of control of aircraft during pushback/towing operations.*	☐ *Use of wing walkers;* ☐ *Aircraft to taxi at <speed value>.* ☐ *Training of staff for pushback/ towing operations;* ☐ *Restrictions on other aircraft movements within <parking bay number>* *Safety risk index: 3C* *Safety risk tolerability: Tolerable*	☐ *Conduct trials to study the effectiveness of the implementation.* ☐ *Resulting risk index: 2E* *Safety risk index: 2D* *Safety risk tolerability: Acceptable*

D. Development of an implementation plan and conclusion of the assessment

The implementation plan includes time frames, responsibilities for mitigation measures as well as control measures that may be defined and implemented to monitor the effectiveness of the mitigation measures.

To allow the aerodrome operator and CAA to be convinced and assured that the proposed deviation will not pose a drop in the level of safety, the aerodrome operator should recommend operating procedures/restrictions or other measures that will address any safety concerns. In addition, the aerodrome operator should estimate the effectiveness (through trials, surveys, simulations etc.) of each recommendation listed so as to identify the best means to address the proposed deviation.

The aerodrome operator should also ensure that the affected parties are well informed of such changes. The notification procedure including process flow, time frame and different means of notification such as the Aeronautical Information Publication (AIP) and Notice to Airmen (NOTAM) should be included in the study.

2.5.2 Acceptance of Safety Assessment

CAA analyses the safety assessment and verifies that:

a) appropriate coordination has been performed between the concerned stakeholders;

b) the risks have been properly identified and assessed, based on documented arguments (e.g. physical or Human Factors studies, analysis of previous accidents and incidents);

c) the proposed mitigation measures adequately address the risk; and

d) the time frames for planned implementation are acceptable.

2.5.3 Risk Assessment Method

The risk assessment takes into account the probability of occurrence of a hazard and the severity of its consequences; the risk is evaluated by combining the two values for severity and probability of occurrence.

Each identified hazard must be classified by probability of occurrence and severity of impact. This process of risk classification will allow the aerodrome to determine the level of risk posed by a particular hazard. The classification of probability and severity refers to potential events.

The severity classification includes five classes ranging from “catastrophic” (class A) to “not significant” (class E). The examples in the table below, adapted from Doc 9859 and 9981 with aerodrome-specific examples, serve as a guide to better understand the definition.

The classification of the severity of an event should be based on a “credible case” but not on a “worst case” scenario. A credible case is expected to be possible under reasonable conditions (probable course of events). A worst case may be expected under extreme conditions and combinations of additional and improbable hazards. If worst cases are to be introduced implicitly, it is necessary to estimate appropriate low frequencies.

Severity classification scheme with examples

Adapted from Doc 9981 and Doc 9859 with aerodrome-specific examples

SEVERITY	MEANING	VALUE	EXAMPLE
Catastrophic	— Equipment destroyed — Multiple deaths	A	– collision between aircraft and/or other object during take-off or landing
Hazardous	— A large reduction in safety margins, physical distress or a workload such that the operators cannot be relied upon to perform their tasks accurately or completely — Serious injury — Major equipment damage	B	– runway incursion, significant potential for an accident, extreme action to avoid collision – attempted take-off or landing on a closed or engaged runway – take-off/landing incidents, such as undershooting or overrunning
Major	— A significant reduction in safety margins, a reduction in the ability of the operators to cope with adverse operating conditions as a result of an increase in workload or as a result of conditions impairing their efficiency — Serious incident — Injury to persons	C	– runway incursion, ample time and distance (no potential for a collision) – collision with obstacle on apron/ parking position (hard collision) – person falling down from height – missed approach with ground contact of the wing ends during the touchdown – large fuel puddle near the aircraft while passengers are on-board
Minor	— Nuisance — Operating limitations — Use of emergency procedures — Minor incident	D	– hard braking during landing or taxiing – damage due to jet blast (objects) – expendables are laying around the stands – collision between maintenance vehicles on service road – breakage of drawbar during pushback (damage to the aircraft) – slight excess of maximum take-off weight without safety consequences aircraft rolling into passenger bridge with no damage to the aircraft needing immediate repair – forklift that is tilting – complex taxiing instructions / procedures
Negligible	— Few consequences	E	– slight increase in braking distance – temporary fencing collapsing because of strong winds – cart losing baggage

Another example of a graduated scale on severity based on different aspects

SEVERITY	PEOPLE	ASSETS	ENVIRONMENT	REPUTATION
Catastrophic	Fatality +	Loss of an aircraft, and/or part of the airport infrastructure	Long-term impact contamination (radioactivity, poisoned groundwater, ecosystem destroyed)	Impact in such a way that community is not using the airport for an extended period of time
Hazardous	Severe injury requiring medical treatment	Serious damage to an aircraft, long term disruption of airport services	Short-term impact contamination (ecosystem impacted but not destroyed)	Impact in such a way that community is lessening the use of the airport for an extended period of time
Major	Injury requiring medical treatment	Damage to an aircraft which can be quickly repaired, short term disruption of airport services	Contained impact (fuel spillage,…)	Impact in such a way that community is lessening the use of the airport for a short period of time
Minor	Minor injury not requiring treatment	Minor damage to an aircraft which does not suspend the operation, minor disturbance of airport services	Light impact	Impact in such a way that community questions the reliability of the airport.
Negligible	No injury	No damage	No impact	No damage

The probability classification includes five classes ranging from “extremely improbable” (class 1) to “frequent” (class 5) as shown in the next table.

The classes presented in the table of Probability of Occurrence are defined with quantitative limits. It is not the intention to assess frequencies quantitatively; the numerical value serves only to clarify the qualitative description and support a consistent expert judgment.

The classification refers to the probability of events per a period of time. This is reasoned through the following:

a) many hazards at aerodromes are not directly related to aircraft movements;

b) the assessment of hazards occurrence probabilities can be based on expert judgement without any calculations.

Risk Probability

Probability of Occurrence		
Qualitative Definition	***Meaning***	***Value***
Frequent	Likely to occur many times (has occurred frequently)	**5**
Occasional	Likely to occur sometimes (has occurred infrequently)	**4**
Remote	Unlikely to occur, but possible (has occurred rarely)	**3**
Improbable	Very unlikely to occur (not known to have occurred)	**2**
Extremely Improbable	Almost inconceivable that the event will occur	**1**

Example of a graduated scale on probability based on quantitative criteria

PROBABILITY	CRITERIA 1	CRITERIA 2
Frequent	Occurs once every month or 5,600 commercial operations or 336,000 enplanement	At least once every 1,000 aircraft movements
Occasional	Occurs once every year or 68,000 commercial operations or 4,000,000 enplanement	Once every 10,000 aircraft movements
Remote	Occurs once every 5 years or 340,000 commercial operations or 20,000,000 enplanement	Once every 100,000 aircraft movements
Improbable	Occurs once every 10 years or 680,000 commercial operations or 40,000,000 enplanement	Once every 1,000,000 aircraft movements
Extremely Improbable	Occurs once every 20 years or 1,360,000 commercial operations or 80,000,000 enplanement	Less than once in 1,000,000 aircraft movements

Given that the prioritization is dependent on both probability and severity of the events, the prioritization criteria will be two-dimensional. Three main classes of hazard mitigation priority are defined in Risk Assessment Matrix:

a) hazards with high priority — intolerable;

b) hazards with mean priority — tolerable;

c) hazards with low priority — acceptable.

The risk assessment matrix has no fixed limits for tolerability but points to a floating assessment where risks are given risk priority for their risk contribution to aircraft operations. For this reason, the priority classes are intentionally not edged along the probability and severity classes in order to take into account the imprecise assessment.

Risk Assessment Matrix

Risk Probability	Risk Severity				
	Catastrophic (A)	Hazardous (B)	Major (C)	Minor (D)	Negligible (E)
Frequent (5)	5A	5B	5C	5D	5E
Occasional (4)	4A	4B	4C	4D	4E
Remote (3)	3A	3B	3C	3D	3E
Improbable (2)	2A	2B	2C	2D	2E
Extremely Improbability (1)	1A	1B	1C	1D	1E

Risk Tolerability

Suggested Criteria	Assessment Risk Index	Suggested Criteria [Acceptability/Action Required]
Intolerable Region	**5A, 5B, 5C, 4A, 4B, 3A**	Unacceptable under the existing circumstances. [Do not permit any operation until sufficient control measures have been implemented to reduce risk to an acceptable level.]
Tolerable Region	**5D, 5E, 4C, 4D, 4E, 3B, 3C, 3D 2A, 2B, 2C 1A**	Acceptable based on risk mitigation. It may require management decision.
Acceptable Region →	**3E, 2D, 2E, 1B, 1C, 1D, 1E**	Acceptable

2.5.4 Recommendation

a) To allow the aerodrome operator and CAA to be convinced and assured that the proposed deviation will not pose a drop in the level of safety, the aerodrome operator should recommend operating procedures/restrictions or other measures that will address any safety concerns. In addition, the aerodrome operator should estimate the effectiveness (through trials, surveys, simulations etc.) of each recommendation listed so as to identify the best means to address the proposed deviation.

b) The aerodrome operator should also ensure that the affected parties are well informed of such changes. The notification procedure including process flow, time frame and different means of notification such as the Aeronautical Information Publication (AIP) ~~and~~, Notice to Airmen (NOTAM), Aerodrome Manual and Aerodrome Circular should be included in the study.

2.5.5 Conclusion

a) The aerodrome operator, after taking into account all the necessary considerations listed above, should be able to summarize and conclude the results of the aeronautical study, and come to a decision on any safety measures that should be adopted. The aerodrome operator should also specify a date to put in place all the necessary safety measures and show how they maintain the same level of safety with the recommended safety measures mentioned in the aeronautical study.

2.5.6 Monitoring and Deviation

a) After the completion of the aeronautical study, the aerodrome operator should monitor the status of the deviation and ensure that the implemented recommendations have been effectively carried out, and that the level of safety is not compromised at any time.

b) For temporary deviations, the aerodrome operator should also notify CAA after the deviation has been corrected.

2.6 Approval of Aeronautical Study

Only the CAA may accept the recommendations of an aeronautical study. Where notification to third parties is deemed to be a requirement, it is the responsibility of aerodrome operator to ensure advice is published in appropriate Aeronautical Information Service documents. Such publication depends on consideration of the need for a pilot to be made aware of potentially hazardous conditions**.**

2.7 Framework

The framework section contains guidance for the evaluation of an aeronautical study associated with aerodrome matters. The study model is a risk-based activity in accordance with safety assessment process detailed in Safety Management Manual (SMM ICAO Doc 9859) and PANS- Aerodromes (ICAO Doc 9981).

Because of the complexity of risk due to differing values associated by different stakeholders, it is important that the decision maker is not reliant on considerations of risk solely in terms of probability and consequence. Risk and alternative control strategies should be evaluated also in terms of the needs, issues and concerns of all the stakeholders, so this framework stresses the importance of involving stakeholders in an aeronautical study from the outset.

An effective communication strategy offers significant benefits to the decision maker because it contributes to well informed decisions and responsible action on the part of stakeholders. The framework is a means to conduct the study in a systematic method and to analyze the risk factors and information with confidence. However, it does not guarantee a formula for correct answers every time. An aeronautical study should be viewed as a tool for effective decision making, not a guarantor of correct decisions.

The goal of risk management is to ensure decision makers identify all possible exposures to loss, and take appropriate action to minimize the risk as much as is reasonably practicable. The technical elements need to be balanced with the social and moral considerations that accompany such decisions, and the key stakeholders should be in accord with such decisions.

2.8 Participation

In many aeronautical studies, the proponent is often likely to be a service provider although the process is shared between the service provider and the regulatory element of CAA. During a study under such circumstances, the service provider is likely to be the more active member with regard to monitoring consultations with stakeholders and providing input to the study teams as required. During the review of the completed study, the regulatory element of CAA is the more active component, accepting input from the service providers/stakeholders.

2.8.1 Needs, issues and concerns

The primary concern of the CAA is that there shall not be any unacceptable increase in the level of risk to aviation safety. This in turn requires consultation between the proponent and the public, to ensure no significant risk remains undiscovered.

2.9 Review

The primary focus of the review is to verify that the analysis is complete and to provide expert advice to the Director General. Reviews will be conducted by a team drawn from regulatory and operational areas of CAA. The review needs to be able to confirm to CAA senior managers and through them to the Board, whether the implementation of the proposal in the study would cause any unacceptable risk to aviation safety. The report must address any differences of opinion by members of the study team and provide any and all information that will assist the decision maker in reaching a decision. A format for reporting such advice is attached.

