



ICAO

The Third Meeting of the Asia/Pacific Aerodrome Assistance Working Group (AP-AA/WG/3)

Video Teleconference, 23 to 26 March 2021

Agenda Item 7: AP-AA/WG Task List

**GENERIC ORGANIZATION STRUCTURE OF THE
AERODROME REGULATORY UNIT**

(Presented by Malaysia)

SUMMARY

This Working Paper presents a generic organization structure of the aerodrome regulatory unit for the consideration by AP-AA/WG.

1. INTRODUCTION

1.1 This Working Paper presents a generic organization structure of the aerodrome regulatory unit for the consideration by AP-AA/WG.

2. DISCUSSION

2.1 With reference to AP-AA/WG Task 1/3 (b), Malaysia presents a generic organization structure of the aerodrome regulatory unit which was modified from an existing manual used in Malaysia.

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

3. ACTION BY THE MEETING

3.1 The Meeting is invited to review and amend the generic organization structure of the aerodrome regulatory unit as appropriate.

CIVIL AVIATION AUTHORITY

**GENERIC
ORGANIZATION
STRUCTURE OF THE
AERODROME
REGULATORY UNIT**

Foreword

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

Copies are available at the office of:

[Post holder]

[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 and heliports. The incumbent official holding this position reports directly to the Director General, [CAA] through senior managerial officers e.g. Deputy Director General, depending on the organizational structure.

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:

Head of Aerodrome Standards

[Office]

[Address]

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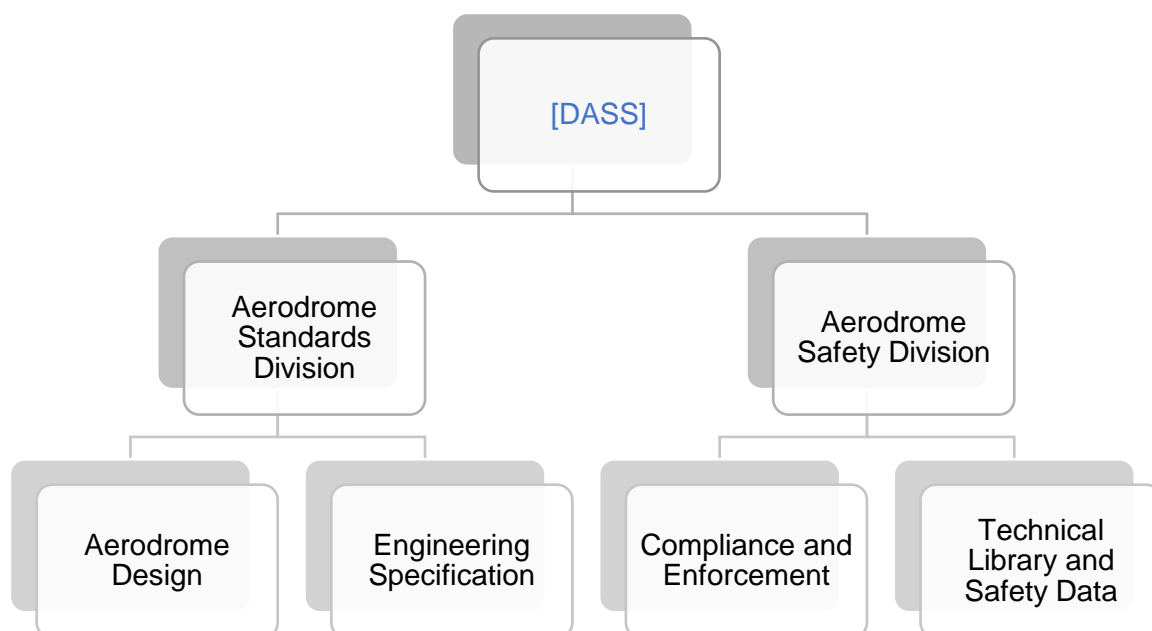
Chapter 1 – Regulatory Authority

1.1 Organization

1.1.1 The primary responsibility of the [CAA] with respect to regulations and operations of aerodromes in [State] is to ensure that:

- a) the aerodromes under the jurisdiction of the Authority offer a safe operational environment in accordance with the Convention on International Civil Aviation; and
- b) the obligation of [State] under Article 38 of the Convention to notify ICAO of differences between its national regulations and practices and the International Standards contained in Annex 14 is met. It is also recommended that differences between the Recommended Practices contained in the Annex 14 and the [State]'s national regulations and practices be notified to ICAO.

