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**The Fourth Meeting of the Aerodrome Operations Personnel
Competency Small Working Group (AOPC SWG/4)**

Yangon, Myanmar, 10 – 14 February 2020

**Agenda Item 3: Review of Draft Asia/Pacific Regional Guidance (Manual) on Aerodrome
Operations Personnel Competency**

**DRAFT ASIA/PACIFIC REGIONAL GUIDANCE ON
AERODROME OPERATIONS PERSONNEL COMPETENCY**

(Presented by the Secretariat)

SUMMARY

This Paper presents the latest draft of the Asia/Pacific Regional
Guidance on Aerodrome Operations Personnel Competency.

1. INTRODUCTION

1.1 In accordance with the AOPC SWG Work Programme and Task List, the Meeting shall continue to work on the Asia/Pacific Regional Guidance on Aerodrome Operations Personnel Competency.

2. DISCUSSION

2.1 The draft of the Asia/Pacific Regional Guidance on Aerodrome Operations Personnel Competency (Version 0.1) is available in **Attachment A**.

3. ACTION BY THE MEETING

3.1 The Meeting is invited to:

- a) review and update the draft Asia/Pacific Regional Guidance on Aerodrome Operations Personnel Competency; and
- b) discuss any relevant matters as appropriate.

INTERNATIONAL CIVIL AVIATION ORGANIZATION

DRAFT



**ASIA/PACIFIC REGIONAL GUIDANCE ON AERODROME OPERATIONS
PERSONNEL COMPETENCY REQUIREMENTS**

DRAFT Version 0.1, MONTH YEAR

This guidance material was developed by the Asia/Pacific Aerodrome Operations Personnel Competency Small Working Group (AOPC SWG)

Approved by APANPIRG AOP/SG and published by the
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FOREWORD

1. Introduction

1.1 APANPIRG/27 recognised the importance of the aerodrome operations personnel competency requirement for certification of aerodromes, roles and responsibilities of aerodrome operations personnel in terms of safety, efficiency and facilitation for flights, passengers, cargo, and all set of activities required to maintain a valid aerodrome certificate. APANPIRG/27 endorsed the AOP/WG/4 decision to form a Small Working Group comprised of China, Macao China, Japan, Malaysia, Maldives, Singapore and ACI to develop *Guidance on Aerodrome Operations Personnel Competency Requirements* for use as a reference document in Asia Pacific Region.

1.2 The Asia/Pacific Regional Guidance on Aerodrome Operations Personnel Competency Requirements was developed by the AOPC SWG using information derived from Annex 14 Volume I – Aerodrome Design and Operations, Procedures for Air Navigation Services (PANS) — Aerodromes (Doc 9981), Manual on Certification of Aerodromes (Doc 9774) and Airport Services Manual (Doc 9137), Airport Council International’s (ACI) Handbooks

2. Scope and purpose of the document

Scope of the document

2.1 This document provides matrixes for the assessment of the aerodrome operations and technical personnel competency in the following areas and corresponding curriculum of the trainings required for those personnel:

- a) Runway surface conditions assessment and reporting;
- b) Aerodrome movement area maintenance;
- c) Inspection of the movement area;
- d) Work in progress on the airside;
- e) Foreign object debris (FOD);
- f) Wildlife hazard management;
- g) Apron safety;
- h) Runway Safety; and
- i) Aerodrome driver permit scheme and vehicle/equipment safety requirement

2.2 Guidance on competency and training of aerodrome rescue and firefighting personnel is available in Airport Services Manual (Doc 9137) Part 1 – Rescue and Firefighting (Chapter 14 – Training) and Part 8 – Airport Operations Services (Chapter 17, 17.6 – Training). Therefore, this manual excludes the rescue and fire-fighting services from the scope.

Purpose of the document

2.3 The purpose of this document is to provide guidance to:

- a) aerodrome operators in establishing minimum competency requirements for personnel involved in aerodrome operations; and
- b) regulator for assessment of minimum qualification of the aerodrome operations personnel during initial certification and continuous surveillance of aerodrome operators.

2.4 Guidelines provided in this document are in consistency with requirements of ICAO Annexes 14 and 19, PANS-Aerodromes (DOC 9981), Safety Management Manual (Doc 9859), Manual on Certification of Aerodromes (Doc 9774), Airport Services Manual (Doc 9137) and relevant ACI Handbooks.

ACRONYMS AND ABBREVIATIONS

ADP	Airside driver permit
AIA	Accident investigation authority
AIP	Aeronautical information publication
AIS	Aeronautical information service
ANSP	Air navigation services provider
ATS	Air traffic service
AVP	Airside vehicle permit
CAA	Civil aviation authority
FOD	Foreign object debris/damage
GSE	Ground support equipment
LVP	Low visibility procedures
NAVAID	Aid to air navigation
OLS	Obstacle limitation surfaces
PAPI	Precision approach path indicator
RFF	Rescue and fire fighting
RST	Runway safety team
RTF	Radiotelephony
SARPs	Standards and Recommended Practices
SMS	Safety management system
WGS-84	World Geodetic System — 1984
WHMP	Wildlife hazard management programme
WIP	Work in progress

PART I AERODROME OPERATIONAL MANAGEMENT

Chapter 1 DEFINITIONS

1.1 Definitions can be found in following documents:

- a) Annex 14, Volume I – Aerodrome Design and Operations; and
- b) Procedures for Air Navigation Services (PANS) — Aerodromes (Doc 9981).

Chapter 2 FUNCTIONS AND RESPONSIBILITIES OF THE AERODROME MANAGEMENT, OPERATIONS AND TECHNICAL PERSONNEL

2.1 Functions and responsibilities of the aerodrome management, operations and technical personnel can be found in following documents:

- a) PANS-Aerodromes (Doc 9981);
- b) Manual on Certification of Aerodromes (Doc 9974);
- c) Airport Services Manual (Doc 9137), Part 8 – Airport Operational Services [Chapter 2 – The Functional Responsibilities of the Airport Technical Departments]; and
- d) Aerodrome Manual of the respective aerodrome.

Chapter 3 AERODROME OPERATIONS PERSONNEL

3.1 In this document, aerodrome operations personnel are categorised into four levels of seniority in the organizational hierarchy. However, it depends on size and complexity of operations at particular aerodrome. At smaller aerodrome, there may be only one or two categories/hierarchy of aerodrome personnel.

- a) Accountable Executive;
- b) Head of Aerodrome Operation/Maintenance;
- c) Manager/Supervisor; and
- d) Officer/Technician.

PART II TRAINING AND COMPETENCY OF AERODROME OPERATIONS PERSONNEL

Chapter 1 TRAINING

GENERAL

1.1. The activities conducted by an aerodrome operator require the appropriate competencies and training of personnel, in order to carry out their assigned tasks.

1.2. Trainings are generally conducted by the individual's employer according to national employment regulations, but may also be conducted by the aerodrome operator or other third parties.

1.3. This chapter provides the general obligations related to training programmes and competency checks for all personnel carrying out the procedures detailed in aerodrome manual.

Note.— Training for other activities, not contained in this document, may be carried out depending on the needs identified by the aerodrome operator.

1.4. Additional material related to training procedures, including more detailed programmes or requirements, can be found in other document related to activity-specific training manual.

Note 1.— General principles and procedures on training can be found in the Procedures for Air Navigation Services — Training (PANS-TRG, Doc 9868), Part I.

OBJECTIVES

1.5. Aerodrome operators shall ensure that training programmes are developed and implemented for personnel involved in aerodrome operations.

1.6. The training programmes shall include procedures for the verification of personnel knowledge and for the practical application thereof, at adequate intervals.

OPERATIONAL PRACTICES

1.7. Aerodrome operators shall be responsible for ensuring their staff are adequately trained for each task they are required to carry out. The details of the training will vary depending on the person's experience and background and the complexity of the required task.

1.8. Training objectives should be identified. Based on these objectives, the training programme should include content and frequency for each technical subject, as well as a method to track the progress of the required training and the maintenance of training records.