The Review Team should comprise at least members from AIS, ADMS, (CNS) ANS, (ATC) ATS and FSIS. A facilitator from ~~RERGULATORY~~ Aerodrome Standards will be provided to facilitate the team (and) meeting co-ordination, information collation, and

(is to) be responsible for drafting the review report. Review activities should be adjusted so as to suit the scope and impact of the study. The Review Team will normally be required to:

a) Confirm that the assumptions in the study are reasonable;

b) Evaluate data used (as) is reasonable;

c) Ensure that the stakeholder consultation was appropriate;

d) Evaluate the proposal on the basis of acceptability of the associated risk;

e) Evaluate the adequacy of any implementation plan;

f) Brief the ~~Head, RERGULATORY~~Head of Aerodrome Standards if an immediate risk to safety, or if an issue of interest to the media, is discovered; and

g) Make observations, findings, conclusions and recommendations.

In considering a decision on a proposal, the Director General may consider other issues in addition to the review report. For example, a course of action may entail no additional risk but have economic or political repercussions to be addressed. The DG is not bound by the review team report, nor are its recommendations invalidated by the DG's decisions. This process ensures the review team is insulated from influences other than risk management.

In the event of dissent within the review team, because subjective assessments are involved, the team should identify all issues involved in the disagreement and discuss the rationale of each viewpoint to try and reach a solution that is acceptable to all team members. In the case that agreement cannot be reached, a single report is to be drafted to identify the issues in disagreement and to describe, in a balanced manner, the exact nature of the matters and the rationale of each viewpoint.

2.10 Monitoring

2.10.1 General

Monitoring is the mechanism used to ensure safety assurance extends beyond the aeronautical study itself. The risk inherent in a new system may be the same or less than in the old, but the fact that any change has occurred may give rise to unforeseen hazards. Both the users and providers of services may require a period of adjustment, and the possibility of a hazard persisting during this period must not be overlooked. Monitoring includes an evaluation of the aeronautical study process and an on-going surveillance program.

2.10.2 Policy

The ~~Head, RERGULATORY~~Head of Aerodrome Standards is responsible to the Director General for the accomplishment of monitoring. The results of on-going surveillance will be shared with the service provider and other stakeholders at the discretion of the Director General.

2.10.3 Concept

CAA monitoring is intended to keep track of items that require inspection or testing, and a database (electronic or paper-based) should be used to identify and ~~'bring-forward'~~bring up particular items. A database program also ensures no item is overlooked or duplicated. After approval of the outcomes flowing from a study, ~~RERGULATORY~~ Aerodrome Standards officers designated by the Head will be responsible for monitoring any change in the level of safety achieved. Efficient monitoring shall be supported by effective planning including critical date identification. Appropriate surveillance methodology may be used, e.g. telephone call, site inspection audit, internal query etc. Full record keeping and reporting will be provided by the officer involved.

2.10.4 Implementation

A critical element of monitoring is good communication. A variety of methods may be utilized to undertake the monitoring function, including but not limited to phone calls, either to query individuals or to test facilities, audits, letters, documents, announced / unannounced site observations, and face-to-face meetings.

2.10.5 Reports

Any suitable format and method of transmission may be used for a monitoring report. To be acceptable, documentation must be signed and dated, and addressed to a particular person. The contents have to identify who did the checks, what was checked, when it was done, what were the results. As necessary, recommendations should be made regarding the need for and timing of further monitoring activity. The report should be presented to Head ~~RERGULATORY~~of Aerodrome Standards.

2.11 Procedures in Dealing with Aeronautical Study

2.11.1 Description

This procedure is intended to be used by Aerodrome Inspectors in determining course of action/s to be taken in accepting an aeronautical study from aerodrome stakeholders. Filing and follow-up actions are also included in the procedure.

2.11.2 Objective

To address in a timely and structured manner the acceptance of an aeronautical study from aerodrome stakeholders.

2.11.3 Roles and Responsibilities

a) AI-Responsibility includes:

i) Assessing the adequacy of the study in terms of format and content;

ii) Assessing the adequacy and appropriateness of the actions/mitigations or recommendations in the study such as:

(1) impact of a safety concern such as a design change or deviation in operational procedures at an existing aerodrome;

(2) Identify the operating procedures/restrictions or other measures that will address any safety concerns.

(3) Create a list of safety issues and identify the best means to address the proposed deviation.

iii) Developing/drafting the corresponding Notices/Memos to study proponent/s;

iv) Recommending to Chief AGA, action necessary to address assessed safety issue by:

v) Conduct of surveillance/monitoring to assess compliance ot agreed mitigations/recommendations/corrective actions of the study, develop necessary documentation on compliance.

vi) Ensuring the corresponding report is filed.

b) AGA Chief-Responsibility includes:

i) Selecting the members of the Review Team;

ii) Coordinates and endorse recommendation/s to ~~RERGULATORY Chief~~Head of Aerodrome Standards;

iii) Reviewing AI's recommendation;

c) AGA Secretary -Responsibility includes:

i) Filing of the aeronautical study;

ii) Monitor and follow-up the concerned organizations' feedback or corrective action/s and coordinates with AI and AGA Chief.

2.11.4 Procedure

a) CAA receives the aeronautical study

b) ~~RERGULATORY~~ Aerodrome Standards Admin forwards the received aeronautical study to the AGA Secretary.

c) Upon receipt of the aeronautical study, the AGA Secretary shall perform the following tasks:

i) Records and encodes aeronautical study.

ii) Coordinates with the AGA Chief to determine the team to review the aeronautical study.

d) During the review of an aeronautical study, the Review Team is to:

i) Confirm that the assumptions used in the study are reasonable;

ii) Evaluate all data for reasonableness, and when any doubt exists, verify it;

iii) Assess if the stakeholder's list is complete and that consultation occurred;

iv) Question any part of the study that is unclear;

v) To the extent practicable, consider proposals in the context of air navigation requirements;

vi) Evaluate the proposal(s) solely on the basis of risk acceptability;

vii) Evaluate the adequacy of the implementation plan;

viii) Evaluate the proposal and its implementation as a package for the purpose of making a recommendation for monitoring of ~~RERGULATORY~~Aerodrome Standards;

e) Review the acceptability of the aeronautical study by using the following evaluation contents:

i) Aim of the Study;

ii) Background;

iii) Safety Assessment;

iv) Recommendation; and

v) Conclusion

- If “Yes”, recommend approval to the Director General
- If “No”, notify applicant of the decision

f) Determine, if the applicant desires to continue the application:

- If “No”, Discontinue the application
- If “Yes”, re-submit a revised or new aeronautical study

g) Follow the same process from d)

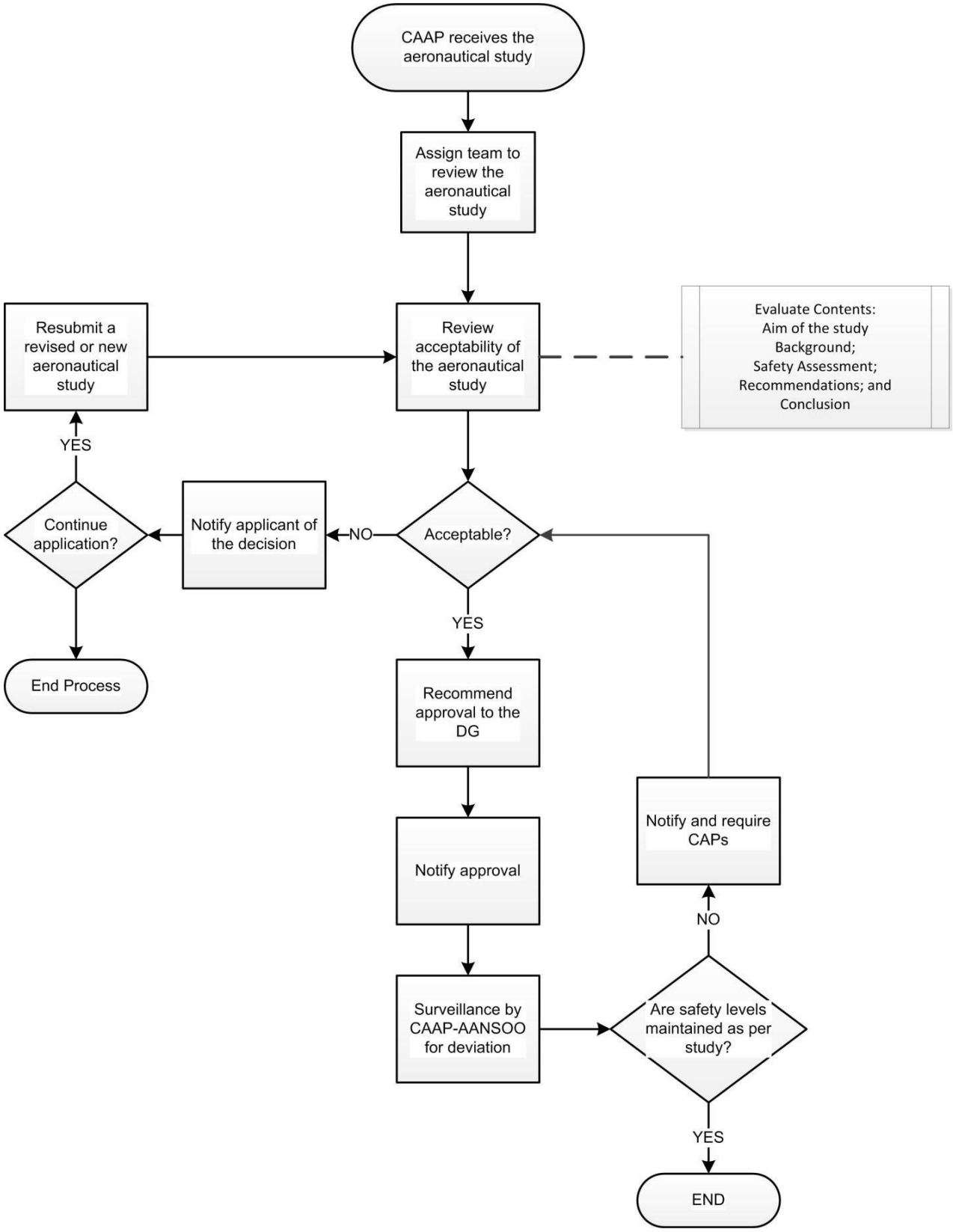
h) After recommendation to the DG, notify the applicant of the approval

i) Perform surveillance for any deviations and determine the safety levels are maintained:

- If “Yes”, end of process
- If “No”, notify and require corrective action plans (CAPs)

j) Follow the process of acceptability.

2.11.5 Flowchart - Evaluation of aeronautical study



2.12 References

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ICAO Annex 14, Volume I – Aerodromes Design and Operations

ICAO Doc 9774 - Manual on Certification of Aerodromes

ICAO Doc 9859 – Safety Management Manual, 3rd Edition

ICAO Doc 9981- Procedures for Air Navigation Services-Aerodromes (PANS-Aerodromes)

Chapter 3 - Dealing with Conflict between Environment and Safety

3.1 Introduction

Environmental factors should be carefully considered in the development of a new airport or the expansion of an existing one. Studies of the impact of the construction and operation of a new airport or the expansion of an existing one upon acceptable levels of air and water quality, noise levels, ecological processes, and demographic development of the area must be conducted to determine how the requirements can best be accommodated.

It is in the interest of airport operations and the protection of the environment to implement pollution control measures at the airport and around its environs. These measures take the form of legislation and implementation. Some measures limit pollution at its source while others reduce its effect on the community and ecology. While environmental control measures should be applied generally to communities.

Recognizing the broad based of stakeholders that may be affected by airport developments/projects and operation, it is necessary that airport operators collaborate/liaise with relevant stakeholders in the context of resolving conflicts and as part of airport management of change. Collaboration in the form of meetings may involve representatives from relevant and non-government organizations such as Department of Transportation (DOTr), Department of Environment and Natural Resources (DENR), CAA, Local Government Units (LGUs), interest groups, etc.

Normally big or new airport projects undertaken by the DOTR as part of national government program are accompanied with feasibility studies which include collaboration with different stakeholders and CAA as eventual recipient of finish the project. It is in this stage that conflicting interest are discussed and manage, hence CAA participation is necessary.

Issues covered in the collaborative process of managing conflicts between proposed airport project/operation and environment may involve one or more of the following concerns:

1. Noise abatement
2. Air pollution control
3. Water pollution control
4. Waste management
5. Energy management
6. Environment emergencies

A systematic approach in assessing these issues is detailed in environmental impact assessment in Section 3.8.

3.2 Noise Abatement

Before an aircraft is permitted to operate, it must receive noise certification granted by the State of Registry.

The measures that attack noise at its source through certification, operational means and scheduling, it is possible to reduce the effects of noise by:

a) Land –use planning and

b) Acoustical barriers

Acoustic barriers can include such wide-ranging measures as the use of protective ear coverings for people subjected to high-intensity noise, soundproofing of buildings, and methods for screening sounds.

