



# Safety & Security: Our Priority



## State Presentation on the Certification status of the Freetown International Airport.





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2. Methodology
3. Training
4. Documentation
5. Inspectors tools & equipment

### **Airport Operator**

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2. Corrective Action Plan



## Organization

Section 67(1)(b) of the Civil Aviation Act 2019, empowers the DG to establish and Maintain:

*An Air Navigation and Aerodrome Safety Standards Inspectorate.*

Section 67(4):

*the following Departments shall be included in the Air Navigation and Aerodrome Safety Standard Inspectorates -*

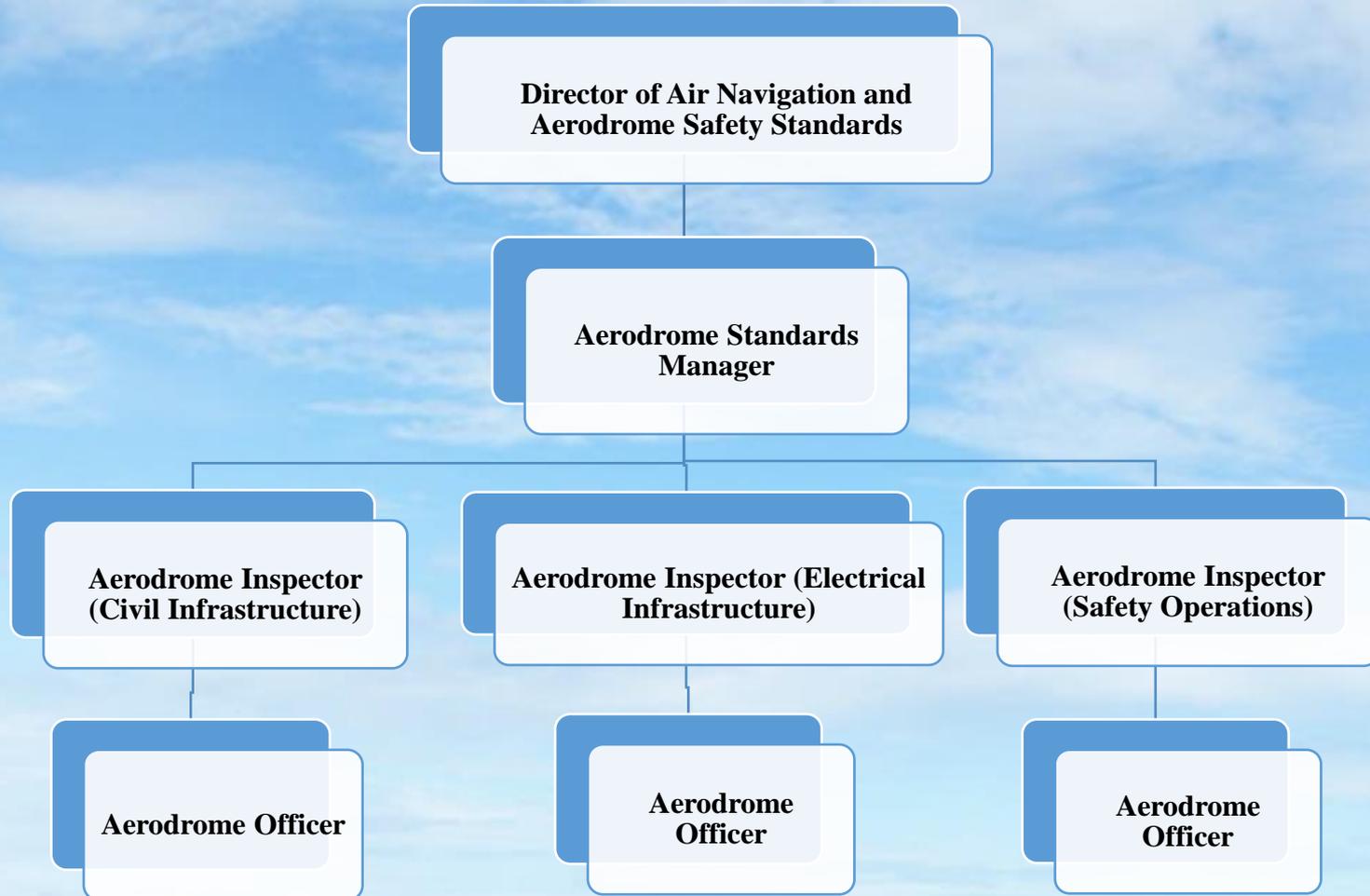
*(a) Air Navigation Standards;*

*(b) Aerodrome Standards.*



## Organization cont.

organizational structure of the Aerodromes Standards Department;