- 1.9. A training programme should include:
- a) theoretical training;
 - b) practical or on-the-job training;
 - c) testing of understanding; and
 - d) demonstrating competence or recurrent theoretical and/or practical training.

Note 1.— Provisions on demonstrating competence are in Chapter 2.

Note 2.— Demonstration of continued competence is an alternative to recurrent training.

Note 3.— Chapter 3 provides guidance on the structure of a training programme.

1.10. Refresher training, including theoretical and practical aspects, may be provided after a long term absence to ensure that such personnel is kept abreast of the most recent material, developments and practices.

Chapter 2 DEMONSTRATING COMPETENCE

2.1 In order to demonstrate competence in a specific task, personnel shall demonstrate that the theory, practical training and local knowledge can be applied together in a satisfactory way, usually by successfully completing a competency check.

2.2 Competency checks may be used as an alternative to recurrent training whereby the employer can ensure its personnel demonstrate continued competence in a task and therefore do not require recurrent training.

2.3 Competency checks can be completed during day-to-day activities by having a competent individual accompany and assess the staff member on a task they are required to complete.

2.4 Records of all the steps taken to achieve the task shall be made and an evaluation shall be completed.

2.5 For a team or section to be recognized as competent, periodical audits or checks should be carried out and recorded. All shortfalls should be addressed by reviewing and updating the training material, refresher training or the frequency of refresher training. Similarly, after any accident, incident or serious occurrence, it may be prudent to review training to ensure it remains appropriate.

*Note 1:- **Appendix A** provides Competency Matrixes related to nine aerodrome operational functional areas. Competency requirements of the Safety Manager's functions can be found*

in Chapter 9 of Safety Management Manual (Doc 9859) [refer to 9.3.6 Appointment of key safety personnel].

Note 2:- Following definitions are used to determine the level of competency of the aerodrome operations personnel in the matrixes provided in **Appendix A**:

- a) Basic - Possess basic fundamental knowledge and general awareness of the subject to comprehend the works and processes involved. Generally, applicable to management levels that oversee the operations.

Basic level of competency maybe achieved attending a relevant course.

- b) Intermediate - Possess technical skills and practical working knowledge of the subject that are required to execute the works competently under supervision. Generally, applicable to operational personnel or project officers who are responsible to perform the duties and are involved in planning/implementation of the system.

Intermediate level of competency maybe achieved attending a relevant course and after having certain periods of practical experiences, as determined by the appropriate authority, on the relevant field or on-the-job trainings.

- c) Advanced - Possess advanced and in-depth knowledge to be able to provide training and expert opinion/advice on the subject. Generally, applicable to specialist who is well versed with the subject with hands-on experiences and specialised trainings.

Advanced level of competency maybe achieved attending a specialized course and after having certain periods of practical experiences, as determined by the appropriate authority, on the relevant field.

Chapter 3 STRUCTURE OF A TRAINING PROGRAMME

INITIAL TRAINING

3.1 Initial training should be composed of theoretical and practical training modules. Personnel should be assessed and demonstrate their capability to safely accomplish the required tasks upon completion of the initial training and prior to starting on-the-job training.

RECURRENT TRAINING

3.2 The aerodrome operator should ensure that personnel complete recurrent training at suitable intervals after the completion of their initial training programme. Continuous competency checking may be used as an alternative to recurrent training.

REFRESHER TRAINING

3.3 When a person has not performed any of their assigned tasks for a significant period of time, that person should complete relevant refresher training prior to:

- a) performing assigned tasks; or
- b) being allowed unescorted access on the movement area and other operational areas of the aerodrome, as appropriate.

Note 1:- PANS-Aerodromes (Doc 9981) provides training curriculum/syllabus in following functional areas:

- a) FOD training (refer to Appendix 1 to Chapter 5 of Part II);
- b) Wildlife control training (refer to Appendix 1 to Chapter 6 of Part II);
- c) Framework for an airside vehicle driver training programme (refer to Appendix 1 to Chapter 9 of Part II);

Note 2:- Training syllabus for aerodrome rescue and firefighting personnel is available in Airport Services Manual (Doc 9137) Part 1 – Rescue and Firefighting (Chapter 14 – Training) and Part 8 – Airport Operations Services (Chapter 17, 17.6 – Training).

*Note 3:- Training syllabi for Runway Surface Conditions Assessment and Reporting, Aerodrome Movement Area Maintenance, Inspection of Movement Area, Work In progress (Airside Works), Apron Safety and Runway Safety are provided in **Appendix B (to be developed by the Working Group)***

Note 4:- ICAO and ACI training courses for aerodrome operations personnel can be found in following websites:

- a) ICAO Global Aviation Training: <https://www.icao.int/training/Pages/Training-Catalogue.aspx?subjectid=1>
- b) Airports Council International: <https://aci.aero/global-training/programmes/>

APPENDIX A - AERODROME OPERATIONS PERSONNEL COMPETENCY REQUIREMENTS

Table A1-1: AOPC Competency Matrix - Runway Surface Conditions Assessment and Reporting

Aerodrome operations Personnel	Competency/knowledge areas	Required Competency Level (Basic/ Intermediate/ Advanced)	Required Type of Training (Initial, OJT, Refresher, Recurrent, Specialised)	Requirement of Competency Check
Accountable Executive	<u>National and international civil aviation requirements:</u> a) National Legislation and regulations/ requirements, including the need for aerodrome certification b) ICAO Annexes 14 and 19 c) PANS Aerodromes (Doc 9981)	Basic	Initial training Recurrent training (when significant amendment/changes applied)	No
	<u>Aerodrome manual and safety management system, covering:</u> a) Promotion of positive safety culture b) Safety performance targets c) Safety data trend analysis d) Risk assessment and Mitigation e) Incident/accident investigations f) Safety/Audits Inspections	Basic	Initial training	No
Head of Aerodrome Operation/Maintenance	<u>National and international requirements:</u> a) National Legislation and regulations / requirements, including aerodrome certification process b) ICAO Annexes 14 and 19 c) PANS Aerodromes (Doc 9981) d) Airport Services Manual (Doc 9137), Part 2 - Pavement Surface condition.	Basic	Initial training Recurrent training (when significant amendment/changes applied)	No

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	<ul style="list-style-type: none"> e) Aerodrome Design Manual (Doc 9157), Part 3 – Pavements f) Human factors in aviation g) ACI Runway Safety Handbook h) ACI Apron Safety Handbook 			
	<u>Aerodrome manual and Safety management system, covering:</u> <ul style="list-style-type: none"> a) Promotion of safety culture b) Safety performance targets c) Safety data trend analysis d) Risk assessment and Mitigation e) Safety Promotions f) Incident/accident investigations g) Safety/Audits Inspections 	Basic	Initial training Recurrent training	No
	<u>Aerodrome operations:</u> Aerodrome layout	Intermediate	Initial training Recurrent training Refresher training as required	No
	<u>Job related requirements:</u> <ul style="list-style-type: none"> a) Runway pavement characteristics with different types of distress on runway pavement b) Runway friction evaluation and assessment c) aircraft braking action d) Runway surface conditions assessment 	Basic	Initial training Recurrent training Refresher training as required	No
Managers/Supervisors	<u>National and international requirements:</u> <ul style="list-style-type: none"> a) National Legislation and regulations / requirements, including aerodrome certification process b) ICAO Annexes 14 and 19 c) PANS Aerodromes (Doc 9981) d) Safety Management Manual (Doc 9859) e) Airport Services Manual (Doc 9137), Part 2 - 	Basic	Initial training Recurrent training Refresher training as required Specialized training	Yes