3.3 Air Pollution Control

Some degree of air pollution associated with a airport is unavoidable, but this can be substantially reduced with proper pre-development planning and mitigation measures. Air pollution associated with airports is generated by aircraft, vehicles, and facility operations (defined as terminal buildings, cargo, and maintenance facilities).

Air pollution originating from aircraft engine testing and maintenance facilities may be controlled through the use of test cells equipped with afterburners and catalytic converters. Measures should also be taken to reduce emissions from incinerators, heating and air conditioning plants, fire training and from certain construction or maintenance works (e.g. smoke from asphalt paving plant and refuse burning).

A number of steps can be taken to decrease emissions from ground support vehicles and increase the fuel efficiency of these vehicles. These include:

a) maintaining the vehicles;

b) avoiding unnecessary idling by shutting off engines when operation is stopped for periods of more than one minute;

c) reducing driving distances by planning routes;

d) accelerating smoothly;

e) driving at optimum speeds;

f) using catalyst technologies to convert vehicles so that they operate on natural gas or propane;

g) replacing the power/air-conditioning requirements on the ground with more energy/fuel-efficient equipment in order to cut the amount of operation time of APUs; and

h) improve public transport access to airports so as to reduce emissions from private vehicles.

3.4 Water Pollution

Airports are subject to both national and local environmental regulations which may include both quantity and quality discharge limits. Airport waste water must be treated before being discharged so as not to pollute ground water or nearby streams. Waste water may be treated on site or at a nearby municipal treatment system. It should be noted that local water quality regulations may require pre- treatment before discharge to a municipal system. In order for airport operators to control waste water at their facilities, pollution prevention planning can identify areas and activities to be managed. The type and nature of airport operations will influence the type and extent of waste water treatment. The primary products which can be found in untreated waste water discharges include fuel, oil and greases, and heavy metals. With respect to water pollution management the following applies:

a) Water quality monitoring should be emphasized as water could be stored for long periods of time in underground or elevated reservoirs not frequently cleaned and/or liable to contamination;

b) Water conservation practices should be adopted when planning the airport facilities;

c) Oils and fuel should be contained and segregated at their source; and

d) The use of desalinated water can cause piping system corrosion so the aggression index for the water should be monitored.

In order to determine the type of practices to be incorporated in a water pollution control programme, airport operators should conduct a review of the site conditions. This review should include the following:

a) Topography;

b) Presence of bodies of water;

c) Storm water discharge points, including infra-structure and natural bodies of water;

d) Drains, culverts, and catch basins;

e) Paved areas and buildings;

f) Aircraft and vehicle service areas; and

g) Operational areas and activities, i.e. fueling.

3.5 Waste Management

Waste management is concerned with the reduction of both hazardous and non-hazardous wastes. The 4Rs — reduce, reuse, recycle and recover — are good practices for any workplace. A waste management programme should include the three practices: Planning, Procedures and Special Provisions.

3.5.1 Planning

Airports should establish a dedicated programme for the management of waste. This plan should consist of the following:

a) a description of design intent, construction details, overall land fill development plan, and site closure plan;

b) a clear description of the chain of authority, organizational structure, job descriptions and job responsibilities for all personnel;

c) an itemized list of mandatory regulatory reporting requirements;

d) an itemized list of internal, written reporting requirements and record keeping;

e) a description of health and environmental monitoring programmes and related reporting requirements;

f) a description of routine landfill operational procedures;

g) emergency procedure plan; and

h) training of all employees in landfill concepts and day-to-day landfill operating procedures, equipment operating instructions, safe practices and emergency procedures.

3.5.2 Procedures

It is important that the waste management plan incorporate the following procedural elements:

a) describe waste reduction, reuse and recycling plans (i.e. reduce or eliminate operations/processes that generate solid waste, redesign processes to reduce waste, and substitute products for waste reduction);

b) choose green products and services;

c) compost organic wastes;

d) provide training for proper material handling to reduce waste and spills, and equip waste transport vehicles with anti-spill equipment;

e) centralize responsibility for waste management and establish written procedures for loading/unloading and transfer operations;

f) track waste generated and disposed by the following means:

   i) identify waste streams,

   ii) evaluate the process generating the waste,

   iii) prioritize waste streams,

   iv) prepare inventory reports, and

   v) maintain records on waste production and disposal costs;

g) isolate hazardous wastes by containment and prevent mixing of hazardous and non-hazardous wastes;

h) isolate liquid waste from solid waste;

i) separate biomedical wastes with infection potential for special treatment and disposal; and

j) segregate incompatible materials/wastes to avoid dangerous reactions in the event of a spill.

3.5.3 Special Provisions

It should be noted that in the management of hazardous wastes, special provisions will be required by airport operators. These provisions consist of the following:

a) perimeter security fence;

b) security alarms on the gate and security fence;

c) designated vehicle wash-off area;

d) provision of a dedicated building or storage sheds for materials storage;

e) safety control devices such as fire and gas alarms;

f) installation of ventilation systems, non-spark electrical controls and fire extinguishers; and

g) implementation of a bird and mammal control programme.

3.5.4 An effective waste management programme can be enhanced by employee awareness of the three waste management practices. An awareness programme can include training, participation in special events, information sessions and informative newsletters. Employees should stay current on changes and new information to ensure adherence to policies and procedures. The concept of segregation of recyclable solid waste components should be stressed as airports create a lot of waste. It is possible to recycle and remanufacture both solid and hazardous wastes into other products. Segregation and recycling policies should be mandatory.

3.6 Energy Management

3.6.1 The majority of energy used at an airport is associated with the provision of heating, ventilation, air conditioning and lighting. The essential services such as airfield lighting and instrumentation actually use a relatively small amount of energy. It is estimated that energy costs account for about 5 per cent of the operating costs of a modern airport and that use of the best available conservation techniques can reduce this cost by 5 to 20 per cent.

3.6.2 To assess energy and environmental performance, suitable indicators are required. The actual choice of the indicators will depend on the size of the airport but suitable indicators may include:

a) Energy consumption per:

i) 1 000 passengers

ii) air transport movement

iii) tonne of cargo movement

iv) traffic unit (TU)

b) Pollutants released:

i) directly per 1 000 passengers/TU, and indirectly per 1000 passenger/TU

Note: A traffic unit (TU) is either an enplaned passenger, a deplaned passenger, or 100 kg of enplaned or deplaned cargo.

3.6.3 Reporting should be done annually so that performance improvements can be demonstrated and compared to other indicators, such as traffic, finance and employment. To use such performance indicators in a report, it is necessary to record actual energy consumption and to have information on the effects produced by using various energy sources. While indicators based on measures of consumption are essential for reports on environmental effects, indicators based on cost are essential from a management viewpoint.

3.6.4 In order to heighten awareness of energy efficiency within the airport and interested communities, some airports adopt an energy policy guidance statement. Turning these statements into effective action requires a clear definition of responsibility for energy efficiency. Ideally each operational manager will have energy responsibility, with expert knowledge being provided by engineering and energy specialists. Examples of policy statements are as follows:

a) This airport aims to use energy as effectively as possible in the pursuit of its corporate objectives.

b) This airport will always consider the environmental impact of its direct and indirect energy consumption.

c) This airport is committed to the efficient use of energy in all its activities.

3.6.5 An effective energy strategy will include a statement of objectives to make all personnel aware of what the organization is committed to achieve, but the pursuit of environmental performance without regard for cost is not a plan for success. The two main elements of an energy strategy should be the following:

a) ***Choice of energy source***: Without environmental consideration, the preferred energy sources, as selected from available sources, would be those with the lowest overall cost. Currently, the market costs of energy sources may not necessarily reflect their corresponding environmental impact. It is important to consider both the direct and indirect environmental effects. For example, using electricity may have a negligible environmental effect locally, but its effect may be significant elsewhere if the power is generated by the combustion of coal.

b) **Effective utilization and management of energy:** The key aim must be to conserve energy and still meet the operational objectives of the airport. To do this, it is necessary to understand where, how and why energy is used. This may be accomplished by means of an energy audit, which, for the sake of convenience, may be combined with an environment audit. To be effective, energy audits should be carried out at regular three-year intervals.

3.6.6 All control points related to heating and air conditioning systems should be checked, including the heating and cooling temperatures, control of humidity, and boiler adjustments. While such actions are simple, the combined effect of incorrect settings could mean the use of 10 per cent more energy than is necessary. Other simple procedures include checking the insulation of pipework, duct work and buildings themselves. All these measures can optimize the performance of the system. Where a comprehensive building management system is installed, many checks and adjustments can be carried out from a central control room. Once the existing plant is operating efficiently and as much waste is eliminated as possible, further capital investment may be considered, including investments in additional sophisticated control systems, variable speed drives for fans and pumps, heat recovery systems, and new boiler plant.

3.6.7 The lighting of buildings accounts for a major part of the energy consumption at an airport. Sometimes it is possible to reduce the requirement for artificial lighting by the introduction of more natural lighting — providing this does not add significantly to heat or cooling loads. Where artificial lighting is installed, it should be appropriately controlled and should use the most efficient, suitable light source. Paying close attention to the location of lighting and operating on the basis of time, ambient light levels, occupancy, etc. can lead to very worthwhile savings and can be self-financing. Since most light fittings produce heat, recovering this heat and/or ensuring that it does not add to the air conditioning loads of the building should also be taken into consideration.

3.7 Environmental Emergencies

3.7.1 In order to respond effectively to environmental emergencies, the airport emergency plan should include specific plans and procedures to deal with such emergencies. These plans and procedures must clearly identify a predetermined sequence of communication and action plans to be implemented quickly to deal with various types of environmental emergencies at airports. Such emergencies include fuel and chemical spills, and incidents involving dangerous goods or hazardous materials that mayaffect the environment. The plans and procedures must incorporate the elements of command, communication and coordination.

3.7.2 Environmental emergency planning should include the following:

a) General
   i) Table of contents
   ii) Record of agreements
   iii) Purpose of the plan
   iv) Geographic location of airport
   v) Environmentally sensitive area
   vi) Emergency telephone list, and

vii) Grid/reference maps.

b) Actions

i) Persons of authority — Site roles

ii) Major types of airport environmental emergencies

iii) Site management/spill clean-up and restoration

iv) Site hazardous materials inventory

v) Emergency equipment on site

vi) Spill clean-up contractors, agencies and specialists

vii) onitoring, reporting and follow-up procedures

viii) Media relation guidelines, and

ix) Training protocol.

** See also Airport Services Manual, Doc 9137, Part 7 — Airport Emergency Planning*

3.7.3 Environmental emergency planning should incorporate the following steps to emergency response:

a) ***Secure***: Establish a hazard zone that will keep nonemergency response personnel out of danger.

b) ***Approach***: Approach from upwind to avoid coming in contact with vapors.

c) ***Identify***: Utilize placards and/or labels on containers to provide information on the product involved. The United Nations Product Identification Number (PIN) will provide information for personnel protection and spill response information. The exact identity of the products involved can also be found by examining the shipping documents.

d) ***Assess***: The following points should be considered:

i) Is there a fire?

ii) Is there a spill or a leak?

iii) What are the weather conditions?

iv) What is the terrain like?

v) What is at risk: people, property or the environment?

e) Respond:

i) Respond in an appropriate manner.

ii) Establish lines of communication.

iii) Establish line of command.

iv) Ensure coordination.

3.7.4 It is important that the airport emergency plan be tested on a regular basis and that corrective measures be taken immediately after an exercise or real incident where deficiencies in procedures are identified.

3.8 Environmental Impact Assessment of Airport Development Projects

3.8.1 An environmental impact assessment provides a systematic approach for identifying the environmental effects of proposed projects in order to allow for, where necessary, the modification of plans and incorporation of measures to minimize or eliminate any potential adverse effects on the environment.

3.8.2 The environmental impact assessment report should contain the details that are needed to make informed decisions with respect to the environment. This is achieved by:

a) identifying all project components for the purpose of refining the scope of the project and the scope of the environmental assessment;

b) carrying out a detailed and organized environmental screening of the project based on specific terms of reference and any approved modification/additions; and

c) presenting the process and results in a screening report suitable for public scrutiny and decision making

3.8.3 The environmental assessment process should include project description, environmental description, project/environment interaction analysis and its impact, and mitigation measures. A final report should be prepared which details all the phases and results of the environmental assessment. The environmental impact assessment report must be clear, concise and suitable for public scrutiny, if required.