1.2 A typical organizational structure of a [DASS] is given below.



1.3 Methodology in determining the number of Inspectors

1.3.1 [DASS] has developed and established the methodology in determining aerodrome inspector needs to carry out all safety oversight related task, including review and revision of regulations, training of technical staff, development of guidance material, issuance of approvals, conducting of surveillance and resolution of identified safety concerns. Basically, the number of inspectors required are derived from the following formula:

$$\frac{[TOTAL\ MAN-DAYS\ REQUIRED\ FOR\ ALL\ RESPONSIBILITIES]}{[TOTAL\ WORKING\ DAYS\ PER\ YEAR]}$$

1.3.2 The details in determining aerodrome inspector needs are as follow:

(Remarks: The following calculation serves as an example only. [CAA] using this generic document should derive the requirement by themselves.)

	OBLIGATIONS	INSP	DAYS	TOTAL
1	Aerodrome Certification	5	100	500
2	Notifications to AIS and other organizations	2	50	100
3	Safety Audit	5	50	250
4	Compliance and enforcement	5	50	250
5	Aerodrome Design	3	50	150
6	Consultation and Investigation	3	50	150
7	Technical Library & Safety Data	2	50	100
8	General Task	3	50	150
Total Man-Days				1650
Total [2020] Calendar Year Working Days			205	/
INSPECTOR REQUIRED				8.05

Note.— e.g. If 1 person completes a task in 1 day, that means the effort is 1 manday. If 5 people complete a task in 1 day, that means 5 mandays. If 5 people complete the task in 2 days that means 10 mandays. E.g.:

- a) **Certification of Aerodrome:**
 - Number of days required : 20 days
 - Number of airports per year : 5 airports
 - Number of personnel required : 5 Inspectors

} Number of Man-Days = 500 MD

- b) **Safety Audit:**
 - Number of days required : 10 days
 - Number of airports per year : 5 airports
 - Number of personnel required : 5 Inspectors

} Number of Man-Days = 250 MD

.....

1.3.3 Depending upon the level of aviation activity, the number of aerodromes and the volume of work, the functions of the sections under each division may be combined and even the functions of the two divisions may be combined.

1.4 Functions and Responsibilities of the [DASS]

1.4.1 General Task

These general tasks and responsibilities include the following:

- a) reviewing ICAO State letters on the subject of aerodromes, preparing responses thereto and taking action thereon;
- b) developing and continuing to review Civil Aviation Regulation for Aerodromes and other national standards and practices for aerodrome design, operation and maintenance, and engineering specifications;

- c) developing and issuing directives, rules, advisory circulars and guidance material relating to aerodrome standards and practices;
- d) reviewing plans and designs for new aerodromes or the further development of, or modification to, existing aerodromes, submitted to the Authority for approval, to ensure that the requirements of the national regulations, standards and the ICAO SARPs are complied with; and
- e) advising the aerodrome inspectors, as required, on aerodrome standards and practices.

1.4.2 Aerodrome certification

These tasks and responsibilities include:

- a) receiving, recording, reviewing and processing, in cooperation with the Flight Operations Division of the [CAA] if necessary, the expressions of interest received from an intending applicant for an aerodrome certificate;
- b) receiving, recording, reviewing and processing, in cooperation with the Flight Operations Division of the [CAA] if necessary, the formal application for an aerodrome certificate, including the initial inspection covering the review of the aerodrome manual, on-site verification, inspection and testing of aerodrome particulars, facilities and equipment, including aeronautical studies;
- c) grant or refusal of an aerodrome certificate;
- d) estimating, recording and collecting the cost of the services from applicants;
- e) receiving, recording, reviewing and processing applications for the transfer of an aerodrome certificate;
- f) grant or refusal of the transfer of an aerodrome certificate;
- g) receiving, recording, reviewing and processing applications for the surrender of an aerodrome certificate;
- h) cancelling or suspending an aerodrome certificate;
- i) grant of an interim aerodrome certificate; and
- j) reviewing the factors requiring the amendment of an aerodrome certificate and issuing the required amendments.

