



Belize Department of Civil Aviation

ADVISORY CIRCULAR

Subject: Surface Movement Guidance and Control System (SMGCS)

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1. SUBJECT

This advisory circular was developed by the Belize Department of Civil Aviation (BDCA) in order to identify and establish the appropriate combination of visual and non-visual aids, procedures, controls, regulations, direction and means of information that allow aircraft pilots and/or drivers of ground vehicles to orient themselves on the aerodrome surface and to keep aircraft and/or vehicles operating on said surface within the areas reserved for them.

Therefore, the Surface Movement and Guidance Control System (SMGCS) to be established at an aerodrome shall depend on two primary operational conditions:

- a) visibility conditions at the aerodrome for operations; and
- b) traffic density

Additionally, analysis of these conditions seeks to ensure that the elements required for a SMGCS are integrated into a strategy for the prevention of incursions on the aerodrome. Consequently, traffic density shall include the total daily statistics of national, international and military flights of the aerodrome (see Appendix B); and an on-site assessment shall be conducted at each international aerodrome to determine if the minimum requirements established in this circular for the implementation of a SMGCS are met.

2. WHAT CANCELS THIS AC.

BDCA-AGA-14-2023 is the first version of this Advisory Circular and does not cancel any previous document.

3. WHO DOES THE AC AFFECT?

This publication affects the duties and responsibilities of Aerodrome Operators in Belize managing aerodromes with aerodrome operations manuals (AOM) accepted/approved by the BDCA.

4. PERSONNEL INVOLVED

- 4.1. AGA Section Officer

4.2. Aerodrome Inspectors

4.3. Aerodrome Operators

5. ADDITIONAL READING MATERIAL:

- ICAO DOC 9476 Surface Movement Guidance and Control Systems (SMGCS)
- The publications listed in Appendix "A" provide additional information on the guidelines described in this Advisory Circular.

6. APPROVAL:



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7. INTRODUCTION

7.1. The SMGCS and Aerodrome Movement Area

A SMGCS system guides, controls, and regulates an aircraft during its journey from the runway to the apron and vice versa. This system guides additional aerodrome movements including circulation between platforms, and those between the maintenance area and the apron. This means that the SMGCS system governs both the apron/platform and the manoeuvring area of the aerodrome. Collectively these two areas are referred to as the aerodrome 'movement area'.

Notably, air traffic control personnel typically regulate the activities and movements of aircraft and vehicles in the manoeuvring area; while movement on the apron/platform is carried out by the apron management service. For additional information regarding the duties and responsibilities related to apron management, refer to Section 14 of this document.

Similarly, the SMGCS also guides, controls, and regulates all vehicles and personnel authorized to operate in the movement area of an aerodrome. Undoubtedly, the establishment of a SMGCS system plays a key role in preventing accidental and/or unlawful intrusion onto active runways (runway incursion).

7.2. Effective Implementation of SMGCS

The SMGCS is a fitting combination of visual and non-visual aids, procedures, controls, regulations, direction, and means of information. The system varies according to differences in the traffic density and visibility conditions at aerodromes. Therefore, when successfully implemented, the system's content shall correspond to the technical environment in which operations are to be carried out at the particular aerodrome/s. Accordingly, effective implementation of the SMGCS in international airports in Belize requires collaboration between personnel from General and Military Aviation, as well as Cargo and Passenger Operations.

Collectively, the following airport employees share responsibility for the successful implementation/execution of the SMGCS:

- Airport operations supervisors;
- Air traffic controllers;
- Marshals;
- Pilots;
- Personnel operating vehicles or equipment in the movement area;
- Aircraft operators.

So, pilots and motorists in general shall rely on visual aids (lighting, markings, and signage) for the identification of intersections and holding areas; and for general guidance along their assigned routes.

8. OBJECTIVES

8.1. General Objective:

Contribute to the safety of International Airports in Belize, through the implementation of a Surface Guidance and Control System (SMGCS).

8.2. Specific Objectives:

1. To provide guidance and control of aircraft from the runway to the apron parking space and vice versa;
2. To guide and control land vehicles that are required to circulate in the movement area including: airport, ground support, rescue and firefighting vehicles and those used for construction works;
3. To integrate visual and non-visual aids, communications, and radio-telephony into airport operations;
4. To resolve aircraft-aircraft and aircraft-vehicle traffic conflicts in the movement area;
5. To prevent inadvertent entry of aircraft, vehicles, or persons into the manoeuvring area and sensitive areas of the ILS;
6. To prevent undue or accidental entry of aircraft, vehicles, or persons onto an active runway.