3.8.4 It is necessary to develop a description of both the physical and social environment, which includes:

a) context, study area, and site plan;

b) definition of the items in c) and d) which are to be addressed in the assessment;

c) physical environment:

i) physiography and local topography

ii) soil

iii) landscaping

iv) surface water/drainage basins

v) groundwater/aquifer

vi) air quality

vii) atmosphere/weather

viii) vegetation/crops

ix) terrestrial species/habitat
x) aquatic species/habitat
xi) avifauna migration routes, and
xii) ecological systems

d) social environment:
i) land use
ii) light emissions
iii) impact on the community
iv) recreational uses
v) aesthetics
vi) employment
vii) economic
viii) municipal services
ix) noise
x) archaeological factors/heritage, and
xi) planning framework

3.8.5 Project-environment interaction analysis requires identification of the environmental components listed in 10.8.4 which may be affected by each of the project construction and/or operational activities. A level one matrix should be used to identify the interaction between activities and general categories of environmental components involved.

3.8.6 The identification of possible impact points is followed by an impact analysis. This will require a general description of each potential impact, the determination of valued ecosystem components, and the prediction and evaluation of impacts.

3.8.7 Specifically, the potential effects of the proposed activities on the environmental components should be described. Any particular concerns of the public should be noted. Through further detailed analysis and consideration of mitigation measures, impact predictions regarding specific project-environment interactions should be developed.

3.8.8 Ultimately, the environmental assessment should provide clear projections regarding the nature and type of impact. The assessment should conclude by summarizing decisions regarding the environmental impacts of the project, the specific mitigating measures and monitoring requirements. A recommended environmental assessment decision should be provided, reflecting the options selected among those presented.

3.8.9 The environmental assessment report should be organized in such a manner that information (procedures, findings, etc.) for each of the key stages of the assessment is presented. A table of contents with major headings similar to the following would be

appropriate:

a) Name of the proposal
b) Description of project activities
c) Description of the environment
d) Environmental effects (including any cumulative environmental effects)
e) Proposed mitigation measures
f) Determination of significance
g) Expert government agencies consulted (expert help, if required)
h) Public consultation (including methods and results, if required)
i) Approximate date of implementation
j) Decision and rationale
k) Consultant/expert contact (name, title, and address)

3.8.10 A follow-up programme should detail the monitoring programmes required to evaluate the effectiveness of the mitigation measures as well as to determine the accuracy of the environmental assessment. This programme is not always required for every project. The decision maker should identify and implement a follow-up programme if one of the following situations occurs:

a) the project involves new or unproven technology;
b) the project involves new or unproven mitigation measures;
c) the assessment was based on a new assessment technique or model, or there is some uncertainty about the assessment's conclusion.

3.9 Environmental Management

3.9.1 Environmental Management Activities:

a) The environmental management activities of an airport can be divided into three basic categories:
   i) environmental awareness;
   ii) planning and monitoring; and
   iii) remedial measures.

b) The objective of the environmental awareness programme is to promote increased environmental consciousness and to make individuals aware of their own environmental protection responsibilities, both in decision making and in day-to-day work of the airport. This is accomplished primarily through employee education, training and incentives.

c) Most of the environmental activities at airports involve planning and monitoring, including:
   i) environmental assessments;

ii) monitoring and compliance;

iii) environmental audits, where necessary; and

iv) environmental emergency contingency plans.

d) The environmental assessment process has proven to be an important part of the project design procedures. Potential environmental impacts can be identified before they occur and before irrevocable decisions on the design of a project are made. Mitigation of environmental impacts can and should be made an integral part of the planning process.

e) Monitoring and compliance programme assess air quality, water quality, soil and ground water quality, noise levels, etc. These programmes are designed to detect developing problems in the early stage before environmental impacts become significant and to identify the source of the problem.

f) Periodic inspections should be undertaken in order to provide a thorough assessment of the environmental implications of operations and management practices at a given point in time and to determine the degree of compliance with applicable regulations, guidelines and codes of practice. The inspections are used to assess whether or not the monitoring and compliance programmes are functioning properly and to identify any problems not previously detected. They provide the basis for action plans. In addition, such inspections are valuable tools for identifying opportunities for enhancing environmental management practices as a whole.

g) Although the ultimate goal of a proactive environmental strategy is to minimize the creation of environmental problems, in the interim, there is a need for remedial measures to correct situations resulting from material handling and management practices of the past.

3.10 Environmental Management System – ISO 14000 and EMS

3.10.1 Organizations like airports are becoming more concerned about achieving and demonstrating sound environmental performance by controlling the impact of their activities, products or services on the environment, taking into account their environmental policy and objectives. Meanwhile, legislation is more stringent, economic policies are developed to foster environmental protection, and there is a growing awareness of environmental matters among the public and stakeholders.

3.10.2 These changing conditions have led several organizations to carry out environmental reviews or audits to assess their environmental performance. To be effective, these reviews have to be conducted within a structured management system. For this purpose, the ISO 14000 Standard provides organizations with the elements of an effective environmental management system, which can be integrated with other management requirements, to assist them in achieving their environmental and economic goals.

3.10.3 The Environmental Management System known as EMS (ISO 14001, 1996) is part of the overall management system that includes organizational structure, planning

activities, responsibilities, practices, procedures, processes and resources for developing, implementing, achieving, reviewing and maintaining the environmental policy. EMS is seen as the best method to incorporate environmental management into all levels of corporate operations and decision making processes.

3.10.4 Some of the benefits of implementing an EMS programme include:

a) the long-term economic benefit of balancing and integrating economic and environmental interests;

b) reduced costs associated with third party audits;

c) enhanced compliance with environmental legislation;

d) competitive advantage with customers who prefer or require ISO 14001 certification;

e) consolidation of all environmental programmes into one coherent system; and

f) increased flexibility to changing circumstances.

3.10.5 Airports in general have an obligation to protect the physical environment by evaluating the impacts of their policies and regulatory decisions on the environment and by promoting and meeting environmental standards while serving the public to optimal satisfaction and safety. By adopting ISO 14000 Standards and implementing an EMS, it is expected that airports will make a major push towards achieving environmental standards and objectives.

Appendices

APPENDIX A: SAMPLE LETTERS:

Appendix A.1 Granting of an Aerodrome Certificate

(File reference no._____)

Date: _____

(Addressee):

Subject: **Granting of an Aerodrome Certificate**

Dear: (Mr./Ms./as appropriate)

This has reference to your letter dated_____and your application requesting the certification of your aerodrome _____located at _____.

The aerodrome certification process has been completed and your application has been approved. The Aerodrome Certificate is hereby granted and enclosed with this letter.

Under the requirements of CAA on its aerodrome surveillance program, your aerodrome will be subject to surveillance and routine inspection by Aerodrome Inspectors of CAA. The certification of your aerodrome enables appropriate aeronautical data to be published in the Aeronautical Information Publication (AIP).

Other operational matters in relation to your aerodrome will be undertaken by the assigned aerodrome inspector particularly on the aspect of safety related oversight functions.

Inquiries regarding the certificate and other aerodrome related matters are welcome. Please contact telephone number [phone no.] or email at [email address] or coordinate with your assigned Aerodrome Inspector.

Very truly yours,

(Name)
(Position)

Appendix A.2 Refusal to Grant an Aerodrome Certificate

(File reference no._____)

Date: _____

(Addressee):

Subject: **Refusal to grant an Aerodrome Certificate**

Dear: (Mr./Ms./as appropriate)

This refers to your letter dated_____and your application requesting the certification of your aerodrome_____located at_____. The application has been assessed in accordance with [legislation/regulations] governing Aerodromes and refused for the following reasons:

(Delete whichever items in the following paragraphs do not apply)

a) Following an inspection conducted on the aerodrome's facilities and equipment, it was determined of not meeting the standards specified for certified aerodromes;

b) The assessment of the aerodrome operating procedures revealed did not satisfy the provisions regarding safety of aircraft during operation;

c) The Aerodrome Manual submitted also does not contain the particular standards set out in the Manual of Standards for Aerodromes (MOS);

d) The foregoing facts and other factors listed below manifested that the aerodrome will not be properly operated and maintained unless full compliance of all the requirements are met as required by civil aviation regulations for aerodromes

(Give the details of each determination)

You were advised of the above-mentioned deficiencies reference our letter dated_____and your response gave some reservations on compliance with the aerodrome standards. Rest assured that your application will be granted as soon as all the requirements and prescribed standards are met and fully complied with.

A decision by the CAA on refusal to grant an aerodrome certificate is reviewable by the _____ (appropriate CAA body / post). Inquiries regarding this matter are welcome. Please contact _____ by _____.

Very truly yours,

(Name)
(Position)

Note: *"This letter must be cleared first with the Legal Branch of CAA before sending to the applicant. Not more than fourteen (14) days may elapse from the time the decision to refuse is made and dated, and the time when the applicant is advised of the decision."*

Appendix A.3 Granting an Interim Aerodrome Certificate

(File reference no._____)

Date: _____

(Addressee):

Subject: **Granting of an Interim /Temporary Aerodrome Certificate for** (name of airport)

Pursuant to [legislation/regulation], in accordance with civil aerodromes used for international civil aviation and the Manual of Standards for Aerodromes (MOS), in compliance to ICAO Annex 14 Standards and Recommended Practices (SARPs), having found the airport compliant with CAA standards on aerodrome certification as independently audited by the [department/office in CAA], hereby
approved the issuance of Temporary Aerodrome Certificate to (name of aerodrome) , located at_____.

Validity: Six (6) Months, from_____to_____, 20XX.

The temporary aerodrome certificate signifies that the aerodrome has acceptable facilities, safety procedures and system, the airport operator is capable of operating and maintaining the aerodrome in accordance with CAA requirements, no major safety issues are present, and that continuing actions to correct deficiencies (minor – Category B findings) have been established and are required to be validated within the duration of the Temporary Certificate.

(Name)
(Position)

Appendix A.4 Granting of an Aerodrome Registration

[change CAAP to CAA]

(File reference no._____)

Date: _____

(Addressee):

Subject: **Registration of_____Aerodrome**

Dear: (Mr./Ms./as appropriate)

This has reference to your letter dated_____and your application requesting the registration of your aerodrome _____ located at _____.

The aerodrome registration process has been completed and your application has been approved. The Aerodrome Registration Certificate is hereby granted and enclosed with this letter.

The registration enables appropriate aeronautical data pertaining to your aerodrome to be published in the Aeronautical Information Publication (AIP). Your aerodrome will be subject to routine surveillance and inspection by Aerodrome Inspectors under the CAAP aerodrome surveillance program.

The CAAP safety oversight functions and other safety related activities to be conducted for your aerodrome will be undertaken by Mr._____, the assigned inspector to your aerodrome.

Inquiries about the registration and other aerodrome related matters are welcome. Please contact telephone number 944-2286 or coordinate with your Assigned Aerodrome Inspector (AAI).

Very truly yours,

(Name)
(Position)

Appendix A.5 Refusal to Grant an Aerodrome Registration

(File reference no._____)

Date: _____

(Addressee):

Subject: **Refusal to grant Aerodrome Registration**

Dear: (Mr./Ms./as appropriate)

I refer to your letter dated _____ and your application for aerodrome registration for your aerodrome _____located at_____.

The application has been assessed in accordance with the existing [legislation/regulations] and aerodrome standards provisions in Manual of Standards for Aerodromes (MOS) and refuses its approval due to following reasons:

(Delete whichever of the following paragraphs do not apply:

a) The required information about the aerodrome is not sufficient and determined that standards specified for the aerodrome have not been met;

b) Following an assessment of the aerodrome's safety inspection report, it does not conform with the requirements of [legislation/regulations] compromising safety during aircraft operation; and

c) The qualifications of persons nominated as Reporting Officers is below par and needs certain appropriate training on the assigned functions.

(Give the details for each determination)

You were advised of the above-mentioned deficiencies reference our letter dated_____and your response gave some reservations on compliance with the aerodrome standards. Rest assured that your application will be considered and approved as soon as all the requirements and prescribed standards are met and fully complied with.

A decision by the CAA on refusal to grant the aerodrome registration is reviewable by the _____(appropriate CAA body). Inquiries regarding this matter are welcome. Please contact the undersigned on telephone number [phone no.] or email [email address].

Very truly yours,

(Name)
(Position)

Note: *"This letter must be cleared first with the Legal Branch of CAA before sending to the applicant. Not more than fourteen (14) days may elapse from the time the decision to refuse is made and dated, and the time when the applicant is advised of the decision."*

Appendix A.6 Granting of a Limited Aerodrome Registration

(File reference no._____)

Date: _____

(Addressee):

Subject: **Limited Aerodrome Registration**

Dear: (Mr./Ms./as appropriate)

This refers to your request for a limited aerodrome registration for (name of aerodrome) which is due to expire on_____.

CAA appreciates the submission of the Aerodrome Manual, SMS Manual and Airport Emergency Plan as these form part of the compliance requirement for your aerodrome. These Manuals are subject for evaluation. During the inspection conducted on_____, minor findings were observed and have to be addressed.