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	<p>Pavement Surface condition.</p> <p>f) – Aerodrome Design Manual (Doc 9157), Part 3 – Pavements (relevant Chapters only)</p> <p>i) Human factors in aviation</p> <p>j) ACI Runway Safety Handbook</p> <p>g) ACI Apron Safety Handbook</p>			
	<p><u>Aerodrome manual and Safety management system, covering:</u></p> <p>a) Identification of safety Hazards</p> <p>b) Risk assessment and Mitigation</p> <p>c) Accident/Incident Investigation</p> <p>d) Safety/Audits Inspections</p>	Intermediate	Initial training Recurrent training Refresher training as required	Yes
	<p><u>Aerodrome operations:</u> Aerodrome layout</p>	Intermediate	Initial training Recurrent training Refresher training as required	Yes
	<p><u>Job related requirements:</u></p> <p>a) Pavement characteristics</p> <p>b) Evaluation of pavements and identification of types of distress</p> <p>c) Correct use of equipment as required for friction testing and other assessments</p> <p>d) Friction assessment, evaluation and reporting methodology</p> <p>e) Procedures for reporting runway surface conditions</p> <p>f) Radiotelephony</p> <p>g) Runway incursion</p> <p>h) Aircraft braking action</p> <p>i) Information to be provided to AIS</p>	Advanced	Initial training Recurrent training Refresher training if required Specialized training as required	Yes
Officers/Technicians	<p><u>National and international requirements:</u></p> <p>a) Annex 14 (applicable chapters only)</p>	Basic	Initial training Recurrent training	Yes

	<ul style="list-style-type: none"> b) PANS-Aerodromes (Doc 9981) (applicable parts/chapters only) c) National Legislation and regulations / requirements including aerodrome compliance to regulations (applicable parts/chapters only) d) Airport Services Manual (Doc 9137), Part 2 - Pavement Surface condition 		<p>Refresher training if required</p>	
	<p><u>Aerodrome manual (applicable parts/chapters) and safety management system, covering:</u></p> <ul style="list-style-type: none"> a) Identification of safety Hazards b) Safety reporting – mandatory, voluntary and confidential reportsowledge on hazard and risk management 	<p>Intermediate</p>	<p>Initial training + OJT Recurrent training Refresher training as required</p>	<p>Yes</p>
	<p><u>Aerodrome operations:</u></p> <ul style="list-style-type: none"> a) Aerodrome layout 	<p>Intermediate</p>	<p>Initial training + OJT Recurrent training Refresher training as required</p>	<p>Yes</p>
	<p><u>Job related requirements:</u></p> <ul style="list-style-type: none"> a) Pavement characteristics b) Evaluation of pavements and identification of types of distress c) Correct use of equipment as required for friction testing d) Friction assessment, evaluation and reporting methodology e) Procedures for reporting runway surface conditions f) Radiotelephony g) Runway incursion h) Aircraft braking action i) Information to be provided to AIS 	<p>Intermediate</p>	<p>Initial training + OJT Recurrent training Refresher training as required</p>	<p>Yes</p>

Table A1-2: AOPC Competency Matrix - Aerodrome Movement Area Maintenance

Aerodrome operations Personnel	Competency/knowledge areas	Required Competency Level (Basic/ Intermediate/ Advanced)	Required Type of Training (Initial, OJT, Refresher, Recurrent, Specialised)	Requirement of Competency Check
Accountable Executive	<u>National and international requirements:</u> a) National Legislation and regulations /requirements, including the need for aerodrome certification b) ICAO Annexes 14 and 19 c) PANS Aerodromes (Doc 9981)	Basic	Initial training Recurrent training (when significant amendment/changes applied)	No
	<u>Aerodrome manual and Safety management system, covering:</u> a) Promotion of positive safety culture b) Safety performance targets c) Safety data trend analysis d) Risk assessment and Mitigation e) Incident/accident investigations f) Safety/Audits Inspections	Basic	Initial training	No
Head of Aerodrome Operation/Maintenance	<u>National and international requirements:</u> a) National Legislation and regulations / requirements, including aerodrome certification process b) ICAO Annexes 14 and 19 c) PANS Aerodromes (Doc 9981) d) Airport Services Manual (Doc 9137), Part 2 - Pavement Surface condition. e) Airport Services Manual (Doc 9137). Part 8 - Airport Operational Services f) Airport Services Manual (Doc 9137), Part 9 - Maintenance practice g) Airport Services Manual (Doc 9137), Part 2 -	Basic	Initial training Recurrent training (when significant amendment/changes applied)	No

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	<p>Pavements</p> <p>h) Airport Services Manual (Doc 9137), Part 5 - Electrical Systems</p> <p>i) Human factors in aviation</p> <p>j) ACI Runway Safety Handbook</p> <p>k) ACI Apron Safety Handbook</p>			
	<p><u>Aerodrome manual and safety management system, covering:</u></p> <p>a) Promotion of safety culture Safety performance targets</p> <p>b) Safety data trend analysis</p> <p>c) Risk assessment and Mitigation</p> <p>d) Safety Promotions</p> <p>e) Incident/accident investigations</p> <p>f) Safety/Audits Inspections</p> <p>g) Maintenance Manual</p>	Basic	Initial training Recurrent training	No
	<p><u>Aerodrome operations</u></p> <p>Aerodrome layout</p>	Intermediate	Initial training Recurrent training Refresher training as required	No
	<p><u>Job related requirements:</u></p> <p>a) Aerodrome pavement management system</p> <p>b) Runway surface conditions assessment</p> <p>c) Aircraft braking action</p> <p>d) Obstacle limitation Surfaces</p> <p>e) Maintenance Management</p> <p>f) Aerodrome visual aids</p>	Basic	Initial training Recurrent training Refresher training as required	No
Managers/Supervisors	<p><u>National and international requirements:</u></p> <p>a) National Legislation and regulations / requirements, including aerodrome certification process</p> <p>b) ICAO Annexes 14 and 19</p>	Basic	Initial training Recurrent training Refresher training as required Specialized training	Yes

	<ul style="list-style-type: none"> c) PANS Aerodromes (Doc 9981) d) Airport Services Manual (Doc 9137), Part 2 - Pavement Surface condition. e) Airport Services Manual (Doc 9137), Part 6 - Control of Obstacles f) Airport Services Manual (Doc 9137), Part 8 - Airport Operational Services g) Airport Services Manual (Doc 9137), Part 9 - Maintenance practices h) Airport Services Manual (Doc 9137), Part 2 - Pavements i) Airport Services Manual (Doc 9137), Part 5 - Electrical Systems j) Human factors in aviation k) ACI Runway Safety Handbook l) ACI Apron Safety Handbook 			
	<p><u>Aerodrome manual and Safety management system covering:</u></p> <ul style="list-style-type: none"> a) Identification of safety Hazards b) Risk assessment and Mitigation c) Accident/incident investigation d) Safety/Audits Inspections e) Occupational health and safety 	Intermediate	Initial training Recurrent training Refresher training as required	Yes
	<p><u>Aerodrome operations:</u> Aerodrome layout</p>	Intermediate	Initial training Recurrent training Refresher training as required	Yes
	<p><u>Job related requirements:</u></p> <ul style="list-style-type: none"> a) Developing Procedures b) Aerodrome Pavement management system c) Procedures for monitoring and reporting runway 	Advanced	Initial training Recurrent training Refresher training as required	Yes

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	<ul style="list-style-type: none"> surface conditions d) Radiotelephony e) Maintenance Management f) Aerodrome visual aids g) Removal of runway contaminants (e.g. snow, slush, ice, rubber, fuel etc.) h) Information to be provided to AIS i) Providing maintenance Trainings 		Specialized training as required	
Officers / Technicians (Carrying out day-to day Aerodrome Movement Area Maintenance)	<u>National and international requirements:</u> <ul style="list-style-type: none"> a) Relevant parts of Annex 14 b) PANS-Aerodromes (Doc 9981) (applicable parts/chapters only) c) National Legislation and regulations / requirements, including aerodrome compliance to regulations (applicable parts only) d) Airport Services Manual (Doc 9137), Part 2 - Pavement Surface condition. e) Airport Services Manual (Doc 9137), Part 6 - Control of Obstacles f) Airport Services Manual (Doc 9137), Part 8 - Airport Operational Services g) Airport Services Manual (Doc 9137), Part 9 - Maintenance practices h) Airport Services Manual (Doc 9137), Part 2 - Pavements i) Airport Services Manual (Doc 9137), Part 5 - Electrical Systems j) Human factors in aviation k) ACI Runway Safety Handbook l) ACI Apron Safety Handbook 	Basic	Initial training Recurrent training Refresher training as required	Yes
	<u>Aerodrome manual (applicable parts/chapters) safety management system, covering:</u> <ul style="list-style-type: none"> a) Identification of safety Hazards 	Intermediate	Initial training + OJT	Yes

	b) Safety reporting – mandatory, voluntary & confidential			
	<u>Aerodrome operations:</u> a) Aerodrome layout	Intermediate	Initial training + OJT Recurrent training Refresher training as required	Yes
	<u>Job related requirements:</u> a) Pavement characteristics b) Method and technology for pavements maintenance c) Maintenance of the paved and unpaved areas including storm-water drainage systems d) Maintenance of aerodrome visual aids e) Foreign Object debris (FOD) f) Protection of navigational aids g) Information to be provided to AIS	Intermediate	Initial training + OJT Recurrent training Refresher training as required	Yes