9. GENERAL INFORMATION

9.1. Definitions and Acronyms

Where the following terms appear in the content below, they shall have the following meanings:

Aerodrome. A defined area of land or water that includes all buildings, installations, and equipment intended wholly or partially for the arrival, departure, and surface movement of aircraft.

Aerodrome Operation Manual (AOM). A document - prepared by an aerodrome operator and approved by the BDCA - containing the information required to certify that an aerodrome, its facilities, services, equipment, systems, and operational procedures comply with the provisions of these regulations; and that the aerodrome is suitable for the aircraft operating in it.

Aeronautical Authority. The authority designated by the Government of Belize to issue an Aerodrome Certificate.

AIP. Aeronautical Information Publication.

AIS. Aeronautical Information Services

AOS. Abbreviation for 'Airport Operations Supervisors', indicating the personnel authorized to supervise the movement area of aerodromes to ensure operational safety.

Belize Department of Civil Aviation. (BDCA) The body - based on the Civil Aviation Law - which is authorized to supervise, monitor, and regulate airport services, regulations and complementary provisions of civil aviation in Belize.

Certified Aerodrome. An aerodrome managed by a legal entity that has been granted an aerodrome certificate by the aeronautical authority of Belize.

Certified Aerodrome Operator or Administrator. The term denoting the legal individual or entity which manages an international aerodrome, holds the corresponding aerodrome certificate, and as such is - for the purposes of this regulation - responsible for the correction of any non-compliance identified regarding the operational safety of the aerodrome.

FOD. Acronym meaning 'Foreign Objects Debris/Damage'. A term used to describe damage to an aircraft caused by small objects or birds ingested by engines, and debris identified before prior to causing any damage to an aircraft.

ICAO. Acronym meaning 'International Civil Aviation Organization'.

International Airport. An aerodrome for public use which has buildings, facilities, equipment and services for the arrival, departure and movement of aircraft, passengers and cargo; where Customs, Health, Immigration and other complementary services are provided.

Manoeuvring area. Part of the aerodrome to be used for take-off, landing, and taxiing of aircraft - which does not include aprons/platforms.

Movement area. Part of the aerodrome to be used for take-off, landing and taxiing of aircraft, consisting of the manoeuvring area and aprons/platforms.

Obstacle. Any fixed/movable object or part thereof - whether temporary or permanent - which is located in an area intended for the movement of aircraft on the ground, or which protrudes from a defined surface intended to protect aircraft in flight.

Obstacle limitation surfaces (OLS). The term referring to a series of imaginary surfaces defining the airspace surrounding aerodromes that must remain obstacle-free to ensure that scheduled aircraft operations are carried out safely, and prevent aerodromes from being rendered non-functional by the multiplicity of obstacles in their surroundings.

Paved areas. A term referring to the areas of an aerodrome such as: runways, taxiways, ramp and aircraft parking areas that are fitted with an outdoor floor or superficial covering of concrete, asphalt, or other improved wearing surface.

Platform. A defined area at a land aerodrome - also referred to as an apron - intended to accommodate aircraft for the purposes of embarking or disembarking passengers, mail or cargo; parking; or perform maintenance work.

Runway. A defined rectangular area of a ground aerodrome prepared for aircraft landing and take-off.

Runway Strip. A defined area comprising the runway intended to reduce the risk of damage to aircraft in the event of a runway excursion, and to protect aircraft overflying the runway during take-off or landing operations.

Taxiway strip. An area that includes a taxiway, intended to protect an aircraft in operation on its surface, and reduce the risk of damage in the event of a taxiway excursion.

The Law. Civil Aviation Act or any other law containing provisions relating to aviation.

Unpaved areas. Green areas of aerodromes including runway and taxiway strips.

10. VISIBILITY AND TRAFFIC CONDITIONS.

In order to establish a SMGCS in an International Airport, the first step will be to establish the operating capacity according to visibility and traffic conditions. This is in accordance with the guidance provided in Table 2-1 of Document 9476 'Manual of Surface Movement Guidance and Control Systems' of the International Civil Aviation Organization (ICAO).