## Methodology/suitable mix of technical disciplines.

**Methodology matrix in determining the personnel strength (*Number of Planned activities/type of activity/per year X average man hour required to perform a single unit of activity*) = 5**

Name	Designation	Expert Area
Lyat O. Mason	Aerodrome Standards Manager	Civil Engineering (Civil Infrastructure, Airport Operations)
Prince B. K. Fillie	Senior Aerodrome Officer	Mechanical Engineering (Airport Operations)
David S. Kandeh	Aerodrome Officer	Civil/Structural Engineering (Civil Infrastructure)
Ansumana S. Lahai	Aerodrome Officer	Electrical & Electronic Engineering (Electrical Infrastructure)
Mohamed Y. Kamara	Aerodrome Officer	Environmental Physicist (Wildlife/RFF)



## Training

The AGA department has developed a training programme, and develops yearly training plan for all Inspectorate personnel based on a training needs assessment/scope of activities to ensure they possess the required competence appropriate level of knowledge for the performance of assigned task.

Note: Training is continuous (presently on-going). The SLCAA commits to ensuring its personnel are trained and competent to perform their oversight functions.



## Training completed

### Initial Training

Course/Activity	Lyat O. Mason	Prince B. K. Fillie	David S. Kandeh (2019)	Ansumana S. Lahai (2021)	Mohamed Y. Kamara (2022)
Indoctrination	✓	✓	✓	✓	✓
ICAO Aerodrome Certification	✓	✓	✓		
ICAO Annex 14 (Aerodrome Design and Operation)	✓	✓	✓		
Safety Management System	✓	✓			
Continuous Surveillance of Certified Aerodromes	✓	✓	✓		
Aerodrome Inspectors Course	✓	✓	✓		
Audit Techniques	✓	✓	✓		
Human Factors in Aviation	✓				
Resolution of Safety Concerns	✓	✓	✓		
Aircraft Accident Investigation					
State Safety Programme	✓	✓	✓		



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## Training completed contd.

### OJT Training

Course/Activity	Lyat O. Mason	Prince B. K. Fillie	David S. Kandeh (2019)	Ansumana S. Lahai (2021)	Mohamed Y. Kamara (2022)
Theoretical Knowledge	✓	✓	✓		
Safety Oversight Programs	✓	✓	✓		
Administrative Inspection: Aerodrome Safety Management System	✓	✓	✓		
Physical Characteristics and Movement Area Inspection	✓	✓	✓		
Signs, Marking and Lighting Systems	✓	✓	✓		
Wildlife Hazard Management	✓	✓	✓		
Airport Operations	✓	✓	✓		
Rescue and Firefighting	✓	✓	✓		
Fuel Facilities	✓				
Post Inspection Activities	✓	✓	✓		



## Training completed contd.

### Specialized Training

Course/Activity	Lyat O. Mason	Prince B. K. Fillie	David S. Kandeh (2019)	Ansumana S. Lahai (2021)	Mohamed Y. Kamara (2022)
Airport Engineering	✓	✓			
Signs, Marking and Lighting Systems					
Wildlife Hazard Management	✓	✓	✓		
Obstacle Assessment	✓				
Rescue and Fire Fighting Services					
Airport Operations					
Aeronautical Studies and Risk Assessment	✓	✓			
Runway Surface Condition Assessment and Reporting	✓	✓	✓	✓	
Compliance and Enforcement Procedures	✓	✓	✓		
Airport Emergency Plan	✓	✓			
Train the Trainer					



## Training completed contd.

### Recurrent Training

Course/Activity	Lyat O. Mason	Prince B. K. Fillie	David S. Kandeh (2019)	Ansumana S. Lahai (2021)	Mohamed Y. Kamara (2022)
ICAO Aerodrome Certification	✓	✓	✓		
Continuous Surveillance of a Certified Aerodrome					
Resolution of Safety Concerns					
Runway Surface Condition Assessment and Reporting					
Safety Management System					
ICAO Annex 14 (Aerodrome Design and Operations)	✓	✓			
Wildlife Hazard Management					
Aeronautical Studies and Risk Assessment					
Aerodrome Inspectors Course					
Signs, Marking and Lighting Systems					