Table A1-3: AOPC Matrix - Inspection of Movement Area

Aerodrome operations Personnel	Competency/knowledge areas	Required Competency Level (Basic/ Intermediate/ Advanced)	Required Type of Training (Initial, OJT, Refresher, Recurrent, Specialised)	Requirement of Competency Check
Accountable Executive	<u>National and international requirements:</u> a) National Legislation and regulations / requirements, including the need for aerodrome certification b) ICAO Annexes 14 and 19 c) PANS Aerodromes (Doc 9981)	Basic	Initial training Recurrent training (when significant amendment/changes applied)	No
	<u>Aerodrome manual and safety management system, covering:</u> a) Promotion of positive safety culture Promotion of positive safety culture b) Safety performance targets c) Safety data trend analysis d) Risk assessment and Mitigation e) Incident/accident investigations f) Safety/Audits Inspections	Basic	Initial training	No
Head of Aerodrome Operation/Maintenance Head of Aerodrome Operation/Maintenance	<u>National and international requirements:</u> a) National Legislation and regulations / requirements, including aerodrome certification process b) ICAO Annexes 14 and 19 c) PANS Aerodromes Doc 9981) d) Airport Services Manual (Doc 9137), Part 2 - Pavement Surface condition. e) Airport Services Manual (Doc 9137), Part 6 - Control of Obstacles f) Airport Services Manual, Part 8 - Airport Operational Services	Basic	Initial training Recurrent training (when significant amendment/changes applied)	No

	<ul style="list-style-type: none"> g) Airport Services Manual (Doc 9137), Part 3 - Wildlife Control and Reduction h) Aerodrome Design Manual (Doc 9157), Part 4 – Visual Aids i) Manual of all Weather Operations (Doc 9365) j) Human factors in aviation k) ACI Runway Safety Handbook l) ACI Apron Safety Handbook 			
	<u>Aerodrome manual and safety management system, covering:</u> <ul style="list-style-type: none"> a) Promotion of safety culture b) Safety data trend analysis c) Risk assessment and Mitigation d) Safety Promotions e) Incident/accident investigations f) Safety/Audits Inspections set safety performance targets 	Basic	Initial training Recurrent training	No
	<u>Aerodrome operations:</u> Aerodrome layout	Intermediate	Initial training Recurrent training Refresher training as required	No
	<u>Job related requirements:</u> <ul style="list-style-type: none"> a) Wildlife Hazard Management b) Obstacle limitation Surfaces c) Movement area Inspection d) Visual aids e) Low visibility operations, if applicable f) Winter operations, if applicable 	Basic	Initial training Recurrent training Refresher training as required	No

Managers/Supervisors	<u>National and international requirements:</u> a) National Legislation and regulations / requirements, including aerodrome certification process b) ICAO Annexes 14 and 19 c) PANS Aerodromes (Doc 9981) d) Safety Management Manual (Doc 9859) e) Aerodrome Design Manual (Doc 9157), Part 4 – Visual Aids f) Airport Services Manual (Doc 9137), Part 2 - Pavement Surface Condition. g) Airport Services Manual ((Doc 9137), Part 6 - Control of Obstacles h) Airport Services Manual (Doc 9137), Part 8 - Airport Operational Services i) Airport Services Manual (Doc 9137), Part 3 - Wildlife Control and Reduction j) Manual of all Weather Operations (Doc 9365) k) Human factors in aviation l) ACI Runway Safety Handbook m) ACI Apron Safety Handbook n) ACI Wildlife Hazard Management Handbook	Basic	Initial training Recurrent training Refresher training as required	Yes
	<u>Aerodrome manual and Safety management system, covering:</u> a) Identification of safety Hazards b) Risk assessment and Mitigation c) Accident/Incident Investigation d) Safety/Audits Inspections	Intermediate	Initial training Recurrent training Refresher training as required	Yes
	<u>Aerodrome operations:</u> Aerodrome layout	Intermediate	Initial training Recurrent training Refresher training as required	Yes
	<u>Job related requirements:</u> a) Developing SOP related to inspection of	Advanced	Initial training Recurrent training	Yes

	<ul style="list-style-type: none"> movement area b) Radiotelephony c) Runway incursion d) Wildlife Hazard Management Knowledge on Wildlife Hazard Management e) Obstacle limitation Surfaces f) Movement area Inspection g) Visual aids h) Low visibility operations, if applicable i) Winter operations, if applicable j) Information to be provided to AIS k) Providing Inspection Trainings 		<p>Refresher training as required</p> <p>Specialized training as required</p>	
Officers/Technicians (Carrying out day-to day inspection of the movement area)	<p><u>National and international requirements:</u></p> <ul style="list-style-type: none"> a) Annex 14 (applicable parts only) b) PANS-Aerodromes (Doc 9981) (applicable parts/chapters only) c) National Legislation and regulations / requirements, including aerodrome compliance to regulations (applicable parts/chapters only) d) Aerodrome Design Manual (Doc 9157), Part 4 – Visual Aids e) Airport Services Manual (Doc 9137), Part 6 - Control of Obstacles f) Airport Services Manual (Doc 9137), Part 8 - Airport Operational Services g) Airport Services Manual (Doc 9137), Part 3 - Wildlife Control and Reduction h) Manual of all Weather Operations Doc 9365) i) Human factors in aviation j) ACI Runway Safety Handbook k) ACI Apron Safety Handbook 	Basic	<p>Initial training</p> <p>Recurrent training</p> <p>Refresher training as required</p>	Yes
	<p><u>Aerodrome manual (relevant parts/chapters) and safety management system, covering: Identification of safety Hazards</u></p>	Intermediate	<p>Initial training + OJT</p> <p>Recurrent training</p> <p>Refresher training as</p>	Yes

	<ul style="list-style-type: none"> a) Identification of safety Hazards b) Safety reporting – mandatory, voluntary & confidential 		required	
	<u>Aerodrome operations</u> <ul style="list-style-type: none"> a) Aerodrome layout 	Intermediate	Initial training + OJT Recurrent training Refresher training as required	Yes
	<u>Job related requirements:</u> <ul style="list-style-type: none"> a) Procedures for Inspection Knowledge on Procedures for Inspection b) Radiotelephony c) Runway incursion d) Wildlife Hazard Management e) Obstacle Control f) Visual aids g) Low visibility operations, if applicable h) Winter operations, if applicable i) Information to be provided to AIS 	Intermediate	Initial training + OJT Recurrent training Refresher training as required	Yes

Table A1-4: AOPC Matrix - Work In progress

Aerodrome Operations Personnel	Competency/knowledge areas	Required Competency Level (Basic/ Intermediate/ Advanced)	Required Type of Training (Initial, OJT, Refresher, Recurrent, Specialized)	Requirement of Competency Check
Accountable Executive	<u>National and international requirements:</u> a) National Legislation and regulations / requirements, including the need for aerodrome certification b) ICAO Annexes 14 and 19 c) PANS Aerodromes (Doc 9981)	Basic	Initial training Recurrent training (when significant amendment/changes applied)	No
	<u>Aerodrome manual and safety management system, covering:</u> a) Promotion of positive safety culture Promotion of positive safety culture b) Safety performance targets c) Safety data trend analysis d) Risk assessment and Mitigation e) Incident/accident investigations f) Safety/Audits Inspections g) Safety Promotions	Basic	Initial training	No
Head of Operations / Maintenance	<u>National and international requirements:</u> a) National Legislation and regulations / requirements, including aerodrome certification process b) ICAO Annexes 14 and 19 c) PANS-Aerodromes (Doc 9981) d) Safety Management Manual (Doc 9859) e) ACI Managing Operations During Construction Handbook	Basic	Initial Initial training Recurrent training (when significant amendment/changes applied)	No