Table 1: Visibility and transit conditions for SMGC systems - Explanation of terms

10.1. Visibility Conditions

- Sufficient visibility to enable the pilot to taxi-take and visually avoid any collision with other traffic on taxiways and at intersections and to enable control unit personnel to visually monitor all traffic;
 - Visibility sufficient to enable the pilot to conduct taxiing and visually avoid any collision on taxiways and at intersections, but insufficient for control unit personnel to visually control all traffic; and
 - Poor visibility operations - Visibility less than 400m RVR (See Table 1, p. 8)
-

10.2. Traffic Density - (During the average rush hour determined by the State)

- Low. Less than or equal to 15 movements per runway, or less than a total of 20 movements at the aerodrome (See Table 2);
- Medium - Of the order of 16 to 25 movements per runway, or a total of 20 to 35 movements at the aerodrome; and
- Intense - Of the order of 26 movements or more per runway, or greater than a total of 35 movements at the aerodrome.


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Table 1-1: Sample Chart - Visibility Conditions

Airport	Type of Operation	Visibility		Visibility Conditions
		RVR(m)	SKY(ft)	
	No. Precision	550	200	1
	CAT I	550	200	1
	CAT I	550	200	1
	CAT I	550	200	1

Note: 1. See Approach charts in EAIP for Meteorological Minimums
 2. MZBZ airport's meteorological minimums.

Table 1-2: Sample Chart - Traffic Density

Airport	Year	Month	Movements/day	Maximum Operations / Hour	Transit Conditions
	2022	March	132	16	Light
	2023	February	138	16	Light

10.3. Conclusion

- In Tables 1 and 2 above the visibility conditions and traffic density in the airport present Light Traffic Condition and Visibility 1; therefore, according to the requirements established in Tables 2-2 and 2-3 (below), the appropriate choice of a SMGC system procedure will be for those both conditions.

Table 2: Guidance on selecting SMGC system aids

Aid	Traffic condition —	Light			Medium			Heavy			ICAO DOCUMENT REFERENCE*
	Visibility condition —	1	2	3	1	2	3	1	2	3	
Apron markings		×	×	×	×	×	×	×	×	×	Annex 14, Chapter 5; <i>Aerodrome Design Manual</i> , Part 4, Chapter 2
Runway centre line marking		×	×	×	×	×	×	×	×	×	Annex 14, Chapter 5
Taxiway centre line marking		×	×	×	×	×	×	×	×	×	Annex 14, Chapter 5
Taxi-holding position marking		×	×	×	×	×	×	×	×	×	Annex 14, Chapter 5
Visual aids for denoting restricted use areas		×	×	×	×	×	×	×	×	×	Annex 14, Chapter 7
Runway edge lights		×	×	×	×	×	×	×	×	×	Annex 14, Chapter 5; <i>Aerodrome Design Manual</i> , Part 5, Chapter 3
Taxiway edge lights		×	×	×	×	×	×	×	×	×	Annex 14, Chapter 5; <i>Aerodrome Design Manual</i> , Part 5, Chapter 3
Obstacle lighting		×	×	×	×	×	×	×	×	×	Annex 14, Chapter 6; <i>Aerodrome Design Manual</i> , Part 4, Chapter 14
Signs		×	×	×	×	×	×	×	×	×	Annex 14, Chapter 5; <i>Aerodrome Design Manual</i> , Part 4, Chapter 11
Taxiway intersection marking		×	×	×	×	×	×	×	×	×	Annex 14, Chapter 5
Charts (aerodrome, movement, apron)		×	×	×	×	×	×	×	×	×	Annex 4, Chapters 13, 14 and 15
Aerodrome control service		×	×	×	×	×	×	×	×	×	Annex 11, PANS-RAC
Signalling lamp		×	×	×	×	×	×	×	×	×	Annex 14, Chapter 5
Radiotelephony equipment		×	×	×	×	×	×	×	×	×	Annex 11, Chapter 6
Taxi-holding position lights				×		×	×	×	×	×	Annex 14, Chapter 5
Clearance bars				×		×	×		×	×	Annex 14, Chapter 5
Electrical monitoring system for lights			×	×		×	×	×	×	×	Annex 14, Chapter 8; <i>Aerodrome Design Manual</i> , Part 5, Chapter 3
Taxiway centre line lights				×			×			×	Annex 14, Chapter 5; <i>Aerodrome Design Manual</i> , Part 5, Chapter 3
Stop bars				×		×	×		×	×	Annex 14, Chapter 5; <i>Aerodrome Design Manual</i> , Part 5, Chapter 3
Selective switching capability for taxiway centre line lights							×			×	<i>Aerodrome Design Manual</i> , Part 4, Chapter 10 and Part 5, Chapter 3
Selective switching capability for apron taxiway centre line lights							×			×	<i>Aerodrome Design Manual</i> , Part 4, Chapter 10 and Part 5, Chapter 3
Surface movement radar (SMR)							×		×	×	<i>Air Traffic Services Planning Manual</i>
Aircraft stand manoeuvring guidance lights				×			×			×	Annex 14, Chapter 5
Runway clearance aid				×			×		×	×	Annex 14, Chapter 5
Secondary power supply				×		×	×		×	×	Annex 14, Chapter 8; <i>Aerodrome Design Manual</i> , Part 5, Chapter 2
Visual docking guidance system							×		×	×	Annex 14, Chapter 5; <i>Aerodrome Design Manual</i> , Part 4, Chapter 12

