شركة طيبة لتشغيل المطارات
Tibah Airports Operation Co.

Manual

AERODROME MANUAL

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Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

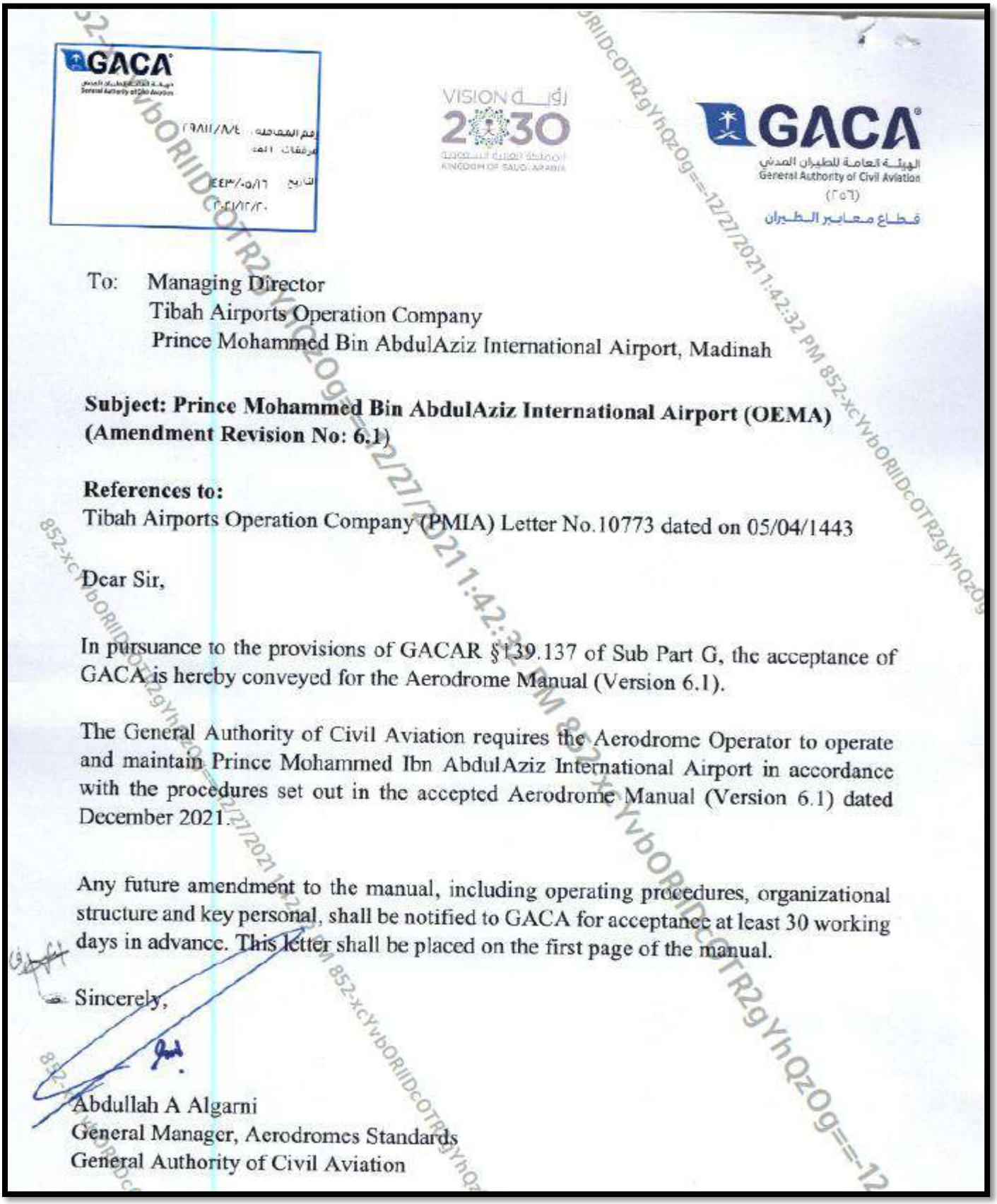
Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P.			

II. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 December 2021	- New GACA regulations (GACAR 139 – V7) - Replacement of old VASIS by PAPIs - Cancellation of SWY 36	All	Hassan Al Bar Safety and Aerodrome Operations Director

III. GACA Acceptance



GACA
رقم المعاملة: ٢٩١١/٨/٤
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VISION 2030
KINGDOM OF SAUDI ARABIA

GACA
الهيئة العامة للطيران المدني
General Authority of Civil Aviation
(٢٥٦)
قطاع معايير الطيران

To: Managing Director
Tibah Airports Operation Company
Prince Mohammed Bin AbdulAziz International Airport, Madinah

Subject: Prince Mohammed Bin AbdulAziz International Airport (OEMA) (Amendment Revision No: 6.1)

References to:
Tibah Airports Operation Company (PMIA) Letter No.10773 dated on 05/04/1443

Dear Sir,

In pursuance to the provisions of GACAR §139.137 of Sub Part G, the acceptance of GACA is hereby conveyed for the Aerodrome Manual (Version 6.1).

The General Authority of Civil Aviation requires the Aerodrome Operator to operate and maintain Prince Mohammed Ibn AbdulAziz International Airport in accordance with the procedures set out in the accepted Aerodrome Manual (Version 6.1) dated December 2021.

Any future amendment to the manual, including operating procedures, organizational structure and key personal, shall be notified to GACA for acceptance at least 30 working days in advance. This letter shall be placed on the first page of the manual.

Sincerely,

Abdullah A Algarni
General Manager, Aerodromes Standards
General Authority of Civil Aviation

AMENDMENT **RECORD**

Amendment Number	Amendment Date	Affected Pages	Effective Date	Section Number	Incorporated by	Remarks
1	OCT 2021	Part2 page 6 of 9	DEC 2021	2.6	Eng. H. Al Bar	Aerodrome Key Personnel (Post Holder) data update in accordance with GACAR 139-ED7
2	OCT 2021	Part2 page 7 of 9	DEC 2021	2.8	Eng. H. Al Bar	Aerodrome Communication Directory is updated
3	OCT 2021	Part3 page 15 of 25	DEC 2021	3.2.9	Eng. H. Al Bar	Data of General Description of Airport has been updated
4	FEB 2021	Part3, Part 4, annex (SOPs) and Annex B	DEC 2021	Part 3, Part4, Annex A (Layouts in all SOPs) and Annex B (Layouts)	Eng. H. Al Bar	VASIS for RWY 18/36 is replaced with PAPIs (Related layouts and Tables and the list of authorized deviations table all have been updated) (***ref***: GACA letter No.50118/13/5 Dated on 25/2/2021 & GACA letter No.15635/18/5 dated on 21/10/2020)
5	FEB 2021	Part4, page 2 of 2	DEC 2021	4	Eng. H. Al Bar	Old information signboards on RWY 18/36 are replaced by new approved signboards - List of Authorized Deviations table updated. (***ref***: GACA letter No.8578/13/5 Dated on 20/6/1439 AH – Item No.9)
6	AUG 2021	Part 3 and Annex A	DEC 2021	All layouts in Part 3, annex A and annex B	Eng. H. Al Bar	SWY 36 is cancelled accordingly RESA 36 and strip of RWY 18/36 dimensions have been modified (***ref***: GACA letter No.52559/13/5 Dated on 8/3/2021)
7	OCT 2021	Annex A SOP 21 Page 6 of 7	DEC 2021	7.0	Eng. H. Al Bar	Protection Of Sites For Radar & Navigation Aids – Radar Protection zone included (***ref***: GACA letter No.14698/2/9 Dated on 7/10/2021)
8	OCT 2021	Annex A, SOP No. 44, page 1 of 1	NOV 2021	Annex A, SOP 44	Eng. H. Al Bar	Global Reporting Format implementation procedures have been incorporated. (***ref***: GACA letter No.17121/8/4 Dated on 18/10/2021)
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PART 1

INTRODUCTION

1.0 Introduction

1.1 Purpose of the Aerodrome Manual

The purpose of the manual is to ensure that the aerodrome operator complies with the GACA Standards (GACAR part 139).

The manual will serve as a guide in fulfilling the requirements of GACA *t*o ensure the appropriate delegation of responsibilities & accountabilities from the management of the service provider in order to maintain the quality of safety, regularity and efficiency of aircraft operations of the aerodrome.

The Manual will also serve as:

- A guide for implementing the aerodrome emergency plan and airport familiarization.
- A source of readily available information in the conduct of the daily operations of the airport.
- A source of a comprehensive living reference (continuously updated) to enhance existing processes to maintain the quality and standard in the overall management, operations and maintenance of the airport
- **A STATEMENT TO INDICATE THAT THE AERODROME MUST AT ALL TIMES, WHEN IT IS AVAILABLE FOR THE TAKEOFF AND LANDING OF AIRCRAFT, BE SO AVAILABLE TO ALL PERSONS ON EQUAL TERMS AND CONDITIONS.**

1.1.1 General Information of PMIA/OEMA

- Type of permitted flights – IFR/VFR
- The aerodrome meets the aircraft operational needs of greater Madinah area. It serves the commercial domestic, international, general aviation and military traffic demands of the area.
- The airport can accommodate and handle types of aircraft in the category of up to **Code 4F**. If RWY 17/35 is not operational for any reason, the airport is downgraded to Code 4E. In case the airport is downgraded to Code 4E, this situation will be published by a NOTAM.
- Additional Information (Bird Hazard, Wind Shear Phenomena & Turbulence): Additional information is published in AIP.
- Unless the airport is closed with a NOTAM, the airport will serve all persons on equal terms and conditions.
- The owners or operators of all aircraft based on the airport shall register their aircraft in accordance with GACA standards.
- The pilot of any aircraft involved in an accident causing personal injury or property damage shall make a prompt and full report to the Airport Authority and Aviation Investigation Bureau (AIB). When the aircraft is released by AIB, the aircraft's owner, pilot, agent or other authorized representative shall be responsible for the prompt disposal of any wrecked or disabled aircraft and its parts unless otherwise decreed by AIB. Costs of removal shall be for the account of the aircraft owner without liability to AIB and/or Airport Authority any damage which may result in the course of such removal.
- No experimental flight or ground demonstrations shall be conducted at the airport without the prior written approval of Airport Authority.
- No un-powered aircraft shall land or be launched at the airport without prior approval from Airport Authority.
- No person shall navigate any aircraft, land aircraft upon, fly aircraft from or conduct any aircraft operations on or from the airport other than in conformity with the regulations issued by GACA.
- Aircraft shall not be operated in or around any area of the airport unsafely, negligently or without regard for the property of others.
- No person shall interfere or tamper with an aircraft at the airport or start the engines of such aircraft without the aircraft operator's consent.

- No aircraft shall be left unattended on the airport unless it is adequately secured.
- No aircraft shall be parked in any hangar or other structure unless the aircraft is properly grounded.
- No aircraft shall land at or take off from the airport without a functioning radio capable of sustained, direct two-way communication with the Airport Control Tower, and unless
- The pilot has received permission for such landing or takeoff from ATC, except in an emergency.

- PMIA Hours of operations is 24H/7Days:

1	AD Administration	H24
2	Customs and immigration	H24
3	Health and sanitation	H24
4	AIS Briefing Office	Daily bulletin in FPL Office at ATC Unit
5	ATS Reporting Office (ARO)	H24
6	MET Briefing Office	H24
7	ATS	H24
8	Fuelling	H24
9	Handling	H24
10	Security	H24
11	De-icing	NIL
12	Remarks	NIL

- Handling services and facilities

1	Cargo-handling facilities	By arrangement with Saudia Airlines & other ground handling agents – ACFT handling by arrangement with Saudi Ground Services (SGS), HAVAS and JET Aviation for General Aviation services.
2	Fuel/oil types	JET A1 Aviation Fuel / NIL
3	Fuelling facilities/capacity	Tankers - Delivery rate variable (MIN 30 liter/second, MAX 60 liter/second), Fuel Hydrant System – East Apron – Delivery rate variable (MIN 40 liter/second/ MAX 65 liter/second).”
4	De-icing facilities	NIL
5	Hangar space for visiting aircraft	NIL
6	Repair facilities for visiting aircraft	PN – SAEI Company & NAGS Company
7	Remarks	NIL

- Passenger Facilities

1	Hotels	Airport Hotel (Millennium) and In City Hotels
2	Restaurants	At AD and in the city
3	Transportation	Buses and Taxis
4	Medical facilities	Clinic at AP-Health Control Center Tel: +966 14 8420136 -Hospital in city
5	Bank and Post Office	Available
6	Tourist Office	Office :- Supreme Commission for Tourism Free Tel : 80007550000 Tel :- +966 14 8476028
7	Remarks	NIL

- Rescue and Fire Fighting Services

1	AD category for fire fighting	CAT 10
2	Rescue equipment	YES
3	Capability for removal of disabled aircraft	No major recovery equipment of specialized nature. Aircraft Operators/Owners shall utilize airline pooling system arrangements.
4	Remarks	NIL

- Meteorological information provided

1	Associated MET Office	Madinah Met Office
2	Hours of service MET Office outside hours	H24 Contact Jeddah CFO +966 12 4237739 / +966 12 4237740
3	Office responsible for TAF preparation Periods of validity	JEDDAH CENTRAL FORECAST OFFICE (CFO) (TAF periods of validity H30). TEL: +966 12 4237739 and +966 12 4237740
4	Type of landing forecast Interval of issuance	NIL
5	Briefing/consultation provided	P,T
6	Flight documentation Language(s) used	PL English
7	Charts and other information available for briefing or consultation	S.U.P.W
8	Supplementary equipment available for providing information	WXR APT. 8 Wind shear sensors.
9	ATS units provided with information	Madinah APP, Madinah TWR and GND
10	Additional information (limitation of service, etc.)	TEL : +966 14 8420106 FAX: +966 14 8373224 +966 14 8420051 Forecaster TEL : +966 14 8420040 MNGR

- ATS communication facilities

Service Designation	**Call sign**	**Frequency**	**Hours of Operation**	**Remarks**
1	2	3	4	5
APP	Madinah Approach	125.100 MHZ 127.700 MHZ 390.600 MHZ 369.700 MHZ	H24 H24 H24 H24	Main Standby
TWR	Madinah Tower	118.300 MHZ 124.200 MHZ 278.000 MHZ	H24 H24 H24	Main Standby
SMC-A/CVHCL	Ground Control Emergency	121.900 MHZ 121.500 MHZ 243.000 MHZ	H24 H24 H24	Main Emergency, MIL
ATIS		126.850 MHZ	H24	

- Radio navigation and landing AIDS

Type of aid, MAG VAR, CAT of ILS/MLS (For VOR/ILS/MLS, give declination)	ID	Frequency	Hours of operation	Position of transmitting antenna coor-dinates	Elevation of DME transmit-ting antenna	Remarks
1	2	3	4	5	6	7
DVOR / DME / ATIS (4°E/2014)	PMA	114.100 MHZ CH 88X	H24	243251.3N 0394218.9E	2 200 FT	DME position 243250.9N 0394218.9E 12M from DVOR).
LOC RWY 36 (4°E/2014) ILS CAT I (4°E or 004°)	IPMA	110.500 MHZ	H24	243359.5N 0394215.0E		
GP 36	Dots/Dashes	329.600 MHZ	H24	243218.3N 0394212.3E		
DME	IPMA		H24	243218.3N 0394212.3E		3°, RDH 54 FT
LOC RWY 17 (4°E/2014) ILS CAT II (4°E or 004°)	INAH	111.700 MHZ	H24	243207.3N 0394243.3E	2 200 FT	
GP 17	Dots/Dashes	333.500 MHZ	H24	243424.3N 0394209.8E	2 200 FT	3°, RDH 54 FT
DME	INAH		H24	243424.3N 0394209.8E		
LOC RWY 35 (4°E/2014) ILS CAT II (4°E or 004°)	IDIN	111.300 MHZ	H24	243444.7N 0394209.9E		
GP 35	Dots/Dashe	332.300 MHZ	H24	243224.8N 0394235.2E		3°, RDH 54 FT
DME	IDIN		H24	243224.8N 0394235.2E	2 200 FT	

1.2 Legal Position Regarding Aerodrome Certification as Contained in the Applicable Regulation

- The Regulations governing Aerodromes are based on Articles 2, 3, 4, 5, and 33 through 48 of the Civil Aviation Law 2010 that has been approved by the Council of Ministers Resolution No. 185 dated 17/07/1426H and issued by the Royal Decree No. M/44 dated 18/07/1426H (23/08/2005G).

- This Aerodrome Manual has been prepared in compliance with the requirement as embodied in the GACAR 139 which is issued on the authority granted in Article 179 of the Civil Aviation Law 2010, by the President, General Authority of Civil Aviation, as a duly delegated representative of the GACA Board of Directors, in accordance with Order No.T-41, dated 30/12/1429H (28/12/2008G).

- Prince Mohammed Bin Abdulaziz International Airport is operated under authority granted by the General Authority of Civil Aviation in Kingdom of Saudi Arabia to the Aerodrome certificate holder, and serves the commercial, domestic and international flights.

- The aerodrome meets the aircraft operational needs of greater Madinah area. It serves the commercial domestic, international, general aviation and military traffic demands of the area.

1.3 Distribution of the Aerodrome Manual

PMIA/OEMA/MED Aerodrome Manual, upon appropriate approval, initially will be distributed to all stakeholders.

1.4 Procedures for Distributing and Amending the Aerodrome Manual and the Circumstances in Which Amendments may Be Needed

Master Copy of the updated/current Aerodrome Manual shall be kept by Tibah Airports Operations Co. Ltd.'s Airport Operations Director. In case of any conflict, the master copy shall be accepted as effective/latest version of the aerodrome manual.

Following initial distribution, Aerodrome Manual will be periodically **updated** (under normal conditions quarterly, in rising urgent cases based on case-by-case basis). The updated copy will be posted at Tibah Airports Operations Co. Ltd.'s website (tibahairports.com). On each update, each stakeholder will be advised with a letter for the update.

Tibah Safety & Airside Operations Director is the responsible authority for keeping online version updated at all times.

Whenever need to consult to Aerodrome Manual, all users shall use online version of Aerodrome Manual as the latest version. Online published manual is not controlled when printed.

NOTE: ***Further Details are provided in this document, Annex (A), SOP: Aerodrome Manual Update & Control.***

1.5 Checklist of Pages

Please see Table of Contents.

1.6 Preface by License Holder

This Aerodrome Manual has been prepared as a condition of aerodrome licensing as specified in the Part 139. This Aerodrome Manual is reviewed on annual bases.

This Manual specifies the standards that are to be met and the services that are provided at Prince Mohammed Bin Abdulaziz International Airport, and serves as:

- A legal reference between the Operator (Tibah Airports Operation Company Ltd.) and GACA with respect to standards, conditions and level of service to be maintained for licensing.
- A reference document for airport inspection.
- A reference document for airport users.
- A legal instrument to record any approved changes to or deviations from the local aerodrome standards, condition or levels effecting airside operations.

Dr. Ahmad Saleh Sharqawi
Deputy Managing Director
Tibah Airports Operation Co. Ltd.

1.7 Table of Contents

1.8 Glossary of Terms

1.8.1 General Definitions

Aerodrome means an area of land or water, including any buildings, installations, and equipment, designated wholly or partly for the arrival, movement, or departure of aircraft.

Apron means a defined area, on a land aerodrome, intended to accommodate aircraft for purposes of loading or unloading passengers, mail or cargo, fuelling, parking or maintenance.

Aerodrome certificate means a certificate issued by the President under GACAR Part 139 for the operation of an aerodrome.

Aerodrome control tower means a unit established to provide air traffic control service to aerodrome traffic.

Aerodrome elevation means the elevation of the highest point of the landing area.

Aerodrome operator means any natural or corporate person operating an aerodrome or part thereof.

Aerodrome reference point means the designated geographical location of an aerodrome.

Aerodrome traffic means all traffic on the maneuvering area of an aerodrome and all aircraft flying in the vicinity of an aerodrome. An aircraft is in the vicinity of an aerodrome when it is in, entering or leaving an aerodrome traffic circuit.

Aeronautical ground light means any light specially provided as an aid to air navigation, other than a light displayed on an aircraft.

Aeronautical Information Publication (AIP): See KSA Aeronautical Information Publication.

Aeronautical information service (AIS) means the provision of aeronautical information/data necessary for the safety, regularity and efficiency of air navigation.

Air traffic means all aircraft in flight or operating on the maneuvering area of an aerodrome.

Air traffic control (ATC) clearance means authorization for an aircraft to proceed under conditions specified by an air traffic control unit.

Air traffic control (ATC) means a service operated by the GACA or other appropriate authority to promote the safe, orderly, and expeditious flow of air traffic.

Air traffic control (ATC) service means a service provided for the purpose of:

- Preventing collisions
  - Between aircraft and
  - On the maneuvering area between aircraft and obstructions.

- Expediting and maintaining an orderly flow of air traffic.

Air traffic service (ATS) means a variety of services provided to flight crew members, including flight information service, alerting service, air traffic advisory service, and ATC service.

Air traffic services unit (ATSU) means a generic term meaning variously, air traffic control unit, flight information center or air traffic services reporting office.

Aircraft means any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface.

Aircraft accident means an occurrence associated with the operation of an aircraft which, in the case of a manned aircraft, takes place between the time any person boards the aircraft with the intention of flight until such time as all such persons have disembarked, or in the case of an unmanned aircraft, takes place between the time the aircraft is ready to move with the purpose of flight until such time as it comes to rest at the end of the flight and the primary propulsion system is shut down, in which:

- A person is fatally or seriously injured as a result of:
  - Being in the aircraft, or
  - Direct contact with any part of the aircraft, including parts which have become detached from the aircraft, or direct exposure to jet blast, except when the injuries are from natural causes, self-inflicted or inflicted by other persons, or when the injuries are to stowaways hiding outside the areas normally available to the passengers and crew; or

- The aircraft sustains damage or structural failure which:
  - Adversely affects the structural strength, performance or flight characteristics of the aircraft, and
  - Would normally require major repair or replacement of the affected component, except for engine failure or damage, when the damage is limited to a single engine, (including its cowlings or accessories), to propellers, wing tips, antennas, probes, vanes, tires, brakes, wheels, fairings, panels, landing gear doors, windscreens, the aircraft skin (such as small dents or puncture holes), or for minor damages to main rotor blades, tail rotor blades, landing gear, and those resulting from hail or bird strike (including holes in the radome); or

- The aircraft is missing or is completely inaccessible.

Aircraft incident means any occurrence that is not included in the definition of an aircraft accident, and is associated with the operation of an aircraft and affects, or has the potential to affect, safe operation thereof.

Airframe means the fuselage, booms, nacelles, cowlings, fairings, airfoil surfaces (including rotors but excluding propellers and rotating engine airfoils), and landing gear of an aircraft and their accessories and controls.

Airplane means an engine-driven, fixed wing, heavier than air aircraft that is supported in flight by the dynamic reaction of the air against its wings.

Airside means the part of the aerodrome from which unrestricted access is available to the aircraft movement area and from which unauthorized personnel are excluded for safety and security reasons.

Alternate aerodrome means an aerodrome to which an aircraft may proceed when it becomes either impossible or inadvisable to proceed to or to land at the aerodrome of intended landing where the necessary services and facilities are available, where aircraft performance requirements can be met and which is operational at the expected time of use. Alternate aerodromes include the following:

- Takeoff alternate. An alternate aerodrome at which an aircraft would be able to land should this become necessary shortly after takeoff and it is not possible to use the aerodrome of departure.
- En-route alternate. An alternate aerodrome at which an aircraft would be able to land in the event that a diversion becomes necessary while en route.
- ETOPS alternate. A suitable and appropriate alternate aerodrome at which an airplane would be able to land after experiencing an engine shutdown or other abnormal or emergency condition while en route in an ETOPS operation.

- Destination alternate. An alternate aerodrome at which an aircraft would be able to land should it become either impossible or inadvisable to land at the aerodrome of intended landing.

Approach control unit (APP) means a unit established to provide air traffic control service to controlled flights arriving at, or departing from, one or more aerodromes.

Apron management service means a service provided to regulate the activities and the movement of aircraft and vehicles on an apron.

Armed Forces means the Royal Saudi Air Force, Royal Saudi Land Force, Royal Saudi Navy, Royal Saudi Air Defense, Saudi Arabian National Guard, and foreign military personnel serving under the command and acting under the orders of the Kingdom of Saudi Arabia.

Cabin crew member means a crew member, other than a flight crew member, who performs duties assigned by the operator or the PIC of the aircraft in the interest of passenger safety.

Category I operations, with respect to the operation of aircraft, means a straight-in approach to the runway of an aerodrome under a Category I instrument approach procedure. Category I approaches include a decision height not lower than 200 ft (60 m) and either a visibility not less than 800 m or a runway visual range not less than 550 m.

Category II operations, with respect to the operation of aircraft, means a straight-in approach to the runway of an aerodrome under a Category II instrument approach procedure. Category II approaches include a decision height lower than 200 ft (60 m), but not lower than 100 ft (30 m), and a runway visual range not less than 350 m.

Category III operations, with respect to the operation of aircraft, means an approach to, and landing on, the runway of an aerodrome using a Category III instrument approach procedure. Category III operations may be further classified as follows:

- Category IIIa operations means an approach and landing with no decision height (DH), or a DH below 100 ft. (30 m), and controlling runway visual range not less than 700 ft. (200 m).
- b) Category IIIb operations means an approach and landing with no DH, or with a DH below 50 ft. (15 m), and controlling runway visual range less than 700 ft (200 m), but not less than 150 ft. (50 m).
- c) Category IIIc operations means an approach and landing with no DH and no runway visual range limitation.

Civil aircraft means aircraft other than state or military aircraft.

Civil Aviation Authority means a governmental body with the authority to oversee civil aviation affairs of a particular state.

Clearway means a defined area on the ground or water under the control of the appropriate authority, selected or prepared as a suitable area over which an airplane may make a portion of its initial climb to a specified height.

Competency means a combination of skills, knowledge and attitudes required to perform a task to the prescribed standard.

Controlled aerodrome means an aerodrome at which air traffic control service is provided to aerodrome traffic.

Dangerous goods means articles or substances that are capable of posing a risk to health, safety, property or the environment and are shown in the list of dangerous goods in the Technical Instructions or are classified according to the Technical Instructions.

Dangerous goods accident means an occurrence associated with and related to the transport of dangerous goods by air which results in fatal or serious injury to a person or major property or environmental damage.

Dangerous goods incident means an occurrence, other than a dangerous goods accident, associated with and related to the transport of dangerous goods by air, not necessarily occurring aboard an aircraft, which results in injury to a person, property or environmental damage, fire, breakage, spillage, leakage of fluid or radiation, or other evidence that the integrity of the packaging has not been maintained. Any occurrence relating to the transport of dangerous goods which seriously jeopardizes the aircraft, its occupants, or the environment is also deemed to constitute a dangerous goods incident.

Dangerous goods label means a visual symbol specified in the Technical Instructions that communicates the class (Classes 1 through 9) and any required handling instructions for a dangerous good.

Dangerous goods marking means text containing the shipping name of the dangerous good together with its United Nations (UN) number, if any.

Dangerous Goods Preparer Certificate (DGPC) means a certificate issued by the President to a person that prepares dangerous goods for transport by air on its own behalf or on behalf of a non-certificated shipper.

Dangerous Goods Transport Authorization (DGTA) means an authorization issued by the President to an operator that permits the transport of dangerous goods by air.

Dangerous goods transport document means a document specified by GACAR Part 5, Chapter 4 of the Technical Instructions. It is completed by the person who offers dangerous goods for transport by air and contains information about the shipper, the recipient, and the dangerous goods.

Datum means any quantity or set of quantities that may serve as a reference or basis for the calculation of other quantities.

Decision altitude (DA) or decision height (DH) means a specified altitude or height in a 3D instrument approach operation at which a missed approach must be initiated if the required visual reference to continue the approach has not been established.

Note *- Decision altitude (DA) is referenced to mean sea level and decision height (DH) is referenced to the threshold elevation.*

Fatigue (of persons) means a physiological state of reduced mental or physical performance capability resulting from sleep loss or extended wakefulness, circadian phase, or workload (mental and/or physical activity) that can impair an airman's alertness and ability to safely operate an aircraft or perform safety-related duties.

Fit for duty means physiologically and mentally prepared and capable of performing assigned duties at the highest degree of safety.

Flammable means, with respect to liquid or gas, susceptible to igniting readily or to exploding.

Flight information center (FIC) means a unit established to provide flight information service and alerting service.

Flight plan means specified information, relating to the intended flight of an aircraft, that is filed orally or in writing with an appropriate air traffic service (ATS) unit.

Flight recorder means any type of recorder installed in the aircraft for the purpose of complementing accident/incident investigation.

Foreign air carrier means any person other than a citizen of the Kingdom of Saudi Arabia holding an air operator certificate issued by a foreign state, who undertakes directly, by lease or other arrangement, to engage in commercial air transport operations to, from, or within the Kingdom of Saudi Arabia.

Freight container means an article of transport equipment designed to facilitate the transport of goods by one or more modes of transport.

Hazard means a condition or an object with the potential to cause or contribute to an accident or incident or damage to the environment.

Helicopter means a rotorcraft that, for its horizontal motion, depends principally on its engine-driven rotors.

Heliport means an aerodrome or a defined area on a structure intended to be used wholly or in part for the arrival, departure, and surface movement of helicopters or powered-lifts.

Home base means the location designated by a certificate holder where a flight crew member normally begins and ends his duty periods.

Hot spot means a location on an aerodrome movement area with a history or potential risk of collision or runway incursion, and where heightened attention by pilots/drivers is necessary.

Human factors principles means principles which apply to aeronautical design, certification, training, operations, and maintenance, the objective of which is to achieve a safe interface between the human and other system components by proper consideration of human performance.

Human performance means human capabilities and limitations which have an impact on the safety and efficiency of aeronautical operations. Training in human performance includes training in the principles of threat and error management.

IFR flight means a flight conducted in accordance with the instrument flight rules.

Isolated aerodrome means a destination aerodrome for which there is no destination alternate aerodrome suitable for a given aircraft type.

KSA Aeronautical Information Publication (AIP) means a publication issued under the authority of the President and containing aeronautical information of a lasting character essential to air navigation in the Kingdom of Saudi Arabia.

Landing area means that part of a movement area intended for the landing or takeoff of aircraft.

Line maintenance means maintenance performed for an air operator certificated under GACAR Part 121 or 135, or for a foreign air carrier operating under GACAR Part 129, which is generally performed at the ramp, parking area, or gate, and typically will not exceed 24 continuous hours per aircraft.

Low visibility operations (LVO) means aircraft takeoff, approach and landing operations in low visibility conditions.

Low visibility procedures (LVP) means procedures applied at an aerodrome for the purpose of ensuring safe operations during low visibility operations.

Maneuvering area means that part of an aerodrome to be used for the takeoff, landing and taxiing of aircraft, excluding aprons.

Movement area means that part of an aerodrome to be used for the takeoff, landing and taxiing of aircraft, consisting of the maneuvering area and the apron(s).

Meteorological service means the provision of meteorological information/data necessary for the safety, regularity and efficiency of air navigation.

Missed approach procedure means the procedure to be followed if the approach cannot be continued.

Noncommercial operator means a person who engages in the operation of aircraft for purposes other than commercial air transportation or aerial work.

Notice to Airmen (NOTAM) means a notice distributed by means of telecommunication containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations.

Obstacle means all fixed (whether temporary or permanent) and mobile objects, or parts thereof, that

- Are located on an area intended for the surface movement of aircraft, or
- Extend above a defined surface intended to protect aircraft in flight, or
- Stand outside those defined surfaces and that have been assessed as being a hazard to air navigation.

Operator means, with respect to aircraft, a person, organization or enterprise engaged in or offering to engage in an aircraft operation.

Passenger aircraft means an aircraft that carries any person other than

- A crew member;
- An employee of the operator or another operator permitted by, and carried in accordance with, the instructions contained in the operations manual;
- An authorized representative of the President or other person with official duties relating to the conduct of the flight; or
- A person with duties in respect to the carriage of cargo.

Pilot in command (PIC) means the person designated as having the final authority and responsibility for the operation and safety of an aircraft during flight.

Precision approach procedure means an instrument approach procedure based on navigation systems (ILS, MLS, GLS and SBAS Cat I) designed for 3D instrument approach operations Type A or B.

President means the President of the GACA or any person to whom he has delegated his authority in the matter concerned.

Preventive maintenance means simple or minor preservation operations and the replacement of small standard parts not involving complex assembly operations.

Propeller means a device for propelling an aircraft that has blades on an engine driven shaft and that, when rotated, produces, by its action on the air, a thrust approximately perpendicular to its plane of rotation. Propellers include control components normally supplied by their manufacturers, but do not include main and auxiliary rotors or rotating airfoils of engines.

Quality assurance means that part of quality management focused on providing confidence that quality requirements will be fulfilled.

Quality control means that part of quality management focused on fulfilling quality requirements.

Record means any writing, drawing, map, recording, tape, film, photograph, or other documentary material by which information is preserved or conveyed in any format, including, but not limited to, paper, microfilm, identification plates, stamped marks, bar codes, and electronic formats. It can either be separate from, attached to, or inscribed on any product, part, appliance, or material.

Recurrent training means periodic training required for a qualified person in the specific position and/or operation in which the person serves.

Risk means the composite of predicted severity and likelihood of the potential effect of a hazard.

Risk control means a means to reduce or eliminate the effects of hazards.

Runway means a defined rectangular area on a land aerodrome.

Runway visual range (RVR) means the range over which the pilot of an aircraft on the center line of a runway can see the runway surface markings or the lights delineating the runway or identifying its center line.

Safety means the state in which risks associated with aviation activities are reduced and controlled to an acceptable level.

Safety assurance means processes within the SMS that function systematically to ensure the performance and effectiveness of safety risk controls and that the organization meets or exceeds its safety objectives through the collection, analysis, and assessment of information.

Safety management system means a systematic approach to managing safety including necessary organizational structures, accountability, responsibilities, policies and procedures.

Safety objective means a measurable goal or desirable outcome related to safety.

Safety performance means realized or actual safety accomplishment relative to the aviation organization's safety objectives.

Safety policy means the aviation organization's documented commitment to safety, which defines its safety objectives and the accountabilities and responsibilities of its employees in regards to safety.

Safety promotion means a combination of training and communication of safety information to support the implementation and operation of an SMS in an organization.

Safety risk management means a process within the SMS composed of describing the system, identifying the hazards, and analyzing, assessing and controlling risk.

Serious incident means an aircraft incident involving circumstances indicating that there was a high probability of an aircraft accident. The difference between an aircraft accident and a serious incident lies only in the result.

Serious injury means an injury which is sustained by a person in an aircraft accident and which

- Requires hospitalization for more than 48 hours, commencing within 7 days from the date the injury was received;
- Results in fracture of any bone (except simple fractures of fingers, toes or nose);
- Involves lacerations which cause severe hemorrhage, nerve, muscle or tendon damage;
- Involves injury to any internal organ; or
- Involves second- or third-degree burns, or any burns affecting more than 5 percent of the body surface.
- Involves verified exposure to infectious substances or injurious radiation.

Shipper, as used in GACAR Part 109, means any person who offers dangerous goods for transportation by air.

Signalman means a person providing marshaling signals to crew members or other persons taxiing or towing an aircraft on the ground.

Small unmanned aircraft means an unmanned aircraft weighing less than 55 pounds on takeoff, including everything that is on board or otherwise attached to the aircraft.

Stopway means a defined rectangular area on the ground at the end of takeoff run available prepared as a suitable area in which an aircraft can be stopped in the case of an abandoned takeoff.

Taxiing means the movement of an aircraft on the surface of an aerodrome under its own power, excluding takeoff and landing.

Taxiway means a defined path on a land aerodrome established for the taxiing of aircraft and intended to provide a link between one part of the aerodrome and another.

Ultralight Vehicle. See description in GACAR § 103.1.

VFR flight means a flight conducted in accordance with the visual flight rules.

Visual meteorological conditions (VMC) means meteorological conditions expressed in terms of visibility, distance from cloud, and ceiling, equal to or better than minimums specified in GACAR Part 91.

Wildlife strike hazard means a potential for a damaging aircraft collision with wildlife on or near an aerodrome.

Working day means a day when official business is conducted by the government of the Kingdom of Saudi Arabia.

1.8.2 Abbreviations

ACC	Area Control Center
ACFT	Aircraft
AD	Aerodrome
ADM	Aerodrome Manual
ADP	Airside Driver Permit
AEP	Airport Emergency Plan
AFFF	Aqueous Film Forming Foam
AFL	Airfield Lighting
AFTN	Aeronautical Fixed Telecommunication Network
AGL	Airfield Ground Lighting
AIB	Aviation Investigation Bureau
AIP	Aeronautical Information Publication
AIS	Aeronautical Information System
ANS	Air Navigation Services
AOA	Air Operating Area
AOC	Airport Operation Center
APU	Auxiliary Power Units
ARFF	Airport Rescue and Firefighting
ARP	Aerodrome Reference Point
ASDA	Acceleration Stop Distance Available
ATC	Air Traffic Control
ATIS	Automatic Terminal Information Service
ATM	Air Traffic Movement
BSC	Bird Scaring Cartridge
BTO	Build, Transfer and Operate
CA	Critical Area
CAO	Cargo Aircraft Only
CAT I	ILS Approach Category I
CAT II	ILS Approach Category II
CCTV	Closed-circuit television
CUTE	Common User Terminal Equipment
DG	Dangerous Goods
DH	Decision Height
DME	Distance Measuring Equipment
DVOR	Doppler Very High Frequency Omni-Directional Range
ELEV	Elevation
eTOD	Electronic Terrain and Obstacle Database
FEGP	Fixed Electrical Ground Power
FOD	Foreign Obstacle Debris
FPL	Flight Plan
FRS	Fire Rescue Services
GACA	General Authority of Civil Aviation
GACAR	General Authority of Civil Aviation regulation
GAMEP	General Authority of Meteorology and Environmental Protection
GEN	General
GH	Ground Handling
GMT	Greenwich Mean Time
GP	Glide Slope
GPS	Global Positioning System
GPU	Ground Power Unit
GSE	Ground Service Equipment
HAZMAT	Hazardous Material
HF	High Frequency
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
IFR	Instrument Flight Rules
ILS	Instrument Landing System
IMC	Instrument Meteorological Conditions

INS Inertial	Navigation System
ISCs	Inter-Stand Clearways
KSA	Kingdom of Saudi Arabia
LDA	Landing Distance Available
LGT	LIGHTS
LLZ	Localizer
LPA	Local Planning Authorities
LSA	Localizer Sensitive Area
LVO	Low Visibility Operation
LVP	Low Visibility Procedure
M&U	Maintenance and Utilities
MAG	Magnetic
MED	Medina
MET	Meteorology
MLS	Microwave Landing System
MOI	Ministry of Interior
MV	Medium Voltage
NAVAID	Navigational Aid
NFPA	National Fire Protection Association
NOTAM	Notice to Airmen
NOF	NOTAM Office
N.A	Not Applicable
ODM	Operations Duty Manager
OEMA	ICAO Aerodrome Reference Code for MED
PBB	Passenger Boarding Bridge
PCN	Pavement Classification Number
PIGS	Passenger Ideal Guidance Systems
PMIA	Prince Mohammed Bin Abdulaziz International Airport
PSN	Position
PVT	Passenger Transport Vehicle
RESA	Runway End Safety Area
RFF	Rescue and Firefighting
RSAF	Royal Saudi Air Force
RVR	Runway Visual Range
RWY	Runway
SARPs	Standards & Recommended Practices
SANS	Saudi Air Navigation Services
SMS	Safety Management System
SMSM	Safety Management System Manual
SOPs	Standard Operating Procedures
SP	Safeguarding Procedure
TMA	Terminal Management Area
TODA	Take-Off Distance Available
TORA	Take-Off Run Available
TRP	Tug Release Point
TWY	Taxiway
ULD	Unit Loading Device
UPS	Uninterrupted Power Supply
VAR	Variation
VDGS	Visual Docking Guidance System
VFR	Visual Flight Rules
VHF	Very High Frequency
VMC	Visual Meteorological Conditions
VOR	Very High Frequency Omni-Directional Range
VTS	Vehicle Tracking System
VVIP	Very Very Important Person

PART 2

TECHNICAL ADMINISTRATION

2.0 Technical Administration

2.1 Name and Address of the Aerodrome

PRINCE MOHAMMED BIN ABDULAZIZ INTERNATIONAL AIRPORT is located at Eastern side of Al Madinah Al Munawarrah and at approximately 700 kilometer SW of the capital city of Riyadh.
The airport is at an elevation of 2,151 feet (656 meters) above sea level.
The airport has a total land area of approximately 27,126,850 square meters. It is surrounded by 24,477 linear meters of perimeter fence.

2.2 Name and Address of the Aerodrome Operator

TIBAH Airports Operation Co. Ltd. is located at Prince Mohammed Bin Abdulaziz International Airport. **P.O Box 21291**. Al-Madinah Al-Munawwarah 41475.

2.3 The Name of the Accountable Executive

TIBAH AIRPORT OPERATION Co. Ltd.
Mr. Sofiene Abdessalem
Managing Director
0556668253
01481380000, 0148138001
0148420000 Ext. 8000

2.4 Aerodrome Administration

The aerodrome is owned by GACA/KSA, its operation is provided by TIBAH Airports Operation Co. Ltd. as part of the Build, Transfer and Operate Agreement relating to the public private partnership for the rehabilitation, expansion, operation, development and maintenance of the PRINCE MOHAMMED BIN ABDULAZIZ INTERNATIONAL AIRPORT.

The aerodrome certificate is held by TIBAH.

2.4.1 Responsibilities of GACA and Tibah at PMIA

General Authority of Civil Aviation (GACA):

As per the BTO agreement Annex 1, services provided by GACA at PMIA are listed below:

- Air Traffic Control Services.
- Provision, maintenance, and operation of navigation aids and other air traffic control equipment (including air navigation systems owned and maintained by the relevant air navigation service provider; dedicated air traffic control offices; the radar and instrument landing system (ILS); localizer and glide path antenna; the Distance Measuring Equipment (DME); and the Doppler Very High Frequency Omni-Directional Range (D-VOR).
- Flight information service and flight plan desk.
- Flight information service for the purpose of giving advice and information useful for the safe and efficient conduct of flights.
- Flight plan desk relates to specified information provided to air traffic units, relative to an intended flight or portion of a flight of an Aircraft.
- Alerting service and emergency action in the event of aviation accidents and crisis management including notification of appropriate organizations regarding Aircraft in need of search and rescue aid, and assist such organizations as required.
- Meteorological services.
- Health control and sanitary services (excluding Health Services).

- Police services.
- Immigration services.
- Customs, veterinary and agricultural inspections.
- Zoning, compliance with safety and aeronautical regulation outside the Site.
- Security Services.
- Security regulation. The Grantor shall have the responsibility to define the rules and regulations in application in the Kingdom regarding PMIA security and provide the Investor with the relevant directives for Security Services to be provided at PMIA.
- Safety regulation.
- Aviation accident and incident investigations.
- Provision of PMIA licenses and other authorizations required by law.

2.4.2 Tibah Airports Operation Co. Ltd.

TIBAH Airports Operation Services at PMIA:

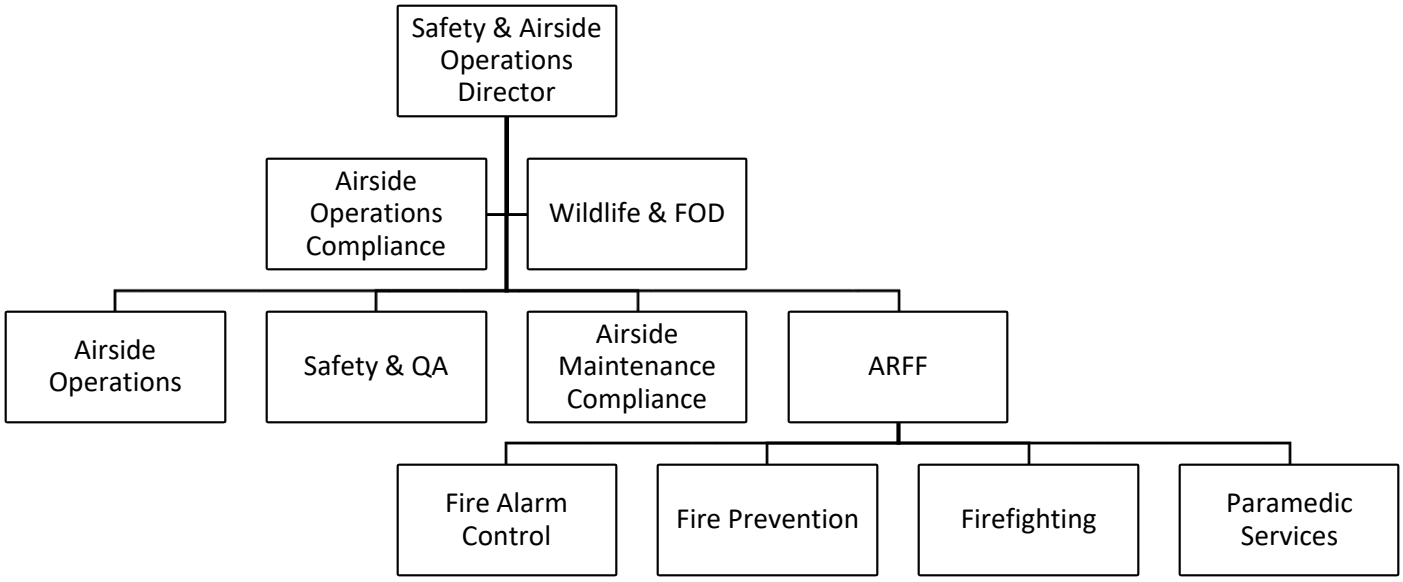
As per the BTO Agreement Annex 1, services provided by TIBAH at PMIA are listed below:

- Safe and secure operation of PMIA (excluding Governmental Services).
- ARFF at PMIA.
- Provision of passenger, baggage, goods and cargo screening equipment and facilities at PMIA.
- Airport Safety Management and Safety Management System in accordance with ICAO DOC 9859.
- Emergency management.
- Airside vehicle traffic movement control.
- Slot allocation, gate and airport stand planning and allocation.
- Ground and ramp handling of Aircraft, Passengers, baggage, and cargo (including the provision of airside transport systems for Passengers and baggage in accordance with the IATA Ground Handling Manual). These services also include, but are not limited to: aviation fuel storage, supply and delivery; the supply of in-flight catering (where applicable); Aircraft interior and exterior cleaning and cabin conditioning; supply of duty free goods and provisions; the removal of garbage and waste from Aircraft; pushback and
- Towing of Aircraft; marshalling; and the transportation of Passengers and Aircraft crews in secured areas.
- Maintenance, cleaning of the airfield and the provision and maintenance of airfield systems and signs including apron, taxiway and runway lighting (excluding air navigation systems owned and maintained by the air navigation service provider).
- Operation and maintenance of the flight information display systems, baggage systems and baggage carts.
- Operation, maintenance and cleaning of public and restricted areas (including bathroom facilities) and the removal of garbage and debris.
- Handling, check-in and departure control of Passengers and their baggage and/or cargo (including storage), and transfer of Passengers, their baggage or cargo to and from Aircraft.
- Car parking for staff employed at PMIA and Passengers at PMIA and other persons visiting PMIA in the ordinary course of business and the provision of related car parking services.
- Consumer goods (whether duty paid or duty free) and services to staff and Passengers at PMIA and/or other Persons visiting PMIA, ensuring adequate service to Passengers and visitors during any period of scheduled commercial flights.
- General information services to Passengers and/or other Persons visiting PMIA.

- Flight information display and planning and allocation of check-in desks to airlines to allow for efficient use of check-in desks, including the provision of Common User Terminal Equipment (CUTE).
- Operation and maintenance of Passenger boarding and disembarking systems, including vehicles to perform remote boarding; loading and unloading disabled Passengers and loading and unloading cargo.
- General operation, maintenance and upkeep of PMIA, including Passenger terminals, green areas (including landscaping services), road systems, car parking facilities (including traffic and service signs).
- Provision of adequate airline offices and back office space.
- Maintenance of office space provided for the performance of Governmental Services and for the Independent Engineer.
- Management, removal and disposal/recirculation of waste generated in PMIA.
- Waste water (including surface water runoff) treatment and waste removal.
- General administrative and managerial functions required for PMIA operations, such as billing and collections, as well as purchasing and procurement.
- Airport operational readiness and services as defined in the ICAO Airport Services Manuals including:
- Operation, maintenance and timely replacement of all facilities within the Site;
- Airport surface inspections and testing;
- Maneuvering Area visual aids inspections;
- Adverse weather facilities and operations;
- Bird hazard reduction;
- Apron management and apron safety;
- Control of ground noise;
- Airport zoning and obstacle control and clearance;
- Aircraft accident and incident management, in coordination with the Relevant Authorities;
- Airport Emergency Plan; and
- Airport Emergency Control Centre.
- Health Services.
- Facilitation.
- Development, operation and maintenance of Baggage Handling System;
- Provision of flight operation assistance and crew support systems.
- General maintenance and upkeep of the Site.
- Provision and management of aerodrome data, exclusive of data related to Air Traffic Control Services; Flight information both within PMIA and externally to PMIA for Passengers and Airport Users.
- Management and administration of personnel employed by the Investor and the permitting and access control of all personnel within PMIA's secure zone.
- Coordination of all activities at PMIA including establishment and administration of all coordination committees for the Airport Users, regulators and stakeholders.
- Environmental management.
- PMIA marketing and route development, in coordination with GACA for slot allocations.
- Public relations press and general communications functions.
- Administrative and preparation of statistics for submission to GACA
- Commercial airport services, such as:
- Food and beverage
- Banking and foreign exchange services
- Advertising and publicity
- Retail shops and duty-free sales

- Any other service customarily provided at international airports or required for the safe and continuous operation of PMIA.
- Provision of space/buildings for ATC and ATM facilities and staff. Provision of civil works, cabling and dedicated power supply for ATC and ATM facilities and equipment managed by GACA.

2.5 Aerodrome Operator - Organization Chart



2.6 Heads of Aerodrome Safety (Post Holders)

No.	Post Holder	Name	Position/Job Title	Role	Cell Phone	Email Address	alternate person
1	Person in Charge of the Aerodrome	Dr. Ahmad Sharqawi	Deputy Managing Director	(Aerodrome Director or his Delegate): An accountable person who is responsible for ensuring the integrity and efficiency of daily aerodrome operations which includes managing irregular operations and emergency situations.	00966542632086	Ahmed.Sharqawi@tibahairports.com	Engr. Hassan AL Bar – Tel. 0505301560 – Email: Hassan.albar@tibahairports.com
2	Person in Charge of Aerodrome Operations	Engr. Hassan Al Bar	Safety & Aerodrome Operation Director	Responsible for ensuring that the aerodrome and its operation is performed in accordance with the accepted manuals and ensure compliance with all applicable GACA Regulations.	00966505301560	Hassan.albar@tibahairports.com	Engr. Hassan Habib – Tel. 0546980824 – Email: Hassan.Habib@tibahairports.com
3	Person in charge of Aerodrome Maintenance	Engr. Zaid Badawi	Aerodrome Maintenance Chief	Responsible for ensuring that the aerodrome's maintenance program is carried out in compliance with this part.	00966540030031	Zaid.Badawi@tibahairports.com	Engr. Hassan AL Bar – Tel. 0505301560 – Email: Hassan.albar@tibahairports.com
4	Person in charge of the Safety and Quality Assurance of the Aerodrome	Engr. Hassan Habib	Safety & Quality Assurance Manager	Responsible to administrate the compliance with safety program and lead hazard / risk prevention effort.	00966546980824	Hassan.Habib@tibahairports.com	Engr. Hassan AL Bar – Tel. 0505301560 – Email: Hassan.albar@tibahairports.com
5	Person in charge of Rescue Firefighting Service	Capt. Assaf Al Badrani	ARFF Chief	Responsible for establishing and effectively managing all aspects of Rescue and Firefighting Services as per the accepted manuals and ensure compliance with GACA regulations.	00966504364749	Asaf.Al-badrani@tibahairports.com	TBD

2.7 Aerodrome Committees

Main Committees of PMIA are:

- Aerodrome Emergency Committee (Chaired By Airport Authority Directorate)
- Runway Safety Team (Chaired by Tibah's Safety & AD OPS Director)
- Apron Safety Team (Chaired by Tibah's Safety & Quality assurance manager)

Details of committees such as TORs, Members, meeting schedules and reporting are given in PMIA SMS Manual while Emergency committee is well detailed in the emergency response plan.

2.8 Communication Directory

TELEPHONE DIRECTORY – Area Code (014)			
OFFICE/POSITION	**DIRECT LINE**	**AIRPORT EXTENSION**	**RESIDENCE TEL.**
Airport Telephone Operator	**148420000** **148139999**	**8555**	
GACA AIRPORT DIRECTORATE:			
Airport Director General		**9575**	**505686828**
Consultant Airport Director	148420068	**2393**	**(No answer)**
Secretary	148136595	6595	0148420000 ext. 2352 **(NO ANSWER)**
GACA duty manager		**9911**	
Administration	**FAX - 0148427951**		
Executive/VIP Office 24/7			**0595555067) NO ANSWER)**
OPERATION Royal Protocol	**148420032** **148420063**		
FAX	**148420020**		
		9621	
AIR TRAFFIC SERVICES :			
ATSU CHIEF		**9639**	**568298096**
FAX	**148420048**		
ATC Supervisor		**9640**	
Control Tower	**148420085** **148401566**		
FAX	**148420080**		
TIBAH AIRPORTS OPERATION CO.LTD.			**148138888**
MANAGING DIRECTOR	**148138000**	**8000 - 8001**	**556668253**

FAX	**148139400**		
SAFETY & AD OPS DIRECTOR	**148138192**	**8192**	**554075880**
TIBAH AIRPORT OPERATION CENTER	**AOC CHIEF 0148138899** **148138888**	**8888 - 8899**	**543792054**
FAX	**148427954**		
ARFF Chief	**148138123**	**8123**	**0566185589 - 0504364749**
Main Fire Station	**148138142**	**3333**	
Duty Fire Officer	**148138126**	**8126**	
SAFETY DEPARTMENT	**148138333**	**SMS MAN 8080** **SAFETY CHIEF 8081** **SAFETY 8333**	**546980824**
SMS help disk		**8999**	
IT		**9399**	
TIBAH help disc		**8222**	
LIBANET			**0559274318 - 0500664012**
HI-LITE			**0501432922 - 0561878633**
SWISS PORT		**9937**	
SANS MED SECTOR			
Manager Office	**0126846606 - 0126846409**		**590222949**
Duty Technician24/7	**148420275**		
AIRPORT SERVICES			
CLINIC	**148135555**	**5555**	**MOH Clinic MNGR: 0544778584**
GAMEP – METEOROLOGY			
METO OFFICE Manager	**124238292**	**8292**	**STN MNGR Cell phone: 0507773926**
Observatory	**148420115**	**2226**	
SECURITY SERVICES –RSAF			
RSAF Commander	**148420000**	**2220**	**554915530**
Operations	**148420000**	**4444**	

IMMIGRATION POLICE	**0148258164 - 0148258130**		
CUSTOMS			
Manager			**504604308**
Duty Manager	**148258011**		
INTELIGAENCE			**501685819**
GID		**9790**	
TRAFFIC POLICE			
Airport Office **24/7**	**541577079**		
MINISTRY OF HAJJ			
Manager		**9970**	**503335323**
CARGO SERVICES			
SAL STATION MNGR	**590373063**		**Email**
Catering			
Saudi Catering	**555301113**		**555301113**
ACFT Maintenance Companies			
SAEI	**SAEI STN MNGR: Engr. Maher: 0590005051**		**STN Deputy MNGR: Engr. Maher - 0590005051**
FUEL Companies			
Tank Farm & ITP	**MAC (Tank Farm: (0504347434/0544134072/0563260467)**		**556787850**
Apsco	**055 668 7002**		meditp@apsco-ksa.com
Pasco	**0507363979- 0555865226**		m.supervisor@pascoaviation.com
AL Bakri	**0148427347- 0148427558**		**0515419366-76**
WILDLIFE CONTROL			
Wild life control	**148138115**	**8115**	**0542284854/Email:**
DANGROUS GOODS CONTROL			
Environmental Specialist	**148138202**	**8202**	0564400151/Email: Yazan.AbuDahriya@tibahairports.com

PART 3

Description of the Aerodrome (Aerodrome Characteristics)

3.0 Description of the Aerodrome

The aerodrome is owned by KSA, its operation is provided by TIBAH Airports Operation Co. Ltd. as part of the Build, Transfer and Operate Agreement relating to the public private partnership for the rehabilitation, expansion, operation, development and maintenance of the Prince Mohammed Bin Abdulaziz International Airport.

The aerodrome certificate is held by TIBAH.

The following sections contain details of the aerodrome and figures showing different aspects of the aerodrome site and aerodrome characteristics.

3.1 Latitude and Longitude of the Aerodrome Reference Point in World Geodetic System — 1984 (Wgs-84) Format

3.1.1 Elevations of Aerodrome

1	ARP coordinates and site at AD	24 33 01.00 N 039 42 21.00 E 300 m North of DVOR/DME, Between RWY17/35 and RWY18/36
2	Direction and distance from (city)	47 Degrees – 12.97 KM from Madinah
3	Elevation/Reference temperature	2134 FT / 42°C
4	Geoid undulation at AD ELEV PSN	30 FT
5	MAG VAR/Annual change	4°E (2015) / 0.07° Increasing
6	AD Administration, address, telephone, telefax, telex, AFS	General Authority of Civil Aviation Prince Mohammad Bin Abdulaziz International Airport P.O. Box 124 Al-Madinah Al-Munawarah Saudi Arabia TEL: +966 14 8420220 FAX: +966 14 8420020 Telex: 570147 PCA MED SJ AFTN: OEMAYDYX
7	Types of traffic permitted (IFR/VFR)	IFR / VFR
8	Remarks	NIL

3.1.2 Elevations of Apron

1	Apron surface and strength	West Apron and Royal Apron Surface: Concrete Strength: PCN59/F/A/W/T East Aprons Surface: Concrete Strength: PCN 85/R/A/W/T
2	Taxiway width, surface and strength	**Width:** TWY's A, B, C, D1, J, J1, J2, J3, J4, J5, J7, J8, K, L, M, N, P, W and D (Parallel to RWY 17/35) 25 M **Width:** TWY's E, F, G, H and D (Parallel to RWY 18/36) 23 M **Surface:** Asphalt (All TWY's) **Strength:** TWY - J,J1,J2,J3,J4,J5,J7,J8,K, L,M,N,P, W and D (Parallel to RWY 17/35) PCN 100 F/A/W/T TWY's E, F, G, H and D (Parallel to RWY18/36) PCN 59 F/A/W/T TWY'S A, B, C and D1 : PCN 65 F/A/W/T
3	Altimeter checkpoint location and elevation	**West Apron** 243243.5402 N 0394200.7033E, ELEV 2080.007 FT **East Apron** 243317.0571N 0394246.9384E, ELEV 2108.553 FT
4	VOR checkpoints	NIL
5	INS checkpoints	See Aircraft Parking/Docking Chart
6	Remarks	NIL

3.1.2.1 West Apron

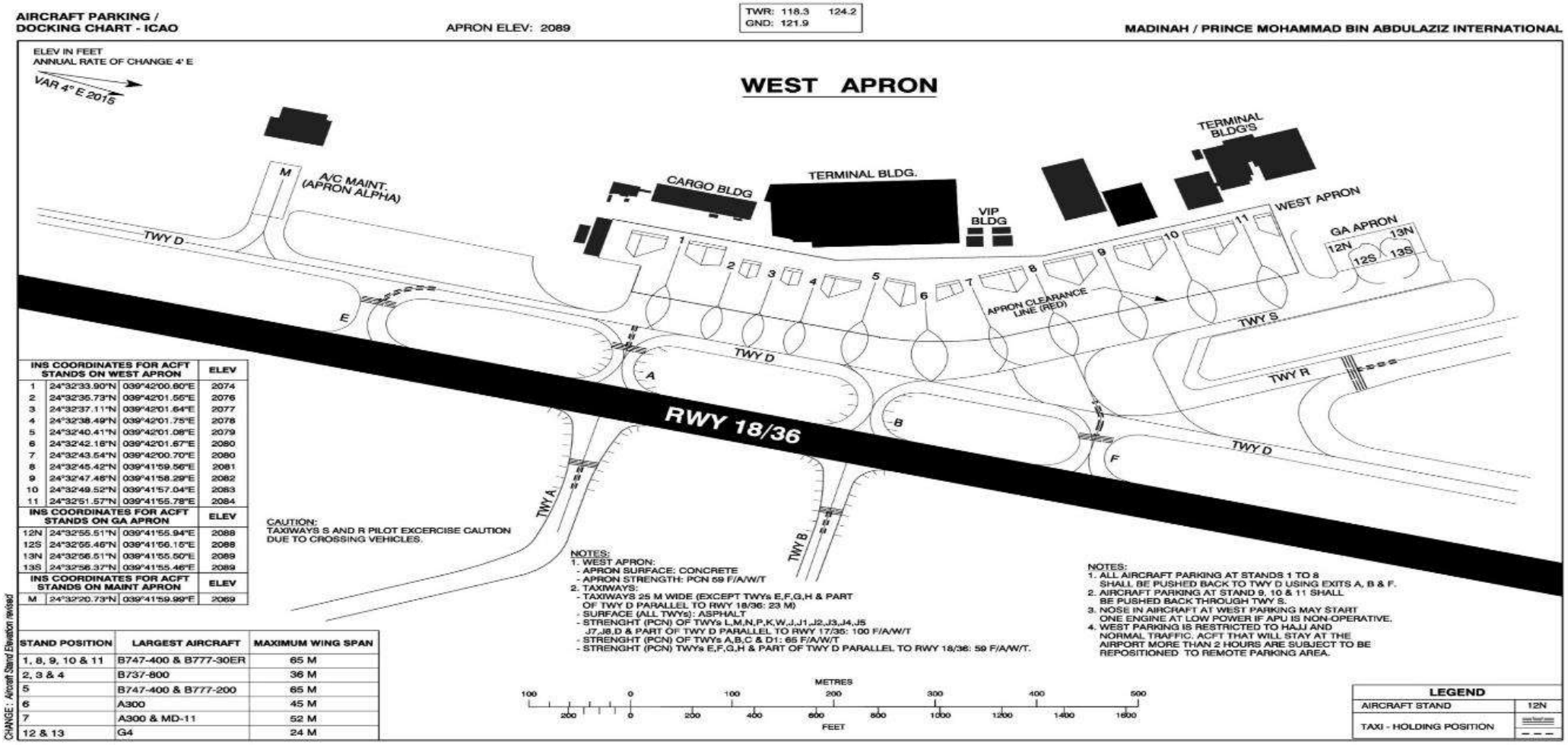
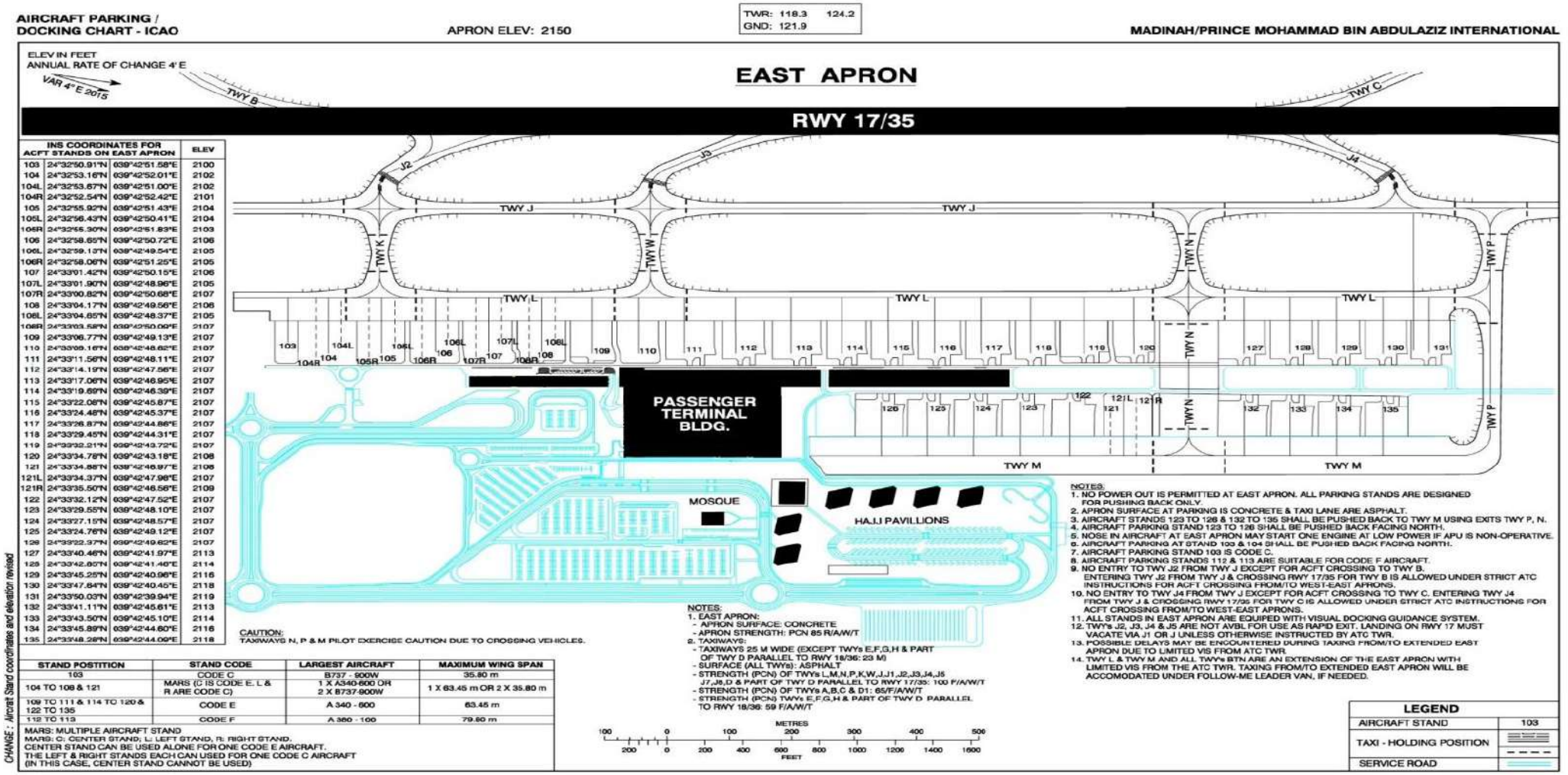


Figure 1 West Apron Plan

3.1.2.2 East Apron



INS COORDINATES FOR ACFT STANDS ON EAST APRON			ELEV
103	24°32'50.91"N	039°42'51.58"E	2100
104	24°32'53.16"N	039°42'52.01"E	2102
104L	24°32'53.67"N	039°42'51.00"E	2102
104R	24°32'52.54"N	039°42'52.42"E	2101
105	24°32'55.92"N	039°42'51.43"E	2104
105L	24°32'56.43"N	039°42'50.41"E	2104
105R	24°32'55.30"N	039°42'51.83"E	2103
106	24°32'58.65"N	039°42'50.72"E	2106
106L	24°32'59.13"N	039°42'49.54"E	2105
106R	24°32'58.06"N	039°42'51.25"E	2105
107	24°33'01.42"N	039°42'50.15"E	2106
107L	24°33'01.90"N	039°42'48.96"E	2105
107R	24°33'00.82"N	039°42'50.68"E	2107
108	24°33'04.17"N	039°42'49.56"E	2106
108L	24°33'04.65"N	039°42'48.37"E	2105
108R	24°33'03.58"N	039°42'50.09"E	2107
109	24°33'06.77"N	039°42'49.13"E	2107
110	24°33'09.16"N	039°42'48.62"E	2107
111	24°33'11.56"N	039°42'48.11"E	2107
112	24°33'14.15"N	039°42'47.56"E	2107
113	24°33'17.06"N	039°42'46.95"E	2107
114	24°33'19.69"N	039°42'46.39"E	2107
115	24°33'22.08"N	039°42'45.87"E	2107
116	24°33'24.48"N	039°42'45.37"E	2107
117	24°33'26.87"N	039°42'44.86"E	2107
118	24°33'29.45"N	039°42'44.31"E	2107
119	24°33'32.21"N	039°42'43.72"E	2107
120	24°33'34.78"N	039°42'43.18"E	2108
121	24°33'34.88"N	039°42'46.97"E	2106
121L	24°33'34.37"N	039°42'47.98"E	2107
121R	24°33'35.50"N	039°42'46.58"E	2109
122	24°33'32.12"N	039°42'47.52"E	2107
123	24°33'29.55"N	039°42'48.10"E	2107
124	24°33'27.15"N	039°42'48.57"E	2107
125	24°33'24.76"N	039°42'49.12"E	2107
126	24°33'22.37"N	039°42'49.62"E	2107
127	24°33'40.46"N	039°42'41.97"E	2113
128	24°33'42.85"N	039°42'41.46"E	2114
129	24°33'45.25"N	039°42'40.96"E	2116
130	24°33'47.64"N	039°42'40.45"E	2118
131	24°33'50.03"N	039°42'39.94"E	2119
132	24°33'41.11"N	039°42'45.61"E	2113
133	24°33'43.50"N	039°42'45.10"E	2114
134	24°33'45.89"N	039°42'44.60"E	2116
135	24°33'48.28"N	039°42'44.09"E	2118

STAND POSTITION	STAND CODE	LARGEST AIRCRAFT	MAXIMUM WING SPAN
103	CODE C	B737 - 900W	35.80 m
104 TO 108 & 121	MARS (C IS CODE E. L & R ARE CODE C)	1 X A340-600 OR 2 X B737-900W	1 X 63.45 m OR 2 X 35.80 m
109 TO 111 & 114 TO 120 & 122 TO 135	CODE E	A 340 - 600	63.45 m
112 TO 113	CODE F	A 380 - 100	79.80 m

MARS: MULTIPLE AIRCRAFT STAND
MARS: C: CENTER STAND; L: LEFT STAND; R: RIGHT STAND.
CENTER STAND CAN BE USED ALONE FOR ONE CODE E AIRCRAFT.
THE LEFT & RIGHT STANDS EACH CAN USED FOR ONE CODE C AIRCRAFT
(IN THIS CASE, CENTER STAND CANNOT BE USED)

Figure 2 East Apron Map

3.1.2.3 Royal and Remote Aprons

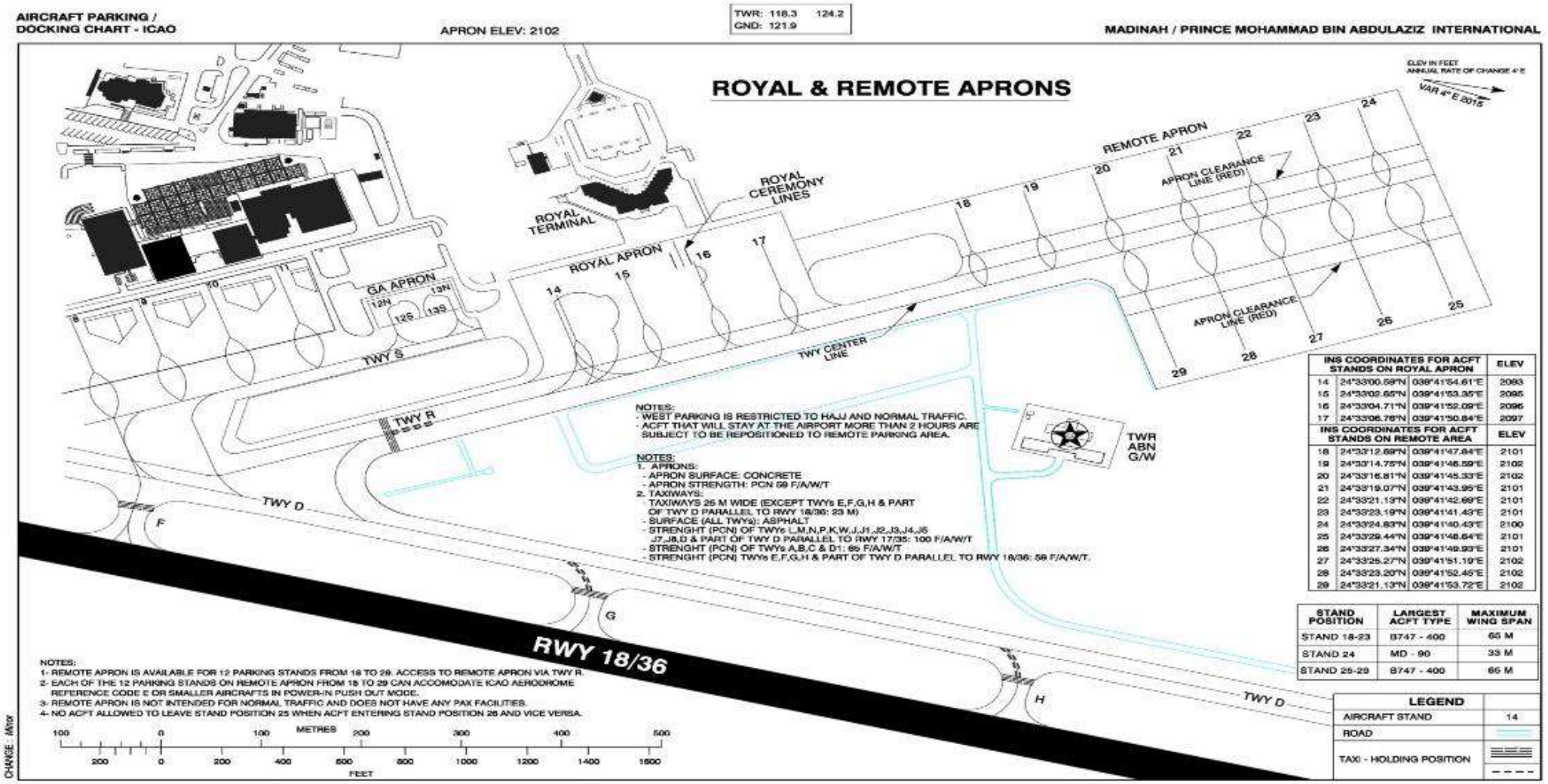


Figure 3 Royal and Remote Aprons

3.2 Plans Showing The Position of The Aerodrome Reference Point, Layout of The Runways, Taxiways and Aprons; The Aerodrome Markings and Lighting (Including The Precision Approach Path Indicator (PAPI), The Visual Approach Slope Indicator System (VASIS) and The Siting of Navigation Aids within The Runway Strip