1.4.3 Notifications to Aeronautical Information Services (AIS) and Other Organizations

These tasks and responsibilities include:

- a) notifying AIS of the certification status of an aerodrome and providing the particulars of the aerodrome described in the Aerodrome Manual for promulgation by the AIS;

- b) reviewing any amendments to aerodrome manuals and notifying AIS of the changes to be made in the AIS publications;
- c) coordinating with AIS in the review of any notification received from an aerodrome operator for promulgation by AIS, such as notification of:
 - i) inaccuracies in AIS publications;
 - ii) changes in aerodrome facilities, equipment and level of services planned in advance;
 - iii) obstacles, obstructions and hazards;
 - iv) closure of any part of the manoeuvring area;
 - v) immediate reduction in the level of service at the aerodrome and any other conditions that could affect the safety at or near the aerodrome and warrant precautions to be taken; and
- d) coordinating with other agencies and service providers such as aeronautical information service, air traffic services, designated meteorological authorities, and security.

1.4.4 Safety audits

1.4.4.1 These tasks and responsibilities include:

- a) periodic or special on-site audits of the aerodrome safety management system including verification of the aerodrome, and data published in the AIP and inspection of the aerodrome facilities, equipment and operating procedures; and
- b) review of the aerodrome operator's daily audits and special safety audit reports and actions thereon.

1.4.4.2 Periodic inspections are therefore required to ensure that aerodrome certificate holders meet their obligations under the terms of the certificate and the requirements of the accepted/approved aerodrome manual.

1.4.4.3 The frequency of inspections may correspond to the class of the aerodrome as categorized by the [CAA] but at least [.....] a year for international airport and once in every [.....] years for domestic airport. Other aerodromes will be subject to inspection from time to time as determined by the [CAA].

1.4.4.4 The tasks and responsibilities associated with periodic inspections are described in 1.4.4.2 These tasks may be carried out in the following phases:

- a) *Pre-inspection briefing* with aerodrome management, including coordination with air traffic control tower personnel.
- b) *Administrative inspection* of the aerodrome safety management system, including such items as:
 - i) current NOTAMs;
 - ii) medical and RFF training records;
 - iii) aviation fuel suppliers safety records;
 - iv) fuelling agents certificates and fire safety training records;
 - v) documentation of the annual review of the aerodrome emergency plan, including full-scale emergency exercises; and

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- vi) the aerodrome operator's records of the safety audits of fixed-base operators, ground handling agents and other agencies engaged in airside activities.
- c) *Movement area inspection* including:
- i) the inspection and checking of runways and taxiways in order to ascertain the condition of pavements, markings, lighting, signs, shoulders, strips and runway end safety areas;
 - ii) checking for potentially hazardous conditions if construction work is in progress, such as excavations, trenches, stockpiled material, inadequate construction area markings, construction equipment in the movement area and inadequate marking and lighting of temporary thresholds;
 - iii) checking ground vehicle operations in the movement area to verify that only authorized vehicles have access to the area and that the required procedures are being followed, the vehicles are properly marked and the drivers know and use the proper communication terminology;
 - iv) checking that the public is protected against unauthorized entry to the movement area and against jet or propeller blast;
 - v) checking for wildlife hazards and wildlife attractants; and
 - vi) checking landing direction indicators and wind direction indicators.
- d) *Rescue and fire-fighting* including:
- i) the checking of training records;
 - ii) random testing of the knowledge of firefighters;
 - iii) checking that the equipment is in position, is functional and meets the category requirements;
 - iv) conducting a time response drill;
 - v) checking the alarm system; and
 - vi) checking and examining proximity suits, other protective clothing and fire-fighting and rescue tools and supplies in the inventory.
- e) *Fuel facilities* including the examination of the inspection records by qualified and authorized personnel, particularly checking that the aerodrome fire-fighting standards are adequately covered in the inspection checklist, and spot checking, including fuel sampling, for compliance with the applicable requirements.
- f) *Night inspections* including the evaluation and checking for compliance with the standards related to:
- i) runway, taxiway and apron lighting and signage;
 - ii) pavement markings;
 - iii) aerodrome beacons;

- iv) wind direction indicator lighting;
 - v) obstacle lighting and the marking; and
 - vi) lighting of construction areas.
- g) *Post inspection briefing* with the aerodrome management, including the determination of appropriate enforcement action for non-compliance with the regulations.

1.4.5 Other safety functions

These tasks and responsibilities may include:

- a) evaluation of full-scale airport emergency exercises to identify problems and deficiencies;
- b) the provision of guidance at the design and construction stages of aerodrome projects, particularly complex projects or where there is significant work that may impact compliance with the regulations;
- c) final inspection of completed projects involving complex or significant work to identify problems or deficiencies that need to be corrected in order to comply with the requirements of the regulations;
- d) the organization of, and participation in, aerodrome safety seminars and other training programmes to promote a safety culture.