* See Appendix A for further information on visual aids

Source: Table 2-2, Document 9476, International Civil Aviation Organization.

Table 3: Guidance on selecting SMGC system procedures

Procedure	Traffic condition —			Medium			Heavy			ICAO DOCUMENT REFERENCE*
	Visibility condition —	Light		1	2	3	1	2	3	
<i>Aerodrome authority</i>										
Periodic electrical monitoring of SMGC aids	×	×	×	×	×	×	×	×	×	Annex 14, Chapter 8 and Chapter 3 of this manual
Designation of taxiways	×	×	×	×	×	×	×	×	×	See Chapter 3 of this manual
Movement area inspections and reporting	×	×	×	×	×	×	×	×	×	Annex 14, Chapter 2 and Chapter 3 of this manual
Regulation of ground staff conduct on the movement area	×	×	×	×	×	×	×	×	×	See Chapter 3 of this manual
Initiation of amendment of aerodrome charts as necessary	×	×	×	×	×	×	×	×	×	See Chapter 6 of this manual
Regulation of ground staff radiotelephony procedures	×	×	×	×	×	×	×	×	×	Annex 10, PANS-RAC
Establishment of standard taxi routes			×		×	×	×	×	×	See Chapters 3 and 6 of this manual
Low visibility movement area protection measures			×			×			×	See Chapter 5 of this manual
Continual electrical monitoring of SMGC aids			×			×			×	Annex 14, Chapter 8 and Chapter 3 of this manual
<i>ATS</i>										
Visual monitoring of SMGC aids	×	×	×	×	×	×	×	×	×	Annex 11, Chapter 7 and Chapter 3 of this manual
Use of radiotelephony procedures and phraseology	×	×	×	×	×	×	×	×	×	Annex 10, PANS-RAC, Part 9 and the <i>Manual of Radiotelephony</i>
Use of signalling lamp	×	×	×	×	×	×	×	×	×	Annex 2, Appendix A
Control of other than aircraft traffic on the manoeuvring area	×	×	×	×	×	×	×	×	×	PANS-RAC, Part 5
Operation of lighting aids	×	×	×	×	×	×	×	×	×	PANS-RAC, Part 5
Determination of the taxiway route to be followed			×		×	×	×	×	×	PANS-RAC, Part 5 and Chapter 3 of this manual
Application of sequencing procedure			×	×	×	×	×	×	×	See Chapter 4 of this manual
Initiation and termination of low visibility procedures			×			×			×	PANS-RAC, Part 5 and Chapter 5 of this manual
Application of separation criteria			×			×			×	PANS-RAC, Part 5, and Chapter 4 of this manual
Continual electrical monitoring of SMGC aids			×			×			×	Annex 11, Chapter 7 and Chapter 3 of this manual
Monitoring of surface movement on SMR						×		×	×	See Chapter 4 of this manual
Selective switching of taxiway centre line lights						×			×	<i>Aerodrome Design Manual</i> , Part 4 and PANS-RAC, Part 5
Selective switching of stop bars			×		×	×		×	×	<i>Aerodrome Design Manual</i> , Part 4 and PANS-RAC, Part 5

* See Appendix A for further information on visual aids

Source: Table 2-3, Document 9476, International Civil Aviation Organization.

Table 3: Guidance on selecting SMGC system procedures cont'd.