3.2.1 Aerodrome Chart

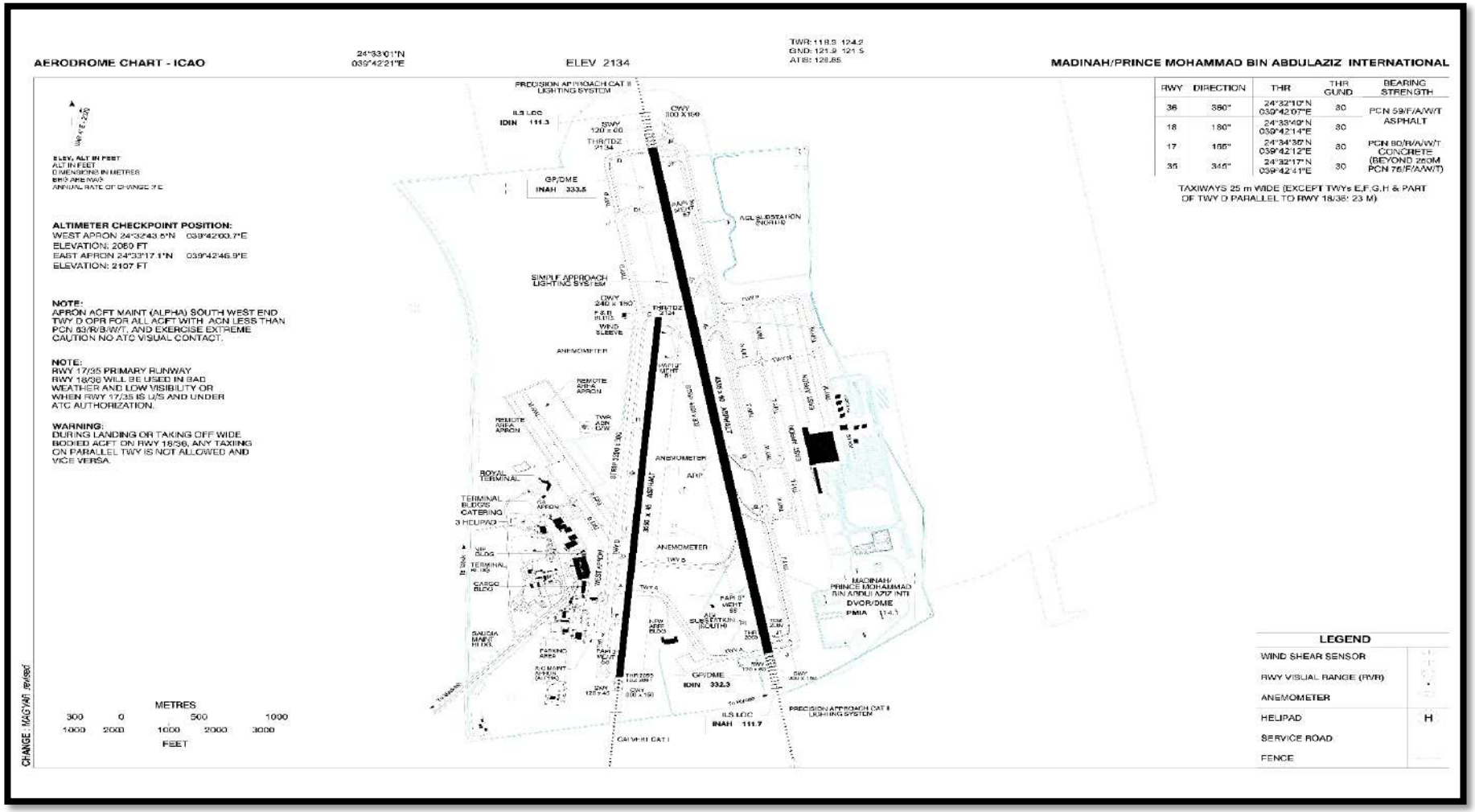


Figure 4 AERODROME CHART

3.2.2 Aerodrome Grid Map

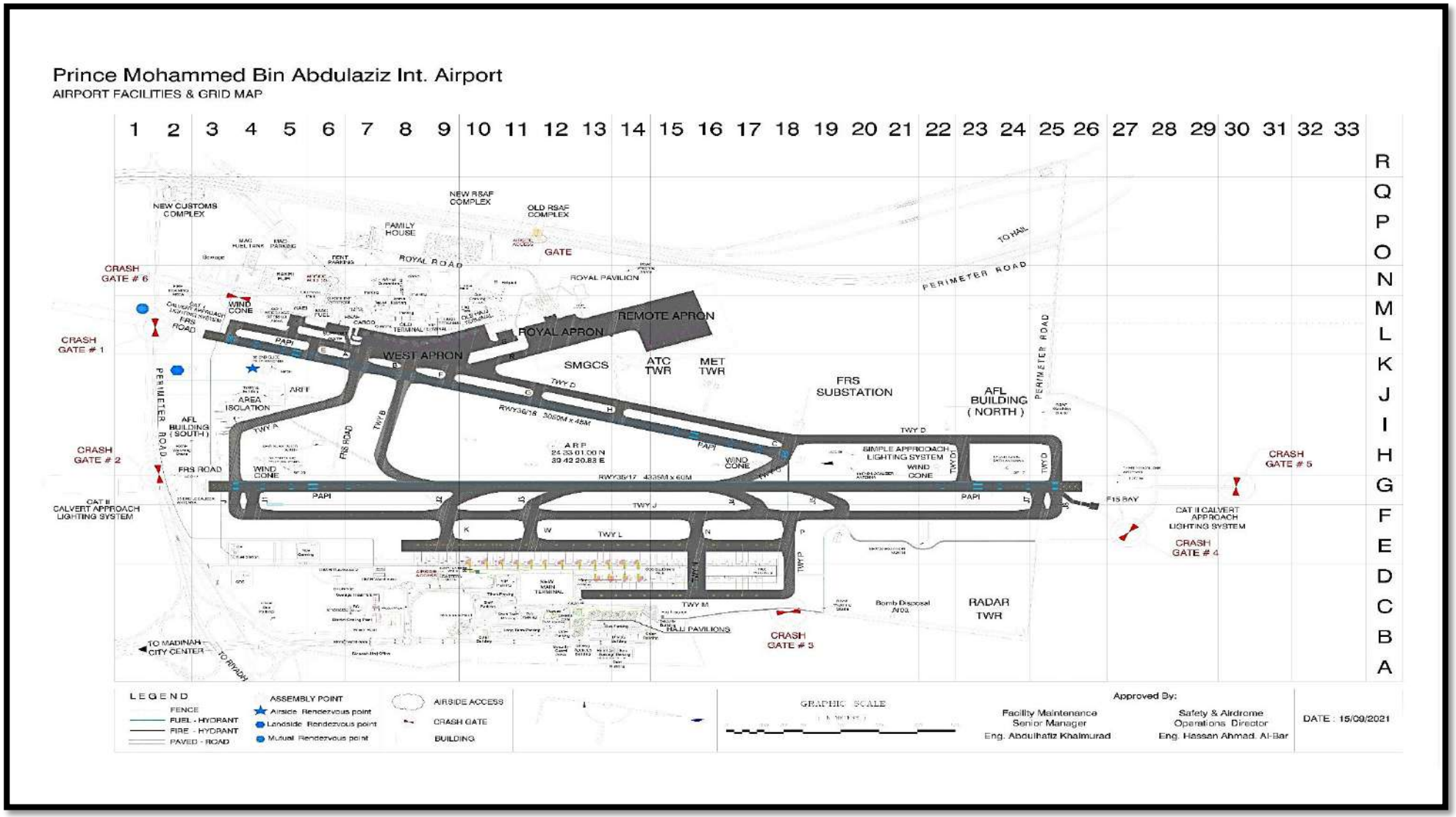


Figure 5 Aerodrome Grid Map

3.2.3 Airfield Lighting – RWY 18/36

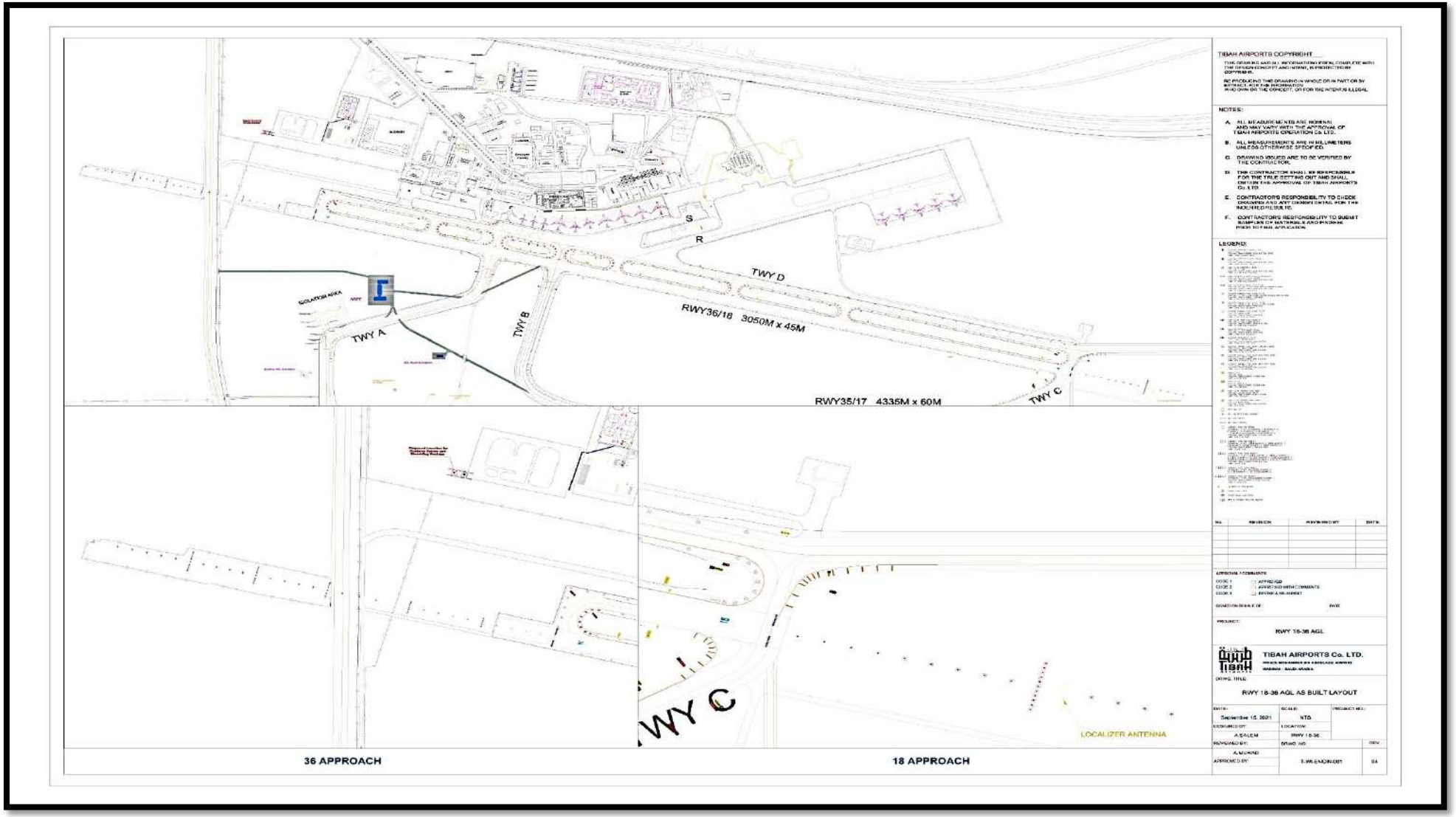


Figure 6 Airfield Lighting – RWY 18/36

3.2.4 Airfield Lighting – RWY 17/35

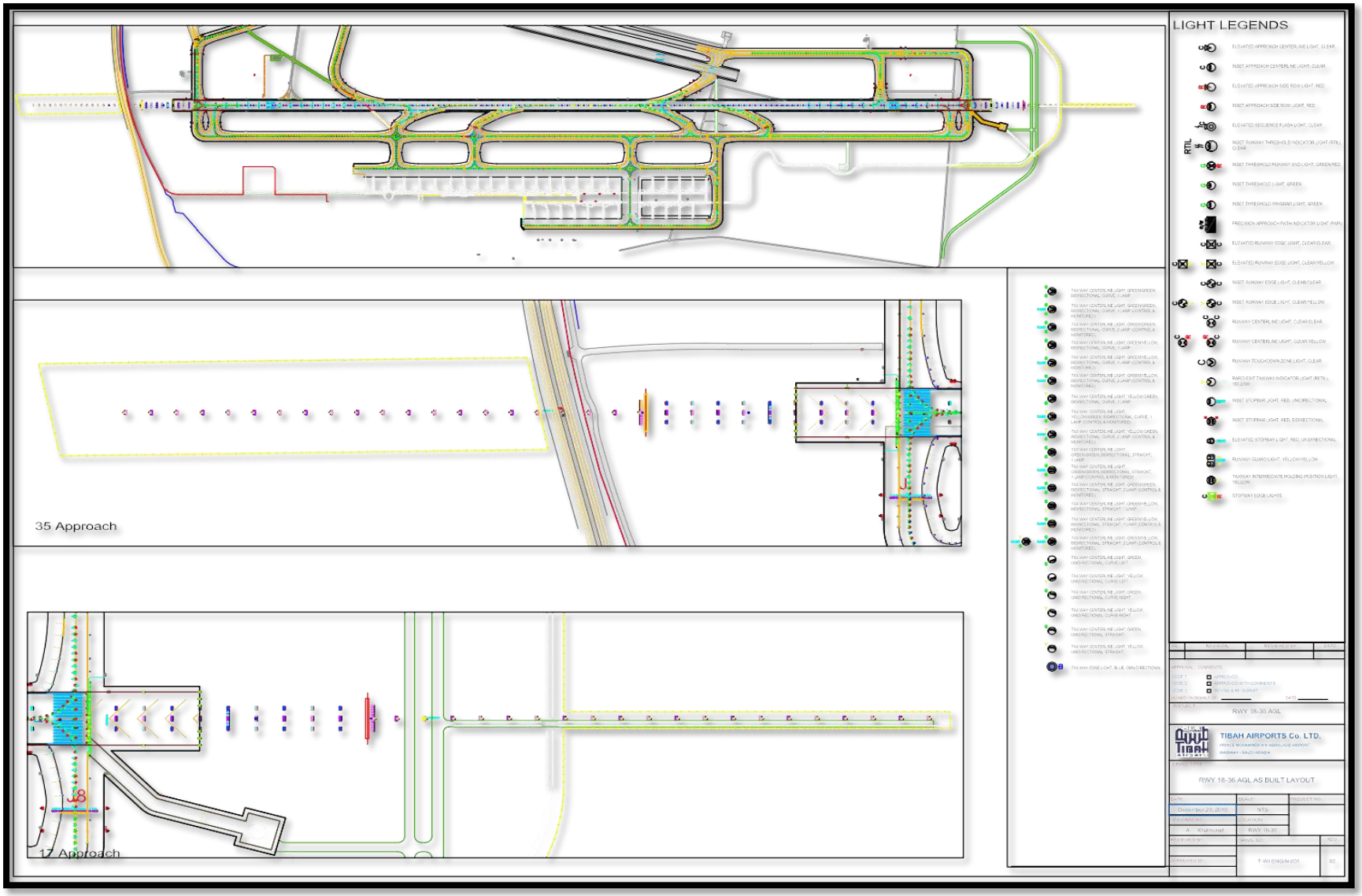


Figure 7 Airfield Lighting – RWY 17/35

3.2.5 Airfield Markings

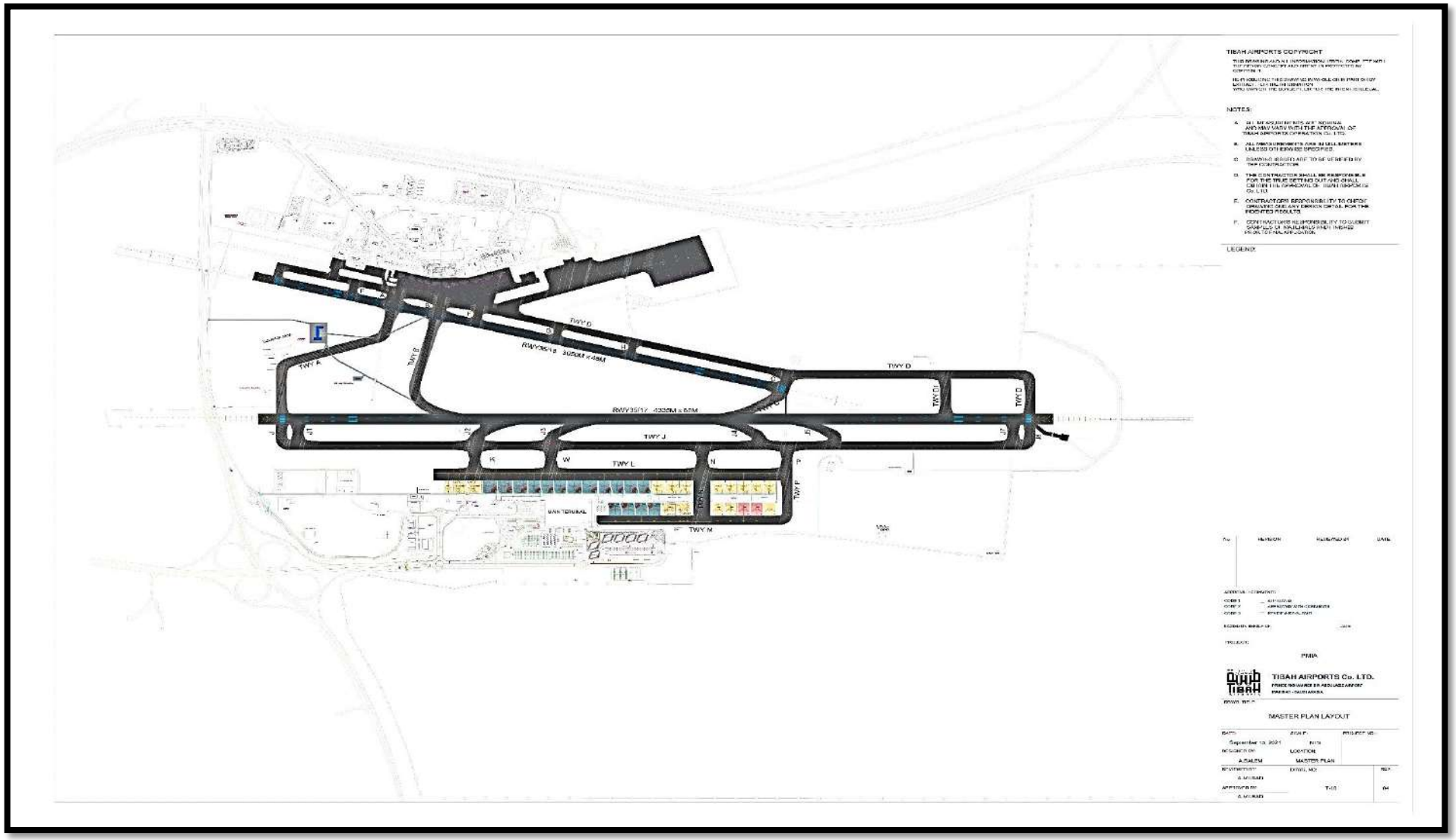


Figure 8 Airfield Markings Plan

3.2.6 Vehicles Ground Movement Plan

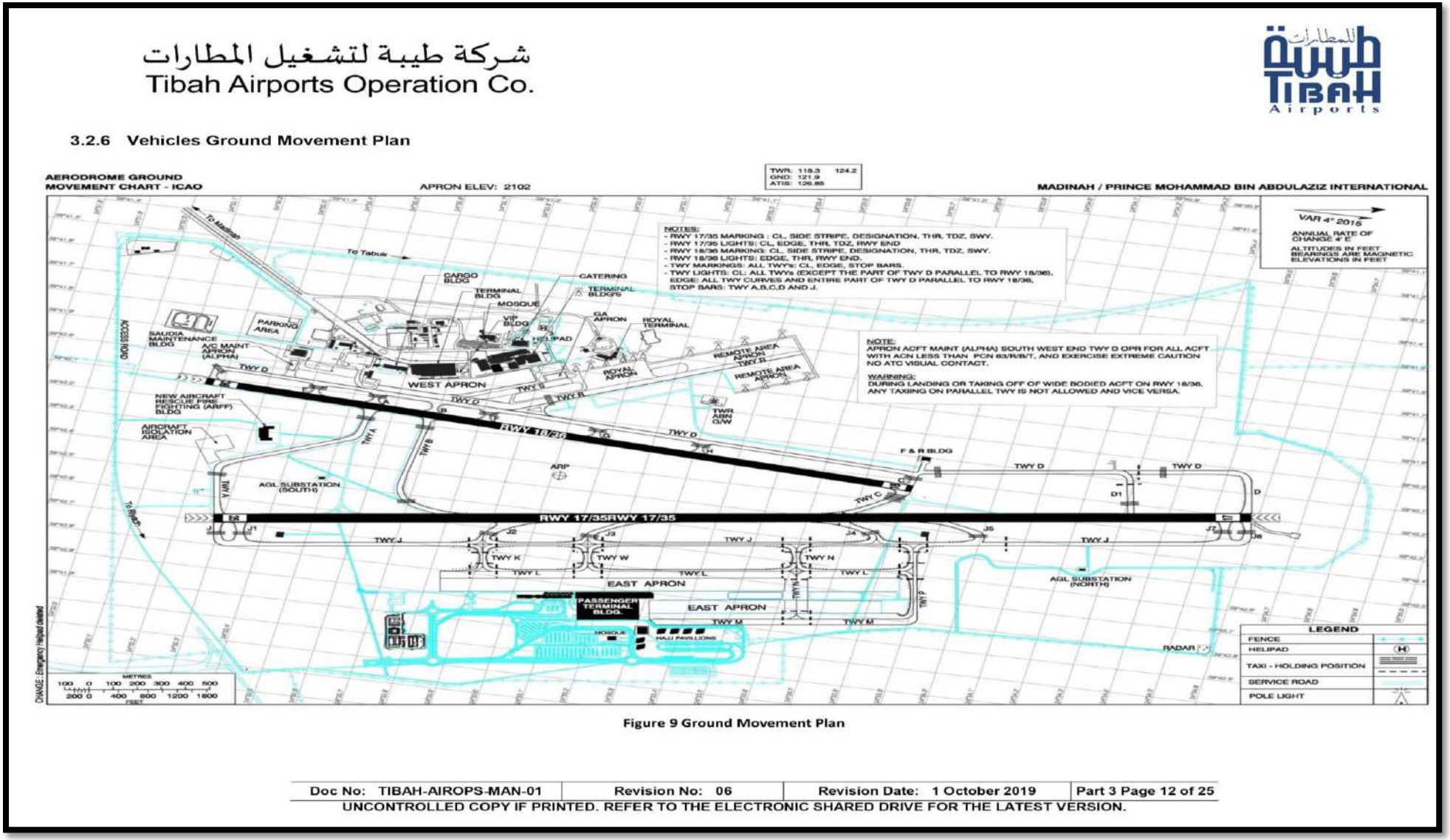


Figure 9 Ground Movement Plan

Figure 9 Ground Movement Plan

3.2.7 Airport Vicinity Map

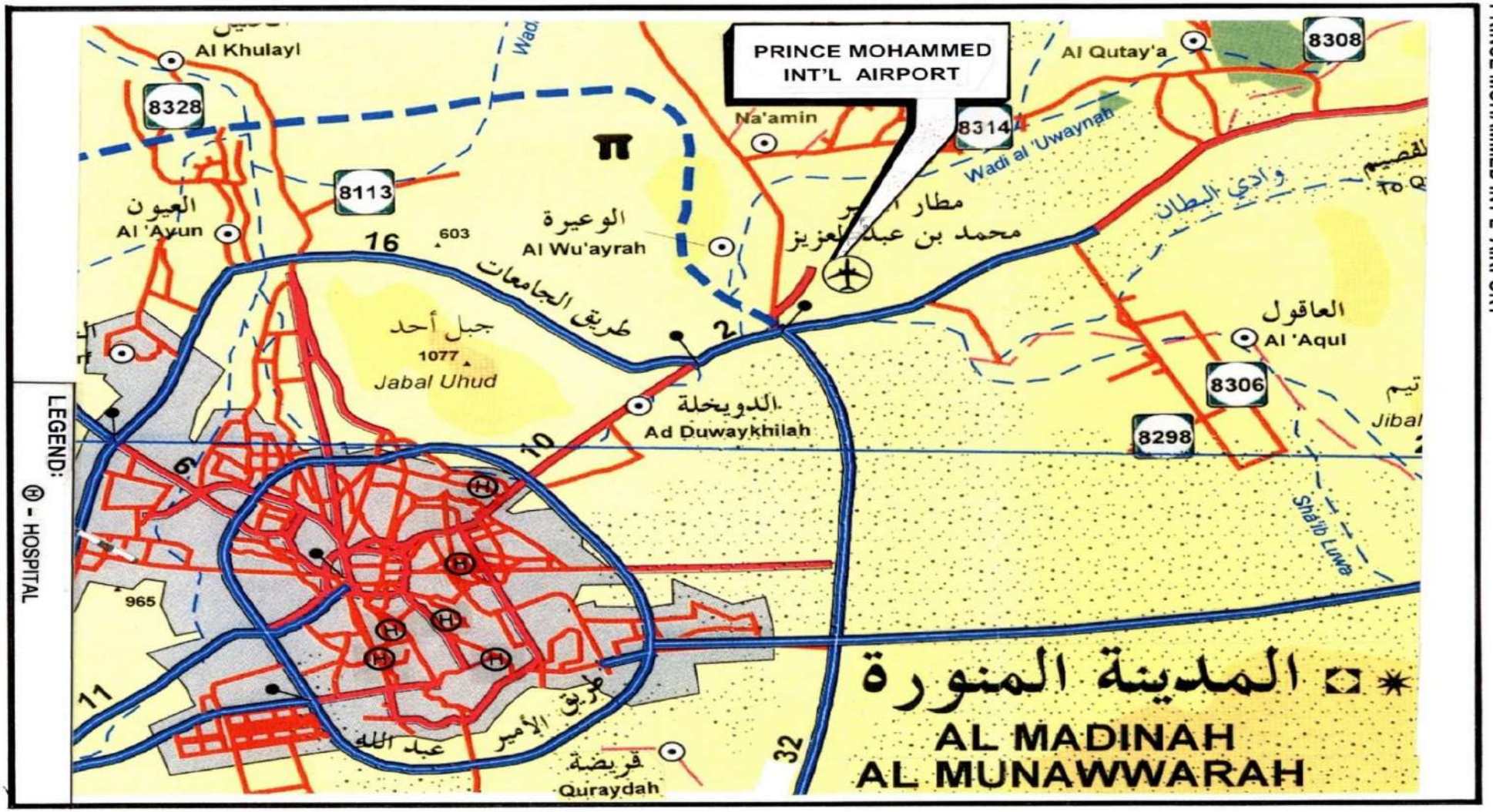


Figure 10 Airport Vicinity Map

3.2.8 Regional Vicinity Map

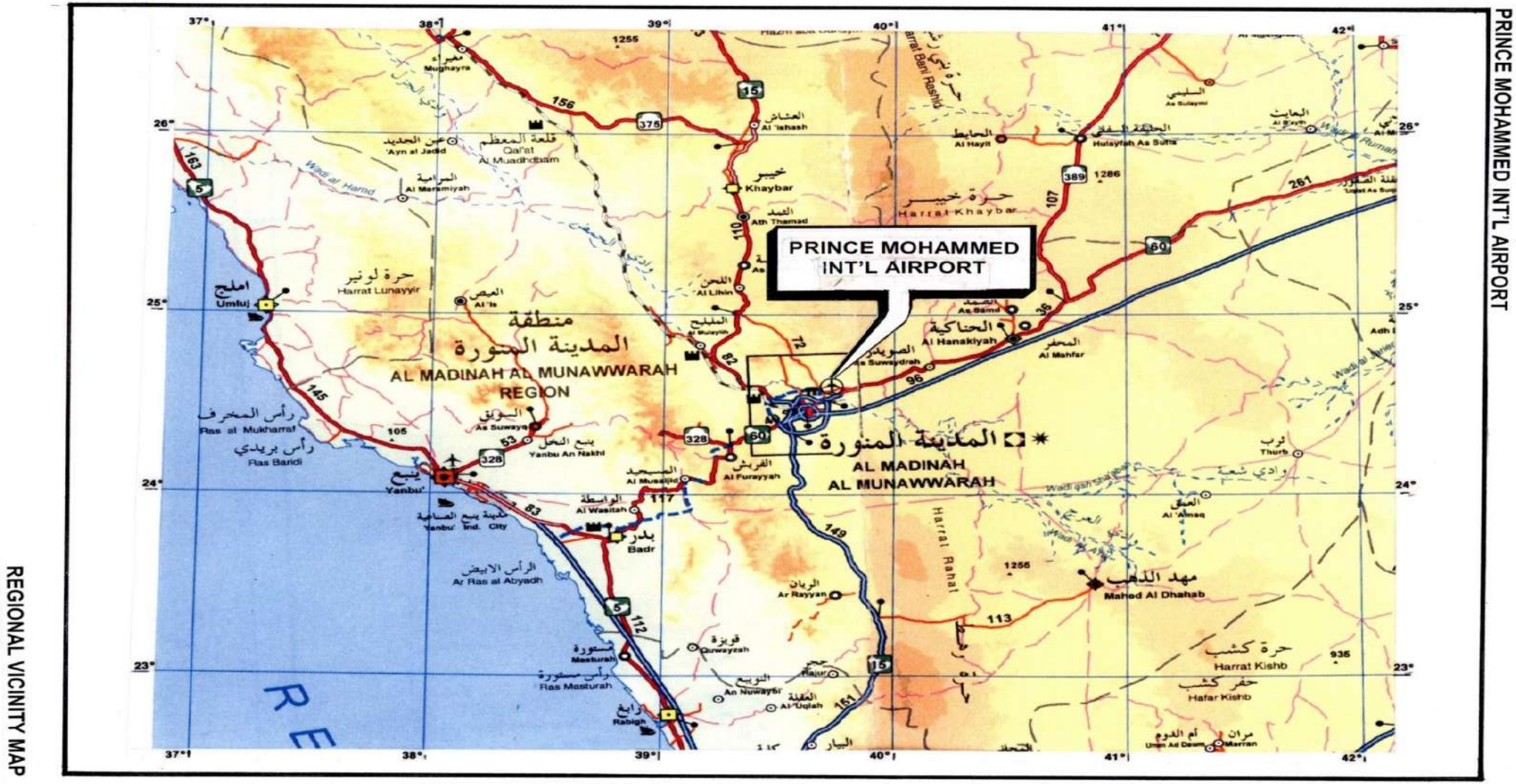


Figure 11 Regional Vicinity Map

3.2.9 General Description of Airport

Prince Mohammed Bin Abdulaziz International Airport was originally built in 1392 Hegira corresponding to 1972 Gregorian. It is one of the most important airports in the Kingdom. All pilgrims who perform Hajj visit this Holy City. Because of this religious tradition, air traffic for the airport is heavy throughout the year. The airport provides domestic and international flight with connections to a great number of other international flights. The airport can accommodate and handle up to Code 4F aircraft with ARFF category of CAT10.

The airport has total of 16 gates with Passenger Boarding Bridges, 17 hard stands/open stands in the east apron, 11 hard stands/open stands in the west apron and 12 hard stands/open stands in the west remote area. There are 3 helipads and 2 GA parking stands on the west side. The isolation pad is on the south west of TWY A.

The airport served to 8.38 million passengers in 2019. Total ATM in 2019 was 60,604 with 23,955 scheduled international flights, 7,297Hajj flights, 5,279Umrah flights and 24,073domestic flights. Average daily ATM in 2019 was 166 flights.

3.2.10 Airport Location

- **Location:** Approximately 700 kilometer SW of the capital city of Riyadh. (See AIP OEMA for details).
- The airport is at an elevation of 2,151 feet (656 meters) above sea level.
- The airport has a total land area of approximately 27,126,850 square meters. It is surrounded by 24,477 linear meters of perimeter fence.

3.2.11 Other Lighting, Secondary Power Supply

1	ABN/IBN location, characteristics and operational hours	ABN: On TWR, ALTN G/W (243318.24N0394157.64E), sunset to sunrise, O/R
2	LDI location and LGT Anemometer location and LGT	Illuminated windsocks located adjacent to RWY 17 AND RWY 35 NIL
3	TWY edge and center line lighting	Edge: All TWY curves and entire part of TWY D parallel to RWY 18/36 Centre line: A, B, C, D1, J, K, L, M, N, P, W and D (parallel to RWY 17/35)
4	Secondary power supply/switch-over time	RWY 17/35, Zero SEC. RWY 18/36, 10 SEC
5	Remarks	Solar Power Obstruction Lights on mountains around airport.

3.2.12 Approach and Runway Lighting

RWY Designator	APCH LGT type LEN INTST	THR LGT colour WBAR	VASIS (MEHT) PAPI	TDZ, LGT LEN	RWY Centre Line LGT Length, spacing, colour, INTST	RWY edge LGT LEN, spacing, colour INTST	RWY End LGT colour WBAR	SWY LGT LEN (M) colour	Remarks
1	2	3	4	5	6	7	8	9	10
17	CAT II 900 M LIH	Green	PAPI Both side 3° (67 FT)	900 M	4335 M, 15 M, White, LIH	4335 M, 60 M, White LIH	Red	Red	NIL
35	CAT II 900 M LIH	Green	PAPI Both side 3° (68 FT)	900 M	4335 M, 15 M, White LIH	4335 M, 60 M, White LIH	Red	Red	NIL
18	SALS 420 M	Green	PAPI Left side 3° (81 FT)	NIL	NIL	3050 M 60 M, White LIH	Red	NIL	NIL
36	Calvert CAT I 875 M LIH	Green	PAPI Left side 3° (58 FT)	NIL	NIL	3050 M 60 M, White LIH	Red	N.A	NIL

3.2.13 Distances from RWY Centerline to Associated Taxiways Holding Positions

- **Holding Positions Associated with RWY 17/35:**

TWY J, J1, J7, J8 and D1	110 m
TWY A	320 m
TWY B	120 m
TWY C	110 m
TWY J3	135 m
TWY J4	120 m
TWY J5	135 m
TWY J2	120 m

- **Holding Positions Associated with RWY 18/36:**

TWY A	90 m
TWY B	90 m
TWY C	90 m
TWY E	90 m
TWY F	90 m
TWY G	90 m
TWY H	90 m

3.2.14 Helicopter Landing Area

1	Coordinates TLOF or THR of FATO Geoid un-dulation	HELIPAD-A 243253.06N 0394144.05E HELIPAD-B 243252.08N 0394144.10E HELIPAD-C 243252.06N 0394143.05E
2	TLOF and/or FATO elevation M/FT	NIL
3	TLOF and FATO area dimensions, surface, strength, marking	NIL
4	True BRG of FATO	NIL
5	Declared distance available	NIL
6	APP and FATO lighting	NIL
7	Remarks	In case of Helicopter operation within OEMA aerodrome is necessarily required, stand No.12, 13 and stand No.05 will be used

3.3 Description, Height and Location of Obstacles that Infringe upon the Standard Protection Surfaces

3.3.1 Obstacles in Approach/TKOF Areas

RWY NR/Area affected	Obstacle type Elevation Markings/LGT	Coordinates		Remarks
APCH 17	PYLON 2534FT/-	243626.30N	0394050.50E	Obstacle data sets are available
APCH 17	TERRAIN 2596FT/-	243705.61N	0394054.15E	
APCH 35	TERRAIN 2412FT/-	243041.20N	0394233.60E	
APCH 18	TERRAIN 2494FT/-	243648.89N	0394117.96E	
APCH 18	TERRAIN 2773FT/-	243954.89N	0394316.88E	
APCH 36	TERRAIN 2231FT/-	243222.41N	0394203.42E	

3.3.2 Obstacles In circling area and at AD*

RWY NR/Area affected	Obstacle type Elevation Markings/LGT	Coordinates		Remarks
APCH 17	TERRAIN 2412FT/-	243040.85N	0394234.01E	Obstacle data sets are available
APCH 17	PYLON 2533FT/-	243634.90N	0394410.70E	
APCH 35	TERRAIN 2707FT/-	243625.90N	0394604.70E	
APCH 18	TERRAIN 2960FT/-	243300.40N	0394822.40E	

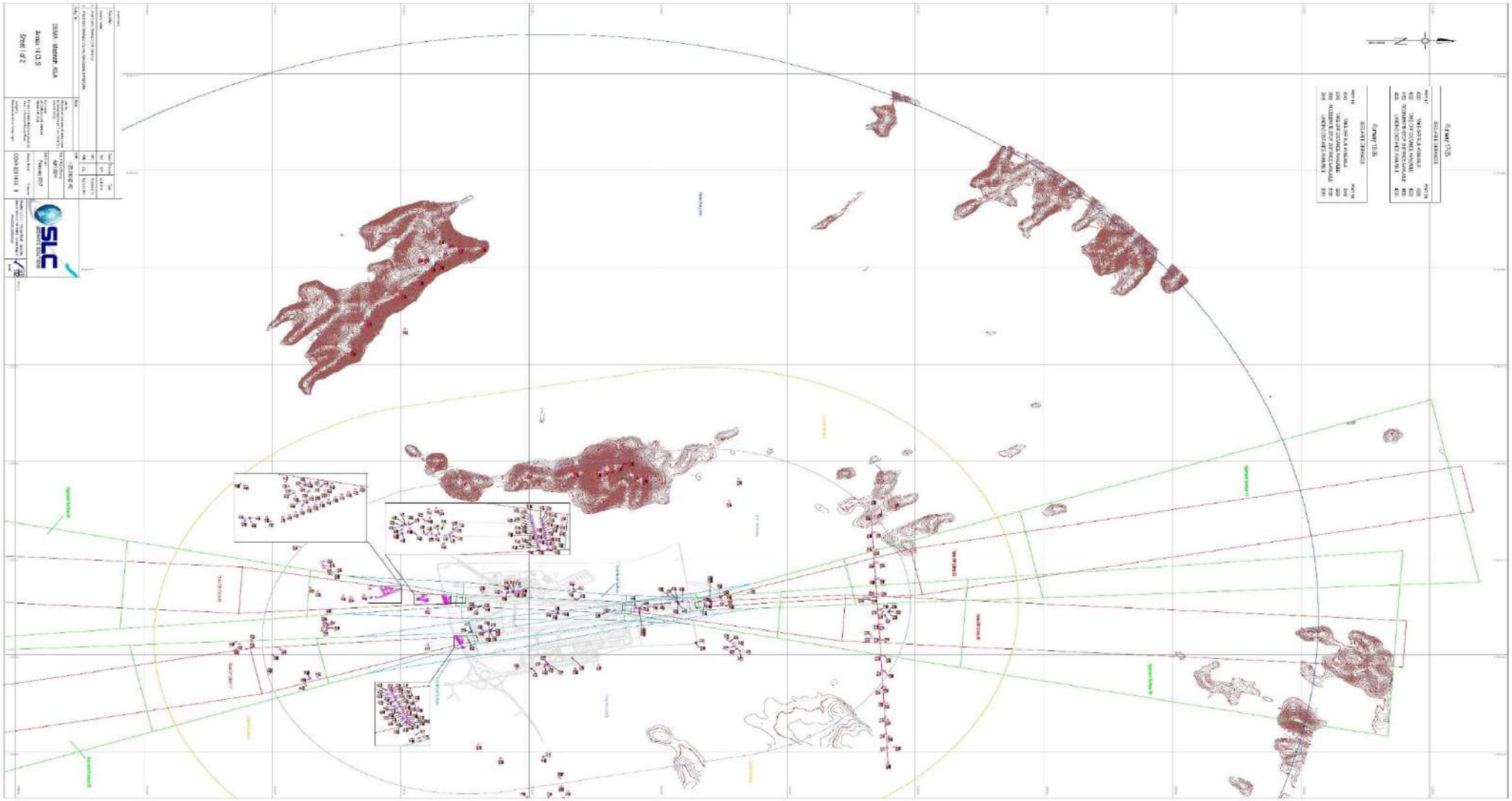


Figure 12 Aerodrome OLS (a)

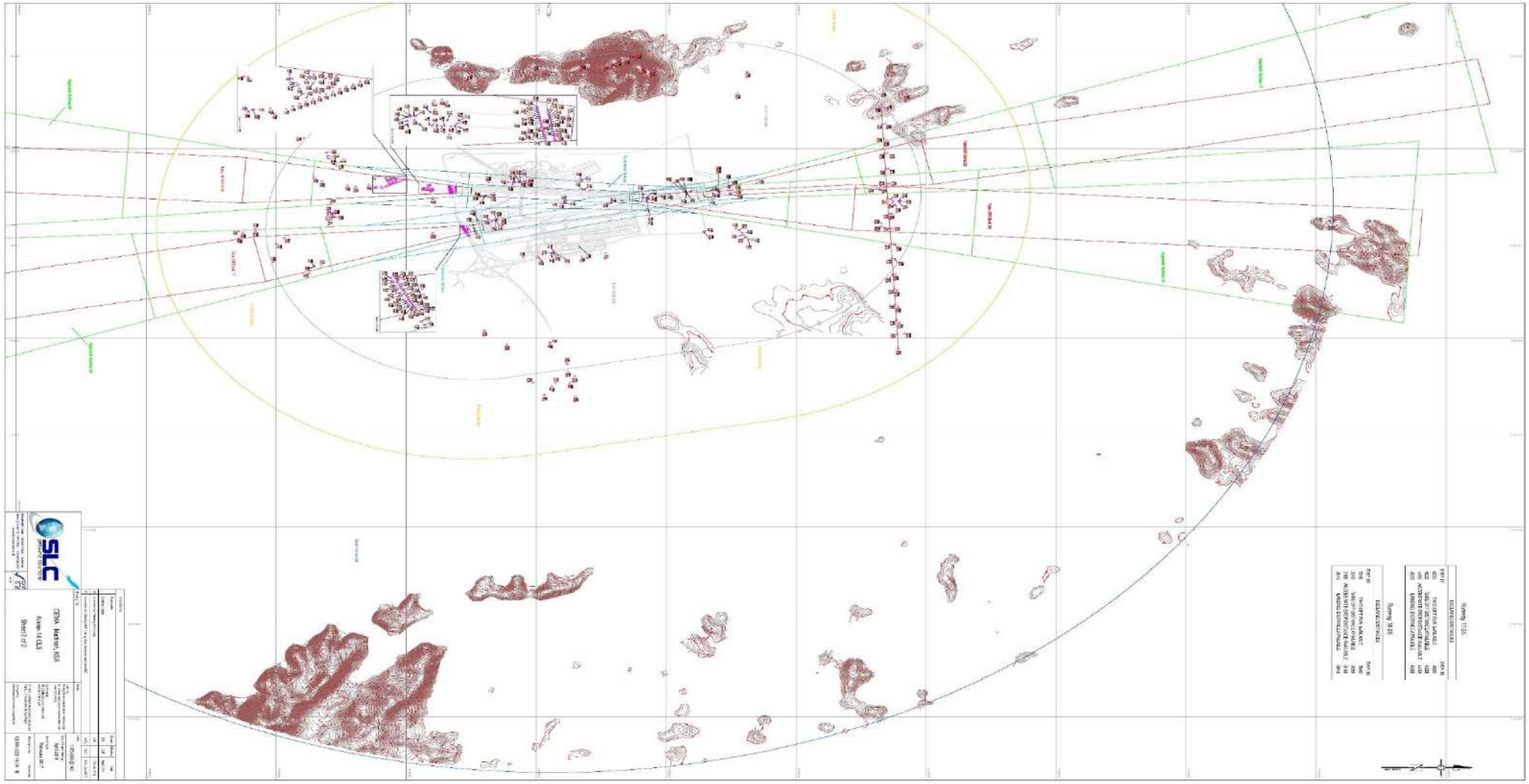


Figure 13 Aerodrome OLS (b)

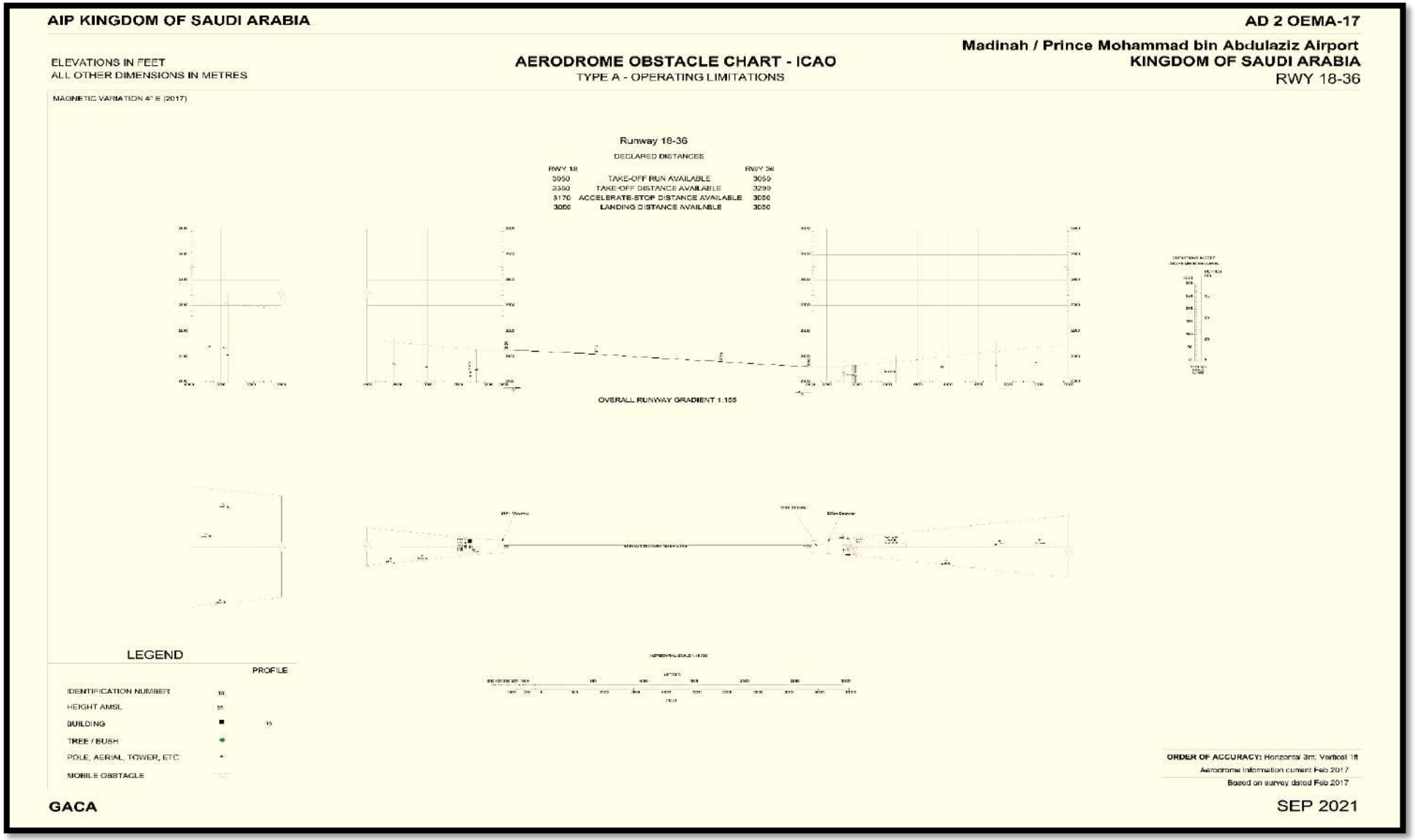


Figure 14 Type A – RWY 18/36

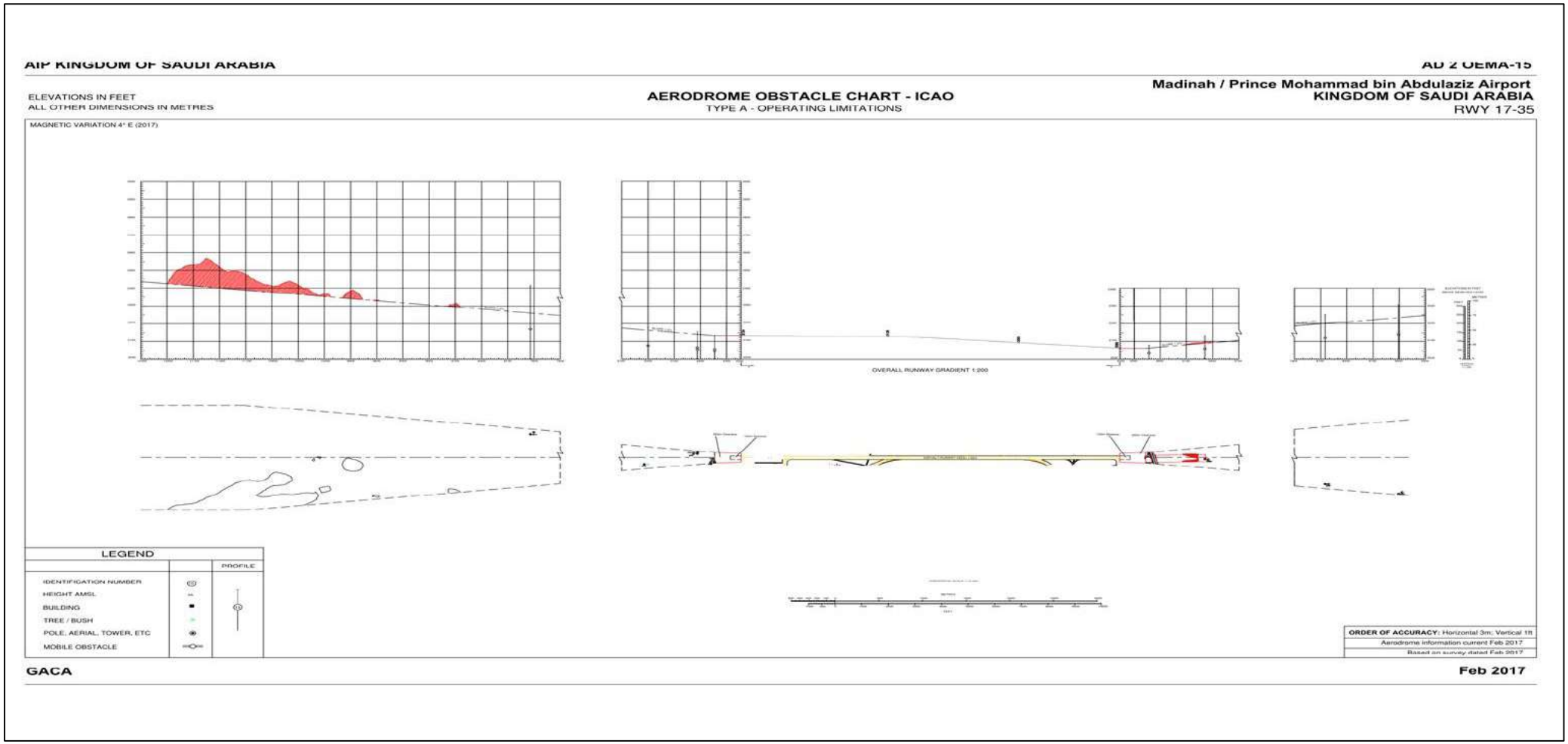


Figure 15 Type A – RWY 17/35

3.4 Procedures for Ensuring that the Plans are Up To Date and Accurate

The aerodrome maintenance in-charge in coordination with Tibah Technical Department is responsible for updating all PMIA layouts/plans including building and other facilities plans as well as the aerodrome maintenance in-charge must follow up periodically and physically all facilities, projects and constructions in order to ensure updating the airport master plan.
A periodical reviews are used to be conducted for airport master plan by aerodrome maintenance in-charge in order to ensure that all plans are up to date.

For further details, please refer to Annex (A) in this document (SOPs: Aerodrome Drawings Update & Control).

3.5 Data for, and the Method Used to Calculate, Declared Distances and Elevations at the Beginning and End of each Declared Distance

Declared distances:

- Take-off run available (TORA). The length of runway declared available and suitable for the ground run of an aeroplane taking off.
- Take-off distance available (TODA). The length of the take-off run available plus the length of the clearway, if provided.
- Accelerate-stop distance available (ASDA). The length of the take-off run available plus the length of the stopway, if provided.
- Landing distance available (LDA). The length of runway which is declared available and suitable for the ground run of an aeroplane landing.

RWY Des-igna-tor	STOPWAY SWY (M)	CLEARWAY CWY (M)	TORA (M)	TORA Elev. beginning/end (M)	TODA (M)	TODA Elev. beginning/end (M)	ASDA (M)	ASDA Elev. beginning/end (M)	LDA (M)	LDA Elev. beginning/end (M)
1	2	3	*4*	*5*	*6*	*7*	*8*	*9*	*10*	*11*
17	120	300	4335	650.417/628.805	4635	650.417/632.56	4455	650.417/627.874	4335	650.417/628.805
35	120	300	4335	628.805/650.417	4635	628.805/654.2	4455	628.805/650.6	4335	628.805/650.417
18	120	300	3050	647.4/627.7	3350	647.4/631.5	3170	647.443/626.72	3050	647.443/627.73
36	120	240	3050	627.7/647.4	3290	627.7/650.4	3050	627.73/647.443	3050	627.73/647.443

3.6 Details of the Surfaces, Dimensions and Classification or Bearing Strengths of Runways, Taxiways and Aprons

3.6.1 Surface Movement Guidance and Control System and Markings

1	Use of aircraft stand ID signs, TWY guide lines and visual docking/parking guidance system of aircraft stands	Parking area nose in push back system, aircraft stand ID signs, TWY guidelines and visual parking guidance system of aircraft stand.
2	RWY and TWY markings and LGT	RWY 17/35 marking: CL, side stripe , designation , THR , TDZ , SWY RWY 17/35 lighting: CL, edge, THR, TDZ, RWY End & SWY lights RWY 18/36 marking: CL, side stripe , designation , THR , TDZ , SWY RWY 18/36 lighting: edge, THR, RWY End TWY Markings : CL, edge, stop bars (all TWY's) TWY Lighting: CL: TWY's A, B, C, J, K, L, M, N, P, W and D (Parallel to RWY 17/35) Edge: All TWY's curves and entire part of TWY D (parallel to RWY 18/36). Stop bars lights: all stop bars at TWYs Holding positions associated with RWY 17/35 except TWY C.
3	Stop bars	Stop bars where appropriate
4	Remarks	NIL

3.6.2 Aprons & TWYs

1	Apron surface and strength	West Apron and Royal Apron Surface: Concrete Strength: PCN59/F/A/W/T East Aprons Surface: Concrete Strength: PCN 85/R/A/W/T
2	Taxiway width, surface and strength	**Width:** TWY's A, B, C, D1, J, J1, J2, J3, J4, J5, J7, J8, K, L, M, N, P, W and D (Parallel to RWY 17/35) 25 M **Width:** TWY's E, F, G, H and D (Parallel to RWY 18/36) 23 M **Surface:** Asphalt (All TWY's) **Strength:** TWY - J,J1,J2,J3,J4,J5,J7,J8,K, L,M,N,P, W and D (Parallel to RWY 17/35) PCN 100 F/A/W/T TWY's E, F, G, H and D (Parallel to RWY18/36) PCN 59 F/A/W/T TWY'S A, B, C and D1 : PCN 65 F/A/W/T
3	Altimeter checkpoint location and elevation	**West Apron** 243243.5402 N 0394200.7033E, ELEV 2080.007 FT **East Apron** 243317.0571N 0394246.9384E, ELEV 2108.553
4	VOR checkpoints	NIL
5	INS checkpoints	See Aircraft Parking/Docking Chart
6	Remarks	NIL

3.6.3 Runways Physical Characteristics

Designations RWY NR	TRUE & MAG BRG	Dimensions of RWY(M)	Strength (PCN) and surface of RWY and SWY	THR coordinates RWY end coordinates THR geoid undulation	THR elevation and highest elevation of TDZ of precision APP RWY	Dimensions of SWY (M)	Dimensions of CWY (M)	Dimensions of RESA (M)
1	2	3	4	5	6	7	8	9
17	169.00°	4 335 x 60	80/R/A/W/T Asphalt Beyond 250 M: Surface Asphalt PCN 75/F/A/W/T	243435.07N 0394211.93 E GUND 30.2 FT	THR 2 134.1 FT TDZ 2 134.1 FT	120 x 60	300 x 150	90 x 120
35	349.00°	4 335 x 60	80/R/A/W/T Asphalt Beyond 250 M: Surface Asphalt PCN 75/F/A/W/T	243216.77N 0394241.30 E GUND 30.2 FT	THR 2 062.9 FT TDZ 2 087.1 FT	120 x 60	300 x 150	90 x 120
18	183.80°	3 050 x 45	59/F/A/W/T Asphalt	243348.62N 0394214.19 E GUND 30 FT	THR 2 124.2 FT	120 x 45	300 x 150	90 x 120
36	003.80°	3 050 x 45	59/F/A/W/T Asphalt	243209.71N 0394207.01 E GUND 30.2 FT	THR 2 059.5 FT TDZ 2 080.1 FT	NIL	240 x 150	90 x 120

Designations RWY NR	RWY Strip Dimensions (M)	Longitudinal slopes	Transverse slopes	Remarks
17/35	*4,695 X 300*	*0.500299885%*	*1%*	*Main RWY*
18/36	*3,290 X 300*	*0.690918032%*	*1%*	*NIL*

PART 4

LIST OF AUTHORIZED DEVIATIONS

4.0 List of Authorized Deviations

No.	Details of Deviations	Added By	Date	Reference/ Doc	Remarks
1	NIL	NIL	NIL	NIL	NIL
2	NIL	NIL	NIL	NIL	NIL

PART 5

OPERATIONAL PROCEDURES

5.0 Operational Procedures

5.1 Promulgation of Aeronautical Information

***NOTE*: Further details in this subject are provided in this document; Annex (A), SOP: Aeronautical Information System Promulgation & Update.**

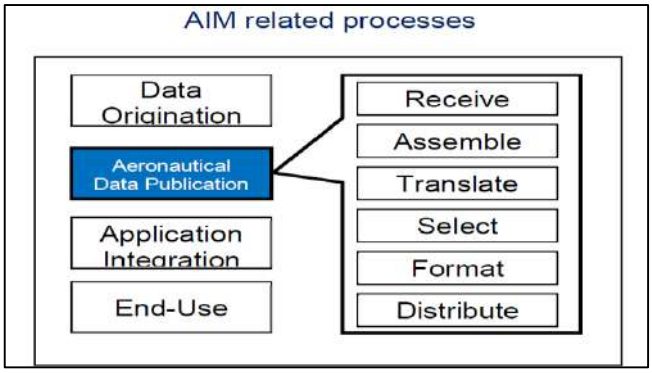
In order to safely and efficiently operate in airspace, flight crews require reliable information. To provide them with that information is the purpose of the aeronautical data chain. The aeronautical data chain extends from the original data source (e.g. ATSU, Aerodrome operator … etc.) through Aeronautical information management (AIM-SANS), via the data integrator and developers of aeronautical applications, collectively known as the data houses, to the users of the aeronautical information (e.g. flight crews, personnel involved in flight OPS, etc.).
The aeronautical data and information process chain is depicted in below Figure.
As can be seen, the aeronautical data has to pass through several entities before reaching the end user.

Figure 1 Aeronautical Data and Information Process Chain

***NOTE*: SLA has been signed between Tibah and Saudi Air Navigation Services (SANS/AIM – Aeronautical Information Management).**

Within this process chain, the role and responsibility of AIM is to “receive, collate or assemble, edit, format, publish/store and distribute aeronautical data and aeronautical information concerning the entire territory of the State” [GACAR Part 175 and ICAO Annex 15, Paragraph 2.2.2] and to ensure compliance with all applicable international standards and national regulations. The AIM publications are collectively referred to as the Integrated Aeronautical Information Package, comprising the Aeronautical Information Publication (AIP), including amendment service, supplements to the AIP, NOTAM and Pre-flight Information Bulletin (PIB), Aeronautical Information Circular (AIC), and checklists and lists of valid NOTAM.

To fulfil its mandate, the AIM is dependent upon a multitude of data originators whose responsibility, in turn, is to provide the original aeronautical data and aeronautical information according to specified requirements in terms of content, quality and timeliness. Fundamentally, as shown in below Figure, the primary flow of information is from left to right, that is from originator through AIM and the Data Houses to the end user. The smaller arrows pointing from right to left, though, indicate the important feedback mechanism and information flows for clarification and quality check.



5.1.1 Coordination between Tibah and SANS/AIM

- TIBAH - OEMA shall ensure and is responsible for notifying SANS/AIM in a timely manner of any issues that warrant promulgation via NOTAM; whenever possible, at least 24 hours' advance notice is desirable, to permit timely completion of the notification process (as per Annex 15, Para.5.1.1.4.1);
- TIBAH - OEMA shall be responsible for the correctness of the information provided to SANS/AIM;
- NOTAM requests shall be submitted via ATC unit either directly using the NOTAM Terminal, or in case the NOTAM Terminal is not available, then using a signed
  NOTAM request form to be sent to NOTAM Office (NOF) by FAX or email (scanned copy of the signed form); in either case, it is mandatory to use international standards and abbreviations for the creation of international NOTAM;
- SANS/AIM/NOF shall send the daily PIB to TIBAH – OEMA.
- Official letter signed by the TIBAH - OEMA General Director and/or GACA is the method for the notification of changes or submission of new data to be included in the AIP;
- TIBAH - OEMA shall designate two (2) persons responsible of changes in the AIP or NOTAM proposal and coordination with SANS/AIM.
- SANS/AIM shall be responsible for reviewing every TIBAH - OEMA request of changes or NOTAM proposal, clarify any issues with TIBAH – OEMA representative, and coordinate with TIBAH - OEMA representative prior to making edits and/or corrections, as necessary.

5.1.2 Reporting by NOTAM

Reporting must be carried out as soon as possible after a reportable occurrence is observed, giving as much detail as is available. Where necessary, subsequent additional detail can be reported as it becomes available. Where applicable, ATC must be advised of the un-serviceability and the intention to initiate a NOTAM.

TIBAH - OEMA must provide SANS/AIM as much notice as possible of maintenance work which may affect airline operations and/or schedules. Whenever possible, at least 24 hours' advance notice is desirable, to permit timely completion of the notification process.

NOTAM should not remain in force for more than three months. If the circumstances to be notified are expected to exceed three months, an AIP Supplement must be published. When a temporary change in eAIP information issued by NOTAM unexpectedly exceeds the three-month period, a new or replacement NOTAM may be issued, but only in those cases where a condition is expected to last for a further period of a maximum of one to two months. If it is expected that the condition will last for a longer period of time, an AIP Supplement must be issued.

5.1.3 Activities outside Aerodrome

The reporting function must also include monitoring activities outside but in the vicinity of the aerodrome which may result in hazards to aircraft operations. This includes:

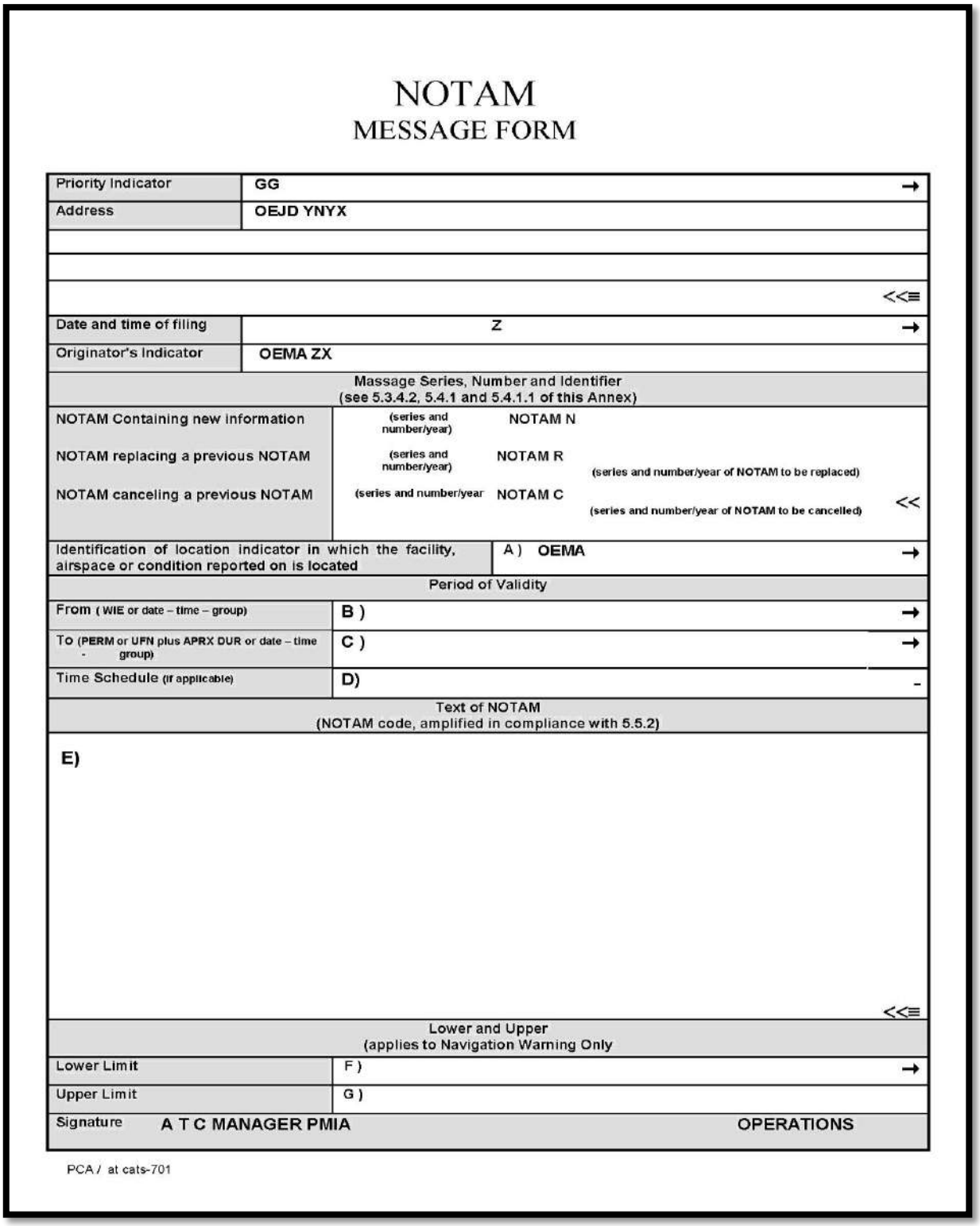
- Developments which may become obstacles;
- land planning and use which may attract birds; and
- Installation of lighting systems which may create confusion to pilots at night.

5.1.4 AIRAC System

The AIRAC system governs the publication of aeronautical information and has been defined as per GACAR PART 175 & Annex 15, Chapter 6.

SANS/AIM of Saudi Arabia has scheduled publications that fall under the AIRAC system to be made every two (2) AIRAC dates. An AIRAC flow chart is published by SANS/AIM at the beginning of each year. This flow chart shows the AIRAC cycle number, information cut-off date, posting date (mailing) and effective date. It is noted that all information must be submitted to

SANS/AIM at least 84 days (information cut-off date) in advance of the target AIRAC effective date. TIBAH - OEMA must initiate AIP/AIRAC Amendments for permanent changes or supplements to reflect temporary changes (e.g. closure of TWY more than 3 months). Official letter shall be used for the submission of all information proposed to be included in the AIP. No other means of notification will be accepted.



NOTAM
MESSAGE FORM

Priority Indicator	GG →
Address	OEJD YNYX
	<<≡
Date and time of filing	Z →
Originator's Indicator	OEMA ZX
Massage Series, Number and Identifier (see 5.3.4.2, 5.4.1 and 5.4.1.1 of this Annex)	
NOTAM Containing new information	(series and number/year) NOTAM N
NOTAM replacing a previous NOTAM	(series and number/year) NOTAM R (series and number/year of NOTAM to be replaced)
NOTAM canceling a previous NOTAM	(series and number/year NOTAM C (series and number/year of NOTAM to be cancelled) <<
Identification of location indicator in which the facility, airspace or condition reported on is located	A) OEMA →
Period of Validity	
From (WIE or date – time – group)	B) →
To (PERM or UFN plus APRX DUR or date – time - group)	C) →
Time Schedule (if applicable)	D) -
Text of NOTAM (NOTAM code, amplified in compliance with 5.5.2)	
E)	
	<<≡
Lower and Upper (applies to Navigation Warning Only	
Lower Limit	F) →
Upper Limit	G)
Signature A T C MANAGER PMIA	OPERATIONS

PCA / at cats-701

Figure 2 NOTAM Message Form

5.2 Control of Access

5.2.1 Security Responsibilities

NOTE: Control of access is detailed in this Manual, Annex (A) – (SOP: Access to Air Operation Area)

Royal Saudi Air Force (RSAF):

The Royal Saudi Air Force (RSAF) is responsible for the protection of personnel, property and equipment at PMIA. The RSAF is also responsible for the controlled movement of personnel in designated areas at the airport and the control of access to restricted areas including the airside. In addition, the RSAF, as the airport Security Guard, shall, through the Chief of Airport Security:

- Furnish armed protection for all airport facilities, aircraft and personnel.
- Participate with Ministry of Interior (MOI) personnel and explosive experts, in the inspection of any aircraft or facility suspected of containing an explosive device.
- Apprehend any persons suspected of violating Security or Airport Rules and Regulations and deliver them to the custody of the delegated authorities.
- Patrol, either in vehicles or on foot, the AOA, perimeter fences and critical areas as designated by the GACA Airport Director, RSAF Unit Commander, or by other delegated authorities.
- Guard and control all designated access gates, allowing only personnel and vehicles possessing permits of right-of-entrance to pass.
- Chief of Airport Security shall maintain close liaison with the GACA Airport Director or his designate and Tibah Deputy Managing Director.
- In addition, every employee at the airport has the responsibility to report security and safety violations to the Security Department.

Ministry of Interior:

- Participate with RSAF personnel and explosive experts, in the inspection of any aircraft or facility suspected of containing an explosive device.
- The MOI, General Investigations, is responsible for passenger and baggage screening security.
- The MOI Immigration is responsible for passport control.

5.2.2 Crash Gates – Perimeter Fence

There are five crash gates located at the airport perimeter fence (See Figure 3-2):

- ***Crash gate # 1*** – located in the south fence in line with the approach path of runway 36.
- ***Crash gate # 2*** – is located in the south fence in line with approach path for runway 35.
- ***Crash gate # 3*** – is located in the north east fence, opening to east side.
- ***Crash gate # 4*** – is located in the north fence in line with approach path for runway 17.
- ***Crash gate # 5*** – is located in the north fence in line with approach path for runway 17.
- ***Crash gate # 6*** – is located in the west fence leading to MAC Fuel tank farm.

These crash gates are built with standard crash barrier and are likewise has the capability of providing perimeter security.

5.2.3 Gates and AOA Access Points

Active AOA Access Gates are controlled by RSAF personnel who challenge all persons. They are equipped with a magnetometer used for screening and search people requiring entry to the AOA.

For further details about AOA security measures, please refer to PMIA Security Manual.

5.2.4 Baggage Screening

All hand-carry and checked-in baggage are X-rayed at appropriate screening points.

5.2.5 Passenger Screening

The passenger screening checkpoints are established between the check-in area and the departure lounge. Prior to entering the departure lounge, all passengers are screened by magnetometer walk-through devices and/or by hand held metal detectors. Hand carried articles are inspected by X-ray equipment prior to entry into the sterile boarding area.

5.2.6 Personnel Identification Badges

Persons employed by or conducting business regularly at the airport are issued an Airport identification badge with their photograph attached. These personnel badges are issued and controlled by GACA Airport Director in coordination with the Airport Security and Tibah. For ID Badges, please see PMIA Security Manual. Entry points to airside for personnel are listed in Security Manual.

5.2.7 Visitor Badges

Visitor badges are issued and controlled by GACA Airport Director in coordination with the Airport Security and Tibah. For Visitor ID Badges, please see PMIA Security Manual.

5.2.8 Vehicle AOA Permit

All vehicles requiring access to the AOA must be issued the appropriate pass by GACA Airport Director in coordination with Airport Security and Tibah. Drivers must have in their possession a valid PMIA AOA Driver's Permit.

NOTE: further details are provided in aerodrome manual, Annex (A); SOP: Operation of Vehicles & Other Equipment

5.2.9 Critical Areas

Aircraft isolation and bomb disposal areas have been designated. For further information, see Aerodrome Emergency Plan.

5.3 Emergency Plan

5.3.1 Purpose

The Aerodrome Emergency Response Plan (AERP) will address all-inclusive emergencies that occur on or directly impact, an airport or adjacent property that;

- Is within the authority and responsibility of the airport to respond; or
- May present a threat to the airport because of the proximity of the emergency to the airport; or
- Where the airport has responsibilities under local/regional emergency plans by mutual aid agreements.

5.3.2 Responsibility

Airport Authority Director in coordination with Airport Operator Managing Director (MD) has overall responsibility/accountability for developing, reviewing, updating, and testing of the AERP, in accordance with GACA regulations & guidelines. In this matter, he will be supported by the Aerodrome Emergency Plan Committee, and/or airport operators, and all other key individuals/major organizations that have a role in the airports emergency plan.

5.3.3 Validation / Acceptance of Authority

GACA will be the Governing body of oversight authority, for the validation of acceptance of the AEP, during initial / renewal of Aerodrome Certification, to include revisions.

5.3.4 AERP Document

Descriptions of emergency situations and methods of handling them are explained in detail in Aerodrome Emergency Plan. Aerodrome Emergency Plan is a standalone document (***Reference; TIBAH-AIROPS-MAN-02***)

5.4 Aerodrome Rescue and Firefighting (ARFF)

5.4.1 Policy Statement

- The principal objective of OEMA - ARFF is to save lives in the event of an aircraft accident or incident occurring at, or in the immediate vicinity of, an airport. The OEMA - ARFF is provided to create and maintain survivable conditions.
- Fire rescue service at the airport is under the administrative control of Airport Director.
- The facilities, equipment, personnel and procedures in place at OEMA meet the GACA requirement as specified in the OEMA Fire & Rescue (ARFF) Standard Operating Procedures (SOPs) Manual.
- Fire rescue services supervise by fire chief to ensure that the service is provided at all time in conformity with GACAR 139 and international standards, which also responsible for ensuring that the services provided is organized, equipped, staffed, trained and operated in such a manner as to achieve its principle objective of saving lives in the event of an aircraft accident or incident.
    - Internal audits and evaluation conducted by OEMA fire rescue services management team.
    - External audits conducted by aerodrome standards department GACA.

5.4.2 Fire Prevention

- The fire prevention program at OEMA is an essential component in ensuring the continual preservation and safekeeping of costly and irreplaceable assets such as facilities, building, and indispensable equipment. Also, the prevention of fire directly affects people using or working on OEMA by influencing the level of life safety they are exposed to or afforded.
- Fire prevention officer at OEMA - ARFF provide an aggressive Fire Prevention inspection and personnel training program to reduce the possibility of fire within Airport in accordance with national and International Standards.
- Ensure the highest Fire Prevention and Fire Protection Standards are enforced at Airport and its facilities through effective inspection, reporting, corrective / preventive actions and record keeping.
- Details of the fire prevention can be found in OEMA - ARFF Standard Operating Procedures (SOPs) Manual, ARFF fire prevention program and Safety Inspection Manual.

5.4.3 Aerodrome Level of Protection to be Provided – ARFF – Category Classification

- OEMA is CAT 10. Fire and Rescue Chief maintains this category to the GACA standards required as defined in GACAR PART 139 – CERTIFICATION AND OPERATIONS: AERODROMES

CAT	NO. Of ARFF	Water (L)	Discharge Rate foam solution / minute (L)	Dry Powder (Kg)
10	4	32.300 L	11.200 L/M	450 Kg

5.4.4 Aerodrome Level of Protection – ARFF Category Downgrading Classification

- OEMA has the authority to recommend the downgrading of its aerodrome operations, due to minimized/degrading resources of its ARFF capabilities as defined in GACAR PART 139 – CERTIFICATION AND OPERATIONS: AERODROMES.

CAT	NO. Of ARFF	Water (L)	Discharge Rate foam solution / minute (L)	Dry Powder (Kg)
9	3	24300 L	9000 L/M	450 Kg
8	3	18200 L	7200 L/M	450 Kg
7	3	12100 L	5300 L/M	225 Kg

- Failure to maintain the minimum requirement Fire Chief will take appropriate action.

5.4.5 Staffing

- OEMA has a staff establishment of (**130**) trained operational personnel including administrative staff. It is divided into an administration section and four (**4**) operational shift, which are designated as "**A**, **B**, **C** and **D**".
- Fire Rescue Services (ARFF) administration consists of the following personnel:
  - ARFF Services Manager
  - Fire Chief
  - ARFF Training Officer
  - Fire Prevention Supervisor
  - Paramedic Supervisor
  - ARFF Maintenance Officer
  - Alarm Room Supervisor
- The operational personnel consist of the following personnel:
  - ARFF Duty Officer (**4**)
  - ARFF Station Captain (**4**)
  - Crew Chief (**28**)
  - Airport Firefighters (**55**)
  - Alarm Room Operator (**9**)
  - Paramedic (**9**)
  - Ambulance Drivers (**4**)
  - Fire Prevention Inspectors (**10**)
- A total of (**27**) staff are on duty for each shift.
- All ARFF personnel meet the required medical standards.

5.4.6 Priority of Emergency Traffic

Air Traffic Control shall accord priority for the movement of the Fire Rescue Services (ARFF) vehicles and equipment on the movement area.

5.4.7 Response Times

The level of aircraft fire protection coverage shall be equivalent to GACAR 139 and the International Civil Aviation Organization (ICAO) requirements. The desired response time of two (2) minutes and not to exceed three (3) minutes has been established for the first responding firefighting truck with a rated discharge of at least fifty percent (50%) of the agent discharge required for GACAR 139, to reach the end of runway, as well as to any other part of the movement area in optimum visibility and surface conditions. Any other vehicles required to deliver the amounts of extinguishing agents specified in Table M2 GACAR PART 139 – certification and operations: aerodromes should arrive not more than one (1) minute after first responding vehicle(s) to provide continuous agent application.

5.4.8 ARFF Personnel Extraneous Duties

Full-time RFF personnel, where provided, may be assigned other duties, provided that the performance of these duties does not impair their ability to respond immediately to an emergency. These subsidiary duties could include VIP or Refueling standby. Other extraneous duties such as fire prevention inspections, or other functions carried out by fire Fighting Crew. A crew assigned to subsidiary duties should travel in the ARFF vehicle to which they are appointed, maintaining constant contact with the fire station by radio.

5.4.9 Specialist Equipment & ARFF Vehicle

I. PMIA Fire Rescue Specialist Equipment

- Hazmat truck (**1**)
- Mini pumper (**1**)
- Water tanker (**1**)
- Light rescue truck (**1**)
- Mobile floodlight trailer (**2**)
- Portable fire pump (**3**)

II. PMIA Fire Rescue (ARFF) Vehicle

Table 1 PMIA Fire Rescue Equipment

NUMBER	VEHICLE	WATER CAPACITY (lt)	FOAM CAPACITY (lt)	PUMP CAPACITY (lt/m)	DRY CHEMICAL (kg)
(F8)	Rosenbauer 8x8	16,800	2,000	9,000	225
(F5)	Rosenbauer 8x8	16,800	2,000	9,000	225
(F2)	Rosenbauer 6x6	12,500	1,500	6,500	225
(F3)	Rosenbauer 6x6	12,500	1,500	6,500	225
(F4)	Rosenbauer 6x6	11,400	1,500	6,200	250
(F7)	E-One 6x6	12,500	1,700	-	227
(F6)	E-One 6x6	12,500	1,700	-	227
TOTAL		**95,000**	**11,900**	**37,200**	**1604**

5.4.10 Mutual Aid Agreement

Mutual aid agreements have been concluded with agencies involved in the airport emergency plan.

5.4.11 Personnel Training

- The OEMA ARFF Training officer conducts training for all employees to ensure their proficiency in carrying out their designated duties. Training is broadly carried out as initial and recurrent training throughout the year. The list of subjects and frequency of training is determined in the annual training program as shown below. Individual firefighters maintain a personal training record that documents all the subjects for which each has been trained.
- Details of the training can be found in OEMA - ARFF SOPs and ARFF training program, including the.
    - Realistic fuel fire training
    - Breathing apparatus training
    - First aid
    - Health and safety policy
    - Personal protection equipment
    - Low visibility procedures (LVP)
    - Any legal requirements

5.4.12 Structural Fire

- OEMA -ARFF provide structural rescue and firefighting other than aircraft rescue and firefighting.
- Structural fire includes all fires on the airport except those involving an aircraft. An Alert 4- Foxtrot will be activated in the event of a structural fire.
- Details of the structural response procedures can be found in OEMA - ARFF SOPs.
- Reference; TIBAH_AIROPS_MAN_02, - Alert 4 F Structural Fire, Part (9) Section (9.3)

5.4.13 Aircraft Accident Off Airport

- In the event of an aircraft crash in the immediate vicinity of the airport, Alert (3) is activated and the airport fire rescue services will respond to the aircraft through the emergency gates (Crash Gate) to extinguish the aircraft fire immediately and start rescue efforts.
- In the event of the arrival of the civil defense crews, the civil defense officer will assume the role of the on-scene commander at the Mobile Command Post.
- There are (6) Crash gates located on surrounding security fence, Four of them are located at the beginning and the end of runways.
- Reference; TIBAH_AIROPS_MAN_02, - Aircraft Accident Off Airport – Part (8)

5.4.14 Additional Water Supplies

- The airport has (1) water tank next to main fire station with capacity of (32,000 L), while the total water capacity within the aerodrome that may feed fire water hydrates is (2,000,000 L)
- The water pressure available at the fire water hydrant is 8 bars.

5.4.15 Low Visibility Procedures (LVP)

- During periods of Low Visibility, OEMA ARFF will continue to provide service to the Airport. Response times will be affected due to the inability of ARFF crews to operate ARFF vehicles at normal emergency response speeds. ARFF crew safety will not be compromised by operating ARFF vehicles at inappropriate speeds during responses' while visibility is adversely affected by weather conditions at OEMA.

- Details of the ARFF low visibility procedures can be found in Aerodrome Manual, Part No.5, Section No.5.16 and OEMA - ARFF Standard Operating Procedures (SOPs) Manual.

5.5 Inspection of the Movement Area

NOTE: Further details in this subject are provided in this document, Annex (A) - SOPs: Aerodrome Inspection.

5.5.1 Routine Aerodrome Inspections, including Lighting Inspections, and Reporting, including The Nature and Frequency of these Inspections

It is Aerodrome operation department responsibility to inspect the movement area periodically ensuring safe and smooth operations.

5.5.2 Inspecting the Apron, Runways and Taxiways Following a Report of Debris on the Movement Area, an Abandoned Take-off due to Engine, Tire or Wheel Failure, or any Incident Likely to Result in Debris Being Left in a Hazardous Position

It is Tiabh Aerodrome operation department responsibility to inspect RWYs and TWYs in daily basis and whenever requested by ATSU or when a report of debris on movement area, an abandoned take-off due to engine, tire or wheel, or any incident likely to result in debris being left in hazardous position.

5.5.3 Sweeping of Runways, Taxiways and Aprons

Cleaning and sweeping of RWYs, TWYs and Aprons is the responsibility of Aerodrome operations department through the aerodrome maintenance contractor.
Sweeping of aprons (ACFT Stands) must be conducted in daily basis in coordination with Aerodrome OPS and AOC while sweeping of TWYs and RWYs must be conducted at least once fortnightly or whenever required by Technical team in coordination with Aerodrome operation and MED-ATSU.

The sweeper truck is available 24/7 days and ready to serve at any time.

5.5.4 Measurement and Promulgation of Water, Slush and Other Contaminants including Depths on Runways and Taxiways

5.5.4.1 Water on RWY

- Whenever water is present on a runway, a description of the runway surface conditions must be made available using the following terms:
  - DAMP — the surface shows a change of color due to moisture.
  - WET — the surface is soaked but there is no standing water.
  - STANDING WATER — for aeroplane performance purposes, a runway where more than 25 per cent of the runway surface area (whether in isolated areas or not) within the required length and width being used is covered by water more than 3 mm deep.

- Information that a runway or portion thereof may be slippery when wet must be made available.

- Notification must be given to aerodrome users when the friction level of a paved runway or portion thereof is less than the allowed level.

5.5.4.2 Snow, Slush, Ice on a Runway

- Whenever an operational runway is contaminated by snow, slush, ice, the runway must be assessed and reported by airside operations team and all airside users once observed.
- Whenever snow, slush, ice or frost is present and reported, the description of the runway

- Surface condition must use the following terms:
  - Dry snow;
  - Wet snow;
  - Complicated snow;
  - Wet complicated snow;
  - Slush;
  - Ice;
  - Wet ice;
  - Frost;
  - Dry snow on ice;
  - Wet snow on ice;
  - Chemical treated;
  - Sanded.

And must include, where applicable, the assessment of contaminant depth.

5.5.5 Assessment and Promulgation of Runway Surface Conditions

Details of inspection intervals and times including completion and effective use of an inspection checklist and arrangements and methods for carrying out inspections on FOD, lighting, pavement surface, grassing, arrangements for reporting the results of inspections and for follow-up, arrangements and means of communication with air traffic control during an inspection and arrangements for keeping an inspection logbook and the location of the logbook are well detailed Annex (A).

5.6 Maintenance of the Movement Area

Procedures describe aerodrome maintenance works are provided in this document, Annex (A) – (SOPs; Aerodrome Works Planning, Work Permit Procedures, Routine Maintenance & Emergency Maintenance).

To ensure the efficient and safe operation of the Airport, a movement area maintenance plan has been established which includes:

- Areas of responsibility,
- Items and areas to be inspected daily,
- Inspection methods,
- Corrective actions, and
- Follow-up inspection.

Specific details of movement area inspection procedures, corrective actions and reporting are contained in PMIA Maintenance Manual/Plan.

Maintenance of movement area is under Tibah Technical directorate responsibility in coordination with the aerodrome maintenance in-charge.

As the aerodrome certificate holder, Tibah has movement area maintenance subcontractors. The maintenance sub-contractor is bounded by Tibah's Maintenance Manual. Furthermore, all maintenance activities of the maintenance sub-contractor shall be in accordance with GACA Regulations, and other related national and international laws, rules and regulations.

Tibah Technical team is responsible for over sighting and controlling of maintenance sub-contractor.

5.6.1 Promulgation of Information on the Aerodrome Operational State, Temporary Withdrawals of Facilities, Runway Closures, etc.

5.6.1.1 Arrangements for Maintaining the Paved Areas, Including the Runway Friction Assessments

Maintaining paved areas, including the runways friction assessments is the responsibility of Tibah technical department. ***Further details are available at Tibah maintenance manual and Annex (A) in this document (SOP: Pavement and surface friction evaluation).***

5.6.1.2 Arrangements for Maintaining the Unpaved Runways and Taxiways

No unpaved runways and taxiways available at PMIA.

5.6.1.3 Arrangements for Maintaining the Runway and Taxiway Strips

Maintaining the strips of runways and taxiways is the responsibility of Tiabh Technical department. Further details are available at Tibah maintenance manual.

5.6.1.4 Arrangements for Maintaining Aerodrome Drainage

Maintaining Aerodrome drainages is Tibah technical department responsibility where periodical maintenance inspections and preventive maintenance conduct by the technical department.
Further details are available at Tibah maintenance manual and Annex (A) in this document (SOP: Drainage systems and Culverts maintenance).

5.6.1.5 Arrangements for Maintaining the Visual Aids, including the Measurement of Intensity, Beam Spread and Orientation of Lights

Inspecting and maintaining the aerodrome visual aids is the responsibility of Tibah Technical department (AGL team) where further detailed procedures and measures are available in the maintenance manual – AGL SOPs.

5.6.1.6 Arrangements for Maintaining the Obstacle Lighting

Inspecting and maintaining the obstacle lighting is the responsibility of Tibah Technical department (AGL team). Further detailed procedures, measures and charts are available in the maintenance manual – AGL SOPs.

5.6.1.7 Arrangements for Reporting and Action Taken in the Event of Failure or Unsafe Occurrence

Procedures of reporting incident/Accidents, Safety occurrences and safety hazards are provided in this document, Annex (SOP: Airside Defect Reporting).

5.6.1.7.1 Reporting Construction & Unserviceable Areas

All users of the airport shall be notified in advance when construction, maintenance or repairs may affect their activities by Aerodrome operation

Manager or Aerodrome maintenance in-charge via e-mail or official letter. Aerodrome Operation Manager must ensure that all types of Construction and Maintenance Works on Movement Area or in the vicinity must be permitted through either work permit issued by Technical Department or the works are authorized by aerodrome maintenance in-charge. Following completion of the work, when normal operation can be resumed, all users shall be so notified by Aerodrome operation Manager or Aerodrome maintenance in-charge via e-mail or official letter.

5.6.1.8 Aerodrome Works – Safety

NOTE: Procedures related to aerodrome works are detailed and provided in this document, Annex (SOP: aerodrome works).

5.6.1.8.1 Pre-construction

Prior to commencing any major construction or repairs on the airport, a preconstruction conference shall be held by GACA Airport Director with appropriate entities. Subjects for detailed discussion at the conference must include airport access; International Civil Aviation Organization (ICAO) recommended markings, signs and lighting; safety provisions and means of identification for aircraft movement areas and utility service routes; and all other factors that could influence the conduct of the work and the operation of the airport. Some of the major points to be covered at the preconstruction conference are:

- **Utilities** - Locations of utility service lines and buried cables shall be clearly identified, marked and signed for safety by Maintenance personnel, especially those that, if damaged, could cause Navigational Aid (NAVAID) discrepancies or critical facility failures.

- **NAVAIDS** - Particular attention shall be given to possible interference with NAVAID signals and the protection of NAVAID facilities.

- **Waste Materials** - Waste and debris on or near the runway, taxiways or apron shall not be permitted to accumulate during the course of construction or repair.

5.6.1.8.2 Identifying, Marking & Lighting Construction Areas

In the event that construction, repair or service work is undertaken at the airport, the following precautionary actions shall be taken:

- All construction areas, roadways, pavements, excavations and open stockpiles should be clearly marked with signs for safety, during daylight hours by lightweight low profile barricades or flags, or both to identify the hazard limits of the area or object. During hours of darkness the use of low profile strobes visible from 360 degrees shall be used to identify the hazard limits of the area or object.
- Operators of aircraft and ground vehicles shall be forewarned of any construction, repairs and service work to be done on the airside.

5.6.1.8.3 Identifying & Marking Location of Utilities & NAVIDS in Construction Areas

Prior to beginning any construction, servicing or repairs, all utilities and NAVAIDs shall be identified, marked and signed to inform workmen of their presence to avoid damage. As-built drawings of utility lines and NAVAIDs shall be obtained from the Chief of Maintenance and/or Airways Engineering.

Measures shall be taken to prevent damage to structures and facilities, and to prevent any interference with signal output (lights are considered to be signals). GACA Airport Director shall be consulted prior to any construction, servicing or repairs being performed near NAVAIDs.

Further details are provided in this document, annex (A), (SOP: Protection of sites for RADAR & Navigation Aids)

5.6.1.8.4 Aircraft & Vehicle Movement in & near Construction Areas

Aircraft and service vehicles shall remain clear of construction and unserviceable areas at all times. GACA Airport Director and Tibah Safety & Aerodrome Operations Director shall direct aircraft and ground vehicles around and away from construction and unserviceable areas, as necessary. All construction vehicles operated on the AOA and near the aircraft movement area shall be well monitored and escorted all the time by works/project requestor.

5.7 Snow and Ice Control, and Other Hazardous Meteorological Conditions

Procedures Hazardous Meteorological Conditions are detailed and provided in this document, Annex (A), SOP: LVPs, RAVPs and Aerodrome operations during adverse weather.

5.8 Visual Aids and Aerodrome Electrical Systems

Detailed information and Procedures of Visual aids and aerodrome electrical system are provided in PMIA maintenance manual and aerodrome manual, annex (A), (SOP: Secondary power supplies & Total system failure).

5.8.1 Responsibilities with Respect to the Aerodrome Ground Lighting System

Tibah Maintenance Department is responsible for maintaining Visual Aids and Aerodrome Electric Systems.

5.8.2 A Full Description of All Visual Aids on Each Approach, Runway, Taxiway and Apron

RWY 17/35 and TWY A, B, C, and north of TWY D, TWY J, TWY L and connecting TWYs are newly modified in 2014, RWY 18/36 and south part of TWY D are older systems. See Part 3 in this document for further information.

5.8.2.1 Wind Sock Lighting

There are two lighted six-meter high wind sock located at the end of runway 17/35. The units are illuminated by four 150-watt incandescent lamp mounted above the sock. Two red obstruction lights are mounted on top of this facility. The windsocks are set within a standard black and white segmented circle.

5.8.2.2 Rotating Beacon

This facility emits alternating green and white light flashes approx. 24/min. It is activated from the Control Tower and is turned on between sunset and sunrise or on request during periods of low visibility.

NOTE: Further details regarding lighting systems in the aerodrome are described in Part 3 in this document.

5.8.3 Procedures for Operational Use and Brilliancy Setting of the Lighting System

The Control Tower controls all airfield lighting thru the remote control. The network can also be controlled manually from the AFL Stations.

Runway lights are turned on during the hours of darkness and during periods of low visibility (5 kilometers or less and less than 1000-foot ceiling). The Airfield lights are turned on as requested by the pilot for the safety of the flight.
PAPI and VASIs are turned on for the associated runway for all scheduled flights and upon request.
During Low Visibility Operation (LVO), airfield lighting shall not be fed from regular electric supply. When LVO is activated, airfield duty supervisor (AGL division) shall start dedicated backup generators and feed the entire airfield lighting systems from backup generators.

5.8.4 Standby and Emergency Power Arrangements, including Operating Procedures both in LVP and during Main Power Failure Situations

5.8.4.1 Primary Power

Primary power for airfield lighting is provided by SEC to the airport power network through the airport powerhouse.
Please refer to Aerodrome Manual, Annex (A) for further details.

5.8.4.2 Standby Power

AFL Systems have a dedicated 10 minute two parallel working UPS system for non-interrupted operation. In case of any maintenance needs on one of the UPS redundant UPS can feed AFL system without any interruption.

To ensure continued operation of the Airfield lighting system in the event of a Main Power Plant failure, there is one standby diesel generator in each Airfield Lighting (AFL) Building as a backup of primary feeder of UPSs. These units come on line automatically within ten (10) seconds in the event of a primary power failure.

In case of any energy cut at the Airport MV system standby generator start while UPS is carrying full load of AFL system without any interruption.

If generator is not started UPSs could feed AFL system at least 10 minutes.

Moreover in case of Main Feeder failure of Airport, eight 2.25 MVA Medium Voltage generator inside the Main Power Plant of Airport start feeding all essential loads of Airport within 1 minute including Primary feeder of AFL. If the main feeders are online the standby generators inside AFL substations will stop after 2 minutes while UPSs are carrying full load of AGL system without any interruption.

NOTE: Operating Procedures in LVP are described in Part 5.16 (Low Visibility Operations – LVP) and Annex (A), (SOP: Low Visibility Procedures).

5.8.5 Procedures for Routine Inspection and Photometric Testing of Approach Lights, Runway Lights, VASIS and PAPIS

Further to Airside Operations Department Daily AFL checks at dusk of everyday, Tibah Maintenance Department shall conduct at least one time daily inspection of AFL control systems during daylight hours. For further details, see PMIA Maintenance Manual (AGL).

5.8.6 The Location Of and Responsibility for Obstacle Lightning On and Off the Aerodrome

Tibah Maintenance Department (AGL Division) is responsible for maintaining Visual Aids and obstacle lightning on and off the aerodrome.

5.8.7 Procedures for Recording Inspection and Maintenance of Visual Aids and Action to Be Taken in the Event of Failures

All inspections for visual aids are to be recorded and kept at AGL (Airfield Ground Lighting) office.

5.8.8 The Control of Work, including Trenching and Agriculture Activity, which may Affect the Safety of the Aeroplane

Detailed procedures in this subject are provided in this document; Annex (A), (SOP: Aerodrome Works Planning).

5.9 Apron Management

Any operation to the Airport must be under the Rules and Regulations published by Saudi Arabian Aeronautical Information Publications (AIP). Any aircraft ground movement control is sole responsibility of GACA ATC Unit at PMIA.

Airport Operations Center/Section of the PMIA Tibah Airport Operations is responsible in documenting daily flights, gate assignment and to coordinate with airline/aircraft operator flight scheduling and aircraft apron parking assignments. It is responsible in entering data, keeping update on the Flight Information Display System and making flight information announcement. Aircraft landing and takeoff and aerodrome flight activities are also recorded by SANS/Jeddah.

5.9.1 Arrangements between Air Traffic Control, Aerodrome Operator and the Apron Management Unit

ATC is manned 24 hours a day by SANS Air Traffic Control Tower and Approach Control Personnel. The airport has been certified to provide Air Traffic Control (ATC) services for aircraft under Visual Meteorological Conditions (VMC) and Instrument Meteorological Conditions (IMC) in coordination with Jeddah Upper Sector and West Area Control Center (ACC).

NOTE: Further details are provided in this document; annex (A), SOP: Operation of Vehicles and other equipment.

5.9.1.1 Use of FOLLOW ME Vehicle

A follow me vehicle is established to serve as the communication link to get an ATC Clearance from an ATC unit for aircraft or vehicle with no two way radio contact with ATC.
Follow me service procedures are provided in this document, Annex (A), SOPs.

The following rules and regulations shall apply to the use of the follow me vehicle:

- In the event an arriving aircraft shall need guidance due the pilot is not knowledgeable of the parking spot or for other reasons as required by ATC.
- In the event an aircraft with no radio communication with ATC needs to be moved around on the movement area.
- In the event a vehicle with no radio communication with ATC need to enter the maneuvering area.
- For other reason or purpose that requires escort on the aircraft maneuvering area such as any flight that is carrying VVIP to Royal Apron. Also for flights which are not familiar with the airport and request to be provided with follow me services.
- In the event where the visibility at the airport is limited.

NOTE: Further details are provided in aerodrome manual, annex A, SOP: Follow Me Service.

5.9.2 Arrangements for Allocating Aeroplane Stands

5.9.2.1 General Rules

- Aircraft shall not be parked or left standing on a runway, taxiway, apron area or aircraft parking and storage area, except at such places as prescribed or permitted by the Airport Authority (ATC).

- In case flight arrives to the airport without a prior ground handling arrangement whereas the aircraft needs the ground handling services and the aircraft operator fails to acquire a ground handling services within 1 (one) hour after final stop at the parking stand, the aircraft shall be towed to Remote Area or any other aircraft parking area that the airport operator deems necessary. The towing cost shall be defrayed by the aircraft operator/owner.

- Upon direction of the Airport Authority, a parked aircraft shall be immediately moved to a different location as specified by the Airport Authority.

NOTE: **LOA was signed and agreed by Tibah Operations department and ATSU (Air Traffic Services Unit – SANS) concerning stands allocation procedures (LOA effective from 22/04/2018)**

ACFT stand allocation procedures are well described in this document, Annex (A), SOP: Stand Allocation.

5.9.3 Arrangements for Initiating Engine Start and Ensuring Clearance of Aeroplane Pushback

PMIA has designated high speed engine run areas (see AIP). In cases of aircraft high speed engine run tests, Airside Operations personnel (Follow Me Vehicles) will stand by at the area until the engine test is finished.

The following rules and regulations shall apply to the starting and running of aircraft engines at the airport:

- Aircraft engines shall not be started and run in places other than those designated or specifically authorized by the Airport Authority for the operation of aircraft engines.
- An aircraft engine shall not be started while the aircraft is parked in any place where the exhaust or propeller blast may cause injury to persons or damage to property.
- No aircraft engine shall be started unless a certified and qualified pilot or mechanic is at the controls.
- No aircraft shall have its engine(s) start unless the wheels are chocked and/or the brakes are locked.
- No aircraft engine shall be started or run in a hangar.
- For starting aircraft engines in parking positions and for further details, see AIP.

Note: for further details, please refer to Annex A, SOPs; ACFT Turnaround Management, ACFT Engine Ground Running.

5.9.3.1 Use of Safety Marker Cones on Airport Ramps/Tarmacs/Aprons

Purpose:
A preventive measure to avoid aircraft damage and create a safety buffer around specific areas of an aircraft is to cone the aircraft and its extremities.

5.9.3.1.1 Position

The position of cones should be:

- At each wing tip of an aircraft (It is suggested to put two cones at each wing top of a low mounted wings aircraft)
- In front and outboard side of wing mounted engines (Before placing any cone, the engines must be shut down)
- In front of propellers (Two cones for each propeller)
- At the tail area of an aircraft when the aircraft is protruding into marked roads.
- At the tail area of small regional jet aircraft in general.

- At a distance of 0.5 – 1.0 m (approximately) from the protected area in order to intend the purpose of the cone/s.

NOTE: Cones should be placed immediately after the aircraft comes to a complete stop and when the engines are shut down and clearance has been obtained especially at propeller aircraft when the propellers had come to a complete stop.

5.9.3.1.2 Removal

- The removal of cones should be done just prior to the aircraft's departure in order to ensure maximum protection of the aircraft.
- The removed cones should be stored after use in their designated areas.
- Replacement of damaged cones should be done immediately.

5.9.3.1.3 Design of Safety Marker Cones

- Cones should be stable and able to withstand strong winds, jet engine exhaust blast and winds induced by propellers.
- Cones should have a heavy base and relatively light-weight top. In other words, cones should have a low center of gravity.
- 0.75 m (75 cm) should be the minimum height of the cones.
- The minimum weight of the cone should be 6.0 kg (+/- 250 g)
- Cones should be capable of having wide angle reflectivity in order to be visible in severe weather conditions.
- The background color of the cones shall be reflective red with white reflective stripes for day and night operations.
- Cones shall be equipped with a hand grip for easy transportation.
- Spacers at the base of the cone should be equipped in the cone assemblies in order to avoid damage of the reflective sleeve especially when stacked for storage.
- An optional device for installation of a warning lamp (steady, blinking or rotation) could be equipped on the cone for night and severe weather operations.

5.10 Apron Safety Management

Apron Safety Management is established in accordance with the PMIA Safety Management System principle and the Airport Safety Manager is accountable and responsible in its implementation.

5.10.1 Means and Procedures for Jet Blast Protection

Please refer to section No.5.9.3 in this document.

For further Details, please refer to Annex A in this document.

5.10.2 Arrangements of Safety Precautions during Aeroplane Refueling Operations

Aircraft fuelling facilities and services shall be managed, operated and maintained to meet the needs of aircraft users at the airport. All fuelling and defuelling services shall be performed by qualified fuel service personnel using fuel tender trucks.

Fuel management and ACFT fuelling procedures are well described in Aerodrome Manual, Annex (A); SOP: Aviation Fuel Management.

5.10.2.1 General Rules

The following rules and regulations shall apply to aircraft fuelling and defuelling at the airport:

No person shall fuel or de-fuel an aircraft when:

- An engine is running.
- An aircraft is in a hangar or an enclosed space.
- An aircraft is within 15 meters of any hangar or other building.
- An aircraft has passengers unattended by authorized personnel.
- Smoking or striking matches or other spark producing devices shall be prohibited during fuelling operations. Matches and lighting equipment capable of causing open flame shall not be carried by any person engaged in fuelling operations. Spectators shall not be allowed closer than 15 meters to a fuelling operation.

With respect to the potential hazards from the use of electrical devices, the following rules shall be observed during fuelling operations:

- Aircraft batteries shall not be installed in or removed from any aircraft being fueled.
- Battery chargers shall not be connected, operated or disconnected from any aircraft being fueled.
- Aircraft ground power units shall be located as far from the fuelling points are practicable, and they shall neither be connected nor disconnected, nor placed under the wings or just aft of the trailing edge except when the design of the aircraft permits no other location.
- Electrical tools, such a drills or buffers, shall not be used in, or near any aircraft being fueled. While any aircraft is being fueled, no metal welding shall be allowed on the aircraft or on any other ground equipment within 100 meters from the aircraft.
- Aircraft electrical switches controlling units in the wing or tank areas not essential to the fuelling operation shall not be operated during fuelling except in an emergency.
- Aircraft radio and radar shall remain OFF when refueling.
- Fuelling operations shall not be conducted within 30 meters of energized ground radar equipment or within 90 meters of energized ground radar equipment installations.
- Flashlights used near the fuelling points shall be of a type listed by the Underwriters Laboratories for use in hazardous locations.
- Extreme caution shall be observed in fuelling operations conducted during electrical storms; operations shall be suspended during severe electrical disturbances.
- During aircraft fuelling operations, no person shall operate any radio transmitter or receiver, switch electrical equipment on or off, do any act or use any material that is likely to cause a spark within 15 meters of the aircraft being fueled.
- Airborne radar equipment shall not be operated or ground tested on any area where the directional beam of high intensity radar is within 90 meters, or low intensity radar (less than 50 kilowatt output) is within 30 meters of another aircraft, an aircraft fuelling truck, or aircraft fuel or flammable liquid storage facility.
- Drivers, operators or attendants of any fuel handling vehicle shall be in attendance at the vehicle at all times when the vehicle is fuelling or defuelling an aircraft. Such persons shall not leave the vehicle to handle the hose or over-wing refueling or fuelling from a work stand in excess of two meters in height or in a position more than 15 meters from the vehicle unless a qualified fire watch

is on hand on the ground with suitable firefighting equipment. A fire watch shall not simultaneously serve more than two vehicles or two aircraft under fuel servicing, and shall be within 20 meters of any operation under his surveillance.

- Fuelling/defuelling operations shall not be performed within 45 meters downwind of the tailpipe of any operating turbine engine. In the event a turbine engine powered aircraft moves within the zone, fuelling/defuelling shall be stopped immediately.
- Aircraft refueling vehicles shall not be parked within 15 meters of any building or hangar, other than at a refueling loading rack, or within 5 meters of any other aircraft refueling operation.
- During fuel handling operations on the apron or at gate parking positions, at least two 50 kg. Wheeled dry chemical fire extinguishers shall be kept ready for immediate use in case of an emergency. Fueling operation personnel shall ensure such extinguishers are in place before start of fueling.
- All vehicles transporting flammable liquids shall be equipped with a spark arrestor.
- During the fuelling or defuelling of an aircraft, the dispensing or receiving apparatus, truck, and aircraft shall be bonded together or grounded to an approved grounding source in accordance with the rules of grounding and bonding.
- No fueling of aircraft shall start before ensuring communication with the flight crew.
- At least one qualified person from ground handling company ensure that he remains at a specific location during fueling operations with passengers on board or during embarking or disembarking. This person should watch the fueling operation and must maintain careful attention to all aspects of the operations.
- Ground Handling Company shall ensure no passenger crosses to other side of the aircraft while fueling is underway.
- Ground Handling Company and Fuel Truck Driver/personnel (dispenser, bowser or refueller truck) shall ensure that none of the ground handling equipment (motorized or not) are parked in front of the fuel dispenser, bowser or fuel truck/refueller.
- Fueling operation personnel must be familiar with fuel hydrant system emergency shut off valves and must use them in case of any type of emergency.

5.10.3 Arrangements for Apron Sweeping and Cleaning

In order to ensure cleaned surfaces at aprons and maneuvering area and to mitigate FODs risks and other hazardous liquids, the aerodrome maintenance through aerodrome OPS team must conduct regular sweeping process for the paved surfaces and whenever required.

Apron and ACFT stands, must be cleaned using sweeper in daily basis and whenever requested (Sweeper Truck is available 24/7 Days).

Further details regarding operating sweeper truck are provided in Aerodrome Manual, Annex (A).