<p>f) CAA Advisory Circular (Guidance materials)</p>			
<p><u>Relevant part of aerodrome manual and safety management system, covering:</u> a) Promotion of safety culture b) Safety data trend analysis c) Risk assessment and Mitigation d) Safety Promotions e) Incident/accident investigations f) Safety/Audits Inspections</p>	<p>Basic</p>	<p>Initial training Recurrent training</p>	<p>No</p>
<p><u>Aerodrome operations:</u> Aerodrome layout</p>	<p>Intermediate</p>	<p>Initial training Recurrent training Refresher training as required</p>	<p>No</p>
<p><u>Job related requirements:</u> a) Compliance with aerodrome works safety plan and procedures including OLS b) Aerodrome emergency plan c) Training program to mitigate potential safety hazards caused by work in progress d) Permit to work system e) Promote safety awareness f) Investigate accidents and incidents g) Identify hazards and manage risks h) Conduct internal safety audit Implementation of the proposed mitigations;</p>	<p>Basic</p>	<p>Initial training Recurrent training Refresher training as required</p>	<p>No</p>

Manager/Supervisor	<u>National and international requirements:</u> a) National Legislation and regulations / requirements, including aerodrome certification process b) ICAO Annexes 14 and 19 c) PANS-Aerodromes (Doc 9981) d) Safety Management Manual (Doc 9859) e) ACI Managing Operations During Construction Handbook f) CAA Advisory Circular (applicable one) Relevant civil aviation authority Advisory Circular	Basic	Initial training Recurrent training Refresher training as required	Yes
	<u>Aerodrome manual and safety management system, covering:</u> a) Identification of safety Hazards b) Risk assessment and Mitigation c) Accident/incident investigation d) Safety/Audits Inspections	Intermediate	Initial training Recurrent training Refresher training as required	Yes
	<u>Aerodrome Operations:</u> <u>Aerodrome layout</u>	Intermediate	Initial training Recurrent training Refresher training as required	Yes
	<u>Job related requirements:</u> a) Develop work safety plan and procedures b) Aerodrome emergency plan c) Provide work safety training d) Promote work safety awareness e) Evaluate and control of contractor f) Prepare inspection checklist g) Perform safety inspection	Advance	Initial training Recurrent training Refresher training as required Specialized training as required	Yes

Officer/technician	<u>National and international requirements:</u> a) Annexes 14 & 19 (relevant Chapters) b) PANS-Aerodromes (Doc 9981) c) Safety Management Manual (Doc 9859) d) ACI Managing Operations During Construction Handbook e) CAA Advisory Circular (relevant parts only)	Basic	Initial training Recurrent Refresher training as required	Yes
	<u>Aerodrome manual (relevant parts/chapters) and safety management system, covering:</u> a) Identification of safety Hazards b) Safety reporting – mandatory, voluntary and confidential	Intermediate	Initial training + OJT Recurrent training Refresher training as required	Yes
	<u>Aerodrome operations</u> a) Aerodrome layout	Intermediate	Initial training + OJT Recurrent training Refresher training as required	Yes
	<u>Job related requirements</u> a) Execute work safety plan and procedures and monitor the height of installations/equipment b) Role in aerodrome emergency plan c) Ensure work in progress in accordance with work plan d) Ensure working area are marked and lit in accordance with work plan e) Ensure access routes in accordance with work plan f) Ensure safety measures implemented in accordance with work plan g) Identify and report hazards h) Perform safety inspection	Intermediate	Initial training + OJT Recurrent training Refresher training as required	Yes

Table A1-5: AOPC Matrix – FOD Management

Aerodrome Operations Personnel	Competency/knowledge areas	Required Competency Level (Basic/ Intermediate/ Advanced)	Required Type of Training (Initial, OJT, Refresher, Recurrent, Specialized)	Requirement of Competency Check
Accountable Executive	<u>National and international requirements:</u> a) National Legislation and regulations / requirements, including the need for aerodrome certification b) Annexes 14 and 19 c) PANS-Aerodromes (Doc 9981)	Basic	Initial training Recurrent training (when significant amendment/changes applied)	No
	<u>Aerodrome manual and safety management system covering:</u> a) Promotion of positive safety culture b) Safety performance targets c) Safety data trend analysis d) Risk assessment and Mitigation e) Incident/accident investigations f) Safety/Audits Inspections g) Safety Promotions h) Knowledge on FOD Management program	Basic	Initial training	No
Head of Operations / Maintenance	<u>National and international requirements:</u> a) National Legislation and regulations / requirements, including aerodrome certification process b) ICAO Annexes 14 and 19 c) PANS-Aerodromes (Doc 9981) d) Relevant parts of Doc 9137 e) CAA Advisory Circular (Guidance materials)	Basic	Initial training Recurrent training (when significant amendment/changes applied)	No
	<u>Relevant parts of the aerodrome manual and safety management system, covering:</u>	Basic	Initial training	No

	<ul style="list-style-type: none"> (a) Promotion of safety culture (b) Hazard and risk management including FOD risk assessment (c) Investigation of accidents and incidents (d) Conduct of safety audit (e) Safety/Audits Inspections (f) Safety data trend analysis (g) Promotion of safety awareness 		Recurrent training	
	<u>Airport operations</u> Aerodrome layout	Intermediate	Initial training Recurrent training Refresher training as required	No
	<u>Job related requirements:</u> <ul style="list-style-type: none"> a) Documentation and Reporting Documentation and Reporting b) Analysis and Evaluation c) FOD Mitigation 	Basic	Initial training Recurrent training Refresher training as required	No
Managers/Supervisors	<u>National and international requirements:</u> <ul style="list-style-type: none"> (a) National Legislation and regulations / requirements, including aerodrome certification process (b) <u>ICAO Annexes 14 and 19</u> (c) <u>PANS-Aerodromes (Doc 9981)</u> (d) <u>Relevant Parts of Doc 9137</u> (e) <u>CAA Advisory Circular</u> 	Basic	Initial training Recurrent training Refresher training as required	Yes
	<u>Aerodrome Manual and safety management system covering:</u> <ul style="list-style-type: none"> a) Identification of safety Hazards b) Risk assessment and Mitigation c) Accident/incident investigation d) Safety/Audits Inspections 	Intermediate	Initial training Recurrent training Refresher training as required	Yes

Appendix A

	<u>Aerodrome Operations:</u> <u>Aerodrome layout</u>	Intermediate	Initial training Recurrent training Refresher training as required	Yes
	<u>Job related requirements:</u> a) FOD mitigation measures b) Documentation and reporting c) Analysis and evaluation d) FOD check list	Advanced	Initial training Recurrent training Refresher training as required Specialized training as required	Yes
Officer/technician	<u>National and international requirements:</u> a) <u>ICAO Annexes 14 and 19</u> b) <u>PANS-Aerodromes (Doc 9981)</u> c) <u>Relevant Parts of Doc 9137</u> d) <u>CAA Advisory Circular (relevant parts only)</u>	Basic	Initial training Recurrent training Refresher training as required	Yes
	<u>Aerodrome manual and safety management system covering:</u> a) <u>Identification of safety Hazards</u> b) <u>Safety reporting</u> – mandatory, voluntary and confidential c) <u>FOD inspection and reporting</u>	Intermediate	Initial training + OJT Recurrent training	Yes
	<u>Aerodrome Operations:</u> <u>Aerodrome layout</u>	Intermediate	Initial training + OJT Recurrent training Refresher training as required	Yes