Procedure	Traffic condition —	Light			Medium			Heavy			ICAO DOCUMENT REFERENCE*
	Visibility condition —	1	2	3	1	2	3	1	2	3	
Pilot											
Adherence to ground movement traffic rules and regulations		×	×	×	×	×	×	×	×	×	Annex 2, PANS-RAC
Use of radiotelephony procedures and phraseology		×	×	×	×	×	×	×	×	×	Annex 10, PANS-RAC and the <i>Manual of Radiotelephony</i>
Apron management											
Apron regulations and procedures		×	×	×	×	×	×	×	×	×	Annex 14, Chapter 9 and Chapter 8 of this manual
Emergency procedures		×	×	×	×	×	×	×	×	×	Chapters 5 and 8 of this manual
Communication procedures with ATS		×	×	×	×	×	×	×	×	×	Chapters 4 and 8 of this manual
Stand allocation and information		×	×	×	×	×	×	×	×	×	Chapter 8 of this manual
Apron security procedures		×	×	×	×	×	×	×	×	×	Chapter 8 of this manual
Operation of lighting and docking aids				×			×			×	Chapter 8 of this manual
Provision of discrete RTF channel							×	×	×	×	Chapter 8 of this manual
Low visibility procedures				×			×			×	Chapter 5 of this manual

* See Appendix A for further information on visual aids

Source: Document 9476, International Civil Aviation Organization.

Table 4: Guidance regarding the selection of SMGCS aids – Airports

SMGCS Aids	ICAO Consultation Document
Platform markings	Annex 14, Chapter 5; <i>Aerodromes Project Manual</i> , Part 4, Chapter 2
Runway centre line markings	Annex 14, Chapter 5
Taxiway axle signs	Annex 14, Chapter 5
Standby signs in filming	Annex 14, Chapter 5
Visual aids to indicate restricted use areas	Annex 14, Chapter 7
Runway edge lights	Annex 14, Chapter 5, <i>Aerodrome Project Manual</i> , Part 5, Chapter 3
Taxiway edge lights	Annex 14, Chapter 5, <i>Annual aerodrome project</i> , Part 5, Chapter 3
Obstacle lighting	Annex 14, Chapter 6, <i>Aerodrome Project Annual</i> Part 4, Chapter 14
Signs	Annex 14, Chapter 5; <i>Aerodrome Project Manual</i> , Part 4, Chapter 11
Taxiway intersection signs	Annex 14, Chapter 5
Plans (aerodrome, movement area, platform)	Annex 4, Chapters 13, 14, and 15
Aerodrome control service	Annex 11, PANS-RAC
Signal lamp	Annex 14, Chapter 5

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11. GUIDANCE ON THE SELECTION OF PROCEDURES FOR THE SMGCS

11.1. Basic needs related to responsibilities

- As in the previous section, the following presents a list of the duties and responsibilities airport personnel are required to complete for the effective establishment of a SMGCS - in accordance with Table 2-3 'Guidance regarding the selection of procedures of the SMGC system' based on ICAO Document 9476, visibility conditions, and traffic density (see page 10).

Table 5: Airport personnel duties & responsibilities re: SMGCS

DUTIES & RESPONSIBILITIES	
AERODROME MANAGEMENT	Periodic electrical monitoring of SMGCS aids (Annex 14, Chapter 3 and 8 Doc. 9476)
	Taxiway Designation Chapter 3 Doc. 9476
	Inspection of the movement areas and communication of information
	Regulation of the performance of ground personnel in the movement area Chapter 3 Doc. 9476
	Commencement of amendment of aerodrome plans as necessary Chapter 6 Doc. 9476
	Regulation of the application of radiotelephone procedures by ground personnel.
ATS	Visual control of SMGCS aids (ATC Operating Procedures Manual)
	Use of radiotelephone procedures and phraseology (ATC Manual of Operational Procedures)
	Non-aircraft traffic control in the manoeuvring area (ATC Operating Procedures Manual)
	Use of the signal lamp (ATC Operating Procedures Manual)
	Operation of light aids (ATC Operating Procedures Manual)
PILOT	Observance of regulations relating to the movement of transit on the surface
	Use of radiotelephone procedures and phraseology
ADDRESS ON PLATFORM *	Regulations and procedures applicable on the platform (Annex 14)
	Emergency Procedures Chapters 5 and 8, Doc. 9476
	Communication with ATS
	Allocation of parking spaces and communication of information (Annex 14)
	Security procedures applicable on the platform (Annex 14)

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* When referring to platform management, the form of operation of the Airport is, start-up of engines and assignment of positions to pilots by the air traffic service (ATS) and supervision of the handling of vehicles and people on the platform, control of vehicles and drivers, control of boarding positions, by the Supervisor of airport operations.