5.10.4 Arrangements for Reporting Incidents and Accidents on an Apron

The responsibilities for using the various types of reports together with the relevant procedures are detailed below:
It is imperative that AOC, ODM, Safety Department and Aerodrome Operations are made aware of any safety occurrences, safety hazards or unsafe working practices as soon as reasonably possible to allow the necessary action to be taken.

Such information should be passed to the AOC at 0148138888 or 0148138899.
All report forms are to be completed fully, providing as much detail as is available and submitted to the ODM and finally to Head of Safety Department through SMS Pro.
All Airside Operating personnel are to make every endeavor to learn from accidents, incidents and occurrences to prevent recurrences.

For further details concerning Incidents and Accidents reporting, please refer to Annex A, (Accident, Incident, Safety Occurrence and Safety Hazards Reporting).

5.10.4.1 Laser Attack to Arriving or Departing Aircraft

When a pilot reports laser attack to the ATC, the following procedure shall be followed:

- Air Traffic Controller who received the report will note the information he received from the pilot and will immediately notify the Airport Operations Center (AOC) through the hotline.
- The AOC will then notify the Airport Operations Duty Manager and the Airport Police and will fill out **LASER ATTACK REPORTING FORM**.
- The ODM will coordinate with the Airport Police to specify the location where the laser attack is expected to be initiated.
- The Airport Police will notify the responsible patrols with the location to take the necessary actions.
- The Airport Police will then update the ODM who in his turn will update the AOC to complete the Laser Attack Reporting Form.
- The AOC will send the Laser Attack Reporting Form to the Safety & Airside Operations Director.
- The Safety & Airside Operations Director will share the report with SS&AT, RSAF, Airport Police, and the General Management of GACA Security.

SUBMITTER DETAILS					
PILOT IN COMMAND:		CONTACT TELEPHONE:			
OPERATOR:		AIRCRAFT TYPE:		AIRCRAFT REGISTRATION:	

EVENT DETAILS (Provide information or tick the most appropriate response)									
1	DATE:		2	TIME:	____:____				
3	AIRCRAFT ALTITUDE AT TIME OF EVENT:								
4	PHASE OF FLIGHT AT TIME OF EVENT:	Taxi ☐	TO ☐	Climb ☐	Cruise ☐				
5	VISIBILITY AT THE TIME OF EVENT:								
6	ATMOSPHERIC CONDITIONS:	Clear ☐	Overcast ☐	Rain ☐	Fog ☐	Haze ☐			
7	COLOUR OF OBSERVED LIGHT BEAM:	Green ☐	Red ☐	Blue ☐	Other:				
8	LOCATION OF ORIGIN OF LIGHT SOURCE:								
9	DISTANCE OF LIGHT SOURCE FROM AIRCRAFT LOCATION:								
10	POSITION OF THE LIGHT SOURCE RELATIVE TO THE AIRCRAFT (clock reference):								
11	WAS THE BEAM MOVING?	YES ☐	NO ☐						
12	DID THE LIGHT APPEAR TO TRACK YOUR PATH?	YES ☐	NO ☐						
13	WHERE THERE MULTIPLE SOURCES OF LIGHT?	YES ☐	NO ☐	NUMBER:					
14	WHERE YOU ADVISED OF THE LASER IN ADVANCE BY ATC?	YES ☐	NO ☐						
15	HOW LONG WAS THE EXPOSURE?								
16	EFFECT ON CREW:	Distraction ☐	Disorientation ☐	Visual Impalement ☐					
17	CHANGE OF PILOT FLYING REQUIRED?	YES ☐	NO ☐						
18	VISUAL EFFECTS EXPERIENCED	None ☐	After ☐	Blind spot ☐	Flash-blindness ☐	Glare ☐			
19	DID YOU REPORT THE INCIDENT TO ATC?	YES ☐	NO ☐						
20	DO YOU INTEND TO SEEK MEDICAL ATTENTION?	YES ☐	NO ☐						

REMARKS

Submitted By:

Figure 3 Laser Attack Reporting Form

5.10.5 Arrangements for Assessing the Safety Compliance of All Personnel Working on the Apron

No person may perform any of the following job functions for an organization identified in GACAR § 68.1(b), at an aerodrome in the Kingdom of Saudi Arabia (KSA), unless that person has in his personal possession a valid ground services personnel work permit issued under this part that is properly endorsed for the applicable job function(s) being performed:

- Ground support equipment operation.
- Aircraft marshalling.
- Dangerous goods handling.
- Load control / loading supervision.
- Passenger handling.
- Ramp supervision / aircraft turnaround coordination.
- Headset operation.
- Cargo handling.
- Into-plane catering.
- Into-plane fueling.
- Baggage handling.
- Passenger boarding bridge operation.

Tibah Safety and Aerodrome operations personnel are reasonable for ensuring the compliance of all safety rules and procedures incorporated in this document and GACA regulations as well.

Through the daily aerodrome inspections, safety and Aerodrome operations personnel will closely monitor airside activities and will intervene if a non-compliance or any hazardous condition observed.

GACA Airport Director or his duly authorized representative (RSAF, Safety Depart. and aerodrome Ops Depart) is authorized to violate users in the Air Operations Area (AOA) if safety breach observed.

Any service provider not adhering to safety requirements at PMIA are subject to an Infringement being served to them.

Moreover, Safety team conducts at least (2) ACFT turnaround inspections per week ensuring safe operations around the aircraft.

(Further details regarding procedures of ACFT Turnaround Inspection are provided in Safety Inspection Manual).

5.11 Vehicles on the Movement Area

Detailed information and procedures regarding operating vehicles and equipment within the movement area are provided in aerodrome manual, annex (A), SOP: Operation of Vehicles and equipment.

5.11.1 General Traffic Rules

The following rules and regulations shall apply to vehicle traffic on the AIRSIDE:

- All movement of vehicles within the aircraft maneuvering area of the AOA shall be under the control of ATC where airside operations team shall be informed in advance. Vehicle movement in non-movement area (apron area) is exempted from the control of ATC.
- All vehicle traffic shall comply at all times with any lawful instruction, signal, or direction given by the airport authorities (GACA, RSAF and Tibah) when operating in the AOA. In areas where traffic is controlled by traffic lights, signs, mechanical or electrical signals, or

pavement markings, such lights, signs and signals shall be obeyed, unless directives to the contrary are given by a traffic control or security officer, or by the ATC or Airport Operations Center when AOA operations are involved.

- All vehicles shall monitor the appropriate radio communications frequencies (121.900 MHz) when on the runway or taxiway, and shall obtain clearance from the Airport Control Tower before entering or crossing any runway or taxiway. Vehicle movement in non-movement area (apron) is exempted from above radio requirements.
- All motor vehicles approaching a moving aircraft shall come to a complete stop and yield the right-of-way to aircraft.
- Only single line traffic in each direction shall be permitted when crossing taxiways and in terminal areas.
- Only electrical vehicles/equipment are allowed at BHS area.

No vehicle shall be operated in or around any area of the airport:

- In a careless or negligent manner, in excess of the posted speed limit, and on aprons in excess of 25 kilometers per hour.
- In a manner which may permit the spilling of transported material.
- In a manner which is likely to endanger persons or properties or in a manner which is contrary to the directions posted on traffic signs.
- When the vehicle is in an unsafe mechanical condition, or is equipped or loaded so as to pose danger to persons or property.
- No trailers or semitrailers shall be allowed on the AOA without positive locking couplings.
- Unless the vehicle is carrying a low intensity Type D obstruction light (color amber).

5.11.1.1 Parking of Vehicle in Other Areas of the Airport

- No person shall park a motor vehicle on the airport other than in an area specifically established for parking and in the manner prescribed by the Airport Authority.
- No common carrier, vehicle for hire, taxicab or limousine shall load or unload passengers at the airport at any place other than that designated by the Airport Authority.
- No person shall abandon a motor vehicle on the airport.
- No person shall park a motor vehicle in any space marked off for the parking of vehicles in such a manner as to occupy part of another parking space.
- No person shall park any motor vehicle in any restricted or reserved parking space or area.
- Ground service vehicles and equipment, when not in use, shall be parked in the parking areas designated by the Airport Authority.

5.11.1.2 AOA Right of Way Situation

- All motor vehicles, including emergency equipment responding to an emergency, shall give the right-of-way to any aircraft in motion.
- Between vehicles: *(order of priority)*

    - Emergency vehicles, FRS, Ambulance, Security
    - Passenger Transport Vehicle (PTV)
    - Refueling Truck/Fuel Dispenser

- Vehicles approaching from opposite directions shall keep to the right as they approach one another
- Vehicular traffic shall give way to Pedestrians (people crossing on pedestrians lanes)
- At the east apron, vehicles shall never cross behind any parked aircraft except in cases of extreme necessity where if so, the driver **shall** make sure that the aircraft anti-collision lights are off before crossing behind the aircraft.

5.11.1.3 Emergency Conditions Implications on Vehicle Operations on AOA

Emergency conditions existing on the airside shall not cancel any existing regulations. During such emergencies the driver of a vehicle shall move his vehicle in compliance with instructions issued by Safety & Airside Operations, Security Department and any other authorized airport authority.

5.11.2 Method and Criteria for Allowing Drivers to Operate Vehicles in the Movement Area

All vehicles requiring access to the AOA must issue the appropriate pass by GACA Airport Director in coordination with Airport Security and Tibah. Drivers must have in their possession a valid PMIA AOA Driver's Permit. Driver's Permit is issued by Tibah Safety Department after necessary training. Driver's Permit is issued depending on the area where the driver will be serving. There are two types of Driver's Permit at PMIA:

- Apron Driver's Permit
- Movement Area Driver's Permit

For further details, please refer to Annex A, SOP: *Operation of Vehicles and Equipment.*

5.11.3 Arrangements and Means of Communicating with Air Traffic Control

- All vehicles shall monitor 121.900 MHz when on the runway or taxiway, and shall obtain clearance from the Control Tower before entering or crossing any runway or taxiway.

- All vehicles shall adhere to the light gun signals from Control Tower.

For further details, please refer to Annex A, (SOPs; VHF Radio Communication).

5.11.4 Details of the Equipment Needed in Vehicles that Operate on the Movement Area

No vehicle shall be operated in or around any area of the airport:

- No trailers or semitrailers shall be allowed on the AOA without positive locking couplings.
- Unless the vehicle is carrying a low intensity Type D obstruction light (color amber).
- Unless authorized by safety department, vehicles shall be marked with proper reflective strips.
- Unless the operator name/Logo (company name/shortcut) displayed clearly on the exterior side of vehicle/equipment.
- For Refuellers/Dispensers, a proper spill kits shall be provided and required warning signs/stickers must be displayed.
- Unless provided with valid Fire extinguishers and any required firefighting equipment.
- Unless equipped with a VTS device (safety department must be consulted).

5.11.4.1 Vehicle Safety Inspection

Every vehicle regularly operated on the AOA shall, at the discretion of Airport Authority and/or its designee, be inspected by Airport Authority and Tibah Safety Department periodically and shall display a safety inspection decal as issued by Airport Authority. Maximum allowable age of any vehicle in the movement is 15 years (***Ref; GACAR 151***).

5.11.4.2 Insurance Coverage

Insurance coverage for vehicles owned by tenants and operated on the airport shall be in the amounts specified by Airport Authority.

5.12 Wildlife Hazard Management

The management of wildlife and their habitats on the aerodrome is the primary mechanism by which the threat of wildlife to aircraft operations is controlled. The following sub-section contains definitions of the various terms mentioned in this section.

NOTE: ***Procedures of Wildlife prevention and treatment are provided in this document, Annex (A), SOP: Wilde Life Hazard Treatment.***

5.12.1 Definitions

Wildlife	Comprises of all birds, bats and land-dwelling animals as a practical definition
Wildlife Strike	When collision occurs between wildlife and a moving aircraft
Confirmed Wildlife Strike	The following cases explains when a wildlife strike is confirmed: • When physical evidence of a wildlife strike is seen on the runway or runway strip used by the involved aircraft (except when another reason for death of wildlife is found) • When physical evidence of the strike is seen in the involved aircraft • Any other cases where a wildlife strike occurred with a moving aircraft can be reasonably proven from evidence. An example of this is direct report from the aircrew stating that they definitely saw, heard or smelt a wildlife strike
Suspected Wildlife Strike	In case aircrew or ground personnel suspected a wildlife strike but upon inspection: • No body parts from the wildlife is found • No physical evidence can be found on the aircraft of the strike having occurred.
Wildlife Incident	The likelihood that a strike could have resulted from a wildlife hazard. A near miss strike between wildlife and aircraft should be considered a form of wildlife incident.

Hazard Management Plan	A plan which identifies the risk of wildlife hazard and specifics the actions used to treat that risk
Wild Life Hazard	Source of potential harm to an aircraft caused by wildlife
Wildlife Risk	Probability of a wildlife strike occurrence and the respective consequence to the aircraft
Wildlife Risk Treatment	Actions taken to reduce the probability of a wildlife strike occurrence and respective consequences
Substantial Damage	Damage or failure in the aircraft structure caused by a wildlife strike including downgrading of structural strength, affecting performance or flight characteristics of the aircraft and that would require major repair or replacement of the damaged component

5.12.2 Arrangements and Method for Dispersal of Bird and Other Wildlife

Wildlife is considered to be a significant hazard to aviation safety as it would affect the safe conduct of aircraft operations and this is proven by aircraft safety statistics. The recent statistics that covered worldwide airports showed that the vast majority of wildlife strikes occur either on or within the direct vicinity of the aerodrome.

The consequences of the wildlife strike events could be a serious damage to the aircraft involved in the strike and/or the delay of the aircraft to allow for an inspection process of damage to the aircraft. A serious case could be the inability of the involved aircraft to maintain safe operations due to the damage from the strike.

Therefore, it is very important that all possible actions are taken by aerodrome operators to manage wildlife hazard at their aerodrome. The following is a recommended approach:

- Identifying and monitoring the wildlife hazard
- Assessment of the hazard and rank wildlife species according to their order of risk
- Identifying suitable risk treatment options
- Development of a Wildlife Hazard Management Plan (WHMP) that is appropriate to report the hazard
- Implementation of WHMP and monitoring its effectiveness
- Reviewing and updating the WHMP regularly

It is the responsibility of the operators of the Certified Aerodrome to monitor and report the existence of wildlife on or in the vicinity of the aerodrome during their serviceability inspections. If the existence of wildlife hazard is monitored, WHMP should be developed by the aerodrome operator in form of written procedures.

5.12.2.1 Wildlife Hazard Management at Certified Aerodromes

This section explains in details the requirements, guidelines and recommended measures of wildlife hazard management for the aerodrome operators.

5.12.2.2 Aerodrome Serviceability Inspections

In order to assess the safety of the aerodrome at a certain point in time, visual checks should be carried out (By Safety and Airside Operations personnel) as part of the aerodrome serviceability inspections. The identification of wildlife hazard is a vital part of these inspections and as possible, the following items must be checked:

- The condition of the fence along the perimeter of the aerodrome (especially in the critical areas)
- Climate or seasonal considerations such as the presence of wildlife at certain times of the year and the depth of water in drainage ponding areas etc.
- Possible shelter provided by the aerodrome infrastructure (such as buildings, equipment etc.)
- Attraction sources outside airport (such as picnic areas, aeration facilities, waste disposal and landfill areas etc.)

5.12.2.3 Wildlife Monitoring

It is the responsibility of the aerodrome operator (Airside OPS and Technical department) to monitor and record on a regular basis the existence of wildlife on the aerodrome and aerodrome vicinity where wildlife hazards outside the aerodrome are found to impact the safe conduct of aerodrome operations (**for more details, please refer to annex A in this document).**

It is very important practice to identify the wildlife hazard through a monitoring process in order to effectively treat the problem. The wildlife monitoring should involve:

- Wildlife existence and behavior on the aerodrome
- Wildlife activity in the vicinity of the aerodrome

5.12.2.3.1 Wildlife Monitoring on the Aerodrome

Recommended practices for monitoring wildlife on the aerodrome are the following:

- Dividing the aerodrome environment into separate monitoring zones based on:
  - Geographical size
  - Specific environmental factors within zones like terrain, type of soil, land use, vegetation etc.
  - Aircraft operational zones such as takeoff, approach etc.

- Each zone should be monitored by a trained person who should record the existence of wildlife populations and behavioral activities and any wildlife transit across the zone, either by ground or air.
- Wildlife monitoring should be done on a regular basis and the frequency should be related to the severity of the wildlife hazard.
- The timing of the wildlife monitoring process should be such that it provides a complete coverage of wildlife activity, day or night, as appropriate to the aerodrome.

5.12.2.3.2 Wildlife Monitoring in the Vicinity of the Aerodrome

Obvious concentrations of wildlife and/or sources of wildlife attractions which could contribute to the risk at the aerodrome should be monitored in the vicinity of the aerodrome. These wildlife attractions could include but are not limited to:

- Waste disposal, recycling, offal or sewage areas
- Wetlands, areas of water discharge and open waterways
- Areas containing significant food sources
- Parks, wildlife reserves and other significant wildlife corridors

Identification of these areas could be done by:

- Observing wildlife transiting across aerodrome between separate sources of attraction
- Physical observation of land uses in the aerodrome environment
- Wildlife hazard reports received from pilots, authorities and general public

The results of the wildlife monitoring process must be recorded. These records should be used in order to develop a detailed wildlife history database and behavior over the time.

5.12.3 Measure to Discourage Birds and Other Wildlife

Please see section 5.12.2 in this document.

5.12.4 Arrangements for Assessing Wildlife Hazards

During the assessment of the wildlife hazard, categorization of the identified individual species should be done based on their order of risk. The mass and the behavioral characteristics of the wildlife species (i.e. herding, grouping etc.) should be considered as this will identify the likelihood of a strike occurrence and the their consequences.

The aerodrome operators are recommended during the assessment of the wildlife hazard to record the number of confirmed and suspected strikes as well as any wildlife incidents that have occurred at the aerodrome.

Aerodrome operators are recommended to share the wildlife hazard and strike information with aircraft operators and other relevant stakeholders.

5.12.5 Arrangements for Implementing Wildlife Control Programmes

It is the responsibility of the aerodrome operator to conduct a WHMP in case monitoring process reported any existence of a wildlife hazard to aircraft operations.

The content of the plan must involve the following as minimum:

- Hazard assessment
- Pilot notification (reporting)
- Liaison with land use planning authorities
- On-airport source of wildlife attraction (i.e. food, water, shelter etc.)
- Suitable harassment methods
- Ongoing strategy of wildlife hazard reduction

The WHMP should be exposed to continuous reviews and improvements in order to remain appropriate with the wildlife hazard at the aerodrome. The following events should be a reason for an immediate and important review of the WLHP:

- Multiple wildlife strikes experienced by an aircraft
- Substantial damage experienced by an aircraft caused by a wildlife strike
- Engine ingestion of wildlife experienced by an aircraft
- The observation of wildlife on aerodrome in size or in numbers which are capable of causing the events abovementioned.

5.12.5.1 Wildlife Hazard Treatment

It is the responsibility of the aerodrome operators to implement appropriate controls to manage the risks after the wildlife hazard has been identified (Airside operations and Maintenance contractor), monitored and assessed. The wide variety of wildlife species leads to the requirement of more than one control measure.

To determine what are the appropriate and most suitable treatments that can lead to effective results, the aerodrome operators and recommended to consult one or more of the following:

- Rangers, Zoologists, Ornithologists and other wildlife experts
- Other aerodrome operators with experience in treating similar wildlife hazard.

Priority should be given to addressing the wildlife species that are categorized as being the highest risk. The treatment options are divided into two categories: Pre-emptive and Active treatments.

Appropriate approval from the relevant authorities.

5.12.5.2 Pre-emptive Treatments

These treatment processes are generally applied to the aerodrome environment and can include but are not limited to:

- Provision of appropriate fencing around the aerodrome boundary
- Removal of food and habitat sources
- Covering open water sources, drains
- Use of spikes, wires and nets to prevent roosting
- Removal or covering of exposed sources of waste, sewage, offal etc.
- Use of appropriate landscaping techniques.

5.12.5.3 Active Treatments

These treatment processes are generally applied to the actual wildlife hazard and could include but are not limited to:

- Use of scare tactics such as horns, sirens, loud hailers, gas cannons, pyrotechnics, arm waving and chasing
- Simulation of threats to wildlife such as lures, dogs, distress call generators etc.
- Use of capture or culling practices

Care should be taken when using active treatments in order to ensure that the wildlife responding to the treatment will not be directed towards an aircraft.

5.12.5.4 Hazards Caused from Birds

Preventative and corrective measure taken to mitigate bird hazards at the aerodrome:

5.12.5.4.1 Bird Strike Control

The following measures need to be maintained to reduce the existence of birds in the airport:

- Reducing the number, distribution and proportion of plants providing a source of food and cover for nesting and roosting birds, especially those around southern runway, taxiways and the airport buildings closest to the runway.
- Bins and skips should be of designs that exclude birds (e.g. with drop down or swinging lids) and should be emptied before they overflow.
- The complete destruction of any plantation, such as the acacia scrub at either end of the southern runway, would be the only immediate and permanent means of removing a roosting area.
- Buildings should be proofed and modified to prevent access by roosting and nesting birds. Wherever possible, new buildings will be designed to deny access to the interior and roof spaces, have self-closing doors or with plastic strip curtains or other mechanisms to prevent access by birds, not have flat roofs, have minimal roof overhangs and be without ledges beneath overhangs and external protrusions.
- Drainage of all wet and waterlogged area;
- Regular grooming of the grass by keeping it short, trees and tall structures, which serve as their roosts will be removed or modified to discourage birds use.
- Bird monitoring in and around the airport is conducted regularly.
- Tests and evaluation of new dispersion techniques are conducted on a continuous basis. At present, there are no reliable detection techniques being used by PMIA.
- If requests are made by ATC, a member of the Airside Ops will visit the airfield to disperse birds or check for remains.
- All bird strikes, bird remains and bird concentration reported. Feeding of birds and other animals are not allowed

5.12.5.4.2 Management of Bird Threat

Birds sighted adjacent to runways and runway strips which should be considered to be causing a threat to the safety of the aircraft operations, shall be dispersed using non-lethal technologies. Various devices to scare away birds from the airports should be tried and their effectiveness tested. As birds quickly get used to a particular device, some of the existing array of devices should be used on a rotational basis and whichever is applicable in the given conditions. Several types of bird scaring devices and techniques could be utilized including:

- The use of recorded distress calls (bio-acoustics), considered the most efficient and cost effective method for dispersing birds from airports.
- Dispersal by a Pyrotechnic Bird Scaring Cartridge (BSC).

- Manual dispersal techniques such as regular human activity and arm waving.
- Excessive bird activity on a particular runway or within the approach/take off areas of the runway may require issuing a NOTAM to advise of increased bird activity specifying the parts of the airport affected. All bird threat activities are to be logged by Airside Ops.

5.12.5.5 Hazards Caused from Wildlife Other than Birds

Preventative and corrective measures taken to mitigate hazards caused from wildlife other than birds:

5.12.5.5.1 Wild Mammals Control

Dogs, cats, lizards and foxes pose a moderate risk to aircraft landing and taking off. As there is an apparent risk of dogs, cats and foxes, occurring within the airports boundary it is recommended that all emergency access gates are continuously maintained and inspected to ensure gates have no damage. Maintenance Department and Airside Ops Department shall conduct joint weekly perimeter fence inspections.

5.12.5.5.2 Training

Training is an essential element to ensure that all staff are aware of wildlife hazard in the aerodrome. Thus; Tibah in coordination with ACI (Airport Council International) and TAV academy had provided trainings to Safety and Airside operations personnel however, Tibah through its Safety department provides general awareness training for all airside users in monthly basis.

5.12.5.5.3 Reporting

All strikes need to be reported to Tibah Safety Department and ATC. All data on bird-strikes will need to be organised and logged by Airside Ops Department, Tibah Safety Department and PMIA Air Traffic Control Unit.

In the event of a bird strike occurring, GACA and SANS shall be informed by Safety Department and ATC.

Moreover, the case must be reported via SMS Pro system.

5.13 Obstacles

Detailed procedures in Obstacles control are well described in aerodrome manual, Annex (A), SOPs: Monitoring Obstacle Limitation Surfaces and Aerodrome Safe Guarding Procedures).

5.13.1 Arrangements for Monitoring the Height of Building or Structures within the Boundaries of the Obstacle Limitation Surfaces (OLS)

Overseeing obstacle limitation studies in the vicinity of PMIA including managing development applications, is responsibility of Tibah Technical Directorate. Tibah Technical Directorate shall conduct weekly obstacle control inside the airport boundaries. An inspection of the vicinity of the airport (15 KM from the runway strip end and 6.2 KM from the center line of the runways) will be carried out quarterly by Tibah Technical Directorate to identify any infringements of the OLS.

Any emerging obstacle or change in reported obstacles (in OLS) shall be reported to PMIA Authority and SANS/Jeddah.

5.13.2 Arrangements for Controlling New Developments in the Vicinity of Aerodromes

An obstacle survey was conducted during February 2017 for PMIA to comply with ICAO Electronic Terrain and Obstacle Database (eTOD) requirements. This database will be maintained and updated by Tibah (see SLA between TIBAH and SANS AIM)..

Terrain and Obstacle Database (eTOD) will serve as a basis for all future airspace design works including instrument procedures that require obstacle data in the PMIA TMA.

Tibah (Aerodrome Operator) and SANS- Acritical Information Management have agreed that Tibah will conduct an obstacle survey every Five (5) years to check/monitor the obstacle database and add any missing and new information (Reference; SLA between Tibah Airport Operations Com. and SANS-Acritical Information Management).

5.13.3 The Reporting Procedure and Actions to Be Taken in the Event of the Appearance of Unauthorized Obstacles

If an obstacle has been identified through the annual survey or has been allowed to be constructed or installed after receiving a request from the PMIA Airport Authority department then the Tibah Technical Directorate will inform PMIA Authority department and SANS/Jeddah to take appropriate steps to publish this information in the AIP. This may include issuing a NOTAM or changing aeronautical charts, reviewing approach charts and other information.

5.13.4 Arrangements for Removal of an Obstacle

In case any obstacle is affecting the airport operations then Tibah Technical Directorate should inform officially Airport Authority department in order to address Madinah Municipality to initiate a review of mitigation measures that can be used. These may include lowering, removing or marking and lighting the obstacle as required by regulations.

It is the responsibility of Airport Authority department to establish necessary communication lines with Madinah Municipality in order to involve Airport Authority department in the approval process of any sort of construction and masts inside the PMIA OLS zones.

5.14 The Removal of a Disabled Aircraft

As published in MED AIP, PMIA does not own any aircraft recovery equipment. The aircraft owner or operator shall utilize IATA pooling system for expeditionary removal of disable aircraft.

5.14.1 Preplanning

Preplanning, quick response time and an awareness of available facilities can greatly reduce the overall time needed to remove a disabled aircraft from an air operations area. Once an accident has occurred and all appropriate post-accident measures completed, the following actions shall be implemented:

- The aircraft owner or operator shall promptly dispose of any wrecked aircraft.
- The aircraft owner or operator shall designate a representative who shall be responsible for making technical and administrative decisions related to the removal of the disabled aircraft.

5.14.2 Notification

The pilot, if able, and the owner or operator of an aircraft involved in an on-airport accident is responsible for immediately notifying the Aviation Investigation Bureau (AIB) of the accident.

GACA Airport Director shall also make notification by telephone or through other communications facilities.

As many of the following details as possible shall be given; notification shall not be delayed if only partial details are immediately available.

- Type, nationality, and registration marks of the aircraft,
- Name of owner and operator of the aircraft,
- Name of the pilot-in-command,
- Date and time of the accident,
- Last point of departure and point of intended landing of the aircraft,
- Position of the aircraft with reference to an easily defined geographical point (grid location using Figure 3-2 if feasible),
- Number of persons on board, and number injured and/or dead,
- Nature of the accident, and extent of damage to the aircraft,
- Weather conditions at the time of the accident,
- Description of any explosives, radioactive materials, or other hazardous articles carried, and/or
- Location and telephone number where the pilot or an official of the owner or operator can be contacted.

5.14.3 Aviation Investigation Bureau (AIB)

The Aviation Investigation Bureau will take custody of the aircraft and its contents from the time the accident occurs to the completion of the AIB's investigation or release of the aircraft. Permission to move the aircraft must be obtained from the AIB following an initial investigation before the aircraft can be moved. Such permission allows the aircraft to be moved from the location of the accident to a selected area for further investigation; however, the AIB will retain custody. Upon completion of its investigation or at a time determined by the AIB, the bureau will release the aircraft, thereby allowing the owner or operator to begin repair, salvage or disposal activities.

5.14.4 Responsibility of Removing Disabled Aircraft

The owner/operator of a disabled aircraft on the Air Operations Area (AOA) shall be responsible for the removal of said aircraft. To this extent, owner/operator of the disabled aircraft shall submit its case specific recovery plan and timing within **6 hours**. Following submission of case specific recovery plan and timing, recovery effort shall physically start in **12 hours** commencing at the time of release of aircraft for recovery by AIB. Any removal efforts shall be coordinated with GACA Airport Director and Tibah Deputy Managing Director. The owner or operator shall bear all costs associated with the removal. The owner may request GACA Airport Director and Tibah to assist in the removal of the aircraft, in which case Airport Authority department and Tibah Airports Operation Co. Ltd. shall not be liable for any damage to the disabled aircraft (See Aerodrome Emergency Plan). Any recovery related cost or damage to airport infrastructure and/or to any third party aircraft, equipment, vehicle or personnel shall be paid by the owner/operator of the aircraft. If the aircraft is not removed expeditiously, GACA Airport Director in coordination with Tibah Deputy Managing Director may order its removal by third party (Accredited Aircraft Recovery Team) if above defined timeframes/ deadlines cannot be met by the owner/operator of the aircraft. In case of removal by third party under the explicit order of GACA Airport Director and Tibah Deputy Managing Director, all the expenses of third party aircraft recovery team shall be paid by the owner or operator of the disabled aircraft.
Furthermore, in case the aircraft owner/operator failed in submitting the case specific recovery plan and timing within 6 hours, PMIA GACA Airport Director in coordination with PMIA Deputy Managing Director might order its removal from Qatar Airways, which is a member of the International Airlines Technical Pool (IATP) that provides aircraft recovery services. In this case, all the expenses of Qatar Airways aircraft recovery team shall be paid by the owner or operator of the disabled aircraft.

5.14.5 Removal Procedures – Recovery Actions

The steps necessary to recover a disabled aircraft require the assistance and cooperation of several groups. A Recovery coordinator shall be designated by GACA Airport Director to be responsible for supervising the recovery operation. Preferably, that person will be trained and familiar with such operations.
In any case involving the recovery of a wide- bodied aircraft, familiarization with retrieval kits, and their locations, is imperative. Such kits are positioned at strategic airports throughout the world. Under joint agreements between Airline Operator and IATA, Airline Operator should be summoned and flown to the scene of the emergency.

5.14.6 Removal Operation

5.14.6.1 Recovery Coordinator

The Recovery Coordinator shall notify the aircraft owner or operator of his obligation to remove the aircraft as soon as possible. The Recovery Coordinator shall also convene and chair a meeting with representatives of the following:

- Aircraft owner or operator.
- AIB
- Tibah Safety & Airside Operations Director
- Safety Department of GACA Safety & Economic Regulation Sector.
- Air Traffic Control (ATC).
- Security.
- Tibah Technical Director and Head of Maintenance and Utilities (M&U).
- Fire and Rescue Services (FRS).
- Airside Operations.
- Tibah Safety Department
- Other airport representatives or government agencies required.

The recovery coordinator shall as well:

- Establish roles and responsibilities of all parties involved,
- Develop understanding of actions to be taken by the aircraft owner or operator and other parties involved,
- Arrange for defueling, as necessary,
- Establish vehicle routes and traffic control,
- Make necessary decisions to expeditiously remove disabled aircraft,
- Issue NOTAM's as required,
- Maintain records of recovery operations,
- Coordinate with Maintenance, especially for the locations of underground utilities,
- Keep GACA Airport Director informed.
- When an aircraft owner or operator requests assistance for the removal of a disabled aircraft, a letter releasing the Airport Authority from any liability shall be signed by the owner or operator and shall include the information contained in AEP.

5.14.6.2 Fuel Depot Supervisor

Prior to removal of a disabled aircraft, permission for defueling - if required may only be granted by the Recovery Coordinator. In such an event, the Fuel Depot Supervisor of the aircraft operator shall furnish equipment and personnel to accomplish the necessary defueling. In case of designated fuel depot is unable to

perform such duties, the Recovery Supervisor shall assign other fuel depot companies.
FRS shall be requested for one or more fire trucks to standby in the event of a defueling operation.

5.14.7 Preservation of Wreckage, Mail, Cargo & Records

The aircraft owner or operator is responsible for preserving aircraft wreckage, any cargo and mail aboard the aircraft, and all aircraft records (including flight recorders and cockpit voice recorders). The aircraft owner or operator shall preserve all records pertaining to the operation and maintenance of the aircraft and to the crew involved in any accident on the airport until AIB takes custody thereof, or a release is granted.

Prior to AIB taking custody of the aircraft wreckage, cargo and mail may be moved only to the extent necessary to:

- Remove injured or trapped persons,
- Protect the wreckage from further damage,
- Protect the public from injury,
- Protect the cargo and mail from further damage.

In the event aircraft wreckage must be moved or disturbed, sketches, descriptive notes and photographs shall be made, when possible, of the accident site, including the original position and condition of the wreckage and any significant impact marks.

The owner or operator of an aircraft involved in an accident shall retain all records and reports including all internal documents and memoranda dealing with the accident, until notified by AIB that they are no longer required.

5.14.8 Recovery Operations

The recovery will normally follow these steps after the aircraft has been cleared by the Fire Chief:

- AIB Investigator shall survey the aircraft; determination will be made as to what part or parts of the aircraft may be removed.
- Permission to move is given by the investigator to the owner or operator and/or GACA Airport Director.
- The Aircraft owner or operator ascertains the presence or absence of hazardous materials that may require special handling.
- Aircraft recovery is implemented.
- Defueling, if required, is accomplished.
- Mail, baggage and cargo are removed, as necessary.

5.14.9 Post Recovery Critique

Following a recovery operation, GACA Airport Director or his Designee shall convene a recovery critique with all involved parties. The critique shall include a review of the Recovery Coordinator's chronological report and a discussion by those involved of the techniques and equipment used during the recovery operation. Problem areas encountered during the recovery shall be reviewed, and appropriate revisions to the Aircraft Recovery Plan shall be considered.

5.15 Dangerous Goods

This Section describes methods used at the Airport to protect persons and property involved in handling and storing hazardous articles and materials. Such articles and materials include explosives, flammable fuels, and certain classes of chemicals, pressurized gases, lubricants, radiological chemicals and magnetized shipments.

5.15.1 General Rules

The general rules governing safe handling and storing of hazardous articles and materials at the Airport are described in GACAR PART 109.

5.15.2 Fire & Safety

This Section contains rules and regulations that apply to fire hazards at the airport. All users shall comply with fire and safety rules and regulations at all times.

5.15.2.1 Fire Hazards

The following rules and regulations shall apply with respect to the prevention of fire hazards at the airport:

- Flammable, volatile liquids having a flash point of less than 60C/140F shall not be used for the cleaning of aircraft, aircraft engines, propellers, accessories or for any other purpose, unless such operations are conducted in open air or in a room specifically set aside for such purpose. Such room shall be properly fireproofed and equipped with adequate, accessible fire extinguishers.
- Flammable liquids, gases, signal flares or other similar materials shall not be kept stored in hangars or any other buildings on the airport except in receptacles installed in aircraft and designed for such purpose, or in rooms and areas designed for such purpose and specifically approved by GACA Airport Director for such storage, and in safety receptacles as approved by insurance underwriters.
- Lubricants or waste oils shall not be kept or stored in or about hangars except in rooms specifically designed for oil storage and as approved by Airport Authority department and Tibah Safety Department, in receptacles approved by insurance underwriters.
- Open flame operations shall not be conducted at the airport unless specifically authorized by Airport Authority department and Tibah Safety Department.
- Smoking is prohibited in entire airside, aircraft hangars, aircraft and GH service station areas and areas where gasoline and/or other flammable liquids or materials are stored, and in such other buildings or places as shall be designated by the Airport Authority as NO SMOKING areas.
- Painting of aircraft, vehicles or equipment is prohibited except in designated areas, and only under conditions approved by Airport Authority department and Tibah Safety Department.
- Oil or flammable materials shall not be disposed of in sewers or drainage systems. Such materials shall be placed in disposal receptacles which have been approved by Airport Authority department and Tibah Safety Department. These receptacles shall be emptied and the contents hauled away periodically or disposed of as directed by Airport Authority department and Tibah Safety Department.

5.15.2.2 Fire Fighting Equipment

The following rules and regulations shall apply to fire equipment (fire extinguishers and other firefighting equipment) at the airport:

- No person shall tamper with, damage, destroy, remove or cause to be removed from its holder, container, reel or bracket, any equipment or device for use in fire prevention or for extinguishing fires except in an emergency.
- No person shall obstruct damage or render inoperable any fire door, fire signs, hangar door, sprinkler riser, hose box, fire system panes, fire hydrant or pit, or any other firefighting equipment.
- Tenants of all part of the airport shall have available and readily accessible at all times, fire extinguishers that shall be of a type and content as approved by Airport Authority department and Tibah Safety Department.
- All fire extinguishers at the airport shall be kept properly charged and maintained at all times in accordance with the standards set forth by Airport Authority department and Tibah Safety Department. Tenants are responsible for their private use areas and offices. General use areas are responsibility of Tibah Maintenance Department.
- All fire extinguishers shall be inspected periodically by the owner of the facility.

5.15.3 Aircraft Fuels & Lubricants

The methods and fire prevention measures used at the Airport for safely storing, dispensing and handling aircraft fuels and lubricants are described in the subsequent paragraphs. For parts which are not covered in this manual, GACAR PART 109 and NFPA 407 shall be used as enforcing references.

All persons who work with aircraft fuels are required to be thoroughly trained and to follow established procedures for the safe storing, dispensing and handling of aircraft fuels and lubricants. All tenants who work with aircraft fuels are required to provide training to their staff and shall keep personal records of each employee they employ. All tenants are responsible to present these records to Airport Authority department and Tibah Safety Department when requested.

5.15.4 Fuel Depots / Fuel Farms

The Fuel Depots are located in the Technical Support Area, at the south west of the airport. The fuel depots comprise fuel storage tanks/silos, office buildings and parking areas for fueling trucks. Access roads connect the depots to the apron service road.
There are two fuel service provider companies at PMIA: MAC and Bakri International.
MAC fuel depot has capacity of 15 million liters of JET A1 while Al Bakri fuel depot has capacity of 4.8 million JET A1.
Jet A1 Aviation fuel is delivered to aircrafts by fueling truck and fuel hydrant system.

5.15.5 Fueling Operations

In addition to rules dictated in Section 5.10, below rules shall also apply at times:

5.15.5.1 Grounding

The Airport apron is fitted with grounding points. All fuelling vehicles shall be fitted with a grounding connection to prevent the possibility of static discharge and ignition. During fuelling operations, the fuel dispensing hose, nozzle, tank vehicle and aircraft shall be grounded to a fuelling round rod or its equivalent. The following grounding methods shall be observed:

Over wing Fuelling with Mobile Fuel Trucks - When grounding points are provided, grounding shall be exactly in accordance with the following steps:

- Connect a grounding cable from the service vehicle to a designated grounding point.
- Connect a grounding cable from the grounding point to the aircraft (on a landing gear axle or other convenient, unpainted metal part, except propeller or radio antenna).
- Connect a bonding cable from the fuel nozzle to the aircraft before opening the fuel tank cover.
- Maintain this bond throughout the fuelling operation until the fuel tank cover is closed.
- Disconnect in reverse order.
- Under wing Fuelling with Mobile Fuel Trucks - Under-wing fuelling greatly reduces the chance of an electrostatic spark igniting flammable vapors. The in-the-wing fitting and the mating nozzle are completely closed and bonded. The fuel does not flow until the attachment is completed. This avoids splashing. To protect against static discharge and stray electric current, grounding of the aircraft and the fuelling equipment (except for the nozzle-to-aircraft bond) shall be performed as above.

5.15.5.2 Fuelling Crew

Drivers, operators or attendants of any fuel handling vehicle shall be in attendance at all times and utilize a "dead man switch" when the vehicle is fuelling or defueling an aircraft. In the case of over wing fuelling using a work stand higher than 2 meters or more than 15 meters from the vehicle, a qualified fire watch familiar with the operation shall stand by on the ground with a fire extinguisher at hand. A fire watch shall not serve more than two vehicles simultaneously or more than two aircraft during fuel servicing, and must be within 20 meters of any operation under his surveillance.

5.15.5.3 Vehicle Positioning

During fuelling operations, fuel vehicles shall be positioned to permit driving straight away from the fuelling position. Only one refueling truck shall be positioned to refuel each wing of an aircraft and not more than two fuel handling vehicles shall be positioned to serve the same aircraft. When high capacity aircraft are refueled, additional refueling trucks may stand by in specified positions not closer than 30 meters from the aircraft to be served.

5.15.5.4 Parking Areas

Fuel handling vehicles shall be parked only in areas specifically designated.

5.15.5.5 Vehicle Marking

Each fuel handling vehicle shall be clearly marked in letters of contrasting color, with the word FLAMMABLE on both sides and the rear of the cargo tank with letters at least 30 centimeters in height. The wording EMERGENCY SHUT OFF shall be at least 15 centimeters in height near the shut-off-valve. Other appropriate operating instructions at the emergency operating devices shall be in letters at least 1 centimeter in height.

5.15.5.6 Fuel Grade

Each fuel storage tank and fuel handling vehicle shall be clearly marked near the dispensing outlets with letters at least 10 centimeters in height to identify the type and grade or octane rating of fuel being stored or handled.

5.15.5.7 Fuel Spill Prevention and Control

- Fuel handling equipment shall be operated with care to minimize accidental spills. Regardless of the size or nature of the fuel spill, the Fire Chief or his Designate shall be summoned to deal with the situation. Every spill shall be investigated by the Fire Chief so that remedial action may be taken. Every spill shall be treated as a potential fire source, and the spilled fuel shall be removed by the Airport Fire and Rescue Services (FRS) crew.

- In the event any spill of gasoline or other low flash point fuel (such as Jet A-1) is greater than 3 meters in any direction or covers an area of 15 square meters or more, the spill shall be blanketed by foam. The cost of the cleaning of fuel spill shall be responsibility of involved aircraft owner/operator and/or fuel company.

- Fuel spills shall be flushed from critical areas with water and allowed to evaporate before the site is again used for normal operations. If a fuel spill involves aircraft, engines shall not be started until the spill area has been properly flushed and cleaned.

- The actions taken by the Air Crew involved and the Airport Fire Department in response to a fuel spill shall be recorded on a Fuel Spill Report Form, and Air Crew or Refueller Fuel Spill Report Form by the FRS Duty Officer and copies forwarded to Tibah Safety & Airside Operations Director.

5.15.6 Storage of Hazardous Materials

The goods will be stored in the designated Dangerous Good area in the warehouse. Separate rooms have been designated for the storage of different classes of dangerous goods.

Dangerous goods belonging to other classes must be stowed in the designated storage shelves/racks in the appropriate sections respectively. The shelf/racks are identified by appropriate signage/placards in accordance with the requirements of GACAR 109.

5.15.6.1 Methods of Delivery, Storage, Disposing & Handling of Hazards Material

5.15.6.1.1 Acceptance

Dangerous Goods acceptance and handling staff shall have completed appropriate Dangerous Goods training in accordance with the applicable regulations and requirements.

A ‘Dangerous Goods Acceptance Checklist’ will be used to verify dangerous goods shipments are accepted in accordance with all applicable requirements and regulations for transportation on an aircraft.

5.15.6.1.2 Build-up

Dangerous Good Packages will be inspected for damage or leakage prior to being loaded into a ULD. Damaged and leaking packages will be removed and excluded from flight and action initiated in accordance with Handling Dangerous Goods Accident/Incident procedure.

Dangerous goods will be separated from other cargo or incompatible materials in accordance with category restrictions and segregation requirements published in the IATA Dangerous Good Regulations. Special handling instructions from shipper will be implemented.

Upon build-up of ULDs containing dangerous goods, it will be ensured that the ULD has a dangerous goods ULD tag that is marked with the class or division number(s) of the dangerous goods contained therein.

Dangerous Goods cargo accepted and labeled as 'Cargo Aircraft Only' must be prepared and forwarded for loading onto cargo aircraft only with the hazard and CAO labels clearly visible. If the ULD contains 'Cargo Aircraft Only' packages, the relevant staff will ensure that the tag indicates the same.

5.15.6.1.3 Inspection and Segregation

Prior to being forwarded to aircraft, ULDs containing dangerous goods shipments and other dangerous goods packages will be inspected for damage or leakage. In the case of leakage, cargo staff will evaluate and determine if the remainder of the shipment is in proper condition for transport by air and that no other package, cargo, ULD or other transport device has been contaminated or damaged.

5.15.6.2 Handling Dangerous Goods Incident & Accident

Appropriate action must be initiated in the following cases:-

- Damage of Dangerous Goods packaging
- Leakage of contents
- Emission of smoke or irritating or harmful fumes
- Radioactive shipments, a suspected contamination

In case of an incident or accident involving dangerous goods, one must apply the rules associated with the primary risk of the packages and those associated with the subsidiary risk.
Staff will take the following action:

- Inform immediate Supervisor or Duty Officer
- The Supervisor or Duty Officer will:
- Call AOC (Tel: 813 8888) or Fire Department on Tel Ext 3333 for necessary action
- Ensure recommended PPE is available for handling such situations
- Refer to the Emergency Response Chart and identify the immediate action appropriate to the dangerous goods involved
- Ensure the presence of competent staff for necessary guidance
- Do not load the package into ULD, trolley or into an Aircraft
- If damage is noticed after loading offload the relevant package or the ULD
- Try to isolate the damaged dangerous goods packages, if safe to do so
- Inspect other packages of the relevant shipment for traces of damage or contamination without compromising the safety of personnel. Where appropriate, request immediate arrangements for its removal and safe disposal by an appropriate authority
- Do not inhale the smoke or vapor
- Avoid any contact of package or material with skin

- If contents come in contact with body or clothes:
  - Thoroughly wash off body with plenty of water
  - Remove contaminated clothes
  - Do not eat or smoke
  - Keep hands away from eyes, mouth and nose
  - Seek medical assistance

- Maintain adequate distance from radioactive material packages
- Advise the airline concerned
- Record the incident in Log Book
- Obtain photographs whenever possible to be included in the report
- Damaged dangerous goods shall be stored in a separate demarcated area. The access to this area shall be restricted. Only trained staff shall be allowed to handle damaged dangerous goods shipments
- The case shall be reported through the SMS Pro software (https://www.pmiasafety.com).

5.15.7 Other Hazardous Material Precaution Rules at PMIA

The following precautions shall be taken to promote safety and curtail hazards at the Airport.

5.15.7.1 Gates, Fences, Locks and Signs

Gates, fences and locks shall be securely constructed to prevent intrusion into areas where hazardous materials are stored. Signs shall be posted conspicuously to warn of hazards. Such gates, fences and locks shall be checked periodically for damage or evidence of unauthorized intrusion. Airport security personnel shall be notified when such gates, fences or locks have been tampered with.

5.15.7.2 Drip Pans

Drip pans shall be placed under engines, transmissions and other operating equipment when parked in garage or maintenance facilities. Drip pans shall be cleaned regularly.

5.15.7.3 Empty Containers

Oil, paint and varnish containers, when empty, shall be removed immediately from the premises.

5.15.7.4 Clothing Lockers

Clothing lockers shall be constructed of metal or other fire resistant material.

5.15.7.5 Litter

Litter in buildings shall be removed immediately and placed in outside litter bins for pickup by sanitation personnel.

5.15.7.6 First-Aid

First aid equipment and ambulance services shall be available in all areas of the airport. Each tenant of the airport is responsible for storing and locating enough first aid boxes in their facilities. Ministry of Health is responsible for providing ambulance services at PMIA.

5.16 Low Visibility Operations

PMIA is committed to providing facilities and procedures to enable the airport to remain open to operations during low visibility conditions. It must be accepted that such conditions will reduce air traffic capacity to well below that achievable in normal operations, however it is the intention, over time, to increase the low visibility capacity pro-rata with increases in normal operating capacity. PMIA will draw upon experience across the industry to continually review low visibility operations with a view to enhancing safety and capacity. Currently during LVO, PMIA shall have maximum 2 landings and 1 departure at the same time.

NOTE: Low Visibility procedures are well described in Annex (A) in this document, SOP: Low Visibility Procedures.

5.16.1 Obtaining and Disseminating Meteorological Information, including Runway Visual Range (RVR) and Surface Visibility

Meteorology (MET) department is located at west side of the airport and north the ATC (Location number: 16K in Aerodrome Grid Map).

Metrology department is responsible communicating weather forecasts, Visibility status and RVR figures to ATC.

ATC has an access to all meteorology data at all times however, ATC TWR shall consult MET office for forecast before declaring SP.

5.16.1.1 Meteorological Information Provided

1	Associated MET Office	Madinah Met Office
2	Hours of service MET Office outside hours	H24 Contact Jeddah CFO +966 12 4237739 / +966 12 4237740
3	Office responsible for TAF preparation Periods of validity	JEDDAH CENTRAL FORECAST OFFICE (CFO) (TAF periods of validity H30). TEL: +966 12 4237739 and +966 12 4237740
4	Type of landing forecast Interval of issuance	NIL
5	Briefing/consultation provided	P,T
6	Flight documentation Language(s) used	PL English
7	Charts and other information available for briefing or consultation	S.U.P.W
8	Supplementary equipment available for providing information	WXR APT. 8 Wind shear sensors.
9	ATS units provided with information	Madinah APP, Madinah TWR and GND
10	Additional information (limitation of service, etc.)	TEL : +966 14 8420106 FAX: +966 14 8373224 +966 14 8420051 Forecaster TEL : +966 14 8420040 MNGR

5.16.1.2 RVR (RWY Visual Range)

Runway Visual Range devices are located at 3 locations for RWY 17/35: 1 pair on 35 TDZ, 1 pair in the middle of the RWY, 1 pair at the RWY 17 TDZ. All devices are on the west side of the Runway, approximately 142 m away from the centerline of RWY.

5.16.1.3 RVR Reports

- ATC shall ensure that the current RVR values for the runway in use are passed to pilots of arriving and departing aircraft during LVP.
- RVR readings shall always be given in the order of the landing or take-off direction (i.e. TDZ, mid-point and stop-end).
- When values for the three RVR positions are passed, the positions need not be identified Provided that the values are given in the correct order, but when only two reports are given, the positions should be identified.

Low Visibility Procedures (LVPs) shall only be declared (by ATC TWR) when:

- Either TDZ or MID RVR RWY 17/35 is less than 550m, and/or,
- Height of cloud ceiling is less than 200ft but not less than 100ft, and
- Preparation Phase (Safeguarding Procedures) has been completed and the airport is safeguarded and configured for Low Visibility Operations.

5.16.2 Protection of Runways during LVP if such Operations are Permitted

In order to protect the used RWY in case of LVP, Tibah had established set of effective controls to ensure safe and smooth operations. ***These controls are provided in this document, Annex (A) – LVPs.***

5.16.3 The Arrangement and Rules before, during and after Low Visibility Operations, including Applicable Rules for Vehicles and Personnel Operating in the Movement Area

5.16.3.1 LVP Phases

- **Preparation Phase:** This phase is commenced when deteriorating meteorological conditions reach, or are forecast to reach, specified height of cloud base or ceiling and/or visibility/RVR values.
- **Operations Phase:** This phase must be in force prior to the commencement of any of the specific operations for which LVP are required. The Operations Phase is brought into force only once all preparatory activities are complete. Flight operations requiring LVP must only commence once the LVP are in force.
- **Termination Phase:** This phase is established to facilitate a smooth transition back to normal operations.

Procedures (AOPs) and detailed information of each phase are well described in this document, Annex (A).

5.17 Protection of Sites for Radar, Navigation Aids and Meteorological Equipment

PMIA SANS Maintenance System Engineering Section is in charge of the protection, operation and maintenance of radar and radio navigational aids located at PMIA to ensure that their performance will not be degraded. Tibah Airports Operation Company Maintenance Department and Airside Operations Department are responsible for constant control of NAVAIDs critical areas against any obstacle or signal disturbance activity. Tibah Maintenance Department is responsible for daily control and repair of NAVAIDs critical area markers/border lines.

Further details are provided in this document; Annex (A) – (SOP: Protection of sites for RADAR & navigation aids).

5.17.1 Protection of NAVAIDs

At the airport, NAVAIDS are protected against vandalism, theft and unauthorized entry by their location within the security fenced area of the airport. Each ILS equipment critical area is designated with red/white markers. No person or equipment shall cross ILS critical area markers unless authorized/allowed by ATC.

Moreover, Tibah Airside operations team are obliged to inspect the critical and sensitive areas of ILS systems during the daily inspections.

5.17.2 Identifying & Marking Location of Utilities & NAVIDS in Construction Areas

Prior to beginning any construction, servicing or repairs, all utilities and NAVAIDs shall be identified, marked and signed to inform workmen of their presence to avoid damage. As-built drawings of utility lines and NAVAIDs shall be obtained from the Tibah Technical Directorate and PMIA SANS Maintenance System Engineering Section. GACA Airport Director shall be consulted prior to any construction, servicing or repairs being performed near NAVAIDs.

5.17.3 Protection of Meteorological Equipment

At the Aerodrome, Meteorological Equipment are protected against unauthorized entry by their location within the aerodrome security fenced area. It is PMIA-Meteorology department responsibility to secure their facilities and ensure its functionality through periodical physical inspections conducted by Meteorology personnel in coordination with Tibah Aerodrome OPS and MED-ATSU.

Moreover, Tibah Aerodrome/Airside operations team are obliged to inspect all aerodrome facilities including Meteorological equipment areas within the aerodrome boundaries during the daily inspections ensuring safe and secure operations.

PART 6

SAFETY MANAGEMENT SYSTEM (SMS)

6.0 Safety Management System (SMS)

Descriptions of safety policy, operator's structure and responsibility, trainings, hazard analysis and risk assessment and all other SMS related topics are explained in detail in Safety Management System Manual (SMSM) Reference: TIBAH-SMS-MAN-01.
Safety Management System Manual (SMSM) is a standalone document.

ANNEX A

STANDARD OPERATING PROCEDURES (SOPs)

List of SOPs:

No.	Title
SOP-01	Aerodrome Manual Update & Control
SOP-02	Aerodrome Drawings Update & Control
SOP-03	Maintaining A Logbook
SOP-04	Aeronautical Information System Promulgation & Update
SOP-05	Monitoring Obstacle Limitation Surfaces
SOP-06	Aerodrome Safeguarding
SOP-07	Aerodrome Inspection
SOP-08	Stand Allocation
SOP-09	Secondary Power Supplies Total System Failure
SOP-10	Aerodrome Ground Lighting including VDGS
SOP-11	Aerodrome Works Plan
SOP-12	Routine Maintenance & Emergency Maintenance
SOP-13	Work Permit
SOP-14	Maintenance of Security Fence
SOP-15	Drainage System Maintenance & Adequacy
SOP-16	Pavement Surface Friction Evaluation
SOP-17	RWY Rubber Removal
SOP-18	Marking & Other Visual Aids for Denoting Restricted & Unserviceable Areas
SOP-19	PBB Maintenance
SOP-20	Restricting Aircraft Operations during Closures
SOP-21	Protection of Sites for Radar & Navigation Aids
SOP-22	Waste Disposal
SOP-23	FOD Control
SOP-24	Wildlife Hazard Treatment
SOP-25	Operations of Vehicles & Other Equipment
SOP-26	VHF Radio Communication
SOP-27	Accident, Incident, Safety Hazard and Occurrence Reporting
SOP-28	Airside Defect Reporting
SOP-29	Very Large Aircraft
SOP-30	Test, Training and Ferry Flights
SOP-31	Access to Air Operation Area (AOA)
SOP-32	Aircraft Turnaround Management
SOP-33	Aviation Fuel Management
SOP-34	Aircraft Maintenance Activity
SOP-35	Aircraft Engine Ground Running
SOP-36	Follow Me Service
SOP-37	Low Visibility Operation (LVO) Procedures
SOP-38	Reduced Aerodrome Visibility Procedures - RAVP
SOP-39	Adverse Weather
SOP-40	Diverted Flights Procedure
SOP-41	Safety Infringements
SOP-42	Storage and Handling of Unit Load Devices (ULDs)
SOP-43	Tarmac Delay Contingency Plan
SOP-44	Global Reporting Format (GRF) Implementation procedures

Standard Operating Procedure (SOP)

AERODROME MANUAL UPDATE & CONTROL

Document Number:	TIBAH-AIROPS-SOP-01
Document Owner:	Safety and Aerodrome Operations Directorate
Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	New GACAR version (GACAR 139-7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

PMIA/OEMA/MED Aerodrome Manual, upon appropriate approval by GACA, initially will be distributed to all stakeholders on a CDROM.

Master Copy of the updated/current Aerodrome Manual shall be kept by Tibah Airports Operations Co. with Safety & Aerodrome Operations Director. In case of any conflict, the master copy shall be accepted as effective/latest version of the aerodrome manual.

Following initial distribution, Aerodrome Manual will be periodically reviewed/updated by the Safety & aerodrome operation directorate (under normal conditions quarterly, in rising urgent cases based on case-by-case basis). The updated copy will be posted at Tibah Airports Operations Co. Ltd.'s website (www.tibahairports.com). On each update, each stakeholder will be advised with a letter/email for the update. Tibah Safety & Airside Operations Director is the responsible authority for keeping online version updated at all times.

Whenever need to consult to Aerodrome Manual, all users shall use online version of Aerodrome Manual as the latest version. Online published manual is not controlled when printed.

1.1 Regulation and Reference Documents

- GACAR Part 139
- ICAO Annexes
- ICAO Doc.9981, ICAO Doc.9774

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.5 and 8.1
- ISO 14001:2015 Clauses 7.5

2.0 Purpose

Purpose of this SOP is to dictate proper update cycles of PMIA ADM, and control methods to be used.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Tibah Safety & Aerodrome Operation Directorate	Stakeholders
	All Service Providers within PMIA
	GACA

4.0 Scope

PMIA Aerodrome Manual dictates operational doctrine and physical characteristics of PMIA. It dictates responsible document owner, update cycles, distribution methods. In order to meet operational demands and in cases of changes in physical characteristics of PMIA, the ADM shall be the master document to reflect those changes. Each change in ADM shall be presented to GACA for approval (Proposed changes must be submitted to GACA 30 working days in advance). Updated and GACA approved ADM shall be distributed to all relevant stakeholders in 5 working days and must be published on Tibah Webpage in 2 working days. This SOP applies to all Tibah Departments and all governmental and private stakeholders of PMIA.

5.0 Applicable Areas within the Airfield

N.A

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Quarterly Update	ADM Owner shall review ADM every 3 months and identify any change request.	To keep ADM up to date.	ADM shall be reviewed and updated on a regular basis.	Updated ADM	- 100 % compliance with GACARs. - ADM updated copy must be published in Tibah Website within 2 days from last changes applied – No delay100 %

7.0 Process Description

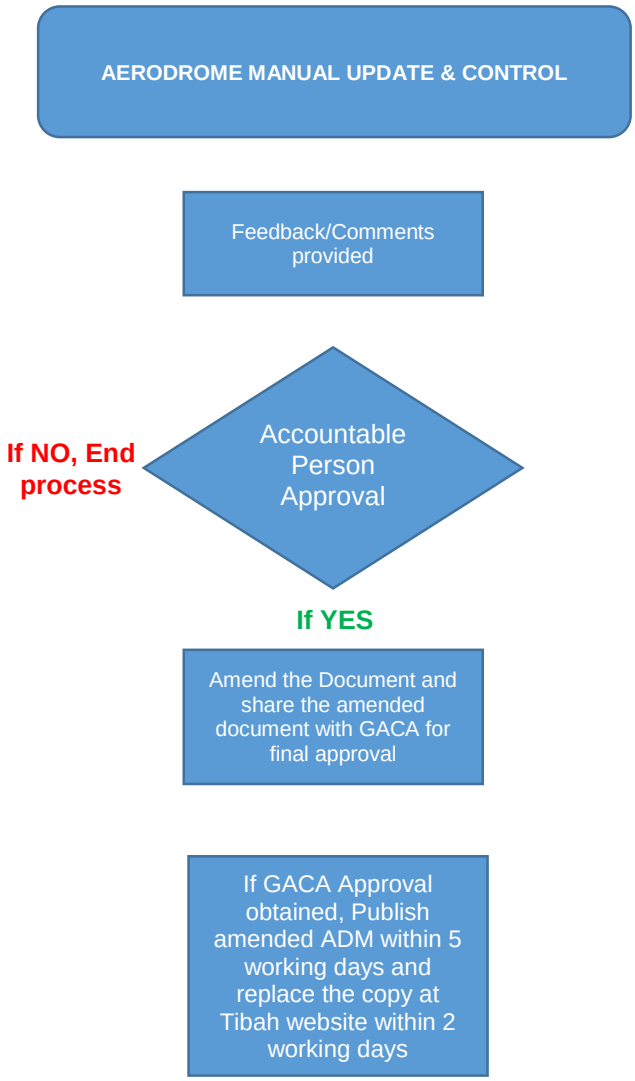
The ADM shall be controlled and updated for accuracy, information currency and changes in distribution list.

Flow of ADM update shall be in order as shown below:

- Feedback provided to Document Owner (Safety & Aerodrome OPS Department) or quarterly cycle of review has arrived.
- Accountable departments (Safety & Aerodrome OPS Department) to review change needed sections of ADM and provide amended info, if no change needed provide no change needed confirmation.
- If needed amend the document.
- If amended inform GACA Aerodrome related department for GACA approval (proposed amendments must be submitted to GACA officially 30 working days in advance).

Once approved by GACA, publish amended ADM within 5 working days and replace the copy at Tibah website within 2 working days and notify all stakeholders through a letter/email.

7.1 Process Flowchart



8.0 Abbreviations and Acronyms

Please refer to Aerodrome Manual – Part No.1

Standard Operating Procedure (SOP)

AERODROME DRAWINGS UPDATE & CONTROL

Document Number:	TIBAH-AIROPS-SOP-02
Document Owner:	Safety and Aerodrome Operations Directorate
Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	New GACAR version (GACAR 139-7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

In this document, the procedures for the update and control aerodrome drawings, including as-built drawings update and follow up.

1.1 Regulation and Reference Documents

- PMIA Aerodrome Manual, (Ref. TIBAH-AIROPS-MAN-01)

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.5 and 8.1
- ISO 14001:2015 Clauses 7.5

2.0 Purpose

This document aims to specify the procedures for updating and controlling all aerodrome drawings including the as-built drawings to make sure that the published drawings are the most updated ones.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Tibah Safety & Aerodrome Operation Department	Stakeholders
Tibah Technical Directorate	SANS-AIM
	GACA

4.0 Scope

This SOP dictates the operational procedures of updating and controlling all aerodrome drawings including the as-built drawings. It specifies as well who's responsible for updating the drawings.

5.0 Applicable Areas within the Airfield

All facilities and infrastructures within the aerodrome (Facilities within Aerodrome vicinity must be included if it affects Aerodrome operation).

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Updating Drawings	All Aerodrome Drawings must be updated all times	Keep all the published drawings up to date	Aerodrome Maintenance in-charge & Tibah Technical Directorate	All drawings including the as-built are up-to-date	All published Drawings must be up-to-date 100%

7.0 Process Description

Whenever there is change in the infrastructure of buildings or airside facilities, the Aerodrome Maintenance in-charge in coordination with Tibah Technical directorate must update the respective drawings including the as-built drawings.

According to PMIA requirements, no project or any change in Aerodrome characteristics should be commenced until valid work permit issued and approved by Airport GACA authority, Tibah Related department including Tibah Maintenance In-charge who will coordinate with Tibah related technical departments to update the related drawings accordingly.

The Tibah technical directorate should distribute the new drawings to the related departments especially to Safety & Aerodrome Operation directorate in order to update the old drawings in the Aerodrome manual and update AIP drawings in coordination with SANS-AIM.

7.1 Process Flowchart

N.A

8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

MAINTAINING A LOGBOOK

Document Number:	TIBAH-AIROPS-SOP-03
Document Owner:	Safety and Aerodrome Operations Directorate
Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

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P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	New GACAR version (GACAR 139-7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

In this document, the procedures for maintaining a logbook are specified.

1.1 Regulation and Reference Documents

- PMIA Aerodrome Manual

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.5 and 8.1
- ISO 14001:2015 Clauses 7.5

2.0 Purpose

This document aims to specify the procedures that should be taken to maintain well organized logbook.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Safety & Aerodrome operation Directorate	GACA
Aerodrome Operations Department	Auditors
	Tibah Quality Team

4.0 Scope

This SOP dictates the operational procedures of maintaining a logbook at PMIA (Aerodrome Operations Department). It explains whose responsibility is to manage the logbook, where to store it, and who to sign it.

5.0 Applicable Areas within the Airfield

N.A

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Maintaining a logbook	Managed by Chiefs and stored at their office	Organized and well maintained logbooks	Aerodrome OPS Manager	Available by all means whenever requested by Authorities	- Updated by Aerodrome OPS Shift in-charge and submitted to Aerodrome OPS In-Charge following each shift (accurate & No delay 100%) - Logbook must include all abnormal and unsafe occurrences/activities within the Aerodrome (100%)

7.0 Process Description

- Aerodrome OPS department should have a logbook that is managed by Aerodrome Operation In-charge and stored in an organized manner.
- The aerodrome OPS shift supervisor or his designee must include all activities such as (maintenance, ongoing works within movement area, safety hazards, safety occurrences, administrative issues, etc.) in the logbook.
- The logbook should be signed by the aerodrome operations (shift in-charge) on the start and after completion of each shift of duty.
- The logbook must be well handed over to the next shift in charge person (via email or printed copy).
- The signed logbook must be shared with Aerodrome OPS manager and the director of Safety & Aerodrome operation immediately after each shift by email.
- All logbooks are to be retained as a permanent record of airport serviceability and made available upon request of GACA at any time.

7.1 Process Flowchart

N.A

Tibah Airports Operation Company Standard Operation Procedure	Doc # TIBAH-Airside OPS-FRM-05	
	Revision # 06	Date: 26-Dec-2017
Aerodrome Logbook	Page # 1 of 1	

Shift	A ☐	B ☐	C ☐

From			To		
Date:		Time:	Date:		Time:

Shift Staff						
Status						

Briefing

	Satisfactory	Unsatisfactory	Other	Remarks
Vehicles	☐	☐	☐	
Appliances	☐	☐	☐	
Radios	☐	☐	☐	
Vehicles Cleanness	☐	☐	☐	
Office Cleanness	☐	☐	☐	
Rest Room Cleanness	☐	☐	☐	
Overall Condition	☐	☐	☐	

Follow-up Item(s)

#	Item	Remarks	#	Item	Remarks
1			6		
2			7		
3			8		
4			9		
5			10		

Activities

#	Name	Task	Start Time	End Time	Remarks
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					

NOTAM(s)

#	NOTAM No.	From		To		Current Status	Remarks
		Date	Time	Date	Time		
1							
2							
3							

Comments:

Handed Over by		Received by	
Name	Signature	Name	Signature

To be emailed to: Airside Operations Manager, Aerodrome Services Chief, Aerodrome Compliance Officer, Aerodrome Compliance Inspector, and Next Shift's Aerodrome Supervisor.

Figure 1 Aerodrome Logbook

8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided at Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

AERONAUTICAL INFORMATION SYSTEM PROMULGATION & UPDATE

Document Number:	TIBAH-AIROPS-SOP-04
Document Owner:	Safety and Aerodrome Operations Directorate
Supersedes:	Previous Version of this Document
Effective Date:	1 January 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

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Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
01	1 January 2021	New GACAR version (GACAR 139-7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

In this document, the available aeronautical information system promulgation and update is described.

1.1 Regulation and Reference Documents

- PMIA Aerodrome Manual,
- Agreement (SLA) between Tibah & SANS (AIM)
- GACAR PART 175 – Aeronautical Information Services
- ICAO Annex 15

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.4; 7.5 and 8.1
- ISO 14001:2015 Clauses 7.4 and 7.5

1.3 Definitions

AIRAC: An acronym (aeronautical information regulation and control) signifying a system aimed at advance notification, based on common effective dates, of circumstances that necessitate significant changes in operating practices.

NOTAM: A notice distributed by means of telecommunication containing information concerning the establishment, condition or change in any aeronautical facility, service, procedure or hazard, the timely knowledge of which is essential to personnel concerned with flight operations.

Aerodrome: A defined area on land or water (including any buildings, installations and equipment) intended to be used either wholly or in part for the arrival, departure and surface movement of aircraft.

2.0 Purpose

This document defines the available aeronautical information system promulgation and update.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Tibah Safety & Aerodrome OPS Directorate	Airlines
SANS (AIM) – Aeronautical Information Management	Stake holders & Service Providers
SANS (MED-ATSU) – Air Traffic Services Unit	GACA

4.0 Scope

This SOP dictates the responsibility of originating and approving the promulgation of the PMIA AIS information, the contact details and the details that each NOTAM request must contain.

5.0 Applicable Areas within the Airfield

N.A

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Promulgation of information	NOTAMs and other forms used to disseminate information shall be issued immediately	to avert unsafe hazardous operations	NOTAM and AIP. SANS/AIM	Dissemination of information	- Any Change in Aerodrome Characteristics must be published immediately No delay 100% - Tibah must submit NOTAM request via MED-ATSU 24 Hours in advance (95 %) - Any required update in OEMA must be shared with SANS/AIM 70 Days before the effective date

7.0 Process Description

7.1 According to GACA regulation Part 175 paragraph 175.5 Coordination which is obtained via ICAO Annex 15, Paragraph 2.1.5, and each contracting State shall ensure that formal arrangements are established between the data originators and the Aeronautical Information Service in relation to the timely and complete provision of aeronautical data and aeronautical information.

NOTE: Further details are well explained in the SLA between Tibah and SANS AIM in this regard.

7.2 Aeronautical Data Chain

In order to safely and efficiently operate in the airspace, flight crews require reliable information. To provide them with that information is the purpose of the aeronautical data chain. The aeronautical data chain extends from the original data sources (e.g. surveyors, procedure designers, infrastructure maintenance, ATS units, aerodrome operators, etc.), through Aeronautical Information Management (AIM), via the data integrator and developers of aeronautical applications, collectively known as the data houses, to the end users of the aeronautical information (e.g. flight crews, personnel involved in flight operations, ground personnel, etc). The aeronautical data has to pass through several entities before reaching the end user (please see Section **7.8** in this part - Figure 2).

Within this process chain, the role and responsibility of AIM is to “receive, collate or assemble, edit, format, publish/store and distribute aeronautical data and aeronautical information concerning the entire territory of the State” [ICAO Annex 15, Paragraph 2.2.2] and to ensure compliance with all applicable international standards and national regulations. The AIM publications are collectively referred to as the Integrated Aeronautical Information Package, comprising the Aeronautical Information Publication (AIP), including amendment service, supplements to the AIP, NOTAM and Pre-flight Information Bulletin (PIB), Aeronautical Information Circular (AIC), and checklists and lists of valid NOTAM.

To fulfil its mandate, the AIM is dependent upon a multitude of data originators whose responsibility, in turn, is to provide the original aeronautical data and aeronautical information according to specified requirements in terms of content, quality and timeliness. Fundamentally, as shown in Figure 3 (Section **7.8**), the primary flow of information is from left to right, that is from originator through AIM and the Data Houses to the end user. The smaller arrows pointing from right to left, though, indicate the important feedback mechanism and information flows for clarification and quality check.

7.3 Qualifications of Aerodrome Operator Staff (Tibah Airports OPS)

Data Originator (Tibah) shall ensure that any person carrying out the reporting function has been suitably trained and is qualified as per the following attributes:

- Knowledge of physical characteristics of aerodrome movement area, aerodrome obstacle limitation surfaces, aerodrome markings, lighting and ground signals and essential aerodrome safety equipment;
- Understanding of aerodrome information;
- Understanding of AIS/AIM requirement regarding aerodrome operation;
- Understanding of AIS/AIM requirement regarding aerodrome chart, aircraft parking/docking chart, aerodrome ground movement chart, aerodrome obstacle chart type A, precision approach terrain chart and lighting and marking chart;
- Ability to carry out a serviceability inspection of the aerodrome;
- Knowledge of aerodrome emergency procedures;
- Ability to carry out aerodrome reporting procedures.
- Knowledge of the NOTAM requirement and ability to draft basic NOTAM proposals by following predefined NOTAM templates;
- Knowledge of ICAO Annex 15 (Chapter 5) and Doc.8126 (Chapter 6) provisions regarding the dissemination of NOTAM, as well as Doc.8400, ICAO Abbreviations and Codes; all applicable GACA regulations and
- Knowledge of AIS/AIM processes and, in particular, the AIRAC system (ICAO Annex 15, Chapter 6);

7.4 Coordination

- Tibah (Data Originator) shall ensure and is responsible for notifying SANS/AIM in a timely manner of any issues that warrant promulgation via NOTAM; whenever possible, at least 24 hours' advance notice is desirable, to permit timely completion of the notification process.
- Tibah shall be responsible for the correctness of the information provided to SANS/AIM regarding NOTAM and AIP supplement Request;
- Tibah shall be responsible for the correctness of the information provided to SANS/AIM regarding AIP change request.
- NOTAM requests shall be submitted via MED-ATSU either directly via the NOTAM Terminal, or in case the NOTAM Terminal is not available, then using a signed NOTAM request form to be sent to NOTAM Office (NOF) by FAX or email (scanned copy of the signed form); in either case, it is mandatory to use international standards and abbreviations for the creation of international NOTAM;
- Tibah shall follow their published NOTAM in the daily PIB and inform NOF about any remarks. (Attention to NOTAM "EST");
- SANS/AIM/NOF shall send the daily PIB to Tiabh (Safety and Aerodrome OPS Directorate)
- Official letter signed by Tibah is the method for the notification of changes or submission of new data to be included in the AIP after Airports and Airspace Stander approved this data.
- Tiabh shall designate two (2) persons responsible of NOTAM proposal and coordination with SANS/AIM and approved by Airports and Airspace Standers. The nomination(s) must be notified in writing to SANS/AIM through the SANS/CEO.

Following are Tibah representatives in this regard:

  - Aerodrome Operations in-charge – Safety & Aerodrome OPS Directorate
  - Aerodrome Operations Chief – Safety & Aerodrome OPS Directorate

- Tibah will designate qualified persons responsible of changes in the AIP and coordination with SANS/AIM and approved by Airports and Airspace Standers. The nomination(s) must be notified in writing to SANS/AIM through the SANS/CEO.

Following are Tibah representatives in this regard:

- Aerodrome Operations in-charge – Safety & Aerodrome OPS Directorate
- Aerodrome Maintenance in-charge – Safety & Aerodrome OPS Directorate
- Salah Mulla – Safety Chief

- SANS/AIM shall be responsible for reviewing every request of changes or NOTAM proposal, clarify any issues with representatives, and coordinate with them prior to making edits and/or corrections, as necessary.

7.5 Reporting by NOTAM

- Reporting must be carried out as soon as possible after a reportable occurrence is observed, giving as much detail as is available. Where necessary, subsequent additional detail can be reported as it becomes available. Where applicable, ATC must be advised of the un-serviceability and the intention to initiate a NOTAM.
- Tibah must provide SANS/AIM as much notice as possible of maintenance work which may affect airline operations and/or schedules. Whenever possible, at least 24 hours' advance notice is desirable, to permit timely completion of the notification process
- Tibah is not responsible for filling in the qualifier line (Item Q), unless some entries in Item Q form part of a standard template. All other entries made in Item Q shall be considered as suggestions only. Ultimately, however, the final responsibility of correctness of the NOTAM rests with the NOF.
- A regular serviceability inspection maybe conducted by the Tibah to check any outstanding NOTAM and to check that the contents of the NOTAM, particularly the effective period(s), are still current.
- NOTAM should not remain in force **for more than three months**. If the circumstances to be notified are expected to exceed three months, an AIP Supplement must be published. When a temporary change in eAIP information issued by NOTAM unexpectedly exceeds the three-month period, a new or replacement NOTAM may be issued, but only in those cases where a condition is expected to last for a further period of a maximum of one to two months. If it is expected that the condition will last for a longer period of time, an AIP Supplement must be issued.

7.5.1 Details of each request must contain the following:

- Identification/Location (Airport)
- Date, time of start (GMT) example, date-month-time: 22-3-500Z = 22 March 0500Z
- Date, time of finish (GMT)
- Time schedule (If appropriate)
- Text of NOTAM (i.e. what is happening in plain word)

7.5.2 Example of information to be published by NOTAM

A NOTAM shall be originated and issued concerning the following information (not limited to):

- Establishment, closure or significant changes in operation of aerodrome(s)/heliport(s) or runways;
- Establishment, withdrawal and significant changes in operation of aeronautical services (AGA, AIS, ATS, CNS, MET, SAR, etc.);
- Establishment, withdrawal or significant changes made to visual aids;
- Interruption of or return to operation of major components of aerodrome lighting systems;
- Occurrence or correction of major defects or impediments in the maneuvering area;
- Changes to and limitations on availability of fuel, oil and oxygen;
- Major changes to search and rescue facilities and services available;
- Establishment, withdrawal or return to operation of hazard beacons marking obstacles to air navigation;

- Erecting or removal of, or changes to, obstacles to air navigation in the take-off/climb, missed approach, approach areas and runway strip;
- Presence or removal of, or significant changes in, hazardous conditions due to snow, slush, ice, radioactive material, toxic chemicals, volcanic ash deposition or water on the movement area;

7.5.3 Example of information to not be published by NOTAM

The following information shall not be notified by NOTAM:

- Routine maintenance work on aprons and taxiways which does not affect the safe movement of aircraft;
- Runway marking work, when aircraft operations can safely be conducted on other available runways, or the equipment used can be removed when necessary;
- Temporary obstructions in the vicinity of aerodromes/heliports that do not affect the safe operation of aircraft;
- Partial failure of aerodrome/heliport lighting facilities where such failure does not directly affect aircraft operations;
- The lack of apron marshalling services and road traffic control;
- The unserviceability of location, destination or other instruction signs on the aerodrome movement area;
- Other information of a similar temporary nature.

7.6 Activities Outside Aerodrome

The reporting function must also include monitoring activities outside but in the vicinity of the aerodrome which may result in hazards to aircraft operations. This includes:

- Developments which may become obstacles;
- Land planning and use which may attract birds; and
- Installation of lighting systems which may create confusion to pilots at night.

7.7 AIRAC System

The AIRAC system governs the publication of aeronautical information and has been defined as per ICAO, Annex 15, and chapter 6. SANS/AIM of Saudi Arabia has scheduled publications that fall under the AIRAC system to be made every two (2) AIRAC dates. An AIRAC flow chart is published by SANS/AIM at the beginning of each year. This flow chart shows the AIRAC cycle number, information cut-off date, posting date (mailing) and effective date. It is noted that all information must be submitted to SANS/AIM at least 84 days (information cut-off date) in advance of the target AIRAC effective date. Tibah must initiate AIP/AIRAC Amendments for permanent changes or supplements to reflect temporary changes (e.g. closure of TWY more than 3 months).
Official letter shall be used for the submission of all information proposed to be included in the AIP and AIP Supplement. No other means of notification will be accepted by SANS.

7.7.1 Example of information to be notified by AIRAC (reference; ICAO Annex 15 Appendix 4) and to not be published by NOTAM

7.7.1.1 PART 1

The establishment and withdrawal of, and premeditated significant changes (including operational trials) to:

- Runways and SWYs.
- Taxiways and aprons.
- Aerodrome ground operating procedures (including low visibility procedures).
- Approach and runway lighting.
- Aerodrome operating minima if published.

7.7.1.2 PART 2

The establishment and withdrawal of, and premeditated significant changes to:

- Position, height and lighting of navigational obstacles.
- Hours of service: aerodromes, facilities and services.
- Customs, immigration and health services.

7.7.1.3 PART 3

The establishment of, and premeditated major changes to:

- New aerodromes for international IFR operations.
- New runways for IFR operations at international aerodromes.

NOTAM
MESSAGE FORM

Priority Indicator	GG	→
Address	OEJD YNYX	
		<<=
Date and time of filing	XXXX XX XX 00:00 Z	→
Originator's Indicator	OEMA ZX	
Massage Series, Number and Identifier (see 5.3.4.2, 5.4.1 and 5.4.1.1 of this Annex)		
NOTAM Containing new information	NOTAM N	
NOTAM replacing AIP information	NOTAM R	
NOTAM canceling a previous NOTAM	NOTAM C	
Identification of location indicator in which the facility, airspace or condition reported on is located	A) OEMA	→
Period of Validity		
From (WIE or date – time – group)	B) XX XX XX 0000 Z	→
To (PERM or UFN plus APRX DUR or date – time - group)	C) XX XX XX 0000 Z	→
Time Schedule (if applicable)	D) FROM 0000 TO 0000	-
Text of NOTAM (NOTAM code, amplified in compliance with 5.5.2)		
E) NOTAM PHRASE/DESCRIPTION		<<=
Lower and Upper (applies to Navigation Warning Only		
Lower Limit	F)	→
Upper Limit	G)	
Signature MED-ATSU CHIEF		TIBAH OPERATIONS

PCA / at cats-701

Figure 1 NOTAM Message Form

7.8 Process Flowchart

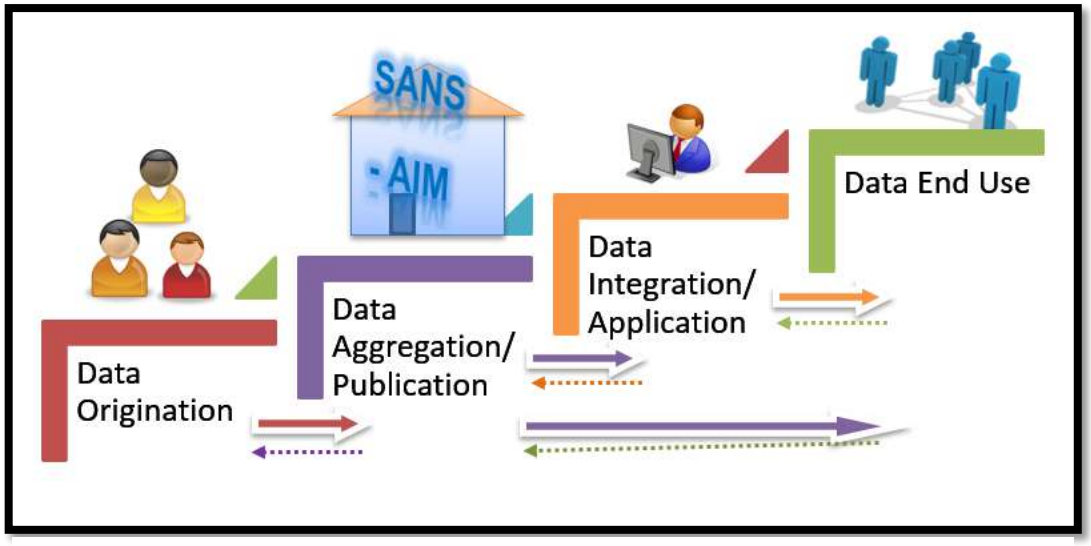


Figure 2 Aeronautical Data and Information Process Chain

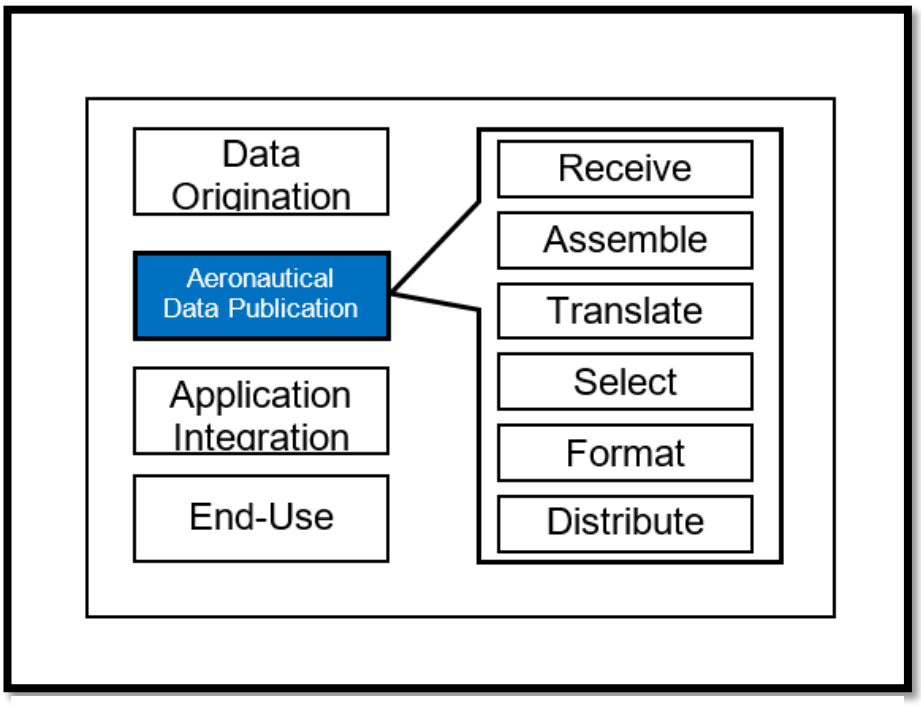


Figure 3 AIM Related Processes

8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

MONITORING OBSTACLE LIMITATION SURFACES

Document Number:	TIBAH-AIROPS-SOP-05
Document Owner:	Safety and Aerodrome Operations Directorate
Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P.			

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	New GACAR version (GACAR 139-7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

Overseeing obstacle limitation studies in the vicinity of PMIA including managing development applications, is responsibility of Tibah Safety & Aerodrome operations directorate. In this document, the procedures for monitoring the obstacle limitation surfaces is explained.
Note: Further details are well detailed in the SLA between Tibah and SANS AIM.

1.1 Regulation and Reference Documents

- PMIA Aerodrome Manual
- GACAR 139 – Subpart (H)
- ICAO Annex 14 (Part 4)
- ICAO Doc. 9137 – Part No.6

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.5 and 8.1
- ISO 14001:2015 Clauses 7.5

2.0 Purpose

This document defines the procedure for monitoring the obstacle limitation surfaces

3.0 Relevant Stakeholders

Direct Use	Aware Of
Tibah Safety & Aerodrome OPS Directorate	Airlines and Stakeholders
GACA Airport Authority	GACA – Aviation Standards Sector
	SANS

4.0 Scope

This SOP dictates the procedures of monitoring the obstacle limitation surfaces at PMIA. It explains the responsibilities for monitoring the OLS and the method for inspection.

Tibah Safety and Aerodrome Operation directorate shall conduct minimum weekly obstacle control inside the aerodrome boundaries. An inspection of the vicinity of the airport (15 KM from the runway strip end and 6.2 KM from the center line of the runways) will be carried out quarterly by Tibah Safety and Aerodrome Operation directorate to identify any infringements of the OLS.

Moreover, Tibah (Aerodrome Operator) and SANS- Aeronautical Information Management have agreed that Tibah must conduct an obstacle full survey every Five (5) years to check/monitor the obstacle database and add any missing and new information.

5.0 Applicable Areas within the Airfield

Reserved

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Weekly obstacle control	Done by Tibah Aerodrome OPS team inside the airport boundaries	to identify any infringements of the OLS	Report to GACA PMIA Authority and SANS/AIM	airspace around aerodromes to be maintained free from obstacles	- Once a week (Min)
Quarterly obstacle control	Done by Tibah Safety & Aerodrome Directorate in the vicinity of the airport (15 KM from the runway strip end and 6.2 KM from the center line of the runways)	To identify any infringements of the OLS	Report to GACA PMIA Authority and SANS/AIM	airspace around aerodromes to be maintained free from obstacles	- Quarterly
Annual Obstacle Survey (By Third Party)	A new obstacle survey will be conducted every 5 Years due to the high rate of development in the vicinity of the airport	to check the obstacle database and add any missing and new information	Inform GACA PMIA Authority and SANS/Jeddah	Take appropriate steps to publish this information in the AIP	- Once every 5 Years

7.0 Process Description

7.1 General

The objectives of the specifications in this document is to define the airspace around aerodromes to be maintained free from obstacles so as to permit the intended aeroplane operations at the aerodromes to be conducted safely and to prevent the aerodromes from becoming unusable by the growth of obstacles around the aerodromes. This is achieved by establishing a series of obstacle limitation surfaces that define the limits to which objects may project into the airspace.

7.1.1 The following obstacle limitation surfaces shall be established for a precision approach runway category I (RWY 18/36):

- Conical surface;
- Inner horizontal surface;
- Approach surface; and
- Transitional surfaces
- Take-off climb surface

7.1.2 The following obstacle limitation surfaces shall be established for a precision approach runway category II (RWY 17/35):

- Conical surface;
- Inner horizontal surface;
- Approach surface and inner approach surface;
- Transitional surfaces;
- Inner transitional surfaces; and
- Balked landing surface
- Take-off climb surface

7.2 Weekly Obstacle Control

- The weekly obstacle control/inspection shall be conducted by Aerodrome operation staff within process of movement area inspection.
- Other departments may participate in this inspection upon official invitation by Safety and Aerodrome OPS director such as RST members, Airlines representatives, ODM, AST Members, MED-ATSU personnel … etc.
- Inspectors must inspect all areas within aerodrome movement boundaries and will focus on objects/buildings that may penetrate the OLS in this area.
- Following this inspection, Movement area inspection form/report (*Doc # TIBAH-Airside OPS-FRM-02*) must be completed so it will include any object/buildings that may penetrate the OLS within movement area boundaries.
- Following the inspection, the report must be shared with Safety & Aerodrome OPS director.
- In case if any object/building found penetrating the OLS, Immediately MED-ATSU will be informed and Risk assessment will be conducted in coordination with Tibah Safety & Quality Assurance department in order to assess the related risks and to apply effective safety controls to mitigate the related risks to an acceptable level.
- The Risk Assessment process must be conducted in accordance with Tibah SMS standards.
- Inspectors must report any obstacles to MED-ATSU and ODM immediately.