In view of the above, this letter serves as a Limited Aerodrome Registration for (name of aerodrome) valid until_____, 20XX.

In the event that the aerodrome registration requirements cannot be fully complied within the validity period, the aerodrome operator must notify CAA in writing at least three (3) weeks prior to the expiry of this limited registration laying out cogent reasons for the delay.

Notwithstanding the grant of limited aerodrome registration, the aerodrome operator has the responsibility to ensure that aerodrome standards appropriate for the critical aircraft (type of aircraft) is in accordance with the Manual of Standards for Aerodromes (MOS) are provided.

Very truly yours,

By Authority of the Director General:

(Name)
(Position)

Appendix A.7 Granting of a Limited Aerodrome Registration to Helidecks/Shipboard Heliports

(File reference no._____)

Date: _____

(Addressee):

Subject: **Vessel Helideck Aerodrome Registration for Accommodation Support Vessel (name of vessel)**

Dear: (Mr./Ms./as appropriate)

This is in connection to your application for **Vessel Helideck Aerodrome Registration for Accommodation Support Vessel** (name of vessel) located at_____.

Please be informed that after the final safety inspection conducted by CAA aerodrome inspectors last _____(date)_____20XX, and assessment of the Corrective Actions in resolution to all the Findings, the said aerodrome and facilities were found to be in compliance with the relevant requirements of CAA Manual of Standards (MOS Chapter XX: Heliport Standards).

To this effect, an **Aerodrome Registration,** with Registration Number [reference] is hereby granted to Vessel Helideck Accommodation Support Vessel (ASV) [name] **valid until _____, 20XX.**

The following are the aerodrome particulars and limitations which shall be provided by the operator to pilots intending to operate in the subject aerodrome.

Name of Helideck	:	
Helideck Operator	:	
Location	:	
Heliport Type	:	Vessel Helideck
HRP Coordinates (WGS-84)	:	Latitude : 11° 30' 49. 94" N Longitude : 119° 07' 21.51" E
TLOF	:	22.2 meters diameter (octagon)
FATO	:	22.2 meters diameter (octagon)
Safety Area & Obstacle Free Sector	:	Solid, ribbed aluminum surface - 22.2 meters diameter (octagon), 210^0 Obstacle Free Sector (OFS)
Helideck's Elevation	:	23.4 meters (AMSL)
Helideck's Surface	:	Ribbed Aluminum Finished
Helideck's Strength	:	12.8 tons

Ground/Visual Aids	:	FATO Markings – white continuous line TLOF Markings – white continuous line Touchdown positioning marking dimensions: - 00.0meters (Inner Diameter) - 0.0 meter yellow line width WDI – Wind Direction Indicator (lighted)
Rescue & Fire Fighting Service	:	Principal Fire Extinguishing Agent : • Deck Integrated Fire Fighting System (DIFFS) equipped, Hose lines Complementary Fire Extinguishing Agent: • Dry Chemical Powder (DCP) – two 45 kgs. AFFF – 3% Discharge rate –500 liters/min Standard Rescue Fire Fighting Equipment (H2 Category).
Limitation/s	:	Limited to helicopters with maximum over-all length of 22 meters
Reporting Officer	:	Lee Garrett, Nick Truelsen and James Robertson-Helicopter Reporting Officers (HROs)
Condition/s	:	1. Helideck operation must be conducted in Visual Meteorological Condition (VMC) and Day Operations only. 2. Report to CAAP any circumstances that may affect safe helicopter operations 3. Conduct pre-flight briefing to pilots prior to operation and provide in-flight information to pilots on heliport conditions, operational status of associated facilities & services within the organization's control and any other information considered to be operationally significant.
Validity	:	The Aerodrome Registration is non-transferable, and shall remain in effect until suspended or cancelled.

Your aerodrome will be subjected to surveillance by Aerodrome Inspectors under the requirements of CAAP/AANSOO Aerodrome Surveillance Program.

If you have any queries regarding this permit or any other aerodrome-related matters, please contact AANSOO or your assigned Aerodrome Inspector.

Very truly yours,

(Name)
(Position)

Appendix A.8 Granting of a Permit To Operate (PTO) to Aerodrome

(File reference no._____)

Date:_____

(Addressee):

Subject: **Granting of Permit-To-Operate (PTO) to an Aerodrome**

Dear: (Mr./Ms./as appropriate)

This has reference to your letter dated_____and your application requesting permit to operate **(name of aerodrome)** _____ located at _____.

The permit to operate processing has been completed and your application has been approved after complying with all the requirements and meeting the standards specified in the Manual of Standards for Aerodromes (MOS). The Permit-To-Operate is hereby granted and enclosed with this letter.

Under the requirements of CAAP on its aerodrome surveillance program, your aerodrome will be subject to routine surveillance and inspection by Aerodrome Inspectors of the Aerodrome and Air Navigation Safety Oversight Office (AANSOO), CAAP. Other operational matters in relation to your aerodrome will be regularly undertaken by the assigned Aerodrome Inspector to ensure the safe, regular and efficient conduct of aviation activities.
Inquiries regarding the permit and other aerodrome related matters are welcome. Please contact telephone number 944-2286 or coordinate with your assigned Aerodrome Inspector.

Very truly yours,

(Name)
(Position)

Appendix A.9 Granting of Limited Permit To Operate for Aerodrome

(File reference no._____)

(Date):

(Addressee):

Subject: **Limited Permit to Operate for (*name of aerodrome*)**

Dear: (Mr./Ms./as appropriate)

This is in reference to your request dated_____, for a Limited Permit to Operate for *(name of aerodrome)*.

CAAP appreciates your effort to significantly address the findings of_____*(date)*_____ inspection, however, there were few findings that were not addressed; a suitable pump to increase the discharge rate of the foam solution and the official *(name of operator)* aerodrome operating procedures.

Pending rectification of these items, **a Limited Permit to Operate is granted for xxx (0) months effective**_____*(date)*_____**2015 until** _____*(date)*_____**2016** under the following conditions:

1. Aerodrome operation is limited to daytime period under Visual Meteorological Condition (VMC) only;
2. Aerodrome operator must conduct briefing to pilots prior to operation on condition of aerodrome facilities such as:
    a. availability of rescue and firefighting service;
    b. runway condition;
    c. obstacles within the vicinity of the aerodrome
    d. meteorological condition i.e., visibility, prevailing wind direction and speed, clouds; and,
    e. any safety relevant information.

Notwithstanding the grant of limited permit to operate, the aerodrome operator has the responsibility to ensure that relevant standards stipulated in the Manual of Standards for Aerodromes (MOS) are being complied with accordingly.

Very truly yours,

By Authority of the Director General:

Director General

Appendix A.10 Granting of Permit To Operate (PTO) to Surface Level Heliport

(File reference no._____)

Date: _____

(Addressee):

Subject: **Granting of Permit to Operate to Surface Level Heliport**

Dear: (Mr./Ms./as appropriate)

This has reference to your letter dated_____and your application requesting permit to operate____*(name of heliport)*___located at_____.

The permit to operate processing has been completed and your application has been approved after complying with all the requirements pertaining to heliports, and meeting the standards. The Permit to Operate is hereby granted and enclosed with this letter.

Under the requirements of CAAP's aerodrome surveillance program, your heliport will be subject to routine surveillance and inspection by Aerodrome Inspectors of the Aerodrome and Air Navigation Safety Oversight Office (AANSOO), CAAP. Other operational matters related to your heliport will be regularly undertaken by the assigned Aerodrome Inspector to ensure the safe, regular and efficient conduct of aviation activities.

Inquiries regarding the certificate and other heliport related matters are welcome. Please contact telephone number 944-2286 or coordinate with your assigned Aerodrome Inspector.

Very truly yours,

(Name)
(Position)

Appendix A.11 Granting of Permit To Operate (PTO) to Elevated Heliport

(File reference no. _____)

Date:_____

(Addressee):

Subject: **Granting of Permit-To-Operate to Elevated Heliport**

Dear: (Mr./Ms./as appropriate)

This has reference to your letter dated_____and your application requesting permit to operate the _____*(name of heliport)*_____ located at_____

The permit to operate processing has been completed and your application is approved after complying with all the requirements pertaining to heliports and meeting the standards. The Permit to Operate is hereby granted and enclosed with this letter.

Under the requirements of CAAP on its aerodrome surveillance program, your heliport will be subject to routine surveillance and inspection by Aerodrome Inspectors of the Aerodrome and Air Navigation Safety Oversight Office (AANSOO), CAAP. Other operational matters pertaining to your heliport will be regularly undertaken by the assigned Aerodrome Inspector to ensure the safe, regular and efficient conduct of aviation activities.

Inquiries regarding the PTO and other heliport related matters are welcome. Please contact telephone number 944-2286 or coordinate with your assigned Aerodrome Inspector.

Very truly yours,

(Name)
(Position)

Appendix A.12 Granting of an Approval to Conduct Aerodrome Safety Inspection

(File reference no._____)

Date: _____

(Addressee):

Subject: **Approval to conduct Aerodrome Safety Inspection**

Dear: (Mr./Ms./as appropriate)

This has reference to your application dated_____requesting CAA approval to conduct aerodrome safety inspection at the_____(name of aerodrome). Your application has been assessed in accordance with the civil aviation regulations and is hereby approved.

Pursuant to the provisions of [regulation] this approval will remain in force until suspended or cancelled. Your conduct of aerodrome safety inspections shall be under the surveillance of CAA Aerodrome Inspectors. The undersigned inspector will be responsible on the surveillance and other day-to-day activities to be undertaken associated with your approval.

Inquiries on the approval and other aerodrome related matters are welcome. Please contact the undersigned on telephone number [phone no.].

Very truly yours,

(Name)
(Position)

Appendix A.13 Refusal to Grant an Approval to a Person to Conduct Aerodrome Safety Inspection

(File reference no._____)

Date: _____

(Addressee):

Subject: **Refusal to grant an approval to a person to conduct Aerodrome Safety Inspection**

Dear: (Mr./Ms./as appropriate)

This has reference to your application dated_____requesting CAA approval to conduct aerodrome safety inspection at an aerodrome located at_____. Your application has been assessed in accordance with the civil aviation regulations and found not meeting all the requirements to merit an approval.

The decision has been made following the process involving: (delete irrelevant items)

- ✈ Consideration of your tertiary qualifications;
- ✈ Other qualifications, knowledge and experience;
- ✈ Evaluation results; and
- ✈ Outcome of the applicant's interview.

(Give details for each determination).

Inquiries regarding this decision and other aerodrome related matters can be directed to the [post], telephone number [phone no.].

Very truly yours,

(Name)
(Position)

APPENDIX B: CHECKSHEETS

Appendix B.1 Checksheet for Aerodrome Certificate Issuance (Form AGA- 008-CACI)

Aerodrome name: .....

To be completed by Aerodrome Inspector: Tick each box to indicate satisfactory completion and acceptance of the task. Note the date for each item completed.