1.4.6 Compliance and enforcement

1.4.6.1 It is the responsibility of aerodrome operators to comply with the requirements of the aerodrome certification regulations. Aviation safety at aerodromes depends primarily on voluntary adherence to these requirements by the aerodrome operators. Promoting compliance with the regulations through education, training and counselling is therefore of primary importance, and only when these efforts have failed should formal enforcement action be taken. Sanctions can be administrative or legal depending on the severity of the violation of the regulations and its impact on aviation safety. It is recognized that States may have their own policies for enforcement of their regulations.

1.4.6.2 Administrative action in the form of a warning letter or correction letter may be considered appropriate when legal action is deemed unnecessary. Administrative enforcement action is intended to bring the violation to the attention of the aerodrome operator, to document corrective action and to require future compliance. Such actions are warranted when the violation does not result in a significant unsafe condition, is not caused by incompetence or lack of required qualifications on the part of the aerodrome operator, is not deliberately caused, the attitude of the operator is constructive and positive towards compliance with the regulations and there is no history of such a violation by the operator.

1.4.6.3 Formal legal enforcement action may be warranted to prevent future violations of the regulations. Such action may include the issuance of cease-and-desist orders and injunctions and the imposition of sanctions after the act to deter violations. Such sanctions may include revocation, suspension or amendment of the certificate. Legal enforcement actions are pursuant to appropriate statutory provisions in the civil aviation legislation of a State.

- 1.4.6.4 In determining the appropriate type and measure of sanction to be applied, the factors to be considered may include the nature of the violation, whether it was deliberate or inadvertently caused; the potential or actual hazard to aviation safety created by the violation; the aerodrome operator's level of responsibility; records of previous violations; the operator's attitude toward the violation, including whether the operator voluntarily disclosed the violation and whether action was taken to correct it; the impact of the proposed sanction on the violator and its value as a deterrent to other operators in similar situations.
- 1.4.6.5 Certificate-related legal sanctions can have a significant impact on air services and may also have other repercussions. Since the public interest and aviation safety are the principal objectives of aerodrome certification regulations, recourse to the imposition of sanctions may be warranted only after all other means of resolving safety violations have failed to ensure compliance.
- 1.4.6.6 Suspension of an aerodrome certificate may be considered if:
- a) the aerodrome operator's safety management system is found to be inadequate;
 - b) it is in the interest of operational safety;
 - c) all other means for timely correction of the unsafe condition or ensuring safe aircraft operations have not yielded the required results;
 - d) the technical proficiency or qualifications of the aerodrome operator to perform the duties to meet the critical safety requirements in accordance with the regulations are found inadequate;
 - e) the operator resists or is unwilling to take action to correct or mitigate the condition affecting aviation safety; or
 - f) the operator wilfully fails to perform an already agreed upon corrective action and suspension of the certificate is the last resort to avoid unsafe operations in the aerodrome movement area.
- 1.4.6.7 Revocation of an aerodrome certificate may be warranted if the aerodrome operator:
- a) is incapable or unwilling to carry out corrective action or has committed/repeated serious violations;
 - b) has demonstrated a lack of responsibility, such as deliberate and flagrant acts of non-compliance or falsification of records jeopardizing aviation safety; or
 - c) has made it convincingly clear that the continued operation of the aerodrome will be detrimental to the public interest.

1.5 Technical Library and Records.

- 1.5.1 To enable [DASS] personnel to keep abreast of the subject of aerodrome design, specifications, operation and maintenance, it is essential to establish a properly organized and administered technical library. The library should contain all documents issued by ICAO relating to the design, operation and maintenance of aerodrome facilities and equipment, and all national standards, rules, orders, advisory circulars and guidance material. Additionally, the standards and other relevant documentation

issued by other States which are commonly used as reference material, and important textbooks and magazines on the subject should also be kept in the technical library. It is important that the documents in the library be promptly amended to keep them current.

- 1.5.2 [DASS] will need to maintain files for each aerodrome in the State including certified aerodromes. The file for each certified aerodrome should contain records from the expression of interest stage to the issuance or refusal of the certificate, and the file should remain open thereafter for further documentation and correspondence on the subject. Additionally, an aerodrome certificate register should be maintained for each aerodrome as well as a reference log of the date of issue of important letters, forms and certificate numbers.
- 1.5.3 Close liaison should be maintained with the Accident Investigation and Prevention Unit of the State to obtain data on aircraft accidents and incidents at or near aerodromes for use by [DASS] staff in their continuing work.