7.3 Quarterly Obstacle Control

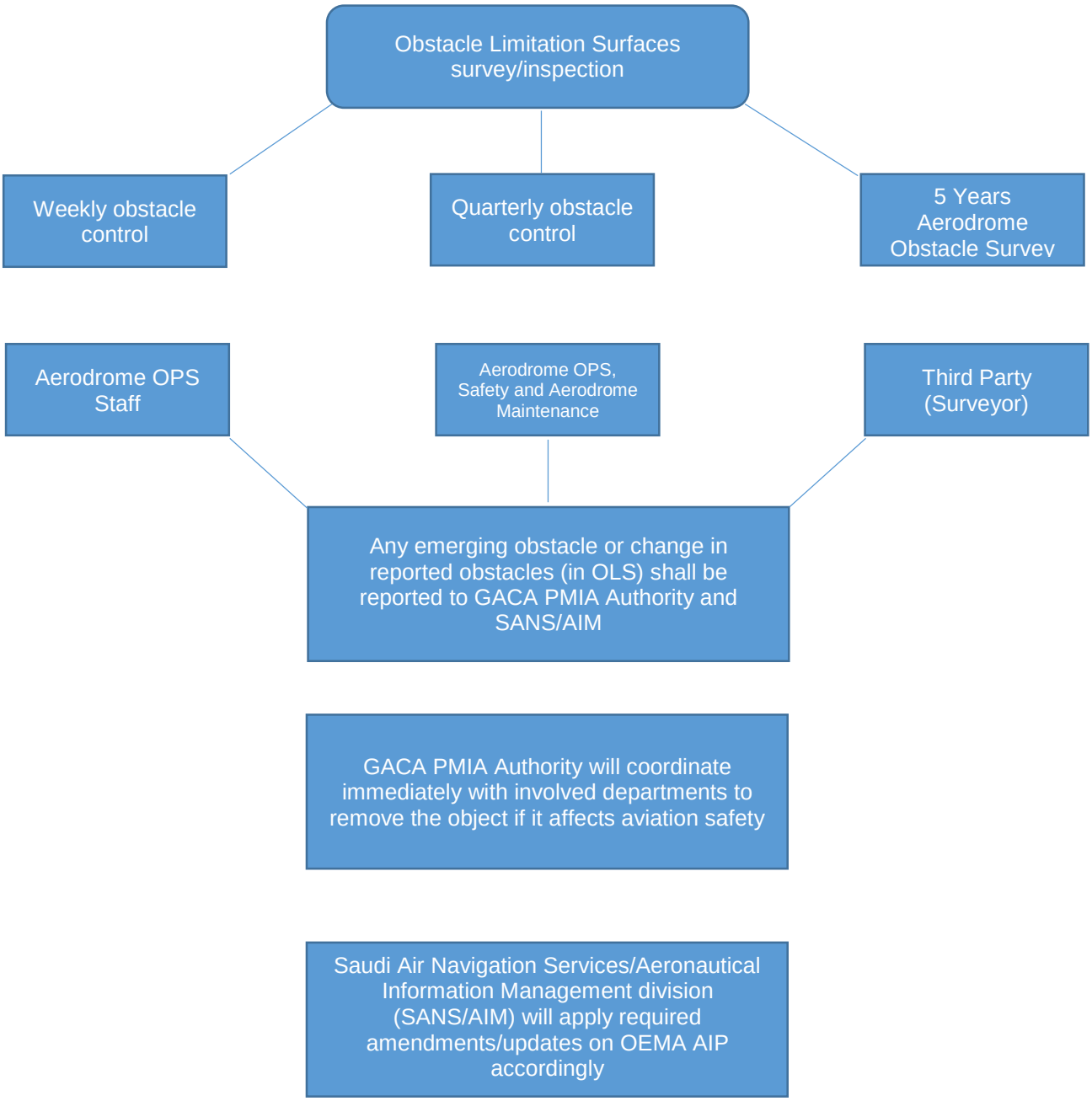
- The Quarterly obstacle control/inspection shall be conducted by Safety & Aerodrome Directorate (Aerodrome OPS in-charge, Aerodrome Compliance & Aerodrome Maintenance in-charge).
- Other departments may participate in this inspection upon official invitation by Safety and Aerodrome OPS director such as RST members, Airlines representatives, ODM, AST Members, MED-ATSU personnel … etc.
- In this inspection, the vicinity of the aerodrome (15 KM from the runway strip end and 6.2 KM from the center line of the runways) will be inspected ensuring no obstacles penetrating the OLS.
- Following this inspection, inspectors will prepare MOM and will include any object/building observed penetrating the OLS (Location, Coordinated, Elevation and other related data must be included in the MOM).
- Following the inspection, MOM must be shared with Safety & Aerodrome OPS director.
- Any emerging obstacle or change in reported obstacles (in OLS) shall be reported to GACA PMIA Authority and SANS.
- Upon reporting any emerging obstacle or change in reported obstacles to GACA airport authority, GACA Authority director shall coordinate with related governmental agencies in order to remove the detected obstacle immediately if it affects aviation safety.
- Upon reporting any emerging obstacle or change in reported obstacles, the case must be reported to SANS/AIM who will update AIP accordingly if required.

- A letter of agreement (08/05/1437 AH) was agreed and signed by the Municipality of Medina so no any construction will be commenced within aerodrome vicinity unless approved by the Municipality of Medina.
- In order to control any new development in or within aerodrome vicinity, constructors/project requestor must submit official request to PMIA and must coordinate with Aerodrome Maintenance In-Charge and Airport Authority.
- Airport Authority upon receive any request will immediately coordinate with Tibah concerned department in order to obtain required approval/feedback.

7.4 Aerodrome Obstacle Survey

- Detailed procedures in Aerodrome obstacles survey are well explained in the SLA between Tibah and SANS AIM.
- A new obstacle survey will be conducted every (5) years due to the development in the vicinity of the airport to check the obstacle database and add any missing and new information.
- Tibah Airports Operation Company (Safety & Aerodrome OPS directorate) is responsible to contract with a competent third party (Surveyor) to conduct the OLS survey.
- As required by GACA (reference letter 256/5/9581 Dated 05/12/1437H), Airport Operator is responsible to provide SANS/AIM with a complete report of aerodrome and obstacle survey every 5 years.
- Aerodrome and obstacle survey report must be shared with GACA – Aviation Standards and SANS/AIM.
- Aerodrome and obstacle survey deliverable must contain the following as a minimum:
    - Detailed report containing WGS-84 Implementation, Aerodrome Navigation Facilities Survey and Aerodrome Obstruction Surveys complying with GACA and ICAO requirements.
    - Surveys must be carried out in compliance with ICAO Doc 9674, Annex 14 and Annex 15. The survey areas must be (as minimum) Aerodrome Plan, Annex 14 Obstacle Limitation Surfaces, ICAO Type A Chart area, Precision Approach Terrain Charts (PATC) and Annex 15 eTOD Areas 2, 3 and 4.
    - The report must contain all the relevant documentation for the geodetic connection of the Airport Control Network to the WGS84/ITRF network and the survey of the aerodrome facilities and relevant obstacles relative to this network.
    - Full listing of aerodrome facilities, the obstacle analysis for each survey area, a complete list of all surveyed obstructions in both WGS-84 and UTM37 coordinate systems. Associated drawings in AutoCAD and PDF format.
    - The digital data consists of a master listing of all objects surveyed and a listing of all aerodrome facilities. Both listings are CRC wrapped.
    - Annex 15 eTOD Area 2, 3 and 4 obstacles and terrain are provided in separate files with associated attribute files.
    - All obstacles penetrating OLS and OFZ.
    - Necessary aerodrome data and obstacle data ready for publication as per ICAO annex 15 requirements
    - All digital data should be provided in Microsoft Excel Worksheet and CRC format.
- Upon reporting any emerging obstacle or change in reported obstacles to GACA Airport Authority, GACA Authority director shall coordinate with related Governmental agencies in order to remove the detected obstacle immediately.
- Upon reporting any emerging obstacle or change in reported obstacles to SANS who will update OEMA AIP accordingly.

7.8 Process Flowchart



8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

AERODROME SAFEGUARDING

Document Number:	TIBAH-AIROPS-SOP-06
Document Owner:	Safety and Aerodrome Operations Directorate
Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	New GACAR version (GACAR 139-7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

Aerodrome Safeguarding is achieved by a process of checking proposed developments as to:

- Protect blocks or air through which aircraft fly, by preventing penetration of surfaces created to identify their lower limits.
- Protect the integrity of radar and other electronic aid to air navigation, by preventing reflections and diffraction of the radio signals involved.
- Protect visual aids, such as Approach and Runway lighting, by preventing them from being obscured, or preventing the installation of other lights which could be confused for them.
- Avoid any increase in the risk to aircraft of a bird-strike by preventing an increase in hazardous bird species in the vicinity of the aerodrome and, whenever the opportunity arises, to reduce the level of risk.

1.1 Regulation and Reference Documents

- PMIA Aerodrome Manual
- LOA between Madinah Municipality and PMIA (Dated on 05/08/1437 AH)
- GACAR 139 & 175
- ICAO annex (14) part No.4
- ICAO Document No. 9137 – Part No.6

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.5; 8.1 and 8.5
- ISO 14001:2015 Clauses 7.5

2.0 Purpose

This document defines the procedure for controlling new developments and mitigate risks of birds within the vicinity of the aerodrome.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Tibah Safety & Aerodrome OPS Directorate	Airlines
GACA Airport Authority	GACA – Aviation Standards Sector
	SANS – Aeronautical Information Management (AIM)

4.0 Scope

This SOP dictates the procedures of controlling new developments and mitigate wildlife hazards within the vicinity of the aerodrome. It explains in details the steps that should be taken when new developments are taking place in the vicinity of the aerodrome as well as the reportable party that should take actions regarding these developments.

5.0 Applicable Areas within the Airfield

N.A

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Conduct Aerodrome Safeguarding inspection	Safety & Aerodrome OPS directorate will conduct the inspection periodically	To check the obstacle database and add any missing and new information as well as to ensure area free from any hazard that may affect aviation safety.	MOM and SMS Pro. system	Airspace around aerodromes to be maintained free from obstacles or any other hazards	Inspection conducted Quarterly

7.0 Process Description

7.1 Planning Applications and the Safeguarding Process

MED-Municipality and other governmental authorities are advised of PMIA's safeguarded area, and then consult with GACA (Aviation Standards Sector) through PMIA GACA authority about any Planning Application within this area should it meet certain criteria relating to the height and location of the proposed development. In addition, any proposed developments with bird attractant properties within Aerodrome vicinity will also be referred for consultation.
Although planning applications are subject to the Safeguarding Process, this does not mean that they are automatically objected to; the process is in place to facilitate a detailed assessment. To enable an accurate assessment of a proposed development, GACA and PMIA authorities require certain information about the proposals to be provided, namely:

- The exact location
- The elevation of the site
- The layout, dimensions and, particularly, heights of the proposed development.
- Other information as may be necessary, for example, landscaping details to enable the bird-strike potential to be assessed, or the types of cladding materials proposed so that the potential for radar reflection can be modelled.

7.2 Physical Safeguarding

Physical safeguarding refers to the assessment of height of a proposed object, structure or building, to ensure it does not physically infringe the airport's Obstacle Limitation Surfaces (OLS). The OLS forms a complex set of 3-Dimensional surfaces, which extend upwards and outwards from the runway and are designed to protect the airspace in and around the airfield from obstacles for flight safety.
The OLS completely surround the aerodrome, but those surfaces aligned with the runway used to protect aircraft landing or taking off, can be more limiting than those surrounding the rest of the aerodrome, particularly as you get close to the aerodrome. Details of the OLS can be found in GACAR 139-Subpart (H).
Aerodromes are required to take all reasonable steps to ensure the aerodrome and its airspace are safe for use by aircraft. It is for this reason that accurate information on the location and height of a proposed development within the vicinity of an aerodrome is required. The height of vehicles is taken

into account when evaluating roads and parking areas within proposed developments, unless any lighting involved is taller.

7.3 Technical Safeguarding

Technical safeguarding is the protection of Radar and other Electronic Navigational Aids against interference or disruption by obstacles or structures in the area.
In low visibility conditions, pilots are entirely dependent on the accuracy of the information displayed on the instruments in the cockpit to navigate and land their aircraft. Similarly, air traffic controllers rely on the accuracy of the information displayed on the radar screens in front of them to maintain safe separation between aircraft. It is essential, therefore, that this information has not been distorted by interference to the radio signals involved used in the operation of the navigation aids.

The Safeguarding Process is used to protect installations from:

- Radio frequency interference from other sources of radio emissions.
- Radio signal reflections or diffractions caused by physical objects.

7.4 Lighting around Aerodrome

All proposed lighting must be considered with regard to its potential to provide a distraction to air crew operating in and out of the airport. At night, and in periods of poor visibility during the day, pilots rely on the particular pattern of the aeronautical ground lights, principally the approach and runway lights, to assist in aligning them with the runway and to touch down at the correct point. Therefore, other lights should not be displayed which could distract or confuse them by being mistaken for aeronautical ground lights. In particular, the following need to be taken into account when proposing new street or other lighting in the vicinity of the aerodrome:

- Where the intensity of the lights, whether steady or flashing (i.e. strobe lighting) could cause glare in the direction of an aircraft approaching to land or take off.
- Where the colour of the light could cause it to be mistaken for an aeronautical ground light.
- Where, when viewed from the air, the lights make a pattern (i.e. a row of street lights) similar to an approach or runway lighting system.
- Where the overall illumination detracts from the effectiveness of the approach and runway lighting, particularly during periods of low visibility.
- Where the aeronautical ground lights are obscured from the pilot's view.
- Where lights 'spill' above the horizontal and cause glare to the pilots.

No strobe, laser or flashing lights should be included in a lighting scheme on or around the airport's vicinity. The airport will assess each application against its location, and potential to cause interference with lighting

7.5 Lighting Obstacles

The addition of warning lights to obstacles is intended to indicate the presence of hazards to aircraft operating visually at low level while taking off or landing at an aerodrome, particularly at night or in poor daylight visibility. The Safeguarding Process will determine whether a proposed development requires to be fitted one or more obstacle lights. This is applicable to temporary obstacles, such as cranes, as well as to permanent structures.

7.6 Signage

As with lighting, all proposed signage must be assessed to ensure it causes no distraction to Pilots. This is in particular reference to illuminated signage on airport, however please bear in mind that any signage erected on top of a proposed building, would need to be re-assessed due to the increase in height.

For signage situated on or close to the runway, e.g. hangar/warehouse signage, the airport may wish to run an impact test prior to full installation. Should this be deemed necessary, the developer will be asked to liaise with the airport when initially testing the signage to determine that there will be no visual effects on full installation.

7.7 Cranage & Other High Level Construction Equipment

The methods and equipment (Cranes and tall equipment) to be employed during any construction within the aerodrome area or its vicinity may also need to be agreed and consulted with PMIA (Aerodrome Maintenance In-charge) at least one working day ahead.

Where a crane is assessed as being close to the airport OLS, there are several mitigation measures in place that may be required before the carnage is allowed to proceed. This includes, but is not limited to:

- The provisions of obstacle lighting Limit to the maximum operating height of crane.
- Restrictions on crane operating times.
- Restrictions on crane operating height.
- Restrictions during poor visibility (whether caused by fog or low cloud).

7.8 Mobile Crane Operation Authorization

Prior commencing any mobile crane operation in the aerodrome (PMIA) or within aerodrome vicinity, the mobile crane operation requestor must consult and coordinate with PMIA (Aerodrome Maintenance In-Charge – Safety and Aerodrome operation directorate) at least one working day ahead in order to assess the request and provide the required permit/authorization ensuring safe aviation operation at PMIA.

The following details will be required and must be provided by crane operation requestor at least one working day ahead to the aerodrome Maintenance In-Charge:

- The exact location of the crane OPS,
- The maximum operating height in meters and ground level elevation if possible from sea level
- The radius of the jib/boom of a fixed crane/the area of operation of a mobile crane.
- The intended dates and times of operation.
- Applicant’s name and address.

7.9 Obstacle Lights

Where it is deemed necessary that obstacle lights are required, the characteristics for the light(s) would be specified. Normally, they would be steady red lights of either 200 or 2000 candelas, depending on height, visible from all directions and located on the highest point of the crane/equipment. For a tower crane, they should be provided on top of the tower and at the end of the jib. They should be illuminated at all times. Unserviceable lamps should be replaced as soon as possible after failure and in any event within 24 hours. The 24 hour requirement can be relaxed if pairs of lights are fitted and one is still working.

All development off airport should follow MED-Municipality guidelines, Aerodrome Maintenance In-Charge and GACA Airport authority must be consulted.
Any development on-site (within PMIA boundaries) must be referred to Aerodrome Maintenance In-Charge and Tibah Technical Team for assessment.

7.10 Aerodrome Safeguarding Steps

- Members from Safety and Aerodrome operation directorate will conduct aerodrome safeguarding inspection quarterly.
- During the inspection, the team will cover the area within 15 km beyond Threshold of each RWY and 6.2 km around the airport.

- If any hazard observed by the safeguarding team, then the hazard must be recorded in SMS Pro system and must be shared with PMIA authority in order to mitigate the risks.

- If an obstacle has been identified through the (5) year's survey or has been allowed by GACA concerned department to be constructed or installed after receiving a request from the GACA PMIA Airport Authority then:
  - Tibah Safety & Aerodrome OPS Directorate will inform GACA PMIA Authority and SANS/Jeddah to take appropriate steps to publish this information in the AIP. This may include issuing a NOTAM or changing aeronautical charts, reviewing approach charts and other information.

- In case any obstacle is affecting the airport operations then:
  - Tibah Safety & Aerodrome OPS Directorate should inform officially GACA Airport Authority in order to address Madinah Municipality to initiate a review of mitigation measures that can be used. These may include lowering, removing or marking and lighting the obstacle as required by regulations.

- LOA between PMIA and MED-Municipality:
  - An LOA has been agreed and signed by PMIA authority and MED-Municipality in order to control the development within PMIA vicinity (Dated on 08/05/1437 AH).

7.11 Process Flowchart

N/A

8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

AERODROME INSPECTION

Document Number:	TIBAH-AIROPS-SOP-07
Document Owner:	Safety and Aerodrome Operations Directorate
Supersedes:	Previous Version of this Document
Effective Date:	1 January 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	New GACAR version (GACAR 139-7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

In this document, the procedures for the inspection of the aerodrome movement area at PMIA are specified. It is the responsibility of Tibah Safety and Aerodrome Operation directorate to conduct the daily inspections of the movement area.

The condition of the movement area and the operational status of related facilities must be monitored and reports on matters of operational significance affecting aircraft, and aerodrome operations must be provided in order to take appropriate action, particularly in respect of the following:

- Construction or maintenance work;
- Rough or broken surfaces on a runway, a taxiway or an apron;
- Snow, slush, ice or frost on a runway, a taxiway or an apron;
- Water on a runway, a taxiway or an apron;
- Other temporary hazards, including parked aircraft;
- Failure or irregular operation of part or all of the aerodrome visual aids; and
- Failure of the normal or secondary power supply

Safety & Aerodrome operation personnel who conduct the movement area inspection must be well trained and competent.

1.1 Regulation and Reference Documents

- PMIA Aerodrome Manual
- GACAR 139.217

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.5 and 8.1
- ISO 14001:2015 Clauses 7.5

2.0 Purpose

This document defines the procedure for the inspection of the aerodrome movement area at PMIA.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Tibah Safety & Aerodrome OPS Directorate	Tibah ODM
	Tibah AOC
	MED-ATSU (SANS)
	Tibah Technical Directorate

4.0 Scope

This SOP dictates the operational procedures of inspecting the aerodrome movement area. It explains in details the method used for inspection, the reports that should be submitted at the end of each inspection, the frequency of inspections and unpaved and paved areas inspections.

5.0 Applicable Areas within the Airfield

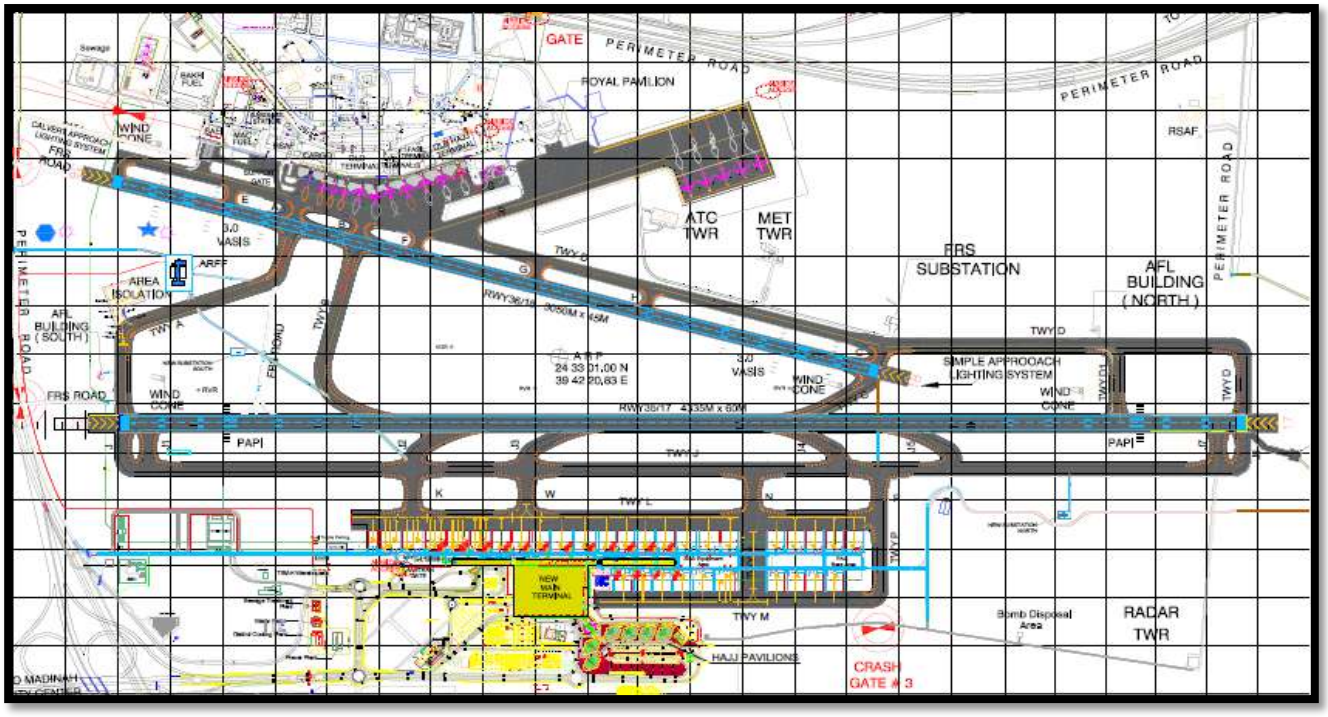


Figure 1 Movement Area

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Maneuvering area Inspection	Area includes RWYs and TWYs	Aerodrome is serviceable and safe	If a dangerous unserviceability/Failure that may affect ACFT operations is discovered, the case should be immediately reported to Technical (CMMS) as well as ATC and AOC must notified	Safe ACFT operation	Maneuvering Ares inspection must be conducted minimum 4 times/Day
Apron Inspection	Area includes Apron, ACFT stand … etc.				Apron daily inspection must be conducted minimum 3 times/Day

7.0 Process Description

7.1 Maneuvering Area Inspection

- **Maneuvering area** is that part of an aerodrome to be used by aircraft for takeoff, landing, and taxiing, excluding aprons and areas designed for maintenance/Handling of an aircraft
- Daily inspection of the maneuvering area is responsibility of Tibah Safety & Aerodrome operation directorate (Aerodrome OPS Division).
- Well trained and competent staff only should conduct the maneuvering area inspection (Training must cover following areas; Wildlife prevention, Radio Communication, Airside OPS & Safety training and RWY protection).
- Before starting Maneuvering area inspection, Aerodrome vehicle must be inspected (vehicle workaround inspection must be conducted) and VHF radio must be tested in coordination with ATC controllers.
- Before starting Maneuvering area inspection, clearance must be obtained from ATC.
- It is fundamental for the staff using the vehicle to remain in active radio contact with the ATC (Air Traffic Control) during the whole process of Maneuvering area inspection.
- All inspections are carried out on ON/OFF basis (the inspection vehicle may be required to enter or leave the runway at short notice from ATC). The inspection vehicle will maintain a listening watch on **121.9 MHz** during any runway inspection.
- Each inspection will be performed using vehicles and performed at slow speed not exceeding 30 km/h.
- Paved and non-paved areas should be inspected during conducting maneuvering area inspection.
- Runway inspection should normally be carried out in the direction opposite to that being used for landing/taking off for safety reasons.
- Each inspection will be carried out on both sides of the centerline of inspected runway or taxiway.
- If, during an inspection, the ATC asks the inspection team to leave/vacate the runway, the vehicle must leave the runway at once, then inform the ATC of its having left the runway, and remain outside the runway until the team receives permission to go back to the runway.

Note – Inspectors must never leave a runway by penetrating into a sensitive or critical ILS area.

- On leaving the runway or taxiway, ATC must be advised when the inspection vehicle is clear of the runway strip or taxiway strip.
- After each inspection, Inspection form/report shall be completed, filed and shared with following: (Safety & Aerodrome OPS Director, Operation Duty Manger (ODM) Aerodrome Maintenance In-Charge, Safety & Quality Assurance in-charge, Aerodrome OPS In-Charge and ARFF In-Charge and any other department whenever required)
- Inspection start and end times must be noted and recorded in the Inspection form/report.
- Upon completion of each inspection where deficiencies, failures or hazardous situation are noted, ATC must be informed and Maintenance Work Order shall be initiated and expedited by Maintenance Department (CMMS). Work Order number will be retained for follow-up purposes to ensure that the repairs have been satisfactorily performed.

- Four Maneuvering area inspections are required daily, as described below:

1. **Dawn Inspection:** A detailed surface inspection covering the full width of all runways, taxiways and aprons. ODM shall attend Dawn Inspection.

2. **Morning Inspection:** A detailed surface inspection covering all areas of dawn inspections as well as ILS Sensitive/Critical Areas.

3. **Afternoon Inspection:** Using same procedure as the morning inspection

4. **Dusk Inspection:** Using same procedure as the morning inspection as well as airfield lighting inspection.

7.1.1 Water on a Runway

Whenever water is present on a runway, a description of the runway surface conditions must be made available using the following terms:

DAMP — the surface shows a change of color due to moisture.
WET — the surface is soaked but there is no standing water.
STANDING WATER — for aeroplane performance purposes, a runway where more than 25 per cent of the runway surface area (whether in isolated areas or not) within the required length and width being used is covered by water more than 3 mm deep.

7.2 Apron Inspection

- Apron means that part of an airport, other than the maneuvering area (by ICAO) intended to accommodate the loading and unloading of passengers and cargo, the refueling, servicing, maintenance and parking of aircraft, and any movement of aircraft, vehicles and pedestrians necessary for such purposes
- Daily inspection of the Apron areas is responsibility of Tibah Safety & Aerodrome operation directorate (Aerodrome OPS division).
- Well trained and competent staff only should conduct the Apron inspection (minimum; Wildlife and Airside Safety training must be achieved).
- Each inspection will be performed using vehicles and performed at slow speed (Max. 25 km/h).
- Paved and non-paved areas should be inspected during conducting Apron area inspections.
- After each inspection, Inspection form/report shall be completed, filed and shared with following: (Safety & Aerodrome OPS Director, Operation Duty Manger (ODM) Aerodrome Maintenance In-Charge, Safety & Quality Assurance in-charge, Aerodrome OPS In-Charge and ARFF In-Charge and any other department whenever required).
- Inspection start and end times must be noted and recorded in the related Inspection form/report.
- Upon completion of each inspection where deficiencies, failures or hazardous situation are noted, a Maintenance Work Order shall be initiated and expedited by Maintenance Department (CMMS). Work Order number will be retained for follow-up purposes to ensure that the repairs have been satisfactorily performed.
- Minimum (3) Apron inspections are required daily.

7.3 Paved Area Inspection

Paved area inspection will cover following points:

- Existence of FOD, accumulation of rubber
- Cracks in or damage to paved surfaces
- Surface Drainage, areas which are submerged after rain
- Damage to lighting facilities (above ground airfield lighting fixtures and apron flood lights)
- Condition of markings and signs
- Condition of in-pavement lights (runway and taxiway center lights, stop bars etc.)
- Condition of approach lights and threshold lights
- Cleanness of unauthorized obstacles (any obstacle other than NAVAIDs such us working trucks, wrongfully parked equipment etc.) at the ends of runways
- Vegetation on paved surfaces

7.4 Unpaved Area Inspection

Unpaved Area Inspection will cover following points:

- The general state of ground cover vegetation
- Any developing sinkage or settlement (any holes/ditches)
- Unreported aircraft wheel tracks
- Condition of signs
- Any noticeable difference between the height of unpaved area and the paved area.

7.5 Reporting

If a dangerous unserviceability is discovered during a runway inspection (damaged pavement, fading centerline marking, broken airfield lighting etc.) the fact must be reported to ATC and Tibah Technical department (CMMS) immediately. (Aerodrome Maintenance In-Charge must be involved).
CMMS team must issue work order and must instruct related technical department to respond and correct the situation. Moreover, any observation that may affect ACFT operation and safety must be reported via SMS Pro. System (www.pmiasafety.com).
ODM and AOC must be reported by Safety & Aerodrome OPS directorate also if aerodrome safety and operation is affected.

NOTE: Any hazardous condition/Abnormal operation must be well recorded in daily logbook.

	Tibah Airports Operation Company Standard Operation Procedure	Doc # TIBAH-Airside OPS-FRM-02 Revision # 05 / Date: 09-Dec-2015
	MANOUVERING AREA DAILY CHECKLIST	Page # 1 of 1

Date		**Time**	From:	To		(Local Time)	
INSPECTORS NAMES		**INSPECTION TIME:**					
1		DAWN	MORNING	AFTERNOON	DUSK	OTHER	
2							
3							

INSPECTION AREAS			
PAVED AREAS		**STATUS**	**REMARKS**
1	Existence of Foreign Object		
2	Cracks or Damage		
3	Condition of Surface Drainage		
4	Condition of Markings on RWY Touch Down Zones		
5	Existence of any Abandoned Obstacles in the Safety Zone at the End of the Runways		
	Paved surface sweeping process		
UNPAVED AREAS (Runway Strip/Taxiway Strip)		**STATUS**	**REMARKS**
1	Wheel tracks		
2	Condition of Surface Drainage		
3	Condition of Surface/Turfed Areas		
4	Cracks and difference between Levels of Paved Areas		
5	Obstacles, Whether Retained or Not		
6	ILS critical and sensitive areas		
VISUAL AIDS		**STATUS**	**REMARKS**
1	Aerodrome Rotating Beacon		
2	Runway Markings		
3	Taxiway Markings		
4	Runway/Taxiway Signs		
5	Runway Lights (Centreline , Touch Down Zone, Edge, End and Threshold)		
6	Taxiway Lights (Centreline, Edge, Stop Bars and Wig wags)		
7	Lights of Wind Direction Indicator		
8	PAPIs/VASIS		
9	Obstacles Lights		
OTHERS			

S:	Satisfactory	**U:**	Unsatisfactory	**N/A:**	Not Applicable	**N/I:**	Not Inspected

Aerodrome Duty Officer:

Signature:

Figure 2 Movement Area Inspection Form

	Tibah Airports Operation Company Standard Operation Procedure	Doc # TIBAH-Airside OPS-FRM-01 Revision # 05 / Date: 09-Dec-2015
	APRON DAILY INSPECTION CHECKLIST	Page # 1 of 1

DATE:		**TIME:**	From:	To	(Local Time)	
1		**Inspected Areas:**	West Apron	East Apron	Main Service Road	Others
2						

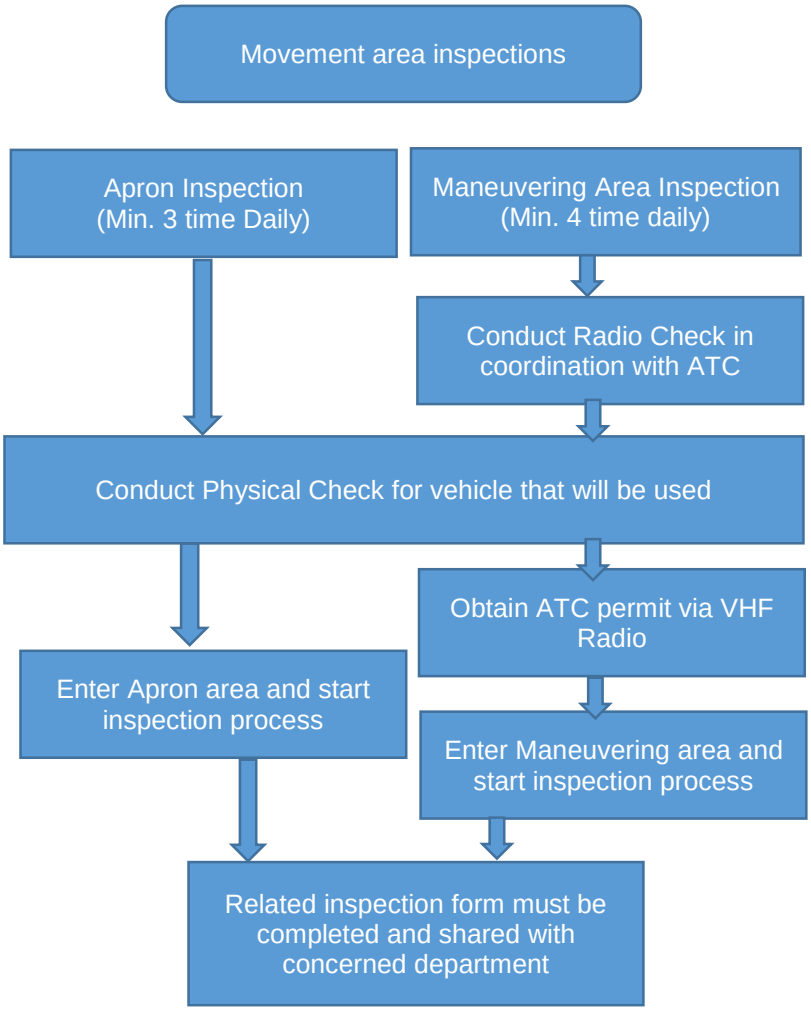
	INSPECTION AREAS	STATUS	REMARKS
1	The cleanness (Presence of any FODs or Wildlife) in Apron Areas including Service Roads		
2	Airside Users – Adhere to the airport regulations in accordance to PMIA aerodrome manual		
3	All operations around airplanes found safe and smooth		
4	Any unsafe acts/ conditions during the loading and unloading of the aircraft?		
5	Vehicles /Equipment Movement and Speed at the service roads		
6	Vehicles /Equipment parked/stored properly within apron area		
7	Apron Marking including Service Roads Marking		
8	Apron Lighting System including Apron Flood Lights and Visual Docking Guidance Systems.		
9	Apron Signage including service roads and LVOs signage		
10	Condition of Fire Fighting Equipment located at each stand within apron area		
11	Each parked aircraft protected by placing safety cones around it. (aircraft wingtips, vent areas and Engines)		
12	Any condition or practices that could effect on the operations safety & smoothness at the AOA		
13	Constructions/Maintenance works (including pavement repainting, electrical maintenance, excavations ... etc.) conducted safely and smoothly		
14	Paved Surfaces Sweeping process		
15	The overall condition of apron areas.		

OTHERS

S:	Satisfactory	U:	Unsatisfactory	N/A:	Not Applicable	N/I:	Not Inspected	**Aerodrome Duty Officer:** **Signature:**

Figure 3 Apron Area Inspection Form

7.6 Process Flowchart



If NO, then no action required

If YES;

1- ATC and Tibah Technical (CMMS) and Aerodrome Maintenance In-Charge must be reported immediately
2-CMMS team will issue work order and will direct technical related division to intervene and correct the situation.
3- ODM and AOC must be notified
4-The case must be report via SMS Pro. system

8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

STAND ALLOCATION

Document Number:	TIBAH-AIROPS-SOP-08
Document Owner:	Safety and Aerodrome Operations Directorate
Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	New GACAR version (GACAR 139-7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

Tibah, with its A-CDM partners, is committed to supporting efficient, predictable and punctual operations at PMIA. A key factor in this is the efficient allocation of aircraft stands and gates. Tibah (AOC – Airport Operation Center) controls and manages stand allocation at PMIA and produces a daily stand allocation plan, based on the scheduled traffic information that operators submit to Tibah Slot Team. All stands are common use aircraft stands and will be allocated so as to ensure efficient usage of airport infrastructure. In particular the use of Contact Stands will be maximized.
Tibah AOC personnel will strive to maximize efficient use of stand availability. Any concerns or questions shall be directed to Tibah AOC team (IP Ext. 8888 – Land Line Tel. 813 8888 – Email: AOCMED@tibahairports.com).

1.1 Regulation and Reference Documents

- PMIA Aerodrome Manual
- GACAR 139

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.5; 8.1; 8.5 and 8.6
- ISO 14001:2015 Clauses 7.5 and 8.1

1.3 ACFT Codes

Code	Wingspan	Outer main gear wheel span
C	24 m up to but not including 36 m	6 m up to but not including 9 m
D	36 m up to but not including 52 m	9 m up to but not including 14 m
E	52 m up to but not including 65 m	9 m up to but not including 14 m
F	65 m up to but not including 80 m	14 m up to but not including 16 m

(Source: Annex 14, ICAO)

2.0 Purpose

The purpose of this document is to clarify how Tibah, on a daily basis, will allocate all aircraft parking stands and passenger boarding gates at PMIA.

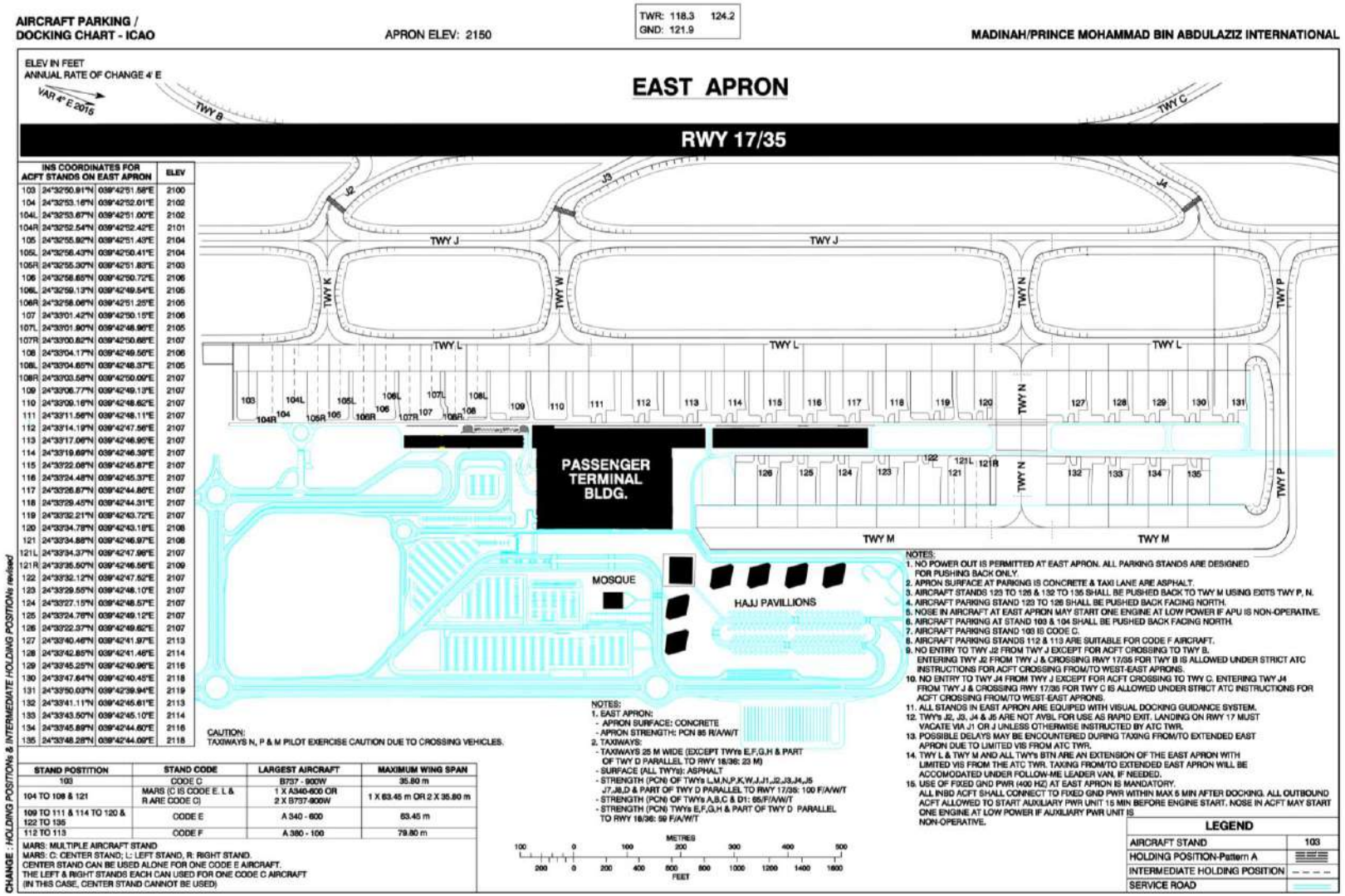
3.0 Relevant Stakeholders

Direct Use	Aware Of
Tibah AOC – Airport Operation Center	Airlines Companies
Tibah Slot Team	GACA Airport Authority
	Handling Agencies
	Governmental Agencies

4.0 Scope

This SOP dictates the operational procedures of allocating all Aircraft stands (Contact stands and remote stands) within West apron and East Apron.

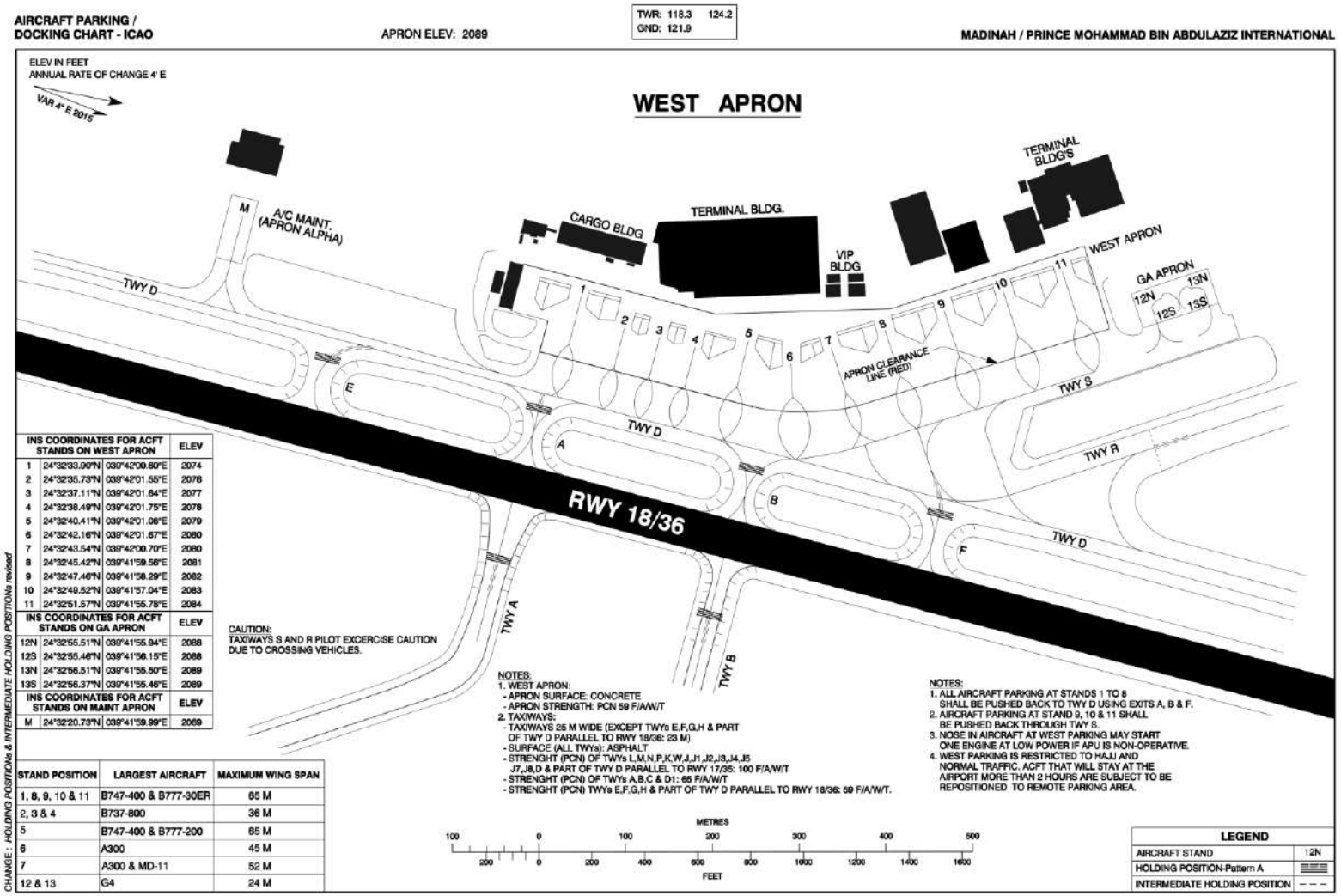
5.0 Applicable Areas within the Airfield



INS COORDINATES FOR ACFT STANDS ON EAST APRON		ELEV
103	24°32'50.91"N	039°42'51.58"E	2100
104	24°32'53.16"N	039°42'52.01"E	2102
104L	24°32'53.67"N	039°42'51.00"E	2102
104R	24°32'52.54"N	039°42'52.42"E	2101
105	24°32'55.92"N	039°42'51.43"E	2104
105L	24°32'56.43"N	039°42'50.41"E	2104
105R	24°32'55.30"N	039°42'51.83"E	2103
106	24°32'58.65"N	039°42'50.72"E	2106
106L	24°32'59.13"N	039°42'49.54"E	2105
106R	24°32'58.06"N	039°42'51.25"E	2105
107	24°33'01.42"N	039°42'50.15"E	2106
107L	24°33'01.90"N	039°42'48.96"E	2105
107R	24°33'00.82"N	039°42'50.68"E	2107
108	24°33'04.17"N	039°42'49.56"E	2106
108L	24°33'04.65"N	039°42'48.37"E	2105
108R	24°33'03.58"N	039°42'50.09"E	2107
109	24°33'06.77"N	039°42'49.13"E	2107
110	24°33'09.16"N	039°42'48.62"E	2107
111	24°33'11.56"N	039°42'48.11"E	2107
112	24°33'14.19"N	039°42'47.56"E	2107
113	24°33'17.06"N	039°42'46.95"E	2107
114	24°33'19.69"N	039°42'46.39"E	2107
115	24°33'22.08"N	039°42'45.87"E	2107
116	24°33'24.48"N	039°42'45.37"E	2107
117	24°33'26.87"N	039°42'44.86"E	2107
118	24°33'29.45"N	039°42'44.31"E	2107
119	24°33'32.21"N	039°42'43.72"E	2107
120	24°33'34.78"N	039°42'43.18"E	2108
121	24°33'34.88"N	039°42'46.97"E	2108
121L	24°33'34.37"N	039°42'47.99"E	2107
121R	24°33'35.50"N	039°42'46.56"E	2109
122	24°33'32.12"N	039°42'47.52"E	2107
123	24°33'29.55"N	039°42'48.10"E	2107
124	24°33'27.15"N	039°42'48.57"E	2107
125	24°33'24.76"N	039°42'49.12"E	2107
126	24°33'22.37"N	039°42'49.62"E	2107
127	24°33'40.46"N	039°42'41.97"E	2113
128	24°33'42.85"N	039°42'41.46"E	2114
129	24°33'45.25"N	039°42'40.96"E	2116
130	24°33'47.64"N	039°42'40.45"E	2118
131	24°33'50.03"N	039°42'39.94"E	2119
132	24°33'41.11"N	039°42'45.61"E	2113
133	24°33'43.50"N	039°42'45.10"E	2114
134	24°33'45.89"N	039°42'44.60"E	2116
135	24°33'48.28"N	039°42'44.09"E	2118

STAND POSITION	STAND CODE	LARGEST AIRCRAFT	MAXIMUM WING SPAN
103	CODE C	B737 - 900W	35.80 m
104 TO 108 & 121	MARS (C IS CODE E. L & R ARE CODE C)	1 X A340-600 OR 2 X B737-900W	1 X 63.45 m OR 2 X 35.80 m
109 TO 111 & 114 TO 120 & 122 TO 135	CODE E	A 340 - 600	63.45 m
112 TO 113	CODE F	A 380 - 100	79.80 m

Figure 1 East Apron



INS COORDINATES FOR ACFT STANDS ON WEST APRON			ELEV
1	24°32'33.90"N	039°42'00.60"E	2074
2	24°32'35.73"N	039°42'01.55"E	2076
3	24°32'37.11"N	039°42'01.64"E	2077
4	24°32'38.49"N	039°42'01.75"E	2078
5	24°32'40.41"N	039°42'01.08"E	2079
6	24°32'42.16"N	039°42'01.67"E	2080
7	24°32'43.54"N	039°42'00.70"E	2080
8	24°32'45.42"N	039°41'59.56"E	2081
9	24°32'47.46"N	039°41'58.29"E	2082
10	24°32'49.52"N	039°41'57.04"E	2083
11	24°32'51.57"N	039°41'55.78"E	2084
INS COORDINATES FOR ACFT STANDS ON GA APRON			**ELEV**
12N	24°32'55.51"N	039°41'55.94"E	2088
12S	24°32'55.46"N	039°41'56.15"E	2088
13N	24°32'56.51"N	039°41'55.50"E	2089
13S	24°32'56.37"N	039°41'55.46"E	2089
INS COORDINATES FOR ACFT STANDS ON MAINT APRON			**ELEV**
M	24°32'20.73"N	039°41'59.99"E	2069

STAND POSITION	LARGEST AIRCRAFT	MAXIMUM WING SPAN
1, 8, 9, 10 & 11	B747-400 & B777-30ER	65 M
2, 3 & 4	B737-800	36 M
5	B747-400 & B777-200	65 M
6	A300	45 M
7	A300 & MD-11	52 M
12 & 13	G4	24 M

Figure 2 West Apron

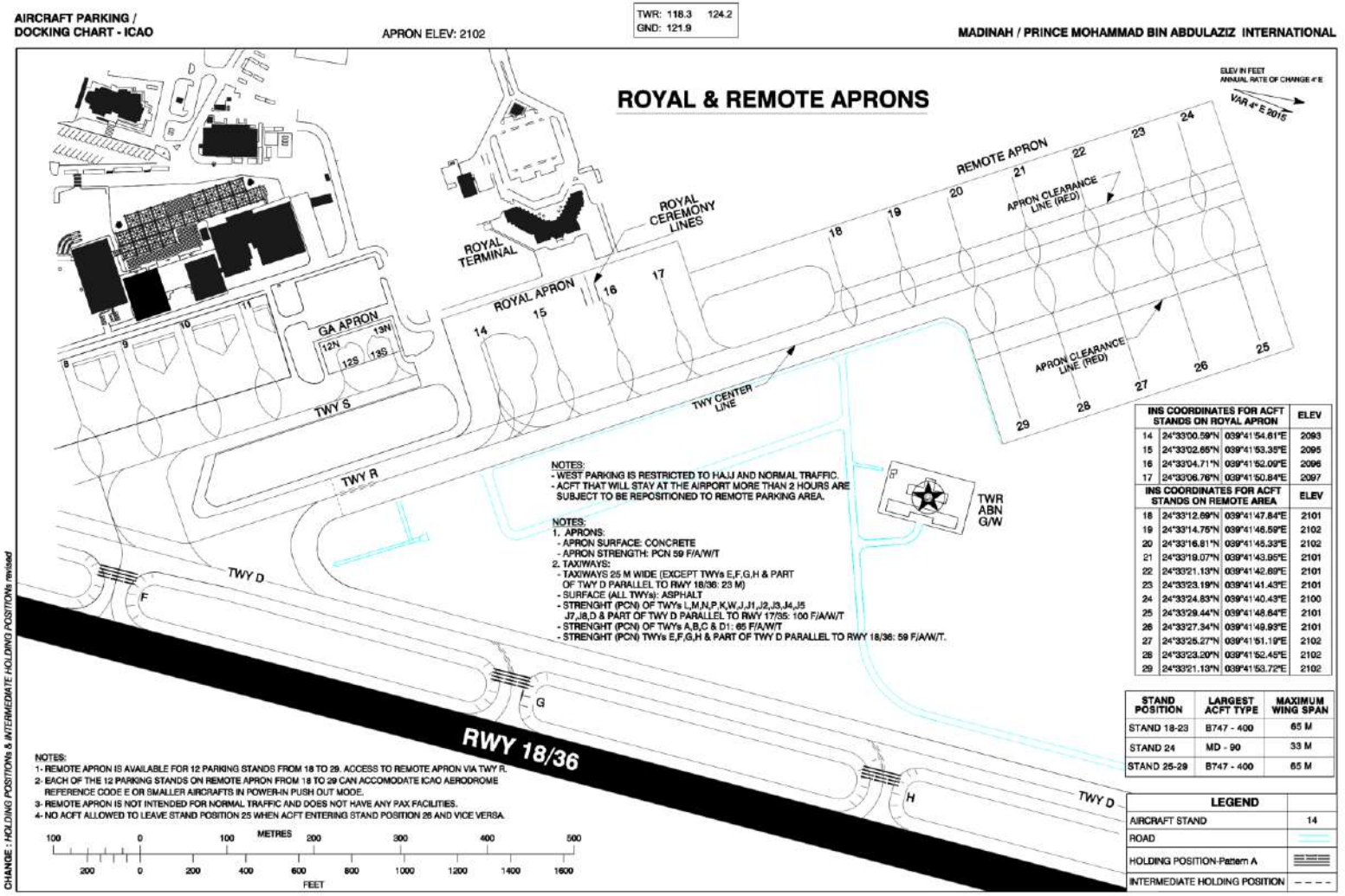


Figure 3 Royal & Remote Aprons

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Usage of Contact Stands Sharing daily ACFT stand allocation plan with stakeholders	The use of Contact Stands will be maximized Tibah AOC will share daily stand allocation plan with stakeholders in advance (Previous day 23:00 Hrs. Local Time)	Safe operation and passengers safety	Tibah AOC and FIDS	Safe conduct of operations	95% compliance No later than 23:59 Hrs. on previous day

7.0 Process Description

7.1 General Rules

- Tibah AOC is responsible of aircraft parking allocation at PMIA.
- Tibah AOC shall ensure that gates of all extra flights (non-scheduled), including General Aviation flights and cargo flights, are arranged and passed to the TWR in timely manner. If possible, they shall be displayed in the AODB.
- No change shall be made to the individual flight stand allocation later than 5 minutes prior to aircraft ETA under any circumstances.
- Any changes/update (at any time) to the stands planning must displayed in the FIDS and ATC must be reported verbally to ATC TWR at the time of the change with no delay as well as stakeholders must be informed by AOC through the OPS sharing room members.
- ATC shall advise AOC immediately when detect any approaching ACFT with no scheduled stand.
- ATC shall advise AOC as soon as possible when detects any approaching VIP flight or non-scheduled flights and provide them with ETA
- Code (F) ACFT (i.e. A380) must be allocated only to stands 112 / 113 (East Apron)
- Only narrow body aircraft is allowed to be allocated to stand 126
- (International arrival - domestic departure) flights will be assigned to stand 109
- Domestic arrival flights when allocated to remote stand must be assigned to Bus Gate NO.101
- International arrival flights when allocated to remote stands should be assigned to Bus Gate No.301
- Domestic flights when allocated to contact stands, will be assigned to stands; 108/107/106 respectively.
- International flights allocated to contact stands will be assigned to stands; 112/111/110/113/114/126/115/125/116/124/117/123, respectively.
- Saudi airlines transit flights or mix flights (International Arrival/Domestic Departing) or (Domestic Arrival/ International Departing), priority should be for departure passengers to use Contact stands. In such case the passengers of arrival flights will be deployed via Pax. Step equipment through involved handling agency where AOC personnel will share such information with stakeholders in advance.

- Saudi airlines transit flights (International Arrival/Domestic Departing) or (Domestic Arrival/ International Departing), only Airbus types can be parked/accommodated in contact stands (ACFT Types: A319/A320/A321/A332/A333).
- AOC should make the necessary changes according to any request from Terminal operation during hajj season and Omrah for example.
- Royal Apron's ACFT stands (Stands No. 14, 15, 16 and 17) are controlled by Royal Terminal department however, stand allocation plan for Royal apron must be shared with Tibah AOC within minimum Two hours in advance so Follow Me service "when required" will be requested by AOC.
- Stands at west apron (stands from 01 to 12) will be managed by Tibah VIP lounge in coordination with AOC personnel.
- West Remote stands are controlled by AOC team in coordination with Royal Department.
- AOC personnel will make sure that all gates allocated are respecting above rules
- Slot Team is responsible to record any approved slot into the
- AOC personnel use the system; ROTA for ACFT stand Allocation process which designed for this purpose.
- An AOC agent will continually monitor the flights status and will update the AODB accordingly.
- AOC personnel will monitor the frequency (118.3 – Approach/MED TWR) and (121.900 – MED Ground), this will help AOC staff to update the flights status.
- AOC personnel will make sure that all stands and gates in ROTA system are reflecting correct in AODB and FIDS
- In case of any difference between systems (ROTA / AODB / FIDS), AOC operator should report this to IT by IP phone (9399) or by email to Madinah IT: TAVIT_MED@tav.aero
- AOC shall extract all flights data including related stands and will share the flights data with stakeholders in advance (Flights Plan/Schedule including stand allocation plan of each day must be shared with involved stakeholders on previous day maximum at 23:00 Hrs. Local Time.
- **NOTE**: it is AOC responsibility to activate the VDGS on ACFT landing (immediately after ACFT landing – about 5 min before ACFT block-on)

7.2 Allocating ACFT Stands Manually (in case of System Failure)

In case of any failure on ROTA system where collecting, the process of ACFT stand allocation will be achieved manually as follows:

- Complete the daily flight schedule in Excel sheet (Figure No.1) in order to define for each flight, the schedule time for arrival and the schedule time for departure.
- Allocate flights to stands according to timing and taking in consideration to not allocate 2 flights in the same time in the same stand and keep suitable gap/separation period between two successive flights in the same stand

- The main document used is below:

PRINCE MOHAMED BIN ABDULAZIZ INTERNATIONAL AIRPORT

PARKING STATIONS ALLOCATION BY AIRCRAFT TYPE

..... DATE ...../...../.....

	DOMESTIC AREA																						HAJJ AREA									
	REMOTE POSITION					BRIDGE POSITION																	REMOTE POSITION					BRIDGE POSITION				REMOTE POSITION								
PKG	103	104		105		106		107		108		109	110	111	112	113	114	115	116	117	118	119	120	121		122	123	124	125	126	127	128	129	130	131	132	133	134	135
		104 L	104 R	105 L	105 R	106 L	106 R	107 L	107 R	108 L	108 R													121 L	121 R													
REG																																						
03:00 => 04:00																																						
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09:00 => 10:00																																						
10:00 => 11:00																																						
11:00 => 12:00																																						
12:00 => 13:00																																						
13:00 => 14:00																																						

Figure 4 ACFT Stand Allocation Manual Form

7.3 Communications

- The exchange of information between ATC TWR and TIBAH (AOC/Airside OPS/AGL departments shall be through :

  - Telephone Lines:
    ATC – AOC: Apron Control Hotline, direct lines 0148138888 & 0148138111 or Ext. 8888, 8111and fax 0148427954.
    AOC – ATC: ATC Hotline, direct lines 0148420085 & 0148401566 or Ext. 2316, 2302 & 2303 and fax 0148420080.
  - Radio Frequency:
    Frequency VHF 121.9 for ATC – Follow me vehicles / AGL vehicles.

7.4 Aircraft Re-positions

- Aircraft operator/owner of any aircraft requires to move from parking position to another position for night stay/stop or for maintenance reasons shall coordinate with AOC to obtain approval for reposition.
- If approved, AOC shall inform ATC TWR.
- On receipt of approval from AOC, the aircraft Crew shall contact ATC to obtain ATC clearance for reposition the aircraft from its position to the destination position which is already coordinated with AOC.
- ATC will consider any reposition request to be already coordinated with and approved by AOC.
- Towing aircraft for reposition must be escorted by follow me.

7.5 Aircraft which Deviate from STA or STD

Aircraft arriving in advance of STA shall be given the option of a Remote Stand or to hold for their allocated stand, the latter being subject to AOC & ATC approval, if their allocated stand is still occupied. Aircraft arriving after their STA shall not be allocated to their planned stand if that allocation causes consequent disruption to stand and gate allocation for other aircraft.

7.6 Aircraft Dimensions and tow-offs

The aircraft stands on the aprons have different dimensions for accommodating aircraft types (i.e. wing-span and length). Aircraft are allocated to stands according to the 'best-fit' system and any physical restrictions will be taken account of in allocating stands. This means that aircraft in a particular category (i.e. Narrow-body or Wide-body) will, in principle, be allocated to an aircraft stand of the same category.

Flights **EXCEEDING** the standards of ground time below will generally be required to tow off the Contact Stand depending on operational necessity which is determined by Tibah AOC and Tibah Terminal OPS team:

- Wide-body aircraft allocated to a Contact Stand with a layover of more than Three hours may be required to tow off to a Remote Stand (30 Minutes) after arrival, depending on stand availability. Alternately, a Wide-body aircraft may arrive onto a Remote Stand and be towed onto a Contact Stand (60 Minutes) before departure (if contact stand is available).
- Narrow-body aircraft allocated to a Contact Stand with a ground time of more than Two hours may be required to tow off to a Remote Stand (30 minutes) after arrival, depending on stand availability. Alternately, a Narrow-body aircraft may arrive onto a Remote Stand and would be able to tow onto a Contact Stand (60 minutes) before departure (if contact stand is available).

7.7 Airlines' Preferences to Use Particular Contact Stands

All airline preferences are taken into account during stand planning. However, due to various operational requirements on the day, these preferences cannot always be met.

7.8 Scheduled Separation Intervals

Aircraft/Flight are to have a minimum of 40 minutes scheduled separation interval between using the same Contact Stand. In actual day-to-day operations, however, stands may be assigned for use as soon as they become available, particularly during Hajj/Omrah Seasons. If less than 40 minutes is available, upon negotiation with the Ground Handler, the incoming flight may be allocated a Remote Stand. If an operator is prepared to wait for a Contact Stand when the gap is less than 40 minutes, and a holding area is available, this may be facilitated.

NOTE: The mentioned scheduled separation interval between using the same Contact Stand might be reduced during Hajj seasons to 30 Minutes due to operational requirements.

7.9 Preferred Stand Access

Tibah AOC may not grant access to a preferred stand if:

- An aircraft does not tow on or off at the planned time and the handler does not advise with sufficient warning; or
- Operational information is not supplied to Tibah AOC (aircraft registration, origin, destination, times, etc.) in a timely manner.

7.10 Related Factors

Stand allocation will take into account known immigration, PRM passengers (handicapped passengers), hydrant fueling and any other factors deemed relevant by the Tibah AOC at their absolute discretion.

7.11 Priorities when Insufficient Contact Stands are Available

When the number of available Contact Stands is less than the number of aircraft, Tibah AOC will therefore have to allocate one or more aircraft to a Remote Stand. Tibah AOC may prioritize allocation of the available Contact Stands as follows:

- Priority Services (i.e. a person on board has a medical emergency).

- Duration of turnaround (preference for Contact Stands will be given to flights with the shorter turnaround times).
- Services with PRM who are unable to walk up or down stairs
- Number of passengers involved (aircraft with less passengers will tend to be allocated to the Remote Stand).
- If an aircraft has a long ground time and would be towed to a Remote Stand anyway, this aircraft will more likely be allocated a Remote Stand if there is likely to be insufficient (ie, less than 60 minutes) time on the Contact Stand. In all other cases, if there is a Contact Stand available it is expected that this will be used then the aircraft towed off.

7.12 Priorities when no Contact Stands are Available and Insufficient Remote Stands are Available

When no Contact Stands are available or if a Remote Stand is specifically requested, but the number of available Remote Stands (or Remote Stands which an airline may perceive as “more desirable”) is less than the number of aircraft, Tibah AOC may prioritize allocation of the available Remote Stands as follows:

- Scheduled Cargo Flights by regular if any (note that dedicated freight/cargo aircraft will have priority on Remote Stands on the apron, but this does not preclude freight/cargo aircraft from being allocated any other stand if operational circumstances permit or determine).
- Scheduled arriving/departing flights of any airline displaced from a Contact Stand.
- VIP Government flight operations.
- Un-scheduled arriving/departing flights by non-regular airlines.
- Aircraft parking only.

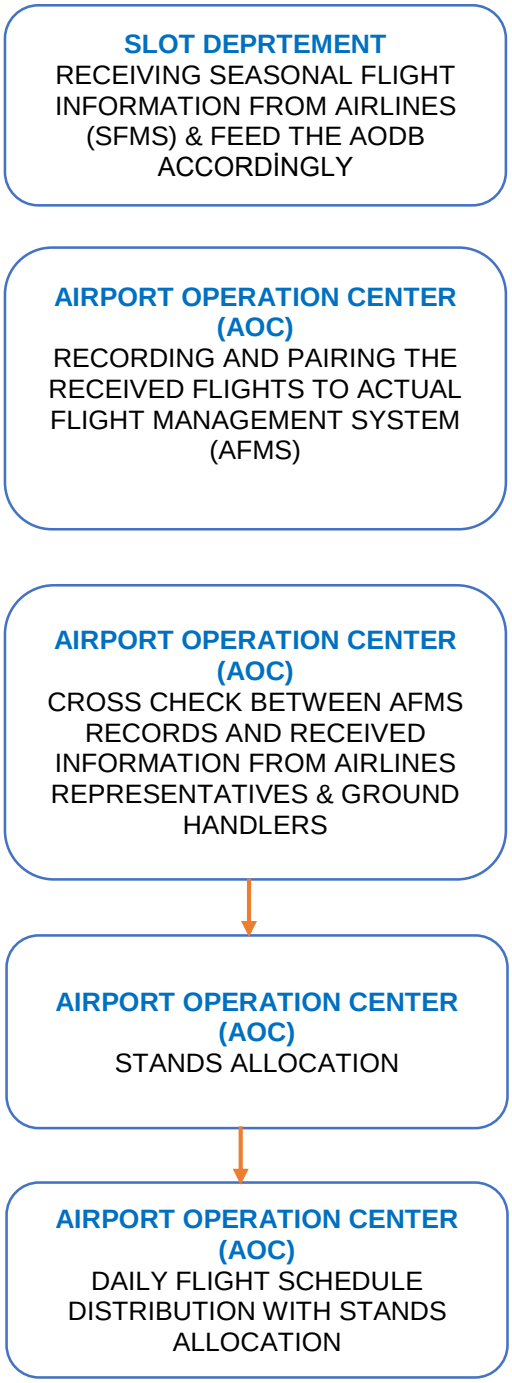
NOTE: For any reason that require AOC to suspend the usage of east Apron’s ACFT stands, AOC will use west remote stands in coordination with VIP lounge and Royal terminal department.

7.13 Bussing

For the purposes of passenger flights departing from a Remote Stand, passengers will board a bus at a nominated bus lounge/Terminal for transport to the stand. PRM passengers who are unable to walk up or down stairs may board via Medical-lift vehicle provided by the related ground handler.

NOTE: Same measures might be followed when transit flights accommodated at contact stand where Pax. step equipment being used to embark/disembark passengers.

7.14 Process Flowchart



8.0 Abbreviations and Acronyms

400 Hz	Power supply of Aircraft
A-CDM	Airport Collaborative Decision Making
ACL	Airport Co-ordination Limited, appointed by Slot Coordination New Zealand to act as schedules coordinator at Auckland International Airport
AEP	Airport Emergency Plan
AFMS	Active Flight Management System
AFRS	Airport Fire & Rescue Services
AIA	Auckland International Airport
AOC	Airport Operation Center
AODB	Airport Operation Data Base
AOM	Airport Operations Manu
AOT	Airfield Operations Team
ATC	Air Traffic Control
ATC	Air Traffic Control service provided by Airways Corporation of New Zealand
BHS	Baggage Handling System
BIDS	Baggage Information Display System
Bus Gates	specific gates that have been identified by PMIA as a suitable bus passenger loading area
CCTV	Closed Circuit Television
Contact Stand	An aircraft stand served by an air-bridge
CUTE	Common Use Terminal Equipment
FIDS	Flight Information Display System
GACA	General Aviation of Civil Authority
GOS	Gate Operating System
Ground Time	The time period or planned time period for which an aircraft will occupy a particular stand
HOD	Head of Department
MD	Managing Director
Narrow-body	A Narrow-body aircraft having a fuselage diameter typically 3 to 4 m, with two to six seats abreast along a single aisle
PBB	Passenger Boarding Bridges
PCA	Pre-conditioned Air
PMIA	Prince Mohammed Bin Abdulaziz International Airport
PRM	Person/s with reduced mobility
Remote Stand	An aircraft stand that is not air bridge-served
ROTA	Resource Usage Optimization and Task Assignment
SFMS	Seasonal Flight Management System
SOP	Standard Operating Procedure
STA	Scheduled time of arrival
STD	Scheduled time of departure
TCCC	Terminal Crisis Control Center
Turnaround	The time between an aircraft arriving on stand and departing
VDGS	Visual Docking Guidance System
Wide-body aircraft	Code D, E and F aircraft. A Wide-body aircraft has a fuselage wide enough to accommodate two passenger aisles, with seven or more seats abreast. The typical fuselage diameter is 5 to 6 m

NOTE: Further Abbreviations and Acronyms are provided at Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

SECONDARY POWER SUPPLIES & TOTAL SYSTEM FAILURE

Document Number:	TIBAH-AIROPS-SOP-09
Document Owner:	Safety and Aerodrome Operations Directorate
Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	New GACAR version (GACAR 139-7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

In this document, the procedures for the secondary power supply and total system failure are described. It is essential that there is a continuous power supply whilst aircraft are operating at PMIA. In practice this means that in the event of a power failure, the standby system must be available to supply power to aerodrome facilities. However, in case standby generators, UPSs systems etc. are unable to provide power due to fault or any unforeseeable circumstances, certain agreed operational procedures will be taken so in such case (total failure on PMIA power supply) where all power sources are not able to serve then, Tibah through GACA related departments will divert incoming flights in coordination with SANS and GACA airport authority from PMIA as per SOP No. 40 (Section 7.1).

In general, for a precision approach runway, a secondary power supply capable of meeting the requirements of for the appropriate category of precision approach runway must be provided (Figure No. 1 in this document). Electric power supply connections to those facilities for which secondary power is required must be so arranged that the facilities are automatically connected to the secondary power supply on failure of the primary source of power.

Precision approach Category I	Approach lighting system	15 seconds
	Runway edge[d]	15 seconds
	Visual approach slope indicators[a-d]	15 seconds
	Runway threshold[d]	15 seconds
	Runway end	15 seconds
	Essential taxiway[a]	15 seconds
	Obstacle[a]	15 seconds
Precision approach Category II/III	Inner 300m of the approach lighting system	1 second
	Other parts of the approach lighting system	15 seconds
	Obstacle[a]	15 seconds
	Runway edge[d]	15 seconds
	Runway threshold	1 second
	Runway end	1 second
	Runway center line	1 second
	Runway touchdown zone	1 second
	All stop bars	1 second
	Essential taxiway	15 seconds
Runway meant for take-off in runway visual range conditions less than a value of 800m	Runway edge	15 seconds[c]
	Runway end	1 second
	Runway center line	1 second
	All stop bars	1 second
	Essential taxiways[a]	15 seconds
	Obstacle[a]	15 seconds

Figure 1 Secondary Power Supply

1.1 Regulation and Reference Documents

- PMIA Aerodrome Manual
- GACAR 139 – Subpart “L”
- Tibah Maintenance Manuals

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 6.1; 7.5 and 8.1
- ISO 14001:2015 Clauses 6.1; 7.5 and 8.2

2.0 Purpose

This document defines the operation of secondary power supplies at PMIA and particulars of the method of dealing with partial or total system failure.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Tibah Technical Directorate	GACA
Safety & Aerodrome OPS Directorate	Air Navigation Services - SANS
	Stakeholders

4.0 Scope

This SOP dictates the operation of the secondary power supplies used at PMIA to ensure the continuous power supply. It explains what equipment is used to and how does PMIA accommodate any shortcoming in the power supply as well as the measures taken in case of partial or total failure of the system.

5.0 Applicable Areas within the Airfield

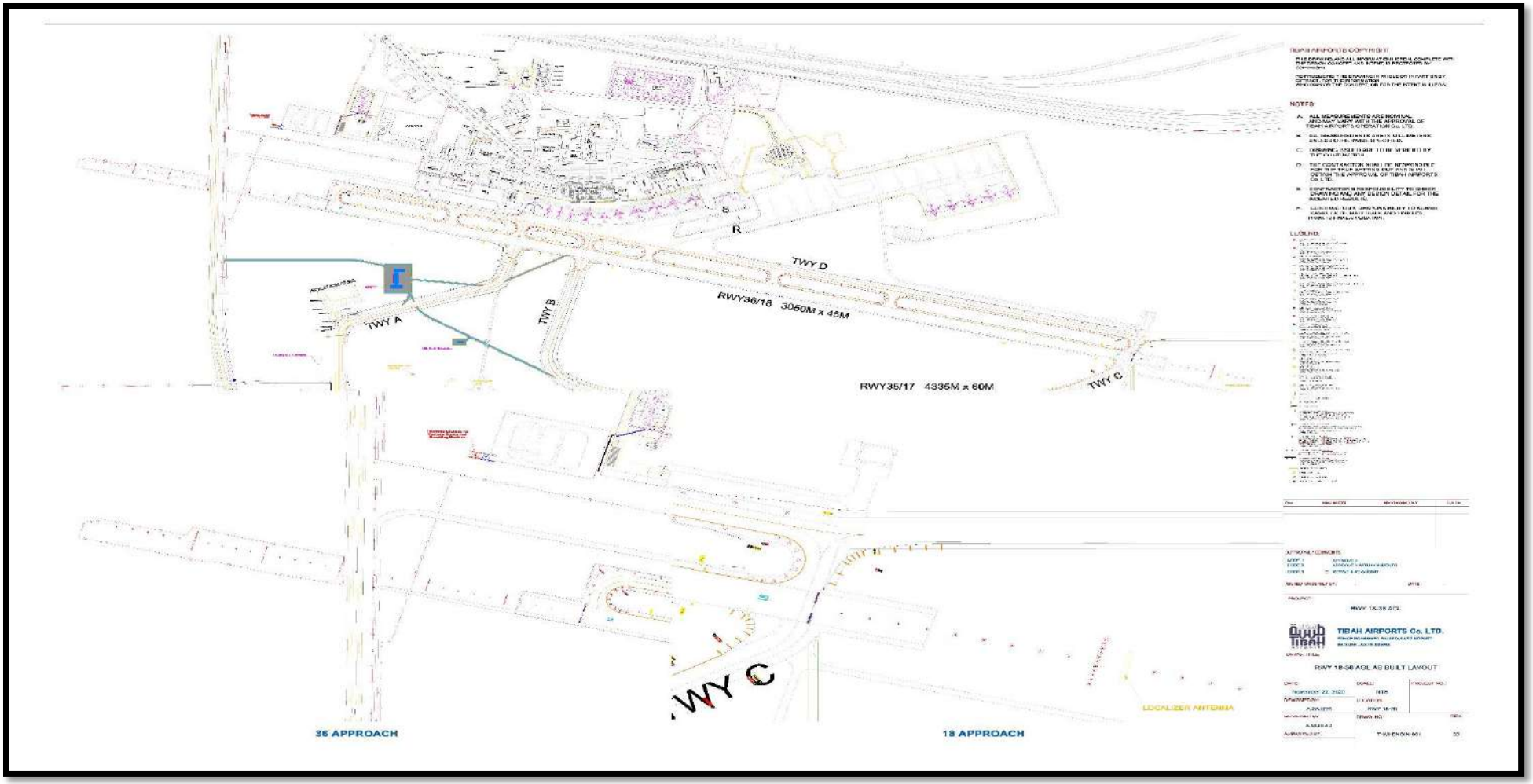


Figure 2 AIRFIELD LIGHTING – RWY 18/36

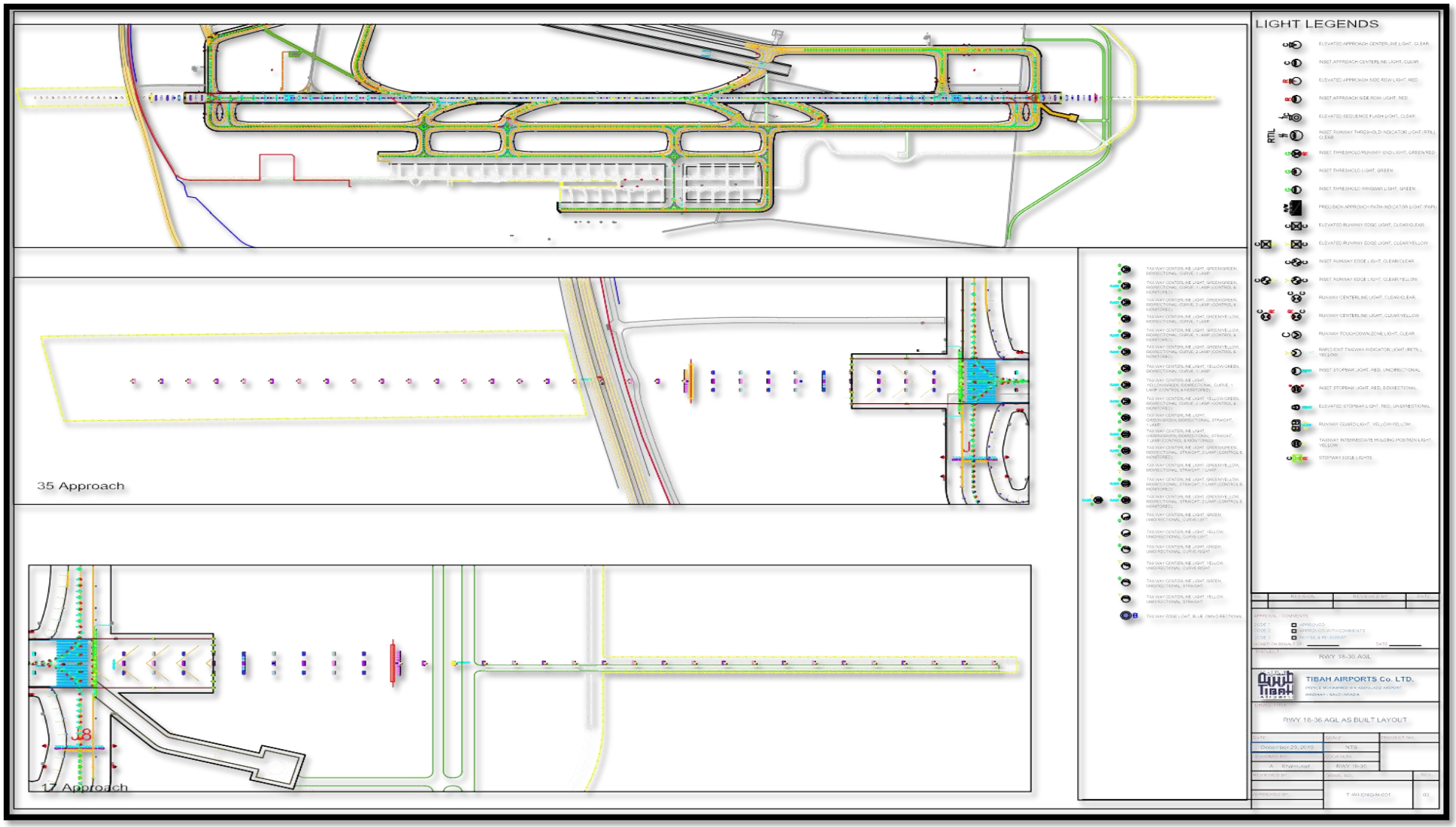


Figure 3 AIRFIELD LIGHTING – RWY 17/35

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Power Switch-Over Time	Event of RWY 18/36 and associated TWYs main power supply failure and standby generator load caring	Continuous and safe operation	Tibah Technical Directorate & Aerodrome Maintenance In-Charge	Continuous and safe operation	Max.15 Seconds
	Event of RWY 17/35 and associated TWYs main power supply failure and standby generator load caring				Max. 1 Seconds

7.0 Process Description

7.1 For PMIA RWY 17/35 and its Associated TWYs

- PMIA RWY 17/35 is equipped with 4 Uninterruptable power supply UPS as below

Item Description	Location	Item Quantity
SS-AF-14 South AGL Emerson Liebert NXL Series 500KVA	New south AGL substation	2
SS-AF-17 North AGL Emerson Liebert NXL Series 500KVA	New North AGL substation	2

Which can sustain the entire RWY 17/35 and associated TWYs for at least 30 minutes.

- PMIA RWY 17/35 is equipped with 2 Low-Voltage fast acting generators as below

Item Description	Location	Item Quantity
SS-17 North AGL, Cummins power generator, C1000 D68, 1275 kVA	New south AGL substation	1
SS-35 South AGL, Cummins power generator, C1000 D68, 1275 kVA	New North AGL substation	1

Which can sustain the entire RWY 17/35 and associated TWYs.

- For RWY 17/35, under normal conditions, system is feeding from SEC power supply while UPSs are on load.
- In case of SEC power supply failure, Low-voltage standby generators available in both AGL substations will carry the load. During the changeover i.e. from SEC feeder to local AGL generator, the UPSs will provided uninterrupted supply to the RWY17/35 and associated TWYs.
- Simultaneously, PMIA main Medium-Voltage generators from Power Plant will start to feed whole PMIA facilities (including Aerodrome).

- After main generators are ready to feed the entire network (including AGL substations), it will replace standby generators in AGL substations (changeover will be covered by the UPSs).
- In the event that both UPSs fail, standby generators available in Both AGL substations will carry the load.
- In the unlikely event that standby generators in Power Plant, AGL substations and the UPSs all fail to provide power, the "Secondary Supply Total System Failure" operational procedure shall be adopted.

7.2 For PMIA RWY 18/36 and its Associated TWYs

- PMIA RWY 18/36 is equipped with 2 Low-Voltage fast acting generators as below

Item Description	Location	Item Quantity
SS-18 North AGL DIESEL ELECTRIC, X 250 MD4, 250 kVA	Old south AGL substation	2
SS-18 South AGL DIESEL ELECTRIC, X 250 MD4, 250 kVA	Old North AGL substation	2

Which can sustain the entire RWY 18/36 and associated TWYs.

- Under normal conditions, the load will be feeding from SEC power supply.
- In the event that Main Supply fail, the power will switch to the standby generators available in old AGL stations within less than 15 sec
- Simultaneously, main standby generators available at old Power plant will start to feed the load.
- In the unlikely event that standby generators in Power Plant and AGL substations all fail to provide power, the "Secondary Supply Total System Failure" operational procedure shall be adopted

7.3 For PMIA East Apron including East Remote Stands

- Under normal conditions, the lights are feeding from SEC main power supply.
- In the event of SEC main power supply fail, PMIA New power plant main Medium-Voltage generators will start and carry the load.
- East apron flood light poles are equipped with hot-restrike lights which can start immediately after power restoration.
- In the unlikely event that standby generators in Power Plant also fail, the "Secondary Supply Total System Failure" operational procedure shall be adopted.

7.4 For PMIA West Apron including Royal Apron, General Aviation Apron and West Remote Stands

- Under normal conditions, the lights are feeding from SEC main power supply.
- In the event of SEC main power supply fail, PMIA old power plant, Medium-Voltage generators will start and carry the load.
- In the unlikely event that standby generators in Power Plant also fail, the "Secondary Supply Total System Failure" operational procedure shall be adopted.

NOTE: Tibah Technical Directorate (Electrical Department) is responsible for operating and maintaining power supply resources at PMIA including UPS and Generators (Further Details are included in PMIA/Tibah Maintenance Manual) however, any change, update or any maintenance required for these resources must be pre-coordinated with the aerodrome maintenance In-Charge.

7.5 Process Flowchart

N/A.

8.0 Abbreviations and Acronyms

AGL	Airfield Ground Lighting
GACAR	General Authority of Civil Aviation Regulation
KPI	Key Performance Indicator
PMIA	Prince Mohammed bin Abdulaziz International Airport
RWY	Runway
SEC	Saudi Electric Company
TWY	Taxiway
UPS	Uninterrupted Power Supply

NOTE: Further Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

AERODROME GROUND LIGHTING INCLUDING VDGS

Document Number:	TIBAH-AIROPS-SOP-10
Document Owner:	Safety and Aerodrome Operations Directorate
Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

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Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	New GACAR version (GACAR 139-7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

The basic purpose of visual aid systems is to aid in the safe operation of aircraft. Therefore, the highest standards of maintenance are required. Once a system has been installed, its usefulness is dependent on its service-ability which in turn depends upon the effectiveness of the maintenance work carried out. GACAR 139, SUBPART N defines a light to have failed when its light output falls below 50 per cent of that specified for a new light. The loss of in light output can be due to the following two causes:

- Contaminants outside and inside the light unit, and
- Degradation of the lamp and optical system due to aging.

The light can and should be restored to its original condition by cleaning or replacing the lamp and any parts which have apparently become degraded. For this purpose it is essential to establish a comprehensive routine maintenance system for servicing lights and other equipment so that the installation complies with the specified requirements. Reference is made to GACAR, SUBPART I.

1.1 Regulation and Reference Documents

- PMIA Aerodrome Manual
- GACAR 139 - SUBPART N
- GACAR 139 - SUBPART I

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.5; 8.1 and 8.5
- ISO 14001:2015 Clauses 7.5

2.0 Purpose

This document defines the procedures related to the preventive maintenance program of aerodrome ground lighting and VDGS.

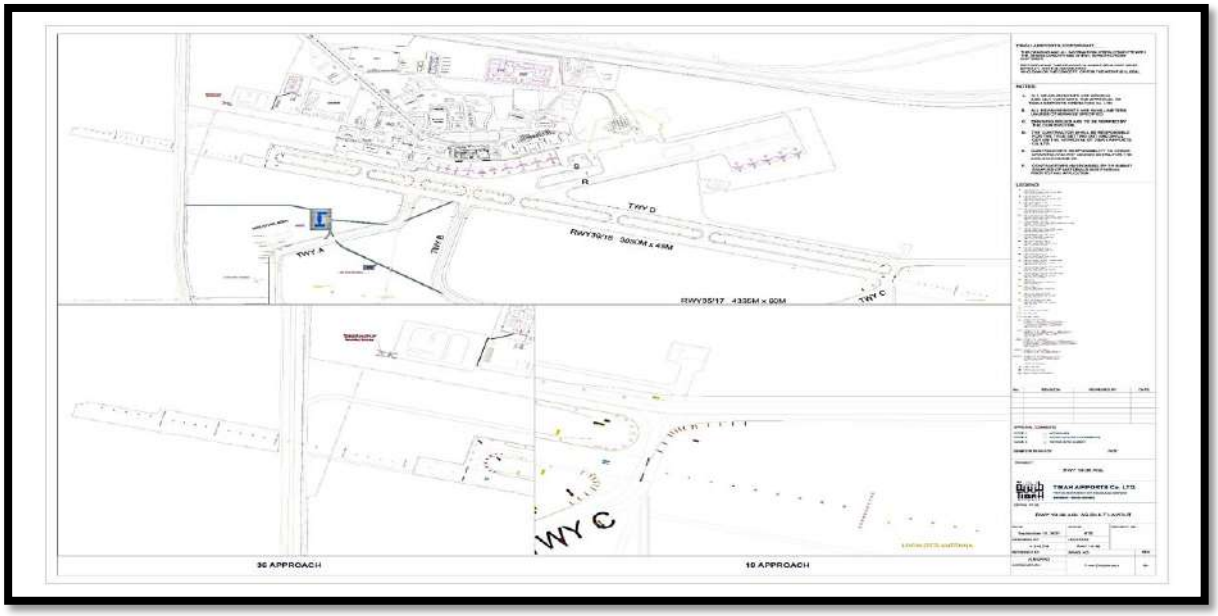
3.0 Relevant Stakeholders

Direct Use	Aware Of
Technical Directorate	GACA
Safety & Aerodrome OPS Directorate	Air Navigation Services
	Stakeholders

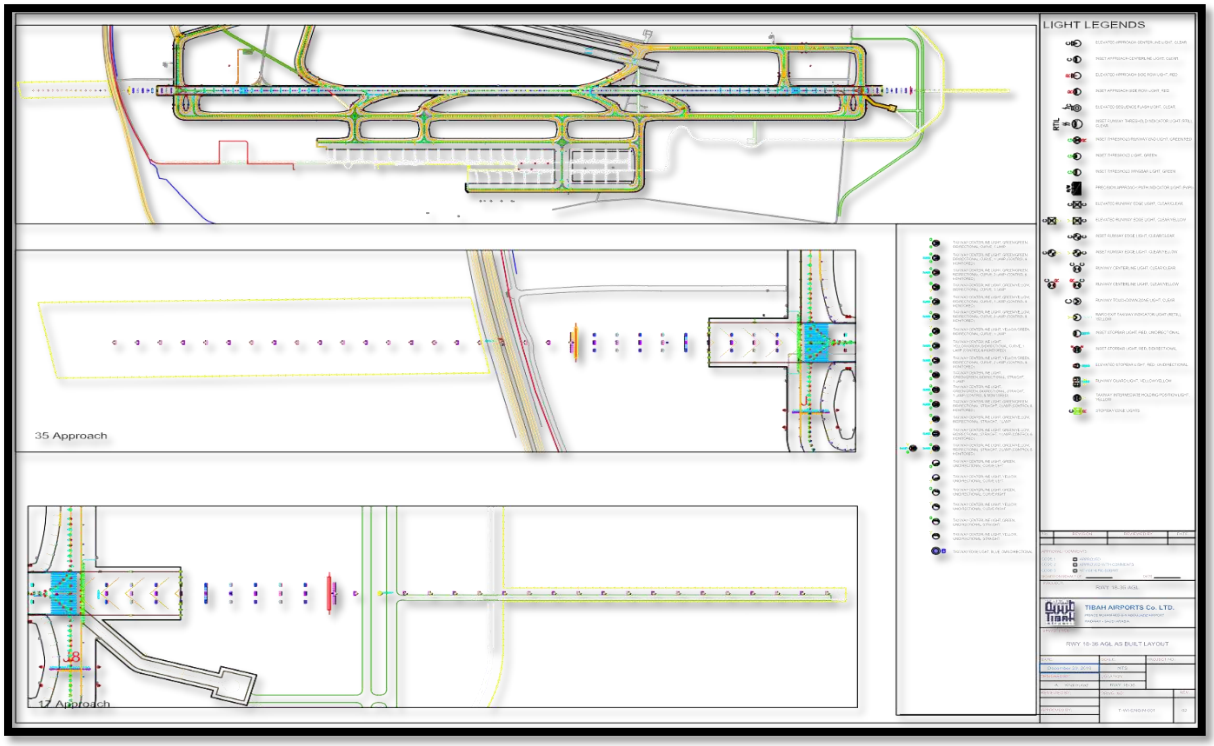
4.0 Scope

This SOP dictates the procedures related to the preventive maintenance program of aerodrome ground lighting and VDGS at PMIA. It explains the type of checks for AGL, the maintenance procedures, the inspection procedures, cleaning, and moisture management

5.0 Applicable Areas within the Airfield



RWY 18/36 – Airfield Lighting System



RWY 17/35 – Airfield Lighting System

6.0 Applicable KPIs and Performance Measures

Please refer to section **7.2** in this document.

7.0 Process Description

All maintenance works related to Visual aids including VDGS and Aerodrome signs maintenance are under Tibah Technical directorate responsibility in coordination with Safety & Aerodrome operation - Aerodrome Maintenance In-Charge. Before commencing any such works, Tibah Technical team must pre-coordinate with Aerodrome Maintenance In-Charge at least one working day ahead so the aerodrome maintenance in-charge will notify and coordinate with all related departments and then will provide work authorization through an email/letter.