12. DIVISION OF RESPONSIBILITIES

In addition to the responsibilities set forth in this circular, employees shall act in strict compliance with requirements of the respective operating manuals, emergency and/or contingency plans of each department/section involved in the implementation of the SMGCS.

Likewise, all airport personnel and/or persons with approved access to relevant areas of the aerodrome - that may have experienced or witnessed an incident/accident thereon - shall report the event and provide documented information to approved representatives of the Airport and the Belize Department of Civil Aviation (BDCA).

The owner and/or operator of an aircraft involved in an accident/incident at an Airport shall provide the required information and documentation to airport personnel for the preparation of an incident report. If deemed necessary or as a requirement of internal procedures, the aircraft manager may submit an additional written report.

The Airport accident notification procedures in no way contravene the responsibilities of Accident Investigators. In the event of an incident/accident at the airport involving a vehicle; airport operations supervisors shall prepare a written report following the 'Procedure for Notification of Incidents or Accidents in the movement area'.


Prior to defining the duties and responsibilities of the different entities involved in the implementation of the SMGCS, each one shall comply with the training plan for the relevant personnel to ensure effective implementation of the system. The training plan shall include tuition in ICAO Document 9476 and the SMGCS.

12.1. Air Traffic Services (ATS)

The duties and responsibilities of the Airport Air Traffic Service are, among others:

- a) authorize and control movements in the manoeuvring area, taking into account aircraft, vehicles, and persons;
- b) issue authorizations and instructions for the towing, backhaul, and taxiing of aircraft in the movement area;
- c) record all landings/arrival flights at the airport;
- d) monitor the movement area and report to the relevant airport personnel via internal frequency radio, any event or situation that may endanger operational safety;
- e) inform the Shift Supervisor, Control Tower of any news that may affect operational safety and require the coordination/intervention of other dependencies; and prepare a report as per the written instructions in the control tower safety management system (SMS);
- f) coordinate with Airport Operations for the towing of aircraft and vehicles.

All communication with the control tower for operating vehicles in the manoeuvring

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area shall be done via the frequency used for ground and airline support vehicles. For airport personnel, communication with the control tower shall be done via the internal frequency radio.


12.2. Airport Operations Supervisor - Duties and Responsibilities

In relation to the SMGCS, the responsibilities of the Airport Operations Supervisor (AOS) are:

- a) ensure compliance with regulations in the movement area corresponding to platforms and taxiways;
- b) supervise and control the positions of each of the docks and boarding positions of passengers and cargo, before, during, and after the use of said positions, by aircraft;
- c) supervise and control vehicular traffic on service streets, compliance and enforcement of airport regulations;
- d) supervise the different movement areas at the Airport and report observations/findings according to the established procedures;
- e) record daily aircraft movements and different events occurring in areas under their authority;
- f) comply with AOM provisions regarding the supervision of vehicles to ensure high standards of operational safety such that: vehicles/elements (involved in incidents?) are removed to prevent contamination of the movement area; operating permits are immediately suspended, and established procedures are followed and documented;
- g) conduct surveillance to ensure that personnel utilize safety vests in accordance with the relevant regulations and specifications on the air side of the Airport;
- h) provide support re: aircraft operation in cases where escort services are required;
- i) Issue written notices of infringement and/or non-compliance with airport and operational regulations as required.
- j) coordinate with and/or supervise coordination with airline and ground handling personnel.
- k) Taxiing aircraft when necessary.

12.3. Pilots - Duties and Responsibilities

- a) comply with the standards prescribed in the AIP and current regulations;
- b) abide by the instructions provided by the control tower at the surface radio and control tower frequencies as required;
- c) request the assistance of airport operations personnel re: incidents/accidents in the movement area of the aerodrome;
- d) maintain a listening watch on the appropriate frequency specified for use;
- e) consult with approved ground support staff for assistance re: accessing a parking space on the apron;
- f) coordinate with the control tower for the assignment of a parking space on the apron;
- g) Await authorization from the control tower prior to occupying parking spaces on the

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- apron;
- h) consult with ATC scheduled times for towing and/or taxiing of aircraft by complying with the assigned schedule, and informing the relevant personnel in a timely manner when compliance is not possible;
 - i) inform the control tower of all unsafe conditions observed during operations allowing immediate corrective action to be taken and/or the appropriate personnel to be informed;
 - j) pilots-in-command shall collaborate with ground support personnel to implement precautionary measures to avoid dangerous situations and/or damage to third parties during engine start-up and subsequent taxiing; giving special consideration to: the proximity of buildings; facilities; nearby aircraft embarking/disembarking passengers or cargo; the circulation of vehicles and ground support equipment; and pedestrian traffic.