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## Other Training completed

<b>Course/Activity</b>	<b>Lyat O. Mason</b>	<b>Prince B. K. Fillie</b>	<b>David S. Kandeh (2019)</b>	<b>Ansumana S. Lahai (2021)</b>	<b>Mohamed Y. Kamara (2022)</b>
<b>Introduction to Manual Management</b>	✓		✓		✓
<b>Interpersonal Competency and Professionalism</b>	✓		✓	✓	✓
<b>Introduction to Exemptions, Deviations, Waivers or Authorizations</b>	✓		✓	✓	✓
<b>Regulations and Oversight of Aerodromes and Ground Aids</b>	✓	✓			✓
<b>Safety Interviewing of aviation agents and witnesses</b>	✓	✓			
<b>Civil Aviation Management</b>	✓				
<b>ICAO USOAP CMA OLF</b>	✓				



## Documentation

### **The Civil Aviation Act, 2019:**

The Aerodrome Standards Department has made proposals for the amendment of the Civil Aviation Act in-force, to make provisions for;

- The legal basis for the establishment and use of aerodromes with clarity between permit for establishment and certification of aerodromes;
- the removal or reduction in height of any such obstruction that pose risk to aircraft operations



## Regulations:

The Sierra Leone Civil Aviation Aerodrome Regulations (SLCAR Part 14) are adopted from; ICAO Annex 14 Volumes 1 & 2, ICAO Doc 9981 (PANS Aerodromes) and ICAO Doc 9774 (Manual on Certification of Aerodromes).

Regulation		Status
SLCAR Part 14A	Aerodrome Design and Operation	Approved
SLCAR Part 14B	Heliports	Approved
SLCAR Part 14C	Certification of Aerodromes	Approved
SLCAR Part 14D	Licensing of Heliports	Approved



## Inspectors Guidance Materials:

Manuals		Status
SLCAA-O-AGA001 Ed1 Rev01	Policy and Procedure Manual	Approved
SLCAA-O-AGA002 Ed1 Rev01	Aerodrome Inspectors Handbook	WIP

The **Policy and Procedure Manual** provides;

- Benchmark for recruitment, training, qualification and experience of Inspectors
- Organizational structure and lines of reporting
- Job description, functions of the AGA Department, duties and responsibilities of technical staff
- Methodology for Staff strength

The **Aerodrome Inspectors Handbook** provides;

- Guidance for inspectors in conducting their safety oversight functions
- Procedures to be followed in meeting the requirements of the SLCARs
- Checklists to aid Inspectors during audits and inspections.



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## SLCAA Gen. Manuals:

The following are general manuals that cut across every department within the Authority;

Manuals		Status
SLCAA-O-GEN001 Ed1 Rev01	Technical Guidance Material Development Manual	Approved.
SLCAA-O-GEN002 Ed1 Rev01	Rule Making Procedure Manual	Approved
SLCAA-O-GEN003 Ed1 Rev01	Technical Library Manual	Approved
SLCAA-O-GEN004 Ed1 Rev01	Training Policy Manual	Approved



## Advisory Circulars (ACs):

There are a total of forty four (44) ACs listed by the department. Twenty seven (27) of these are already approved by the Director General (DG). Eight with the Regulations Committee (RC) for verification. Nine (9) under review (WIP).

AC Number	AC Name	Status
SLCAA-AC-AGA001 Rev00	Certification of Aerodromes	Approved
SLCAA-AC-AGA002 Rev00	Guidance on Airside Safety	Approved
SLCAA-AC-AGA003 Rev00	Assessing Operation Personnel	Approved
SLCAA-AC-AGA004 Rev01	Work Plan Safety	Approved
SLCAA-AC-AGA007 Rev00	SMGCS	Approved
SLCAA-AC-AGA008 Rev00	Preparation and Maintenance of Aerodrome Manual	Approved
SLCAA-AC-AGA009 Rev01	Ground Vehicle Operations	Approved



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AC Number	AC Name	Status
SLCAA-AC-AGA010A Rev01	Wildlife Hazard Management	Approved
SLCAA-AC-AGA010B Rev00	Reporting Bird or Wildlife Strike	Approved
SLCAA-AC-AGA011 Rev01	Control of Obstacles	Approved
SLCAA-AC-AGA012 Rev01	Assessment of Runway Friction	Approved
SLCAA-AC-AGA013 Rev00	Aircraft Fuelling Facilities and Operations	Approved
SLCAA-AC-AGA016 Rev01	Aeronautical Studies and Risk Assessment	Approved
SLCAA-AC-AGA018 Rev01	Procedure for Movement Area Closure	Approved
SLCAA-AC-AGA020 Rev01	Aerodrome Maintenance	Approved
SLCAA-AC-AGA021 Rev00	Apron Management Services	Approved
SLCAA-AC-AGA022 Rev00	Calculation of Declared Distances	Approved
SLCAA-AC-AGA023 Rev00	Changes to Aerodrome Physical Characteristics, Facilities and Equipment	Approved
SLCAA-AC-AGA024 Rev00	Aerodrome Quality Data System	Approved