Technical Directorate must provide maintenance plan to Safety & aerodrome OPS directorate (Aerodrome Maintenance In-Charge) in yearly basis (before each year beginning by min 30 working days)

7.1 Different Types of Visual Aids

Different types of visual aids used at airports are as follows:

- Runway edge lights, center line lights, touch- down zone lights, threshold lights, stop bar lights, runway end lights etc.
- Taxiway edge lights, center line lights, taxi stop bar lights etc.
- Approach lights, VASIS / PAPI etc.
- Aerodrome beacon, wind direction indicators, obstruction lights etc.
- Signboards.

7.2 Performance Level Objectives for Visual Aids

The Performance level objectives for visual aids shall be as given below. This performance level shall be maintained through scheduled, unscheduled and preventive maintenance.

SN	Light category	Minimum acceptable light output (% of specified value)	Minimum acceptable % of serviceable light		Consecutive lights, more than numbers given below, shall not remain unserviceable
1	RWY edge lights	50 %	a) For Cat-I operation	85 %	2
			b) CAT-I When RVR is less than 550 M	95 %	
			c) For CAT-II operation	95 %	
2	RWY center line lights	50 %	a) For Cat-I operation	85 %	2
			b) CAT-I When RVR is less than 550 M	95%	
			c) For CAT-II operation	95 %	
3	RWY end lights	50 %	a) For Cat-I operation	85 %	2

			b) CAT-I When RVR is less than 550 M	75 %	
			c) For CAT-II operation	75 %	
4	TWY Stop-bar lights	50 %	Not more than 2 lights shall be U/S.		2
5	RWY THR lights	50 %	a) For Cat-I operation	85 %	2
			b) For CAT-II operation	95 %	
6	TDZ lights	50 %	c) For CAT-II operation	90 %	-
7	Approach lights	50 %	a) CAT-I operation	85 %	-
			b) CAT-II operation, inner 450 M	95 %	
			c) CAT-II operation, Beyond 450 M	85 %	

Note: With respect to barrettes, crossbars and runway edge lights, lights are considered to be adjacent if located consecutively and:

¾ laterally: in the same barrette or crossbar; or
¾ longitudinally: in the same row of edge lights or barrettes.

7.3 Personnel

Electricians to be entrusted with the task of maintenance of lighting aids shall have the following qualifications / qualities:

- Be experienced with high voltage series circuits and lighting;
- Be fully acquainted with the work to be done;
- Be present or available on call during the operating hours of the airport to correct any deficiencies that might develop;
- Be provided with appropriate training to maintain their competence and to keep them abreast of new developments.

7.4 While Performing Maintenance on Airport Visual Aids, Following Safety Measures must be Strictly Followed:

- Ensure that all workers are trained and familiar with electrical safety.
- Strictly observe safety rules.
- Ensure that all test equipment are approved and rated for the voltage under test or for the application.
- Prior to beginning any maintenance work on airport lighting circuits, coordinate with ATC and operations personnel. Make sure circuits will not be energized during maintenance by observing strict lock-out tag-out procedures for the equipment and obtain authorization for local control if equipment is normally operated from a remote control point.
- Where maintenance work is to be accomplished on a high-voltage circuit, assign at least two electricians, with at least one having a thorough knowledge of the layout of all airport high-voltage circuits.
- Performing maintenance on visual aids requires workers to traverse the active airfield, all workers shall be fully knowledgeable of air traffic control and radio communication procedures. Workers shall be fully familiar with airport runway and taxiway layout to avoid any possibility of runway incursions. All air traffic control instructions shall be read back to the controller and if the worker

has any question regarding the instructions of the controller, the worker shall ask the controller to repeat the message. All vehicles operated within the aircraft operations area shall be properly marked and lighted.

7.5 Spare Parts

An adequate stock of spare parts should be available. The required level of stock will depend on the following criteria:

- Rate of consumption of the items;
- Time required to get the resupply of the items;
- Shelf life of the items.

7.6 As-built Drawing

A set of as- built drawings shall be kept readily available in the Maintenance unit. The as- built drawings shall be kept in the following manner: -

- Drawings shall be kept in the Maintenance unit and in the concerned Engineer's office;
- Drawings must be kept up to date and any changes at site shall be reflected immediately on these drawings.
- The completeness and the accuracy of all circuit diagrams, drawings and descriptions shall be checked at least annually.

7.7 Preventive Maintenance of Visual Aids

A system of preventive maintenance of visual aids shall be employed to ensure lighting system reliability. Procedures of preventive maintenance shall be as follows: -

- Light bulbs shall be considered unserviceable and be replaced when their brightness falls below 50% of normal value.
- The specifications from the Manufacturers regarding the normal life time of all the items of visual aids, shall be made available with the maintenance personnel and light bulbs shall be replaced after 90% of the manufacturer's prescribed life time has elapsed.
- In case when manufacturer's specification is not available, light bulbs shall be replaced after 90% of the average life time of the bulbs has elapsed.
- Light fittings, fasteners and their supporting structures which may be damaged by rust shall be painted annually.
- Cable lives of all concerned sections of visual aids shall be verified and cables shall be replaced whenever there is any threat to the system to be hampered for damage of cables due to aging.
- Functions of all other items shall be closely monitored and shall be repaired/replaced whenever there is any threat to the system to be hampered due to aging of those items.

7.8 Basic Components of Maintenance

Maintenance includes measures to keep or restore the operational function as well as measures to check and to evaluate the present function of an element. The basic components of maintenance are:

- Inspection/ Monitoring;
  (The unserviceable lights can be identified more easily during night inspections, and of course, possible failures can be noticed by the operator at the Control desk if appropriate electric monitoring system is there.)
- Servicing and overhaul; and
- Repair.

7.8.1 Regular Maintenance and Inspection

Inspection is a vital part of maintenance. An inspection program shall be prepared and be strictly followed. As the frequency of inspection will vary according to the hours of operation of the airport, inspection program shall be prepared keeping pace with the hours of operation of the airport and flights schedules. Maintenance personnel of supervisor category shall regularly inspect the visual aids to assess the requirement of maintenance, and maintenance work shall be done immediately. For expediting the job, maintenance personnel shall be included in the inspection team to do the maintenance job instantaneously.

7.8.2 Recording of Inspection and Maintenance Reports

- Daily report of the maintenance work done during the last 24 hours shall be raised by the maintenance personnel and shall be sent to AGL department head office. AGL department head shall verify the genuinity of the report and preserve in his office as record.
- Copy of the report shall be sent by AGL department head to the Aerodrome maintenance in-charge.

7.8.3 Daily Report

- Daily report of the serviceability status shall be raised by the maintenance personnel and shall be sent to the Aerodrome maintenance in-charge. The Aerodrome maintenance in-charge shall verify the report against the daily maintenance reports, highlight critical points and preserve in his office as record.
- As required, copy of highlighted the report shall be sent by the Aerodrome maintenance in-charge to the Airport deputy manager (DMD). Airport Deputy Manager (DMD) shall verify the maintenance report against the Daily maintenance report and take necessary action. Significant discrepancies shall be consulted with the concerned. Reports shall be preserved as record.
- Airport Deputy Manager shall send the report to the MD through the best available means.

7.9 General Procedures of Maintenance

At the time of maintenance of the lights the following general procedures shall be followed: -

- The instructions of the appropriate authority, based on the recommendations of the manufacturer shall be followed.
- Maintenance annual plan shall be prepared and records of maintenance of each piece of equipment shall be maintained.
- Maintenance annual plan to be uploaded on Computerize Maintenance Management System (CMMS) so maintenance work orders can be generated and recorded.
- If situation demands, a change in the schedule may be effected with the approval of appropriate authority and in consultation with the equipment manufacturer, if applicable.

7.10 Frequency of Checks

Frequency of inspection and servicing will as follow:

- Dusk inspection.
- Midnight inspection (including routine maintenance).
- And it will vary according to the type of equipment, its location and usage.
- A maintenance program shall be prepared based on past experience and with the objective of achieving required service standard.
- The following schedules are presented as guidance material in establishing a preventive maintenance program.
- More frequent checks may be required for higher categories of lights.

- As required, each check shall be followed by appropriate corrective action.

7.9.1 Daily Checks

(1) CCRs, Runway, Taxiway, Approach, Threshold, PAPI, VASIS and other lights:

- Burnt-out lamps shall be replaced.
- Glass of each light to be cleaned and shall be replaced, as required.
- Loose fasteners of light units shall be tightened.
- Rusted and corroded light parts and reflectors shall be painted and replaced, if required.
- Horizontal alignment of the light units shall be adjusted, as applicable.

(2) Inset lights:

- Lenses of inset lights shall be cleaned.
- Light output of runway center line lights shall be measured and recorded; lenses shall be cleaned and replaced, if required.
- Top parts of runway center line lights shall be checked and unserviceable parts shall be replaced, as required.

(3) Other Airport lights: Airport beacon, obstacle lights, signs markers etc.:

- Burnt-out lamps shall be replaced.
- Fabric of wind cone and fused wind cone lamps shall be replaced, as required.
- Inscriptions legibility shall be ensured by repairing the signs and removing the obstructions, as required.

(4) CCRs, control system, communication system, ASP, etc.:

- Check all CCRs for proper operation.
- Observe the maintenance monitor for warnings or alarms.
- Check the communication system for proper operation.
- Inspect all ASP components for proper operation.

7.9.2 Monthly Checks

(1) Runway, Taxiway, Approach, Threshold, PAPI and other lights:

- Spreader glasses, filters and lamps shall be cleaned.
- Light output of all lights within the system shall be measured and results shall be recorded; lenses shall be cleaned.
- Elevation setting of the light units shall be adjusted, as required.
- Control equipment shall be checked for proper operation at each brightness step; malfunctions shall be corrected and repaired, as required.

(2) Handholes/Manholes, isolation transformers and other circuits related components:

- Check as per annual plan targeted Handholes/Manholes
- Remove water if exist and clean from dust.
- Arrange all cables and check cable tag.
- Inspect isolation transformers and check primary and secondary joints.

7.9.3 Semi-yearly / Yearly Checks

(1) Runway, Taxiway, Approach, Threshold, PAPI and other lights:

- Lamps of the whole system shall be checked; unserviceable lamps or, if required, lamps of the entire system shall be replaced.
- Rusted and corroded light parts and reflectors shall be painted and replaced, if required.
- Reflector of each light unit (if applicable), shall be cleaned, and replaced, if required.
- Loose fasteners of light units shall be tightened.
- Plug connections shall be checked and faultless connection shall be ensured by cleaning the dirty parts; if required, faulty plugs shall be replaced.
- Elevation setting of the light units shall be checked and elevation shall be adjusted, as applicable.
- Horizontal alignment of the light units shall be checked and alignment shall be adjusted, as applicable.
- Supporting structure and the foundation of the units shall be repaired and painted, as required.

(2) Inset lights:

- Lenses of inset lights shall be cleaned.
- Lights shall be dried for moisture, if required.
- Electrical connections of the lights shall be tightened and sprayed with contact agents for proper contact.
- Alignment of the lights shall be adjusted, as required.
- Prisms and filters of lights shall be cleaned or replaced, if required.
- Sealing compound shall be changed shall be resealed.

(3) Other Airport lights: Airport beacon, obstacle lights, signs etc.:

- Power supply brushes and slip-rings of aerodrome beacon shall be cleaned; or replaced, if required.
- Electrical connections of the lights shall be tightened.
- Rotating parts shall be fastened.
- Optical system of the beacon shall be checked and required remedial action shall be taken.
- Glasses and gaskets of obstacle lights shall be cleaned; or replaced, if required.
- Function of the Flashing lights and twilight switches shall be cleaned, repaired or replaced, if required.
- Power supply and lighting of the wind direction indicator shall be repaired or replaced, if required.
- Fastener of the wind direction indicator shall be tightened and structure shall be repaired, if required.
- Supporting structure and the foundation of different units shall be repaired, as required.
- Loose fasteners of obstruction lights shall be tightened.
- Easy access to locations of obstruction lights, for maintenance, shall be arranged; if required and possible, location shall be changed.
- Structure and mounting of both signs and their lighting shall be cleaned, repaired and replaced, as required; shall be repainted wherever applicable.

7.9.4 Non-schedule Checks

In addition to carrying out all the above mentioned scheduled maintenances, situations like some natural calamity, accidents, sabotage etc. may give rise to such situation when some out of-schedule maintenance work will become essential

7.11 Light Maintenance Procedures

7.11.1 General Hints for Maintenance of Lights

Maintenance work can be done in two ways:

- Indoor, and
- Outdoor.

As far as practicable, maintenance work shall be carried out indoor. Outdoor maintenance has the following inconveniences:

- Heat, cold, precipitation etc.
- Aircraft noise.
- Traffic restrictions, interruptions etc.

7.11.2 Steps of Maintenance Procedures

There are two steps in the commonly used maintenance procedure:

- Removal of defective lights and replacement by new or repaired once;
- Servicing and overhauling of deficiencies in the workshop where required tools and equipment are available.

The prerequisites to run the above system of maintenance are as follows:

- Provision of sufficient number of spares;
- Requirements of spare parts will be determined by the past experience of rate of damage / consumption of the individual items;
- Lights which are easy to install and repair should be used.

7.12 Cleaning Procedures of Lights

The type and degree of contamination of the various lights on an airport will be different. While elevated approach and edge lights are normally contaminated by dust carried by wind and rain, more severe contamination can be observed on inset lights, particularly on runways. Rubber deposits from tires on touchdown and exhaust from engine reverse thrust procedures create firmly sticking deposits on the exterior glassware of lights. The very different degree of contamination must be reflected in the maintenance schedule of different categories of lights or sections in the runway/taxiway system.

7.12.1 **Wet cleaning:** when cleaning the glassware of lights, the manufacturer's recommendations should be observed. Normally, cleaning is accomplished by washing the glassware with a cleansing mixture of water and a special solvent that will neither affect the sealing material nor produce a residual film on the glass. The solvent must be given sufficient time to dissolve the deposits. If necessary, rubber spots may be scraped off by using plastic tools or powder before using the solvent. Other mechanical aids for cleaning may be sponges, cloths, hand brushes or electric rotating brushes. The cleaning technique and the materials used should not scratch or groove the glass surface nor damage the sealing material.

7.12.2 **Dry cleaning:** Dry cleaning of glassware should be avoided. However, if cleaning becomes necessary for some reason, no sand or other abrasive material should be used. In such cases cleaning can be done by using clean ground-up walnut or pecan shells and dry compressed

air. Special treatment can normally be avoided by following a maintenance schedule with wet cleaning at suitable intervals.

7.12.3 **Interior cleaning:** Thorough cleaning of the interior of the lights to remove mud, moisture or rust should be carried out in workshops. Only minor contaminants, such as dust, should be removed on site.

7.13 Water Inside Lamps

7.13.1 Inset lights may sometime collect water. Water inside the lights causes the following problems:

- Increase corrosion;
- Damage to electrical parts;
- Deposits on lenses and lamps;
- Reduces the life of the lamp.

7.13.2 Remedial Actions Against Water Inside the Lamps

Preventive and remedial actions against water inside lamp shall be as follows:

- Before inserting a light into the pavement, good drainage of the opening must be ensured.
- Regular inspection shall be made to check lights for presence of water, penetration of moisture and accumulation of water cannot be prevented completely.

7.13.3 Lights found to be wet inside should be removed and replaced, if such a procedure is possible with the type of light. Otherwise, drying must be carried out on the spot.

- After drying, the sealing should be checked carefully and replaced when required.
- Before closing a dried light, the lamp should be switched on for some time to permit any residual moisture to evaporate due to the temperature increase inside.

Attention should be paid to the presence of water on and in front of the glass of inset tights. Water may bend the light beam, thus misaligning the light direction. If such a situation is observed, the drainage has to be improved.

7.14 Lamp Replacement

The life span of lamps varies from 500 to 1500 hours of operation. The life time depends on the percentage of operation at high brightness levels and on the number of switching, dynamic stresses imposed by aircraft wheel loads (inset lights) and temperature-induced stresses inside the casing affect the lamp life. Lamps which have failed shall be replaced as soon as possible so that the lighting system of the airport meets the required maintenance level objectives.

7.14.1 Lamp Replacement Procedures

The following procedures shall be followed to replace the unserviceable lamps:

- Only lamps which have failed or lamps showing major output reduction are replaced upon checking; this method requires checks to be carried out at short intervals;
- Bulk changing of lamps in certain sections of the entire lighting system in accordance with a fixed time schedule.
- The intervals between replacements have to be derived from local experience with the average life of lamps in use.
- Lamps should be changed when they have been operated for 80 per cent of their average life.
- For this maintenance method a reliable record of operating hours for the individual sections of the airport's lighting system is a required.
- This method requires less frequent checks.

Lamp replacement in the workshop is preferable, particularly with inset lights. The unserviceable light shall be removed from its position and replaced by a serviceable light. Lamp replacement of elevated lights may be carried out on site provided that the casing can be opened easily and quickly, and the socket of the lamp needs no realignment afterwards.

7.15 Light Measurements and Output Standards

7.15.1 **Lights life:** The light output will diminish with the lapse of time due to lamp aging.

Contamination of reflector and lens will result in a further degradation of light output. A light shall be considered to have failed when its output is less than 50% of the required intensity. For practical reasons a light will be replaced when its output falls below 70 per cent of that specified for a new light.

7.15.2 **Light measurements:** Light measurements shall be carried out regularly to detect early light output reduction. Appropriate equipment for both field and bench measurement of light output will be made available. The equipment produced by light manufacturers does not, however, indicate the absolute intensity values but provide ratios between measured and original light intensities of each individual type.

7.15.3 **Visual Observation:** Often a much faster visual observation carried out by experienced personnel will achieve comparable results for discovering and reporting single lights with unacceptable light output. For visual checks the level of brightness must be switched to "low" (3 to 10 per cent of maximum).

7.15.4 **Angle adjustment:** for adjustment of the correct angle of the beam, lights are normally furnished with alignment markings. Beam misalignment caused by displacement of the optical system inside, which cannot be corrected by adjusting the casing, shall be adjusted in the workshop

7.16 Maintenance of Visual Docking Guidance System (VDGS)

NOTE: in case of any new ACFT type operated at PMIA, it is the responsibility of Tibah PBB chief to coordinate with all related departments in order to ensure that VDGS is updated and related ground marking are in place.

The VDGS is provided only on East apron (all Contact and remote ACFT stands) while Tibah Technical directorate is responsible for the VDGS maintenance.
Below is a description of the maintenance of an individual SAFEDOCK Docking Guidance System, being a part of the parking system at an airport. In this perspective the main tool for Stand Set-up and SAFEDOCK configuration is a Lap Top computer, which can be connected to each docking system at the apron.

The description includes:

- Stand Set-up Procedures
- Corrective Maintenance
- Preventive Maintenance
- A Fault Finding Guide

7.16.1 General

The Docking Guidance System has to be set up and configured at mainly the following events:

- After initial installation at a Stand (configuration and calibration)
- After certain corrective activities/maintenance (recalibration)
- After the system by some reason has been forced out of its position (recalibration)
- When a centreline is changed or added (calibration)
- When a new aircraft type is added (configuration)
- When a STOP position is changed (configuration)

7.16.2 SET-UP Procedures

The Docking Guidance System is set up by the following procedures.

- Defining Centrelines
- Verifying a centreline definition
- Setting Calibration check points
- Configuration (setting aircraft types and their stop positions and so on)
- Removing Echoes from Fixed Object
- Storing Stand Configuration Files
- Set-up validation, the WalkTes

7.16.3 Planned Maintenance

The SAFEDOCK system has been specifically designed to minimize maintenance downtime. The following maintenance schedules detail the maintenance requirements on a weekly, monthly, six monthly and twelve monthly basis. The system does not require any further scheduled maintenance, as proving operations is always done automatically prior to any start-of-docking procedure.

Before commencing maintenance the following precautions must be considered:

CAUTION: PROTECTION AGAINST ELECTROSTATIC DISCHARGE

7.16.4 Maintenance Schedule

Planned or preventive maintenance per time interval is carried out according to the maintenance task lists below. Time intervals are:

- Per week.
- Per month.
- Per six months.
- Per year.

7.16.4.1 WEEKLY CHECK

Laser Unit Windows

- Inspect the Laser Scanning Unit cabinet front/side windows and Operator Panel for cleanliness.
- Clean as required with mild soap and water and a soft rag.

7.16.4.2 MONTHLY CHECK

Display Unit Front Glass

- Inspect the display unit front glass cover and Operator Panel for cleanliness.
- Clean as required with mild soap and water and a soft rag.

7.16.4.3 SIX MONTHLY CHECK

Laser Scanning Unit door

- Examine the Laser Scanning Unit door seal for signs of perishing and security of attachment.
- Renew carefully the seal if required. Use a sharp knife and clean with alcohol after removal. Adapt a new rubber gasket, closed cell type (EPDM-SBR), size 15 x 5 mm, available from Safegate.

Laser Scanning Unit Mirrors

- Examine the Laser Scanning Unit calibration and scanning mirrors for signs of dust, or damage.
- Renew mirror if required.
- Clean the laser lenses and mirrors with a camera lens cleaning wipe and alcohol.

Operator Panel Emergency Stop Buttons and keys

- Check the correct function of all Emergency Stop buttons. Ensure that the pilots display indicates STOP when the Emergency stop button is pressed.
- For stands with multiple emergency stop buttons, the above test shall be performed individually for each button.
- For adjacent system that share common emergency stop buttons, ensure that both systems pilots display indicates STOP when the Emergency stop button is pressed.
- Check there are no visible signs of wear on the OP cover (film) and check all keys react with a normal press. For example, press all keys: softkeys (option/function), scroll left/right, CANCEL and ENTER.

***Note**: Press the **Back** softkey before confirming any option/function selection*

Temperature Sensor

Check the function of the Temperature Sensor, using the OP's TEST utility.

7.16.4.4 ANNUAL CHECK

Display/Laser Unit

- Vacuum clean the inside of the display unit.
- Check fans in the system to make sure they are running properly. Every five year the fans shall be exchanged. Refer to purchase information below.
- If a Battery Backup unit is equipped, the batteries must be exchanged every five year. Contact Safegate or see the Spare Parts list.

7.16.4.5 CORRECTIVE MAINTENANCE

7.15.4.5.1 Any Failure report on VDGS must be reported immediately to Technical department through CMMS. The Docking Guidance Equipment has a built-in diagnostic test program that is activated prior to any start-of-docking command. Errors are reported with a code, identifying the kind of fault. Corrective maintenance of the SAFEDOCK system is carried out on the basis of these reports.

7.15.4.5.2 FAULT FINDING AND RECTIFICATION: Possible causes of each error and the recommended actions to be taken are presented in TROUBLESHOOTING. During rectification the procedures described in REPLACEMENT OF MALFUNCTIONING UNITS shall be followed.

7.15.4.5.3 TEST EQUIPMENT:
The test equipment used for the set-up of the SAFEDOCK system is the Server of the A-VDGS Central Computer System, provided the connection to GOS is established. The software SDCONFIG.EXE shall be used for this purpose. An alternative is to use any Laptop PC, which shall be connected to the service outlet of the Operator Panel. Note that the service outlet is an RS-485 port, which means that an interface

converter must be used, when connecting to the RS-232 COM port of the Lap Top computer. Optionally a Lap Top computer can also be connected to a 10BaseT/RJ-45 outlet in the Docking system's Display unit. This option also gives the Computer access to the central Configuration database.

7.15.4.6 Walk Test

Walk test is a system wide test function that exercises all the major features of the SAFEDOCK system. It is used to verify the operation of the system, and shall be performed, whenever a modification to the system has been made. In walk test, an entire docking procedure is performed, docking a person walking in along the centreline in place of an aircraft. When Walk Test is activated, a stop position must be chosen by selecting one of the configured aircraft types. The stop position for walk test will be the nose wheel position for the selected aircraft type. In this way, walk test can be used both to verify the operation of the system, and the configured stop positions for each aircraft type. The procedure for performing a walk test is:

- Enter system TEST functions and select WALK TEST. If the configuration has been updated for individual aircraft types, the system will suggest an aircraft type to be tested. Walk-Test for the suggested aircraft type can be started by pressing the ENTER key. At every entrance to the WALK TEST function the system will continue to suggest aircraft types until all updated aircraft types have been tested successfully.
- The test of any aircraft type's stop position can be done as follows:
- Select an aircraft type using the aircraft selection menu. The selected aircraft type will determine the stop position for walk test.
- Walk to the start position for 'walk test', which should be at least 20 metres from the stop position along the centreline. Walk from a position well aside of the capture area (±5° from centreline) to avoid an early capture.
- Walk toward the system, following the centreline. The system will activate azimuth guidance and closing rate display, as soon as the person is seen by the system.
- Follow the guidance information provided by the system, verifying that it closely matches the centreline.
- When STOP is given, verify that the stop position matches the desired stop position (nose wheel position) for the selected aircraft type.
- After a successful walk test the system will automatically terminate the test functions and return to normal operation without further user input.

***Note**: No **SLOW** or **TOO FAR** messages are available during walk test. As walk test is looking for a person, a much smaller object than an aircraft, it cannot reliably be used in adverse weather conditions such as rain or snow.*

NOTE: Further Details in maintenance of VDGS is available in Aerodrome Maintenance Manual (Tibah Technical Department).

7.16 Maintenance of Aerodrome Signs

Signs give pilots directional information for taxiing and holding. Maintenance should ensure integrity and perfect legibility of the information provided by them. The design and construction of signs varies considerably and maintenance system may also vary; but the general checks and maintenance, shall be followed as below:

- Damage to Sign front, housing and any exposed cabling.
- Weather gaskets are intact and prevent water or dirt from entering the sign.

- Tightness of all of the fasteners holding the sign securely in place.
- With the power off, check the terminal contacts to make sure the power cable wiring is securely fastened.

Tibah AGL team is responsible for aerodrome signs maintenance/inspections. AGL team conducts periodic inspections (in monthly basis) for aerodrome signs however, detailed report must be shared with Aerodrome Maintenance in-charge following each inspection.

7.17 Process Flowchart

N/A.

8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part1.

Standard Operating Procedure (SOP)

AERODROME WORKS PLANNING

Document Number:	TIBAH-AIROPS-SOP-11
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Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	New GACAR version (GACAR 139-7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

In this SOP, procedures for managing, planning and commencing aerodrome works (Projects, Maintenance Works and corrective actions) are explained. These procedures are important for the safe conduct of the operations during aerodrome works.

1.1 Regulation and Reference Documents

- GACAR 139
- ICAO Annex 14
- PMIA Aerodrome Manual.

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.5 and 8.1
- ISO 14001:2015 Clauses 7.5

2.0 Purpose

This document defines the procedure for the aerodrome works, projects and construction works.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Aerodrome Maintenance In-Charge	GACA Airport Authority
Safety & Aerodrome Operation Directorate	Royal Saudi Airforce (MED-RSAF)
Tibah Technical Directorate	Air Navigation Services
All Stakeholders	

4.0 Scope

This SOP dictates the operational procedures of aerodrome works at PMIA or its vicinity. It dictates in steps the management of aerodrome works, operational planning and the requirements needed for the approval of the plan, the promulgation of information, permits to works, the routine maintenance works, works within runway strips, emergency work in progress. It also states the accountabilities, the suspension of the work and the tasks under the airside operations department. This SOP is associated to all Aerodrome Operations Staff.

5.0 Applicable Areas within the Airfield

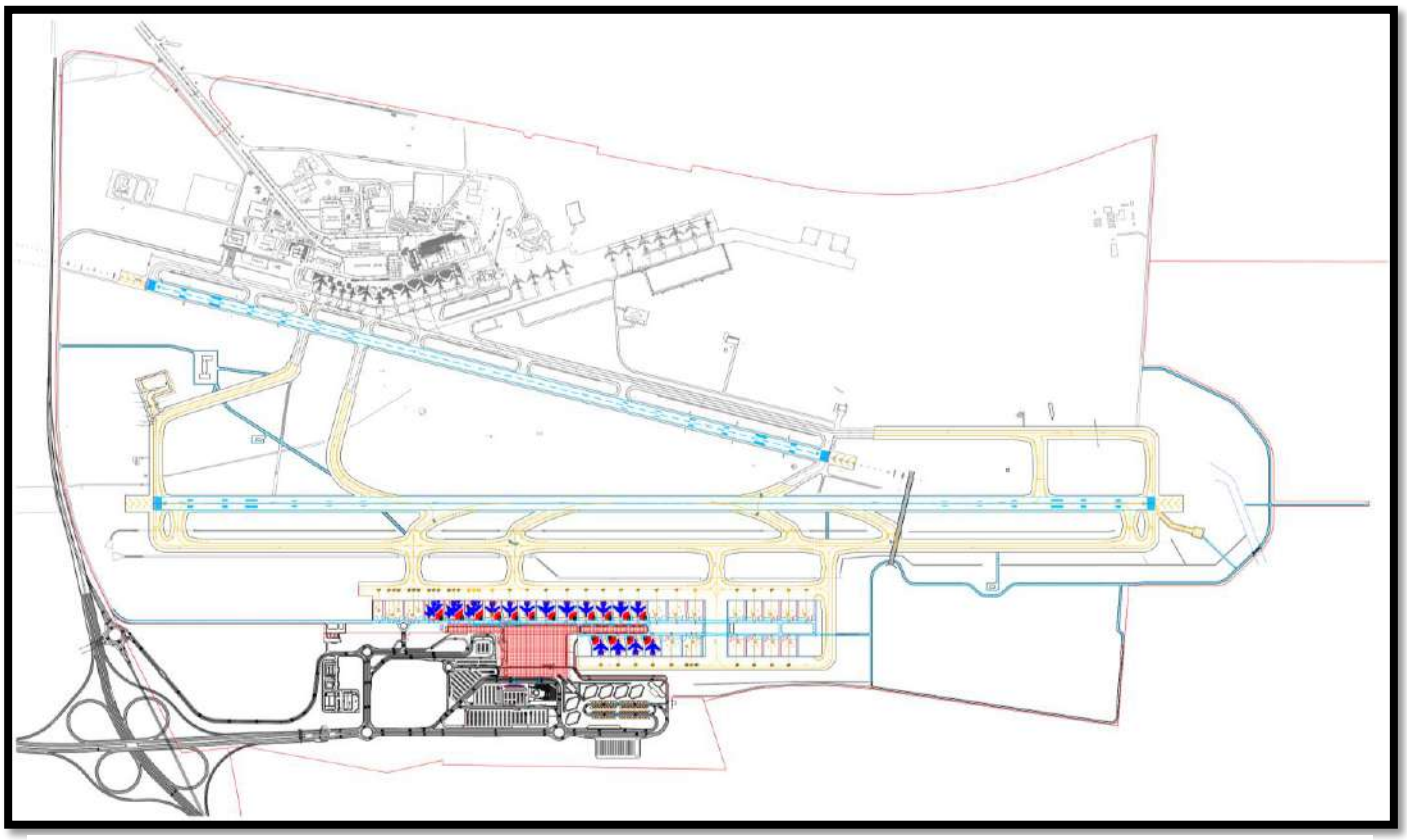


Figure 1 PMIA – Movement Area

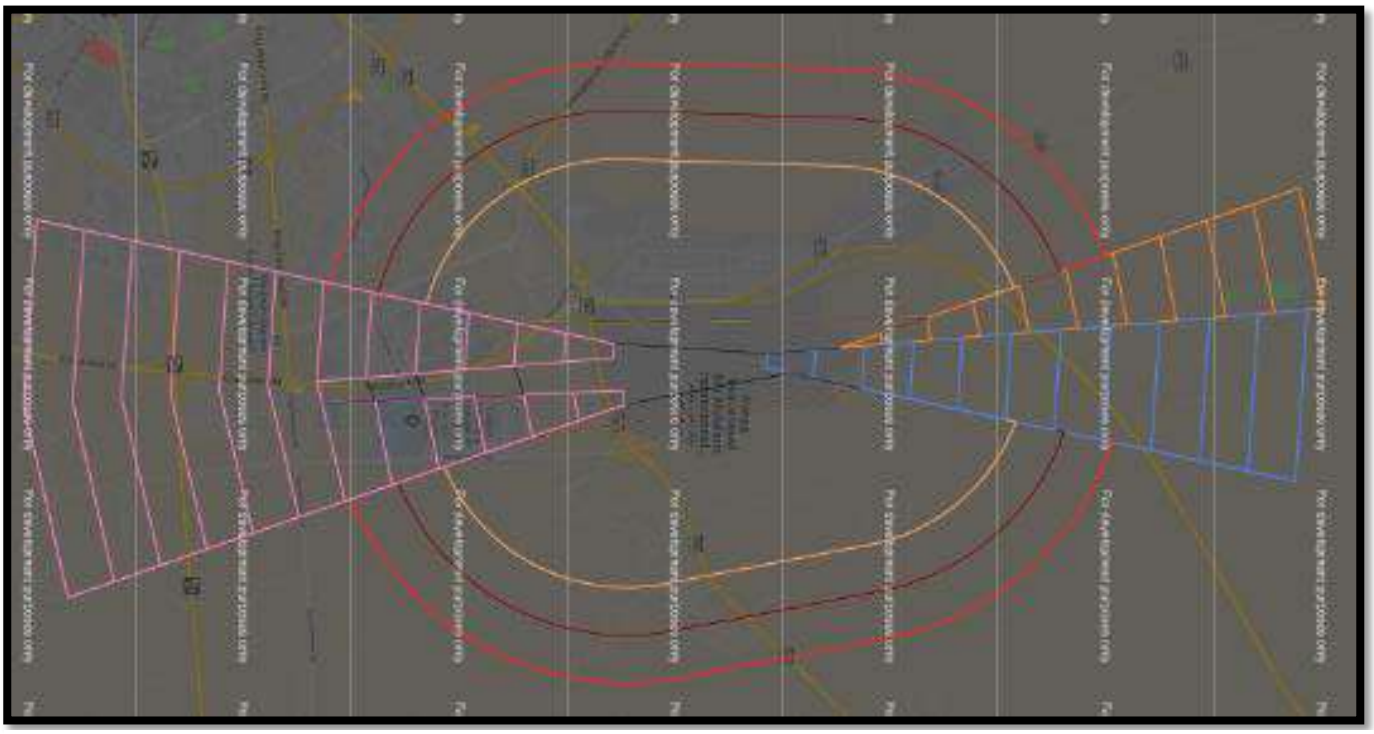


Figure 2 Aerodrome Vicinity – Restricted Areas for Development – Development is Subject to GACA Approval in this Area

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Construction, Projects and maintenance works	Pre-construction/maintenance Planning is required	Reduction in preventable occurrences during works	E-mail or Letter to Aerodrome Maintenance In-Charge	Safe and smooth operations	Any requested works within PMIA or its vicinity must be pre-coordinated with Maintenance in-charge (100% compliance)
Routine Maintenance works within movement	Routine Maintenance works within movement must be pre-coordinated with Aerodrome Maintenance in-charge (AGL and SANS daily routine works are exempted)	Ensure safe operations during conducting maintenance works within movement area		Safe and smooth operations	Routine Maintenance works within movement area must be pre-coordinated with Aerodrome Maintenance in-charge at least one working day ahead (100% compliance)
Emergency corrective actions within movement area	Emergency corrective actions within movement area (i.e. sudden failure on VDGS system, PBB failure or failure in Fuel Hydrant system)	Ensure safe operations during conducting maintenance works within movement area		Safe and smooth operations	Aerodrome Operation team must be pre-coordinate (100% compliance)

7.0 Process Description

7.1 General Rules

- All Maintenance works/Projects/Constructions within movement area or within aerodrome vicinity which may affect aviation safety, must be pre-coordinated with Tibah/PMIA Aerodrome maintenance in-charge in advance.
- Prior commencing any maintenance/Construction works within movement area, clear authorization/permission must be obtained by Tibah/PMIA Aerodrome maintenance in-charge.
- Some maintenance/construction works may require risk assessment study to be conducted in order to establish effective risks mitigation controls. It is responsibility of Aerodrome Maintenance in-charge to confirm that required maintenance /constructions works weather require risk assessment study or not in coordination with Aerodrome operation and Safety teams.
- Some maintenance/construction works may require advance work permit or hot work permit depend on the nature of required works. Aerodrome Maintenance in-charge, must be pre-coordinated in order to confirm whether the works require such permits or not.
- If a work permits issued for a project, construction works or maintenance works which require long period to be achieved (i.e. more than one day), then the requester must pre-coordinate with aerodrome maintenance in-charge in order to set together the works plan and time frame in weekly basis.
- Any routine Maintenance works within movement area must be pre-authorized/permitted by Aerodrome Maintenance in-charge at least one working day in advance.

- Aerodrome maintenance in-charge, upon the receipt of any routine maintenance works request, will coordinate with ATC, Safety, Aerodrome operation, Airport operation center (AOC), Air Navigation Services and any involved department ensuring safe operation.
- AGL and SANS (SME) **daily maintenance works** are exempted from provisions listed in this document (pre-authorization is not required).
- In case if an external contractor is haired to conduct maintenance works or construction works within apron area or any area other than maneuvering area, project/maintenance works requester must take full responsibility of monitoring contractor performance, escorting contractor's staff, provide required training in coordination with Tibah Safety team, secure the contractor equipment and tools, ensure contractor compliance with PMIA's standards/requirements.
- If required works are within aerodrome maneuvering area, only Aerodrome operation team are authorized to escort the contractor/requestor to enter/exit the maneuvering area (Risk assessment controls must be well followed).
- In order to enable the GACA to determine the continued compliance with the applicable GACA regulations, Tibah (Safety & Aerodrome operation directorate) must seek the acceptance of GACA President prior to carrying out any change in physical characteristics of the aerodrome.
- GACA advance approval must be obtained prior any construction works/project that may affect OLS (this is applicable for works/project within movement area and aerodrome vicinity as well).
- It is the responsibility of GACA Airport Authority to establish necessary communication lines with Madinah Municipality in order to involve GACA Airport Authority in the approval process of any sort of construction and masts inside the PMIA OLS zones.
- Contact details of departments/staff involved in issuance process of work permit/authorization are listed in aerodrome manual – part (2).
- Following the completion of any Aerodrome Maintenance works, the maintenance requestor shall coordinate with the aerodrome maintenance In-charge to review and check the works site and confirm his satisfaction.
- All works within aerodrome must be conducted in safe manner and as per Tibah OHS manual (**NOTE**: Tiabh OHS manual is available at PMIA webpage).

7.2 Management of Aerodrome Works – The Starting Point

All aerodrome works must be coordinated through Tibah Safety & Aerodrome operation directorate (Aerodrome Maintenance in-charge) who will accordingly coordinate with Tibah Technical directorate and GACA Airport Authority (Aerodrome Maintenance In-Charge will guide the project/works requestor for the required procedures). This applies not only to major construction projects but also to minor works, maintenance, fixed installations, and remedial works including painting and branding of structures. Any external organization, **(tenant, service partner, contractor etc.)** or MED internal department wishing to carry out any such works on the aprons or movement areas must inform Aerodrome Maintenance in-charge, Tibah Technical directorate and may be GACA Airport Authority in the first instance so that the project/construction works may be properly coordinated. The processes required to assure all safety and legal requirements are met may be lengthy and multi- faceted, depending on the nature and scope of the task. No one department has jurisdiction over all of these aspects and so it is vital that Tibah aerodrome maintenance in-charge and Tibah Technical directorate are contacted in the first instance, so that the correct process and consultation can be mapped.

7.3 Next Steps - Operational Planning and Approval Requirements

- Technical Director and Aerodrome maintenance in-charge must inform Safety Department and Aerodrome Operations of the proposed works or development well in advance in order that the due process may be followed. Where the project management role has been contracted out, the contractor must ensure such consultation takes place. However Tibah Safety Department is

ultimately accountable for the safe management of these processes – safety accountability under the Aerodrome License may not be delegated to contractors. Failure to properly consult may result in works being undertaken without authorization and in violation of the Aerodrome License. Unauthorized works are liable to immediate cessation by Safety and Aerodrome Operations personnel until the due consultation, planning and approvals are in place.

- All aerodrome development and maintenance work requires prior consultation so that the aerodrome safety and regulatory requirements can be assessed and managed. Technical Director and Aerodrome maintenance in-charge, via Safety Manager and Aerodrome Ops Manager, are responsible for the operational planning and notification of all aerodrome development works. It is a requirement of the GACA that Tibah must consult the GACA before commencing any development which may change the licensed facilities, and obtain the necessary approvals. The principles set out in GACA regulations will be followed. The Technical Director and Aerodrome maintenance in-charge will advise project teams of the likely planning and approval timescales in order that these can be programmed.
- The scope of the consultation and planning will be commensurate with the nature and scale of the project. The works planning and approval process is included at 7.4 below. The period of notice required will similarly be dependent upon the scope and impact of the works, and the availability of resources to undertake the necessary work.

7.4 Aerodrome Works Planning and Approval

Technical directorate and Safety & aerodrome operation directorate will ensure that the following actions and issues are covered:

- GACA Pre-approval (Ref; GACAR 139) if required.
- OLS penetration assessment
- Compliance with aerodrome licensing requirements
- Compliance with MED operational policy and specifications
- Assessment and management of operational safety risks
- Continuity of operations
- Minimum disruption
- Stakeholder liaison (aircraft operations-related only)
- Production of Safety Assurance Documentation for GACA approval
- Promulgation of Information
- Airport access
- (GACA) recommended markings, signs and lighting;
- Safety provisions and means of identification for aircraft movement areas and utility service routes;
- Check of the construction or maintenance work will penetrate the OLS at PMIA
- All other factors that could influence the conduct of the work and the operation of the airport.
- A Preconstruction Conference report shall also be completed. Some of the major points to be covered at the preconstruction conference are:

    - **Utilities** - Locations of utility service lines and buried cables shall be clearly identified, marked and signed for safety by Maintenance personnel, especially those that, if damaged, could cause Navigational Aid (NAVAID) discrepancies or critical facility failures.
    - **NAVAIDS** - Particular attention shall be given to possible interference with NAVAID signals and the protection of NAVAID facilities.
    - **Waste Materials** - Waste and debris on or near the runway, taxiways or apron shall not be permitted to accumulate during the course of construction or repair.

7.5 Major Projects

A major project will involve works such as:

- Construction of a taxiway
- Runway maintenance works other than routine activities
- A new building with an airside frontage or within movement area
- A new building/object/pylon within aerodrome vicinity which may affect aviation safety at PMIA.

The above list is not exhaustive but is indicative of what is considered to be a major project and will require substantial operational planning.
The project/works requestor must provide sufficient design data and works methodology in order that safety and operational assessments can be met. Design and operating philosophy cannot be approved until all necessary assessments and consultations have been completed.

7.6 Minor Projects

A minor project will involve work such as:

- Limited scale pavement reconstruction and repair
- Changes to road layouts
- Other works which requires closure or restriction in use of an airside facility such as a stand, an air bridge, or a roadway. Further details provided in Tibah Maintenance manual.

Planning and approval of minor projects will follow the same principles as for major projects but the scope and level of consultation will be smaller. GACA HQ will not normally be consulted via a formal development meeting and the level of consultation will be determined by the Technical Director and aerodrome operation in-charge.
Minor works may also be the subject an Airside Directive, or where deemed appropriate, a Minor Works Brief.

7.7 Permits to Work

Please refer to work permit SOPs, Aerodrome manual-Annex (A).

7.8 Works within Runway Strips

An Airside Work authorization must approve all works within runway strips (by aerodrome maintenance in-charge in coordination with aerodrome operations team). Works which are of a regular, on-going routine nature (e.g. grass-cutting) may have a ‘standing’ approval and will not require the issue of a permit on each occasion (air navigation services must be notified concerning such works in advance at least 24 hours ahead – one working day ahead). All other works requires the issue of a time specific authorization. Authorization is to be issued by the Aerodrome maintenance in-charge, who will in turn notify the AOC, Air navigation services, aerodrome Operations team and any other involved department.

7.9 Accountabilities

When works are taking place under positive clearance (ATC Approval), ATC are responsible for ensuring the safety of aircraft and personnel within the maneuvering area.
In these cases, the runway is ‘occupied’ and ATC will give a positive clearance for vehicles/personnel to pull back for aircraft movements.

7.10 Suspension of Work

Safety & Aerodrome Operations Personnel may suspend any work on the Airside at any time. This may be due to poor weather, an incident, lack of authorization, or as a result of poor working practice which is deemed a safety hazard to operations. Any member of staff who is concerned about the safety aspects of any works is to contact Air Navigation Services (MED-ATSU), Tibah AOC and Safety team immediately.

7.11 Tasks under Aerodrome Operations Division/Team

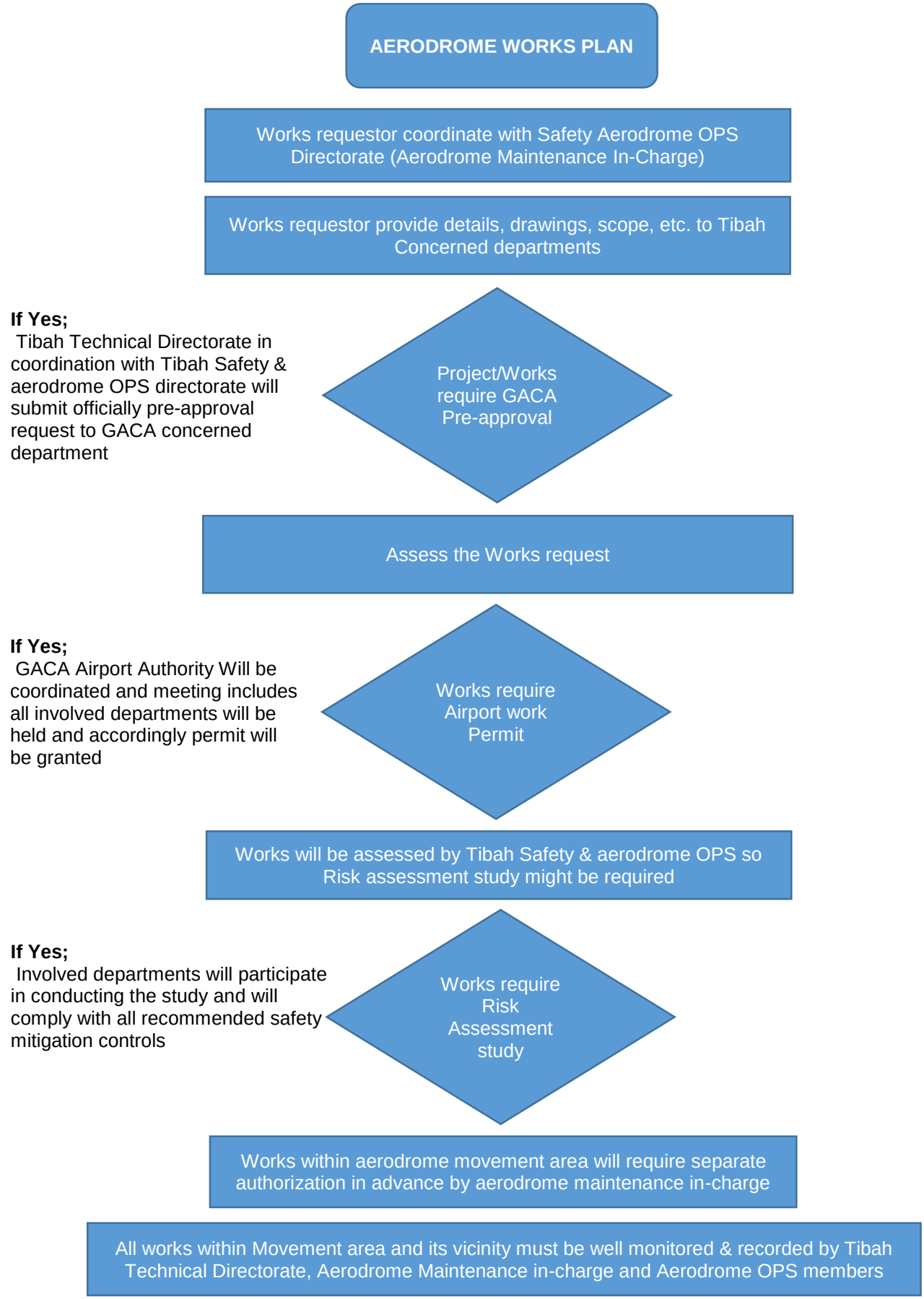
Associated Ops Tasks as Follows:

- The Aerodrome Operations in-charge and his employees are responsible to follow-up the safe and secured implementation of the abovementioned aerodrome operations procedures and events.

Associated operations Records as Follows:

- The Aerodrome Operations in-charge and his employees are responsible to maintain any valuable records related to the above mentioned aerodrome operations, events and activities.

7.12 Process Flowchart



8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

ROUTINE MAINTENANCE & EMERGENCY MAINTENANCE

Document Number:	TIBAH-AIROPS-SOP-12
Document Owner:	Safety and Aerodrome Operations Directorate
Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	New GACAR version (GACAR 139-7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

In this SOP, procedures for routine maintenance and emergency maintenance are explained.

1.1 Regulation and Reference Documents

- PMIA Aerodrome Manual
- GACAR 139

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 6.1; 7.5 and 8.1
- ISO 14001:2015 Clauses 7.5 and 8.2

2.0 Purpose

This document defines the procedure for routine maintenance and emergency maintenance at PMIA.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Safety & Aerodrome Operation Directorate (Aerodrome Maintenance In-Charge)	GACA Airport Authority
Tibah Technical Directorate	Royal Saudi Airforce (MED-RSAF)
Stakeholders, Tenant and Service Providers	Air Navigation Services

4.0 Scope

This SOP dictates the operational procedures of routine maintenance and emergency maintenance at PMIA. It dictates what is included in the routine and emergency maintenance works and the procedures and measures that should be taken as well as the tasks under Aerodrome operations division. This SOP is associated to all Aerodrome Operations Staff.
These procedures are applied for all Departments and service providers within PMIA.

NOTE: SANS SME and AGL daily maintenance works are exempted from this document's requirement.

5.0 Applicable Areas within the Airfield

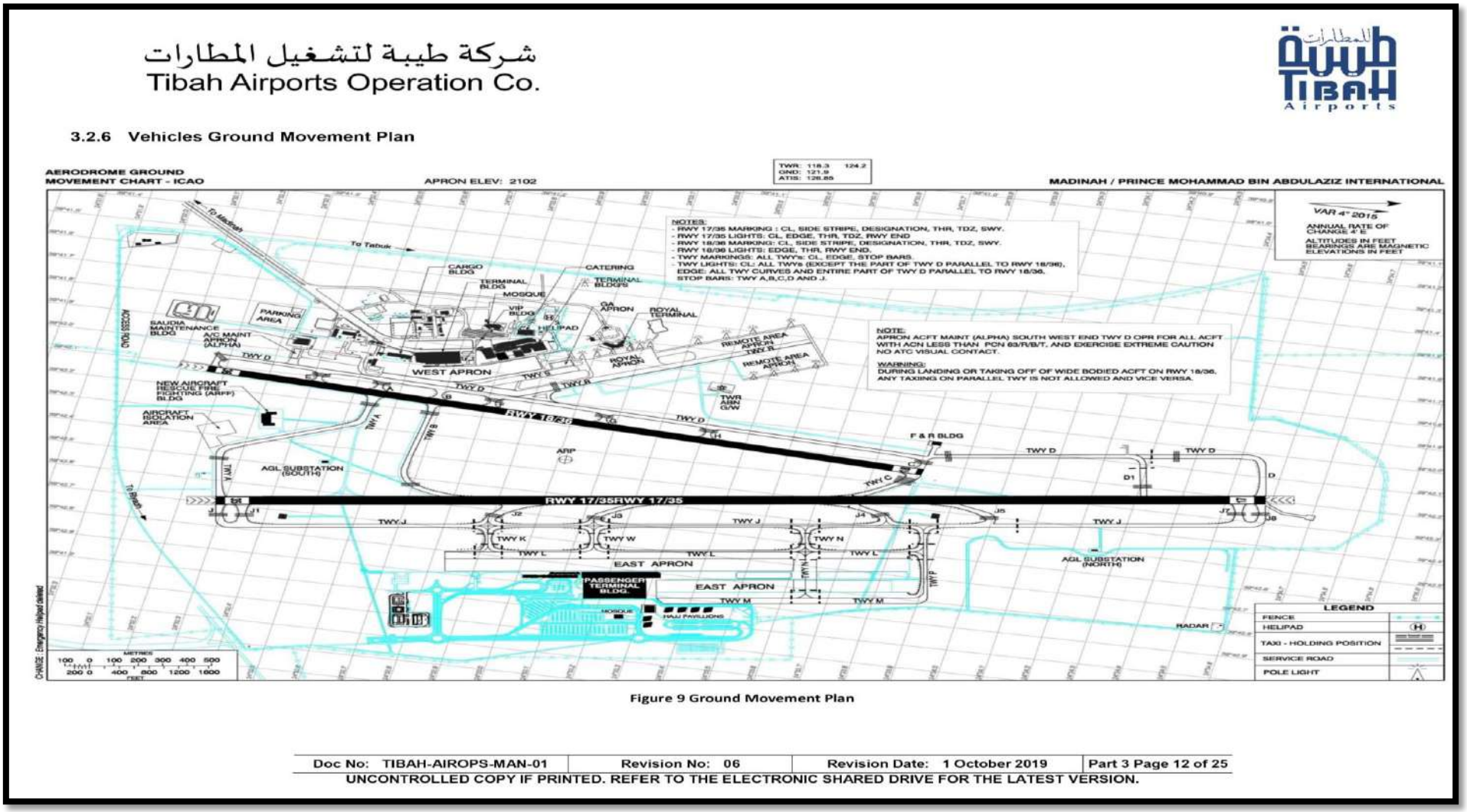


Figure 9 Ground Movement Plan

Figure 1 PMIA

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Routine Maintenance within movement area require clear authorization from Aerodrome Maintenance In-Charge	- Infrastructure work as remarking, pavement repair, crack ceiling …..etc. - Electrical work as signage's maintenance, airfield lighting ….etc. -Vegetation removal ….etc.	Safe Operations	- Daily Inspection reporting - ATC must be aware of any works within maintenance area in advance - CMMS Report	Reduction in preventable occurrences during works	Prior commencing any maintenance works within the movement area (including apron and service roads), Aerodrome Maintenance in-charge must be pre-coordinated and authorization must be obtained at least one working ahead (100% Compliance)
Emergency Maintenance	- Failure of a Taxiway or Runway pavement Surface requires immediate action - AGL failure - signage's damaged	Safe Operations	ODM/Aerodrome OPS team is to liaise directly with the ATC Duty Manager	The area is safe for operations	Aerodrome OPS team must be pre-coordinated through Airport operation center (AOC) so emergency authorization will be obtained

7.0 Process Description

7.1 Routine Maintenance Works

7.1.1 General

Routine maintenance work covers surface markings, signage, lighting, strip surfaces and grass cutting, Cleaning fuel pits, excavations, cleaning, HVAC maintenance works, Mechanical works, Electrical works … etc.
The routine nature of many maintenance functions can lead to complacency and consequent incidents and occurrences. It is of paramount importance that the planning, promulgation and execution of such works is detailed and carried out in a manner which attends meticulously to all relevant airside procedures. Requirements included in aerodrome manual and Tibah OHS manual must be strictly followed (both documents are available in PMIA web page).
Some of the maintenance and repair tasks can be accomplished during aircraft operations. Other tasks can only be undertaken when the area is closed to aircraft activity or when aircraft activity is light e.g. at night.

7.1.2 Procedures and Authorization for Routine Works

Regular, routine aerodrome maintenance work will be carried out in accordance with the assessment of the Aerodrome Maintenance in-charge. Generic, open-ended aerodrome Work authorization will be issued for such works (Aerodrome Maintenance In-Charge must be pre-

coordinated for obtaining such authorization officially (Email/Letter) at least one working day ahead for light maintenance works)
All routine maintenance works must be pre-coordinated with aerodrome maintenance in charge (at least one working day ahead) so the aerodrome maintenance will coordinate with aerodrome operation, safety and air navigation services (ATC) in order to ensure safe operations during conducting the required maintenance works.
Moreover, aerodrome maintenance in-charge will pre-coordinate with other involved departments that might be affected by the requested routine maintenance works.
Upon all above mentioned coordination, the aerodrome maintenance in-charge will authorize the requestor maintenance works to commence the works taking in consideration safety controls and operational measures required by PMIA.

NOTE: Contact details of departments/staff involved in issuance process of work permit/authorization are included in aerodrome manual – part (2).

7.1.3 Emergency Maintenance Works

Occasions may arise whereby a failure of a Taxiway or Runway Surface or any other portion within the aerodrome which requires immediate action in order to make the area safe for operations.
In this case, the Operation duty manager (ODM)/Aerodrome OPS team is to liaise directly with the ATC Duty Manager.
The ODM will authorize the required corrective works in coordination with Aerodrome operation team and Safety team where they will set out the necessary conditions and procedures applying.

7.1.4 Tasks under Aerodrome Operations Department

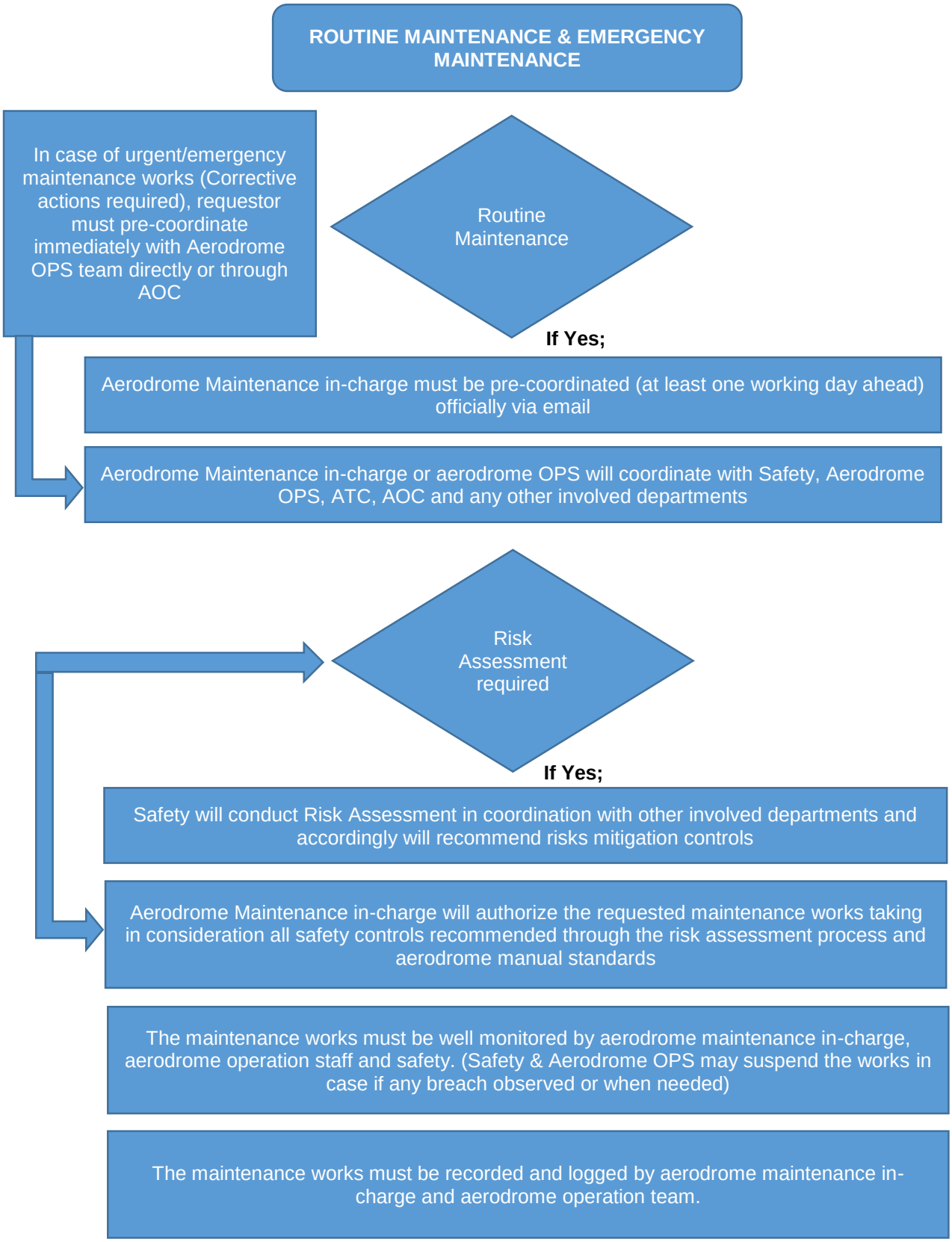
Associated Ops Tasks as Follows:

- The Aerodrome Operations in-charge, Aerodrome operations personnel and Safety are responsible to follow-up the safe and secured implementation of the above mentioned procedures, events and maintenance activities within aerodrome areas.

Associated Ops Records as Follows:

- The Aerodrome Operations in-charge and Aerodrome Maintenance in-charge are responsible to maintain any valuable records related to the above mentioned aerodrome operations events and activities.

7.2 Process Flowchart



8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

WORK PERMIT PROCEDURE

Document Number:	TIBAH-AIROPS-SOP-13
Document Owner:	Safety and Aerodrome Operations Directorate
Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	New GACAR version (GACAR 139-7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

The purpose of this procedure is to establish the process of the work requested by Tibah or any stakeholders in the airport. The permit is a written document which authorizes certain people to carry out specific work, at certain times and dates. This document describes the process for requesting a work permit.

1.1 Regulation and Reference Documents

- Document (1) Ref. TIBAH-TECH-SOP-01.
- Technical Manuals Ref. TIBAH-TECH-MANUAL
- Environmental Management System (EMS) Manual (Ref. TIBAH-QUALITY-MAN-03, Rev 01)

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.5 and 8.1
- ISO 14001:2015 Clauses 7.5

2.0 Purpose

Requested works concern construction, new installation, modification or major maintenance. It is intended to attain these objectives:

- Ascertain that the appropriate planning and management have been undertaken prior to major items being purchased (realized).
- To ensure that the Requested Work is properly monitored and tracked.
- Specify and set up requested works.
- To enhance accountability
- To serve as an instrument of internal monitoring
- Keep record of the work done
- Provide a framework
- Optimize task duration and workforce
- Develop the service and enhance work quality
- Convey information and encourage coordination between services
- Inform the other related departments about the works to be done
- To ensure that the requested permit took the environmental aspects and impacts into account
- To comply with Environmental Management System (EMS) requirements.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Tibah Technical Directorate	GACA Airport Authority
Aerodrome Maintenance In-Charge - Safety & Aerodrome Operations Directorate	GACA Aviation Standards Sector
Stakeholders	

4.0 Scope

- This procedure shall be applied to all concern construction, new installation, modification, capital improvements, major maintenance or any works need to be done in the airport.
- This procedure does not apply for a normal maintenance that to be done normally by the airport maintenance contractors as they are subjected to another procedure.

5.0 Applicable Areas within the Airfield

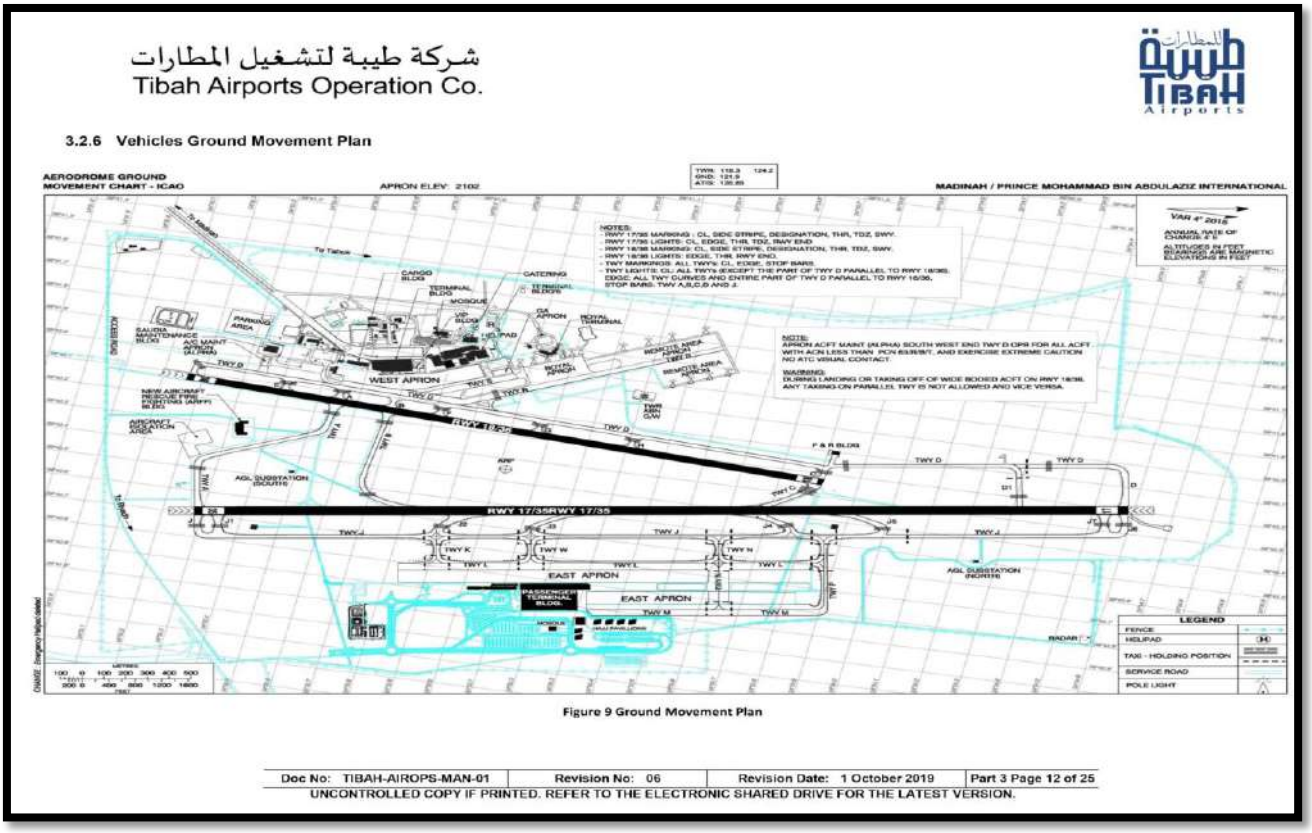


Figure 9 Ground Movement Plan

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Work Permit	Issuance of Work Permit – Projects/New Constructions	Safe operations	Tibah Technical Directorate	Controlled activities within PMIA	Work Permit must be issued for any project/New constructions – 100% compliance.

7.0 Process Description

7.1 The requester write a letter to Tibah MD to issue the work permit. The letter shall include a brief discerption about the project and all the necessary approvals (if any).

7.2 Technical Director review/assess the request and transfer it if approved to Engineering & Project Planning Department to initiate the work permit (Safety & Aerodrome operation Directorate must be involved in the initial assessment).

7.3 Engineering & Project Planning Department will make sure of the following before printing the work permit form:

- Approval from all the concerned parties is secured.

- Lease agreement or contract is signed and attached (if applicable).
- Detailed/shop drawings is approved and attached.
- Construction material/method and timetable is approved and attached.

7.4 A Engineering & Project Planning Department will print the work permit form and get it signed by the following sequence:

- The requester and the project contractor.
- Supervising Engineer.
- Commercial, Operations, Maintenance and Engineering & Projects Planning.
- Technical DGM.
- MD
- GACA Authority
- Environmental Department

7.5 Fill the **"Environmental Impact Assessment for Projects"** form (Ref. TIBAH-ENV-FRM-08), Rev 01) in coordination with Environmental Department.

7.6 Copy of the signed work permit will be provided to the requester/project contractor.

7.7 Work permits shall be valid until the specified date on the work permit.

7.8 Engineering & Projects Planning Department will follow the project step by step.

7.9 A contractor is required to have a work permit to undertake hazardous work on site.

7.10 Requester/Project Contractor will provide as-built drawings to the Engineering & Projects Planning Department.

7.11 Engineering & Projects Planning Department will update the Airport drawings.

7.12 In case of the project not finished on time and the work permit expired, the requester should send an official letter to MD asking to extend the work permit. The letter shall include a brief discerption about reasons of the delay.

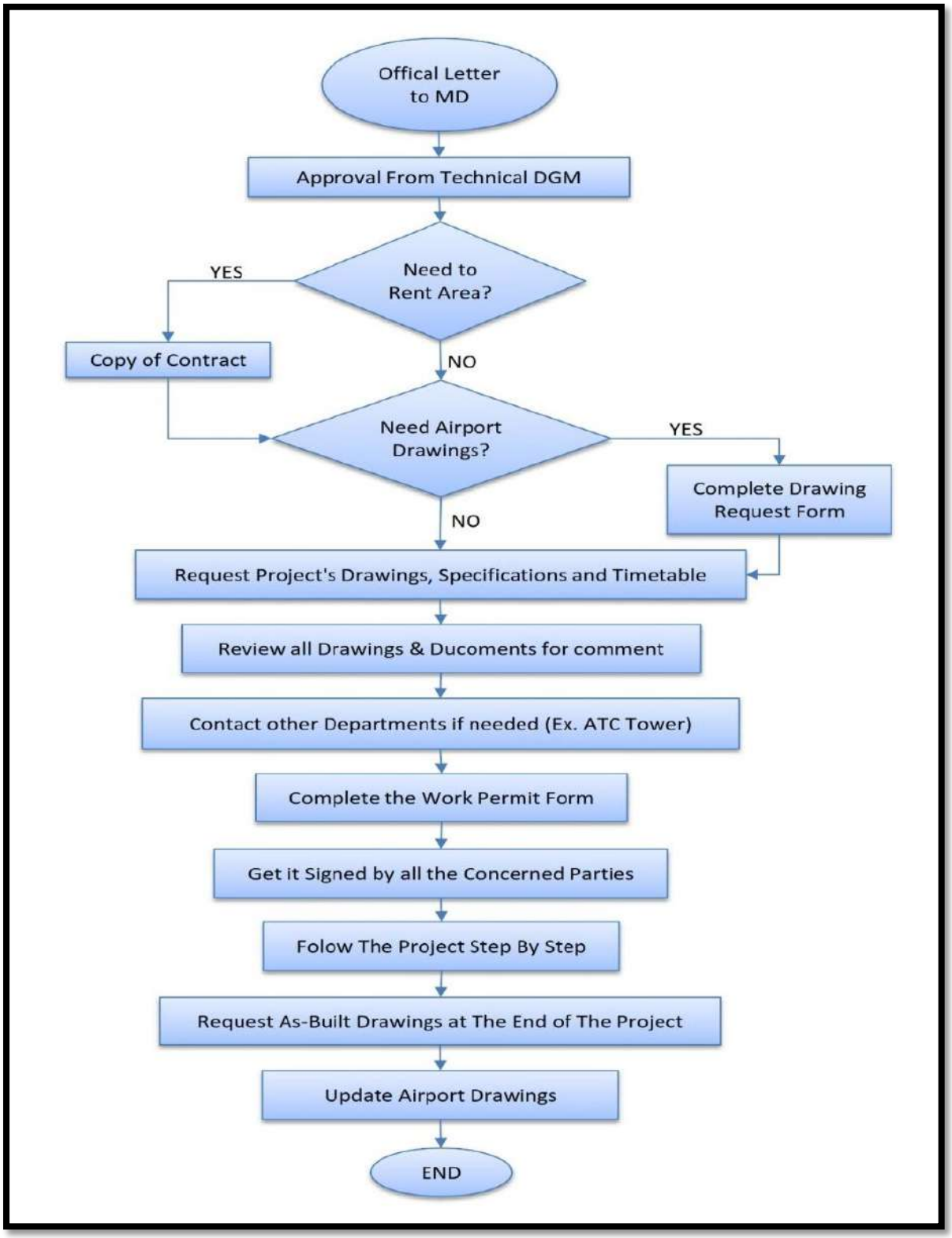
7.13 After MD approval, Technical Director review the request and extend the work permit by his hand written on the same work permit.

7.14 Authorities & Responsibilities

- It is Tibah Technical Directorate responsibility for Supervision and monitoring the works as follow:
- Supervise workforce
- Monitor work in progress
- Ensure safety precautions are observed
- Ensure environmental precautions are observed
- Proper disposal of any waste that may result from work
- Treating any environmental effects may result from work
- Check when job is complete
- It is a responsibility of the requestor and the contractor to Satisfy that they understand the requirements of the permit
- It is a responsibility of the requestor and the contractor to Ensure that all workers have skilled, qualified trained and competent to perform the work, including the use of any personnel protective equipment or rescue equipment
- It is a responsibility of the requestor and the contractor to ensure the job is performed in a safe manner by identifying hazards and have the necessary controls in place.

- It is a responsibility of the requestor ensure that all safety standards included in PMIA aerodrome manual and other manuals are well followed.
- Any unsafe/abnormal must be reported to AOC (Airport Operation Center Immediately)
- In case a risk assessment is required, Requestor must ensure that all involved staff are aware of safety controls and ensure well implementation of these safe controls.
- In case the required works are within movement area, requestor must pre-coordinate with Safety and Aerodrome operation directorate and must provide clear plan in daily basis in advance (prior enter the movement area) and following the completion of each working day.
- In case the required works are within area where ACFT safety and operation is not directly affected, then the requestor is responsible to escort workers and equipment from aerodrome gate to works site and vice versa following the daily completion. Requestor must assign competent person to monitor closely workers/contractor ensuring safe operation all times.
- In case if the required works are within maneuvering area (TWYs and RWYs or area between), then the requestor is responsible to pre-coordinate with Safety & aerodrome operation directorate so Aerodrome operation personnel will escort workers and equipment from aerodrome gate to works site and vice versa following the daily completion. Requestor must assign competent person to monitor closely workers/contractor ensuring safe operation all times.

7.15 Process Flowchart



8.0 Abbreviations and Acronyms

DGM	Deputy General Manager
DMS	Document Management System
EMS	Environmental Management System
HOD	Head of Department
MD	Managing Director
QMS	Quality Management System
QR	Quality Representative. Also synonymously called “IMS Representative”
RFP	Request for Permit
SD	Shared Drive
TD	Technical Director
WR	Work Request

NOTE: Further Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

MAINTENANCE OF AERODROME SECURITY FENCE

Document Number:	TIBAH-AIROPS-SOP-14
Document Owner:	Safety and Aerodrome Operations Directorate
Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	New GACAR version (GACAR 139-7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

In this document, the procedures for inspecting/maintaining Aerodrome security fence are described.

1.1 Regulation and Reference Documents

- PMIA Aerodrome Manual, (Ref. TIBAH-AIROPS-MAN-01)
- Aerodrome Manual (Part 5)

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.5; 8.1 and 8.5
- ISO 14001:2015 Clauses 7.5

2.0 Purpose

This document defines the procedure for maintaining the Aerodrome security fence.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Safety & Aerodrome operation Directorate	GACA
Tibah Technical Directorate	Royal Saudi Airforce (MED-RSAF)
	Stakeholders

4.0 Scope

This SOP dictates the procedures of maintaining the aerodrome security fence which surrounds the movement area and extend for 33 km around the aerodrome. Safety and Aerodrome operation directorate is responsible to conduct periodic inspections in order to ensure that the security fence is free of any damage.

5.0 Applicable Areas within the Airfield

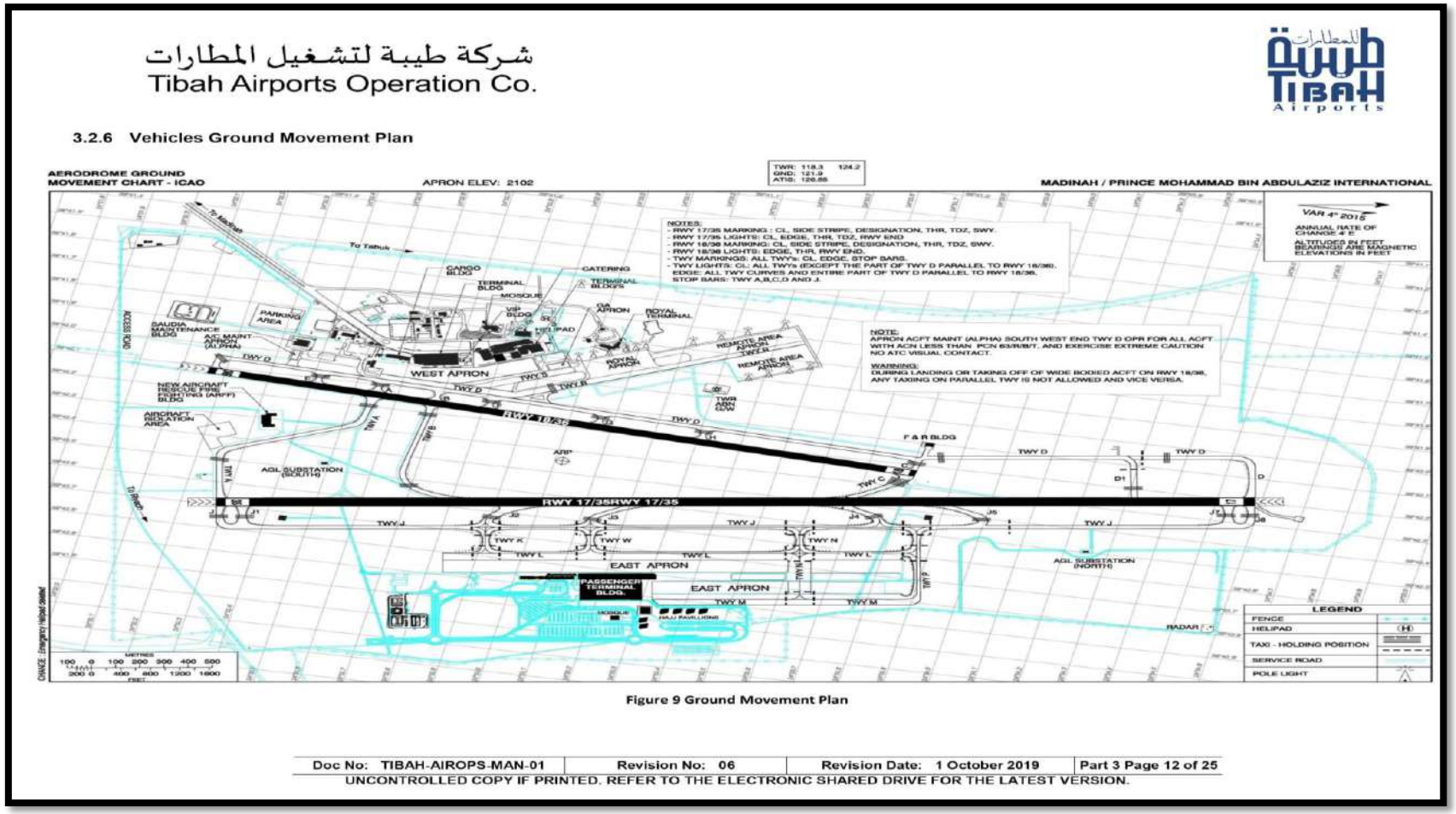


Figure 9 Ground Movement Plan

Figure 1 Aerodrome Security Fence – Indicated in Red Color

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

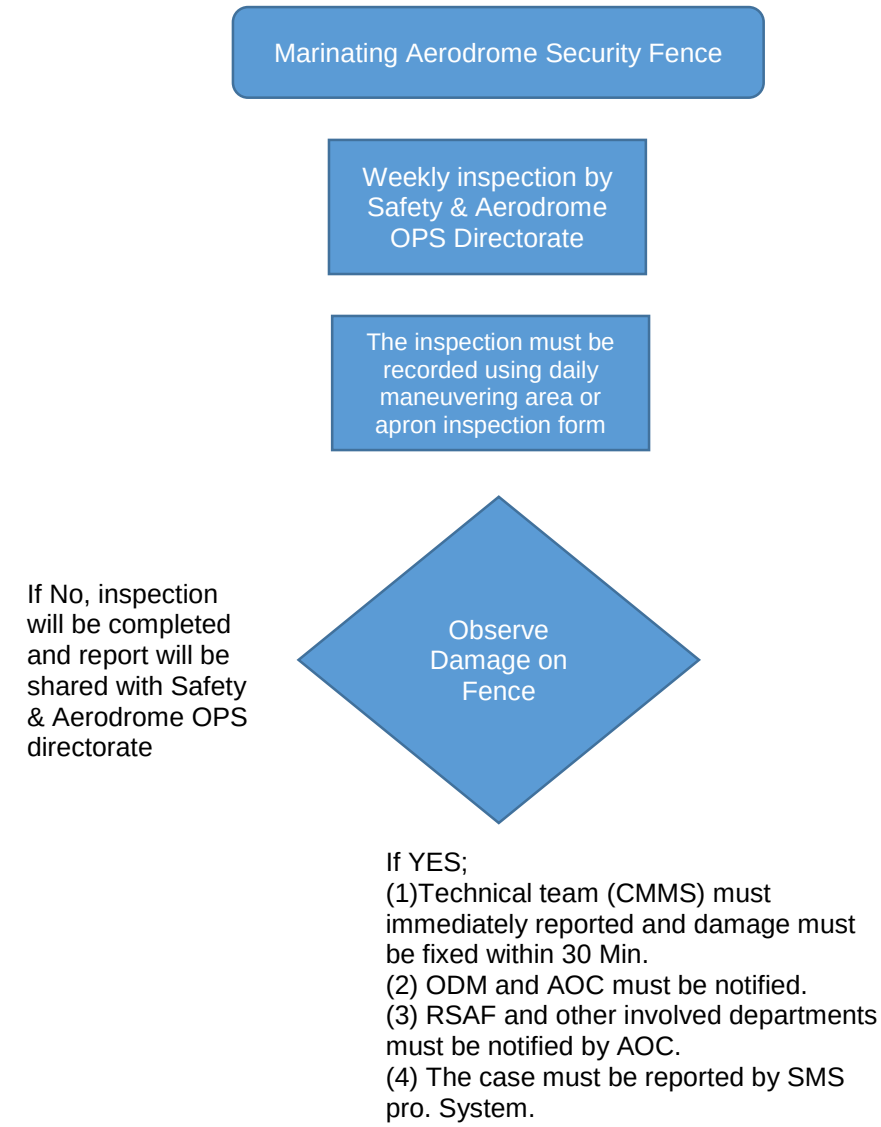
Name	Description	Main Drivers	Reporting	Output	Threshold
Maintaining Aerodrome Security Fence	Conduct Periodic Inspections by Safety & Aerodrome Directorate and Technical Team	Ensure that the security fence is free of any damage.	Tibah Technical Department (CMMS) and SMS Pro.	Safe operation at PMIA	Minimum once a week
Correction Measures in case if any damage observed	Response to any damage on the security fence				Any damage on security fence must be fixed immediately – maximum within 90 minutes

7.0 Process Description

7.1 For PMIA RWY 17/35 and its Associated TWYs

- Tibah Safety & Aerodrome Operation directorate and Tibah Technical Department are responsible of inspecting the aerodrome security fence in weekly basis (By Aerodrome OPS Personnel).
- Every week, Aerodrome operation staff supported by aerodrome maintenance In-Charge must conduct deep inspection along the aerodrome security fence which extend for 33 km.
- When conducting Fence inspection using aerodrome operation vehicles, vehicle speed should not exceed 15 km/h.
- In case of any damage observed on the fence, the fact must be reported immediately to Tibah Technical team (CMMS) in order to conduct required reparation works. Moreover, the case must be reported to AOC so AOC will notify RSAF, operation duty manager (ODM) and other involved departments if required.
- Any deficiency/damage appears on the security fence must be reported through SMS Pro. System as a safety hazard.
- Aerodrome operation personnel must follow up the situation until the damaged fence get totally fixed.
- Aerodrome operation's shift in-charge must record any hazardous situation including the reparation activity in the daily logbook.
- Following the completion of the inspection, inspectors must record the inspection results in maneuvering area/apron inspection form and must share the report with aerodrome OPS in-charge.

7.2 Process Flowchart



8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

DRAINAGE SYSTEM & CULVERTS MAINTENANCE

Document Number:	TIBAH-AIROPS-SOP-15
Document Owner:	Safety and Aerodrome Operations Directorate
Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	New GACAR version (GACAR 139-7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

The efficiency of the drainage and wastewater management systems does not only depend on the simplicity of their conception and their appropriate sizes, but also on the regular maintenance they must be subject to. Therefore in this document, the procedures for inspecting and maintaining the drainage system at PMIA are specified.

1.1 Regulation and Reference Documents

- PMIA Maintenance Manual
- GACAR 139

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.5; 8.1 and 8.5
- ISO 14001:2015 Clauses 7.5

2.0 Purpose

This document defines the procedure for maintaining/cleaning aerodrome drainages, culverts and ditches within movement area.
Technical department is responsible for ensure clean drainages, culverts and ditches within movement area through periodic inspections and cleaning processes for these facilities.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Technical directorate	GACA
Safety & Aerodrome operation directorate	Royal Saudi Airforce (MED-RSAF)

4.0 Scope

This SOP dictates the operational procedures for inspecting and maintaining the drainage system at PMIA. It explains the steps that should be done while inspecting the drainage system, watertight basins and oil interceptors, and the network of seepage or ground water drainage. It also explains the maintenance procedures required depending on the results of the inspections.

5.0 Applicable Areas within the Airfield

SECTION	ID	LOCATION
A1	DR-3.22, DR-3.23	Airside
	DR-7.15, DR-7.16	
	DR-10.1, DR-10.2	Airside to Landside
A2	DR-3.14 to DR-3.21	Airside
	DR-7.8 to DR-7.14	
A3	DR-3.5 to DR-3.13	Airside
	DR-7.1 to DR-7.7	
	DR-8.1 to DR-8.10	
A4	DR-3.2 to DR-3.4	Airside
A5	DR-3.1	Airside
	DR-5.2 to DR-5.4	
	DR-6.1 to DR-6.2	
A6	-----	-----
A7	DR-2.11 to DR-2.14	Airside
	DR-1.16	
	DR-9.1 to DR-9.4	Airside to Landside
A8	DR-2.10	Airside
	DR-1.14 to DR-1.15	
	DR-100.2	Airside to Landside
A9	DR-2.7 to DR-2.9	Airside
	DR-1.12 to DR-1.14	
	DR-100.1	Landside
	DR-101.1 to DR-101.12	
	DR-102.1	
	DR-103.1 to DR-103.2	
A10	DR-2.3 to DR-2.5	Airside
	DR-1.6 to DR-1.11	
	DR-5.1	
A11	DR-1.4 to DR-1.5	Airside
	DR-2.1 to DR-2.2	
A12	DR-1.1 to DR-1.3	Airside
	DR-4.1 to DR-4.2	

Table 1 Drainage Identifications within Movement Area

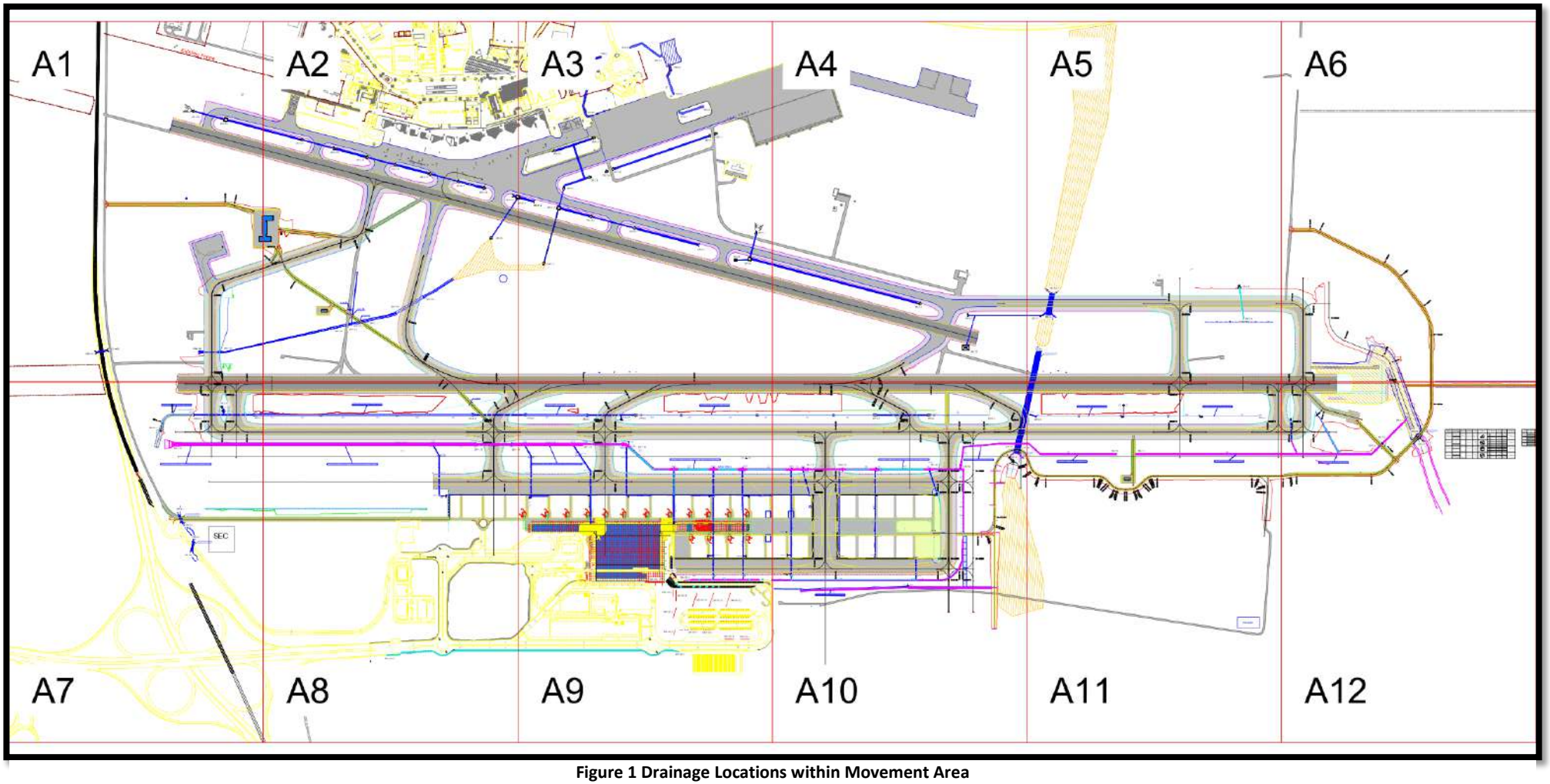


Figure 1 Drainage Locations within Movement Area

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 2 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Drainage System Maintenance	Scheduled Inspection of the drainage system and corrective actions	Avoid deterioration of paved areas and accumulation of runoff waters	Technical Directorate (CMMS) & Aerodrome Maintenance In-Charge	Clean and operational drainage system and uninterrupted air traffic	Deep visual inspection every six months or after heavy rains
Drainage System – Corrective action	Corrective Actions must be implemented if an uncleaned culvert/drainage report received				Immediately whenever required – No delay 100%

7.0 Process Description

Maintenance plan of Drainages/Culverts within movement area must be shared with Aerodrome Maintenance In-Charge in advance however; it is the responsibility of Aerodrome Maintenance In-Charge to coordinate with Technical team or maintenance contractor ensuring well implementation of the plan.

7.1 Inspection of Drainage System

The efficiency of the drainage system is of utmost importance, the most dangerous consequences of a deficient drainage network could be:

- The saturation of the subgrade and of the different layers of the pavement, which may cause a rapid deterioration of the paved areas.
- An excessive accumulation of runoff waters that may lead to an interruption of the air traffic.