	<u>Job Related Requirements</u> a) <u>FOD inspection and reporting FOD inspection and reporting</u> b) <u>Driving skill</u> c) <u>Specific equipment operation training</u> d) <u>Radiotelephony training</u> e) <u>Airside operations safety rules</u> f) <u>Airside driving rules</u> g) <u>Aerodrome signage, markings and lightings</u> h) <u>Familiar with actions for emergency cases</u>	Intermediate	Initial training + OJT Recurrent training Refresher training as required	Yes
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Table A1-6: AOPC Competency Matrix - Wildlife Hazard Management

Aerodrome Operations Personnel	Competency/knowledge areas	Required Competency Level (Basic/Intermediate/Advanced)	Required Type of Training (Initial, OJT, Refresher, Recurrent, Specialised)	Requirement of Competency Check
Accountable Executive	<u>National and international civil aviation requirements:</u> a) National Legislation and regulations / requirements, including the need for aerodrome certification b) ICAO Annexes 14 and 19 c) PANS Aerodromes (Doc 9981)	Basic	Initial training Recurrent training (when significant amendment/changes applied)	No
	<u>Aerodrome manual and safety management system, covering:</u> a) Promotion of positive safety culture b) Safety performance targets c) Safety data trend analysis d) Risk assessment and Mitigation e) Incident/accident investigations f) Safety/Audits Inspections	Basic	Initial training	No
Head of Aerodrome Operation/Maintenance (Head may be in charge of the few sections)	<u>National and international civil aviation requirements:</u> a) Annexes 14 and 19 b) PANS Aerodromes Doc 9981 c) Airport Services Manual (Doc 9137), Part 3 - Wildlife Control and Reduction; d) ACI Wildlife Hazard Management Handbook; e) National Legislation and regulations / requirements including aerodrome certification process f) CAA Advisory Circular (if available)	Basic	Initial training Recurrent training (when significant amendment/changes applied)	No

	<u>Aerodrome manual and safety management system covering:</u> a) Promotion of safety culture b) Safety performance targets c) Safety data trend analysis d) Risk assessment and mitigation e) Incident/accident investigations f) Safety/Audits Inspections g) Safety Promotions	Basic	Initial training Recurrent training	No
	<u>Aerodrome operations</u> Aerodrome layout	Intermediate	Initial training Recurrent training Refresher training as required	Yes
	<u>Job related requirements:</u> a) Airport wildlife hazard management programme, focusing: <ul style="list-style-type: none"> ▪ Role and responsibility of aerodrome wildlife committee ; ▪ Operational practices to control wildlife hazard; ▪ Staff training requirements. 	Basic	Initial training Recurrent training	No
Manager/Supervisor (In charge of wildlife hazard management of the airport)	<u>National and international requirements:</u> a) Annexes 14 and 19 requirements b) PANS Aerodromes (Doc 9981) c) Airport Services Manual (Doc 9137), Part 3 - Wildlife Control and Reduction; d) ACI Wildlife Hazard Management Handbook; e) National Legislation and regulations / requirements including aerodrome certification process; f) CAA Advisory Circular (if available)	Basic	Initial training Recurrent training Refresher training as required	Yes

	<u>Aerodrome manual and safety management system, covering:</u> a) Accident and incident investigation management b) Hazard and risk management including wildlife strike risk assessment and mitigation	Basic	Initial training Recurrent training Refresher training as required	Yes
	<u>Aerodrome operations</u> Aerodrome layout	Intermediate	Initial training Recurrent training Refresher training as required	Yes
	<u>Job related requirements:</u> a) Wildlife survey b) Understanding of habitat management - how wildlife is attracted to the environment c) Understanding of wildlife ecology - how wildlife could respond to different control methods d) Documentation and strike reporting e) Use of dispersal equipment and other methodology f) Review/evaluation of the effectiveness of the airport wildlife hazard management programme	Advanced	Initial training Recurrent training Refresher training as required Specialized training as required	Yes
Officers/Technicians (Doing day-to day wildlife surveys, patrols, dispersal)	<u>National and International requirements:</u> a) Annex 14 requirements b) PANS Aerodromes ((Doc 9981) – Chapters related to wildlife control and reduction c) Airport Services Manual (Doc 9137), Part 3 - Wildlife Control and Reduction; d) ACI Wildlife Hazard Management Handbook; e) National Legislation and regulations / requirements including aerodrome certification process f) CAA Advisory Circular (if available)	Basic	Initial training Recurrent training Refresher training as required	Yes

	<u>Aerodrome manual and safety management system, covering:</u> a) Hazard and risk management b) Safety reporting – mandatory, voluntary and confidential reports	Intermediate	Initial training + OJT	Yes
	<u>Aerodrome operations:</u> b) Aerodrome layout	Intermediate	Initial training + OJT Recurrent training Refresher training as required	Yes
	<u>Job related requirements:</u> a) Wildlife identification and management b) Biology and behavior of wildlife c) Documentation and strike reporting d) Use of dispersal equipment and other methodology e) Analysis and evaluation f) Wildlife habitat management g) Migration of bird	Intermediate	Initial training + OJT Recurrent training Refresher training as required	Yes

Table A1-7: AOPC Matrix - Apron Safety

Aerodrome Operations Personnel	Competency/ knowledge areas	Required Competency Level (Basic/ Intermediate/ Advanced)	Required Type of Training (Initial, OJT, Refresher, Recurrent, Specialized)	Requirement of Competency Check
Accountable Executive	<u>National and international requirements:</u> a) National Legislation and regulations / requirements, including the need for aerodrome certification b) ICAO Annexes 14, 18 and 19 c) PANS Aerodromes (Doc 9981)	Basic	Initial training Recurrent training (when significant amendment/changes applied)	No
	<u>Aerodrome manual and safety management system, covering:</u> a) Promotion of positive safety culture b) Safety performance targets c) Safety data trend analysis d) Risk assessment and Mitigation e) Incident/accident investigations f) Safety/Audits Inspections g) Safety Promotions	Basic	Initial training	No
Head of Aerodrome Operations / Maintenance	<u>National and international requirements:</u> a) National Legislation and regulations / requirements, including aerodrome certification process b) Annexes 14, 18 and 19 (relevant parts) c) PANS Aerodromes (Doc 9981) d) ACI Apron Safety Handbook	Basic	Initial training Recurrent training (when significant amendment/changes applied)	No

Aerodrome Operations Personnel	Competency/ knowledge areas	Required Competency Level (Basic/ Intermediate/ Advanced)	Required Type of Training (Initial, OJT, Refresher, Recurrent, Specialized)	Requirement of Competency Check
	<u>Relevant parts of aerodrome manual and safety management system, covering:</u> a) Promotion of safety culture b) Set safety performance targets c) Safety data trend analysis d) Risk assessment and Mitigation e) Safety Promotions f) Incident/accident investigations g) Safety/Audits Inspections	Basic	Initial training Recurrent training	No
	<u>Aerodrome operations:</u> Aerodrome layout	Intermediate	Initial training Recurrent training Refresher training as required	No
	<u>Job related requirements:</u> a) Aircraft turnaround procedures b) Role in Aerodrome Emergency Plan	Basic	Initial training Recurrent training Refresher training as required	No
Manager /Supervisor	<u>National and international requirements:</u> a) National Legislation and regulations / requirements, including aerodrome certification process b) Annexes 14, 18 and 19 (relevant parts) c) PANS Aerodromes (Doc 9981) d) ACI Apron Safety Handbook	Basic	Initial training Recurrent training Refresher training as required	Yes

Aerodrome Operations Personnel	Competency/ knowledge areas	Required Competency Level (Basic/ Intermediate/ Advanced)	Required Type of Training (Initial, OJT, Refresher, Recurrent, Specialized)	Requirement of Competency Check
	<u>Aerodrome manual (relevant parts) including:</u> a) FOD management b) Safety management during construction and maintenance works c) Understanding of aerodrome emergency procedures d) Familiarity with follow-me procedures <u>Safety management systems, covering:</u> a) Promotion of safety culture b) Set safety performance targets c) Safety data trend analysis d) Risk assessment and Mitigation e) Safety Promotions f) Incident/accident investigations g) Safety/Audits Inspections	Intermediate	Initial training Recurrent training Refresher training as required	Yes
	<u>Aerodrome operations:</u> Aerodrome layout	Intermediate	Initial training Recurrent training Refresher training as required	Yes