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AC Number	AC Name	Status
SLCAA-AC-AGA028 Rev00	Establishment of Runway Safety Team	Approved
SLCAA-AC-AGA030 Rev00	Airport Master Plan and Layout Plan	Approved
SLCAA-AC-AGA033 Rev00	Runway Incursion Prevention Measures	Approved
SLCAA-AC-AGA035 Rev00	Guidance on Aerodrome Compatibility Study	Approved
SLCAA-AC-AGA036 Rev00	Runway Surface Condition Assessment and Reporting	Approved
SLCAA-AC-AGA041 Rev00	Disable Aircraft Removal	Approved
SLCAA-AC-AGA043 Rev00	Supplementary Guidance to SLCAR Part 14A	Approved
SLCAA-AC-AGA045 Rev00	Aerodrome Accident and Incident Reporting	Approved
SLCAA-AC-AGA005 Rev01	Guidance on Rescue and Firefighting Services	R.C
SLCAA-AC-AGA015 Rev01	Aerodrome Inspection Programme and Condition Reporting	R.C
SLCAA-AC-AGA017 Rev01	Safety Management System	R.C



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AC Number	AC Name	Status
SLCAA-AC-AGA019 Rev00	Strength Rating of Aerodrome Pavement	R.C
SLCAA-AC-AGA025 Rev00	Runway End Safety Area Programme	R.C
SLCAA-AC-AGA026 Rev00	Integration of AVSEC measures into the design and construction of new facilities and alteration of existing facilities	R.C
SLCAA-AC-AGA032 Rev00	Guidance on Exemption for non-compliances at Aerodrome	R.C
SLCAA-AC-AGA039 Rev00	Human Factor	With RC
SLCAA-AC-AGA014 Rev00	Visual Aids	W.I.P
SLCAA-AC-AGA006 Rev01	Aerodrome Emergency Planning	W.I.P
SLCAA-AC-AGA042 Rev00	Land Use and Environmental Management	W.I.P
SLCAA-AC-AGA044 Rev01	Electrical Systems	W.I.P
SLCAA-AC-AGA029 Rev01	Establishment of Aerodromes	W.I.P
SLCAA-AC-AGA034 Rev00	Guidance on Aerodrome Site Selection	W.I.P



## Inspectors Tools & Equipment

The following tools has been procured, to aid Inspectors in their safety oversight audit and Inspections of the aerodrome facilities.

ITEM	QUANTITY
Digital Measuring Wheel	2
Inclinometer	1
Digital Pit and Crack depth gauge	1
Viscometer	1
Straight Edge Meter Rule	1
Handheld Refractometer	1
Universal Distance Measuring Tool	2
Binoculars	2
Digital Tire Depth Gauge	2
Digital Clamp Tester	1
Digital calliper	1
Mag Flash Lights	1
Hand Gloves	5



## Inspectors Tools & Equipment Cont.

ITEM	QUANTITY
<b>Digital time counter</b>	2
<b>Inspector kit bag</b>	5
<b>Multi meter</b>	1
<b>Inspectors PPE (Safety boots, goggles, helmet, ear plugs etc.)</b>	5 sets
<b>laptops</b>	Each personnel
<b>Office equipment (printers, scanners, cabinets, files, etc.)</b>	As required



## Status of the Freetown International Airport

- From 22nd – 26th July 2019, a team of experts from ACI and airport member APEX Partner(s) participated in an intensive peer review, known as an APEX Safety Review, of the facilities, procedures and organization of Freetown International Airport, Sierra Leone (FNA).
- The APEX Safety Review facilitated by the SLCAA was conducted under the ACI for Airport Excellence (APEX) in Safety Programme, at the request of the airport operator, Sierra Leone Airports Authority (SLAA).
- The goal of the APEX Safety Review is to bring experienced individuals from other airports (peers) to conduct an independent assessment of the factors affecting safety at FNA, and to identify industry best practices that can be provided to enhance safety. The specific review carried out at FNA was guided by the ICAO Audit Protocol – Aerodromes, Air Routes and Ground Aids (QMSF-007/B), by the ACI “Best Industry Practice Safety Management System Gap Analysis and Audit Tool”, by the APEX Advance Questionnaire submitted by FNA, and by the “Operational Context Awareness Form” also submitted by the airport.