7.1.1 Inspection of the Drainage System

This inspection concerns main sewers, cover plates, ditches, crossings under pavements, grating-covered gutters, manholes, etc.

- A detailed visual inspection every six months or after heavy rains is recommended (Detailed report must be shared with Safety & Aerodrome directorate)
- A ditch cleaning campaign every year and an inspection of underground pipes using sewer cameras every five years constitute a complementary efficiency rule (Detailed report must be shared with Safety & Aerodrome directorate)
- Ditch cleaning must be scheduled depending on the results yielded by visual inspection (Aerodrome Maintenance In-Charge must be pre-coordinated)

7.1.2 Inspection of Watertight Basins and Oil Interceptors

- A visual inspection every six months or after heavy rains is recommended (Detailed report must be shared with Safety & Aerodrome directorate)
- Cleaning or sludge pumping and removal of floating items is to be planned depending on the results of visual inspection (Aerodrome Maintenance In-Charge must be pre-coordinated)

7.1.3 Inspection of the Network of Seepage or Ground Water Drainage

- A visit every six months to the different outlets reveals the normal network operation (Detailed report must be shared with Safety & Aerodrome directorate)
- This visit will make it possible to identify functional defects, which will have to be handled using the appropriate means. (Aerodrome Maintenance In-Charge must be pre-coordinated)

7.2 Maintenance of the Drainage System

- Drainage ditch cleaning is to be scheduled depending on the results of visual inspection (Aerodrome Maintenance In-Charge must be pre-coordinated by maintenance contractor)
- The extra earth removed from the ditch when shaping or correcting the edges of the ditches or the trench cover plates, especially near runways, must not alter significantly the cross slope.
- The borders of the drainage ditches must be as graded as possible in order to reduce to the minimum the damages that may result from an aircraft's contact with them.

7.3 Process Flowchart

N/A.

8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

PAVEMENT SURFACE FRICTION EVALUATION

Document Number:	TIBAH-AIROPS-SOP-16
Document Owner:	Safety and Aerodrome Operations Directorate
Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	New GACAR version (GACAR 139-7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

The aerodrome operator is required to provide for the surface of paved runways to be maintained in a condition that provides good surface friction characteristics and low rolling resistance for aircraft. Therefore, in this document, the procedures for the runway friction testing at PMIA are specified.
The surface of a runway must be maintained in a condition such as to prevent formation of harmful irregularities.

1.1 Regulation and Reference Documents

- GACAR Part 139 – Subpart (N)
- ICAO Annex 14 Chapter 10 - Aerodrome Maintenance
- PMIA Maintenance Manual
- ICAO Doc 9137 - Airport Services Manual – Part 2

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.5 and 8.1
- ISO 14001:2015 Clauses 7.5

2.0 Purpose

This document provides detailed procedures of runway friction testing, assessment criteria and equipment requirements that should be used as required by GACAR Part 139 Aerodromes—Certification, Operation and Use.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Tibah Technical Directorate	GACA Airport Authority
Safety & Aerodrome Operation Directorate	Royal Saudi Airforce (MED-RSAF)
	Air Navigation Services
	Airlines Operators

4.0 Scope

Tibah Technical Team & Aerodrome Maintenance In-charge responsible of ensuring that runways must be maintained in a condition so as to provide surface friction characteristics at or above the minimum friction level specified in below table.
Runway friction characteristics for maintenance purpose must be periodically measured with a continuous friction measuring device using self-wetting features and documented. Friction measuring is a tool used maintenance planning and minimum friction level.
Evaluations should be scheduled dependent to the number of daily jet landings per end of runway.
The frequency of these measurements must be sufficient to determine the trend of the surface friction characteristics of the runway.
Corrective maintenance action must be taken to prevent the runway surface friction characteristics for either the entire runway or a portion thereof from failing below a minimum friction level specified by GACA.

5.0 Applicable Areas within the Airfield

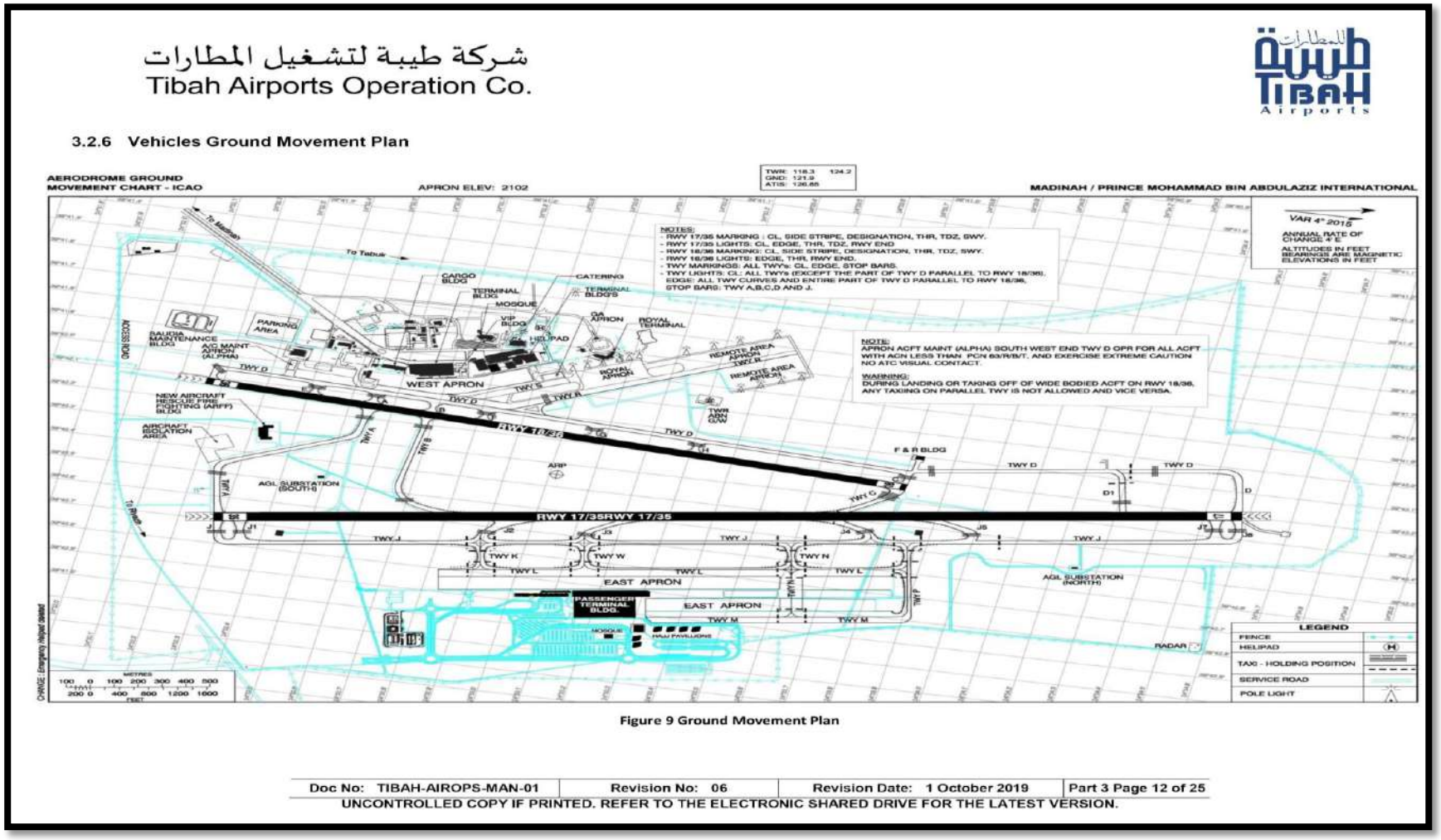


Figure 9 Ground Movement Plan

Figure 1 PMIA's RWYs

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Friction Testing	requires the use of continuous friction measuring equipment (CFME) together with trained personnel to conduct the tests	Maintain paved runways in a condition that provides good surface friction characteristics and low rolling resistance for aircraft	Tibah Technical Directorate & Aerodrome Maintenance In-Charge	Good surface friction characteristics and low rolling resistance for aircraft	Friction Test must be conducted periodically as per Tibah Maintenance plan (100% Compliance) Involved personnel must comply with PMIA requirements and must be well trained. (100% compliance)
Maintenance planning level (MPL)	The friction level below which a corrective maintenance action should be initiated				corrective maintenance action should be initiated immediately
Unusual slippery runway conditions	When it is suspected that a runway has become slippery under other than normal wet conditions, or due to unusual surface conditions				severity of any unusual slippery runway conditions should be promulgated by NOTAM to provide a cautionary warning immediately

7.0 Process Description

Runway friction testing requires the use of continuous friction measuring equipment (CFME) together with trained personnel to conduct the tests. If an aerodrome operator does not have CFME and trained staff to operate it, arrangements should be in place to access a unit with trained operators whenever testing is required.

If a contractor is used, it is important that that the CFME is appropriate for runway surface testing, and the operators are trained to perform runway friction testing.

Aerodrome Maintenance In-Charge must be pre-coordinated of Friction test process in advance (at least 7 working days in advance) so the aerodrome maintenance in-charge will coordinate with Aerodrome operation team, Safety and Quality assurance team, SANS (MED-ATSU and SANS Maintenance team and any other related department) should be aware of the required friction process.

Accordingly, Safety & Quality assurance team will conduct risk assessment study in coordination with all involved departments in order to identify all expected/related risks and come-up with effective risks mitigation controls that will be implemented during conducting the friction test. (Risk assessment must be conducted in accordance to Tibah SMS standards).

Prior conducting the friction test, Safety & Quality Assurance team will ensure that all involved departments are aware of measures and safety controls included in the related risk assessment.

Upon the completion of the friction test, results will be discussed among Technical directorate and Safety & Aerodrome OPS directorate in order to decide on next step.

Friction test results must be well recorded by Aerodrome Maintenance in-charge and Technical directorate.

7.1 Equipment Requirements

There are a variety of CFME on the market, however, all use on the same principles to determine the runway friction characteristics which are The Mu-Meter and the Grip Tester.

Before conducting friction surveys following measures must be achieved:

- Aerodrome maintenance In-Charge must ensure that the equipment has been serviced and maintained in accordance with the manufacturer's requirements, and is in full working order; and
- Aerodrome maintenance In-Charge must ensure that the friction measuring system and components have been calibrated in accordance with the manufacturer's instructions and its performance has been confirmed to be within the manufacturer's specified tolerances; and

- for CFME fitted with self-wetting systems:
  - The water flow rate is correct; and
  - The amount of water produced for the required water depth is consistent and
  - Applied evenly in front of the friction measuring wheel(s).

Before and after undertaking the runway friction tests, the CFME should be checked on a defined test strip of pavement that is not used for aircraft operations. Comparison of the sample readings with previous results will quickly verify the CFME performance.

7.2 Personnel Working on Aerodromes

- All personnel undertaking runway friction tests need to comply with the general requirements for personnel working on operational areas of an aerodrome, or be accompanied and supervised at all times by someone who does. In particular they must:
  - Be familiar with, and follow the established procedures for working on an operational aerodrome; and
  - Have a vehicle equipped with a flashing or rotating beacon or a chequered flag for day time testing, or a flashing or rotating beacon for night time testing.

- Before any work starts personnel should be fully briefed operational procedures, method of work plans (MOWP) and safety plans, and any other matters relevant to the work being carried out.
- PMIA Aerodrome Manual and Tibah OHS manual contain the requirements for personnel working on operational areas of an aerodrome.
- The process of conducting friction test must be supervised closely by competent person from Tibah Technical directorate and Aerodrome Maintenance In-Charge however, at least one Aerodrome operation agent must be on-site during conducting the test and must maintain close coordination with MED-ATSU.

7.3 CFME Operator

- The success of friction measurement in delivering reliable friction data depends heavily on the personnel, who are responsible for operating the equipment. It is important that CFME operators are fully trained and competent, to use the equipment and are aware of the critical factors affecting the accuracy of friction measurements.
- Where a contractor carries out the testing it is the responsibility of the aerodrome operator to be satisfied as to the competency and experience of the CFME operator.

- CFME operators should have been:
  - **Trained to:**
    - Service and maintain the equipment; and
    - Check its calibration and verifying it is working properly; and
    - Operate the machine and carry out friction testing; and

- **Understand:**
  - Runway friction testing procedures; and
  - Requirements and procedures when working on operational areas; and

- Assessed as competent to carry out runway friction testing; and
- Where appropriate, have received recurrent training and assessments.

- Records must be kept as evidence that training and competency assessments have been completed.

7.4 Environmental Conditions for Friction Testing

- Environmental conditions can affect the friction testing results. The test should be conducted when:
  - The runway surface is dry, free from precipitation, and has no wet patches; and

- Dampness, fog and mist conditions may affect the outcome of the test and cross-winds may affect self-wetting testing.
- Where necessary, aerodrome operators should seek advice on any environmental issues from the CFME manufacturer.

7.5 Runway Surface Friction Testing Procedure

- Friction readings for the survey run are collected by the CFME along the entire pavement length. Several runs are made along the runway, offset on either side of the centerline, and in both directions.
- The runway should be divided into zones 100 meters in length with an average friction value determined every 10 meters along a run, enabling a 100-metre rolling average to be calculated.

7.6 Location of Friction Testing Runs

- The friction measurements are to be taken on tracks parallel to the runway longitudinal centerline, at right and left offsets, and in both landing directions.

- The right and left offsets from runway centerline specified for friction measurements are based on the type and/or mix of aircraft operating on the runway. The lowest friction levels will generally occur in the wheel path areas, as a result of the wearing action of aircraft tires on the pavement surface texture characteristics, and the build-up of surface contaminants such as tire rubber.
  - Friction testing should be conducted at both 3 ,6 and 9 meters from the runway centerline, to determine the worst case condition and due to the undercarriage widths of certain aircraft operating
  - If the worst case condition is found to be consistently limited to one track, future surveys may be limited to this track. Care should be exercised, however, to account for any future and/or seasonal changes in aircraft mix.

- It is recommended that two friction measurement runs be performed at each of the right and left three and six meter offsets, as applicable. Results of the four measured runs can be averaged to determine "100 Meter Section Average Friction" values along the length of the runway and the overall "Runway Average Friction" value. The use of discrete values can be applied if the software is available, allowing a quick assessment of problem areas.

7.7 Friction Testing Work Schedule

- Ideally each runway direction should be tested separately, with friction test runs on either side of the runway centerline. The practice of one circular run for the whole runway results in only the friction values for one side of each direction of a runway being assessed.

- If there are operational difficulties in conducting bi-directional tests, the aerodrome operator may implement a series of single direction tests to complete the testing programme. Appropriate processes should be in place to ensure the tests in both directions are completed.

7.8 Low Friction Values

- When friction values below maintenance planning levels are measured, additional friction runs should be performed outside the wheel path area in order to assess the degree to which wear and contaminants have lowered friction levels in the center trafficked area. A test track profile located 5 to 10 meters from the outer edge of the paved runway surface is normally optimum for the purposes of wear and contaminant comparison tests.

7.9 Vehicle Testing Speed

- The tests should cover the maximum area of the runway, subject to the test vehicle having sufficient area to accelerate to the required speed and decelerate and stop safely. Standard runs should be carried out along the entire pavement length at a constant speed, starting with the run closest to the runway edge.
- The friction test runs should be performed at two speeds, 65 km/h (40 mph) and 95 km/h (60 mph). The lower speed determines the overall mix of macro-texture and micro- texture/contaminant/-drainage condition of the pavement surface. The higher speed provides a further indication of the condition of the surface's macro-texture alone.
- A complete survey should include tests at both speeds although operational requirements may limit this

7.10 Friction Testing Frequency

- If historical data indicates the surface is deteriorating faster or slower than the rate used to establish the testing frequency, the frequency can be adjusted taking into account:
  - The type, mix and frequency of aircraft operating on the runway; and
  - The specific micro- and macro-texture characteristics of the pavement surface; and
  - The presence, extent and severity of surface contaminants especially rubber build-up; and
  - The existence of pavement surface problems which may directly affect friction levels; and
  - Pilot reports of low friction levels being experienced during aircraft braking; and
  - The frequency of past programs for the removal of surface rubber contaminants; and
  - Any recent construction or maintenance of the pavement surface, and
  - The results of past friction measurements.

- The objective is to ensure that, when the friction level has reached the maintenance planning level (MPL), maintenance can be arranged and completed efficiently and in a timely manner, to ensure the friction characteristics do not deteriorate below the minimum friction level (MFL).
- The aerodrome operator (Tibah Technical Team & Aerodrome Maintenance In-Charge) should record the justification for any variation from the recommended periodicity for assessments.
- When it is suspected that a runway has become slippery under other than normal wet conditions, or due to unusual surface conditions, additional friction testing may need to be undertaken. Information detailing the nature, extent and severity of any unusual slippery runway conditions should be promulgated by NOTAM to provide a cautionary warning (NOTAM will be originated by Aerodrome operation team in coordination with Tibah Technical & Aerodrome Maintenance In-Charge).
- The operator of an aerodrome with significant jet aircraft traffic should schedule periodic friction testing of each runway that accommodates jet aircraft depending on the volume and type (weight) of traffic using the runway, testing may be needed more frequently, with the most heavily used runways needing testing as often as monthly, as rubber deposits build up.
- Each runway end should be evaluated separately, for example: Runway 18 and Runway 36.

- Runway friction measurements take time, and while tests are being conducted, the runway will be unusable by aircraft. Since this testing is not time critical, a period should be selected which minimizes disruption of air traffic.
- Table below details the recommended frequency for friction testing for runways where turbojet aircraft operate. It is important the aerodrome operator assesses their own individual aerodrome needs.

Number of Daily Turbojet Aircraft Landing per Runway End	Minimum friction Survey Frequency
Less than 15	1-Year
16 to 30	6-Months
30 to 90	3-Months
91 to 150	1-Month
151 to 210	2-Weeks
Greater than 210	Every Week

7.11 Testing Following Maintenance Activities

- The friction characteristics of a runway can alter significantly following maintenance activities, even if the activity was not intended to affect the friction characteristics. Therefore, a runway surface friction assessment should be conducted as soon as practicable, following any significant maintenance activity conducted on the runway. If possible this should be done before the runway is returned to service.
- If the runway surface friction assessment indicates that the friction characteristics of an area of the runway, that has been subject to maintenance work are poorer than anticipated or fall below the acceptable levels additional assessments, testing should be performed over a period of time to ascertain whether the friction characteristics remain stable, improve, or if additional work should be carried out.

7.12 Testing Following Reports of Poor Braking Action

- Runway surface friction assessments should also be conducted following a period of poor braking action reports on a dry, damp or wet run surface, if there are visible signs of runway surface wear, or for any other relevant reason

7.13 Evaluation of Friction Testing Results

7.13.1 Friction Assessment Levels

- There are three published friction levels for runways:
  - **Design objective level (DOL)** - The friction level to be achieved or exceeded on a new or resurfaced runway.
  - **Maintenance planning level (MPL)** - The friction level below which a corrective maintenance action should be initiated.
  - **Minimum friction level (MFL)** - The friction level below which information that a runway may be slippery when wet thus; corrective actions must be taken immediately.

- Table below details GACA friction level standards. (ref; GACAR 139-Subpart N - AERODROME MAINTENANCE)

Test equipment	Test tire Type	Test tire Pressure (kPa)	Test speed (km/h)	Test water depth (mm)	Design objective for new surface	Maintenance planning level	Minimum friction level
(1)	(2)		(3)	(4)	(5)	(6)	(7)
Mu-meter Trailer	A	70	65	1.0	0.72	0.52	0.42
	A	70	95	1.0	0.66	0.38	0.26
Skiddometer Trailer	B	210	65	1.0	0.82	0.60	0.50
	B	210	95	1.0	0.74	0.47	0.34
Surface Friction Tester Vehicle	B	210	65	1.0	0.82	0.60	0.50
	B	210	95	1.0	0.74	0.47	0.34
Runway Friction Tester Vehicle	B	210	65	1.0	0.82	0.60	0.50
	B	210	95	1.0	0.74	0.54	0.41
TATRA Friction Tester Vehicle	B	210	65	1.0	0.76	0.57	0.48
	B	210	95	1.0	0.67	0.52	0.42
RUNAR Trailer	B	210	65	1.0	0.69	0.52	0.45
	B	210	95	1.0	0.63	0.42	0.32
GRIPTESTER Trailer	C	140	65	1.0	0.74	0.53	0.43
	C	140	95	1.0	0.64	0.36	0.24

7.14 Action Following a Runway Friction Assessment

- The raw data from the friction test should be interpreted by trained maintenance personnel familiar with friction testing requirements.
- A report should be compiled from the raw data and compare the friction levels from the test against the published required friction levels. The report should also identify any areas where there are deficiencies, and make recommendations to address these.

- The aerodrome operator (Tibah Technical & Aerodrome Maintenance In-Charge) should review the results of each runway friction assessment and where appropriate take the following action:
  - If the friction level is below the MPL, maintenance should be arranged to restore the friction level, ideally to a value equal to or greater than the DOL.
  - If the friction level is trending downwards, the aerodrome operator should consider increasing the frequency of assessments to ensure any further or rapid deterioration is identified in time for appropriate remedial action to be taken.
  - If the friction level is below the MFL, maintenance should be arranged urgently to restore the friction level. In accordance with GACAR 139.301-h-(7) a NOTAM should be issued advising that the runway may be slippery when wet.
  - If the friction level is significantly below the MFL, the aerodrome operator should consider withdrawing the runway from use for take-off and/or landing when wet.

- If there is any reason to doubt the accuracy of a runway surface friction assessment, it should be repeated.

7.15 Trend Analysis

- Friction testing results should be systematically recorded by Aerodrome Maintenance In-Charge and Technical team to allow the results to be monitored to identify trends and patterns. This enables analysis of the condition of the runway surface so timely preventative and/or corrective actions can be taken and, where appropriate, adjustments to the intervals between friction testing can be made.
- Any trend analysis must take into account the effects of using different CFME, equipment tire wear and environmental factors. Effective interpretation of results can require normalization of test result data and factoring in issues that might affect the measurement data.

7.16 Rubber Removal

- One of the main causes of reduced runway friction levels is rubber deposits on the runway surface. There are various methods for rubber deposits removal, depending on the level of rubber deposits and the type of runway surface. Guidance on the removal of rubber can be found in ICAO Airport Services Manual Part 2, Chapter 8.
- Rubber deposit removal processes can affect other aspects of the runway surface condition. Aerodrome operators should get specialist advice when necessary to ensure that rubber removal does not adversely affect other characteristics of the runway surface.

7.17 Records

The Aerodrome maintenance In-Charge should keep records of all runway surface friction tests. The friction tests should be incorporated into the aerodrome maintenance plan, and used to monitor the overall health and condition of the runway surface.

The following items should be recorded for each assessment:

- Date and time of assessment.
- Type of CFME used.
- Name of operator (Maintenance Contractor).
- Runway assessed.
- Runway number and runway direction.
- Distance from the centerline and which side of centerline the run was performed.
- Distance from threshold the run was performed.
- Constant run speed (Km/h) for each run.
- Runway length.
- Amount of water film used.
- Surface condition (dry/damp/wet)
- Weather conditions and ambient temperature, and the runway surface and measuring wheel temperatures if available.
- Friction levels for each portion of the pavement. This can include average friction level for each third of the runway at each offset, direction, and speed.
- Overall friction level for full length of the runway and, if required the 10m friction averages in the touchdown zones.
- A comparison of the results with any previous surveys conducted, providing the same CFME has been used.
- Evaluation of friction levels between the reference non-trafficked test strip and the trafficked runway during the current survey.
- Any evaluations of the reference non-trafficked test strip between successive surveys.
- Any additional comments.

7.18 Process Flowchart

N/A.

8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

RUNWAY RUBBER REMOVAL

Document Number:	TIBAH-AIROPS-SOP-17
Document Owner:	Safety and Aerodrome Operations Directorate
Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	New GACAR version (GACAR 139-7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

In this document, the various procedures for rubber removal at PMIA are specified. Airfield rubber removal, also known as runway rubber removal, is the use of high-pressure water, abrasives, chemicals and/or other mechanical means to remove the rubber that builds up on airport landing strips.

1.1 Regulation and Reference Documents

- GACAR Part 139 – Sub part (N)
- ICAO Annex 14 Chapter 10 - Aerodrome Maintenance
- PMIA Maintenance Manual
- ICAO Doc 9137 - Airport Services Manual – Part 2.

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.5 and 8.1
- ISO 14001:2015 Clauses 7.5

2.0 Purpose

This document provides detailed procedures of runway rubber removal process at PMIA.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Tibah Technical Directorate	GACA
Safety & Aerodrome Operation Directorate	Royal Saudi Airforce (MED-RSAF)
	Air Navigation Services - SANS
	Stakeholders

4.0 Scope

This SOP dictates the operational procedures of rubber removal. It explains how to know when it is necessary to clean and remove rubber deposits and grooves as well as different methods that could be used for this operation.
Tibah Technical Directorate is responsible of conducting the process of removing rubber from PMIA RWYs surfaces ensuring safe and smooth operation at PMIA in coordination with Aerodrome Maintenance In-charge.

5.0 Applicable Areas within the Airfield

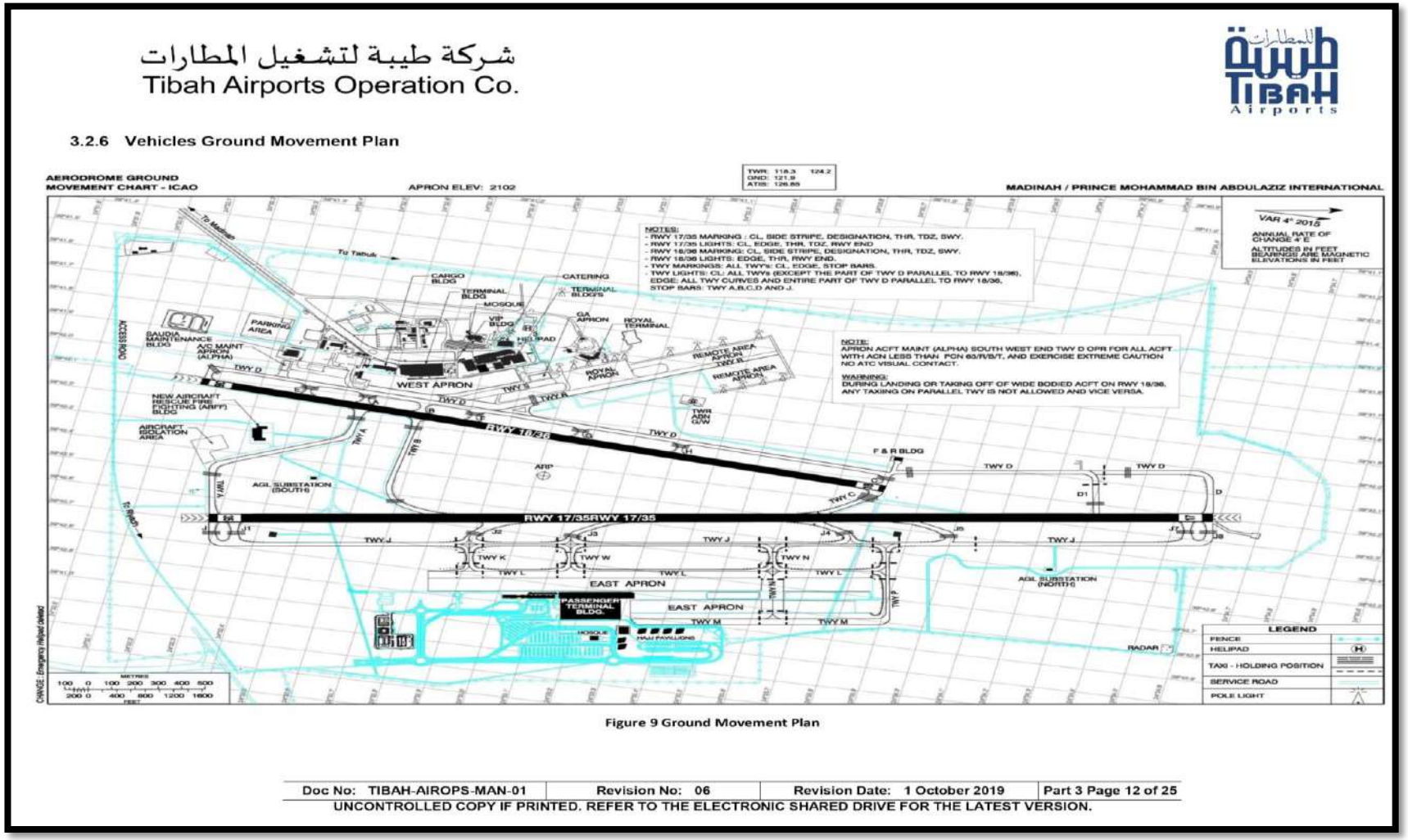


Figure 9 Ground Movement Plan

Figure 1 PMIA's RWYs

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
RWY Rubber Removal	based on the number of landings and skid resistance test as well	Avoid such as Runway Overrun or Lateral slide off the Runway as a result of low level of friction	When the Skid Resistance Test is below the acceptable limits – Technical directorate and Aerodrome Maintenance in-charge must be reported	Runway friction is maintained at acceptable levels.	Cleaning and removing of rubber deposits will be implemented whenever deemed necessary (100% compliance)

7.0 Process Description

7.1 General

The maintenance schedules of the rubber removal is based on the number of landings that the airport experiences and/or on the results of visual inspection. Therefore, when the Skid Resistance Test is below the acceptable limits the Contractor through Tibah technical directorate and Aerodrome maintenance In-charge will perform de- rubberizing.

TIBAH Technical team & Aerodrome maintenance in-charge should approve the de-rubberizing method in advance. When the Skid Resistance Test is below the acceptable limits, the maintenance contractor will perform de-rubberizing as directed by TIBAH technical team and Aerodrome maintenance in-charge with special and professional Equipment. Cleaning and removing of rubber deposits will be implemented whenever deemed necessary.

The build-up rubber affects the level of friction of the Runway, most noticeable as a reduction in braking and ground handling performance. This can lead to incidents such as Runway Overrun or Lateral slide off the Runway.

The contributing factors for viscous hydroplaning are a damp or wet pavement, medium to high speed, poor pavement texture, and worn tire tread. If a runway has good micro texture and the aircraft tires have a good tread design, viscous hydroplaning could be alleviated.

Aerodrome Maintenance In-Charge must be pre-coordinated (at least 20 working days) in advance so the aerodrome maintenance will coordinate with Aerodrome operation team, Safety and Quality assurance team, SANS (MED-ATSU and SANS Maintenance team) and any other involved departments (the process may require risk assessment in advance ensuring safe operation).

Accordingly, Safety & Quality assurance team may conduct risk assessment study in coordination with all involved departments in order to identify all expected/related risks and come-up with effective risks mitigation controls that will be implemented during conducting Rubber removal works. (Risk assessment must be conducted in accordance to Tibah SMS standards.

Prior commencing Rubber Removal works, Safety & Quality Assurance team will ensure that all involved departments are well aware of measures and controls included in the related risk assessment.

7.2 Method

- **High pressure water and ultra-high pressure water:** Sometimes referred to as hydro cleaning high pressure and ultra-high pressure work on the same principle of applying a spinning jet or set of jets to the surface to break the hardened rubber free from the runway surface. The main difference between the two is the pressure and flow. High pressure removal uses water at 2,000–15,000 psi (14,000–100,000 kPa) at up to 30 US gallons per minute (1.9 L/s) while ultra-high pressure removal uses up to 40,000 psi (280,000 kPa) with a water usage between 8 and 16 US gallons per minute (0.50 and 1.0 L/s) (Speidel, 2002, p. 4). High pressure and ultra-high pressure water operations rely on the impact of water alone, with no chemicals used.

NOTE: More details in the process of RWY rubber removal are included in PMIA Maintenance Manual.

7.3 Process Flowchart

N/A.

8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

MARKING AND OTHER VISUAL AIDS FOR DENOTING RESTRICTED & UNSERVICEABLE AREAS

Document Number:	TIBAH-AIROPS-SOP-18
Document Owner:	Safety and Aerodrome Operations Directorate
Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	Updated GACA regulations (GACAR 139-ED7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

In this document, the procedures of using specific visual Aids for denoting unserviceable areas are specified.

- **1.1 Regulation and Reference Documents**
- PMIA Aerodrome Manual
- GACAR 139
- ICAO Chapter 7 – Annex 14

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- IISO 9001:2015 Clause 7.5 and 8.1
- ISO 14001:2015 Clauses 7.5

2.0 Purpose

This document aims to specify the procedures for marking the unserviceable/restricted areas at PMIA.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Tibah Technical Directorate	GACA Airport Authority
Safety & Aerodrome Operation Directorate	Royal Saudi Airforce (MED-RSAF)
	Air Navigation Services
	Other Related Stakeholders

4.0 Scope

This SOP dictates the operational procedures of using visual aids for denoting unserviceable areas at movement area.

5.0 Applicable Areas within the Airfield

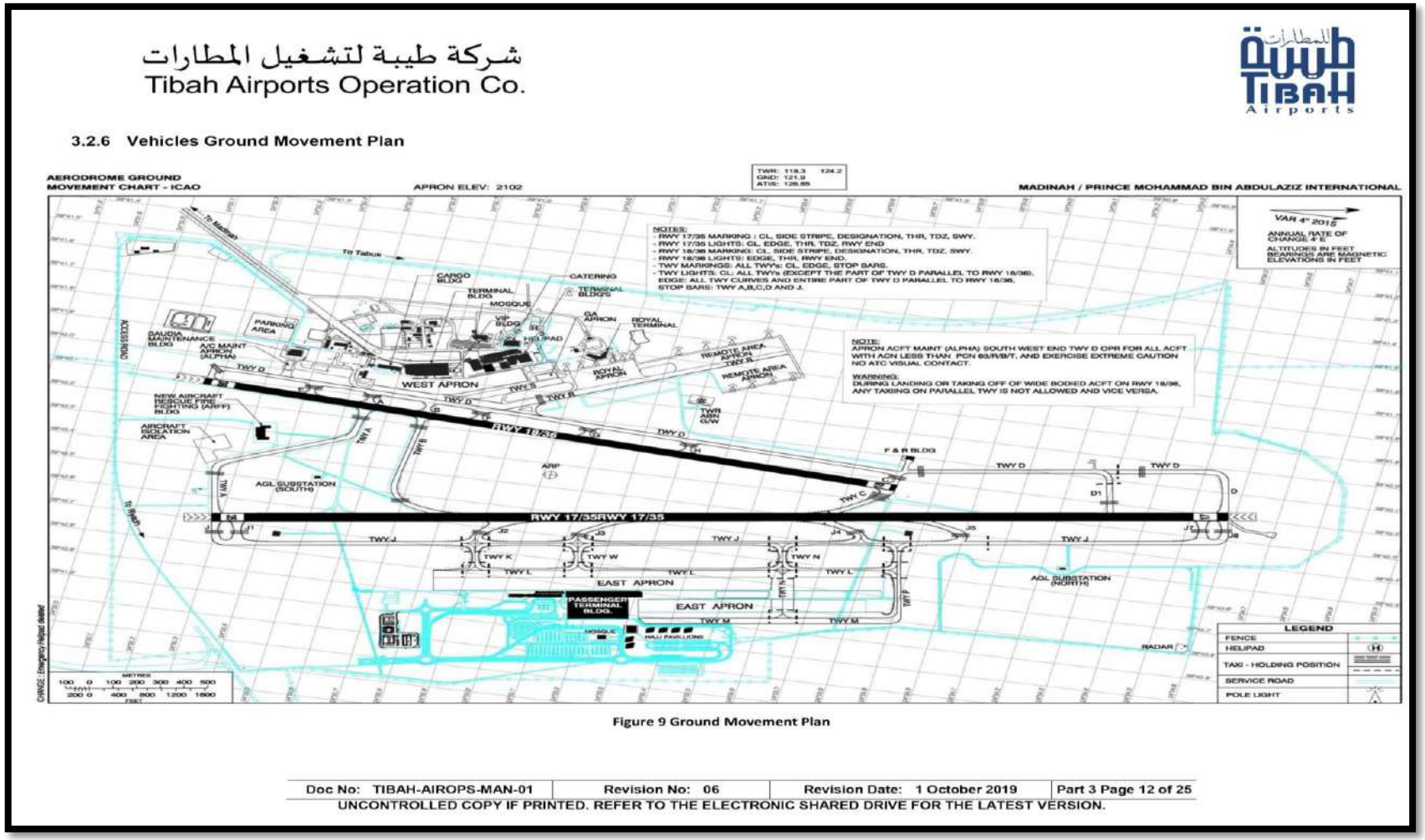


Figure 9 Ground Movement Plan

Figure 1 PMIA

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Visual aids for denoting restricted & unserviceable areas	Visual aids must be displayed on a permanent/temporarily closed runway or taxiway or portion thereof, except that such marking may be omitted when the closing is of short duration and adequate warning by air traffic services is provided	Safety Precautions	Aerodrome Maintenance In-Charge	Operations Conducted Safely	Whenever required

7.0 Process Description

7.1 General

In the event that construction, repair or service work is undertaken within movement area, which require temporary or permanent closure of RWY, TWY, apron, roadway or portion thereof, the following precautionary actions shall be taken:

- It is the responsibility of the aerodrome maintenance in-charge to identify the required precautionary actions that must be implemented in coordination with aerodrome operation and safety team ensuring safe and smooth operation at PMIA however, Aerodrome OPS In-Charge is responsible to provide the exact portions that will be closed or will not be used by ACFT or vehicles for normal OPS.
- All construction areas, roadways, pavements, excavations and open stockpiles should be clearly marked with signs for safety, during daylight hours by lightweight low profile barricades or flags, or both to identify the hazard limits of the area or object.
- During hours of darkness the use of low profile strobes visible from 360 degrees shall be used to identify the hazard limits of the area or object.

7.2 Closed Runways and Taxiways, or Parts thereof

- A closed marking must be displayed on a runway or taxiway, or portion thereof, which is permanently closed to the use of all aircraft.
- A closed marking must be displayed on a temporarily closed runway or taxiway or portion thereof, except that such marking may be omitted when the closing is of short duration and adequate warning by air traffic services is provided.
- On a RWY, a closed marking must be placed at each end of the runway, or portion thereof, declared closed, and additional markings must be so placed that the maximum interval between markings does not exceed 300 m. On a taxiway a closed marking must be placed at least at each end of the taxiway or portion thereof closed.

7.3 Unserviceable Areas

- Un-serviceability markers must be displayed wherever any portion of a taxiway, apron or holding bay is unfit for the movement of aircraft but it is still possible for aircraft to bypass the area safely. On a movement area used at night, unserviceability lights must be used.
- Location Unserviceability markers and lights: must be placed at intervals sufficiently close so as to delineate the unserviceable area.
- Characteristics of unserviceability markers: Unserviceability markers must consist of conspicuous upstanding devices such as flags, cones or marker boards.
- Characteristics of unserviceability lights: An unserviceability light must consist of a red fixed light. The light must have intensity sufficient to ensure conspicuity considering the intensity of the adjacent lights and the general level

of illumination against which it would normally be viewed. In no case must the intensity be less than 10 cd of red light.

- Characteristics of unserviceability cones: An unserviceability cone must be at least 0.5 m in height and red, orange or yellow or any one of these colors in combination with white
- Characteristics of unserviceability flags: An unserviceability flag must be at least 0.5 m square and red, orange or yellow or any one of these colors in combination with white
- Characteristics of unserviceability marker boards: An unserviceability marker board must be at least 0.5 m in height and 0.9 m in length, with alternate red and white or orange and white vertical stripes.

7.4 Process Flowchart

N/A.

8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

PASSENGER BOARDING BRIDGE (PBB) MAINTENANCE

Document Number:	TIBAH-AIROPS-SOP-19
Document Owner:	Safety and Aerodrome Operations Directorate
Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	GACAR 139, ED 7	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

In this document, the procedures for maintaining Passenger Boarding Bridge (PBB) and its associated equipment are detailed.

1.1 Regulation and Reference Documents

- PMIA Aerodrome Manual
- CMMS Coordination Procedure (Ref. Doc.# TIBAH-TECH-SOP-04, Rev 01)
- Electromechanical Maintenance Manual (Conveying Systems) (Ref. TIBAH-TECH-MAN-04) (Version 02, Date: 01 OCT 2018)

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.5 and 8.1
- ISO 14001:2015 Clauses 7.5

2.0 Purpose

This document aims to specify the procedures that should be taken to maintain Passenger Boarding Bridge (PBB) and its associated equipment.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Tibah Technical Directorate	GACA
Tibah Aerodrome Maintenance In-Charge	Stakeholders
	Ground Handlers
	Aerodrome OPS

4.0 Scope

This SOP dictates the operational procedures of maintaining Passenger Boarding Bridge (PBB) and its associated equipment; GPU and PCA.
Aircraft stands from stand No.103 to 117 and Stands from 123 to 126 are equipped with passengers boarding bridge (PBB) including where GPU and PCA are attached in each PBB. However, all east remote stands are equipped with only GPU and PCA.

5.0 Applicable Areas within the Airfield

N.A

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Preventive maintenance	PBB structure includes PCA & GPU	Safe & smooth operation of PBB	CMMS and Technical	Well maintained PBB structure – as specified in the OEM Maintenance Manuals	- Daily - Weekly - Monthly - Quarterly - 4 Monthly - Half yearly - 8 Monthly - Yarely - Every 2 years - Every 3 years - Every 5 years
Corrective maintenance - Response Time	PBB structure maintenance includes PCA & GPU	Safe & smooth operation of PBB	CMMS and Technical	Well maintained PBB structure	- Per incident
System Availability	Metric Per Month for PBB includes PCA & GPU	Safe & smooth operation of PBB	CMMS and Technical	Well maintained PBB structure	- 96% available

7.0 Process Description

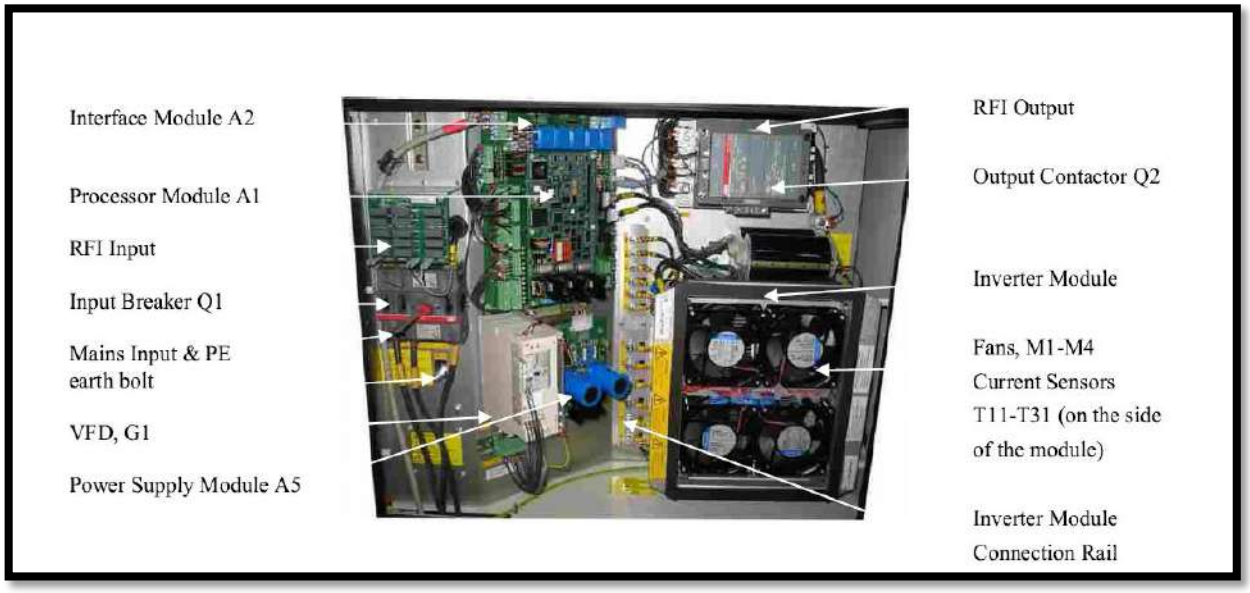
Maintenance of Passengers Boarding Bridges - PBB) or any part thereof is under Tibah Technical directorate responsibility and it is subject to Safety & Aerodrome operation – Aerodrome Maintenance In-Charge) pre-authorization. Before commencing any maintenance works for the PBB or its associated facilities, Aerodrome Maintenance must be well coordinated in advance (at least One working day ahead) who will coordinated with all related departments ensuring safe operation during conducting required maintenance works.

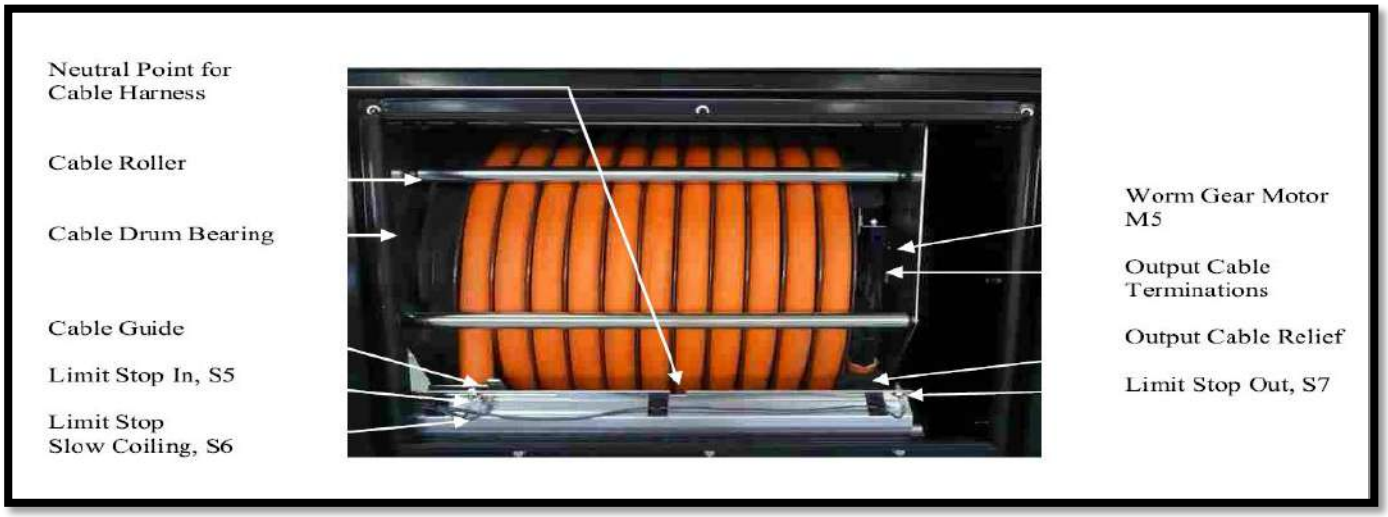
NOTE: A yearly maintenance plan must be provided to Aerodrome Maintenance In-Charge in Advance.

7.1 Passenger Boarding Bridge – System Components

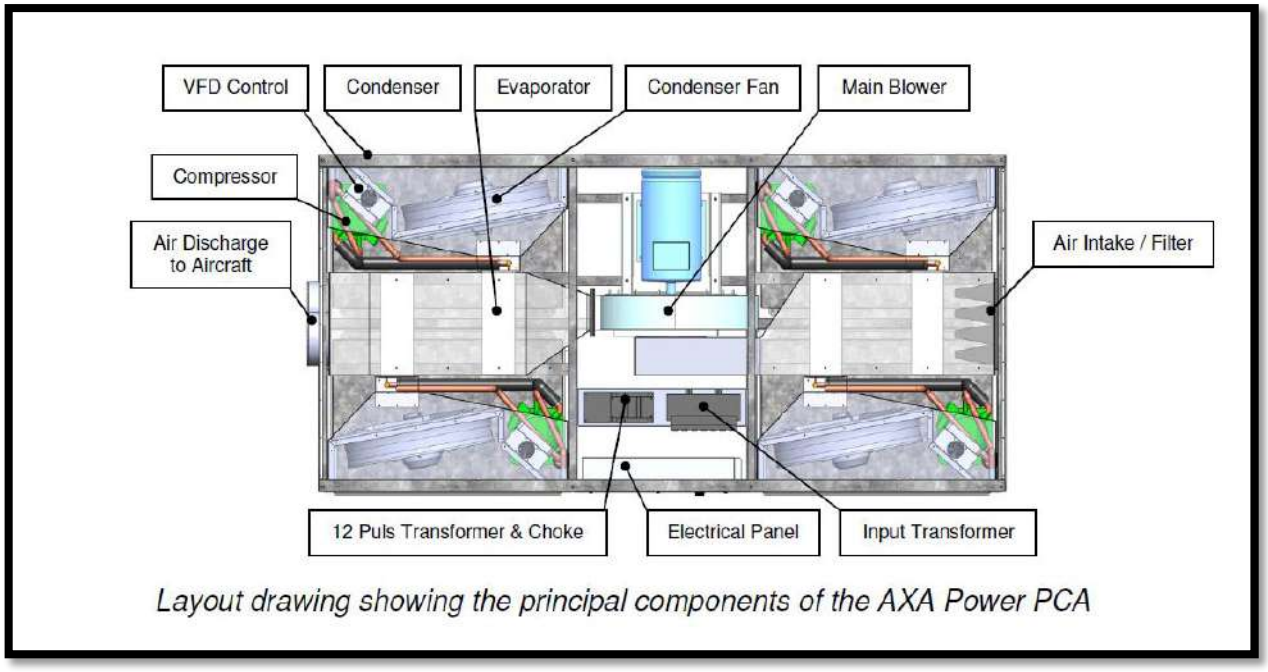
- **PBB**
  - Column
  - Rotunda
  - Tunnels
  - Hydraulic Lifting Column
  - Drive system (Wheels) – 2 sets of motor / gear which will lead the swiveling movements.
  - Service stair
  - Cable tray
  - Cabin - has the following subcomponents:
    - Fixed Cab Assembly
    - Rotating Cab Assembly
    - Control Console
    - Electrical rack / Power Panel
    - Door
    - Canopy Closure
    - Tilting floor
    - Cab Bumper
    - Auto Level
    - Proximity Detectors
    - Safety shoe
    - Window
  - Main electrical cabin

- **GPU**


Interface Module A2
Processor Module A1
RFI Input
Input Breaker Q1
Mains Input & PE earth bolt
VFD, G1
Power Supply Module A5
RFI Output
Output Contactor Q2
Inverter Module
Fans, M1-M4
Current Sensors T11-T31 (on the side of the module)
Inverter Module Connection Rail


Neutral Point for Cable Harness
Cable Roller
Cable Drum Bearing
Cable Guide
Limit Stop In, S5
Limit Stop Slow Coiling, S6
Worm Gear Motor M5
Output Cable Terminations
Output Cable Relief
Limit Stop Out, S7

- **PCA**



Layout drawing showing the principal components of the AXA Power PCA

7.2 Personnel Qualifications

- Safe base
- Competent persons (Trained)
- More than 20 year experience
- Holding experience certificates
- Familiar with the manuals
- Graduated persons

7.3 Spare Parts

Yearly spare parts stock for major items is available in PBB store at airside for any emergency use for quick response.

Used materials which are removed during corrective or preventive maintenance; tools, batteries, oils and equipment damaged or replaced during the maintenance works are labelled indicating that they are not appropriate for use. These materials are also stored in a separate area from normal materials in coordination with the Environmental Department for disposal. This way, staff can easily recognize these materials. In addition, there will be no impact on the environment.

7.4 Preventive Maintenance

Description:
Scheduled periodical works with a sufficient level of frequency (monthly/quarterly/semi-annual/annual) that are performed in order to avoid gradual deterioration of equipment/systems/facilities, and also check and repair the full system or system's sub-item components such as its equipment/devices/parts and etc.

The maintenance team will prepare the master plans and maintenance instructions on in accordance with the Electromechanical Maintenance Manual (Conveying Systems) (Ref. TIBAH-TECH-MAN-04) (Version 02, Date: 01 OCT 2018) and OEM Manufacturer Manuals. The Master plan will be reviewed on annual basis.

7.5 Frequency of Checks (PBB, GPU and PCA)

Please refer to Electromechanical Maintenance Manual (Conveying Systems) (Ref. TIBAH-TECH-MAN-04) (Version 02, Date: 01 OCT 2018) for all maintenance check lists.

Following each inspection, related work order will be closed in coordination with CMMS/Technical team and related reports (check list) will be shared with monthly reports.

7.6 Non-schedule Checks

N/A.

7.7 Response to Emergency Report/Failure (Corrective Actions)

All maintenance works which may be performed from time to time in order to eliminate any failure or defect that might arise due to wear and tear, use and accidents. Its main objective is to keep utilities and equipment at the condition in which they were established.

Whenever deficiencies are discovered, whether by TIBAH inspection or the Subcontractor, or by operator report, The technical team must plan, repair, replace or perform whatever Corrective Maintenance is necessary to return the system, subsystem or facility to full operating status as soon as practical or within the time set by the appropriate authority and **according to the information provided in the Electromechanical Maintenance Manual (Conveying Systems) (Ref. TIBAH-TECH-MAN-04) (Version 02, Date: 01 OCT 2018) and O&M Manufacturer Manuals.**

All faults which are identified by Tibah, stakeholders and subcontractors are reported to CMMS Help Desk through phone, email or in-person. Related departments (including subcontractors) are informed about the faults by CMMS team with Work Order Form (Ref. Doc # TIBAH-TECH-FRM-03). The department or the subcontractor sends a team to inspect the fault. If the fault requires coordination with stakeholders, the related stakeholder are informed before intervening the fault. After coordinating with the stakeholders and ensuring the safety and environmental requirements the fault is intervened.

If there is a need for spare part or material, if it is not available in sub-warehouses, main warehouse is checked and the material is requested. If it is not available in main warehouse also, a purchase request will be created. The fault will be corrected after material delivery.

If the technical staff cannot correct the fault, authorized service companies are contacted for inspection, submitting offer and correct the fault.

In case of a critical problem, if there is need for more employees, Emergency Intervention Team List (Ref. Doc# TIBAH-TECH-FRM-07) is checked and related team members are contacted. The list is updated when necessary.

Related reports (incident, inspection or required spare parts) will be provided by system's maintenance team to department's chief, inspectors for further action if needed.

All information regarding the reason why the fault is pending and how it is corrected is written to the work order. CMMS Help Desk is informed about the correction. CMMS operator closes the work order after obtaining the approval of the person/department/stakeholder.

7.8 Process Flowchart

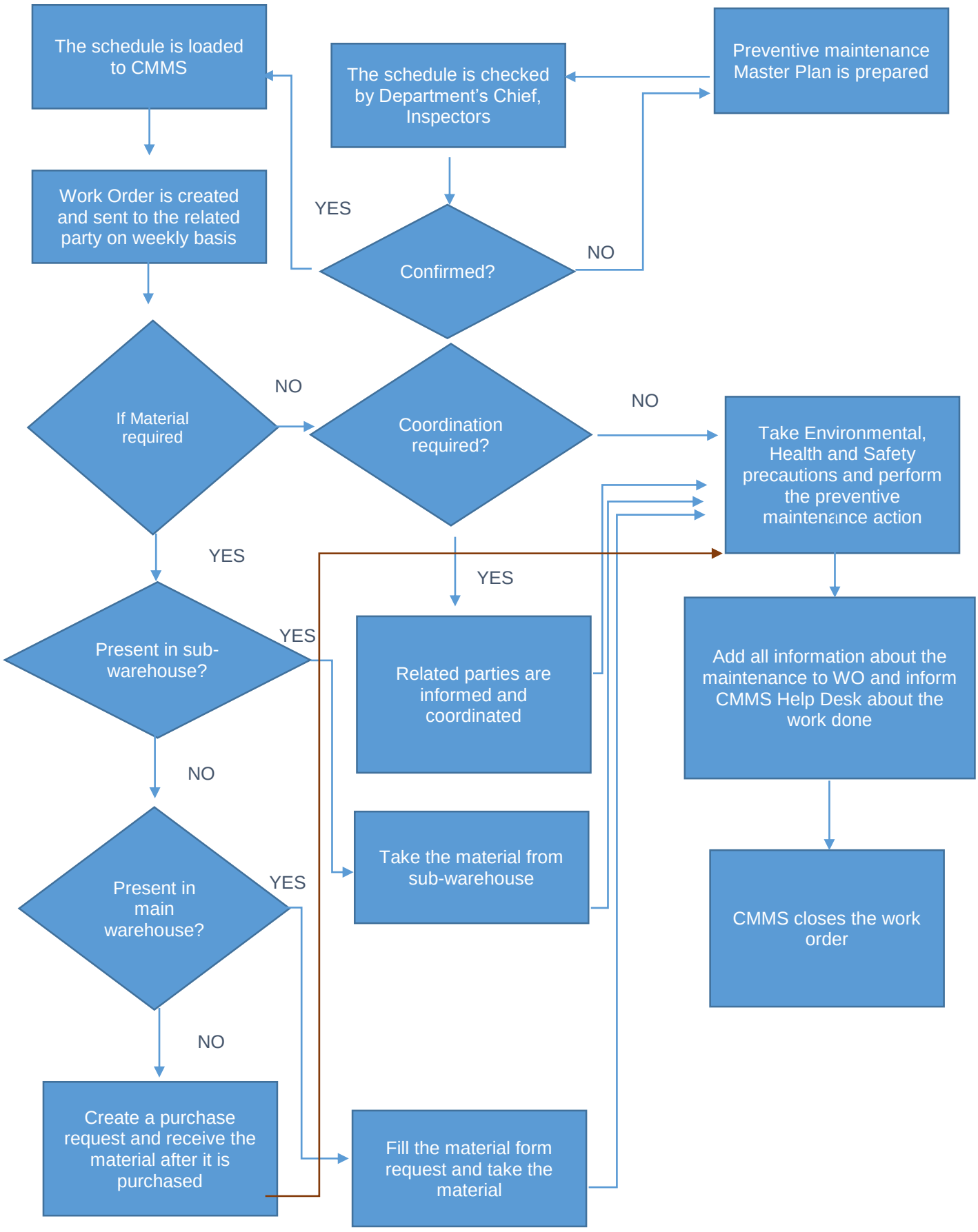


Figure 1 Preventive Maintenance Chart

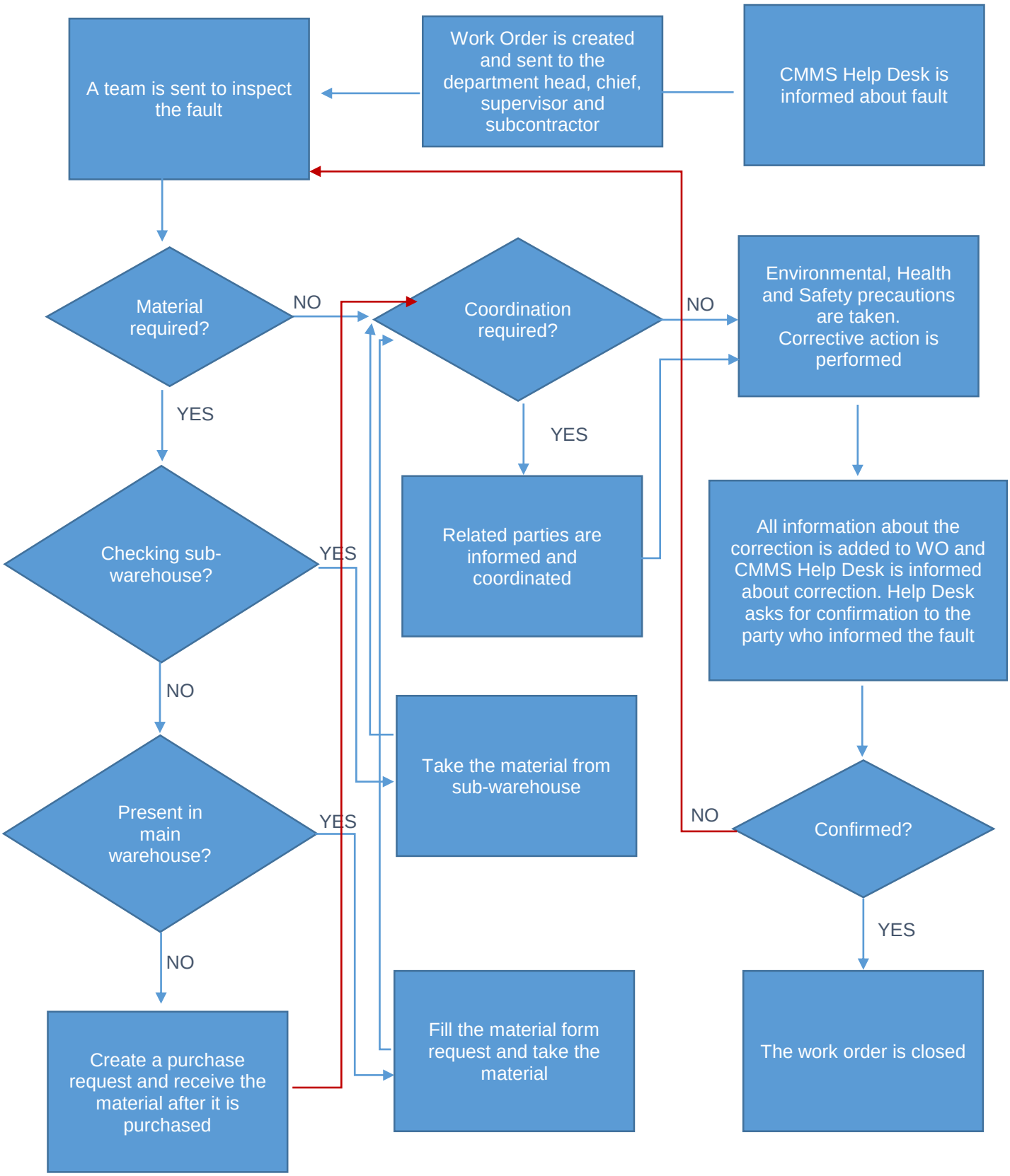


Figure 2 Corrective Maintenance Chart

8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

RESTRICTING AIRCRAFT OPERATIONS DURING CLOSURES

Document Number:	TIBAH-AIROPS-SOP-20
Document Owner:	Safety and Aerodrome Operations Directorate
Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	GACAR 139, ED 7	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

In this SOP, process for restricting aircraft operations during runway or taxiway closures is explained.

1.1 Regulation and Reference Documents

- PMIA Aerodrome Manual
- GACAR 139

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- IISO 9001:2015 Clause 7.5 and 8.1
- ISO 14001:2015 Clauses 7.5

2.0 Purpose

This document defines the procedure for restricting aircraft operations during closures.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Tibah Technical Directorate	GACA Airport Authority
Safety & Aerodrome Operation Directorate	Royal Saudi Airforce (MED-RSAF)
	Air Navigation Services
	Other Related Stakeholders

4.0 Scope

This SOP dictates the procedures of restricting aircraft operations during closures at PMIA. It dictates the steps that should be taken prior to restricting aircraft operations and the planned and unplanned conditions that need restricting aircraft operations. This SOP is associated to all Safety & Aerodrome operation Staff.

5.0 Applicable Areas within the Airfield

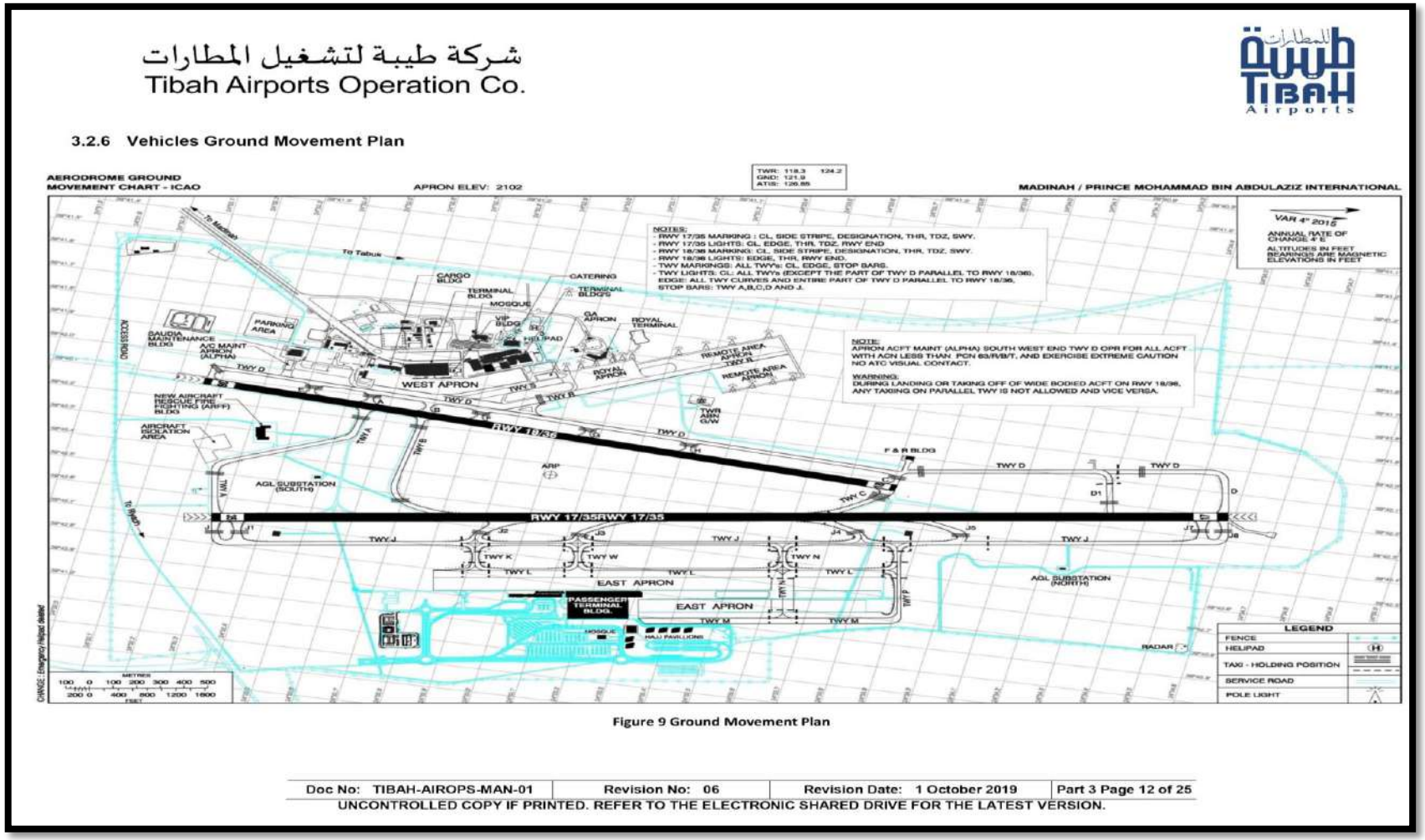


Figure 9 Ground Movement Plan

Figure 1 PMIA

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Restricting Aircraft Operations	It can be done only when Safety Risk Assessment is done	Planned and well-chosen areas to restrict operations	ATC in accordance with Airside Operations Department	Maintenance activities conducted safely	100 % Compliance

7.0 Process Description

Restricting aircraft operations at PMIA during runway or taxiway closures for maintenance activity happens or any emergency only when safety risk assessment is done by safety & aerodrome operation directorate, Air Navigation Services (MED-ATSU) and any other involved departments. Therefore, the safety risk assessment report will decide the areas where aircraft operations are restricted during the maintenance work activity.

The Risk assessment process must be conducted in accordance to Tibah SMS Manual (Risk Assessment SOPs)

In case there is an unplanned event, restricting aircraft operations will be decided by the ATC in coordination with the Safety & Aerodrome operation directorate.

NOTE: provisions of marking and other visual aids for denoting restricted & unserviceable areas are available in aerodrome manual (Annex A).

7.1 Process Flowchart

N/A.

8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

PROTECTION OF SITES FOR RADAR & NAVIGATION AIDS

Document Number:	TIBAH-AIROPS-SOP-21
Document Owner:	Safety and Aerodrome Operations Directorate
Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	GACAR 139, ED 7	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

In this document, the procedures for protection of sites for radar and navigation aids at PMIA are specified. SANS Maintenance (MED-SME) and Tibah Safety & Aerodrome operations directorate are responsible of the protection of radar and radio navigational aids located at PMIA however, SANS (SME) is responsible of the operation and maintenance of these facilities ensuring that their performance will not be degraded.

1.1 Regulation and Reference Documents

- PMIA Aerodrome Manual
- GACAR
- ICAO Annex 10

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.5 and 8.1
- ISO 14001:2015 Clauses 7.5

2.0 Purpose

The procedures for protection of sites for radar and navigation aids at PMIA are specified in this document.

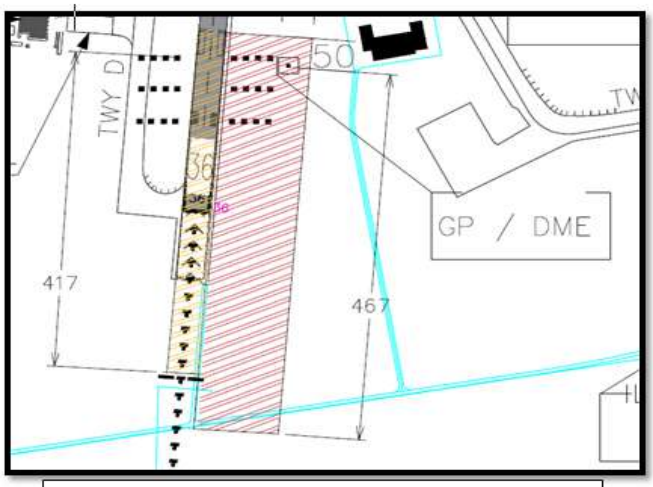
3.0 Relevant Stakeholders

Direct Use	Aware Of
Safety & Aerodrome Operation Directorate	GACA
Saudi Air Navigation Services – MED SME	Royal Saudi Airforce (MED-RSAF)
	Stakeholders

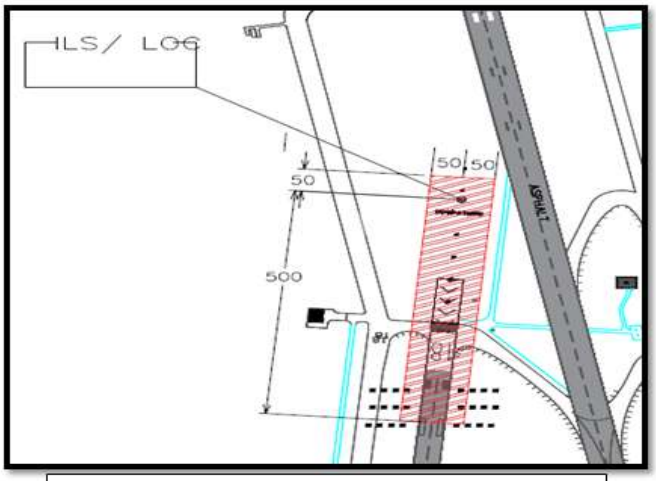
4.0 Scope

This SOP dictates the procedures of protecting the specified sites for radar and navigation aids within PMIA's movement area. It explains the responsibilities of various departments and it explains the procedures of identifying and marking location of utilities and NAVAIDS in construction areas.

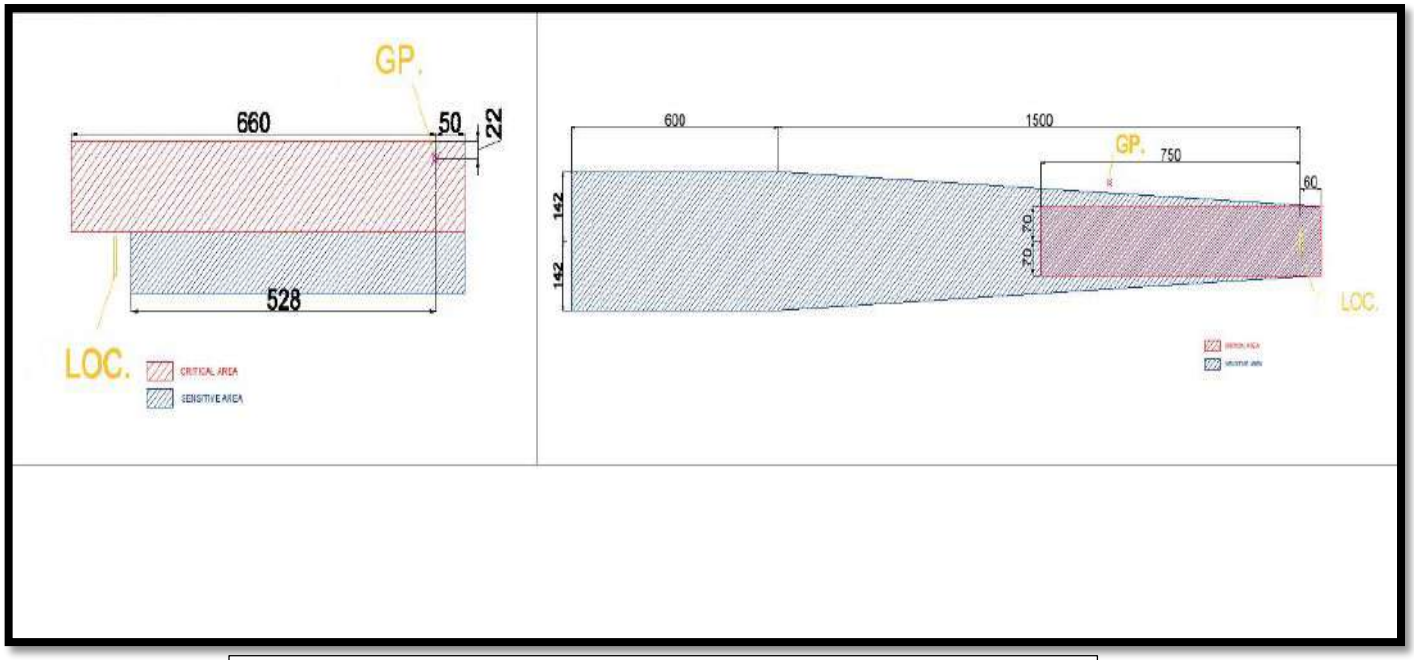
5.0 Applicable Areas within the Airfield



Glide Path 36 - Critical & Sensitive Area – CAT I



Localizer 36 - Critical & Sensitive Area – CAT I



ILS Critical & Sensitive areas – RWY 17/35

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Protection of NAVAIDS	Constant control of NAVAIDs critical areas against any obstacle or signal disturbance activity.	NAVAIDS are protected against vandalism, theft and unauthorized entry	Daily Maneuvering are inspection report and SMS Pro system	Secure NAVIDs equipment and safe operations	Aerodrome operations must inspect NAVIDs equipment sites at least 2 times per day.

7.0 Process Description

7.1 General

- Critical Area: ILS critical area is an area of defined dimensions about the localizer and glide path antennas where vehicles, including aircraft, are excluded during all ILS operations. The critical area is protected because the presence of vehicles and/or aircraft inside its boundaries will cause unacceptable disturbance to the ILS signal-in-space.
- Sensitive Area: ILS sensitive area is an area extending beyond the critical area where the parking and/or movement of vehicles, including aircraft, is controlled to prevent the possibility of unacceptable interference to the ILS signal during ILS operations. The sensitive area is protected against interference caused by large moving objects outside the critical area but still normally within the airfield boundary.

- Tibah Airports Operation Company Technical Directorate and Safety & Aerodrome OPS Directorate are responsible for constant control of NAVAIDs critical areas against any obstacle or signal disturbance activity.
- Tibah Technical Directorate is responsible for daily control and repair of NAVAIDs critical area markers/border lines.
- DVOR/DME Siting Criteria:

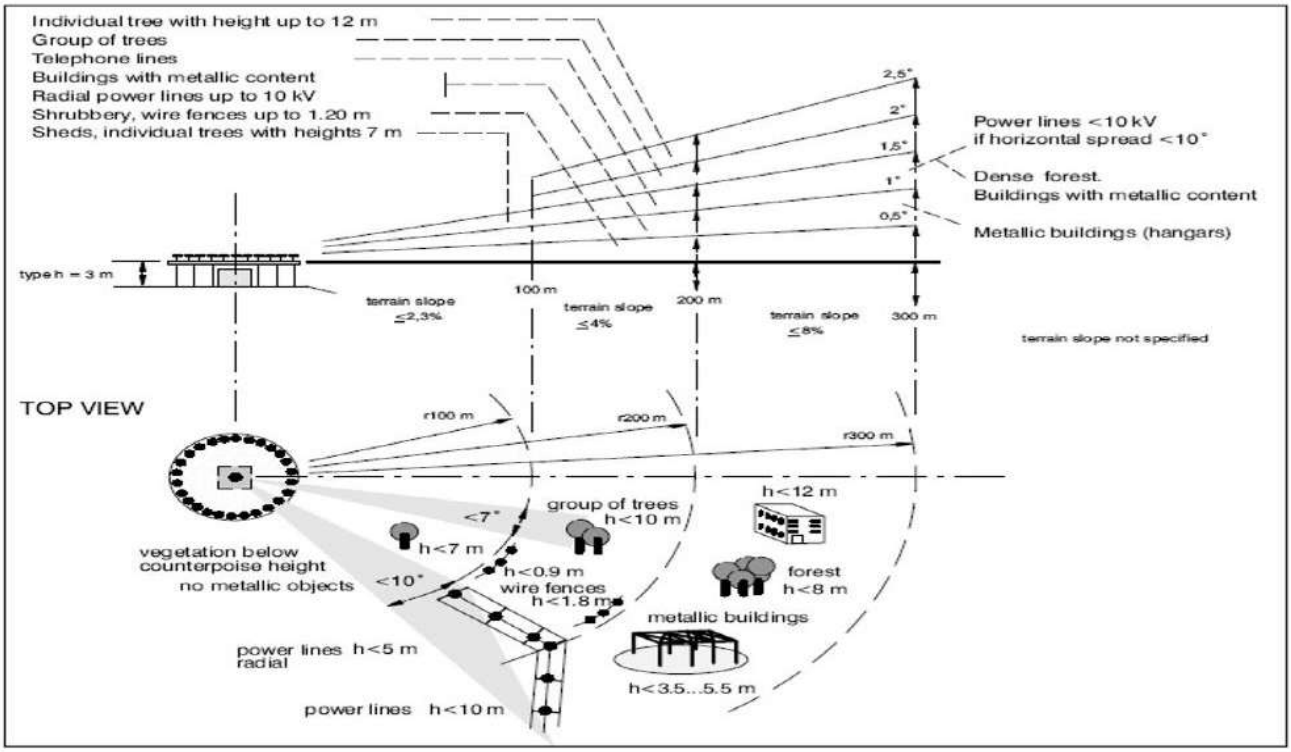


Figure 1 DVOR/DME Siting Criteria

Figure 2 Radar Protection Zone – PMIA/OEMA

7.2 Protection of NAVAIDS

- Saudi Air Navigation Company (SANS) is responsible for identifying critical and sensitive areas and must share it with Tibah (Safety Aerodrome operations Directorate).
- Tibah (Safety Aerodrome operations Directorate) is responsible for applying all protection measures (Marking, Signs) that would protect these areas from any unauthorized entry in coordination with Technical Directorate.
- It is part of Tibah Aerodrome operations daily inspections (Maneuvering area inspection) to inspect critical areas of SANS equipment. If any unsafe or abnormal condition/activity observed which may affect the performance of SANS navigational equipment, Aerodrome operations staff will immediately report the case to MED-ATSU and AOC. Moreover, such cases must be reported via SMS Pro system within max 24 Hours.
- At the airport, NAVAIDS are protected against vandalism, theft and unauthorized entry by their location within the security fenced area of the airport which is protected by Airport security department (RSAF).
- Each ILS equipment critical area is designated with red/white markers (Frangible poles).
- No person or equipment shall cross ILS critical area markers unless authorized/allowed by ATC.

7.3 Identifying & Marking Location of Utilities & NAVAIDS in Construction Areas

- Prior to beginning any construction, servicing or repairs, all utilities and NAVAIDs shall be identified, marked and signed by aerodrome maintenance in-charge in coordination with SANS (SME) to inform workmen of their presence to avoid damage.
- As-built drawings of utility lines and NAVAIDs shall be obtained from the Tibah Technical Directorate and PMIA SANS Maintenance System Engineering Section.
- GACA Airport Director shall be consulted prior to any construction, servicing or repairs being performed near NAVAIDs.

7.4 Process Flowchart

N/A.

8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

WASTE DISPOSAL

Document Number:	TIBAH-AIROPS-SOP-22
Document Owner:	Safety and Aerodrome Operations Directorate
Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	GACAR updated Regulations (139-ED 7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

On the airside, waste arises from many activities; aircraft cleaning and catering, aircraft Maintenance, from office activities and other service rooms.
As well as the need to segregate waste for recycling, there are a number of legal restrictions on the disposal of wastes such as aircraft cleaning and catering waste and oils that you should be aware of.

1.1 Regulation and Reference Documents

- Aerodrome Manual
- GACAR 139
- ICAO Doc. 9137

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.5 and 8.1
- ISO 14001:2015 Clauses 7.5 and 8.1

2.0 Purpose

This doc. explains the procedures of disposing waste within airside OPS area of PMIA.

3.0 Relevant Stakeholders

Direct Use	Aware Of
All Airside users/Service Providers	GACA – Aviation Safety Sector
Stakeholders	
Safety & Aerodrome OPS Directorate	

4.0 Scope

These procedures are applicable for all airside users, service providers and stakeholders within airside OPS area.

5.0 Applicable Areas within the Airfield

N.A

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Ground Handler waste	Ground handlers are responsible for their aircraft cleaning waste disposed which shall be done outside the airport.	Safe OPS	AOC and SMS Pro. System	Safe OPS and aerodrome free from FOD	All FOD that may affect ACFT safety must be reported immediately to AOC and through SMS Pro. system

7.0 Process Description

7.1 Information

On the airside, waste arises from many activities: aircraft cleaning and catering, aircraft Maintenance, from office activities and other service rooms.
As well as the need to segregate waste for recycling, there are a number of legal restrictions on the disposal of wastes such as aircraft cleaning and catering waste and oils that you should be aware of.

7.2 Responsibility

If any department with the aerodrome produce or handle any waste at work, then this department is legally responsible for ensuring that it is disposed correctly.

7.3 Procedures

7.3.1 All Airside users/service providers should ensure that they are aware and understand what waste they produce and that it is deposited correctly.

Aircraft Cleaning Waste	Ground handlers are responsible for their aircraft cleaning waste disposed which shall be done outside the airport.
General Waste	All other general waste should be put in street size garbage bins and not into FOD bins.
Oil Cans	Line maintenance oil cans should be put into the separate bins by the maintenance company or aircraft operator and shall be disposed by the same accordingly.
Hazardous Waste	MED does not provide facilities for the disposal of service partners' hazardous wastes such as waste oil, oil filters, oily rags, solvents etc. You should ensure you are aware which materials are hazardous, provide and use appropriate storage and arrange a separate contract for its disposal.

7.3.2 Misuse of PMIA facilities will lead to recharge of the costs and potentially prosecution.

7.3.3 Aerodrome Maintenance (Cleaning) contractor responsibilities:

- Control and clean all FOD bins with AOA.
- Conduct frequent inspection ensuring Aprons, Service Roads and curbside within the aerodrome are clean and free from FOD.
- Conduct walk FOD inspection for all stands in daily basis ensure all stands free from FOD.
- Contact AOC or Aerodrome OPS immediately when FOD or any other hazard that may affect ACFT, passengers or aerodrome personal safety is observed.
- Report any safety hazards or safety occurrence through SMS Pro. System.
- Prepare monthly FOD prevention plan and share it with Aerodrome OPS manager or his designee.

7.3.4 Aerodrome OPS and Wildlife and FOD In-charge responsibilities:

- Conduct Daily inspection for all movement area including service roads and security fence areas.
- In case if any FOD observed which may affect ACFT safety, they will intervene immediately and will inform ATC and AOC.

- Establish and maintain detailed database include all FOD and Wildlife details within AOA.
- Report FOD and any safety hazards through SMS Pro. System.
- Provide periodic report to the Safety & aerodrome OPS director in all FOD and Wildlife issues.

7.4 Process Flowchart

N/A

8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

FOD CONTROL

Document Number:	TIBAH-AIROPS-SOP-23
Document Owner:	Safety and Aerodrome Operations Directorate
Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	GACAR updated Regulations (139-ED 7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

In this SOP, procedures for FOD control and prevention at PMIA are specified. These procedures are important for the safe conduct of the operations.

1.1 Regulation and Reference Documents

- PMIA Aerodrome Manual, (Ref. TIBAH-AIROPS-MAN-01)
- GACAR 139

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.5 and 8.1
- ISO 14001:2015 Clauses 7.5

2.0 Purpose

This document defines the procedure for FOD control at PMIA.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Safety & Aerodrome Operation Directorate	GACA Airport Authority
Wildlife & FOD Control Officer	Royal Saudi Airforce (MED-RSAF)
	Air Navigation Services-SANS
	Stakeholders & Service Providers

4.0 Scope

This SOP dictates the operational procedures of FOD control and prevention at PMIA. It dictates as well specific responsibilities and duties of certain individuals and organizations like the baggage handlers, air bridge operators, aircraft operators, cabin crew, aircraft engineers, aircraft refueller, aircraft cleaners, construction workers … etc. In addition, the tasks under aerodrome operations team are specified. This SOP is associated to all aerodrome operations staff.

5.0 Applicable Areas within the Airfield

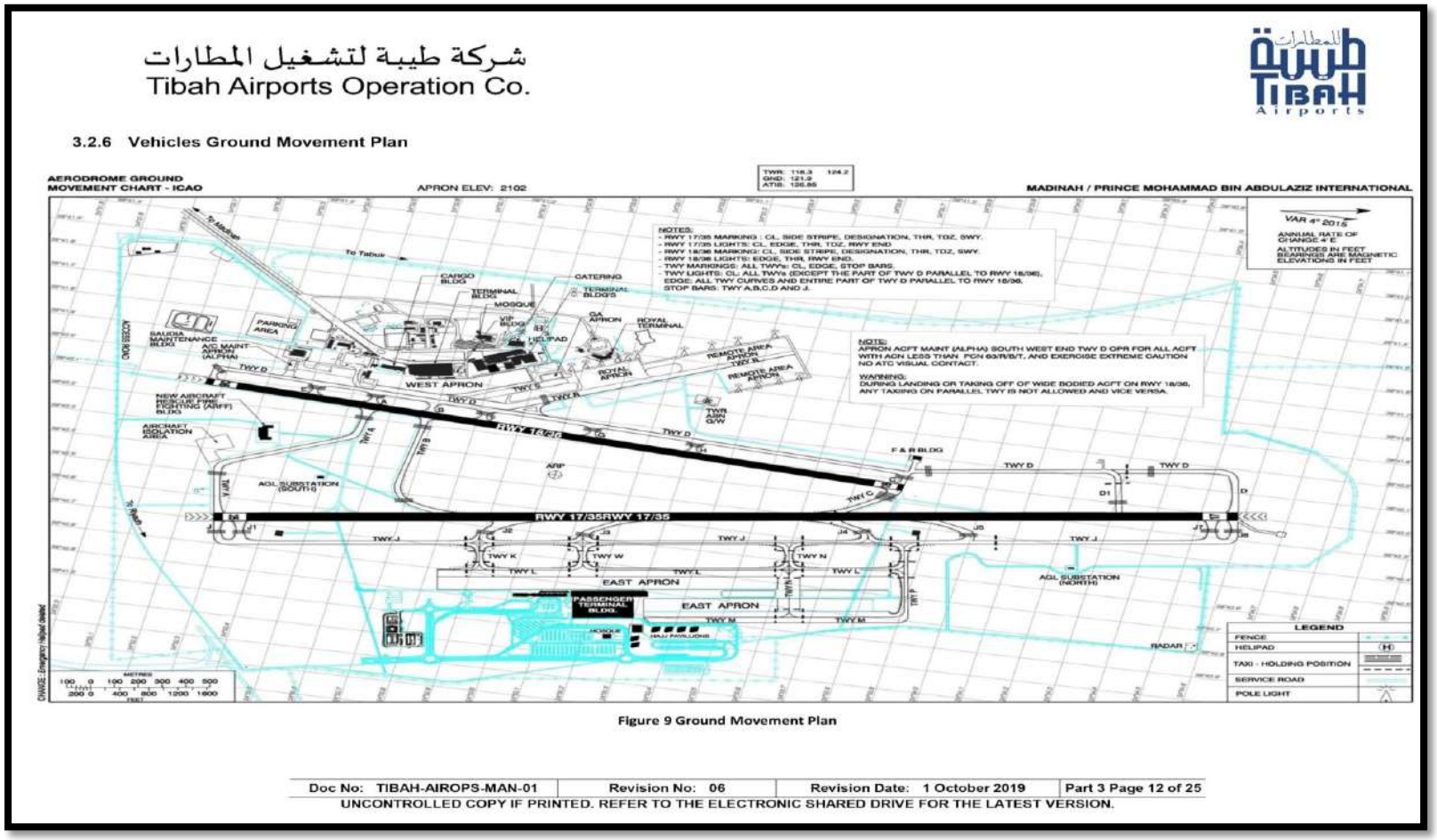


Figure 1 PMIA

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
FOD Control	All airside users are responsible for FOD control.	Keep airside clean from FOD	Report to AOC and SMS Pro. Reporting system	Mitigate FOD hazard and avoiding incidents and possible accidents as result of FOD presence	FOD must be immediately reported to AOC (100% Compliance) Reporting to SMS Pro. system within 24 Hours (100% compliance)

7.0 Process Description

7.1 Safety and Aerodrome Operation Staff and Wildlife & FOD Control Officer Responsible for:

- Conduct Daily inspections for Movement area ensuring safety and area free from FOD.
- FOD inspection is already included in daily movement area inspections.
- If FOD observed during daily FOD inspection, Aerodrome operation staff will remove the FOD from the movement area and report the case via SMS Pro. Reporting system (www.pmiasafety.com).
- ATC must be reported immediately if FOD affect Aircraft safety is observed.
- Whenever FOD has been reported by ATC, ATC will notify directly aerodrome OPS staff via VHF frequency specifying the exact location of the reported FOD.
- Aerodrome OPS team upon the receipt of ATC FOD report, Aerodrome operation team will immediately respond and will remove the FOD from the movement area and will inspect the RWY and will record the case in the logbook and SMS pro. Reporting system.
- The safety & aerodrome operation staff are responsible to follow-up the safe and secured implementation of the abovementioned operations procedures and events.
- Wildlife & FOD control officer is responsible to maintain suitable database for FOD and Wildlife records at PMIA.

7.2 All Aerodrome Users/Service Providers are Responsible for:

- Ensuring that their personal activities do not generate FOD
- Removing any FOD which they observe, regardless of whether or not it relates to their activities
- Removing FOD from vehicles and equipment as a preventative measure
- Inspecting vehicles frequently during use to check for loose parts, open doors etc.
- Not choosing to ignore FOD
- Reporting persistent FOD in their area of work and any area within aerodrome, to their Line Manager, AOC and via SMS Pro. Reporting system (www.pmiasafety.com).

Whilst the requirements outlined above cover every individual working airside, certain individuals and organizations shall have specific responsibilities and duties as outlined below.