12.4. Ground Support Personnel - Duties and Responsibilities


- a) comply with established aircraft taxiing markings;
- b) wear fluorescent safety vest in the movement area for easy visibility to pilots;
- c) ensure that the apron taxiing area and the taxiways are free of foreign object debris (FOD) before, during, and after operations;
- d) maintain the operation of vehicles in optimal condition to prevent any mechanical damage in the movement area of the aerodrome.
- e) apply the restrictions established by ATC.
- f) ensure that sufficient extinguishing equipment is available in the different boarding positions of the aircraft for initial intervention in case of fuel ignition; along with trained personnel to manage a fuel spill or fire. Apply the procedures established both in the airline manual and in the aerodrome operations manual (AOM);
- g) hire qualified personnel for the different tasks to be carried out ensuring that these individuals possess the license/s required to successfully complete their duties;
- h) provide staff training re: driving within the Airport and uses of the different vehicles;
- i) Conduct visual inspections of aircraft assisted by third parties and in coordination with ATS to ensure that there is no danger of collision with any person, aircraft, vehicle or object in the area prior to operating/towing an aircraft.

13. AIRCRAFT MOVEMENTS IN THE MOVEMENT AREA

13.1. Platform Management Service

On airport platforms where apron management is not provided, avoiding collisions with other aircraft, vehicles or obstacles is the responsibility of:

- a) pilots on platform;
- b) drivers circulating service roads;
- c) ground handling companies during operations and towing processes.

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13.2. Towing and taxiing associated with the arrival of aircraft

In addition to the provisions of the AIP, for taxiing manoeuvres associated with arrival, the pilot-in-command must apply the following rules:

- a) ground manoeuvres for the departure of aircraft from apron parking spaces shall be adjusted to follow the guide lines that are marked on the surface;
- b) turbine aircraft (reference key C or higher) parked in different spaces and aprons of the Airport shall be towed from their parking space to the taxiway prior to engine start-up;
- c) with the exception of propeller aircraft that use any of the positions of the air terminal; any propeller aircraft parked in the international ramp positions may enter or leave the apron self-propelled with the pilot-in-command and ground handling personnel sharing responsibility for the operation, taking into account the operational safety of the surrounding positions;
- d) all reference code A and B aircraft stationed on the different platforms or hangars of an airport may be self-propelled with the pilot-in-command and ground handling personnel sharing responsibility for the operation.

14. VEHICULAR CIRCULATION

14.1. Control and Authority


The Airport Operations Department is responsible for the sanctioning of individuals violating established driving regulations. In cases where persons are caught in the act of committing an offence which threatens air or airport security as determined by the SMS or OPS personnel; immediate preventive measures shall be taken to neutralize the dangerous situation created by the offender, which may include driving and removal measures of people, for which there is the supervision of the Airport Operations Supervisors and the support of the airport operations and security staff.

14.2. Staff Qualification

All vehicles traveling within the movement area must be operated by qualified personnel; the term 'qualified personnel' referring to airport personnel who have been instructed and evaluated in compliance with the instruction curriculum established in the Airport Operations Manual.

14.3. Characteristics of Vehicles to be Operated

All vehicles to be operated in the apron area must comply with the requirements of the Airport Operators Manual.

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14.4. Rules of Driving in Movement Area

Vehicles authorized to transit the movement area must comply with all the rules established in the Airport Operations Manual.

14.5. Fuel Supply

- a) Every supplier is obliged to conduct regular vehicle maintenance services to preserve fuel trucks and other equipment used in the provision of this service in optimal conditions, and to have qualified and trained personnel operating them.


14.6. Circulation Priority

Priority circulation in the movement area is as follows:

- a) Moving aircraft with their own traction;
- b) Aircraft that is being rolled, dragged, or towed;
- c) Vehicles responding to an emergency;
- d) Vehicles circulating on service roads;
- e) Vehicles to be incorporated onto the service roads

15. Regulatory Framework applicable to the PGIA

The regulatory framework applicable to the PGIA established in BCAR 14 and BCAR 139 will include the requirements described in this circular in accordance with the condition of light traffic and good visibility, therefore regulations related to visual aids for other conditions will not be applicable to this aerodrome.