1.6 Duties And Responsibilities of Aerodrome Inspectors

1.6.1 Qualification

- a) Aerodrome inspectors may be an engineer (civil or electrical) or air traffic controller or AFF personnel with minimum [numbers] years experience in aerodrome planning, operation or maintenance and should possess a sound knowledge of the national legislation, standards and practices, and ICAO Annex 14, all relevant manuals published by ICAO. Airport management experience and knowledge of modern safety management systems are desirable qualifications.
- b) The [CAA] may also consider hiring persons with other qualifications, experience and knowledge suitable for carrying out the duties of aerodrome inspector, subject to any conditions that the [CAA] may have regarding the person's qualifications, experience and knowledge. Such persons may have airport management or flight operations. Training in the appropriate elements of aerodrome engineering relevant to aerodrome inspection should be an essential requirement.
- c) Training in the appropriate fields as specified in Training Programme should be an essential requirement.

1.6.2 Inspector Training

The training objective is to provide the aerodrome inspector with a basic knowledge of aerodrome operations which will enable him/her to administer the regulatory function. Such knowledge may be acquired through a combination of formal training courses and on-the-job training. The minimum training that must be completed prior to issuance of an aerodrome inspectors credential includes all of the following courses offered by any institution recognized by the [CAA]:

- a) ICAO Annex 14 Vol. I Course;
- b) Aerodrome Certification Course;
- c) Safety Management System (SMS) Course; and

- d) On-Job-Training Aerodrome Inspectors Training.

1.6.3 Duties and responsibilities of Director of [DASS]:

Duties and responsibilities of Director of Aerodrome Standards as a Management Position:

- a) to administer the overall activity and functions of the Division;
- b) to adopt the SARPs of ICAO Annexes into [State regulation] as required;
- c) to implement [State regulation] and the ICAO SARPs;
- d) to examine changes in ICAO requirements for incorporation into national requirements, or the filing of appropriate differences;
- e) to verify and ensure the quality of the services provided by the aerodrome operator as per ICAO SARPs and Standards established by ASD;
- f) to review Policy and Procedures, Manuals, Directives, Aerodrome Circulars, Guidance Materials and exemption procedures;
- g) to check and monitor the fitness of movement area, maneuvering area, equipment, fire- fighting facilities, signage, marking and lighting systems;
- h) to monitor the Obstacle Limitation Surface (OLS) at the vicinity of the airport;
- i) to monitor safety management system at the airside area;
- j) to monitor the surveillance programme;
- k) to monitor the implementation of training programme;
- l) to develop and conduct in house training and OJT for the inspectors;
- m) to form an aerodrome certification team to issue, renew, cancel, suspend of aerodrome certificates to aerodrome operators as per regulations;
- n) to detail assignment for the inspectors for different checks, inspection;
- o) to review observations and reporting findings;
- p) to recommend for enforcement against the aerodrome operator if any; and
- q) to perform any other duties assigned by the [CAA].

1.6.4 Duties and Responsibilities of Aerodrome Inspectors

- a) Aerodrome inspectors will report to the Director of Aerodrome Standards, through the appropriate departmental Head and will be responsible for carrying out the functions as described. Adequate on-the-job training should be provided before entrusting the whole spectrum of aerodrome inspection duties to an inspector.

- b) Duties and responsibilities of an aerodrome inspectors are divided into the following disciplines:
- i) Aerodrome Operations Officer;
 - ii) Engineering (Electrical & Civil) Officer;
 - iii) Standards and Policy Officer; and
 - iv) Fire Fighting Rescue Officer.

Aerodrome Operation and Engineering Officer

- c) The duties of Aerodrome Operation and Engineering officer should include but not be limited to:

Verification of the aerodrome data in the Aerodrome Manual including details of:

- i) the location of the aerodrome;
- ii) the name and address of the aerodrome operator;
- iii) the movement area;
- iv) aeronautical ground lighting;
- v) the runway declared distances available;
- vi) ground services;
- vii) notices of special conditions and procedures, if any;
- viii) exemptions; if any
- ix) obstacle limitation chart (If Available);
- x) aerodrome/facility directory; and
- xi) aerodrome layout plan.