N0.	PARTICULARS		DD/MM/YY
1	Aerodrome file raised…….. (File number:_____)		
2	Application checked for completeness	❑	/ /
3	Flight operations assessment (FSIS, ATS and CNSS)	❑	/ /
4	Clearance from other government entities as appropriate: a) Commissioned by the applicant (e.g. environmental impact study); and/or b) required by local and national regulations	❑	/ /
5	Is Aerodrome Manual provided with the application?	❑	/ /
6	Operational safety discussed with the FSIS Inspector	❑	/ /
7	Applicant advised of any operational restrictions	❑	/ /
8	Quotation fees prepared and sent to applicant	❑	/ /
9	Fee received from applicant and receipt issued	❑	/ /
10	Aerodrome Manual assessed	❑	/ /
11	Applicant assessed as able to properly operate and maintain the aerodrome	❑	/ /
12	Facilities assessed as acceptable	❑	/ /
13	Aerodrome Safety Management System (SMS) assessed as acceptable	❑	/ /
14	Applicant advised of any noted deficiencies	❑	/ /
15	Quotation fees reviewed and outstanding fees received and fully paid	❑	/ /
16	Decision made to grant or refuse the certificate	❑	/ /
17	Applicant advised of the grant/refusal	❑	/ /
18	Recommendation for the issuance of certificate	❑	/ /
19	Internal CAAP notifications including AIS	❑	/ /
20	Continuing surveillance program established	❑	/ /
21	Referred to ELS for clearance/approval (as applicable)	❑	/ /

❑ This application is not subject to special conditions.
❑ This application has been assessed as acceptable, subject to the following special conditions:

Recommended by the AAI:

Signed: Date : / /
Name : (Aerodrome Inspector)

To be completed by the Head, AANSOO:

I have reviewed the application, its assessment and recommend the issuance of Aerodrome Certificate.
Signed: Date : / /
Name : (Head, AANSOO)

Final action by the Aerodrome Inspector:

20	Forward the Aerodrome certificate to the applicant	❑	/ /
21	Advise the AIS on aerodrome data and NOF of Reporting Officers	❑	/ /
22	Include the aerodrome in the surveillance program	❑	/ /

Signed: Date : / /
Name : (Aerodrome Inspector)

Appendix B.2 Application Checksheet for Approved Person(S) to Conduct Aerodrome Safety Inspection

On completion, sign and file the completed form

		YES / NO		REMARKS	
1	Applicant's contact details (including business hours)	❑	❑		/ /
2	Tertiary qualifications held	❑	❑		/ /
3	Other appropriate courses completed	❑	❑		/ /
4	Relevant Industry experience	❑	❑		/ /
5	Current position held	❑	❑		/ /
6	List of recent ASIs undertaken (if applicable)	❑	❑		/ /
7	Referee contact details	❑	❑		/ /

Assessment details:

YES / NO REMARKS					
8	Applicant's qualifications meet the provisions of **CAR-Aerodromes 2.3.075 (2) (a)** or other qualifications and experience are considered suitable; and the person has demonstrated that he/she is able to properly perform the aerodrome safety inspection.	❑	❑		/ / / / / /
9	Interview and test results satisfactorily demonstrated the applicant's knowledge of relevant regulations, standards, practices and procedures for the operation and maintenance of aerodromes.	❑	❑		/ /
10	I have reviewed the application and supporting documentation and I agree that the provisions of **CAR-Aerodromes 2.3.075** have been met.	❑	❑		/ /
11	Is acceptance as an approved person subject to any conditions? List the conditions:	❑	❑		/ /

To be completed by the Head, AANSOO:

I have reviewed the application, its assessment and recommendation processes, and authorizes the applicant to be included in the register of approved persons **to conduct aerodrome safety inspection.**

Signed: Date : / /

Name : (Head, AANSOO)

		YES / NO		REMARKS	
12	Approval number allocated	❑	❑		/ /
13	Approved person register updated	❑	❑		/ /
14	Checksheet and package transferred to Aerodrome Inspector	❑	❑		/ /

To be finalized by the Aerodrome Inspector:

		YES / NO		REMARKS	
15	Acceptance letter forwarded to applicant	❑	❑		/ /
16	Place the approved person on the surveillance schedule	❑	❑		/ /

Signed: Date : / /

Name : (Aerodrome Inspector)

APPENDIX C: CHECKLISTS

Appendix C.1 Aerodrome Certification Information Checklist (Form AGA-001- ACIC)

SUBJECT: APPLICATION	RESPONSE BY AERODROME INSPECTOR			
QUESTIONS	YES	NO	N.A.	REMARKS (Include reference to documentation or reason for non-compliance/non-applicability)
AERODROME CERTIFICATION PROCESS				
I. INITIAL CERTIFICATION				
1. Applicant				
- Should be the operator of the aerodrome:				
○ owner of the land	☐	☐	☐	
○ occupier of the land	☐	☐	☐	
○ Actual person or organization operating the aerodrome	☐	☐	☐	
2. If not the Owner				
- Written consent of the owner or occupier of the land	☐	☐	☐	
3. Fees and Charges (for non-CAA Airports only)				
- Application Fee ○ An applicant will have to pay at the time of submitting the application.	☐	☐	☐	
- Initial Certification Fee (technical inspection will only proceed upon payment of the fees) ○ The applicant will have to pay: ▪ Inspection Fee - ₱5,000.00 ▪ Admin Fee - ₱500.00 ▪ Daily Subsistence Allowance (DSA) – to cover accommodation, meals and incidental expenses. ○ This fee is based on a scheduled rate of charge and is dependent on the expected amount of effort for CAA to process the certification	☐	☐	☐	
- Certification Fee (On-site Verification will only proceed upon payment of the fees) ○ The applicant will have to pay: ▪ Inspection Fee - ₱5,000.00 ▪ Admin Fee - ₱500.00 ▪ Daily Subsistence Allowance (DSA) – to cover accommodation, meals and incidental expenses. ○ This fee is based on a scheduled rate of charge and is dependent on the	☐	☐	☐	

SUBJECT: APPLICATION	RESPONSE BY AERODROME INSPECTOR			
QUESTIONS	YES	NO	N.A.	REMARKS (Include reference to documentation or reason for non-compliance/non-applicability)
AERODROME CERTIFICATION PROCESS				
expected amount of effort for CAA to process the certification				
4. Application				
- Application process will only proceed upon payment of the application fee.	☐	☐	☐	
- Will be processed by CAA Aerodrome Inspector	☐	☐	☐	
- Are to be made on the relevant form	☐	☐	☐	
- Sample can be found in MOS Appendix 3	☐	☐	☐	
5. Making an Application				
- Complete the application form **RERGULATORY FORM A3: AGA-P-2013 (Appendix 3-MOS)** and submit to: Director General CIVIL AVIATION AUTHORITY Old MIA Road Pasay City Metro Manila	☐	☐	☐	
- Include a current copy of the Aerodrome Manual with the application	☐	☐	☐	
- A copy of the final agreed version of the Aerodrome Manual will be retained by CAA for on-going compliance checking purposes	☐	☐	☐	
6. Preparation of Aerodrome Manual				
- AM in accordance with MOS AM outline	☐	☐	☐	
- Operating procedures fully described in the AM and are appropriate and commensurate with the level of aircraft activities	☐	☐	☐	
- Subject to change from time to time	☐	☐	☐	
7. Must provide all Aerodrome data				
- For promulgation in the Aeronautical Information Publication (AIP) when an aerodrome is certified	☐	☐	☐	
- Some of the aerodrome operational information requires detailed measurement and survey in accordance with specified standards	☐	☐	☐	

SUBJECT: APPLICATION	RESPONSE BY AERODROME INSPECTOR			
QUESTIONS	YES	NO	N.A.	REMARKS (Include reference to documentation or reason for non-compliance/non-applicability)
AERODROME CERTIFICATION PROCESS				
8. Aerodrome Facilities and Equipment				
- Must be compliant with the relevant aeronautical safety standards	☐	☐	☐	
9. In assessing an application, CAA will be looking particularly for evidence that:				
- Confirm if the applicant is the owner of the land or has permission from the landowner to operate the site as an aerodrome	☐	☐	☐	
- Application is in accordance with the requirements and signed by an appropriate person	☐	☐	☐	
- Aerodrome manual is in the approved form per CAR-Aerodromes 2.2.070	☐	☐	☐	
- Aerodrome manual includes the details per CAR-Aerodromes 2.2.065	☐	☐	☐	
- the aerodrome movement area conforms to the standards specified in MOS	☐	☐	☐	
- the aerodrome operational information to be promulgated in AIP has been correctly gathered and verified by appropriately qualified person(s)	☐	☐	☐	
- the aerodrome operating procedures show a clear understanding of the responsibilities of the operator and are adequate for the particular aerodrome concerned; and	☐	☐	☐	
- Personnel employed at the aerodrome have the appropriate skill, experience and training.	☐	☐	☐	
10. Meeting with the Aerodrome Operator				
- Discuss the certification process and deadlines	☐	☐	☐	
- Provide the certification toolkit with self-assessment checklist	☐	☐	☐	
11. Technical Inspection of the Aerodrome				
- Technical inspection will only proceed upon payment of the Initial Certification Fee.	☐	☐	☐	
- CAA will notify the aerodrome operator regarding the schedule of the Technical Inspection activities, times and dates.	☐	☐	☐	

SUBJECT: APPLICATION	RESPONSE BY AERODROME INSPECTOR			
QUESTIONS	YES	NO	N.A.	REMARKS (Include reference to documentation or reason for non-compliance/non-applicability)
AERODROME CERTIFICATION PROCESS				
- Confirmation from the aerodrome operator is necessary	☐	☐	☐	
12. Technical Inspection Report				
- Result of the inspection will be provided not later than 30 working days after the conduct of Technical Inspection	☐	☐	☐	
II. AERODROME MANUAL REVIEW & ACCEPTANCE				
13. Analysis of the aerodrome manual and acceptance				
- Inspection team will review the procedures set out in the aerodrome manual	☐	☐	☐	
- For the manual to be acceptable, it must comply with CAR-Aerodromes 2.2.065	☐	☐	☐	
- Operational staff and competencies will also be reviewed	☐	☐	☐	
- Aerodrome Manual initial acceptance will be done thru RERGULATORY for on-site verification audit	☐	☐	☐	
14. Planning of on-site verification audit				
- CAA/Operator plans the time and date on-site verification audit and preparation	☐	☐	☐	
- Notification and confirmation is necessary	☐	☐	☐	
III. ON-SITE VERIFICATION				
15. On-site verification will only proceed upon payment of the certification fee	☐	☐	☐	
16. Conduct of on-site verification				
- Technical inspection team will determine if the aerodrome manual procedures make satisfactory for the safety of the aircraft in accordance with CAR-Aerodromes 2.2.015	☐	☐	☐	
- Determine if the operator can properly operate and maintain the aerodrome in accordance with CAR-Aerodromes 2.2.015 such as level of resources, qualification and competence of personnel	☐	☐	☐	

- Aerodrome facilities and equipment are in accordance with the MOS as required by CAR-Aerodromes 2.2.015	☐	☐	☐	
SUBJECT: APPLICATION	**RESPONSE BY AERODROME INSPECTOR**			
QUESTIONS	**YES**	**NO**	**N.A.**	**REMARKS (Include reference to documentation or reason for non-compliance/non-applicability)**
AERODROME CERTIFICATION PROCESS				
- Operator has implemented an acceptable Safety Management System (SMS) for the aerodrome	☐	☐	☐	
17. On-site verification Report				
- Operator will be provided with the result of the on-site verification	☐	☐	☐	
18. Corrective Action Plan/s (CAPs)				
- A CAPs will be submitted by the aerodrome operator	☐	☐	☐	
- CAA will analyze the submitted CAPs	☐	☐	☐	
- Finalized aerodrome manual as appropriate for final acceptance by CAA.	☐	☐	☐	
- Once accepted, inclusion of aerodrome manual in Aerodrome Manual Registry.	☐	☐	☐	
IV. ISSUANCE OF AERODROME CERTIFICATE				
19. Granting of Interim (Temporary) Aerodrome Certificate				
- If the application is accepted:				
○ The Assigned Aerodrome Inspector (AAI) shall forward to the Head RERGULATORY the completed Aerodrome Certificate Issue Checksheet for confirmation of acceptance	☐	☐	☐	
○ The Head RERGULATORY shall review the Aerodrome Certificate Issue Checksheet and if satisfied: ▪ Recommend approval of the application to the DG	☐	☐	☐	
○ The original Interim (Temporary) Aerodrome Certificate will be forwarded to the operator with the standard approval letter.	☐	☐	☐	
○ The aerodrome is subject for surveillance/inspection audit at least 1 month prior to expiration (submission of CAPs is required)	☐	☐	☐	
- If the application is unacceptable:				

○ CAA will advise the applicant of all the shortcomings including any additional steps that needs to be taken prior to the issuance of	☐	☐	☐	

SUBJECT: APPLICATION	RESPONSE BY AERODROME INSPECTOR			
QUESTIONS	**YES**	**NO**	**N.A.**	**REMARKS (Include reference to documentation or reason for non-compliance/non-applicability)**
AERODROME CERTIFICATION PROCESS				
certificate, and allocate another processing period				
○ Alternatively, CAA may refuse the application and prepare a letter for Refusal to Grant an Aerodrome Certificate	☐	☐	☐	
20. Granting of Permanent Aerodrome Certificate				
- Once the application is approved, the AAI will raise the NOTAM advising all aerodrome particulars to be included in the Aeronautical Information Publication (AIP)	☐	☐	☐	
- The original Aerodrome Certificate will be forwarded to the operator with the standard approval letter.	☐	☐	☐	
- The certified aerodrome is subject for mandatory surveillance/inspection at least once a year from date of approval of permanent aerodrome certificate	☐	☐	☐	
V. SURVEILLANCE				
21. Interim (Temporary) Aerodrome Certificate				
- Technical Inspection Team will conduct the surveillance/inspection within 6 months after the issuance of temporary aerodrome certificate and 1 month prior to the expiration of the certificate to determine progress on all CAPs and to assess whether the Aerodrome Operator maybe granted a permanent Aerodrome Certificate	☐	☐	☐	

- Increased oversight of the operator is necessary when an aerodrome's corrective action plan does not ensure that appropriate corrective action has been taken within acceptable timelines, and after coordination with the operator. The scope of increased oversight may cover specific subjects or be all-encompassing.	☐	☐	☐	
- The operator will be notified in writing: o That it is being placed under increased oversight and outline the	☐	☐	☐	
SUBJECT: APPLICATION	**RESPONSE BY AERODROME INSPECTOR**			
QUESTIONS	**YES**	**NO**	**N.A.**	**REMARKS (Include reference to documentation or reason for non-compliance/non-applicability)**
AERODROME CERTIFICATION PROCESS				
subjects concerned and from which date; o the reasons for the increased oversight and what it consists of; and o what actions are required by the aerodrome.				
- The oversight actions carried out under increased oversight are the same as those carried out normally, but are more exhaustive and address all the subjects concerned.	☐	☐	☐	
- When increased oversight is concluded on an aerodrome for a specific subject, AAI shall advise the aerodrome operator in writing, stating the end of the procedure and the reason.	☐	☐	☐	
- The aerodrome certificate can be amended, suspended or revoked according to the outcome of the increased oversight.	☐	☐	☐	
22. Permanent Aerodrome Certificate				
- Technical Inspection Team will conduct the surveillance/inspection at least once a year from the date of approval of permanent aerodrome certificate	☐	☐	☐	

NOTE:

Existing Aerodrome Operator Certificate (AOC) Holders will need to go through a new certification process. Previous regulatory requirements did not conform to ICAO Annex 14 standards and recommended practices and so CAA

cannot have any assurance that previously issued certificates indicate compliance with current mandatory safety requirements.