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The following areas were covered during the APEX review.

- Aerodrome Certification
- Aerodrome Manual
- Safety Management Systems (SMS)
- Runway Safety
- Wildlife Hazard Management
- Markings, Signs and Lighting
- Rescue and Firefighting Services
- Emergency Response
- Airside Driver and Vehicle Management
- Management of Ground Handlers
- Aeronautical/Airport Information Publication (AIP) Documentation
- Low Visibility Procedures
- Obstacle Management
- Winter Operations
- Foreign Object Damage/Debris (FOD) Management
- Movement Area Maintenance
- Movement Area Access
- Airport Works Safety
- Apron Safety Management
- Removal of Disabled Aircraft
- Hazardous Material Handling
- Airport Administrative Organization



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From the APEX review, 222 recommendations were made to address the findings.

<b>Indicators</b>	<b>No. Recommendations</b>
Physical Characteristics & Pavement Management	1-42 ( <b>42</b> )
Visual Aids	43-74 ( <b>32</b> )
Apron Management	74-94 ( <b>21</b> )
Aircraft Rescue & Firefighting (ARFF)	95-169 ( <b>75</b> )
Aerodrome Manual	170-183 ( <b>14</b> )
Safety Management System	184-206 ( <b>23</b> )
Wildlife	207-222 ( <b>16</b> )
<b>Total</b>	<b>222</b>

The related findings can be grouped into 4 categories;

1. Infrastructural Development
2. Documentation (Aerodrome Manual, SOPs, AIP update, Maps, Charts, OLS etc.)
3. Training of all operations and maintenance personnel
4. Provision of relevant working tools and equipment



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A Corrective Action Plan (CAP) was developed by the Airport Operator, and is constantly being updated.

At present, the construction of new airport facilities is ongoing and has been projected to be completed by December, 2022. This activity will address all findings of the APEX report.

<b>Development</b>	<b>Completion Date</b>
Resurfacing of the Runway	December 2022
Extension and reconstruction of the Runway Shoulders	December 2022
Construction of Apron Pavement	December 2022
Construction of service/emergency access roads	December 2022
Construction of new RFF facility (equipped)	December 2022
Construction of an Emergency Operation Center (Equipped)	December 2022
Upgrade of all applicable Visual Aids	December 2022



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Development	Completion Date
Calibration of NAV-Aids	December 2022
Provision of all relevant equipment and tools (wildlife control/deterrent, Skiddometer, grass shredder, rubber removal, pavement sweepers, PPE's, FOD control and mitigation, GRF etc.)	December 2022
Develop Aerodrome Manual, related SOPS including SMS	November 2022
Training of all operations, engineering and maintenance personnel (training programme and matrix developed)	Ongoing / continuous
Definition of the Obstacle Limitation Surfaces	December 2022
Provision of all relevant aerodrome maps and charts	December 2022



## Aerodrome Manual and related SOP's.

The table below presents a list of documentation required by the Aerodrome Operator. There are existing documents, however they are presently being reviewed by the aerodrome Operator. ICAO assistance to States for Certification of Aerodromes through ACI includes an APEX review. Since Sierra Leone has already conducted an APEX review (2019), ACI in agreement with the State will provide post review assistance in developing documents and conducting virtual trainings.

Aerodrome Manual	Apron Management
Aerodrome Reporting	Hazardous meteorological conditions
Access to the Aerodrome movement Area	Airside Vehicle Control
Aerodrome Emergency Plan	Wildlife Hazard Management
Rescue and Fire Fighting	Obstacle Control
Inspection of the movement area and OLS	Removal of Disabled Aircraft
Visual Aids and Electrical Systems	Handling of Hazardous material
Maintenance of the movement area	Low Visibility Operations
Aerodrome Works Safety	Protection of sites for Radar and NavAids



## Aerodrome Manual and related SOP's.

Accident and mandatory occurrence reporting and investigation	Aerodrome grid maps
Safety Management System	off-aerodrome map indicating wildlife attractants
Aerodrome Administration	Chart- Hydrant system
Charts - Location Plan of the Airport;	Chart- Emergency access roads / service roads
Chart - Aerodrome Pavement Markings	
Plan of the aerodrome's Electrical systems	
Chart - Location of Navigational Aids within and outside of the Aerodrome	
Aerodrome Obstacle Chart	
Charts - Obstacle Limitation Surfaces;	



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## Aerodrome Operator's Organogram (SUMMA)



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THANK YOU