On-site verification and audits of aerodrome operating procedures including:

- i) the overall aerodrome safety management system;
- ii) the aerodrome emergency plan and periodic aerodrome emergency exercises;
- iii) inspection and maintenance of aeronautical ground lighting;
- iv) promulgation of changes to published aerodrome information;
- v) the prevention of unauthorized entry to the aerodrome, particularly the movement area and protection of the public against jet or propeller blast;
- vi) the operators daily inspection of the aerodrome;
- vii) the planning and carrying out of aerodrome construction and maintenance work including compliance with construction safety requirements;
- viii) apron management and parking control;
- ix) the control of vehicles operating on or in the vicinity of the movement area;
- x) wildlife hazard management;
- xi) the monitoring of obstacle limitation surfaces and notification;
- xii) the removal of disabled aircraft;
- xiii) the protection of radar and navigational aids;
- xiv) low-visibility operations;
- xv) drivers use proper terminology and possess airside driving permit;
- xvi) vehicles are properly marked; and
- xvii) check traffic and wind direction indicators.

If construction is in progress, check for the following:

- i) adherence to construction safety plan requirements;
- ii) potentially hazardous conditions to the movement area such as excavations, trenches or stockpiled material or presence of FOD's;

- iii) adequate construction area marking and lighting
- iv) marking of temporary runway thresholds;
- v) construction equipment in the movement area; and
- vi) observe ground vehicle operations.

on-site checking and testing of aerodrome facilities and equipment including:

- i) aeronautical ground lighting systems including flight check records;
- ii) standby power;
- iii) the dimensions and surface conditions and strengths of runways, taxiways, stopways, runway end safety areas, runway and taxiway strips, shoulders and aprons;
- iv) landing direction indicators and wind direction indicators, aerodrome markings and markers;
- v) guidance signs and warning signs in the movement area;
- vi) aerodrome maintenance equipment;
- vii) disabled aircraft removal plan;
- viii) wildlife control equipment;
- ix) the presence of obstacles in obstacle limitation surfaces;
- x) runway visual range measuring equipment;
- xi) the presence of dangerous lights; and
- xii) runway surface friction measuring equipment;

Night Inspection

During this phase of the inspection, the Inspector shall:

- i) evaluate runway/taxiway and apron lighting and signage, pavement marking; and
- ii) inspect OLS marking & lighting and construction areas on or adjacent to movement areas for adequate marking and lighting.

Rescue and Firefighting (RFF) Officer

- d) The duties of RFF Inspectors should include but not be limited to:
 - i) check for acceptability of the RFFS curriculum and training records;
 - ii) randomly question fire-fighters in the subject areas to determine validity of the training program and general knowledge of the job;
 - iii) perform a walk-around inspection to determine if the aircraft rescue firefighting equipment is operational and meets the category with the required agents;
 - iv) make a check of RFFS vehicle maintenance records;
 - v) at the RFFS station check the alarm and communication system for serviceability;
 - vi) examine proximity suits, other protective clothing and equipment for condition and availability;
 - vii) check SOP of a RFFS;
 - viii) check of records of live fire drills; and
 - ix) sufficient RFFS personnel are available to operate the required RFFS vehicles.

Standards and Policy Officer

- e) The duties of Standards and Policy Officer should include but not be limited to:
- i) safety assessments and aeronautical studies at aerodromes:

in cooperation with aerodrome operator and other specialists as required, organize safety assessments at aerodromes and conduct aeronautical studies, if and were permitted by the [State regulations], standards and practices.
 - ii) review and update the Audit PQs and inspection checklist;
 - iii) review and update the provisions and requirements on Standards to ensure those provisions and requirements are developed and established in accordance with ICAO SARPs and guideline of Annex 5, 14 & 19 and others related documents;
 - iv) develop Policy and Procedures, Manuals, Directives, Aerodrome Circulars, Guidance Materials and exemption procedures;
 - v) prepare audit or inspection reports; and
 - vi) assist to review and provide comments on draft new or amendment to the related ICAO SARPs.

f) General duties for all inspectors

All other functions relating to the certification/Inspection of aerodromes including:

- i) receiving and processing of expressions of interest and applications for aerodrome certificates;
- ii) evaluating all certification document including aerodrome manual;
- iii) processing requests for the amendment, transfer or surrender of certificates or requests for interim certificates;
- iv) reporting to AIS;
- v) initiating NOTAMs and determining appropriate enforcement action in the event of non-compliance with the regulations;
- vi) ensure proper directives, charts, advisory circulars, and other appropriate information, are available while conducting the inspection; and
- vii) determine the status of follow-up actions in correcting all previously listed deficiencies.