Appendix C.2 Aerodrome Certification Application Checklist (Form AGA-002- ACAC)

AERODROME CERTIFICATION APPLICATION CHECKLIST

Aerodrome name: .....

To be completed by Applicant: Tick each box to indicate satisfactory completion and submission to CAA/RERGULATORY. Note the date for each item completed.

N0.	PARTICULARS		DD/MM/YY
1	Expression of Interest (Letter of Intent with justification or cogent reasons)	☐	
2	Filled-up aerodrome application form (MOS Appendix 3- Application for an Aerodrome Certificate)	☐	
3	Flight Operations Assessment (for new and existing airports) The flight operations assessment should take into consideration the proximity of the aerodrome to other aerodromes and landing sites, including military aerodromes; obstacles and terrain; any excessive operational restriction requirements; any existing restrictions and controlled airspace; and any existing instrument procedures. Assessments may include an aeronautical study if there is a deviation from a standard or a practice (refer to part 7 of this Manual)	☐	
4	Clearance from other government entities as appropriate: c) Commissioned by the applicant (e.g. environmental impact study); and/or d) required by local and national regulations .	☐	
5	Aerodrome Manual in accordance with MOS Appendix 1- Schedule of particulars to be included in an Aerodrome Manual, to include other referred manuals such as RFFS, AEP, SMS, etc.	☐	

Acknowledgment receipt:

• Application Form	☐	
• CAR-Aerodromes	☐	
• Manual of Standards for Aerodromes (MOS); and	☐	
• Advisory Circular 139-01-A, “An Overview of Aerodrome Regulation”	☐	
• Advisory Circular 139-02-A, “Applying for an Aerodrome Certificate”	☐	
• Other related documents	☐	

Signed:	Date : / /
Name :	(Aerodrome Inspector)

Appendix C.3 Aerodrome Certification Form Checklist (Form AGA-003-ACFC)

SUBJECT: APPLICATION	RESPONSE BY AERODROME INSPECTOR			
QUESTIONS	YES	NO	N.A.	REMARKS (Include reference to documentation or reason for non-compliance/non-applicability)
A. Particulars of the Applicant				
Particulars of the Applicant, including the following:				
1. Full Name:	☐	☐	☐	
2. Address:	☐	☐	☐	
3. Designation:	☐	☐	☐	
4. Postal No.	☐	☐	☐	
5. Contact Number	☐	☐	☐	
6. Fax Number	☐	☐	☐	
7. Email	☐	☐	☐	
B. Particulars of the Aerodrome Site				
8. Aerodrome Name:	☐	☐	☐	
9. Real Property Description; and	☐	☐	☐	
10. Geographical Coordinate of the Aerodrome Reference Point: Latitude and Longitude (in degrees, minutes and tenths of minutes and in WGS-84 format)	☐	☐	☐	
11. Bearing and Distance from Nearest Town or Populous Area	☐	☐	☐	
C. Is the Applicant the Owner of the Aerodrome Site?				
If No, provide: a) Details of Rights Held in Relation to the Site;	☐	☐	☐	
b) Name and address of the owner of the site and written evidence to show that permission has been obtained for the site to be used by the applicant as an aerodrome	☐	☐	☐	
D. Indicate the Largest Type of Aircraft Expected to Use the Aerodrome				
E. Is the Aerodrome to be Used for Regular Public Transport Operations?				
F. Details to be Shown on the Aerodrome License				
12. Aerodrome Name:	☐	☐	☐	
13. Aerodrome Operator:	☐	☐	☐	

Appendix C.4 Aerodrome Certification Manual Format Checklist (Form AGA- 004-ACMFC)

SUBJECT: MANUAL FORMAT		REVIEW BY AERODROME INSPECTOR/S	
QUESTIONS		**STATUS**	**REMARKS** (Include reference to documentation or reason for non-compliance/non-applicability)
GENERAL			
The Aerodrome Manual shall:			
1. Be typewritten or printed,			
2. Signed by the Aerodrome Operator;			
3. Be in a format that is easy to revise;	• TOC		
	• page by parts		
4. Have a system for recording the currency of pages and amendments thereto, including:	• amendments or revision page		
	• list of effective pages		
	• amendments procedures		
5. Be organized in a manner that will facilitate the preparation, review and acceptance/ approval process.	• Foreword		
	• distribution list		
	• Divided by Parts 1-5		
	• font style and size, color, clarity of figures, charts, diagrams		
	• provision of sub-manuals		
	• appendices/attachments		
Information to be included in the Aerodrome Manual[1]			
6. General information on the purpose and scope of the Aerodrome Manual;			
7. Particulars of the aerodrome site;			
8. Particulars of the aerodrome required to be reported to AIS including its accuracy			
9. Adequacy and competency of operation and maintenance staff, arrangements and provisions for their training;			

10. The aerodrome operating procedures and safety measures. This may include references to air traffic procedures such as those relevant to low visibility operation and programme for carrying out special inspections following an accident/incident at the aerodrome as well as after any construction/maintenance activity; and		
11. Details of the aerodrome administration and the safety management system (SMS).		

[1] Refer to Appendix C.5 (Form AGA-ACMC-004) for complete details on contents of aerodrome manual.

PERCENTAGE OF COMPLETENESS:

LEGEND	DESCRIPTION	NO. OF QUESTIONS	PERCENTAGE
	Complete	14	73.68 %
	Incomplete	1	5.26 %
	None	4	21.05 %
	Not Applicable	0	0
	TOTAL	19	100 %

Appendix C.5 Aerodrome Certification Manual Contents Checklist (Form AGA-005-ACMCC)

SUBJECT: MANUAL FORMAT	REVIEW BY AERODROME INSPECTOR/S	
QUESTIONS	STATUS	REMARKS (Include reference to documentation or reason for non-compliance/non-applicability)
PART 1: GENERAL		
General information, including the following::		
1. purpose and scope of the aerodrome manual;		
2. legal requirement for an aerodrome certificate and an aerodrome manual as prescribed in the national regulations		
3. condition of use indicates that the aerodrome shall at all times, when it is available for the take-off and landing of aircraft, be so available to all persons on equal terms and conditions		
4. availability of aeronautical information system and procedures for its promulgation		
5. system for recording aircraft movements; and		
6. obligations of the aerodrome operator		
PART 2: PARTICULARS OF THE AERODROME SITE		
General information, including the following::		
7. a plan of the aerodrome showing the main aerodrome facilities for the operation of the aerodrome including, particularly, the location of each wind direction indicator;		
8. plan of the aerodrome showing the aerodrome boundaries;		
9. plan showing the distance of the aerodrome from the nearest city, town or other populous area, and the location of any aerodrome facilities and equipment outside the boundaries of the aerodrome; and		
10. particulars of the land titles of the aerodrome site. If the boundaries of the aerodrome are not defined in the title documents particulars of the title to, or interest in, the property on which the aerodrome is located and a plan showing the boundaries and position of the aerodrome..		
PART 3:PARTICULARS OF THE AERODROME REQUIRED TO BE REPORTED TO THE AERONAUTICAL INFORMATION SERVICE (AIS)		
3.1 GENERAL INFORMATION		
11. The name of the aerodrome;		
12. The location of the aerodrome;		
13. the geographical coordinates of the aerodrome reference point determined in terms of the World Geodetic System — 1984 (WGS-84) reference datum		
14. the aerodrome elevation and geoid undulation		
15. the elevation of each threshold and geoid undulation, the elevation of the runway end and any significant high and low points along the runway, and the highest elevation of the touchdown zone of a precision approach runway;		
16. the aerodrome reference temperature;		
17. details of the aerodrome beacon; and		
18. the name of the aerodrome operator and the address and telephone numbers at which the aerodrome operator may be contacted at all times.		
3.2 AERODROME DIMENSIONS AND RELATED INFORMATION		
19. runway — • true bearing,		

• designation number, • length, width, displaced threshold location, slope, surface type, type of runway and, for a precision approach runway, the existence of an obstacle free zone		
20. length, width and surface type of runway strip, runway end safety areas, stopways		
21. length, width and surface type of taxiways		
22. apron surface type and aircraft stands		
23. clearway length and ground profile		
24. visual aids for approach procedures, viz. approach lighting type and visual approach slope indicator system (PAPI/APAPI and T-VASIS/AT-VASIS); marking and lighting of runways, taxiways, and aprons; other visual guidance and control aids on taxiways (including runway holding positions, intermediate holding positions and stop bars) and aprons, location and type of visual docking guidance system; availability of standby power for lighting;		
25. the location and radio frequency of VOR aerodrome checkpoints		
26. the location and designation of standard taxi routes		
27. the geographical coordinates of each threshold		
28. the geographical coordinates of appropriate taxiway centre line points		
29. the geographical coordinates of each aircraft stand		
30. the geographical coordinates and the top elevation of significant obstacles in the approach and take-off areas, in the circling area and in the vicinity of the aerodrome. (This information may best be shown in the form of charts such as those required for the preparation of aeronautical information publications, as specified in Annexes 4 and 15 to the Convention);		
31. pavement surface type and bearing strength using the Aircraft Classification Number — Pavement Classification Number (ACN-PCN) method		
32. one or more pre-flight altimeter check locations established on an apron and their elevation;		
33. declared distances: take-off run available (TORA), take-off distance available (TODA), accelerate-stop distance available (ASDA), landing distance available (LDA);		
34. disabled aircraft removal plan: the telephone/telex/ facsimile numbers and e-mail address of the aerodrome coordinator for the removal of a disabled aircraft on or adjacent to the movement area, information on the capability to remove a disabled aircraft, expressed in terms of the largest type of aircraft which the aerodrome is equipped to remove; and		
35. rescue and fire-fighting: the level of protection provided, expressed in terms of the category of the rescue and fire-fighting services, which should be in accordance with the longest aeroplane normally using the aerodrome and the type and amounts of extinguishing agents normally available at the aerodrome.		
PART 4: PARTICULARS OF THE AERODROME OPERATING PROCEDURES AND SAFETY MEASURES		
4.1 AERODROME REPORTING		
Particulars of the procedures for reporting any changes to the aerodrome information set out in the AIP and procedures for requesting the issue of NOTAMs, including the following		
36. arrangements for reporting any changes to the CAA and recording the reporting of changes during and outside the normal hours of aerodrome operations;		
37. the names and roles of person responsible for notifying the changes, and their telephone numbers during and outside the normal hours of aerodrome operations; and		
38. the address and telephone numbers, as provided by the CAA, of the place where changes are to be reported to the CAA		