Aerodrome Operations Personnel	Competency/ knowledge areas	Required Competency Level (Basic/ Intermediate/ Advanced)	Required Type of Training (Initial, OJT, Refresher, Recurrent, Specialized)	Requirement of Competency Check
	<u>Job related requirements:</u> a) Airside driving regulations b) Aircraft turnaround procedures (e.g. Passenger loading bridge operations, Passenger safety on apron, Aircraft fueling safety, flight catering safety etc.) c) Jet blast hazards d) Marshalling e) Apron signs and marking f) Operations under adverse weather g) Handling of fuel and oil spills h) Apron inspection and cleaning (FOD, pavement, markings, signs, ensuring GSE in place etc.) i) Use of personal protective equipment (earplugs, high-visibility vest etc.) j) Role in Aerodrome Emergency Plan k) Radiotelephony terminology l) Compliance with safety rules during construction and maintenance works	Advanced	Initial training Recurrent training Refresher training as required Specialized training as required	Yes.
Officer/ Technician	<u>National and international requirements:</u> a) Annexes 14, 18 and 19 (relevant parts)	Basic	Initial training Recurrent training Refresher training as required	Yes
	<u>Aerodrome manual (relevant parts/chapters):</u> a) Understanding of the aerodrome manual of the airport concerned b) Familiarity with follow-me procedures	Intermediate	Initial training + OJT Recurrent training Refresher training as required	Yes

Aerodrome Operations Personnel	Competency/ knowledge areas	Required Competency Level (Basic/ Intermediate/ Advanced)	Required Type of Training (Initial, OJT, Refresher, Recurrent, Specialized)	Requirement of Competency Check
	<u>Safety management system, covering:</u> a) Identification of safety Hazards b) Safety reporting – mandatory, voluntary and confidential			
	<u>Aerodrome operations</u> a) Aerodrome layout	Intermediate	Initial training + OJT Recurrent training Refresher training as required	Yes
	<u>Job related requirements:</u> a) Airside driving regulations and safety hazards b) Aircraft turnaround procedures (e.g. Passenger loading bridge operations, Passenger safety on apron, Aircraft fueling safety, flight-catering safety etc.) c) Jet blast hazards d) Marshalling e) Apron signs and marking f) Operations under adverse weather g) Handling of fuel and oil spills h) Apron inspection and cleaning (FOD, pavement, markings, signs, ensuring GSE in place etc.) i) Use of personal protective equipment (earplugs, high-visibility vest etc.) j) Role in Aerodrome Emergency Plan k) Radiotelephony terminology l) Compliance with safety rules during construction and maintenance works	Intermediate	Initial training + OJT Recurrent training Refresher training as required	Yes.

Table A1-8: Runway Safety

Aerodrome Operations Personnel	Competency/ knowledge areas	Required Competency Level (Basic / Intermediate / Advanced)	Required Type of Training (Initial, OJT, Refresher, Recurrent, Specialized)	Requirement of Competency Check
Accountable Executive	<u>National and international requirements:</u> a) National Legislation and regulations / requirements, including need for aerodrome certification b) ICAO Annexes 14 and 19 s c) PANS Aerodromes (Doc 9981)	Basic	Initial training Recurrent training (when significant amendment/changes applied)	No
	<u>Aerodrome manual:</u> a) High level understanding of aerodrome operations and maintenance b) High level understanding of emergency planning and response. <u>Safety management system, covering:</u> a) Promotion of positive safety culture b) Safety performance targets c) Safety data trend analysis d) Risk assessment and Mitigation e) Incident/accident investigations f) Safety/Audits Inspections g) Safety promotion	Basic	Initial training	No
Head of Aerodrome Operations/ Maintenance	<u>National and international requirements:</u> a) National Legislation and regulations / requirements, including aerodrome certification process b) Annexes 14, 18 and 19 (relevant parts) c) PANS Aerodromes (Doc 9981) d) ACI Runway Safety Handbook	Basic	Initial training Recurrent training (when significant amendment/changes applied)	No

Aerodrome Operations Personnel	Competency/ knowledge areas	Required Competency Level (Basic / Intermediate / Advanced)	Required Type of Training (Initial, OJT, Refresher, Recurrent, Specialized)	Requirement of Competency Check
	e) Manual on Prevention of Runway Incursion (Doc 9870) f) Runway Safety Programme – Global Runway Safety Action Plan First Edition, November 2017 g) CAA Advisory Circulars (Relevant Parts)			
	<u>Relevant parts of aerodrome manual and safety management systems, covering:</u> a) Promotion of safety culture b) Set safety performance targets c) Safety data trend analysis d) Risk assessment and Mitigation e) Safety Promotions f) Incident/accident investigations g) Safety/Audits Inspections	Basic	Initial training Recurrent training	No
	<u>Aerodrome operations:</u> Aerodrome layout	Intermediate	Initial training Recurrent training Refresher training as required	No
	<u>Job related requirements:</u> a) Runway safety programme b) Emergency planning and response c) Aerodrome operations and maintenance in general	Basic	Initial training Recurrent training Refresher training as required	No
Manager/ Supervisor	<u>National and international requirements:</u> a) National Legislation and regulations /	Basic	Initial training	Yes

Aerodrome Operations Personnel	Competency/ knowledge areas	Required Competency Level (Basic / Intermediate / Advanced)	Required Type of Training (Initial, OJT, Refresher, Recurrent, Specialized)	Requirement of Competency Check
	requirements, including aerodrome certification process b) Annexes 14, 18 and 19 (relevant parts) c) PANS Aerodromes (Doc 9981) d) Manual on Prevention of Runway Incursion (Doc 9870) e) Runway Safety Programme – Global Runway Safety Action Plan First Edition, November 2017 f) ACI Runway Safety Handbook g) CAA Advisory Circulars (Relevant Parts)		Recurrent training Refresher training as required	
	<u>Aerodrome manual (relevant parts) including:</u> a) FOD management b) Safety management during construction and maintenance works c) Understanding of aerodrome emergency procedures d) Familiarity with follow-me procedures <u>Safety management systems, covering:</u> a) Promotion of safety culture b) Set safety performance targets c) Safety data trend analysis d) Risk assessment and Mitigation e) Safety Promotions f) Incident/accident investigations g) Safety/Audits Inspections	Intermediate	Initial training Recurrent training Refresher training as required	Yes

Aerodrome Operations Personnel	Competency/ knowledge areas	Required Competency Level (Basic / Intermediate / Advanced)	Required Type of Training (Initial, OJT, Refresher, Recurrent, Specialized)	Requirement of Competency Check
	<u>Aerodrome operations:</u> Aerodrome layout	Intermediate	Initial training Recurrent training Refresher training as required	Yes
	<u>Job related requirements:</u> All of the competency requirements for frontline officers, but at advanced level, plus: a) Understanding of disabled aircraft removal plan. b) Re-declaration of runway distances c) SMS principles including safety risk management. d) Preliminary investigations of accidents and incidents e) Safety during construction and maintenance works	Advanced	Initial training Recurrent training Refresher training as required Specialized training as required	Yes.
Officer / Technician	<u>National and international requirements:</u> a) Annexes 14, 18 and 19 (relevant parts)	Basic	Initial training Recurrent training Refresher training as required	Yes
	<u>Aerodrome manual (relevant parts/chapters):</u> a) Understanding of the aerodrome manual of the airport concerned b) Familiarity with follow-me procedures <u>Safety management system, covering:</u> a) Identification of safety Hazards b) Safety reporting – mandatory, voluntary and confidential	Intermediate	Initial training + OJT Recurrent training Refresher training as required	Yes

Aerodrome Operations Personnel	Competency/ knowledge areas	Required Competency Level (Basic / Intermediate / Advanced)	Required Type of Training (Initial, OJT, Refresher, Recurrent, Specialized)	Requirement of Competency Check
	<u>Aerodrome operations</u> a) Aerodrome layout	Intermediate	Initial training + OJT Recurrent training Refresher training as required	Yes
	<u>Job related requirements:</u> a) Runway inspection including FOD, pavement conditions, drainage, markings and signs, in-pavement lights, obstacles, etc. b) Runway surface condition reporting c) Airside driving including reading of airfield signs and markings d) Radiotelephony e) Adverse weather operations and low visibility procedures f) Removal of runway contaminants, e.g. rubber, ice, snow g) Vegetation control h) Wildlife hazard management i) Follow-me procedures j) Prevention of runway incursion k) Compliance with safety rules during construction and maintenance works l) Emergency response procedures m) AIP and NOTAM	Intermediate	Initial training + OJT Recurrent training Refresher training as required	Yes.