7.3 Baggage Handlers

- Frequent inspections of vehicles and equipment in order to identify any materials that could create FOD.
- Inspection of the apron areas following the completion of loading /unloading.
- Report FOD to AOC immediately and then via SMS Pro. Reporting system (www.pmiasafety.com).

7.4 Air Bridge Operators

- Inspection of the air bridge prior to and following every operation.
- Report FOD to AOC immediately and then via SMS Pro. Reporting system (www.pmiasafety.com).

7.5 Aircraft Operators

- The regular removal of rubbish from aircraft holds.
- Report FOD to AOC immediately and then via SMS Pro. Reporting system (www.pmiasafety.com).

7.6 Cabin Crew

- Ensuring that bags of rubbish removed from their aircraft are not left on or around the stand (including on air bridges).
- Report FOD to AOC immediately and then via SMS Pro. Reporting system (www.pmiasafety.com).

7.7 Aircraft Engineers / Refuellers

- Inspecting the apron area around any aircraft with which they have been working on to ensure no tools, equipment or general FOD has been left on the stand.
- Report FOD to AOC immediately and then via SMS Pro. Reporting system (www.pmiasafety.com).

7.8 Aircraft Cleaners

- Carrying and not throwing bags of rubbish (which may split).
- Checking work areas after completion of tasks and removing all rubbish and FOD.
- Report FOD to AOC immediately and then via SMS pro. Reporting system (www.pmiasafety.com).

7.9 Construction Workers

- Ensuring that vehicles taking plant and materials to / from the working area are clean and do not deposit mud, stones or other debris on the movement area.
- Taking measures to ensure that no materials from the works area find their way onto the movement area, whether this be by being blown, spilt or by any other methods.

7.10 Handling Agents

- As part the preparations for accepting an aircraft onto a stand, carry out a pre aircraft arrival FOD inspection.
- Encourage their staff to remove FOD whenever observed.
- Report FOD to AOC immediately and then via SMS pro. Reporting system (www.pmiasafety.com).

7.11 Push-back Crews / Tug Drivers

- Undertaking a pre-push back FOD check of the stand and adjacent taxiways.
- Report FOD to AOC immediately and then via SMS pro. Reporting system (www.pmiasafety.com).

7.12 Tasks Under Airside Department

Associated Ops Records as follows:

- The Aerodrome Operations staff are responsible to maintain any valuable records related to the abovementioned aerodrome operations events and activities.
- Respond to any FOD report immediately ensuring safe and smooth operations.
- Control FOD within aerodrome areas.

7.13 Process Flowchart

N/A

8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

WILDLIFE HAZARD TREATMENT

Document Number:	TIBAH-AIROPS-SOP-24
Document Owner:	Safety and Aerodrome Operations Directorate
Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	Updated GACAR 139 (ED 7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

Wildlife is considered to be a significant hazard to aviation safety as it would affect the safe conduct of aircraft operations and this is proven by aircraft safety statistics. The recent statistics that covered worldwide airports showed that the vast majority of wildlife strikes occur either on or within the direct vicinity of the aerodrome. In this document, the procedures to deal with the danger posed to aircraft operations by the presence of birds or mammals in the aerodrome flight pattern and movement area are specified.

1.1 Regulation and Reference Documents

- PMIA Aerodrome Manual.
- GACAR 139.907 wildlife strike hazard reduction

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 6.1; 7.5 and 8.1
- ISO 14001:2015 Clauses 6.1; 7.5 and 8.1

2.0 Purpose

This document defines the process to deal with the danger posed to aircraft operations by the presence of birds or mammals in the aerodrome flight plan or movement area.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Safety & Aerodrome Operation Directorate	GACA Airport Authority
Wildlife & FOD Control Officer	Royal Saudi Airforce (MED-RSAF)
	Air Navigation Services
	Airlines Operators

4.0 Scope

This SOP dictates the operational procedures of reducing wildlife strike hazard within aerodrome and its vicinity.
Tibah Safety and aerodrome operation directorate is responsible to deal with the danger posed to aircraft operations by the presence of birds or mammals in the aerodrome flight plan or movement area.

5.0 Applicable Areas within the Airfield

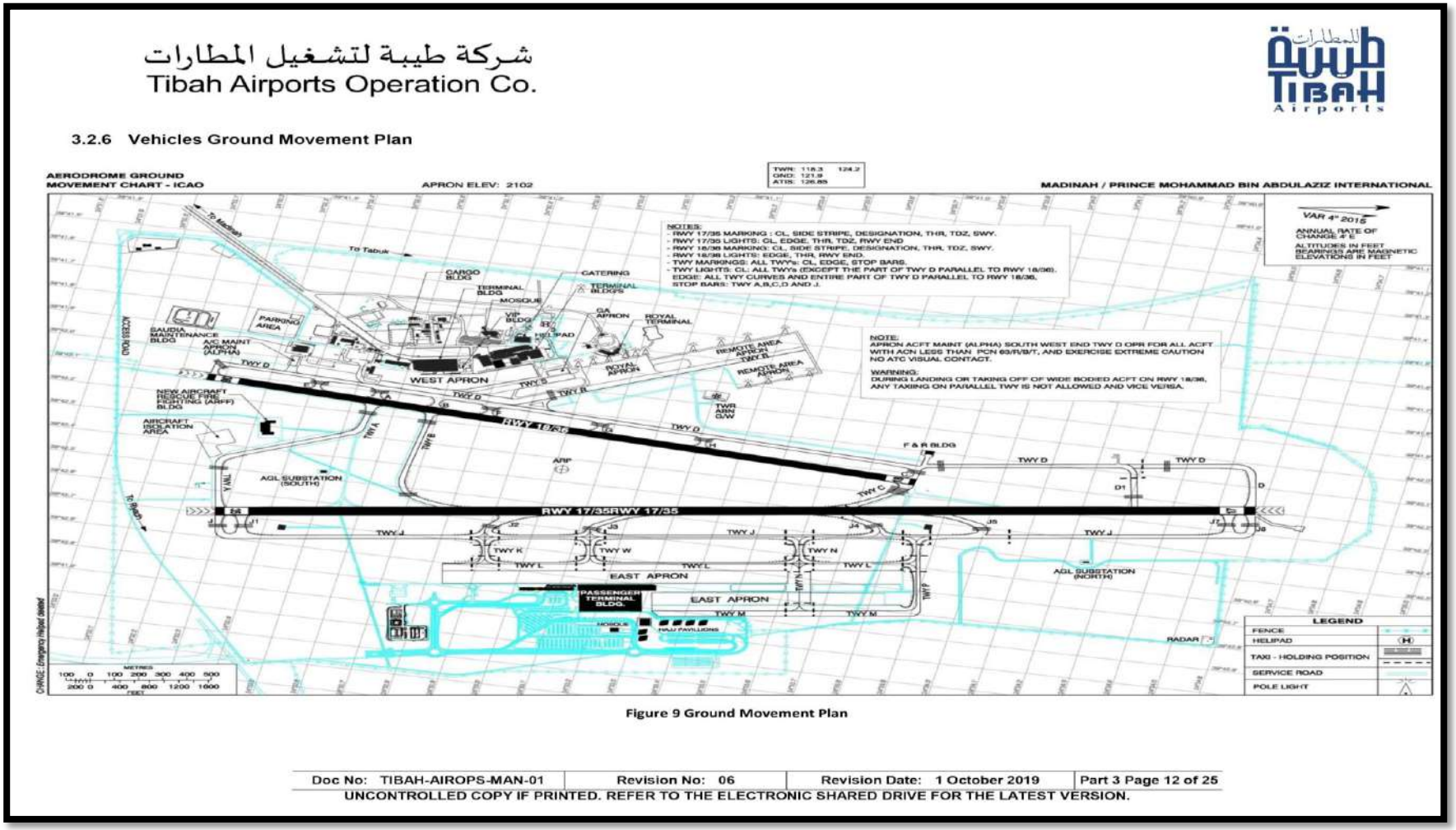


Figure 9 Ground Movement Plan

Figure 1 PMIA's RWYs

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Wildlife Hazard	Manage the risks after the wildlife hazard has been identified, monitored and assessed	Mitigating the risk of wildlife on Operation	All strikes and wildlife hazards must be reported to Tibah Safety Department and PMIA ATC	AOC and SMS Pro system	100% Compliance

7.0 Process Description

It is the responsibility of the Tibah Safety & Aerodrome operation directorate (Wildlife & FOD Control Officer) to establish a wildlife hazard management plan (WHMP). Aerodrome operator may hire a qualified contractor to deal directly with wildlife hazard under supervision of Safety & Aerodrome Operation.

The content of the plan involve the following as minimum:

- Hazard assessment
- Pilot notification (reporting)
- Liaison with land use planning authorities
- On-airport source of wildlife attraction (i.e. food, water, shelter etc.)
- Suitable harassment methods
- Ongoing strategy of wildlife hazard reduction

7.1 Wildlife Hazard Treatment

It is the responsibility of the Safety & Aerodrome operation directorate (Wildlife & FOD Control Officer) to implement appropriate controls to manage the risks after the wildlife hazard has been identified, monitored and assessed. The wide variety of wildlife species leads to the requirement of more than one control measure.

To determine what are the appropriate and most suitable treatments that can lead to effective results, the aerodrome operators is recommended to consult one or more of the following:

- Rangers, Zoologists, Ornithologists and other wildlife experts.
- Other aerodrome operators with experience in treating similar wildlife hazard.
- Saudi Wildlife Authority (SWA)

Priority should be given to addressing the wildlife species that are categorized as being the highest risk. The treatment options are divided into two categories: Pre-emptive and Active treatments.

Appropriate approval from the relevant authorities is required.

7.1.1 Pre-emptive Treatments

These treatment processes are generally applied to the aerodrome environment and can include but are not limited to:

- Provision of appropriate fencing around the aerodrome boundary
- Removal of food and habitat sources

- Covering open water sources, drains
- Use of spikes, wires and nets to prevent roosting
- Removal or covering of exposed sources of waste, sewage, offal etc.
- Use of appropriate landscaping techniques.
- Use of traps to catch animals and remove it from aerodrome areas
- Weekly inspection must cover all movement areas including security fence must be conducted by Safety & Aerodrome OPS personnel
- Quarterly inspection must be conducted within aerodrome vicinity through aerodrome safeguarding process (Please see aerodrome safeguarding SOP – Aerodrome Manual – Annex A)
- Awareness training/sessions must be provided continually to all stakeholders/service providers' personnel in wildlife hazard and treatment.

7.1.2 Active Treatments

These treatment processes are generally applied to the actual wildlife hazard and could include but are not limited to:

- Any observed Wildlife hazard must be reported immediately to AOC and shall be reported to the wildlife & FOD control officer and SMS Pro. System as well.
- AOC, upon the receipt of a wildlife hazard will notify immediately aerodrome operation supervisor/shift in-charge who will immediately respond and remove the reported hazard.
- Wildlife prevention contractor must be notified immediately
- When Wildlife hazard/strike occurred, the case must be reported by SMS Pro. System.
- Any reported wildlife hazard/strike case must be logged by aerodrome operation staff.
- Use of scare tactics such as horns, sirens, loud hailers, gas cannons, pyrotechnics, arm waving and chasing
- Simulation of threats to wildlife such as lures, dogs, distress call generators etc.
- Use of capture or culling practices may mitigate the risks.

Care should be taken when using active treatments in order to ensure that the wildlife responding to the treatment will not be directed towards an aircraft.

7.2 Hazards Caused from Birds

Preventative and corrective measure taken to mitigate bird hazards at the aerodrome

7.2.1 Bird Strike Control

The following measures need to be maintained to reduce the existence of birds in the airport:

- Reducing the number, distribution and proportion of plants providing a source of food and cover for nesting and roosting birds, especially those around southern runway, taxiways and the airport buildings closest to the runway.
- Bins and skips should be of designs that exclude birds (e.g. with drop down or swinging lids) and should be emptied before they overflow.
- The complete destruction of any plantation, such as the acacia scrub at either end of the southern runway, would be the only immediate and permanent means of removing a roosting area.
- Buildings should be proofed and modified to prevent access by roosting and nesting birds. Wherever possible, new buildings will be designed to deny access to the interior and roof spaces, have self-closing doors or with plastic strip curtains or other mechanisms to prevent access by birds, not have flat roofs, have minimal roof overhangs and be without ledges beneath overhangs and external protrusions.

- Drainage of all wet and waterlogged area;
- Regular grooming of the grass by keeping it short, trees and tall structures, which serve as their roosts will be removed or modified to discourage birds use.
- Bird monitoring in and around the airport is conducted regularly.
- Tests and evaluation of new dispersion techniques are conducted on a continuous basis. At present, there are no reliable detection techniques being used by PMIA.
- If requests are made by ATC, a member of the aerodrome Ops will visit the airfield to disperse birds or check for remains.
- All bird strikes, bird remains and bird concentration must be reported to Tibah Airport operation centre and through SMS Pro system.
- Feeding of birds and other animals within aerodrome is strictly not allowed.

7.2.2 Management of Bird Threat

Birds sighted adjacent to runways and runway strips which should be considered to be causing a threat to the safety of the aircraft operations, shall be dispersed using non-lethal technologies. Several types of bird scaring devices and techniques could be utilized including:

- The use of recorded distress calls (bio-acoustics), considered the most efficient and cost effective method for dispersing birds from airports.
- Manual dispersal techniques such as regular human activity and arm waving.

Excessive bird activity on a particular runway or within the approach/take off areas of the runway may require issuing a NOTAM by Safety & Aerodrome operations team in coordination with ATC to advise of increased bird activity specifying the parts of the airport affected. All bird threat activities are to be logged by aerodrome Ops team.

7.3 Hazards Caused from Wildlife Other than Birds

Preventative and corrective measures taken to mitigate hazards caused from wildlife other than birds:

- Dogs, cats, lizards and foxes pose a moderate risk to aircraft landing and taking off. As there is an apparent risk of dogs, cats and foxes, occurring within the airports boundary it is recommended that all emergency access gates are continuously maintained and inspected to ensure gates have no damage (this is included in aerodrome operations movement area daily inspections)
- Safety & Aerodrome operation personnel and Aerodrome maintenance contractor shall conduct joint weekly perimeter fence inspections.
- Safety & Aerodrome operation personnel must conduct quarterly inspection within aerodrome vicinity (please see aerodrome safeguarding SOPs).

7.4 Reporting

All strikes or any observed wildlife hazard within movement area or its vicinity need to be reported immediately to Tibah Airport Operation Center (AOC) and the wildlife & FOD control officer and ATC if the case may affect ACFT safety as it should be recorded using SMS Pro reporting system (www.pmiasafety.com). All data on bird-strikes will need to be organised and logged by Wildlife & FOD controller, Tibah Safety Department and PMIA Air Traffic Control Unit.

In the event of a bird strike occurring, Wildlife & FOD controller, GACA authority, GACA airports standards, AIB (Aviation Investigation bureau) and SANS shall be informed by Safety Department and ATC. (The case must be reported through the SMS Pro. System within max 24 Hours)

7.5 Process Flowchart

N/A.

8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

OPERATION OF VEHICLES & OTHER EQUIPMENT

Document Number:	TIBAH-AIROPS-SOP-25
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Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	Updated GACAR 139 (ED 7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

In this document, the process related to use of airfield vehicles operations & associated equipment at PMIA are specified.

1.1 Regulation and Reference Documents

- PMIA Aerodrome Manual
- GACAR 139
- GACAR 68
- GACAR 151

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.5 and 8.1
- ISO 14001:2015 Clauses 7.5

2.0 Purpose

This document defines the process related to operation of vehicles & associated equipment within aerodrome movement area in addition to the rules and regulations applied to vehicle traffic on the aerodrome.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Safety & Aerodrome Operation Directorate	GACA
Stakeholders & Service Providers within PMIA	Royal Saudi Airforce (MED-RSAF)
Airside Users	

4.0 Scope

This SOP dictates the process related to the operation of vehicles & associated equipment at within movement area. It also explains in details the general provisions for vehicle control & right of way, vehicle communication, access to airfield operations area and vehicle control in the airside operation area (AOA).

4.1 General Consideration

- No ground service provider may be established and operated in the Kingdom of Saudi Arabia (KSA) except in accordance with the provisions of the certificate and operations specifications issued under GACAR 151 for each aerodrome at which the ground service provider is operating.
- Commercial air operators operating under GACAR Part 121 or 135 who provide ground services for their own operations only, hereinafter referred to as "self-handlers", do not require a certificate and operations specification issued under this part provided their ground services comply with the technical requirements in GACAR § 151.5 and their systems, procedures, programs, personnel, manuals, equipment and facilities are equivalent to those prescribed in GACAR 151 Subparts C, D, E, F, G, H and I of this part. If the President determines that the ground services provided by the air operator do not provide an acceptable level of safety, the President may prohibit the air operator from providing its own ground services.
- Organizations providing ground services as a subcontracted entity to a ground service provider certificated under GACAR 151 must comply with GACAR § 151.9.

- **GACAR Part 68 prescribes:**
  - The requirements for issuing a ground services personnel work permit and its associated job function endorsement(s);

- The conditions under which those permits are necessary, and the obligations, privileges and limitations for the holders of those permits.
- For aerodrome operators to take action on observed noncompliance with this part.

- **GACAR Part 68 applies to:**
  - Ground service providers certificated under GACAR Part 151;
  - Entities subcontracted by a ground service provider certificated under GACAR Part 151;
  - Commercial air operators certificated under GACAR Part 119 and operating under GACAR Part 121 or Part 135 that provide ground services for their own operations, hereinafter referred to as "self-handlers";
  - Aerodrome operators within the applicability of GACAR Part 139 that their staff is engaged in any of the ground service functions prescribed in GACAR § 68.3 in support of their own operations;
  - A repair station certificated under GACAR Part 145 or an aircraft maintenance provider certificated under equivalent foreign regulations that their staff is engaged in any of the ground service functions prescribed in GACAR § 68.3 in support of their own operations; and
  - (6) Ground services personnel working for the organizations identified above, who are employed on a full-time or on a part-time or on a seasonal basis.

5.0 Applicable Areas within the Airfield

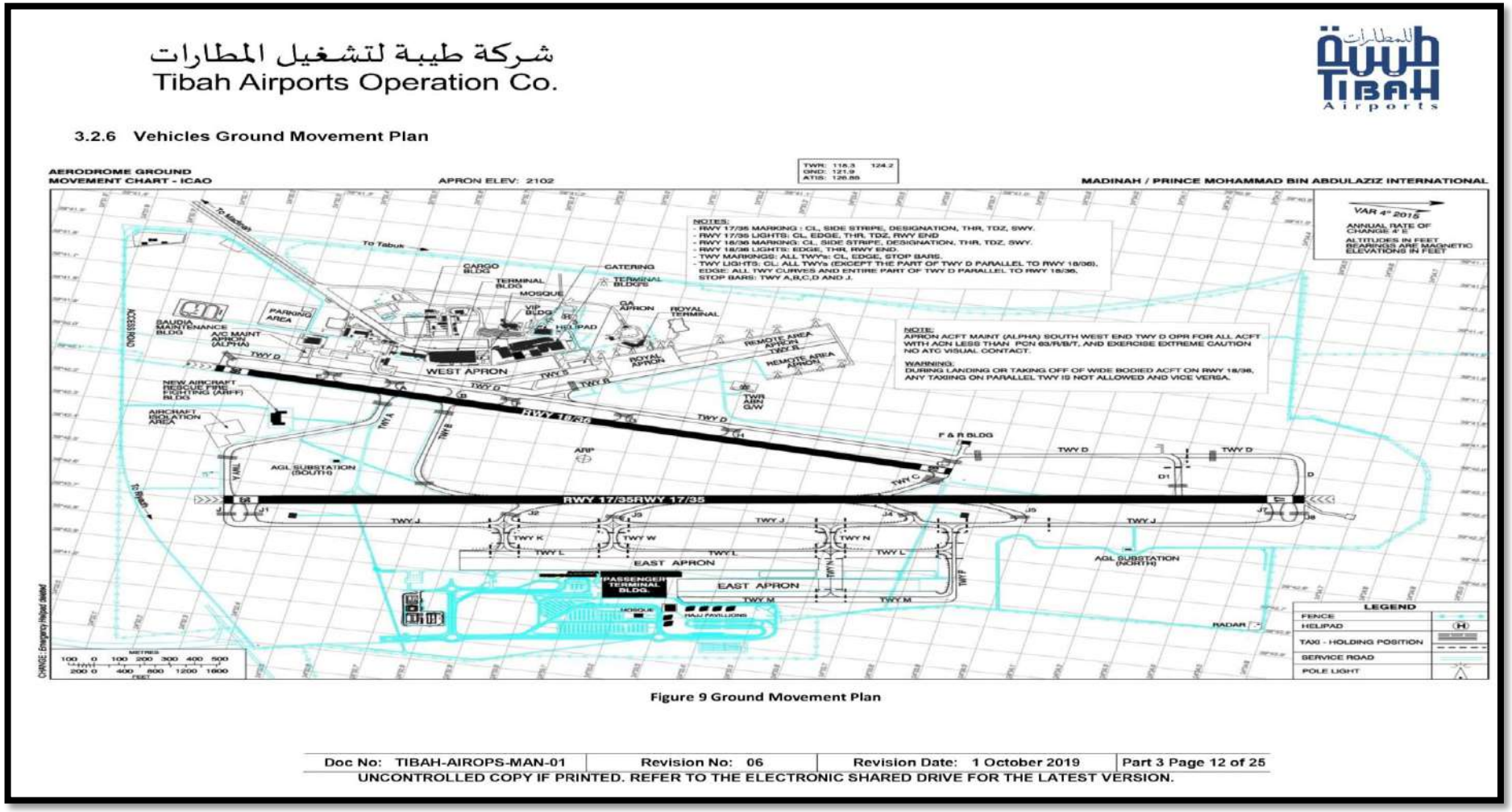


Figure 9 Ground Movement Plan

Figure 1 PMIA

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Safety occurrence reporting	Safety occurrence reporting (Accident, Incident or any safety hazard) must be reported to AOC and via SMS Pro.	Safe operations	SMS Pro system and reporting to Airport Operation Center (AOC)	Effective mitigation of vehicles & equipment accidents/incidents within movement area	- Reporting to AOC immediately - Reporting via SMS Pro system no later than 24 Hours from the occurrence. 100% Compliance

7.0 Process Description

7.1 The Following Rules and Regulations Shall Apply to Vehicle Traffic on The Movement Area:

- All movement of vehicles within the aircraft maneuvering area shall be under the control of ATC. Vehicle movement in non-maneuvering area (apron area) is exempted from the control of ATC.
- All vehicle traffic shall comply at all times with any lawful instruction, signal, or direction given by the airport authorities (GACA, RSAF and Tibah) when operating in the movement area. In areas where traffic is controlled by traffic lights, signs, mechanical or electrical signals, or pavement markings, such lights, signs and signals shall be obeyed, unless directives to the contrary are given by a traffic control or security officer, or by the ATC or Airport Operations Center/Aerodrome operation staff.

7.2 General Provision for Vehicle Control & Right of Way

- GACA Airport Director or his duly authorized representative (RSAF, Safety Depart. and aerodrome OPS Depart) is authorized to stop any vehicle in the Air Operations Area (AOA) if driver is violating PMIA Rules and Regulations. Violators will be issued a Notice of Violation of Airport Regulations which will require the signature of the employee's supervisor to verify that his supervisor is aware of the violation and has discussed with the employee the necessity for compliance with Airport Regulations. If a second violation warning is given with a period of six months, privileges to drive on the Air Operations Area may be suspended by the Airport Director or his duly representative for a period of up to ninety (90) days. If a third violation warning is issued within a period of one year from the date of issuance of the first warning of a violation, the employee's permit to drive on the airport's Air Operations Area may be revoked.
- The procedure for issuance of warnings is as follows: A driver, when stopped by a Law Enforcement Officer, a Security Department Officer, or such other authorized representative of the Airport Director for having committed a violation of the Airport Rules and Regulations, shall show his driving permit to the authorized representative.
- The driver shall be informed that he must return a copy of the violation warning, signed by his supervisor, to the Airport Director or his duly authorized representative within seventy-two (72) hours. If compliance with this requirement is not carried out, the Airport Director or his duly authorized representative may issue a letter to the supervisor and employer of the permittee for his information and cooperation in enforcement of the Airport Rules and Regulations.

7.3 Vehicle Communication

- All vehicles shall monitor 121.900 MHz when on the runway or taxiway, and shall obtain clearance from the Control Tower before entering or crossing any runway or taxiway.
- All vehicles shall adhere to the light gun signals from Control Tower.

7.4 Access to Airfield Operations Area (Movement Area)

The general rules and regulations in this Section govern the use and condition of vehicles, equipment (other than aircraft) and pedestrians at the airport.

Access to the Airside is via a number of security posts:

- South Gate (West Apron)
- East Gate (East Apron)
- West Apron Catering Gate
- East Apron Main Terminal Building
- West Apron TER 3 (Only when Terminal 3 is activated)
- East Apron Catering Gates

Full security procedures will be undertaken for staff and vehicles; this includes access control and search. Airside vehicle and personnel permits are checked by RSAF.

7.5 Airport Personnel Identification

It shall be the responsibility of GACA, Tibah and any other Airport Authority department, tenant or vendor to assure that all employees obtain the appropriate security identification. GACA Airport Director, in concert with RSAF, shall determine the type of security identification that the employee shall be entitled to use, e.g., airside or landside. Each employee shall conspicuously display the issued security identification at all times while on airport property.

7.6 Vehicle Pass and Identification

- It shall be the responsibility of GACA, Tibah and any other Airport Authority department, tenant and vendor to assure that each of their vehicles has the proper vehicle identification pass available and properly displayed on the vehicle when it is operated on airport property.
- All vehicles operated in or upon airport property must comply with the Motor Vehicle Regulations of the Kingdom of Saudi Arabia.
- Persons operating motor vehicles within the AOA shall have in their possession a valid AOA Operator's permit (Driving License) issued and valid by Tibah Safety Department.

7.7 Vehicle Safety Inspection

Every vehicle regularly operated on the AOA shall, at the discretion of GACA Airport Authority and/or its designee, be inspected by Tibah Safety Department periodically and shall display a safety inspection decal as issued by Airport Authority. Maximum allowable age of any vehicle in the movement is (15) years (ref; GACAR Part 151).

7.8 Details of the Equipment Needed in Vehicles that Operate on the Movement Area

No vehicle shall be operated in or around any area of the airport:

- No trailers or semitrailers shall be allowed on the AOA without positive locking couplings.
- Unless the vehicle is carrying a low intensity Type D obstruction light (color amber).
- Unless authorized by safety department, vehicles shall be marked with proper reflective strips.
- Unless vehicle’s identification number/name (company name/shortcut) is well displayed clearly on the exterior side of vehicle/equipment.

- For Refuellers/Dispensers, a proper spill kits shall be provided.
- Unless provided with valid Fire extinguishers and any required firefighting equipment.
- Safety & Aerodrome OPS directorate may equip vehicles operating in airside OPS area (Movement area) with a VTS device depend on vehicles operation type.

7.9 Insurance Coverage

Insurance coverage for vehicles owned by tenants and operated on the airport shall be in the amounts specified by GACA Airport Authority.

7.10 GACA Permit Requirements

No person may perform any of the following job functions for an organization identified in GACAR 68.1(b), at PMIA, unless that person has in his personal possession a valid ground services personnel work permit issued by GACA concerned department under GACAR Part No.(68) that is properly endorsed for the applicable job function(s) being performed:

- Ground support equipment operation.
- Aircraft marshalling.
- Dangerous goods handling.
- Load control / loading supervision.
- Passenger handling.
- Ramp supervision / aircraft turnaround coordination.
- Headset operation.
- Cargo handling.
- Into-plane catering.
- Into-plane fueling.
- Baggage handling.
- Passenger boarding bridge operation

NOTE: Further details are provided in GACAR Part No. (68).

7.11 Airside Driver Permit (ADP) Procedures

All vehicles operated in or upon airport property must comply with the Motor Vehicle Regulations of the Kingdom of Saudi Arabia. Persons operating motor vehicles within the AOA shall have in their possession a valid AOA Operator's permit issued and valid by Tibah Safety Department. Tibah Safety Department is responsible for airside driver training and issuing of necessary drivers permit. To ensure that drivers of vehicles requiring airside access are in possession of a valid ADP, RSAF will conduct visual checks of driving permits before Security access is granted airside. RSAF will deny access to drivers of vehicles who are not in possession of a valid driving permit. In the case of HGVs, PCVs or unconventional vehicles, a Certificate of Competence, issued by the Vehicle Operator, is required.

All vehicles requiring access to the AOA must issue the appropriate pass by GACA Airport Director in coordination with Airport Security and Tibah. Drivers must have in their possession a valid PMIA AOA Driver's Permit. Driver's Permit is issued by Tibah Safety Department after necessary training. Driver's Permit is issued depending on the area where the driver will be serving. There are two types of Driver's Permit at PMIA:

7.11.1 Apron Driver's Permit, where the applicant for this type shall Achieve/provide the following items to Tibah safety department (Safety office contact details are provided in aerodrome manual – Part 2):

- Valid GACA permit (As per GACAR Part 68)
- A copy of valid local traffic police driving permit/License.
- A copy of valid Airport security AOA permit.
- Driving license training attendance record (First Time Only/first issuance however safety team may request a re-current refresh training)

- Passing Apron Driver's Permit test
- An approved driver's training certificate/ license is required for unconventional vehicle/equipment (if requested by safety team).
- The Apron driver's License shall be renewed annually through safety department.
- Complete payment process (Driving License Fees) through Tibah Revenue department.

7.11.2 Movement Area Driver's Permit, , where the applicant for this type shall achieve/provide the following items to safety department:

- Valid GACA permit (As per GACAR Part 68)
- A copy of valid local traffic police driving permit.
- A copy of valid Airport security AOA permit.
- Driving license training attendance record (First Time Only/first issuance however safety team may request a re-current refresh training)
- Passing Movement Area Driver's Permit test
- An approved driver's training certificate/license is required for unconventional vehicle/equipment (if requested by safety team).
- The Movement driver's License shall be renewed yearly through safety department.
- Complete payment process (Driving License Fees) through Tibah Revenue department.

Tibah Safety Department is responsible for driver's training and issuance of driver's permit.

The Safety Department must ensure that on the maneuvering area, only ATC Tower can authorize vehicles operates and ensure that operators are properly trained and taught for;

- The geography of the aerodrome.
- Aware of aerodrome Grid Map.
- Aerodrome signs, markings and lights.
- Radiotelephone operating procedures (Radio Communication Procedures are available in aerodrome manual – annex A).
- Terms and phrases used in aerodrome control and ICAO spelling alphabet.
- Rules of air traffic services and airport rules/procedures.
- Specialist functions as required such as low visibility operations.

The vehicle operator should be able to demonstrate competency;

- The use of vehicle radio (transmit/receive) equipment.
- Understanding and complying with air traffic control and local procedures.
- Vehicle navigation on the aerodrome.
- Special skills for particular function.

It is desirable to verify vehicle operator's knowledge of the procedures through periodic checks.

7.12 Vehicle Control in the Air Operations Area (Movement Area)

The following rules and regulations shall apply to vehicle traffic control:

- All movement of vehicles within the aircraft maneuvering area of the AOA shall be under the control of ATC. All vehicle movement inside the apron boundary line (the red line or the non-movement area) is permissible without ATC control. Any vehicle movement in non-movement area is strictly subject to following rules.
- All vehicle traffic shall comply at all times with any lawful instruction, signal, or direction given by the airport authorities or Security when operating in the AOA. In areas where traffic is controlled by traffic lights, signs, mechanical or electrical signals, or pavement markings, such lights, signs and signals shall be obeyed, unless directives to the contrary are given by a traffic control or security officer, or by the airport Control Tower or Airport Operations Center when AOA operations are involved.

- All vehicles shall monitor the appropriate radio communications frequencies (121.900 MHz) when driving on the runway or taxiway, and shall obtain clearance from the Airport Control Tower before entering or crossing any runway or taxiway. Vehicle movement in non-movement area (apron) is exempted from above radio requirements.
- All motor vehicles approaching a moving aircraft shall come to a complete stop and yield the right-of-way to aircraft.
- Only single line traffic in each direction shall be permitted when crossing taxiways and in terminal areas.
- No vehicle shall be operated in or around any area of the airport:
  - In a careless or negligent manner, in excess of the posted speed limit, and on aprons in excess of 25 kilometers per hour.
  - In a manner which may permit the spilling of transported material.
  - In a manner which is likely to endanger persons or properties or in a manner which is contrary to the directions posted on traffic signs.
  - When the vehicle is in an unsafe mechanical condition, or is equipped or loaded so as to pose danger to persons or property.
  - No trailers or semitrailers shall be allowed on the AOA without positive locking couplings.
  - Unless the vehicle is carrying a low intensity Type D obstruction light (color amber). The obstruction lights must be operated during night time and low visibility and recommended to be on during day time and good visibility condition.

- Only electrical vehicles/equipment are allowed at BHS area.
- Do not park vehicle within an Aircraft stand staging area (Area located at each aircraft stand which is dedicated for vehicles intend to serve an aircraft) unless you intend to serve an aircraft at the same stand. Parking vehicles/equipment within ACFT stand designated area is allowed before ACFT arrival to same stand by maximum 20 minutes from ACFT arrival.
- Vehicular traffic shall give way to Pedestrians (people crossing on pedestrians lanes)
- At the east apron, vehicles shall never cross behind any parked aircraft except in cases of extreme necessity where if so, the driver **shall** make sure that the aircraft anti-collision lights are off before crossing behind the aircraft.
- Never drive or park vehicle/equipment under Passengers Boarding Bridges (PBB)
- Apply the handbrake when the vehicle is parked.
- Personnel in vehicles must remain entirely inside the vehicle during driving.
- Do not drive across aircraft stands unless involved in the turnaround on that stand.
- Do not park underneath an aircraft wing unless you have an operational requirement to do so.
- Do not park or leave equipment in the Inter-stand Clearways.
- Report all vehicle unserviceability without delay to AOC.
- Do not park or leave equipment in the cross-hatched No Parking areas
- Do not drive under the influence of drink, drugs and intoxicating substances.
- No person shall abandon a motor vehicle on the airport.
- No person shall park a motor vehicle in any space marked off for the parking of vehicles in such a manner as to occupy part of another parking space.
- No person shall park any motor vehicle in any restricted or reserved parking space or area.
- Movement of lift type mobile lounges with the body raised is prohibited, except for positioning the mobile lounge against a passenger terminal building or an aircraft, or when disengaging from an aircraft or terminal gate (when applicable).
- Movement of lift type ground service equipment (GSE) with any portion raised is prohibited except in the final positioning or disengagement of the GSE with aircraft. Lift mechanisms may not be raised while behind an aircraft with its engine(s) running (when applicable).

- Ground service vehicles and equipment, when not in use, shall be parked in the parking areas designated by the Airport Authority (should never be stored in areas designated for equipment that will serve ACFT with ACFT stand area).

7.13 Tower Light Gun Signal (Driving Vehicle within Maneuvering Area)

In case ATC experiences a radio failure, the controllers will communicate using light signals. If the driver of a vehicle receives light signals from the tower, the driver shall respond immediately. The meaning of these signals must be displayed in the vehicle within easy sight of the driver. These signals are as follows:

Light Signal from Aerodrome Control	Meaning
Green flashes	Permission to cross landing area or to move onto taxiway
Steady red	Stop
Red flashes	Move off the landing area or taxiway and watch out for aircraft
White flashes	Vacate maneuvering area in accordance with local instructions

7.14 Parking of Vehicle on the AOA

- Park on designated parking area only.
- Do not block access route of emergency vehicle or fire suppression equipment.
- Do not block access route of refueling or defueling truck
- Never park vehicles/equipment within Passengers Boarding Bridge (PBB) restricted area (Marked by red lines) or under the bridge.

7.15 TWY November "N" & TWY Papa "P" Crossing for Vehicles

Any type of vehicle or personnel which needs to cross TWY N or L must follow below rules:

- Stop at the warning lights on the Service Road first. This is a mandatory stop. Never cross the stopping point without fully stopping.
- Check for moving aircraft on TWY November. Check your left and right side carefully.
- If any aircraft is moving on TWY M or TWY N, do not cross TWY N. The distance of the moving aircraft is not important
- After you stop and check TWY M and TWY N, if there is no aircraft movement, cross TWY N at the speed of 25 km/h.
- Never stop on TWY N.
- While crossing and once crossing finished, check your behind for any piece of equipment or luggage that you might have dropped onto TWY N. If you dropped any equipment and luggage, immediately return and clean TWY N. If you cannot clean, immediately inform your supervisor, other personnel around you and Aerodrome Services to stop aircraft movement on TWY N.

NOTE: Pedestrians shall never cross any active TWY including TWY N & TWY P.

7.16 BHS Area Vehicle Traffic

- No vehicle shall enter BHS area other than trolley/dolly towing equipment.
- Only electric powered towing equipment are allowed to enter BHS. Petrol powered equipment shall not enter BHS.
- The speed limit inside BHS area is 10 km/h.

7.17 Wearing of Seat Belts

It is a requirement that all vehicles operating in airside at PMIA are fitted with seat belts compliant with the Department for Transport Construction and Use Regulations.

Drivers and passengers of vehicles fitted with airbags should always wear seat belts. Airbags are designed to lessen the likelihood of serious injury to persons wearing seat belts. If seat belts are not worn, unrestrained drivers and/or passengers could sustain injuries from airbags in the event of a vehicle accident side facing seats such as those fitted to crew buses are not required to have seat belts fitted. It is highly recommended that drivers and passengers wear seat belts at all times when operating airside. Seat belts can significantly reduce the severity of injuries sustained in the case of an accident, even at low speeds.

Operators of vehicles operating in airside are reminded of their obligation to ensure that seat belts are fitted and in good working order.

7.18 Towing of Aircraft Steps

It is a requirement that all trailed equipment is towed in a safe manner. It is the responsibility of the GS operator to ensure aircraft steps are maintained in good working order and that operatives carry out a walk around check prior to the steps being used. Prior to a tow commencing, the stabilizers must be fully raised to prevent grounding and all loose or detachable items must be removed. To avoid the potential collision between taxiing aircraft and vehicle traffic on the Apron road system, passenger steps should be lowered to a height of a maximum of 4.3 meters prior to transportation. It is recommended that all towable steps be marked clearly to enable operatives to determine the correct towing height. Whilst towing, consideration must be given to the speed of travel, most particularly when maneuvering aircraft steps in confined spaces and/or around corners. In cases of adverse weather conditions, e.g. strong winds, vehicle and equipment operatives must ensure aircraft steps are in the fully lowered position before commencing a tow as the likelihood of them toppling significantly increases with height. Furthermore, slower towing speeds will be necessary as the likelihood of aircraft steps becoming unstable increases with stronger wind conditions. Steps must be parked in designated bays with the parking brake applied and stabilizers lowered such that they cannot inadvertently move.

7.19 Bus and/or Coach Operation on East Terminal

The availability of space on the East Terminal service road bus lane is only enough to facilitate safe bus and/or coach operations in one direction along this stretch of road. Therefore, a one-way system for buses and/or coaches must apply. Bus lane is exclusively reserved only for buses and/or coaches which carries passenger to and from East Terminal. Buses/Coaches which do not carry passenger must not use the bus lane. Buses and/or coaches transiting south along East Terminal i.e. from stand 120 in the direction of stand 103 must use the double lane normal service road. At no time should buses and/or coaches' transit across vacant stands or drive between aircraft on pier served stands.

7.20 Using Mobile Phones within Airside Operation Area (AOA)

The use of hand held mobile phones by drivers of moving vehicles airside; including supervising or escorting a non-Airside Driving Permit holder is prohibited. Hands-free phones may be used but must be installed according to the manufacturer's instructions. The use of hands-free phones is prohibited if the handset is still being held during use. Under no circumstances should mobile phones be used within the aircraft re fuelling zone. A fuelling zone is established when aircraft-fuelling operations are in progress, extending at least 6 meters radially from the aircraft filling and venting points, and from any part of the fuelling vehicle and equipment including hoses.

7.21 Vehicle Ignition Keys

It is the responsibility of all airside vehicles and/or equipment operators and their operatives to ensure that an unauthorized driver cannot use a vehicle and/or piece of equipment. To prevent vehicles fitted with a key ignition being moved without consent, such vehicles must have their ignition keys removed whilst parked unattended on aircraft stands, head of stand roads, or other locations authorized for the

parking of vehicles. To prevent vehicles not fitted with a key ignition being moved without consent, such vehicles should, where reasonably possible, have their battery isolated whilst parked unattended on aircraft stands, head of stand roads, or other locations authorized for the parking of vehicles. At all times, all vehicles must be accessible via the driver's door in the event that the vehicle needs to be moved for safety reasons.

7.22 Airside Equipment Towing Restrictions

A maximum of (3) Baggage Trailers (all types) or (3) Freight & Cargo Trailers are permitted to be towed airside. Maximum of (3) trailers are permitted to be towed inside buildings such as BHS.

All trailers must have red or amber reflectors at or near each end, clearly visible in conditions of poor visibility or in darkness. High intensity reflective sheet material or reflective paint is an acceptable alternative.

7.23 Securing of Loads

Airside drivers are responsible for ensuring that all loads are safe and secure whilst transporting them airside. Anything carried in or on vehicles and trailers must be secured. Vehicle doors and shutters must be closed. Vehicle drivers are only permitted to 'free range' in the area within which their permit allows them to drive. Free ranging does not apply to runways. Free Ranging is not permitted when LVPs are in operation.

7.24 Action when Lost on the Maneuvering Area

If you become lost or unsure of your position whilst on the maneuvering area, the following actions should be taken: Drivers are to report to AOC or ATC (by cell phone or any other communication means) immediately. ATC will stop all movements until the location of the vehicle is ascertained.

7.25 Secure Parked Vehicle as Follows:

- Gear shift on "Park" for automatic transmission and on "Reveres gear" for manual transmission.
- Engaged hand or foot parking brakes. Install chocks on wheels to prevent unnecessary movement.
- Shut-off engine

Note: Do not leave vehicle unattended if you need engine running.

7.26 Parking of Vehicle in Other Areas of the Airport

- No person shall park a motor vehicle on the airport other than in an area specifically established for parking and in the manner prescribed by the Airport Authority.
- No common carrier, vehicle for hire, taxicab or limousine shall load or unload passengers at the airport at any place other than that designated by the Airport Authority.
- No person shall abandon a motor vehicle on the airport.
- No person shall park a motor vehicle in any space marked off for the parking of vehicles in such a manner as to occupy part of another parking space.
- No person shall park any motor vehicle in any restricted or reserved parking space or area.
- Ground service vehicles and equipment, when not in use, shall be parked in the parking areas designated by the Airport Authority.

7.27 AOA Right of Way Situation

- All motor vehicles, including emergency equipment responding to an emergency, shall give the right-of-way to any aircraft in motion.
- Between vehicles: (*order of priority*)

- Emergency vehicles, FRS, Ambulance, Security
- Passenger Transport Vehicle (PTV)
- Refueling Truck/Fuel Dispenser

- Vehicles approaching from opposite directions shall keep to the right as they approach one another
- Vehicular traffic shall give way to Pedestrians (people crossing on pedestrians lanes)

7.28 Distance when Driving behind an Aircraft with Engine Running - Danger from Jet Blast

Table 2 Minimum Clearance Required When Driving behind an Aircraft with Engine Running

200 meters (700 ft.)	B747, B777, L1011, AB340, AB300, MD11, DC10, etc..., all wide body aircraft.
100 meters (350 ft.)	MD90, B737, A321, E190 etc..., all narrow body aircraft.
Note: The bigger the aircraft the more dangerous the jet- blast	

7.29 Airside Vehicle Speed Limits

When driving on the Airside, all signs shall be obeyed by the driver. Unless otherwise indicated, obey the following speed limits:

Table 3 Airside Vehicle Speed Limits

Apron Area	10 Km/h	
Airside Roads Adjacent to Apron Area	25 km/h	
Taxiways and Runways	30 km/h	
Service Roads	50 km/h	
Note: The airside roads adjacent to Apron Area are "Shared Zones". Pedestrians and Vehicles uses these roads for their movements. Caution is therefore required at all times.		

7.30 Movement Rules of Lift Type Mobile Lounges

- Movement of lift type mobile lounges with the body raised is prohibited, except for positioning the mobile lounge against a passenger terminal building or an aircraft, or when disengaging from an aircraft or terminal gate (when applicable).
- Movement of lift type ground service equipment (GSE) with any portion raised is prohibited except in the final positioning or disengagement of the GSE with aircraft. Lift mechanisms shall not be raised while behind an aircraft with its engine(s) running.

7.31 Emergency Conditions Implications on Vehicle Operations on AOA

Emergency conditions existing on the airside shall not cancel any existing regulations. During such emergencies the driver of a vehicle shall move his vehicle in compliance with instructions issued by Safety & Airside Operations, Security Department and any other authorized airport authority.

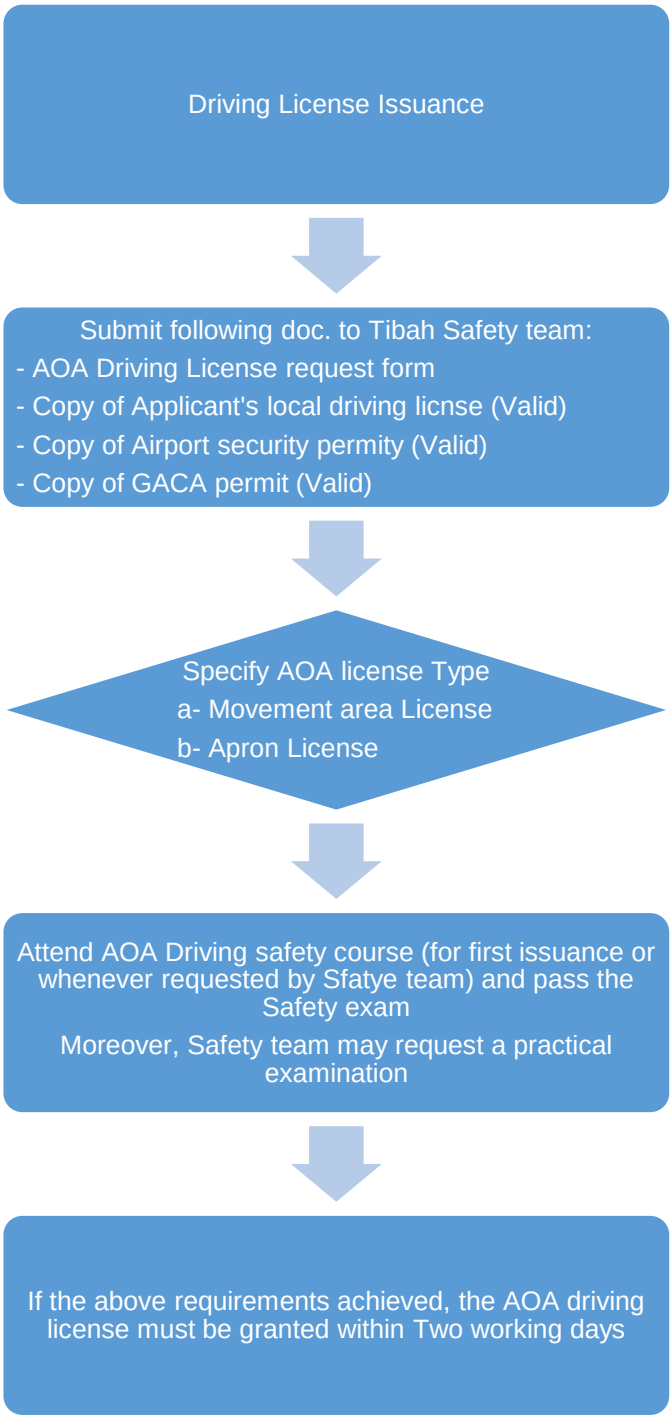
7.32 Vehicle Tracking System (VTS)

In order to comply with GACA regulations and ICAO Aerodrome Certification Requirements (Annex 14 and Doc.9137 Part 8) Tibah has procured an Airside Vehicle Tracking System (VTS). VTS is required for Low Visibility Operations as well as overall airside safety improvements. The system has two basic components. The first component is a small tracking device (10x7x1cm) that has a SIM Card and a GPS Module. Every vehicle that is operating in Airside must be installed with the tracking device. This requires 1 hour installation time per vehicle. The device will be hidden under the dashboard. Second component is web-based software. The software allows authorized users to see:

- Vehicle status
- Warnings events
- Detailed vehicle activity history.
- Real-time tracking of vehicles on a map.
- Quick contact for a specific driver.

A professional company has been identified by Tibah and approved by GACA as the supplier of VTS. Starting from 01 May 2016, no airside vehicle permit will be issued unless the vehicle is equipped with VTS. Before the installation, an agreement will be signed between Tibah and related stakeholder. After installation, any damage to VTS device will be paid by the responsible company and a new device will be installed again by Tibah before allowing the vehicle back to operation. Authorized users will have access to VTS system. These users are typically safety officers of each stakeholder that is operating in Airside.

7.33 Process Flowchart



8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

VHF RADIO COMMUNICATION

Document Number:	TIBAH-AIROPS-SOP-26
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Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	GACAR updated regulations (GACAR 139 – ED7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

Within the maneuvering area, all vehicles shall monitor 121.900 MHz when on the runway or taxiway, and shall obtain clearance from the Control Tower before entering or crossing any runway or taxiway.
All movement of vehicles within the aircraft maneuvering area shall be under the control of ATC. Vehicle movement in non-maneuvering area (apron area) is exempted from the control of ATC.
In this document, the procedures of having suitable, safe and effective communication with ATC is detailed.

1.1 Regulation and Reference Documents

- PMIA Aerodrome Manual
- GACAR 139

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.5; 74 and 8.1
- ISO 14001:2015 Clauses 7.5 and 7.4

2.0 Purpose

To define the procedure for VHF Radio Communication between Airside Vehicles & ATC.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Saudi Air Navigation Services (SANS)	Service Providers
Safety & Aerodrome OPS staff	GACA Airport Authority
Stakeholders	GACA – Aviation Standards Sector

4.0 Scope

This SOP is associated to all Airside Operations staff, AGL staff, SANS Staff and all drivers within the Maneuvering area.

5.0 Applicable Areas within the Airfield

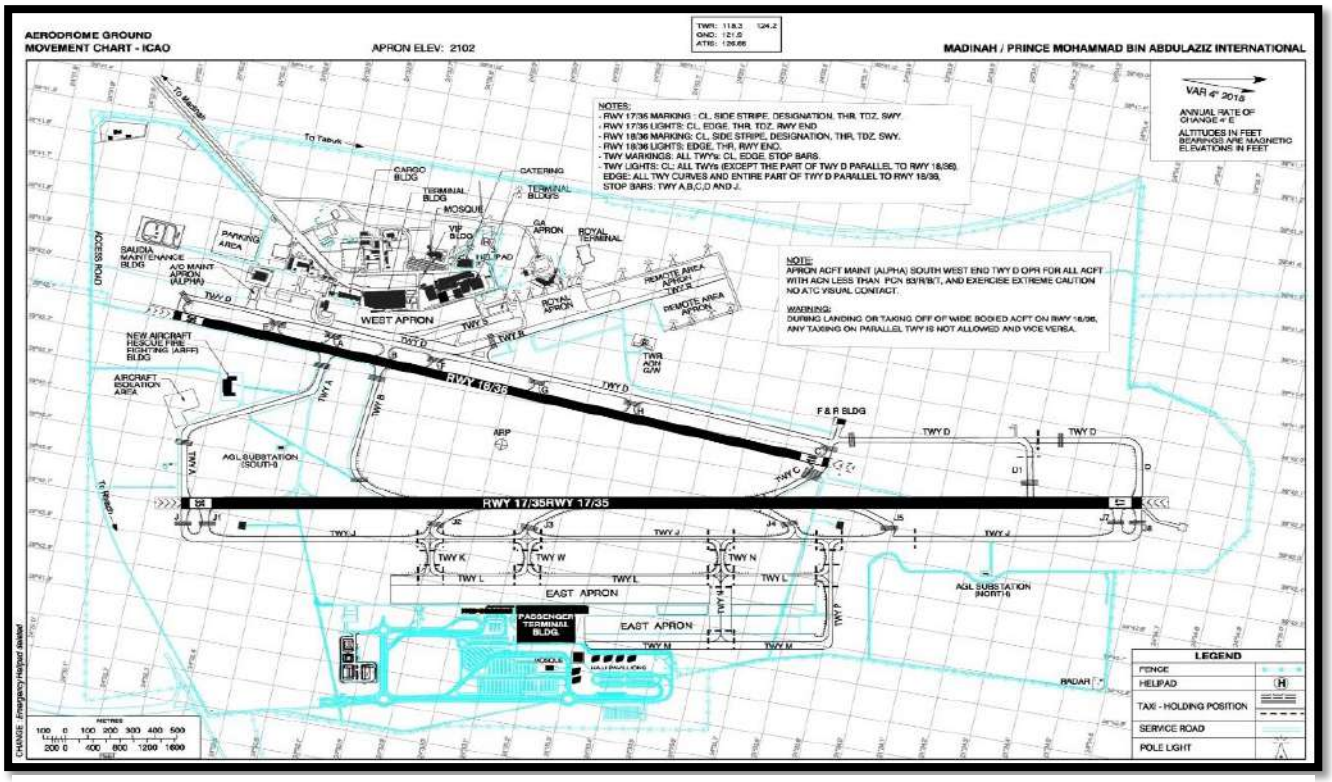

Figure 1 PMIA

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
VHF Radio Communication	Compliance with Procedures of VHF Radio Communication	Safe OPS at PMIA	ATC, AOC and SMS Pro.	ACFT safe movement	All drivers with maneuvering area must adhere to these SOPs (100 compliance)

7.0 Process Description

7.1 Radio Testing

Prior requesting permission from ATC to enter any portion within the maneuvering area, driver shall perform following:

- Walk around the vehicle that will be used (Physical Check).
- Check the VHF radio device physically (Wires, Screen, Battery … etc.) All shall be in good conditions.
- Radio's antenna connections shall be well tighten.
- Radio test shall be conducted in coordination with ATC ensuring loud and clear transmission of messages.

Radio testing example:

Airfield 01: *Medina ground, Airfield 01*
ATC Controller: *Airfield 01, Medina Ground, Go ahead.*
Airfield 01: *Medina ground, Airfield 01, Radio Test, How do you Read.*
ATC Controller: *Airfield 01, Medina Ground, I read you 5/5 (If the received reading quality was not satisfied by ATC, then the driver shall re-check radio connections and re-test the radio again).*

NOTE: The VHF radio Device shall be inspected and maintained periodically by qualified technicians (Periodical maintenance shall be well documented and recorded).

7.2 General

- Place the device close to your lips (2-3 cm away from your lips).
- If you are using a hand mike, make sure that your finger is not covering the noise-cancelling opening on the back or top of the mike.
- Listen before you transmit, especially if you have just changed frequencies. Simultaneous transmissions are counter-productive.
- Make sure the frequency is clear and keep listening/monitoring the frequency/Radio all time.
- Think before you transmit. Knowing what you want to say will shorten the transmission, increasing efficiency of communications
- Speak clearly. Communication of information requires that the information be received and understood, as well as transmitted.
- If you don't receive an immediate reply to your transmission, be patient. The air traffic controller you are calling has likely received your call, and will answer as soon as workload permits
- Always use your full call sign when making the initial contact with an ATC controller.

- When contacting the ATC controller using VHF radios, the following reports must be declared:
  - **Who** you are calling
  - **Who** you are
  - **Where** are you
  - **What** are you requesting

- When a command is received from the ATC, the vehicle driver shall repeat the command (Read Back) after declaring his radio call sign.

Note: Do not use words like ROGER, COPY… etc. upon receiving a command from the ATC. The command shall always be repeated again by the vehicle driver.

Example:

Airfield 01: *Medina ground **(Who are you calling)**, Airfield 01 **(Who are you)***

ATC Controller: *Airfield 01, Medina Ground Go ahead.*

Airfield 01: *Medina Ground, Airfield 01, In front of main fire station **(Where you are)**, Request permission to enter TWY Alpha to proceed to RWY 17/35 for RWY inspection **(What are you requesting)***

ATC Controller: *Airfield 01, Medina Ground, proceed to RWY 17/35 via Alpha. Report when Alpha is clear **(Command)**.*

Airfield 01: *Medina Ground, Airfield 01, proceed to RWY 17/35 via Alpha **(Command Repeat)***

----------After Crossing TWY Alpha----------

Airfield 01: *Medina Ground, Airfield 01, TWY Alpha is clear*

----------Upon completion of the Inspection----------

Airfield 01: *Medina Ground, Airfield 01, All Active Area Clear.*

7.3 Tower Light Gun Signal

In case ATC experiences a radio failure, the controllers will communicate using light signals. If the driver of a vehicle receives light signals from the tower, the driver shall respond immediately. The meaning of these signals must be displayed in the vehicle within easy sight of the driver. These signals are as follows:

Light Signal from Aerodrome Control	Meaning
Green flashes	Permission to cross landing area or to move onto taxiway
Steady red	Stop
Red flashes	Move off the landing area or taxiway and watch out for aircraft
White flashes	Vacate maneuvering area in accordance with local instructions

7.4 Vehicle's Radio Failure

In case the driver experience a radio failure, the driver shall vacate immediately the RWY to nearest safe area and shall contact ATC or AOC via cell phone or any other communication means for support.

7.5 Process Flowchart

N/A

8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

ACCIDENT, INCIDENT, SAFETY HAZARDS AND SAFETY OCCURRENCE REPORTING

Document Number:	TIBAH-AIROPS-SOP-27
Document Owner:	Safety and Aerodrome Operations Directorate
Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

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III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	GACAR updated regulations (GACAR 139 – ED 7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

An accident/Incident or safety occurrence can indicate that there is a failure within the Safety Management System. It is therefore important that all accidents and safety occurrences are reported and investigated. This document details the processes and requirements for safety occurrence and safety hazards reporting. It is the responsibility of all personnel to report safety related events, however minor they might seem. The purpose of safety occurrence and safety hazards reporting is to improve aviation safety by ensuring that relevant safety information is reported, analyzed and disseminated; it is not to attribute blame or liability.

1.1 Regulation and Reference Documents

- Aerodrome Manual
- GACAR Part 139
- GACAR Part 4

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.4; 7.5 and 8.1
- ISO 14001:2015 Clauses 7.4 and 7.5

2.0 Purpose

Procedures of reporting Accidents, Incidents, Safety Hazards and Safety occurrences are explained in this document.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Service providers	GACA Airport Authority
Stakeholders	GACA Aviation Safety Sector
Safety & Aerodrome Operation Directorate	

4.0 Scope

Procedures of reporting Accidents, Incidents, Safety Hazards and Safety occurrences are explained in this document.
All safety occurrences and safety hazards that may observed within the aerodrome are subject to the requirements of this document.
All Airport users (Services providers, Aerodrome operator, Governmental agencies, Stakeholders) must adhere to these procedures.

5.0 Applicable Areas within the Airfield

N.A

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Reporting Accident, Incident, Safety Hazards and Safety Occurrences	- Reporting Accident, Incident, Safety hazards to AOC - Reporting Accident, Incident, Safety hazards through SMS Pro system	Safe Operations	Reporting to AOC (Telephone Line) and SMS Pro. system	Airport free of safety hazards and safe operations	- Reporting Accident, Incident, Safety hazards to AOC immediately (100% Compliance) - Reporting Accident, Incident, Safety hazards through SMS Pro. System within max 24 hours (100% Compliance)

7.0 Process Description

7.1 Purpose of Reports

Reports are made primarily for three reasons as follows:

- Regulatory requirement
- PMIA Airport requirement
- So that Management and staff can learn how to prevent re-occurrences

7.2 General Reporting Requirements

The responsibilities for using the various types of reports together with the relevant procedures are detailed below:

It is imperative that AOC, ODM, Safety Department and Airside Operations are made aware of any safety occurrences, safety hazards or unsafe working practices as soon as reasonably possible to allow the necessary action to be taken.

In case of any safety occurrence or safety hazard observed within the airport, the fact must be reported immediately to the AOC at 0148138888 or 0148138899. Accordingly, the AOC will activate the related notification list informing all related departments to respond.

All report forms are to be completed fully, providing as much detail as is available and submitted to Head of Safety Department through SMS Pro. Within max 24 hours of the occurrence time.

All Airside Operating personnel are to make every endeavor to learn from accidents, incidents and occurrences to prevent recurrences.

For AIB reportable occurrences, Safety team, ATC and airlines are required to report such occurrences immediately to AIB as per AIB requirements (Further details are provided in AIB regulations)

7.2.1 No Blame

PMIA operates a ‘no blame’ culture except where there is proven Gross Negligence or Willful Damage.

Safety Department and Aerodrome Operations will promote a safety culture whereby employers and employees alike work together in an environment that creates the confidence to report all incidents without the threat of censure, disciplinary action or subsequent loss of employment.

7.3 Mandatory Occurrence Reports and Aircraft Accident and Serious Incident Reports

All such accidents/serious incidents are to be reported to AOC immediately and the AIB. Refer to PMIA Aerodrome Manual.

7.4 Other Accidents and Incidents

These are accidents and incidents involving vehicles, equipment, air bridges and persons etc. where no aircraft is involved. Included are collisions, trips, falls etc.

All airside accidents and safety related incidents must be reported to immediately to AOC, Safety and Aerodrome Operations. AOC will inform/dispatch to necessary parties.

Such accidents and incidents are to be reported in order that an appropriate investigation can take place. The purpose is to discover causes so that remedial actions can be taken to prevent recurrence of the incident.

It is not the intention of PMIA to allocate blame except where there has been blatant disregard of procedures intended to provide a safe airside environment.

7.4.1 Procedures and Follow Up

Managers and/or Supervisors of personnel involved in airside accidents or incidents are responsible for:

- Requesting medical assistance on emergency ext. 8888, 8899 if injuries are evident
- Reporting all such events as soon as practical to AOC 8888 or 8899.
- Providing details of location and brief information about the event
- Reporting the occurrence on SMS Pro.

7.5 Airside Safety Occurrence Report

Safety and Aerodrome Operations Teams are primarily responsible for maintaining safety and operational standards within the Airport Boundary.

All Accidents, incidents, Safety hazards and safety occurrences within the Airside boundary will be recorded in the first instance on SMS Pro, the primary reporting methodology in PMIA.

Safety Department & Aerodrome Operations will issue a copy of the report to and ODM. The employer of the responsible or involved parties of the occurrence then has 21 days to respond formally in writing to Safety Department stating the actions taken.

In the case of more serious breaches of rules a fine will be imposed.

7.6 Incident / Accident Investigation

After each accident or occurrence, the Head of Safety Department may open an ‘Occurrence Folder’. An investigation will then take place, the Head of Safety Department may undertake the investigation directly, or a Safety Team Member may be asked to take on this responsibility. The investigation will be fully documented and witness statements and accounts taken as appropriate. Other organizations may need to be involved such as Airlines, Handling Agents, ATC and internal departments. Once completed, results and recommendations will be made and the completed document presented to the Head of Safety.

Involved department must cooperate with investigation team and must provide all data, information and any other support requested by the investigation team.

Dependent upon the nature of the incident/accident and results of the investigation, a review of procedures or training may be required in order to prevent a re-occurrence.

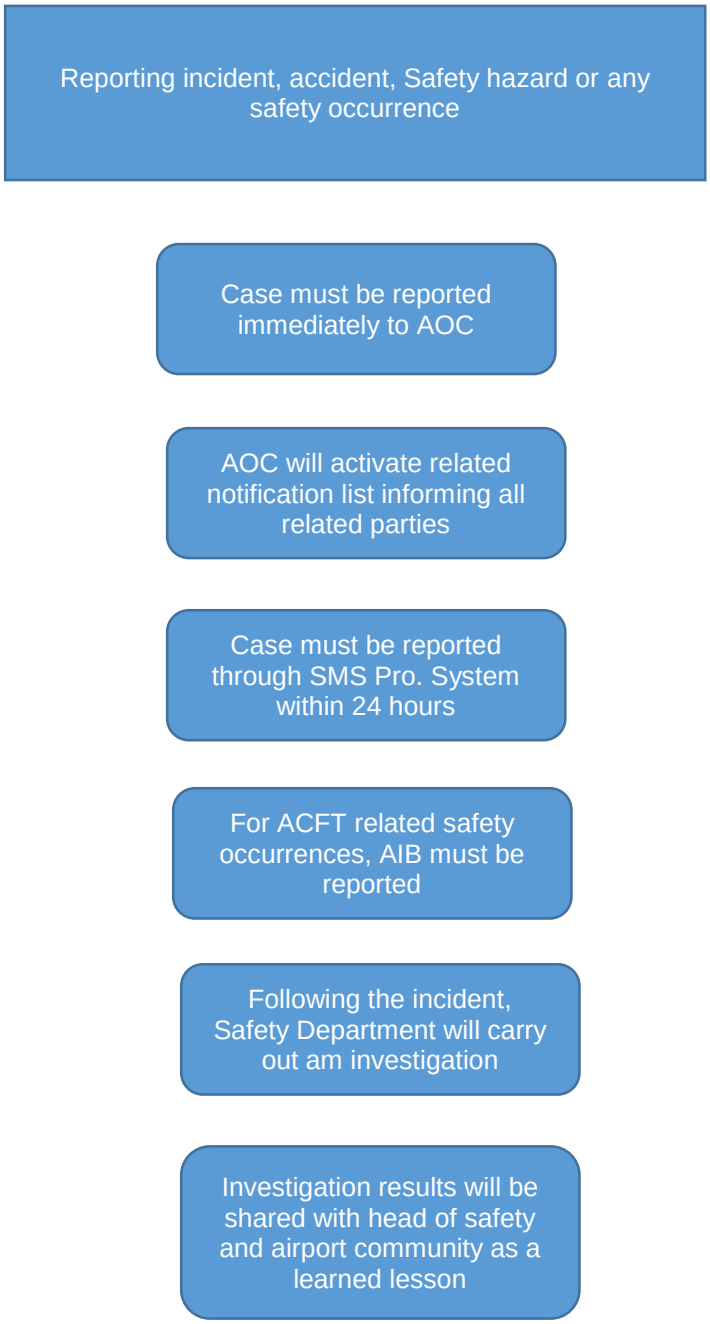
It should be noted that an Occurrence folder might be opened in response to a non- reportable accident and that an investigation and review will still be undertaken.

7.7 Follow Up Actions

Following an investigation, appropriate to the severity of the incident, any or all of the following actions may be taken:

- Safety Department may require additional training for personnel concerned
- An infringement notice may be served
- Procedures may be modified

7.8 Process Flowchart



8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

AIRSIDE DEFECT REPORTING

Document Number:	TIBAH-AIROPS-SOP-28
Document Owner:	Safety and Aerodrome Operations Directorate
Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

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III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	GACAR updated regulations (GACAR 139 – ED7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

All defect reports and the details of remedial action taken are recorded on a log system. The information recorded is used to audit and review airport wide maintenance standards, contributing to the overall development of a 'Preventative Maintenance Program'. This program aims to limit the frequency of unplanned outages, operational restrictions and any degradation in airside safety standards.

1.1 Regulation and Reference Documents

- PMIA Aerodrome Manual
- PMIA Maintenance Manual
- GACAR 139

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.5; 8.7 and 10.2
- ISO 14001:2015 Clauses 7.5 and 10.2

2.0 Purpose

This document defines the procedures of reporting technical defects within aerodrome (Movement area).

3.0 Relevant Stakeholders

Direct Use	Aware Of
All Airport Users	GACA
Tibah Technical Directorate (CMMS)	Stakeholders
Safety & Aerodrome OPS Directorate	

4.0 Scope

This SOP dictates the procedures of reporting defects within airport boundaries.

5.0 Applicable Areas within the Airfield

All Airport Areas.

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Reporting defects within airport boundaries	Defects must be immediately reported to CMMS	Treat/fix any defect/outage within aerodrome ensuring safe OPS	Tibah CMMS and SMS Pro system if the case affect safety	Safe operations	Any defect within aerodrome must be reported immediately to CMMS immediately

7.0 Process Description

7.1 Safety Critical Defects

Safety critical defects which have the potential to compromise the safety of aircraft, passengers and/or personnel should, in the first instance, be reported to AOC at tel. 8138888 or 8132279 and Technical CMMS (Tel. 81388222). Aerodrome Operations are responsible for ensuring all aerodrome operational areas remain safe and operational. This may necessitate the closure of operational areas in consultation with Air Traffic Control and Apron Control until such time remedial action has been taken and the area declared safe for continued operations by the Head of Safety and ODM. Such cases shall be reported on SMS Pro. System.

7.2 Audit & Inspection Regime

PMIA (Tibah) operates a program of daily Movement Area Safety Inspections by aerodrome operation team (refer to Aerodrome Manual). Any defects identified should be reported immediately to the AOC, CMMS and ATC. Such defects must be reported through SMS Pro reporting system.
Furthermore, schedules of aerodrome audits are undertaken by Tiabh Technical Department. Any defects identified are recorded on a Maintenance Department Log system. Furthermore, Safety Department conducts its own periodical inspections.

7.3 Responsibilities

7.3.1 Airport Operation Center (AOC)

- Recording and processing reported notifications.
- Appointing Aerodrome Operations staff and Maintenance Staff for remedial action.
- Updating records with details of any remedial action taken
- Upon the receipt of any defect report, Informing Aerodrome Operations and Safety Department of any defects that have the potential to compromise the safety of aircraft, passengers and/or personnel.

7.3.2 Safety and Aerodrome Operation

- Attending the scene of an incident/accident or unsafe issue, reporting known defects to the CMMS and may be AOC if required for remedial action.
- Assessing operational safety in coordination with safety and other involved departments.
- Conducting/Delivering a daily Aerodrome inspection regime (Aerodrome operation team)
- Report defects, accidents or incidents through CMMS system and SMS Pro. System if the case affect safety.

7.3.3 Airside Users

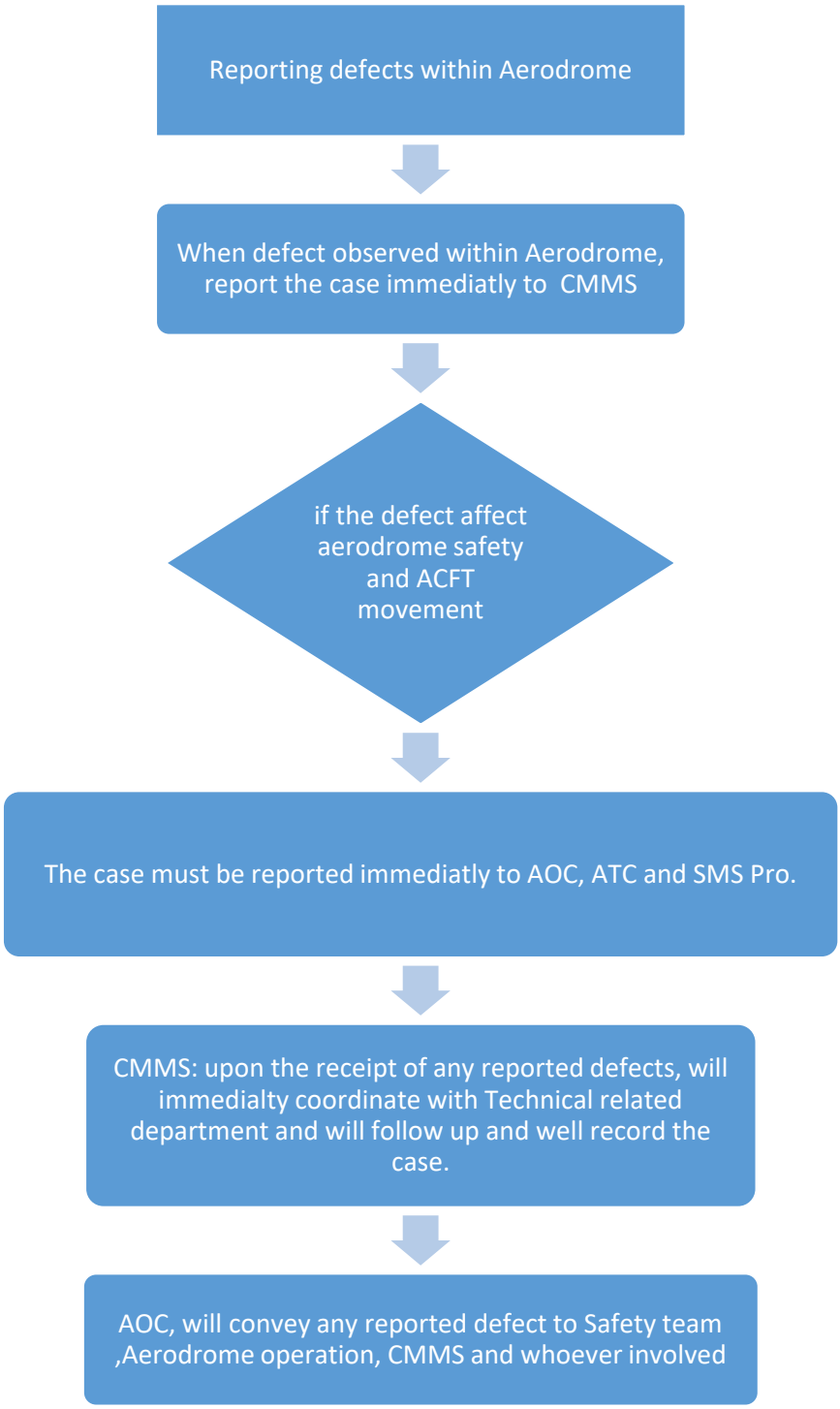
- Report any defect observed within aerodrome immediately to CMMS (Tel. No. 813 8222) and if the case affect operation safety, the fact must be reported immediately to AOC at Tel. No. 8138888
- If possible report the defect to CMMS team at Tel. No. 8138222
- If the defect affect aerodrome safety, report the case via SMS Pro. System.

7.3.4 Tibah Technical Team (CMMS)

- Rectifying defects recorded on the maintenance log system.
- Respond and convey immediately aerodrome reported defects to Tibah related technical department.
- Issue work order number for each reported defect

- Recording all reported defects within aerodrome
- Follow up the defect reparation activity and close the work order request
- Provide statistics/figures related to defects with PMIA

7.4 Process Flowchart



8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

VERY LARGE AIRCRAFT

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Prepared by:	Hassan Al Bar

I. Preface

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P.P._____	_____	_____	_____

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6.1	1 January 2021	GACAR updated regulations (GACAR 139 – ED7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

In this document, the procedures for the operation of very large aircrafts at PMIA are specified. PMIA is designed to accommodate very large aircrafts according to ICAO regulations. However, there are some limitations that are specified in details in the following sections.

1.1 Regulation and Reference Documents

- Aerodrome Manual
- GACAR 139

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 6.1; 7.5; 8.1 and 8.5
- ISO 14001:2015 Clauses 6.1; 7.5 and 8.1

2.0 Purpose

This document defines the procedure for very large aircraft operations.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Safety & Aerodrome OPS Directorate	GACA Airport Authority
Airlines	GACA Aviation Standards
	Ground Service Providers and Stakeholders

4.0 Scope

This SOP dictates the operational procedures of very large aircrafts at PMIA. It explains the availability of the airport to very large aircrafts and the tasks that should be taken by the responsible departments

5.0 Applicable Areas within the Airfield

N.A

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Constraints on the timing	Reserving the right to refuse permission for a Very Large Aircraft to land or take-off, or to place constraints on the timing of such movements	Ensure their safe handling of Very Large Aircrafts	AOC	Avoid causing unacceptable disruption to scheduled airport operations	AOC must be coordinated prior operating such ACFT (Very Large ACFT) at least (7) Working days ahead

7.0 Process Description

7.1 Availability of the Airport to Very Large Aircraft

7.1.1 Context

For the purpose of this instruction, a Very Large Aircraft is defined as one falling within the ICAO designation Code F, (wingspan 65-80 meters and a main wheel span of 14-16 meters), or larger.

The airside infrastructure at MED is designed to comply with the requirements for ICAO Code F aircraft on RWY 17/35, TWY J, J1, J2, J3, J4, J5, J7, J8, TWY K, TWY W, TWY L and 2 stands at East Apron. Details of runway and taxiway characteristics are given at Aerodrome Manual Part 3.

From RWY 18/36 to West Apron pavement widths and taxiway to obstacle clearances do not meet the requirements for Code F aircraft. Furthermore, there are certain ultra-large types in service for which there are no internationally agreed airside design requirements. Whilst movements of these types through the airport are not frequent, they can be expected to visit from time to time and therefore procedures to ensure their safe handling are required.

Examples of the aircraft types in question are:

Aircraft type	Length	Wingspan	ICAO Code
Antonov AN124	69.1 m	73.3 m	F
Airbus A380	72.8 m	79.8 m	F
Boeing 747-8	76.4 m	68.5 m	F
Antonov AN225	84.0 m	88.4 m	Unclassified – exceeds Code F

7.1.2 Availability

Very Large Aircraft types will be subject to the same airport availability procedures as all other types except that the Airport Authority reserves the right to refuse permission for a Very Large Aircraft to land or take-off, or to otherwise place constraints on the timing of such movements. Such refusal or constraint may be necessary in order to avoid causing unacceptable disruption to scheduled airport operations. Ultimate permission must be obtained from GACA before any such flight.
Such request must be pre-coordinated with AOC at least (7) working days ahead so risk assessment (ref; PMIA SMS) will be conducted by Aerodrome OPS department in coordination with Tibah SMS team and other involved departments in order to establish risks mitigation controls for such operations in advance.

7.2 Tasks under Airside Operations Department

Associated Ops Tasks as Follows:

- The Aerodrome Operations Department Manager and his employees are responsible to follow-up the safe and secured implementation of the abovementioned aerodrome operations procedures and events.

Associated Ops Records as Follows:

- The Aerodrome Operations Department Manager and his employees are responsible to maintain any valuable records related to the above mentioned aerodrome operations events and activities.

7.3 Process Flowchart

N/A.

8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

TEST, TRAINING AND FERRY FLIGHTS

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Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	GACAR updated regulations (GACAR 139 – ED7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

Flights may be conducted from PMIA for the purpose of testing the functionality of the aircraft and its systems following routine maintenance, or if required by a regulator prior to revenue service flying.
Such flights are subject to all other airport operating conditions and restrictions applicable to a normal revenue flight. This includes runway slots, noise abatement, runway charges, and Instrument Flight Procedures.

1.1 Regulation and Reference Documents

- Aerodrome Manual
- GACAR 139

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.5 and 8.1
- ISO 14001:2015 Clauses 7.5

2.0 Purpose

This document explains the procedures of Test, Training and Ferry flights including flights check request procedures.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Safety & Aerodrome Operation Directorate	GACA Airport Authority
Airlines and ACFT Maintenance departments	GACA Aviation Standards
SANS and Stakeholders	

4.0 Scope

The procedures of Test, Training and Ferry flights including flights check request procedure are applicable for all types of operations at PMIA.

5.0 Applicable Areas within the Airfield

N.A

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
ACFT Fast-taxi'	Fast-taxi' tests – where the aircraft will exceed 30 knots groundspeed will only be permitted on runways and are subject to prior permission from the Airport Authority (AOC).	Safety Operations at PMIA	AOC	Safety Operations at PMIA	Requests for taxi-tests should be made in writing to the Airport Authority

7.0 Process Description

7.1 Technical Test Flights

Flights may be conducted from PMIA for the purpose of testing the functionality of the aircraft and its systems following routine maintenance, or if required by a regulator prior to revenue service flying.
Such flights are subject to all other airport operating conditions and restrictions applicable to a normal revenue flight. This includes runway slots, noise abatement, runway charges, and Instrument Flight Procedures.
Such flights must be conducted with all engines operable unless prior written authority has been granted by the Airport Authority (AOC). Any requirement for 'engine out' testing must be notified in advance to the Airport Authority. Any subsequent permission granted would be subject to risk assessment with which the operator may be required to co-operate.
Flights involving repeated 'touch-and-go' maneuvers at PMIA will not be permitted at any time.

7.2 Taxi-Tests

'Fast-taxi' tests – where the aircraft will exceed 30 knots groundspeed will only be permitted on runways and are subject to prior permission from the Airport Authority (AOC). Requests for taxi-tests should be made in writing to the Airport Authority and contain the following information:

- Aircraft Type
- Airline
- Registration
- Reasons for Undertaking Test
- Max. Groundspeed
- PoB

NOTE: Any technical failures which may occur during the test must not cause disruption to normal airport operations.

7.3 Training Flights

Training flights at PMIA will not be permitted at any time unless a case/flight specific permission is issued by GACA.

7.4 Conducting Flight Check at PMIA

Flight check operation is usually conducted to maintain and calibrate Aerodrome navigational aids and some element of visual aids. Prior conducting such operation, AOC must be notified at least (3) working days ahead so AOC will notify following departments regarding the planned flight check operation at PMIA:

- Aerodrome Operation department
- Safety department
- GACA Airport Authority
- MED-ATSU (ATC)

NOTE: the requestor must provide following information to AOC in advance:

- The operation date and time
- Operation Duration
- End of operation

7.5 Positioning (Ferry) Flights

Flights will be permitted for the purpose of positioning an aircraft empty to or from another airport, subject to all of the considerations at Section 7.1 above.

7.6 Process Flowchart

N/A

8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

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Standard Operating Procedure (SOP)

ACCESS TO AIR OPERATION AREA (AOA)

Document Number:	TIBAH-AIROPS-SOP-31
Document Owner:	Safety and Aerodrome Operations Directorate
Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

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Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

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III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	Updated GACA regulations (GACAR 139 – ED7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

PMIA manages a Security Committee, which includes members of the representatives from various airport departments. This Committee is responsible for ensuring the security of the airport is suitable for the current security climate. Aircraft operators are responsible for ensuring that their aircraft is secured at all times.
A perimeter fence encloses the airside area of PMIA and the boundary is clearly marked with signage. In addition CCTV system monitors activity around the airport 24 hours a day.
Airside access through PMIA gates is controlled through a security access system. Access through these gates is via an access card, issued and controlled by GACA Airport Authority and RSAF. All Airport operators must prevent any unauthorized access to airside through their leased area.
It is a condition of your access to airside that all security incidents, or suspicions are reported to GACA Airport Authority through AOC staff immediately, in addition to contacting the relevant authorities if necessary.
Airport Security permit/Card must be worn at all times within airport area including airside OPS area. The card must be prominently displayed at all times. Temporary Security Permit card holders must be accompanied by a Permanent security card holder at all times.
Media personnel are not exempt from the requirement to wear and display an Airport Security permit.

PMIA has Two vehicle access gates at different locations (South Gate and East Gate), which provide an automated method for vehicle access to authorized persons.

These gates have been designed to prevent unauthorized vehicles tailgating authorized vehicles airside. Access through these gates is via an approved access system managed and controlled by GACA airport authority and RSAF. All operators of vehicles at airside OPS area must have valid “Airside Driver’s License”. Furthermore, all vehicles driven at airside must contain a rotating beacon.
For more information regarding vehicle security control please visit GACA airport authority duty officer office at East Terminal – Ground Floor.

1.1 Regulation and Reference Documents

- Aerodrome Manual
- Aerodrome Security Manual

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.5 and 8.1
- ISO 14001:2015 Clauses 7.5 and 8.1

2.0 Purpose

This Document explains the Access to the Airside Operation Area and procedures required to issue Airport security permit.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Tibah Airport OPS Company	GACA – Aviation Standards Sector
GACA Airport Authority	
All Airport Users	

4.0 Scope

This document explains accesses, exits and entry points of the air operation area and the procedures to issue security permit of this area.

5.0 Applicable Areas within the Airfield

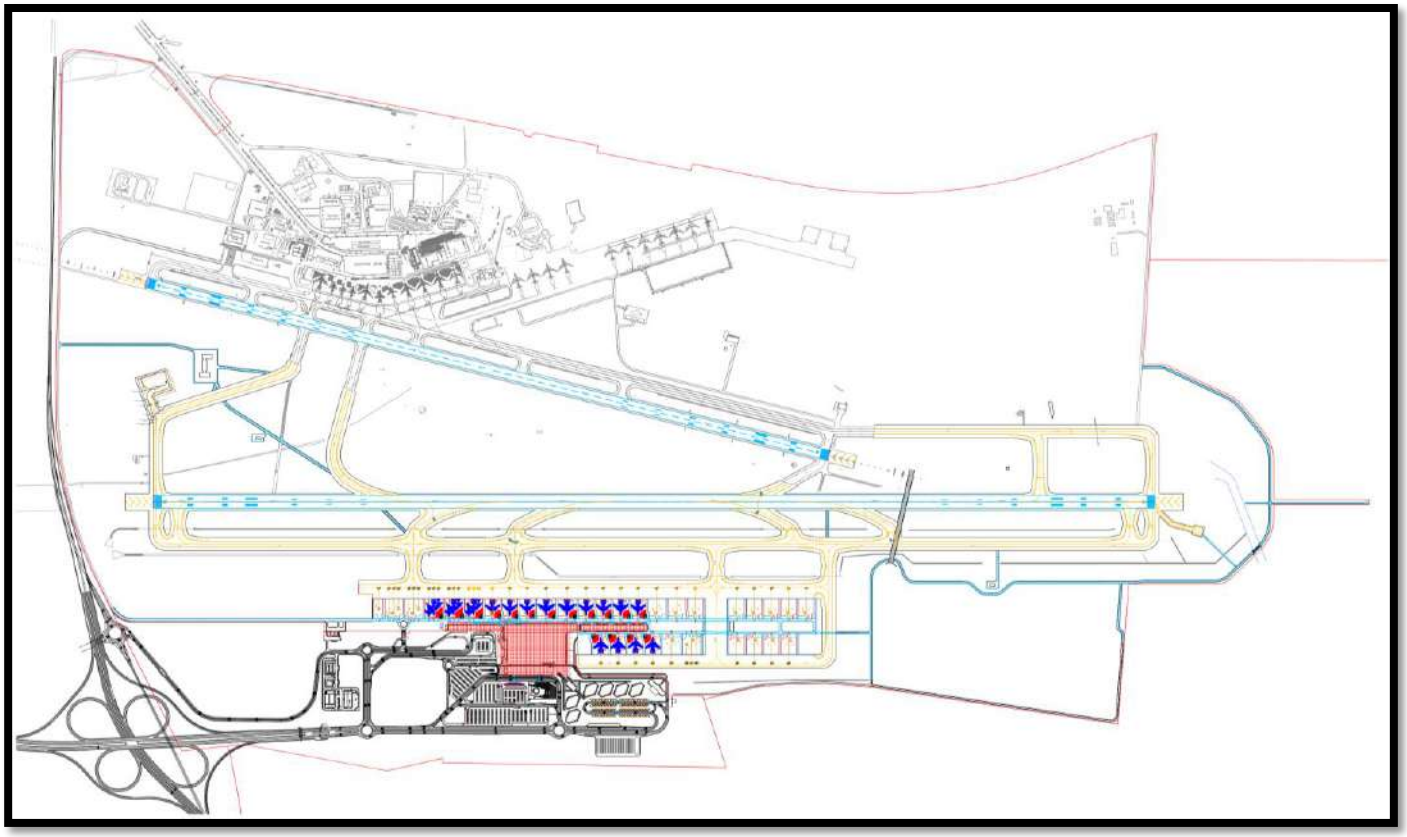

Figure 1 PMIA

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Airport Security Permit	Issuing Temporary Airport Security Permit through Tibah ODM	Safe and Secure OPS	Tibah ODM (24/7)	Safe and Secure OPS	Request must be coordinated to Tibah ODM at least one working day ahead in normal condition (100 Compliance)

7.0 Process Description

7.1 AOA Access Points

Access to the Airside Operation Area is via a number of security posts:

- South Gate (West Apron)
- East Gate (East Apron)
- West Apron Catering Gate
- East Apron Main Terminal Building (Gate 55 and Gate 58)
- West Apron TER 3 (Only when Terminal 3 is activated)
- East Apron Catering Gates and west Cargo Gate

Full security procedures will be undertaken for staff and vehicles; this includes access control and search. Airside vehicle and personnel permits are checked by RSAF.

7.2 Direct Access to the 'Airside'

RSAF have responsibility for authorizing and controlling access to the airside via a normal gate or in rare and specific cases through a Crash Gate. Access through these locations should be limited to infrastructure projects. Access will be controlled by RSAF.

7.2.1 Procedures

Company/department requiring temporary access (temporary security permits) shall contact Tibah ODM (Operation Duty Manager) and Aerodrome Services Duty Officer.
The ODM is to ensure that the requester/contractors access is properly authorized and to guide the requestor on his request. Arrangements for the provision of security are the responsibility of the Requestor/Project Coordinator and should be incorporated in the contractors work methodology and/or Airside Work Permit.
The ODM (or his nominated deputy) is to attend the Crash Gate (if used) and ensure RSAF are in attendance.
RSAF must maintain a log of all staff, vehicles and equipment entering the AOA.
All personnel on site must produce a form of identification; any persons not having formal identification will not be permitted access onto the airside. Examples of identification are as follows:

- Valid Passport
- Iqama
- National ID Card (KSA)
- KSA Driving License

At the end of each working day, the ODM must attend the Crash Gate and check all persons who entered have left the area.
RSAF must ensure the Crash Gate lock is properly re-secured.

NOTE: Permanent security permit are under GACA airport authority and RSAF scope, Therefore, Company/departments who require permanent security permit (Staff/Vehicles) must have valid GACA security permit account enabling the permit requestor to apply for Airport security permit (Requestor may visit GACA Authority Duty Manager for further details).

7.3 Process Flowchart

N/A

8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

AIRCRAFT TURNAROUND MANAGEMENT

Document Number:	TIBAH-AIROPS-SOP-32
Document Owner:	Safety and Aerodrome Operations Directorate
Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

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III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	Updated GACA regulations (GACAR 139—D7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

1.1 Regulation and Reference Documents

- GACAR 139
- IATA Airport Handling Manual 35th Edition
- PMIA Aerodrome Manual.
- PMIA Airport Emergency Plan.

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 6.1; 7.5 and 8.1
- ISO 14001:2015 Clauses 6.1; and 7.5

2.0 Purpose

This document defines Standard Operating Procedure (SOP) for the Aircraft Turnaround. Aircraft owners & ground handlers or other stakeholders, it is important that the relationships between the processes involved in an aircraft turnaround are understood, especially when problems such as incidents, accident or breakdowns occur that could impact either the safety of aircraft, safety of personnel or the on-time departure of the Aircraft.
These procedures sets based on PMIA standards and requirements which shall not supersede Airlines, Ground Handlers and service providers SOPs.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Safety & Aerodrome OPS Directorate	GACA Airport Authority
Service Providers & Ground Handlers	GACA Aviation Standards Sector
	Airlines

4.0 Scope

Ground Handlers, ACFT fueling service providers, Cargo, Catering all must consider this SOP in their daily activities. This SOP covers the end-to-end turnaround from when the aircraft arrives and stops on the stand to when the aircraft begins to push back

5.0 Applicable Areas within the Airfield

N.A

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Safety performance	Number of safety occurrences on the apron	Reduction in preventable safety occurrences	Safety Occurrences to be reported immediately to AOC, and through SMS Pro. System within 24 Hours from the occurrence time	Safe ACFT turnaround activities within Apron area	Safety occurrences must be reported immediately to AOC, and through SMS Pro. System within 24 Hours from the occurrence time (100 % compliance)

7.0 Process Description

7.1 General

PMIA Generic Aircraft Turnaround Plan describes the activities involved in an aircraft turnaround process and the points for consideration at each stage.