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Appendix A: Data for the Calculation of the SMGCS System

Visibility Conditions

Procedure:

1. In the EAIP in the COCESNA website, in part 3 Aerodromes (AD), in +AD 2 Aerodromes, there is the description of the Philip Goldson International Airport
2. With the data obtained from the approach charts, it was observed that the values are in visibility condition 1(one) for the PGIA.

Traffic Density Conditions

Procedure:

1. The annual data for the BDCA's Global Aircraft Movement, in the most recent years to the study, is analysed.
2. The maximum total values for each year of each Airport are selected.
3. The maximum values for the years analysed are compared and the maximum value is chosen, and it is described in which month and day this value is presented.
4. The movement data on the selected days is reviewed and the traffic density is taken during the

Appendix B Traffic Statistics for PGIA 2022 and 2023

CIVIL AVIATION STATISTICS													
P.S.W.GOLDSON INTERNATIONAL AIRPORT													
2022													
AIRCRAFT MOVEMENT MONTH	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ACCRUED TOTAL
1. INTL SCHEDULED													
2. INTL UNSCHEDULED													
INTL TOTAL	855	752	870	839	733	656	742	668	426	456	577	696	8270
3. DOMESTIC MVMT	2302	2431	3130	2745	2319	2405	2493	1899	1238	1447	2005	2582	26996
TOTAL MVMT	3157	3183	4000	3584	3052	3061	3235	2567	1664	1903	2582	3278	35266
PRIVATE A/C	60	76	87	79	66	48	51	47	50	44	60	55	194
MILITARY A/C	23	10	15	14	26	9	7	8	8	1	6	4	33
TOTAL A/C MVMT	83	86	102	93	92	57	58	55	58	45	66	59	227
source: BDCA AIS-ARO Service													
Average per day INTL	28	27	28	28	24	22	24	22	14	15	19	22	
Average per day domestic	74	87	101	92	75	80	80	61	41	47	67	83	
Average per day private	2	3	3	3	2	2	2	2	2	1	2	2	
Hours per day Intl	104	116	132	122	101	104	106	84	57	63	88	108	
Hours per day domestic	4												
Hours per day private	12												
Hours per hour Intl	3												
Average per hour Intl	7	7	7	7	6	5	6	5	4	4	5	6	
Average per hour domestic	6	7	8	8	6	7	7	5	3	4	6	7	
Hours per hour private	1	1	1	1	1	1	1	1	1	0	1	1	
Total per hour civil aviation	14	15	16	15	13	13	13	11	8	8	11	13	3
2023													
P.S.W.GOLDSON INTERNATIONAL AIRPORT													
AIRCRAFT MOVEMENT MONTH	JAN	FEB	MARCH	APRIL	MAY	JUNE	JULY	AUG	SEPT	OCT	NOV	DEC	ACCRUED TOTAL
1. INTL SCHEDULED	771	732	872	751	632	683							4441
2. INTL UNSCHEDULED													
INTL TOTAL	771	732	872	751	632	683	0	0	0	0	0	0	4441
3. DOMESTIC MVMT	3195	3051	2892	2574	2071	1952							15735
TOTAL MVMT	3966	3783	3764	3325	2703	2635	0	0	0	0	0	0	20176
PRIVATE A/C	75	72	95	82	49	53							35911
MILITARY A/C	7	15	7	7	6	4							56087
TOTAL A/C MVMT	853	819	974	840	687	740	0	0	0	0	0	0	96439
source: BDCA AIS-ARO Service													
Average per day INTL	25	26	28	25	20	23							
Average per day domestic	103	109	93	86	67	65							
Average per day private	2	3	3	3	2	2							
Hours per day Intl	130	138	124	114	89	90							
Hours per day domestic	4												
Hours per day private	12												
Hours per hour Intl	3												
Average per hour Intl	6	7	7	6	5	6							
Average per hour domestic	9	9	8	7	6	5							
Hours per hour private	1	1	1	1	1	1							
Total per hour civil aviation	16	16	16	14	11	12	2						
Estimated maximum flights/hour	16		Standard deviation ±3			2022							
Conclusion: According to the traffic statistics 2022 and 2023 including a positive standard deviation the maximum flights per hour expected are below 20. In consequence the MZBZ should be considered a LIGHT TRAFFIC aerodrome													