Table A1-9: AOPC Matrix - Aerodrome Driver Permit Scheme and Vehicle/Equipment Safety Requirement

Aerodrome Operations Personnel	Competency/knowledge areas	Required Competency Level (Basic/ Intermediate/ Advanced)	Required Type of Training (Initial, OJT, Refresher, Recurrent, Specialized)	Requirement of Competency Check
Accountable Executive	<u>National and international requirements:</u> a) National Legislation and regulations / requirements, including the need for aerodrome certification b) Annexes 14 and 19 c) PANS-Aerodromes (Doc 9971)	Basic	Initial training Recurrent training (when significant amendment/changes applied)	No
	<u>Aerodrome manual and safety management system, covering:</u> a) Promotion of positive safety culture b) Safety performance targets c) Safety data trend analysis d) Risk assessment and Mitigation e) Incident/accident investigations f) Safety/Audits Inspections g) Safety Promotions Incident/accident investigations	Basic	Initial training	No
Head of Operations / Maintenance	<u>National and International requirements:</u> (a) National Legislation and regulations / requirements, including aerodrome certification process (b) ICAO Annexes 14 and 19 (c) PANS-Aerodromes (Doc 9981) (d) Safety Management Manual (Doc 9859) (e) Airport Services Manual (Doc 9137),	Basic	Initial training Recurrent training (when significant amendment/changes applied)	No

	<p>Part 9 – Airport Maintenance Practices (Relevant Chapters)</p> <p>(f) Manual on prevention of runway incursion (Doc 9870)</p> <p>(g) ACI Apron Safety Handbook</p> <p>(h) CAA Advisory Circular (Guidance materials)</p>			
	<p><u>Relevant part of aerodrome manual and safety management system, covering:</u></p> <p>(a) Promotion of safety culture</p> <p>(b) Safety data trend analysis</p> <p>(c) Risk assessment and Mitigation</p> <p>(d) Safety Promotions</p> <p>(e) Incident/accident investigations</p> <p>(f) Safety/Audits Inspections</p>	Basic	Initial training Recurrent training	No
	<p><u>Aerodrome operations:</u> Aerodrome layout</p>	Intermediate	Initial training Recurrent training Refresher training as required	No
	<p><u>Job related requirements:</u></p> <p>(a) Emergency procedures for aerodrome driving</p> <p>(b) Vehicle/equipment safety requirements</p> <p>(c) Aerodrome driver training program</p> <p>(d) Hazards of airside driving</p> <p>(e) Aerodrome driver permit record system and vehicle/equipment permit record system</p>	Basic	Initial training Recurrent training Refresher training as required	No
Manager/Supervisor	<p><u>National and International requirements:</u></p> <p>(a) National Legislation and regulations / requirements, including aerodrome certification process</p>	Basic	Initial training Recurrent training Refresher training as required	Yes

	<ul style="list-style-type: none"> (b) Annexes 14 and 19 (c) PANS-Aerodromes (Doc 9981) (d) Safety Management Manual (Doc 9859) (e) Airport Services Manual (Doc 9137), Part 9 – Airport Maintenance Practices (Relevant Chapters) (f) Manual on prevention of runway incursion (Doc 9870) (g) ACI Apron Safety Handbook (h) CAA Advisory Circular (applicable one) 			
	<p><u>Aerodrome manual and safety management system, covering:</u></p> <ul style="list-style-type: none"> a) Identification of safety Hazards b) Risk assessment and Mitigation c) Accident/incident investigation d) Safety/Audits Inspections 	Intermediate	<p>Initial training Recurrent training Refresher training as required</p>	Yes
	<p><u>Aerodrome operations:</u> Aerodrome layout</p>	Intermediate	<p>Initial training Recurrent training Refresher training as required</p>	Yes

	<p><u>Job Related Requirements:</u></p> <ul style="list-style-type: none"> (a) Develop airside traffic rules and procedures (b) Provide airside safety training to drivers (c) Promote airside safety awareness to drivers (d) Provide radiotelephony training (e) Familiarization with vehicle/equipment safety requirements (f) Conduct inspection for vehicle/equipment (g) Keep data and records of aerodrome driver permit and vehicle/equipment permit 	Advanced	<p>Initial training Recurrent training Refresher training as required Specialized training as required</p>	Yes
Officer/technician (working on maneuvering area)	<p><u>National and international requirements:</u></p> <ul style="list-style-type: none"> (a) Annexes 14 and 19 (relevant Chapters) (b) PANS-Aerodromes (Doc 9971) (c) Airport Services Manual (Doc 9137), Part 9 – Airport Maintenance Practices (Relevant Chapters) (d) Manual on prevention of runway incursion (Doc 9870) (e) ACI Apron Safety Handbook (f) CAA Advisory Circular (relevant parts only) 	Basic	<p>Initial training Initial training Recurrent training Refresher training as required</p>	Yes
	<p><u>Aerodrome manual (relevant parts/chapters) and safety management system, covering:</u></p> <ul style="list-style-type: none"> a) Identification of safety Hazards b) Safety reporting – mandatory, voluntary and confidential 	Intermediate	<p>Initial training + OJT Recurrent training Refresher training as required</p>	Yes

	<u>Aerodrome operations:</u> Aerodrome layout	Intermediate	Initial training + OJT Recurrent training Refresher training as required	Yes
Officer/technician	<u>Job Related Requirements:</u> (a) Holder of a valid official driver license of the same class of vehicle recognized/issued by the local government (b) Medical fitness certificate (c) Driving skill (d) Specific equipment operation training (e) Radiotelephony (f) Airside operations safety rules (g) Airside driving rules (h) Adverse weather conditions procedures (i) Aerodrome signage, markings and lightings (j) Roles in aerodrome emergency plan	Intermediate	Initial training + OJT Recurrent training Refresher training as required	Yes

APPENDIX B – TRAINING SYLLABI

(To be developed)

APPENDIX C - REFERENCES

ICAO PUBLICATIONS

Convention on International Civil Aviation (Doc 7300)

Annex 14 — Aerodromes Volume I — Aerodrome Design and Operations

Annex 15 — Aeronautical Information Services

PANS-Aerodromes (Doc 9981)

PANS-TRG, (Doc 9868), Part I

Manual on Certification of Aerodromes (Doc. 9774)

Airport Services Manual (Doc 9137)

Part 1.— Rescue and Fire Fighting

Part 2.— Pavement Surface Conditions

Part 3.— Bird Control and Reduction

Part 5.— Removal of Disabled Aircraft

Part 6.— Control of Obstacles

Part 7.— Airport Emergency Planning

Part 8.— Airport Operational Services

Part 9.— Airport Maintenance Practices

Aerodrome Design Manual (Doc 9157)

Part 1.— Runways

Part 2.— Taxiways, Aprons and Holding Bays

Part 3.— Pavements

Part 4.— Visual Aids

Airport Planning Manual (Doc 9184)

Part 1.— Master Planning

Part 2.— Land Use and Environmental Control

Manual of Surface Movement Guidance and Control Systems (SMGCS) (Doc 9476)

World Geodetic System — 1984 (WGS-84) Manual (Doc 9674)

OTHER PUBLICATIONS

ACI Apron Safety Handbook

ACI Runway Safety Handbook

ACI Wildlife Hazard Management Handbook

ACI Managing Operations During Construction Handbook