4.2 ACCESS TO THE AERODROME MOVEMENT AREA		
Particulars of the procedures that have been developed and are to be followed in coordination with the agency responsible for preventing unlawful interference in civil aviation at the aerodrome and for preventing unauthorized entry of persons, vehicles, equipment, animals or other things into the *movement area*, including the following:		
39. the role of the aerodrome operator, the aircraft operator, aerodrome fixed-base operators, the aerodrome security entity, the CAA and other government departments, as applicable; and	■	
40. the names and roles of the personnel responsible for controlling access to the aerodrome, and the telephone numbers for contacting them during and after working hours.	■	
4.3 AERODROME EMERGENCY PLAN		
Particulars of the aerodrome emergency plan, including the following:		
41. plans for dealing with emergencies occurring at the aerodrome or in its vicinity, including the malfunction of aircraft in flight; structural fires; sabotage, including bomb threats (aircraft or structure); unlawful seizure of aircraft; and incidents on the airport covering "during the emergency" and "after the emergency" considerations	■	
42. details of tests for aerodrome facilities and equipment to be used in emergencies, including the frequency of those tests	■	
43. details of exercises to test emergency plans, including the frequency of those exercises	■	
44. a list of organizations, agencies and persons of authority, both on- and off-airport, for site roles; their telephone and facsimile numbers, e-mail and SITA addresses and the radio frequencies of their offices;	■	
45. the establishment of an aerodrome emergency committee to organize training and other preparations for dealing with emergencies; and	■	
46. the appointment of an on-scene commander for the overall emergency operation.	■	
4.4 RESCUE AND FIRE-FIGHTING		
Particulars of the:		
47. facilities and equipment;		
48. personnel (e.g. competency and training)		
49. procedures for meeting the rescue and fire-fighting requirements; and	■	
50. including the names and roles of the persons responsible for dealing with the rescue and fire-fighting services at the aerodrome	■	
4.5 INSPECTION OF THE AERODROME MOVEMENT AREA AND OBSTACLE LIMITATION SURFACE BY THE AERODROME OPERATOR		
Particulars of the procedures for the inspection of the aerodrome movement area and obstacle limitation surfaces, including the following		
51. runway friction and water-depth measurements on runways and taxiways, during and outside the normal hours of aerodrome operations	■	
52. arrangements and means of communicating with air traffic control during an inspection	■	
53. arrangements for keeping an inspection logbook, and the location of the logbook	■	
54. details of inspection intervals and times;	■	
55. inspection checklist;	■	
56. arrangements for reporting the results of inspections and for taking prompt follow-up actions to ensure correction of unsafe conditions; and	■	
57. the names and roles of persons responsible for carrying out inspections, and their telephone numbers during and after working hours.	■	

4.6 VISUAL AIDS AND AERODROME ELECTRICAL SYSTEMS		
Particulars of the procedures for the inspection and maintenance of aeronautical lights (including obstacle lighting), signs, markers and aerodrome electrical systems, including the following:		
58. arrangements for carrying out inspections during and outside the normal hours of aerodrome operation, and the checklist for such inspections		
59. arrangements for recording the result of inspections and for taking follow-up action to correct deficiencies;		
60. arrangements for carrying out routine maintenance and emergency maintenance;		
61. arrangements for secondary power supplies, if any, and, if applicable, the particulars of any other method of dealing with partial or total system failure; and		
62. the names and roles of the persons responsible for the inspection and maintenance of the lighting, and the telephone numbers for contacting those persons during and after working hours		
4.7 MAINTENANCE OF THE MOVEMENT AREA		
Particulars of the facilities and procedures for the maintenance of the movement area, including:		
63. arrangements for maintaining the paved areas;		
64. arrangements for maintaining the unpaved runways and taxiways		
65. arrangements for maintaining the runway and taxiway strips; and		
66. arrangements for the maintenance of aerodrome drainage.		
4.8 AERODROME WORKS — SAFETY		
Particulars of the procedures for planning and carrying out construction and maintenance work safely (including work that may have to be carried out at short notice) on or in the vicinity of the movement area which may extend above an obstacle limitation surface, including the following:		
67. arrangements for communicating with air traffic control during the progress of such work;		
68. the names, telephone numbers and roles of the persons and organizations responsible for planning and carrying out the work, and arrangements for contacting those persons and organizations at all times;		
69. working hours, of the aerodrome fixed-base operators, ground handling agents and aircraft operators who are to be notified of the work;		
70. a distribution list for work plans, if required.		
4.9 APRON MANAGEMENT		
Particulars of the apron management procedures, including the following:		
71. arrangements between air traffic control and the apron management unit;		
72. arrangements for allocating aircraft parking positions;		
73. arrangements for initiating engine start and ensuring clearance of aircraft push-back;		
74. marshalling service; and		
75. leader (van) service.		
4.10 APRON SAFETY MANAGEMENT		
76. Procedures to ensure apron safety, including:		
77. protection from jet blasts;		
78. enforcement of safety precautions		
79. apron sweeping;		
80. apron cleaning;		
81. arrangements for reporting incidents and accidents on an apron; and		

82. arrangements for auditing the safety compliance of all personnel working on the apron.	🟥	
4.11 AIRSIDE VEHICLE CONTROL		
Particulars of the procedure for the control of surface vehicles operating on or in the vicinity of the movement area, including the following:		
83. details of the applicable traffic rules (including speed limits and the means of enforcing the rules); and	🟩	
84. the method of issuing driving permits for operating vehicles in the movement area.	🟩	
4.12 WILDLIFE HAZARD MANAGEMENT		
Particulars of the procedures to deal with the danger posed to aircraft operations by the presence of birds or mammals in the aerodrome flight pattern or movement area, including the following:		
85. arrangements for assessing wildlife hazards	🟩	
86. arrangements for implementing wildlife control programmes; and	🟨	
87. the names and roles of the persons responsible for dealing with wildlife hazards, and their telephone numbers during and after working hours.	🟩	
4.13 OBSTACLE CONTROL		
Particulars setting out the procedures for:		
88. monitoring the obstacle limitation surfaces and Type A Chart for obstacles in the take-off surface;	🟩	
89. controlling obstacles within the authority of the operator;	🟩	
90. monitoring the height of buildings or structures within the boundaries of the obstacle limitation surfaces	🟩	
91. controlling new developments in the vicinity of aerodromes; and	🟩	
92. notifying the CAA of the nature and location of obstacles and any subsequent addition or removal of obstacles for action as necessary, including amendment of the AIS publications.	🟩	
4.14 REMOVAL OF DISABLED AIRCRAFT		
Particulars of the procedures for removing a disabled aircraft on or adjacent to the movement area, including the following:		
93. the roles of the aerodrome operator and the holder of the aircraft certificate of registration;	🟩	
94. arrangements for notifying the holder of the certificate of registration;	🟥	
95. arrangements for liaising with the air traffic control unit;	🟥	
96. arrangements for obtaining equipment and personnel to remove the disabled aircraft; and	🟥	
97. the names, role and telephone numbers of persons responsible for arranging for the removal of disabled aircraft	🟨	
4.15 HANDLING OF HAZARDOUS MATERIALS		
Particulars of the procedures for the safe handling and storage of hazardous materials on the aerodrome, including the following:		
98. arrangements for special areas on the aerodrome to be set up for the storage of inflammable liquids (including aviation fuels) and any other hazardous materials; and	🟩	
99. the method to be followed for the delivery, storage, dispensing and handling of hazardous materials.	🟩	
4.16 LOW-VISIBILITY OPERATIONS		
Particulars of procedures to be introduced for low-visibility operations, including:		
100. the measurement and reporting of runway visual range as and when required; and	🟦	
101. the names and telephone numbers, during and after working hours, of the persons responsible for measuring the runway visual range.	🟦	

4.17 PROTECTION OF SITES FOR RADAR AND NAVIGATIONAL AIDS		
Particulars of the procedures for the protection of sites for radar and radio navigational aids located on the aerodrome to ensure that their performance will not be degraded, including the following:		
102. arrangements for the control of activities in the vicinity of radar and navaids installations;	■	
103. arrangements for ground maintenance in the vicinity of these installations; and	■	
104. arrangements for the supply and installation of signs warning of hazardous microwave radiation.	■	
PART 5 AERODROME ADMINISTRATION AND SAFETY MANAGEMENT SYSTEM		
AERODROME ADMINISTRATION		
Particulars of the aerodrome administration, including the following:		
105. an aerodrome organizational chart showing the names and positions of key personnel, including their responsibilities	■	
106. the name, position and telephone number of the person who has overall responsibility for aerodrome safety; and	■	
107. airport committees	■	
SAFETY MANAGEMENT SYSTEM (SMS)		
Particulars of the safety management system established for ensuring compliance with all safety requirements and achieving continuous improvement in safety performance, the essential features being:		
108. the safety policy, insofar as applicable, on the safety management process and its relation to the operational and maintenance process;	☐	
109. the structure or organization of the SMS, including staffing and the assignment of individual and group responsibilities for safety issues;	☐	
110. SMS strategy and planning, such as setting safety performance targets, allocating priorities for implementing safety initiatives and providing a framework for controlling the risks to as low a level as is reasonably practicable keeping always in view the requirements of the Standards and Recommended Practices in Volume I of Annex 14 to the Convention on International Civil Aviation, and the national regulations, standards, rules or orders;	☐	

111. SMS implementation, including facilities, methods and procedures for the effective communication of safety messages and the enforcement of safety requirements;	☐	
112. a system for the implementation of, and action on, critical safety areas which require a higher level of safety management integrity (safety measures programme);	☐	
113. measures for safety promotion and accident prevention and a system for risk control involving analysis and handling of accidents, incidents, complaints, defects, faults, discrepancies and failures, and continuing safety monitoring;	☐	
114. the internal safety audit and review system detailing the systems and programmes for quality control of safety;	☐	
115. the system for documenting all safety-related airport facilities as well as airport operational and maintenance records, including information on the design and construction of aircraft pavements and aerodrome lighting. The system should enable easy retrieval of records including charts;	☐	
116. and evaluation of the adequacy of training provided to staff on safety-related duties and of the certification system for testing their competency; and	☐	
117. the incorporation and enforcement of safety-related clauses in the contracts for construction work at the aerodrome	☐	

PERCENTAGE OF COMPLETENESS: (SAMPLE ONLY)

Aerodrome Manual Content	No. of Questions	FINDINGS			
		Complete	Incomplete	N/A	None
Part 1 - General Information	6	6			
Part 2 - Aerodrome Site Information	4	4			
Part 3 - AIS Information					
3.1 GENERAL INFORMATION	8	6			2
3.2 AERODROME DIMENSIONS AND RELATED INFORMATION	17	14	1		2
Part 4 - Aerodrome Operating Procedures					
Section 1 Aerodrome Reporting	3	2			1
Section 2 Access to Aerodrome movement area	2	2			
Section 3 Aerodrome Emergency Plan	6	4			2
Section 4 RFFS	4	4			
Section 5 Aerodrome Inspection by the aerodrome operator	7	6			1
Section 6 Visual Aids, Electrical systems and Lighting	5	2	3		
Section 7 Movement Area Maintenance	4	1		1	2
Section 8 Aerodrome Works Safety	4	3			1
Section 9 Aircraft Parking Control	5	4		1	
Section 10 Apron Safety management	7	4	1		2
Section 11 Airside Vehicle Control	2	2			
Section 12 Wildlife Hazard Management	3	2		1	
Section 13 Obstacle Control	5	5			
Section 14 Disabled Aircraft Removal	5	1	1		3
Section 15 Handling of Hazardous Materials	2	2			
Section 16 Low Visibility Operations	2			2	
Section 17 Protection of Radar And Navigation Aids	3	2			1
Part 5 - Aerodrome Administration					
Aerodrome administration	3	2			1
SAFETY MANAGEMENT SYSTEM (SMS)	10				10
TOTAL	**117**	**78**	**6**	**5**	**28**

SUMMARY:

LEGEND	DESCRIPTION	NO. OF QUESTIONS	PERCENTAGE
	Complete	78	66.67%
	Incomplete	6	5.13%
	None	5	4.27%
	Not Applicable	28	23.93%
	TOTAL	**117**	**100.00%**

Appendix C.6 Reserved

APPENDIX D: ITEMS PERTAINING TO AERONAUTICAL STUDY

Appendix D.1 Checklist for Aeronautical Study

Checklist for Aeronautical Study	Yes	No	Remarks
1. Aim of the study including (a) Address safety concerns, (b) Identify safety measures, and (c) Make reference to specific SARP to MOS;	□	□	
2. Consultation with stakeholders, senior management team and divisions/ departments affected;	□	□	
3. The study is approved by a senior executive of the organization;	□	□	
4. Background Information on the current situation;	□	□	
5. Proposed date for complying with the SARPs, if the deviation is due to development of the aerodrome;	□	□	
6. Safety assessment including identification of hazards and consequences and risk management;	□	□	
7. The safety assessment used in the study (E.g. hazard log, risk probability and severity, risk assessment matrix, risk tolerability and risk control/mitigation);	□	□	
8. Recommendations (including operating procedures/ restrictions or other measures to address safety concern) of the aeronautical study and how the proposed deviation will not pose a drop in the level of safety;	□	□	
9. Estimation of the effectiveness of each recommendation listed in the aeronautical study;	□	□	
10. Notification procedure including process flow, time frame and the publication used to promulgate the deviation;	□	□	
11. Conclusion of the study;	□	□	
12. Monitoring of the deviation; and	□	□	
13. Notification to CAA once the temporary deviation has been corrected.	□	□	