All Ground Handlers including ACFT Fueling Service Providers, Catering, Cargo, Bussing service providers … etc. must comply with all requirements and standards included GACAR part 151 and GACAR part 68.

Safety must be the primary consideration of everyone working airside. It requires constant vigilance, attention to procedures and alertness to potential hazards. Airside Safety is of paramount importance and all of us have a vital part to play in ensuring that the aerodrome is as safe as we can possibly make it.

The 'Apron Area' represents a shared workplace and demands the co-operation of all employers who 'share' the area.

There are 3 key things that need to be done by employers to protect employees' health and safety working within the airside environment:

- Co-operate and co-ordinate with other employers.
- Control your contractors
- Assess and control the risks to other people from your activities and inform them of any risks still left.

If there is co-operation and co-ordination between all employers sharing a workplace then everyone's legal obligations can be met. Good co-operation and co-ordination is vital where employers share a complex and dynamic workplace.

Any individual(s) not adhering to these procedures detailed within this instruction maybe liable to an infringement as defined in related regulations and rules.

7.2 High Visibility Clothing

All personnel shall wear a high visibility vest, jacket or equivalent when airside and outside of any building. This includes staff walking to and from workplaces airside.

Airside access will be denied at security if this requirement is not adhered to.

When worn, the vest or jacket must be properly fastened to provide maximum prominence to the front and rear of the garment.

7.3 Emergencies on The Apron Area

In case of emergency, AOC must be immediately notified (Telephone No. 813 8888 or IP Ext. No. 8888).

In the event of an emergency there should be no assumption by any party in the vicinity of an aircraft that the emergency services have already been alerted.

During an incident 'on stand' a precautionary evacuation using the normal means of disembarkation may be more desirable to the aircraft commander than an evacuation using emergency slides.

Operators and handling agents are responsible for ensuring the availability of equipment that will facilitate a normal disembarkation.

All airside personnel are to remain clear of incidents and accidents, whether involving aircraft, vehicles or equipment unless their attendance is specifically requested or required by the Incident Commander.

The incident/accident Commander will determine when normal operations can be resumed. Inbound aircraft declaring an emergency will be parked on a remote stand after landing, even if the incident has been 'stood down'.

7.4 Head of Stand Safety Boards

Head of Stand Safety Boards are installed at all Terminal Pier aircraft parking stands and East Apron Remote Stands. The Safety boards are highly visible with red color and will provide the emergency Fuel hydrant cutoff switches.

The Fuel Emergency Stop Switch is to be used in case of an accident or incidents that require the aircraft fuel hydrant system to be shut down.

The Aircraft Emergency Stop button is located on VDGS poles and to be used when there is an urgent requirement to indicate to an aircraft parking on stand that it should immediately stop. This should only be used in a situation where a hazard is observed that could lead to an accident involving the aircraft whilst in motion.

7.5 Informing stakeholders of flight delays

- AOC will notify all stakeholders for any expected flight delay and will provide the expected arrival (if the information available) on time through the flight information display system (FIDS).
- The AOC will update the FIDS continually.
- In case of any FIDS failure, AOC will share any delay information through the available telephone lines.

7.6 Positioning of Equipment at ACFT Stand

Equipment must not be pre-positioned on apron stands prior to the imminent arrival of an aircraft such that it could cause an obstruction and/or damage to an aircraft. The imminent arrival of an aircraft means maximum 5 minutes before the actual arrival of the aircraft.

Equipment must not be left unattended on a stand area or Inter-stand Clearway.

A passenger's route around the wing is not to be obstructed and as such, the numbers and positions of all vehicles in the vicinity of the aircraft must be considered, along with the location of the rear of stand road system.

Ensure that when an aircraft arrives on stand, all emergency exits are kept clear of handling equipment until external means of evacuation have been put into place.

Servicing the aircraft shall initiate as first come first serve principal. This means that in case a fuel truck is not ready to start to fuel the aircraft, any other equipment that arrived on time shall take the priority to serve the aircraft.

7.7 Aircraft Arrival on Stand

- Before the aircraft arrives on stand all personnel and vehicles must be clear of the stand.
- Before the aircraft arrives on stand and all vehicles are clear of the stand, a Foreign Object Debris (FOD) check must be completed by the handling company for the entire area.
- If any FOD or any other safety hazard that may affect ACFT safety observed, then the ACFT docking process must be immediately stopped until the observed hazard removed.
- When the aircraft arrives on stand, the emergency stop button for the VDGS must be manned at all times by PBB operator, until the aircraft has come to a complete stop and the chocks have been placed under the aircraft wheels.
- If the VDGS is not operational then the aircraft must be marshaled so the AOC will immediately contact handling agency which will respond immediately in order to provide manual marshaling.

- No one should approach the ACFT until the ACFT anti-collision lights switched off.

Visual Docking Guidance Systems (VDGS)

SAFEDOCK VDGS is currently employed to guide aircraft to the correct parking position on all contact stands and all East Apron hard/remote stands.

SAFEDOCK will be operated solely by Tibah (AOC), and must only be operated by personnel who have received formal training and are deemed competent to carry out this task.

AOC will activate the VDGS at ACFT stand once the related ACFT landed (about 5 minutes before reaching the stand).

Ground handling agent staff will activate this system, having checked that the stand is safe for aircraft to park.

7.8 Marshalling of Aircraft

Designated personnel of Ground Handling Companies are the only individuals authorized to marshal an aircraft.

If a member of flight crew asks or signals for guidance from a person not employed by Ground Handling Company, it must be disregarded.

Marshaling service at east apron will be provided only if the VDGS is not operative. In case of such failure, AOC will contact Ground handler to provide Marshaling service immediately.

7.9 Ground Power Attachment & Chocking of Aircraft

- Chocks must not be pre-positioned or placed within the immediate vicinity of arriving aircraft as these present a trip hazard. Never leave chocks at stands once the aircraft is clear of the stand.
- All airside personnel who are associated with the application of chocks and ground power of aircraft arriving onto stand must not approach the aircraft until the engines have been shut down and the anti-collision lights turned off.
- After aircraft engines have shut down and the anti-collision lights are off, operatives should only approach the aircraft from the front to ensure their personal safety when chocking aircraft. Chocks must be placed on the aircraft wheels before any other turnaround activity may take place.

7.9.1 Exceptions

- It is acknowledged that where an aircraft has an unserviceable APU, it may be exceptionally necessary to keep an engine running whilst ground power is connected. This is a non-standard situation requiring procedures to be used following an assessment of the additional risks.
- Aircraft departing from PBB stands shall remain chocked until the air bridge has been fully removed from the aircraft and is in its parked position. PBB standards and operating procedures (SOPs) are detailed in PBB SOPs Document. PBB SOPs Document is a standalone document.

7.9.2 Fixed Electrical Ground Power at East Apron

- **Procedures for Use of (FEGP)**
  For an air bridge-mounted unit, the cable may only be lowered and attached once the air bridge has been docked onto the aircraft and switched into auto-level mode. Attempts to use FEGP prior to this may stop the air-bridge from working. Similarly, the FEGP must be disconnected before the air-bridge can be removed from the aircraft on departure.

Certain remote stands have a unit stored on the ground level. Care must be taken to ensure that the unit is correctly stowed back under the cover before the aircraft departs.

Before being able to draw power from the FEGP, the individual user will need to use his key to turn on the control panel, which is located adjacent to the FEGP or on the air-bridge.

When the user has finished drawing power the FEGP needs to be de-energized by pressing the stop button on the control panel (same locations as for powering up).

If the FEGP fails to operate it must be reported immediately to AOC with following details:
- Reporting time
- stand number
- Aircraft type and registration number along with the fault.

- **Use of Mobile Ground Power Units (GPU's)**
Use of FEGP at East Apron is mandatory. Only if the FEGP is unserviceable or incompatible should a mobile GPU be used where AOC will contact handling service providers in such case to provide mobile GPU. Constantly running GPU's can cause high noise levels on the apron; are an additional obstruction to free movement around a parked aircraft and, if poorly maintained, may deposit oil spillage on the stand. When the use of mobile GPU's is necessary the following procedures are to be observed:

  - GPU's are to be used in a manner consistent with necessity and must be shut down when not required
  - Ground Power Units are to be parked so that they can be driven 'away' from a running engine and not towards the engine
  - Operators are to ensure, when GPU's are in use, that the connection cable between the GPU and the aircraft is routed, so that as far as is reasonably practicably, it does not present a trip hazard to persons.
  - Operators are to ensure that the GPU's are maintained so that they do not present a safety or environmental hazard (i.e. emissions). In addition, all associated cabling must be adequately shielded.

- **Auxiliary Power Units (APU's)**
Aircraft APU's generate high levels of noise and significant fumes. The noise of an APU can mask the sound of approaching vehicles.

  It is the responsibility of Airlines and Aircraft Handlers to ensure that APU's are used in a manner consistent with necessity and for the absolute minimum time necessary to meet the operational needs.

  To this extend, Use of fixed GND PWR (400 HZ) at East Apron is mandatory. All inbound ACFT shall connect to a fixed GND PWR within MAX 5 MIN after docking. All outbound ACFT allowed to start auxiliary PWR unit 15 MIN before engine start. Nose in ACFT may start one engine at low PWR if auxiliary PWR unit is non-operative (***Ref;*** OEMA AIP).

7.10 Process for the Operating of Passengers Boarding Bridge (PBB)

7.10.1 Connecting the Passengers Boarding Bridge (PBB)

- Before the aircraft arrives on stand the PBB must be fully retracted. The PBB operator should be in the PBB and confirmed that it is operational.
- IF the aircraft anti-collision lights are flashing the aircraft must not be approached, under any circumstances.
- PBB operator must conduct visual inspection around PBB movement area and ensure area is free from any obstacle.

- IF the chocks are in place the PBB may be attached and clear authorization from head-set operator. The PBB operator must visually verify this before proceeding.
- When it is safe to proceed the PBB should be positioned. The positioning of PBB will depend on the type of the aircraft and the related operating procedures.
- IF unable or unwilling to use the PBB or the PBB does not operate, or fails during operation, PBB operator must immediately inform AOC operator who will immediately coordinate with Ground handler in order to provide Pax. Step.

7.10.2 Disconnecting the PBB

- Before the PBB is disconnected, the PBB operator must confirm with the Ground Handler that the aircraft is ready to depart.
- PBB operator must conduct visual inspection around PBB movement area and ensure area is free from any obstacle.
- When the aircraft is ready to depart the PBB should be disconnected and returned to its start position.
- IF unable or unwilling to use the PBB or the PBB does not operate, or fails during operation, PBB operator must immediately inform AOC operator who will immediately coordinate with Ground handler in order to provide Pax. Step.

7.10.3 Busing

Bussing operations shall be conducted in accordance with the airlines/Bussing service provider's standard operating procedures.

7.11 Aircraft Doors

Aircraft cabin and hold doors can be hazardous when open as a fall from either could result in serious injury.

Aerodrome Operations recommends that no aircraft door(s), either for the hold or cabin, are left open without the appropriate service equipment positioned correctly. If opening a door from inside an aircraft, personnel must have received confirmation that the appropriate equipment is in position before opening the door. Furthermore, personnel inside an aircraft must allow sufficient time for those outside the aircraft to retreat a safe distance from the door before it is opened. All organizations are responsible for ensuring that suitable and effective measures are taken to prevent individuals from falling from aircraft doors.

The floor of the aircraft in the immediate vicinity of the cabin or hold door must be kept clear of hazards that could cause an individual to slip, trip or fall.

7.12 Passenger Handling

Passengers are generally unaware of the dangers around them and are therefore particularly vulnerable to risk on the apron. They must always be closely supervised and contracts between the Airline and Handling Agent will need to take this requirement into account. It is the responsibility of the Airline and/or the Handling agent to:

- Take full care of passenger safety during the embarkation and disembarkation of passengers.
- Supervise passengers at all times when they are between the Terminal Interior and the Aircraft Interior.
- Guide and control the movement of passengers when walking on the apron so that aircraft engines, aircraft refueling procedures or other airside activities do not endanger them. Passenger routes must not pass below aircraft wings, beneath fuel vents or close to engines propellers or rotors of any aircraft on the apron.
- Ensure that they do not mix with passengers from other arriving or departing flights.

Passenger Ideal Guidance Systems (PIGS) and traffic cones used as an aid but must not replace the requirement for passenger supervision. PIGS are to be deployed by the person responsible for the control of passengers and the center of the PIGS should be positioned approximately one meter away from the aircraft wingtip and the chains / barriers extended to both the front and rear steps.

7.13 Positioning of Equipment

Equipment must not be pre-positioned on apron stands prior to the imminent arrival of an aircraft such that it could cause an obstruction and/or damage to an aircraft. The imminent arrival of an aircraft means maximum 5 minutes before the actual arrival of the aircraft. Equipment must not be left unattended on a stand area or Inter-stand Clearway.

A passenger's route around the wing is not to be obstructed and as such, the numbers and positions of all vehicles in the vicinity of the aircraft must be considered, along with the location of the rear of stand road system. Ensure that when an aircraft arrives on stand, all emergency exits are kept clear of handling equipment until external means of evacuation have been put into place. Servicing the aircraft shall initiate as first come first serve principal. This means that in case a fuel truck is not ready to start to fuel the aircraft, any other equipment that arrived on time shall take the priority to serve the aircraft.

7.14 Chocking of Service Vehicles

All vehicles that are involved in the servicing of an aircraft and that are parked within 2 meters of an aircraft should be chocked. The only equipment exempt from this are pushback tugs connected to an aircraft, any vehicle fitted with an inter-locking device and any vehicles that use manual or hydraulic stabilizers.

PMIA is endeavoring to minimize the risks of aircraft and/or personnel being damaged/injured by unsecured ground service equipment.

Any operator who does not wish to chock their service vehicles during aircraft servicing must provide the Safety Department with a suitable and sufficient risk assessment to substantiate their reasons.

7.15 Vehicle Maneuvering and/or Parking under Aircraft Wings

Maneuvering and/parking aircraft under an aircraft wing presents a safety hazard; for example should an aircraft vent any fuel. It also impinges on the safe separation distance between vehicles and aircraft and raises the potential for an incident/accident. Only vehicles that have an operational requirement to park under an aircraft wing may do so. Examples of such vehicles might include those of aircraft refueller or aircraft maintenance companies.

All other vehicles must maneuver at a safe distance from aircraft wings.

7.16 Use of Banksman when Reversing

The dangers of reversing on apron areas are heightened because of a relative lack of maneuvering space.

All service vehicle operators and their operatives are to adopt a procedure of using a banksman to provide external guidance when reversing a vehicle on the apron.
All dual or multi-crewed vehicles operating on the apron area must use at least one of the crewmembers as a banks man.

While reversing/backing off away from the aircraft, such situation as after completing servicing the aircraft, at least one banks man shall be on duty at the rear of the vehicle/equipment and shall guide the driver/operator while backing off/reversing away from the aircraft.

7.17 Inter-Stand Clearways

Inter-Stand Clearways (ISCs) are intended to indicate, by way of ground markings, the lateral extent of an aircraft stand and a clear route by which vehicles may transit between the front and sides of a parked aircraft.

Clearways are especially important for provision of an unobstructed route for access of emergency vehicles and egress of fuelling vehicles. Therefore no vehicle/equipment/dolly or trolley is allowed to be left unattended at any part of the aprons/parking stands.

The ISC is delineated by a white line on each side. The width of the ISC is 6 meters and its positioning allows a minimum of 1-metre buffer from the wingtip of the largest span aircraft type using the stand.

The ISC will extend from the head of head or equipment area to the rear of stand roadway or taxiway strip lines, whichever is applicable.

The Inter-Stand Clearway must at all times be kept clear of parked, unattended equipment. ISCs are not intended to be used to pre-position vehicles and equipment awaiting aircraft arrival. Misuse of ISCs will be treated as a safety occurrence and recorded as such by Airside Ops and Safety Department.

The red zone area of the Inter-stand clearway delineates an area that must be kept clear of any obstacles when aircraft are maneuvering on or off an adjacent stand. The red zone provides suitable clearance from an aircraft wingtip when parking on an adjacent stand

Vehicles / Equipment transiting or left unattended in the red zone whilst an aircraft is maneuvering on or off an adjacent stand could cause a wingtip collision.

The driving or parking of vehicles / equipment in the red zone whilst an aircraft is maneuvering on or off an adjacent stand is subject to PMIA's Infringement Scheme.

7.18 Wingtip Clearances of Aircraft under Tow

All drivers are reminded that it is their responsibility to ensure adequate wingtip clearance is maintained whilst towing or pushing an aircraft.

Any permission given by Air Traffic Control to tow an aircraft must not be taken as an assurance that wingtip clearances are guaranteed on either taxiway or apron areas.

All tug drivers must therefore remain vigilant at all times when towing or pushing an aircraft.

7.19 Use of Safety Cones around Aircraft

7.19.1 Design

The design of the cone shall be as follows:

- Conical in shape;
- Must be between 0.75m and 1m in height;
- Must have a minimum base weight of 4.53kgs;
- The cone must be orange in color with a luminous reflective stripe of at least 30cms around the center.

7.19.2 Positioning

Cones should be placed at a distance of a maximum of 1m from:

- The outside of each wing tip;
- In front of the outer edge of each wing-mounted engine;
- In front of other areas of an aircraft which are in conflict with the normal flow of equipment during handling operations;
- At areas where the proximity of the aircraft could impact the flow of ramp traffic;
- At wing tips as soon as the aircraft is at its parking position;
- If required at any other areas around the aircraft, only once clearance to approach the aircraft has been given.

The distance of the cones from the area they are protecting should not diminish the intended purpose of them.

7.19.3 Placement and Removal

Prior to the arrival of the aircraft, it should be ensured that there are sufficient cones available to protect the type of aircraft. Personnel shall not approach the aircraft or attempt to position the cones unless:

- The aircraft has come to a complete stop;
- The engines have been shut down and are spooling down;
- The anti-collision lights have been switched off, and
- The chocks have been positioned.

Cones should must not be placed in high wind conditions.

No ground equipment should approach the aircraft until the cones have been put in place, and the cones shall remain in place until all ground activities have been completed and the equipment/vehicles removed from the safety zone.

Cones shall be stored in the designated storage area when not in use.

7.20 Aircraft Refueling/Defuelling

ACFT refueling/Defueling procedures are detailed in Aerodrome Manual, Annex A.

7.21 Catering, ACFT Cleaning, Cargo and Water On-load and Offload

In order to turn around the aircraft in the required timescales catering services, cleaning services, blue water, potable water and cargo all need to be offloaded and reloaded within tight time scales. The process for conducting these activities is defined by the relevant service provider/stakeholder; however, the safety considerations described within this document must be respected.

7.22 Baggage Handling

In order to deliver baggage to arriving passengers on time and to ensure the timely departure of an aircraft SLAs and contracts exist between the ground handler and the airlines. The process for competing this is controlled by the ground handler; however, the safety considerations described within this document must be respected.

7.23 ACFT Push-Back and Towing Procedures

7.23.1 The following conditions apply to all pushbacks:

- KSA driver permit and PMIA Airside Driver Permit must be valid prior to any aircraft pushback.
- Mandatory requirement to use serviceable Head Set at all times for any Push Back, Aircraft Tow or Push and Park procedure.
- Pilots must inform Air Traffic Control (ATC) if they do not have communication with the Pushback Crew.
- Ground crew to confirm with Flight Deck that the aircraft and push back crew are fully ready to complete a safe procedure, prior to the push back request.
- Pilot in command of the aircraft is the ultimate responsible party to initiate the push back ONLY after contacting ATC at frequency 121.900. At no time push back can start unless pilot in command requests and gets approval from ATC. No other party can contact ATC

in this manner. Only exception is that in case the aircraft has no operational radio, then ATC can assign and instruct a follow me vehicle to provide guide services.

- Push back operator must be aware of the ACFT surrounding area and must stop immediately if any hazards condition observed and inform the pilot.
- Aircraft eligible for push and park must be fully departure-ready, e.g. passengers, freight, crew, fuel and catering all loaded, engineering works complete and the aircraft closed up.
- All tugs should be equipped with a serviceable base radio and an up-to-date copy of the latest pushback procedures.
- Towbarless Push-Back Tractors requires lifting the airplane by nose gear. This means the aircraft will move while the PBB is docked. This shall never be allowed. However, using a tow bar (as in the picture Abdullah sent) should not have any problem as long as connection is done without chocks being removed and done without moving the airplane in either vertical or horizontal ways. To assure that aircraft will not move at all, the towbar connection shall be done by hand only, not by the push back tractor by force.
- Propeller aircraft are subject to special consideration, and as such, are not to be towed forward.
- Any information given as part of the pushback instruction that relates to the direction in which an aircraft must be facing (for example "facing north") is applicable to the aircraft, not the pushback tug.
- Any information given as part of the ATC pushback instruction that relates to the position of an aircraft relative to a stop bar (for example 'behind stop bar TWY L') is applicable to the aircraft and the pushback tug.
- Any information given as part of the pushback instruction that relates to the position of an aircraft relative to a tug release point is applicable to the nose wheel of the aircraft only.
- The procedures provided herewith cover all designated stands, including subsidiary Left and Right centerlines.
- Positive confirmation must be made between the aircraft commander, headset operative and pushback tug driver as to any specific details of a non-standard pushback instruction prior to commencing the push.
- No change to the pushback clearance will be made by ATC once the pushback has commenced.
- The pilot and if equipped the push back vehicle operator must monitor the Ground frequency to ensure pushback clearance has been given by ATC, and that the instructions have been relayed correctly by the push back vehicle operator. At PMIA, push back operator is neither authorized nor allowed to contact the ATC for push back purposes. This is solely pilot responsibility. In case pilot has no contact with ATC, no push back operation shall commence. In this rare case, ATC may instruct a follow me service for the aircraft in question.
- For ‘push and park’ at apron locations a tug is to be used to reposition the aircraft from its pier stand to the push and park position on taxi lane or taxiway. For nose-out positioning the aircraft is to be reversed into position so that the nose of the aircraft (not the nose-wheel) and ACFT Tail are clear of any roadway or taxiway strip. To guide the tug crew a nose-wheel stop mark designated ‘Nose-Out’ is painted on the centerline and applies to all aircraft types, up to the maximum size aircraft type declared for the purpose of ‘push and park’.

- Once the aircraft has been positioned, the ground crew should ensure the stand area is clear of FOD, equipment and obstacles. If necessary ground crews should contact Airside Operations for assistance.

7.23.2 Cross Bleed Starts

Cross-bleed starts must not be carried out on stands due to excessive noise and jet blast hazard. Cross bleed starts may only be carried out on a suitable taxiway or taxi-lane, and then only with the express permission of the ATC.

7.23.3 Stand-Specific Procedures

Stand-specific pushback procedures are published by AIP MED in the form of a table showing the stand and the specific maneuver to be followed for that stand.
These specific procedures comply with the generic rules given elsewhere in this Instruction. It is essential that all organizations involved in pushbacks ensure that they are in possession of the current AIP.

7.23.4 Power-Back Maneuvers

Aircraft are not permitted to reverse off (power out) from stands using engine power. When an aircraft arrives with a known unserviceability which will prevent a push-back, the Airline and/or Ground Handling Agent must advise AOC in advance, and the aircraft must park ‘side on’ or ‘nose-out’ at a remote stand. Where unserviceability of the aircraft or ground equipment, unknown at the time of arrival occurs, which means that there is no other way to get the aircraft off the stand, Airside Ops and ATC must be advised well in advance so that Airside Operations can attend and supervise the safety of the surrounding area

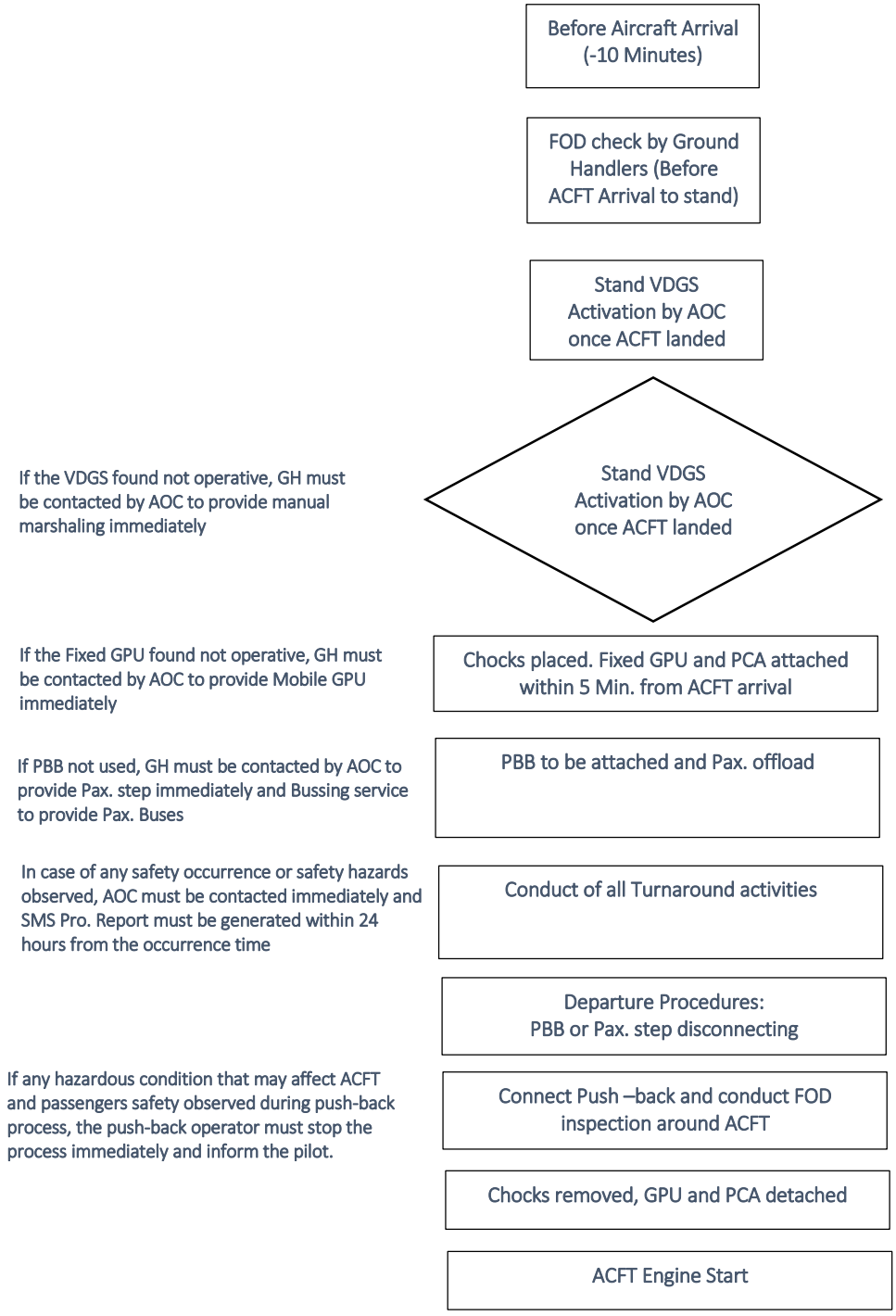
7.23.5 Aircraft Towing

- Any aircraft requires a push back and towing from the position of aircraft to another position must contact AOC on telephone number 0148138888 or 0148138899 to obtain prior approval. AOC will either approve or decline the request to tow and inform ATC accordingly.
- On receipt of approval from AOC, the aircraft must contact Air Traffic Control (ATC) on VHF 121.900 and obtain ATC Clearance to push back and tow the aircraft from the present position to destination which already coordinated with AOC. The operative shall read back the ATC clearance and comply with it as it is.
- If permission is refused, the towing maneuver must not be undertaken.
- On arrival at the destination parking stand, the operator should verify the aircraft has been parked in the correct location with reference to any visual aids available, e.g. stand number signs, surface painted designators, etc. After reporting to ATC, the operative should then contact AOC on the same telephone number to confirm the aircraft has been fully parked.

In order to ensure the movement and positioning of all aircraft can be achieved safely; this procedure applies to the following towing maneuvers:

- Tows between all aircraft parking stands.
- Tows to and from the Engine Test Bay Facility (or open field test location)
- Tows to and from East Apron and West Apron.
- Tows to and from the Royal Apron and Remote Apron and Maintenance Stand.
- Tows to and from taxiways temporarily designated for aircraft parking

7.24 Process Flowchart



NOTE: Use of fixed GND PWR (400 HZ) at East Apron is mandatory. All inbound ACFT shall connect to a fixed GND PWR within MAX 5 MIN after docking. All outbound ACFT allowed to start auxiliary PWR unit 15 MIN before engine start. Nose in ACFT may start one engine at low PWR if auxiliary PWR unit is non-operative

8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

AVIATION FUEL MANAGEMENT

Document Number:	TIBAH-AIROPS-SOP-33
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Supersedes:	Previous Version of this Document
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Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	Updated GACA regulations (GACAR 139—D7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

In this SOP, procedures for different operations regarding aviation fuel are specified. These procedures are important for the safe conduct of the operations. Fueling the aircraft in various conditions is an important subject in this SOP and is dictated clearly and in details. Other subjects like fuel spillages and audits on the fuel operating company are also explained.

1.1 Regulation and Reference Documents

- Aerodrome Manual
- GACAR 139

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.5 and 8.1
- ISO 14001:2015 Clauses 7.5 and 8.1

2.0 Purpose

To define the procedure for the aviation fuel management.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Safety & Aerodrome OPS Directorate	GACA Airport Authority
Fuelling Companies & Ground Handlers	GACA Aviation Standards Sector
Airlines	

4.0 Scope

This SOP dictates the operational procedures of aviation fuel management at PMIA. It dictates the management of installations, fuel storage, quality and delivery, safety principles, fueling zone procedures, bonding and grounding aircraft and fueling equipment, fueling with passengers on board, fueling with engines running, fueling and de-fueling in hangars, fuel spillage, the responsibilities of aviation fuel installation managers and aviation fuel suppliers, audits, aircraft refueling on east apron and the tasks under Aerodrome Operations Department. This SOP is associated to all Aerodrome Operations Staff.

5.0 Applicable Areas within the Airfield

N.A

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Reporting incident and accident including fuel spillage occurrences	All accidents, incidents including fuel spillages must be reported to AOC immediately	Safe and smooth operations	AOC	Safe and smooth operations	Such report must be reported to AOC immediately and through SMS Pro. System within max 24 hours.

7.0 Process Description

7.1 Management of Installations

The aviation fuel installation, comprising (but not limited to) the receipt and storage facility, apron pipeline network and stand hydrants are owned by Tibah and operated and maintained by MAC (Medina Aviation Consortium).

Maintenance of fuel pipeline systems including fuel leak system and other related functions fall under MAC responsibility.

The management of the aviation fuel installation and maintenance including fuel leakage detection system falls under MAC responsibility. An Operations Manager is on call H24 for the fuel storage depot.

Aircraft fuelling facilities and services shall be managed, operated and maintained to meet the needs of aircraft users at the airport. All fuelling and defuelling services shall be performed by qualified fuel service personnel using fuel tender trucks.

GACA regulations (Part 151 and 68) must be complied by ACFT Fuelling service providers and other Ground handlers.

7.2 Fuel Storage, Quality and Delivery

Details of fuel and oils availability at PMIA are listed in the GACA AIP. JET A-1 is stored at the Fuel Farm in tanks on the West Side of the airport. JET A-1 does not contain Fuel System Icing Inhibitor additives.

MAC is responsible for the quality of fuel supplied to the apron pipeline and hydrant network. At all times, fuel grade and quality must meet the specification fit for use in aircraft and in accordance with the requirements of the related laws, rules and regulations.

JET A-1 is delivered from the storage facility by pressurized pipeline network to hydrants at all East Apron stands from which a pumping vehicle may uplift the fuel to aircraft. Fuel may also be delivered to aircraft directly by tanker bowsers (ITP operation services are provided by Three suppliers; APSCO, PASCO and Al Bakri Company)

Any potential disruption to the normal supply of aviation fuel must be notified to the airport management by the fuel provider company immediately in writing by the quickest means.

7.3 Safety Principles

- The fuelling of aircraft will normally be carried out in the open air and is only to be carried out in Areas approved by the Airport Company.
- Only personnel that have been suitably trained and assessed as competent may carry out aircraft fuelling.
- Fuelling areas will be sited to avoid bringing fuelling equipment or aircraft fuel tank vents to within 15 meters of any building other than those parts constructed for the purpose of direct loading or unloading of aircraft.
- Refueling vehicles are not to approach aircraft until the aircraft engines have stopped and anti-collision lights have been switched off.
- Refueling vehicles should endeavor to be parked so as to enable freedom to exit the area in the event of an emergency. This is more essential for tankers.
- All personnel engaged in refueling procedures are to ensure that serviceable fire extinguishers are available.
- All personnel engaged in refueling procedures are to be aware of the method of calling alerting the Airport Fire Service (Call 3333 and/or 8888).

- While a fueling truck is positioned under the wing to fuel the aircraft, no any other type of vehicle, equipment, dolly or trolley is allowed to be in the front exit of the fueling truck.
- Replenishment of aircraft oxygen systems is not to take place when fuelling is in progress.
- Refueling shall not take place when there is an electrical storm within 5km of PMIA.
- **No person shall fuel or de-fuel an aircraft when:**
  - An engine is running.
  - An aircraft is in a hangar or an enclosed space.
  - An aircraft is within 15 meters of any hangar or other building.
  - An aircraft has passengers unattended by authorized personnel.
  - Smoking or striking matches or other spark producing devices shall be prohibited during fuelling operations. Matches and lighting equipment capable of causing open flame shall not be carried by any person engaged in fuelling operations. Spectators shall not be allowed closer than 15 meters to a fuelling operation.

- **With respect to the potential hazards from the use of electrical devices, the following rules shall be observed during fuelling operations:**
  - Aircraft batteries shall not be installed in or removed from any aircraft being fueled.
  - Battery chargers shall not be connected, operated or disconnected from any aircraft being fueled.
  - Aircraft ground power units shall be located as far from the fuelling points are practicable, and they shall neither be connected nor disconnected, nor placed under the wings or just aft of the trailing edge except when the design of the aircraft permits no other location.
  - Electrical tools, such a drills or buffers, shall not be used in, or near any aircraft being fueled.
  - While any aircraft is being fueled, no metal welding shall be allowed on the aircraft or on any other ground equipment within 100 meters from the aircraft.
  - Aircraft electrical switches controlling units in the wing or tank areas not essential to the fuelling operation shall not be operated during fuelling except in an emergency.
  - Aircraft radio and radar shall remain OFF when refueling.
  - Fuelling operations shall not be conducted within 30 meters of energized ground radar equipment or within 90 meters of energized ground radar equipment installations.
  - Flashlights used near the fuelling points shall be of a type listed by the Underwriters Laboratories for use in hazardous locations.
  - Extreme caution shall be observed in fuelling operations conducted during electrical storms; operations shall be suspended during severe electrical disturbances.
  - Airborne radar equipment shall not be operated or ground tested on any area where the directional beam of high intensity radar is within 90 meters, or low intensity radar (less than 50 kilowatt output) is within 30 meters of another aircraft, an aircraft fuelling truck, or aircraft fuel or flammable liquid storage facility.
  - Drivers, operators or attendants of any fuel handling vehicle shall be in attendance at the vehicle at all times when the vehicle is fuelling or defuelling an aircraft. Such persons shall not leave the vehicle to handle the hose or over-wing refueling or fuelling from a work stand in excess of two meters in height or in a position more than 15 meters from the vehicle unless a qualified fire watch is on hand on the ground with suitable firefighting equipment. A fire watch shall not simultaneously serve more than two vehicles or two aircraft under fuel servicing, and shall be within 20 meters of any operation under his surveillance.
  - Fuelling/defuelling operations shall not be performed within 45 meters downwind of the tailpipe of any operating turbine engine. In the event a turbine engine powered aircraft moves within the zone, fuelling/defuelling shall be stopped immediately.
  - Aircraft refueling vehicles shall not be parked within 15 meters of any building or hangar, other than at a refueling loading rack, or within 5 meters of any other aircraft refueling operation.
  - During fuel handling operations on the apron or at gate parking positions, at least two 50 kg wheeled dry chemical fire extinguishers shall be kept ready for immediate use in case of an

emergency. Fueling operation personnel shall ensure such extinguishers are in place before start of ACFT fuelling.

- All vehicles transporting flammable liquids shall be equipped with a spark arrestor and spill kit.
- During the fuelling or defuelling of an aircraft, the dispensing or receiving apparatus, truck, and aircraft shall be bonded together or grounded to an approved grounding source in accordance with the rules of grounding and bonding.
- No fueling of aircraft shall start before ensuring communication with the flight crew.
- At least one qualified person from ground handling company that he remains at a specific location during fueling operations with passengers on board or during embarking or disembarking. This person is the watch for fueling operation and must maintain careful attention to all aspects of the operations.
- Ground Handling Company shall ensure no passenger crosses to other side of the aircraft while fueling is underway.
- Ground Handling Company and Fuel Truck Driver/personnel (bowser or refueller truck) shall ensure that none of the ground handling equipment (motorized or not) are parked in front of the fuel bowser or fuel truck/refueller.
- Fueling operation personnel must be familiar with fuel hydrant system emergency shut off valves and the emergency shut-off system in the fuelling unit and must use them in case of any type of emergency.
- Personnel within fuelling zone must turn off cellular phones, as a precaution. These above-listed recommendations are not the only recommendations to be followed. For more information, Operators should also refer to the Airline Operations Policy Manual and to the documentation of the aircraft manufacturer and service provider related manual.

7.4 Fuelling Zone Procedures

During fuelling operations, air and fuel vapor are displaced from the aircraft tanks through vent points, which are usually situated at the aircraft wingtips. This presents a hazard of fuel vapour being ignited. For this reason, additional rules are required within an area known as the fuelling zone.

A fuelling zone is established when aircraft fuelling operations are in progress, extending at least 6 meters radially from the aircraft filling and venting points and from any part of the fuelling vehicle and equipment including hoses.

Particular requirements must be adhered to in the fuelling zone as below:

- All personnel must avoid any activity involving the risk of fuel vapour ignition. These include smoking, use of naked lights, operation of electrical systems and activity creating sparks from exposed iron or steel studs on footwear or from tools or other equipment or vehicles.
- Vehicle engines must not be left running in the fuelling zone. This includes Ground Power Units (GPU's). Hot vehicle exhausts are a major hazard and are prohibited inside the fuelling zone.
- Non-intrinsically safe equipment, including portable electronic devices (PEDs), such as mobile telephones, pagers, radios and any other electronic or electrically operated equipment are prohibited.
- Only authorized persons and vehicles are permitted within the fuelling zone and the number of these should be kept to a minimum.
- Airlines must ensure that passengers do not enter the fuelling zone whilst embarking or disembarking passengers. Baggage and passenger reconciliation checks must be carried out away from the fuelling zone.
- Aircraft Auxiliary Power Units (APU's), which have an exhaust efflux discharging into the fuelling zone, should, if required to be in operation during fuelling, be started before filler caps are removed or fuelling connections made. APU's must not be switched on during any refueling operation.

- Photographic flash bulbs or electronic flash equipment must not be used within 6 meters of the fuelling equipment or any filling or venting points of the aircraft.
- The airline or aircraft operator should ensure that all personnel working on the inside of the cabin, hold or equipment compartment of the aircraft are made aware that fuelling is taking place.
- If the Fuelling Overseer considers that a hazard exists, refueling should be stopped immediately until conditions permit resumption.

7.5 Bonding and Grounding – Aircraft and Fuelling Equipment

It is essential that aircraft, fuelling vehicles and over-wing nozzles, where applicable, should be electrically bonded together throughout fuelling operations to ensure that no difference in electrical potential exists between the units.
Bonding is to be maintained until all hoses have been disconnected or tank filler caps replaced.

7.6 Fuelling with Passengers on Board

Normally, passengers should always be disembarked prior to the commencement of aircraft fuelling.

Commencement of fuelling is defined as 'connection of the bonding clip.' Completion is defined as 'when the bonding clip has been removed'.

In circumstances where it is not possible to complete fuelling without passengers on board, airline operators of fixed wing aircraft may allow passengers to embark, disembark or remain onboard during fuelling operations. An airplane that needs to be fueled when no stairs and no PBB connected and passengers are onboard, then the airlines shall request a fire crew/truck from ARFF and shall start the fueling only after ARFF Fire Truck with Crew is ready at their stand-by position.
In case an airline requests a fire crew/truck in any case, the Fire Rescue Service shall respond and be present on stand-by position.

In addition, Fuelling of an aircraft with disabled passengers (with reduced mobility who cannot self-evacuate) embarking, on board or disembarking who cannot self-evacuate shall not take place without the attendance of the Airport Fire Service. Otherwise these passengers must be removed from the aircraft before fuelling commences.

- Cabin attendants, passengers and other relevant staff to be warned that fuelling will take place and that they must not smoke, operate electrical equipment or other potential sources of ignition.
- The aircraft's 'NO SMOKING' signs to be switched on together with sufficient interior lighting to enable emergency exits to be identified.
- The 'Fasten Seat Belts' sign must be switched off and passengers are to be briefed not to fasten their seatbelts.
- Provision should be made via at least two of the main passenger doors (or main passenger door plus one emergency exit when only one door is available), preferably at opposite ends of the aircraft, for safe evacuation in the event of an emergency. Throughout the fuelling operation these doors are to be constantly manned by a cabin attendant.
- Designated escape doors to be on the opposite side of the aircraft to the fuelling activity. Fuelling not to be permitted on both sides of aircraft while PAX is onboard, embarking or disembarking.
- Whenever an exit with an inflatable escape slide is designated to meet the requirements in the above paragraph, the ground area beneath that exit and the slide deployment area must be kept clear of external obstructions.
- Ground servicing activities and work within the aircraft, such as catering and cleaning must be conducted in such a manner that they do not create a hazard or obstruct aircraft exits.
- Inside the aircraft cabin the aisles, all exit areas and exit access areas must be kept clear of obstructions.
- The ability of any passenger to effect a rapid evacuation from the aircraft, most particularly those whose mobility is impaired, is to be taken into account.

7.6.1 Duties & Responsibilities

Absolute authority for the decision to refuel with passengers on board shall reside with the aircraft commanders. They shall ensure that either them or their explicitly designated representative remain in the flight deck throughout the time when refueling with passengers on board is occurring. With this in place, teamwork is thereafter essential for normal safety standards to be maintained during such refuelling process. There are a number of things that the personnel involved should be doing to achieve this. These things are the following:

The aircraft commander or his specifically authorized representative present in the flight deck shall:

- Where possible, establish direct communication with any ground engineer or ramp crew by interphone and if not possible agree alternative means
- Inform the senior cabin crew member prior to the commencement and after the completion of refuelling
- Keep watch for any interphone or visual alert of fire or risk of fire from the person supervising the refuelling on his behalf
- Be prepared to order passenger evacuation if necessary
- Shall ensure that ARFF Fire Truck is ready on the stand if PBB or Pax. steps are not connected to the ACFT or if disabled passengers are onboard.

The supervising turnaround coordinator of GH Company shall ensure that:

- At least one pilot is present in the flight deck, all cabin crew are at their stations and any engineer required to be present is aware and appropriately positioned
- The area beneath exits intended for emergency evacuation is kept clear in case when PBB and Pax. steps are not connected to the ACFT.
- If PBB and Pax. Steps are not connected, the TC must ensure that the fire service is ready at the stand and positioned and approved the refuelling
- Passenger boarding / disembarkation is achieved in a safe and controlled manner.

The ground service engineer (or the equivalent supervisor of refueling externally) shall:

- Ensure that fire extinguishers are ready to be used.
- Ensure that a means of communication with the flight crew in any emergency has been agreed
- Have agreed how communications with the pilot(s) on the flight deck will be achieved in an emergency
- Assign at least one qualified person from ground handling company that he remains at a specified location during fueling operations with passengers on board or during embarking or disembarking. This person is the watch man for fueling operation and must maintain careful attention to all aspects of the operation.
- Ensure that the aircraft commander or his representative in the flight deck is made aware of the commencement and completion of refueling.
- Immediately notify the pilot(s) present in the flight deck if a fire occurs or the risk of one is high
- If an emergency evacuation is required; indicate (to the flight crew) the exits that are clear of obstruction. The flight crew must then inform the cabin crew
- Ensure that refuelling is stopped if such a request is made by one of the flight crew.
- Ensure that a safe passage is established for passengers (from bus to boarding ladders) so that the passengers never cross under the wings or engines.
- Ensure that passengers never cross to the other side of the aircraft.

- Ensure that none of the ground handling equipment is parked in front of the fuel truck/bowser so that the fuel truck/bowser can escape/exit without any hindrance.

ACFT cabin crew shall:

- Inform passengers that smoking is not permitted and ensure that the "NO SMOKING" signs are on.
- Inform passengers to unfasten (or not to fasten if boarding) their seat belts and ensure that the "FASTEN SEAT BELT" signs are off.
- Check that all emergency exits are clear of internal obstructions and appear to be clear of external ones if PBB and Pax. Step are connected to the ACFT.
- Ensure that the "EXIT" signs are all illuminated.
- Ensure that ground servicing (e.g. catering or cleaning) cannot create hazard, or delay an emergency evacuation.

7.6.2 Evacuation/Disembarkation

In the case of a fire resulting from fueling operations, or from a large fuel spillage, a precautionary disembarkation or an emergency evacuation may be performed. In both cases, the same recommendations apply. Information about the incident is provided by the ground personnel, who will immediately inform the AOC and flight crew of the nature of the incident. Good communication between ground personnel, the flight crew and the cabin crew is a key factor in achieving a successful evacuation/disembarkation. If a jet way is used for boarding, it should also be used for evacuation/disembarkation. Jet way provides a safe and efficient way to evacuate an aircraft, and enables passengers to be rapidly being far away from the fire, unlike the escape slides. In this case, the jet way handling agent is responsible for the passengers while they are in the tunnel. If the stairs are against the aircraft, it is better that passenger's use the stairs instead of escape slides. This is because, before deploying escape slides, it is necessary to ensure that the area outside the aircraft is clear of obstruction. However, there may often be obstacles surrounding the aircraft (e.g. fuel truck, catering, baggage handlers, boarding passengers, etc.), and any contact with these obstacles or with personnel during escape slide deployment may make the situation worse. It is possible to use the escape slides to rapidly evacuate the aircraft. However, if escape slides are used, it is very important to verify that there are no obstacles in the area where the escape slide will be deployed. In some cases, it may be necessary to wait for equipment, personnel, or vehicles to move away from the deployment area, before arming the escape slide and opening the aircraft doors.

7.6.3 Prevention Strategies

- The Airline Operations Policy Manual should include a procedure for refueling with passengers on board, and this procedure should be supported by training and documentation
- In the case of a significant fuel spillage near the aircraft, a precautionary disembarkation will save time if an emergency evacuation becomes necessary.
- If a fire starts despite all the precautions taken, it is important to remember that a fire can spread rapidly. Therefore, all applicable personnel must rapidly take action without hesitation. This highlights the importance of training.

7.7 Fuelling with Engines Running

Refueling with engines running is only permitted in the following circumstances:

- Aircraft or helicopters engaged in casualty evacuation procedures
- Search & Rescue Helicopters

- Air Ambulances
- Military and other aircraft engaged in special missions.

It is the responsibility of the fuel supplier to have a written agreement with the operator on procedures to be used by all parties during such an operation.

7.8 Fuelling and De-Fuelling in Hangars

Under no circumstances is fuelling or de-fuelling of JET-A-1 to take place inside any hangar or any other building.

7.9 Fuel Spillages

The procedures to be used in the event of a fuel spillage are detailed in Aerodrome Manual, Section 5.15.

7.10 Responsibilities

The aviation fuel installation managers are responsible for:

- Ensuring compliance with the relevant statutory and regulatory requirements relating to the handling and storage of bulk aviation fuels.
- Ensuring that the grade and quality of fuel product meets the required specification at all times.
- Notifying the airport authority about any potential disruption to the normal supply of aviation fuel immediately in writing by the quickest means.

The aviation fuel suppliers are responsible for:

- Ensuring compliance with the relevant regulatory requirements relating to the handling of aviation fuels and the fuelling of aircraft.
- Ensuring that at all times, the fuel delivered to aircraft meets the required specification, including the grade and quality of fuel product.
- Ensuring that refueling tanker bowsers and refueling equipment access and exit from the aircraft stand as highlighted in the Stand Plans.
- Training and competence of refueling operatives.
- Ensuring that all vehicle drivers possess a HGV driving license.

7.11 Audits

Organizations that store, dispense or handle aviation fuel at MED will be subject to audits of this activity to ensure that they comply with the relevant legislative requirements. An appropriately qualified person from or on behalf of MED Airport will carry out this audit. The audit report will be made available to those being audited together with any recommendations of changes that may be required to procedures or equipment. In addition, audit reports may be made available to GACA or other regulatory bodies.

A reasonable time will be given to remedy any shortcomings found by the audit but the Airport Company reserves the right to withdraw permission for the facility or fuelling activity to continue if it is found to be dangerous or if remedy to the shortcoming is not completed within the agreed reasonable time.

7.12 Aircraft Refueling on East Apron

- Due to limited maneuvering area for the big/long 2 unit (fueler + trailer) fuel trucks and associated safety mitigation, on East Apron Contact Stands (stands with passenger boarding bridge), is the first priority to use only 1 (one) unit fuel tankers for aircraft fueling operations. To all possible extend, the fueling companies shall abide by using one unit fueling trucks at PBB Stands.

- During fuelling operations, fuel vehicles shall be positioned to permit driving straight away from the fuelling position. Only one refueling truck shall be positioned to refuel each wing of an aircraft and not more than two fuel handling vehicles shall be positioned to serve the same aircraft on both sides. When high capacity aircraft are refueled, additional refueling trucks may stand by in specified positions not closer than 50 meters from the aircraft to be served. While a fueling truck is positioned under the wing to fuel the aircraft, no any other type of vehicle, equipment, dolly or trolley is allowed to be in the front exit of the fueling truck. The turnaround coordinator from associated GH Company is the responsible person to make sure that fueling truck has a clear exit in the front at all times, uncompromised by any other activity. The fueling truck driver is equally responsible for making sure that he has a clear exit in the front at all times while serving the fuel. If there is no clear exit, the fueling truck driver shall stop serving the airplane and inform the turnaround coordinator. Unless clear exit is provided by the turnaround coordinator, the fueling truck shall not start fueling. In dispute or lack of clear exit, the fueling driver shall call 8888 or 8138 or 8193 where Tibah AOC, Airside Operations and/or Safety will respond and assure the clear exit. Serving an aircraft from aft doors while fueling operation in progress is permitted. However, serving an aircraft from front door (which is at the side of fueling operation) is not allowed. There are no restrictions on the other side of the aircraft.

7.13 Tasks under Aerodrome Operations Department

Associated Aerodrome Ops Tasks as follows:

- The Aerodrome Operations Department Manager and his employees are responsible to follow-up the safe and secured implementation of the abovementioned aerodrome operations procedures and events.

Associated Ops Records as follows:

- The Operations Department Manager and his employees are responsible to maintain any valuable records to the abovementioned aerodrome operations events and activities.

7.14 Process Flowchart

N/A.

8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

AIRCRAFT MAINTENANCE ACTIVITY

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Supersedes:	Previous Version of this Document
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Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	Updated GACA regulations (GACAR 139—D7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

To meet the increasing demands of air transport requirements and to achieve optimum usage of aircraft stands, especially those nearest to the Terminal, priority for stand usage is given to arriving/departing aircraft. When aircraft maintenance is undertaken on an apron stand, which may inhibit the ability to remove that aircraft from the stand, the flexibility for allocating that particular stand to an arriving/departing aircraft is lost.

1.1 Regulation and Reference Documents

- GACAR 139
- PMIA Aerodrome Manual.
- PMIA Airport Emergency Plan.

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.5 and 8.1
- ISO 14001:2015 Clauses 7.5 and 8.1

2.0 Purpose

To explain the procedures for safe maintenance of aircraft on the apron and procedures for ground testing of aircraft engines

3.0 Relevant Stakeholders

Direct Use	Aware Of
Safety & Aerodrome OPS Directorate	GACA Airport Authority
Airlines & ACFT Maintenance Departments	GACA Aviation Standards Sector
Service Providers & Ground Handlers	

4.0 Scope

This SOP is associated to all airport users, Airlines and ACFT maintenance departments.

5.0 Applicable Areas within the Airfield

N.A

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Maintenance of an aircraft within Apron area	Only maintenance of a 'minor' nature is permitted on the apron. For the purposes of this instruction 'minor' means routine turn round work such as oil top up	Safe maintenance of aircraft	AOC	Safe maintenance of aircraft	Only maintenance of a 'minor' nature is permitted on the apron. For the purposes of this instruction 'minor' means routine turn round work such as oil top up. (100% Compliance)

7.0 Process Description

7.1 Aircraft Maintenance on Aprons

To meet the increasing demands of air transport requirements and to achieve optimum usage of aircraft stands, especially those nearest to the Terminal, priority for stand usage is given to arriving/departing aircraft.
When aircraft maintenance is undertaken on an apron stand, which may inhibit the ability to remove that aircraft from the stand, the flexibility for allocating that particular stand to an arriving/departing aircraft is lost.

7.1.1 Procedures

Only maintenance of a 'minor' nature is permitted on the apron. For the purposes of this instruction 'minor' means routine turn round work such as oil top up.

When maintenance work is carried out, aircraft engineers are responsible for ensuring that:

- Aircraft are not disabled such as they may not be removed from the stand in reasonable time. If this is not feasible due to the nature or particular technical defect, Aerodrome Services must be informed immediately.
- Spillages of fuel, oil and other fluids do not occur and that if they do occur, the actions detailed in Aerodrome Manual (Annex A) are followed precisely and without delay.
- FOD, in the form of tools, aircraft parts etc. are not left around the apron area
- Aircraft jacks are not used without spreader plates.
- Appropriate procedures are in place for occupant evacuation of aircraft which have personnel on board.

7.2 Aircraft Storage

All operators requiring long-term storage of aircraft must obtain approval from the Airport Operation Center (AOC) in advance.

In the event that approval is issued, all such stored aircraft must meet the following requirements:

- Securely locked.
- Chocked at the nose wheel and main undercarriage.
- All covers must be adequately secured.

7.3 Taxiing of Aircraft by Engineering Staff

Non-aircrew personnel taxiing aircraft at PMIA must hold an Aircraft Engineering Qualification/License recognized as appropriate by the GACA (Permission must be obtained by ATC through Ground frequency in advance).
Aircraft may be taxied without a Radio Qualified Person aboard by the operator maintaining a listening watch on VHF provided that they are under the direct control of an Aerodrome Operations Vehicle (follow me) in contact with ATC.

7.4 Taxi Test

Refer to Aerodrome Manual (Annex A – SOPs; Test, Training and Ferry Flights).

7.5 Process Flowchart

N/A.

8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

AIRCRAFT ENGINE GROUND RUNNING

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Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
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III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	Updated GACA regulations (GACAR 139—D7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

In this SOP, procedures for Aircraft Engine Ground Running are specified. These procedures are important for the safe conduct of the operations. Fueling the aircraft in various conditions is an important subject in this SOP and is dictated clearly and in details. Other subjects like fuel spillages and audits on the fuel operating company are also explained.

1.1 Regulation and Reference Documents

- Aerodrome Manual
- GACAR 139

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.5 and 8.1
- ISO 14001:2015 Clauses 7.5 and 8.1

2.0 Purpose

This document defines the procedure for aircraft engine ground running.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Safety & Aerodrome OPS Directorate	GACA Airport Authority
Airlines	GACA Aviation Standards
ACFT Maintenance Departments	Service Providers & Stakeholders

4.0 Scope

This SOP dictates the operational procedures of Aircraft engine ground running at PMIA. It dictates the responsibilities and the safety measures that should be taken during ground Idle testing, testing above ground idle power, and the tasks under Airside Operations Department. This SOP is associated to all Airside Operations Staff.

5.0 Applicable Areas within the Airfield

N.A

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Engine ground running at PMIA	Aircraft after being pushed to taxi lane or taxiway must obtain approval for startup from AOC through ground handler and from ATC on the Ground Frequency stating the aircraft type.	Reduction in preventable occurrences involving Engine Running	AOC and ATC	Reportable occurrences during a day.	AOC must be coordinated in advance (100 % Compliance)

7.0 Process Description

7.1 Ground Idle Testing

Aircraft engine testing at Ground Idle only is allowed on taxi lanes and taxiways after aircraft is being pushed back to centerline of associated taxiway or taxi lane. While aircraft is located at any of the aircraft stands, no ground idle is allowed. Rules dictated on GACA AIP shall be followed strictly.

7.1.1 Safety Measures

- Aircraft after being pushed to taxi lane or taxiway must obtain approval for startup from ATC on the Ground Frequency stating the aircraft type, stand number and using the phrase '... Request permission to run engine(s) at Ground Idle power for (approximate duration).
- During all Ground Idle runs a safety person from the airline or from airlines ground handler/maintenance must be located by the rear of stand road (where applicable) to warn traffic, which must be stopped during the engine running. A vehicle parked across or beside the road is not acceptable.
- Aircraft anti-collision lights must be illuminated during engine runs
- Ground Idle testing at stands with a rear-of-stand road (most pier stands) is subject to a maximum of 3 minutes duration - sufficient to carry out most basic engineering checks. Running engines for longer durations can cause unacceptable delays to road traffic waiting to pass behind the aircraft.

7.1.2 Responsibilities

It is the responsibility of the aircraft operator who is undertaking the engine run to:

- Control activity on the stand during the test
- Provide personnel to stop movement of traffic behind the aircraft
- Maintain contact between the Ground Engineer and the Flight Deck
- Ensure ATC clearance for start-up is obtained and that ATC are informed when the test is complete.
- Ensuring that ground idle runs on pier served stands are limited to 3 minutes duration.

7.2 Testing above Ground Idle Power

All such tests are subject to the prior approval of Airport Authority, namely AOC, who will consider all the relevant circumstances before approving any test. This approval shall mean that the aircraft is approved to carry out the test at requested time. HOWEVER, final approval for the test shall be obtained from ATC. AOC's approved in no case shall mean that the aircraft is cleared to taxi and/or run engines without ATC permission. Aerodrome OPS personnel must be present at the location during entire engine testing.

A request must be made to AOC in advance.

All tests above idle power must be carried out either at RWY 18 facing south, RWY 36 facing north and West Remote Apron facing south. Exact locations are:

- **RWY 18:** Aircraft will taxi or be towed to start point of RWY 18. It will stop at the immediate beginning of the runway facing south.
- **RWY 36:** Aircraft will taxi or be towed to start point of RWY 36. It will stop at the immediate beginning of the runway facing north.
- **West Remote Apron:** Aircraft will taxi or be towed to centerline of TWY R. It will stop at the position so that Stand 22 will be on the right side of the aircraft and Stand 27 will be on the left side. The Aircraft must face south.

7.3 Tasks under Airside Operations Department

Associated Ops Tasks as Follows:

- The Aerodrome Operations Department Manager and his employees are responsible to follow-up the safe and secured implementation of the abovementioned aerodrome operations procedures and events.

Associated Ops Records as Follows:

- The Aerodrome Operations Department Manager and his employees are responsible to maintain any valuable records related to the above mentioned aerodrome operations events and activities.

7.4 Process Flowchart

N/A

8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

FOLLOW ME SERVICE

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Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

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III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	Updated GACA regulations (GACAR 139—D7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

To explain the procedures to lead aircraft from RWY or TWY to the stand in case of LVP, or in case that crew is not familiar with the airport, or in any other case that requires assistance

1.1 Regulation and Reference Documents

- SMS Manual.
- PMIA Aerodrome Manual
- PMIA Airport Emergency Plan
- GACAR 139

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.5; 8.1 and 8.5
- ISO 14001:2015 Clauses 7.5

2.0 Purpose

This document provides the procedures of Follow Me service at PMIA.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Safety & Aerodrome OPS Department	GACA Airport Authority
Airport OPS Center (AOC)	GACA Aviation Standards Sector
MED-ATSU (ATC)	Stakeholders including Royal and General Aviation Departments

4.0 Scope

This SOP is associated to all airport users.

5.0 Applicable Areas within the Airfield

N.A

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Royal Flights	Royal Terminal OPS and General Aviation department must inform AOC for any flight approaching PMIA	Safe and smooth operations	AOC @ ext. 8888	Proper coordination to insure safe and smooth operation	Royal Terminal OPS must coordinate with AOC at least 2 hours before landing (100% Compliance)
Staff and Follow Me vehicles	Each shift must include a minimum of 3 employees, equipped with at least 3 vehicles.	Proper response time and smooth operations	Aerodrome OPS Chief or Manager respectively	Provide Follow Me service with a proper response time to insure smoother operation	Aerodrome OPS shift supervisor shall inform his chief/manager for immediate back-up in case of any shortage in personnel and/or vehicles (100% Compliance)
Outstanding Events	Follow Me service shall be provided upon request in case of outstanding events such as (Pilot request, aircraft with no radio communication with ATC, limited visibility at the airport)	Smooth and safe operations	Aerodrome OPS	Minimize the operations' being affected due to special cases	Follow Me vehicle shall respond to service requests in the outstanding events (100% Compliance)

7.0 Process Description

7.1 Follow Me Service

- Follow ME service is provided by Tibah Safety & Aerodrome OPS personnel (Aerodrome OPS Division)
- Due to limited visual contact of ATC Tower with East Apron, TWY L, TWY M and TWY P, Follow Me Vehicles might be used (upon Pilot/ATC request) for escorting inbound and outbound aircraft.
- When required by ATC, it is crucial to provide Follow Me service without any delay through AOC.
- Royal Terminal OPS and General Aviation department must inform AOC for any flight approaching PMIA with minimum 2 Hours of landing time and shall provide ACFT stand number and gate to AOC.
- Therefore, VHF Radio Frequency 121.900 shall be observed at all times.
- Each Aerodrome OPS vehicle is equipped with one vehicle VHF radio.
- Each Aerodrome OPS shift supervisor on duty shall have one handheld VHF radio. The hand radio shall be carried by the staff at all times. The radio shall be in perfect working condition. In case radio deficiency, the Aerodrome OPS shift supervisor shall contact ARFF Fire Control Center to ask for replacement radio. The fire control center shall comply with the request immediately.
- The number of Aerodrome OPS staff in each shift shall not be less than 3 personnel. Whenever the number of staff is expected to drop below 3 personnel, the Aerodrome OPS shift supervisor shall inform his chief/manager for immediate back up.
- Each Follow me vehicle shall have one A-4 size Grip Map, one A-4 size East Apron Detailed Drawing and one A-4 size Follow Me Stand-By Points Map.
- Number of Follow Me vehicles shall not be less than 3 vehicles. Whenever the number of vehicles is expected or suspected to drop below 3 vehicles, the Aerodrome OPS shift supervisor shall inform his chief/manager for immediate back-up.

The following rules and regulations shall apply to the use of the follow me vehicle:

- In the event of an arriving aircraft shall need guidance due to the pilot is not knowledgeable of the parking spot or for any other reasons as required by ATC.
- In the event of an aircraft with no radio communication with ATC.
- For other reason or purpose that requires escort on the aircraft maneuvering area such as any flight that is carrying VVIP to Royal Apron. Also for flight which are not familiar with the airport and request to be provided with follow me services.
- In the event where the visibility at the airport is limited.
- When an ACFT require towing for re-position or any other reason.
- When instructed by ATC, the Follow Me Vehicle shall proceed to the instructed location immediately and shall report to ATC that it is ready at the location.
- The distance between the Follow Me vehicle and the taxiing aircraft shall not be less than 100m. The follow me driver shall maintain 100 m. at all times. The driver shall never allow the distance grow higher as well. If the aircraft could not match the speed of the follow me, the driver should slow down as well and inform ATC for the low speed.

The distance with Follow Me Vehicle and the aircraft in front of the follow me vehicle shall be as following:

200 meters (700 ft.)	B747, B777, L1011, AB340, AB300, MD11, DC10, etc..., all wide body aircraft.
100 meters (350 ft.)	MD90, B737, A321, E190 etc..., all narrow body aircraft.
Note: The bigger the aircraft the more dangerous the jet-blast	

- In case the aircraft fails to follow the Follow Me vehicle, the follow me driver should reduce the speed to allow the aircraft to catch up the vehicle.
- While providing follow me services to any aircraft, the speed of Follow Me vehicle shall not exceed 30 km/h. The speed limit can only be reduced or increased by ATC.
- During each step of the follow me service, the follow me driver shall listen to **VHF Frequency 121.9**.
- While proving service, the driver shall not use his mobile phone, or other mobile communication devices, and shall not have any other noise producing device inside the vehicle. The driver shall not listen to any type of audio device such as music.
- In case of unsafe taxiing due to unserviceable taxiway, apron or stand (FOD, equipment in the way etc.), the follow me driver shall stop the follow me procedure and inform the ATC immediately.
- The follow me driver shall report to ATC when the follow me service is started and when finished.
- If it is taxi-in follow me service, the follow me driver shall stop follow me service at the beginning of the stand taxi lead line from the TWY L or TWY M. If follow me shall not stop follow me at the beginning of the stand lead in line, VDGS could malfunction as the follow me vehicle will be an object in between the aircraft and VDGS. The Follow Me shall report to ATC when the aircraft is docked to the stand.
- If it is taxi-out follow me service, the follow me driver shall report to ATC when the aircraft is at the location of release from the follow me. ATC will define where the follow me service will end. This is typically will be at TWY L connections to TWY J.
- Follow me driver shall be alert at all times. Once assigned to follow me service to one aircraft, the follow me driver shall not leave the aircraft.
- At all times, all attention shall be given to follow me service. No any other activity shall be combined or done at the same time as Follow Me service.
- In case of any suspected problem, the follow me driver shall stop the service and inform ATC. SAFETY FIRST is the ultimate doctrine. Never carry out a duty unless it perfectly safe.
- While providing follow me service to any aircraft, the follow me driver is not authorized to take any decisions on his own without getting approval from ATC. There are no exceptions.
- While approaching to aircraft stand, the follow me driver shall check the aircraft stand for safe docking. In case it is observed as not safe due to blocking ground equipment or personnel in the way, the follow me driver shall stop the follow me service and inform ATC.
- The follow me driver shall never start a follow me service if the driver is not sure of the ATC instructions. NEVER HESITATE TO ASK TWICE IF YOU DO NOT UNDERSTAND THE ATC INSTRUCTION.
- The follow me driver shall always read back the ATC instructions.

7.2 Process Flowchart

N/A.

8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

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Standard Operating Procedure (SOP)

LOW VISIBILITY OPERATION (LVO) PROCEDURES

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Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
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6.1	1 January 2021	Updated GACA regulations (GACAR 139—D7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

In this document, the procedures for the control of aircraft & vehicles at PMIA during LVO are specified. PMIA is committed to providing facilities and procedures to enable the airport to remain open to operations during low visibility conditions. It must be accepted that such conditions will reduce air traffic capacity to well below that achievable in normal operations, however it is the intention, over time, to increase the low visibility capacity pro-rata with increases in normal operating capacity. Currently during LVO, PMIA shall have maximum 2 landings and 1 departure at the same time.

1.1 Regulation and Reference Documents

- Aerodrome Manual
- GACAR 139

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 6.1; 7.5 and 8.1
- ISO 14001:2015 Clauses 6.1; and 7.5

1.3 Definition

Category I (CAT I) Operations: A precision instrument approach and landing with:

- A decision height not lower than 60 m (200 ft.); and
- With either a visibility not less than 800 m or a Runway Visual Range not less than 550 m.

Category II (CAT II) Operations: with respect to the operation of aircraft, means a straight-in approach to the runway of an aerodrome under a Category II instrument approach procedure. Category II approaches include a decision height lower than 200 ft. (60 m), but not lower than 100 ft. (30m), and a runway visual range not less than 350 m. (GACAR PART 1).

Category III A (CAT III A) Operations: A precision instrument approach and landing with:

- A decision height lower than 30 m (100 ft.) or no decision height; and
- A runway visual range not less than 175m.

Category III B (CAT III B) Operations: A precision instrument approach and landing with:

- A decision height lower than 15m (50ft) or no decision height; and
- A runway visual range less than 175m but not less than 50m.

Category III C (CAT III C) Operations: A precision instrument approach and landing with no decision height and no runway visual range limitations.

Decision Altitude (DA) / Decision Height (DH). A specific altitude or height in the precision approach or approach with vertical guidance at which a missed approach must be initiated if the required visual reference to continue the approach has not been established.

Guided take off: A take off in which the take-off run is not solely controlled with the aid of external visual reference, but also with the aid of instrument references (e.g. ILS Localizer guidance).

ILS Critical Area: An area of defined dimensions about the localizer and glide path antennas where aircraft and vehicles are excluded during all ILS operations. The critical area is protected because the presence of vehicles / or aircraft inside its boundaries will cause unacceptable disturbance to the ILS signals in the space.

ILS sensitive area: An area extending beyond the critical area where the parking and/or movement of vehicle, including aeroplanes, is controlled to prevent the possibility of unacceptable interference to the ILS signal during ILS operations. The sensitive area is protected to provide protection against interference caused by large moving objects outside the critical area but still normally within the aerodrome boundary.

Low Visibility Operations (LVO) : means aircraft takeoff, approach and landing operations in low visibility conditions and include low visibility takeoff, lower than standard (LTS) Category I precision

instrument approach procedures, Category II and III precision instrument approach approaches, other than standard (OTS) Category II precision instrument approach approaches and instrument approach operations using an enhanced vision system (EVS) for which an operational credit on the landing minimums is applied. (GACA-R PART 1).

Low Visibility Procedures (LVP): means procedures applied at an aerodrome for the purpose of ensuring safe operations during LTS Category I, OTS Category II, Category II and III approaches and low visibility take-offs. (GACA-R PART 1).

Lower than standard (LTS) CAT I: means a Category I precision approach procedure conducted when reported visibility is below the standard minimums required for such procedures. Only operators specifically authorized by the President under GACAR Part 91 may conduct LTS CAT I operations. (GACA-R PART 1).

Low Visibility Departure: A departure operations in RVR condition less than a value of 550m. (ICAO)

Obstacle free zone (OFZ). A volume of airspace extending upwards and outwards from an inner portion of the runway strip to specified upper limits which is kept clear of all obstacles except for minor specified items.

Other Than Standard (OTS) CAT II: means a Category II precision approach procedure conducted to a runway where some or all of the elements of the light system normally required for Category II operations are not present. Only operators specifically authorized by the President under GACAR Part 91 may conduct OTS CAT II operations. (GACA-R PART 1).

Runway Visual Range (RVR): The range over which the pilot of an aircraft on the center line of runway can see the runway surface markings or lights delineating the runway or identifying its center line.

Safe Guarding Procedures (SP): are the necessary actions to prepare the airport for Low Visibility Procedures.

2.0 Purpose

This document defines the procedures during Low Visibility Operations.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Safety & Aerodrome OPS Directorate	GACA aviation Standards Sector
Service Providers and stakeholders	

4.0 Scope

This SOP dictates the operational procedures for LVO at PMIA. It states general rules and Taxi Routes for Departure & Landing Aircrafts during LVO.

5.0 Applicable Areas within the Airfield

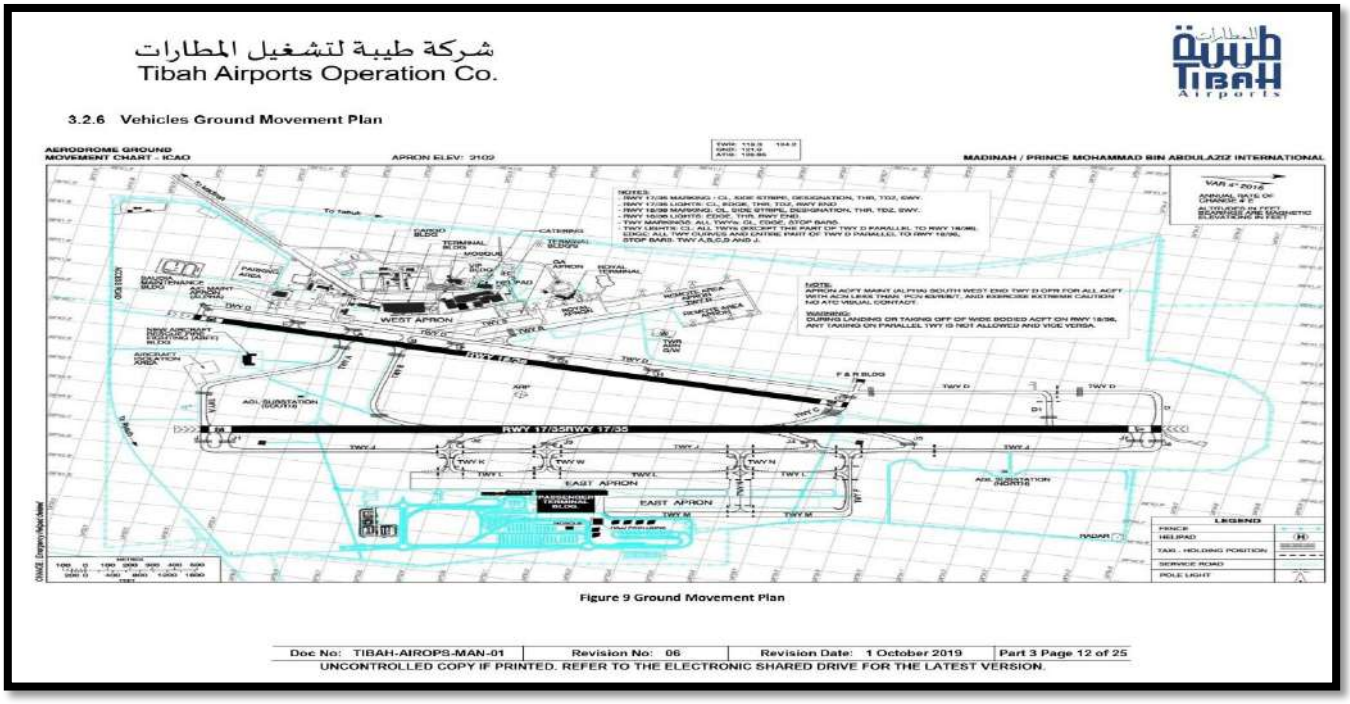

Figure 9 Ground Movement Plan

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Low Visibility Procedures	Activation of LVPs at PMIA	Safe and continuous operations	MED-ATSU and AOC	Safe and continuous operations	LVPs must be activated when visibility falls under 800 m or RVR reduced to less than 550m or Height of cloud ceiling is less than 200ft but not less than 100ft

7.0 Process Description

7.1 Objectives of LVPs

- To protect runway(s) in use for take-off and landing against incursions.
- Maintaining the accuracy and integrity of ground-based navigation signals used during the specified departure and approach & landing operations.

7.2 Obtaining and disseminating meteorological information, including runway visual range (RVR) and surface visibility

Meteorology (MET) department is located at west side of the airport and north the ATC (Location number: 16K in Aerodrome Grid Map).
Metrology department is responsible communicating weather forecasts, Visibility status and RVR figures to ATC.
ATC has an access to all meteorology data at all times however, ATC TWR shall consult MET office for forecast before declaring SP.

7.2.1 Meteorological information provided

1	Associated MET Office	Madinah Met Office
2	Hours of service MET Office outside hours	H24 Contact Jeddah CFO +966 12 4237739 / +966 12 4237740
3	Office responsible for TAF preparation Periods of validity	JEDDAH CENTRAL FORECAST OFFICE (CFO) (TAF periods of validity H30). TEL: +966 12 4237739 and +966 12 4237740
4	Type of landing forecast Interval of issuance	NIL
5	Briefing/consultation provided	P,T
6	Flight documentation Language(s) used	PL English
7	Charts and other information available for briefing or consultation	S.U.P.W
8	Supplementary equipment available for providing information	WXR APT. 8 Wind shear sensors.
9	ATS units provided with information	Madinah APP, Madinah TWR and GND
10	Additional information (limitation of service, etc.)	TEL : +966 14 8420106 FAX: +966 14 8373224 +966 14 8420051 Forecaster TEL : +966 14 8420040 MNGR

7.2.2 RVR (RWY Visual Range)

Runway Visual Range devices are located at 3 locations for RWY 17/35: 1 pair on 35 TDZ, 1 pair in the middle of the RWY, 1 pair at the RWY 17 TDZ. All devices are on the west side of the Runway, approximately 142 m away from the centerline of RWY.

7.2.3 RVR Reports

- ATC shall ensure that the current RVR values for the runway in use are passed to pilots of arriving and departing aircraft during LVP.
- RVR readings shall always be given in the order of the landing or take-off direction (i.e. TDZ, mid-point and stop-end).

- When values for the three RVR positions are passed, the positions need not be identified Provided that the values are given in the correct order, but when only two reports are given, the positions should be identified.

7.2.4 Low Visibility Procedures (LVPs) shall only be declared (by ATC TWR) when:

- Either TDZ or MID RVR RWY 17/35 is less than 550m, and/or,
- Height of cloud ceiling is less than 200ft but not less than 100ft, and
- Preparation Phase (Safeguarding Procedures) has been completed and the airport is safeguarded and configured for Low Visibility Operations.

7.3 Protection of runways during LVP if such operations are permitted

In order to protect the used RWY in case of LVP, Tibah had established set of effective controls to ensure safe and smooth operations including but not limited;

- Implementing of safeguarding procedures prior the LVPs (please see section 5.16.6 for more details).
- In case of LVO, all works within the airside operations are will be suspended through the ODM (please see section 5.16.6 for more details).
- Restriction on the movements of vehicles on the movement area.
- During LVO, only Airside operation personnel are allowed to enter the maneuvering area in coordination with ATC (ATC permission through VHF radio) however, other department's personnel (including SANS SME and AGL) are NOT allowed to enter the maneuvering area during LVO unless escorted by airside operation vehicle (FOLLOW ME VEHICLES).
- Protecting ILS critical and sensitive area through Tibah Airside operation team.
- AGL must be inspected during SP implementation and therefore every subsequent two hours period. These lighting inspections should have priority and, if necessary, aircraft operations may have to be delayed.
- During LVO, PMIA shall have maximum 2 landings and 1 departure at the same time.
- In case of radar outage, maximum of one landing and one departure at the same time are permitted at PMIA.
- During Low Visibility Procedures at PMIA, operations (ARR & DEP) of code F aircraft are not permitted.
- In case if the stop-bars (CAT I/II stop-bars) became unserviceable during low visibility operations, aircraft on the maneuvering area will be reduced to one at a time (Please refer to Section No. 5.16.7.1.6 for more details).
- As an additional control that would ensure high protection level for critical and sensitive areas of ILS localizer and Glide path, Tibah had configured a geo-fencing parameters on the vehicle tracking system (VTS) and identified the critical and sensitive areas to ensure non entry of unauthorized vehicles. Accordingly, the VTS system will alert the system users (Safety, Airside Operations and AOC personnel) and notify for an entry of unauthorized vehicle to the critical and/or sensitive areas. Upon that, VTS user will respond and prevent any unauthorized entry to sensitive/critical areas.

NOTE: Please see section 7.4 in this document for further details concerning the measures of protecting RWY 17/35 during LVO.

7.4 The arrangement and rules before, during and after low visibility operations, including applicable rules for vehicles and personnel operating in the movement area.

7.4.1 LVP Phases

- **Preparation Phase:** This phase is commenced when deteriorating meteorological conditions reach, or are forecast to reach, specified height of cloud base or ceiling and/or visibility/RVR values.
- **Operations Phase:** This phase must be in force prior to the commencement of any of the specific operations for which LVP are required. The Operations Phase is brought into force

only once all preparatory activities are complete. Flight operations requiring LVP must only commence once the LVP are in force.

- **Termination Phase:** This phase is established to facilitate a smooth transition back to normal operations.

7.4.2 Safeguarding procedures (Preparation Phase)

Safe Guarding are to make the airport ready for Low Visibility Procedures before the MET conditions fall below CAT I limits or the limits for departure operations in RVR conditions less than a value of 550m.

7.4.3 General Safeguarding Procedures

SPs are the necessary actions to prepare the airport for LVP. SP shall include:

- Inspection of AGL system - ODM
- Temporary stopping of all works in entire maneuvering area and removal of all equipment/materials from LSA and GPSA – ODM
- Restriction on the movements of vehicles on the movement area - ODM
- Coordination with all airside stakeholders/concerned departments for implementation of LVPs - ODM. (Stakeholders are: SGS, Havas, Airlines, NATS, Customs, RSAF, Saudi OGER, Saudia Maintenance, JetAviation, Arabasco, APSCO/PASCO (MAC) Consortium, Bakri Energy, SAGS (Bus), SANS System Engineering, Terminal Operations, and ARFF).
- Stopping of vehicle movement on the south perimeter service road - ODM
- Alerting FRS to Alert 4W level - ATC
- Manning all available Follow Me Vehicles and keep them in airside ready - ODM
- All GH companies (SGS, HAVAS, NAS, JETAVIATION, ARABASCO) are informed and for each arriving aircraft, one aircraft marshal is designated for each assigned aircraft stand, ready with lighted marshaling wands - ODM
- Pax/Crew Bus Company is informed that SP is initiated - ODM
- SANS System Engineering Department (ILS Operation and Maintenance) is informed and confirmed that they are ready with enough manpower - ATC
- MET is informed that SP is initiated - ATC
- RSAF is informed that SP is initiated - ODM
- During LVPs, airfield lighting shall not be fed from regular electric supply. When SP is activated, airfield duty supervisor (AGL Supervisor) shall start dedicated backup generators and feed the entire airfield lighting systems from backup generators – ODM.

7.4.4 SP Initiation

SP shall be initiated when:

- The RVR for RWY 17/35 is less than 800 m and is forecast to deteriorate to 550 m or less. and/or
- The cloud ceiling is 500ft and the forecast to fall to 200ft or less.
- ATC TWR shall consult MET office for forecast before declaring SP.

7.4.5 SP Cancellation

If SPs are implemented and LVP are not subsequently initiated and MET condition improve (MET conditions improve “TDZ and MID” RVR RWY 17/35 are more than 800m and the cloud ceiling is higher than 500ft) and forecast for more improvement and/or Facilities, equipment and services necessary for CATII operations are degraded and/or the prevailing conditions are considered unsafe for such operations, Then ATC may cancel SP.

ATC TWR shall consult MET office for forecast before canceling SP due to weather improvement.

7.5 Low Visibility Procedures (Operations Phase)

LVPs are the actions to ensure safe operations of aircraft during periods of reduced visibility or low cloud base.

Low Visibility Procedures (LVPs) shall only be declared (by ATC TWR) when:

- Either TDZ or MID RVR RWY 17/35 is less than 550m, and/or,
- Height of cloud ceiling is less than 200ft, and
- Preparation Phase (Safeguarding Procedures) has been completed and the airport is safeguarded and configured for Low Visibility Operations.

TWR shall consult met office for forecast before initiating, suspending and terminating LVP.

- LVP shall only be implemented when SP has been completed and the airport is configured for LVO.
- During LVO, TWYs B, C, J2, J3, J4, J5, J7 and D1 shall not be used, it will be considered as an unserviceable portions during LVO.
- Following equipment shall be serviceable to support ILS CAT II operations for RWY 17/35: **ILS LLZ, GP, ILS DME, AGL, RVR, stand-by power for ILS and AGL**
- In case any, if the above listed equipment becomes unserviceable during LVPs, ILS CAT II operation shall be suspended and information of this case shall be included in ATIS.
- ATC shall implement and cancel LVPs when so required and inform AOC which accordingly will inform ODM and all other concerned agencies/stakeholders.
- ILS Critical and Sensitive Areas are shown in Figure 5-16 shall be available in ATC TWR, AOC and each Follow Me vehicle.
- ATC shall consult with MET before terminating SP/LVPs.
- ATC shall provide necessary cancelation data to ATIS.
- During LVPs, maximum 1 (one) AGL fixture in a row is allowed to be off or broken. More than 1 AGL fixture in a row is not permissible.
- During LVPs, operational disruption on RWY 17/35 PAPI system shall be considered as no-effect on LVPs. LVPs shall continue without PAPIs.
- During LVPs, taxiway edge lights are considered as non-effect on LVPs. LVPs shall continue without taxiway edge lights.
- During LVPs, only ATC TWR AGL Mimic control panel shall be used. Using AGL system from AGL Ground Stations shall not be allowed.
- During LVPs, airfield lighting shall not be fed from regular electric supply. When SP is activated, airfield duty supervisor shall start dedicated backup generators and feed the entire airfield lighting systems from backup generators.

7.6 Implementation of LVP

7.6.1 Equipment/Facilities

7.6.1.1 Instrument Landing System

In order to provide the requisite additional protection for the ILS signals, the Localizer Sensitive Area (LSA) is activated. The LSA for RWY 17/35 extends **minimum 110m** either side of the runway center line commencing at the ILS Localizer and extending the full length of the runway. However, to better safety and to clear GP critical area, the actual holding position distance from RWY centerline to associated taxiway holding positions are:

TWY J, J1, J7, J8 and D1	110 m
TWY A	320 m
TWY B	120 m
TWY J3	135 m
TWY C	110 m
TWY J4	120 m
TWY J5	135 m
TWY J2	120 m

Table 2 Actual Holding Position Distance from RWY Centreline to Associated Taxiway Holding Positions

The LSA must be clear of aircraft, vehicles and other objects whilst landing traffic is within the final fix to that runway. Additionally, certain routes will be closed to aircraft/vehicles.

7.6.1.2 RVR

Runway Visual Range devices are located at 3 locations for RWY 17/35: 1 pair on 35 TDZ, 1 pair in the middle of the RWY, 1 pair at the RWY 17 TDZ. All devices are on the west side of the Runway, approximately 142 m away from the centerline of RWY.

7.6.1.3 RVR Reports:

- ATC shall ensure that the current RVR values for the runway in use are passed to pilots of arriving and departing aircraft during LVP.
- RVR readings shall always be given in the order of the landing or take-off direction (i.e. TDZ, mid-point and stop-end).
- When values for the three RVR positions are passed, the positions need not be identified Provided that the values are given in the correct order, but when only two reports are given, the positions should be identified.

7.6.1.4 Aeronautical Ground Lights (AGL) System

- During LVPs, only ATC TWR AGL Mimic Control panel shall be used. Using AGL system from AGL Ground stations shall not be allowed.
- AGL must be inspected during SP implementation and therefore every subsequent two hours period. These lighting inspections should have priority and, if necessary, aircraft operations may have to be delayed.
- During LVP, no adjustment in lights intensity shall be made without permission from ATC TWR.
- During LVPs, no two adjacent lights will remain unserviceable.
- During LVPs, airfield lighting shall not be fed from regular electric supply. When SP is activated, airfield duty supervisor (AGL Supervisor) shall start dedicated backup generators and feed the entire airfield lighting systems from backup generators.
- Approach and runway lighting appropriate to the conditions must be provided for all operations including during LVPs. The following lighting (7.5.1.2.5 & 7.5.1.5.6) is particularly important when operating during LVPs and assists both pilots and drivers to know where they are in relation to the runway and LSA.

7.6.1.5 Stop-bars

There are two types of stop-bar in use. Each one having its own unique alphanumeric or designator:

- Intermediate stop-bars used at taxiway intersections and other locations at which ATC may wish to hold aircraft or vehicles
- CAT I/II stop-bars located at the outer edge of the LSA. These stop-bars are provided to protect the LSA and typically during LVPs will all be illuminated thereby providing a 'ring of **red**' around the runway.

Note: in case if the stop-bars (CAT I/II stop-bars) became unserviceable during low visibility operations, then operational procedures shall be applied to limit the number of:

- Aircraft on the maneuvering area to one at a time.
  - ATC will allow only one aircraft at the maneuvering area at a time.

- Vehicles on the maneuvering area to the essential minimum;
  - Only Airside OPS vehicles (Airside OPS personnel-Follow Me vehicles) will be allowed to enter the maneuvering area in coordination with ATC while other departments shall request escorting service by follow me vehicles (Airside Operations department) whenever required (The request shall be through the ODM and AOC at Tel Ext. No. 8888).

7.6.1.6 Runway Guard Lights (Wig-Wags)

CAT I/II holding position stop-bars are supplemented by Wig-Wags (**amber** flashing lights). During LVP operations, it is practice to illuminate the stop-bar at the holding point which borders the LSA. Intermediate stop-bars do not have wig-wags.

7.6.1.7 Runway Centerline Lights

This is white but color coded towards the end of the runway. At 900m from the end, the lighting becomes alternate white/red and in the final 300m become red.

7.6.1.8 Power Supplies

It is essential that there is a continuous power supply whilst aircraft are operating during LVPs. In practice this means that in the event of a power failure, the standby system must be available immediately (within one second), however standby generators, while not working, cannot meet this requirement. Therefore starting from safeguarding, airfield lighting shall not be fed from regular electric supply. When SP is activated, airfield duty supervisor shall start dedicated backup generators and feed the entire airfield lighting systems from backup generators.

PMIA RWY 17/35 is equipped with UPS which can sustain the entire RWY 17/35 and associated TWYs for 8 minutes. Under normal conditions, UPS will be operational. However, in cases where the UPS is reported non-operational, during LVPs it is practice to use the standby generators and use the 'mains' supply as the standby facility. This changeover, if required, can meet the time criteria. In the event that standby generators fail and power switches to the mains supply, operations should be drawn to a close until such time as a suitable secondary power supply which can achieve a one second changeover is restored.

7.6.1.9 Runways

Runway 17/35 is the equipped runway in terms of ILS and lighting requirements and therefore PMIA will revert to single runway operations with the onset of an 'LVP' state.

7.6.2 Movement Rates

Due to the above requirement to keep the LSA clear during aircraft landings, it is inevitable that there will be a significant reduction in aircraft movement.
ATC will also experience increased difficulty in the expeditious movement of vehicular traffic. Thus;

- PMIA shall have maximum 2 landings and 1 departure at the same time.
- In case of radar outage, maximum of one landing and one departure at the same time are permitted at PMIA.
- During Low Visibility Procedures at PMIA, operations (ARR & DEP) of code F aircraft are not permitted.
- In case if the stop-bars (CAT I/ll stop-bars) became unserviceable during low visibility operations, aircraft on the maneuvering area will be reduced to one at a time (Please refer to Section No. 5.16.7.1.6 for more details).

7.6.3 Responsibilities and Procedures

A significant number of personnel are involved in a range of actions which must be completed before the airfield can be deemed to be 'safeguarded'. The various actions are listed below. The 'chain of command' is important here and those responsible for cascading information and those personnel to whom specific actions are delegated must report back when actions are completed thereby ultimately enabling the ODM to be assured that the airfield is safeguarded.

The ODM is then in a position to assure the ATCO Duty Supervisor that all arrangements are in place and CAT ll approaches may then commence.

7.6.3.1 ATCO Duty Supervisor

The ATCO Duty Supervisor is responsible for:

- Notifying the AOC when Safeguarding action is required
- Declare Alert 4W level.
- Informing the AOC when the LVPs state changes
- Ensuring that a general broadcast is made by ATC on 121.9 MHz "LVPs imminent, all free ranging vehicles are to vacate the maneuvering area immediately. All vehicles unable to do so are to advise ATC immediately" ATC are to repeat this message every 10 minutes for 30 minutes.
- Selecting the appropriate AGL setting on the AGL panel for LVPs.
- Terminating SPs/LVPs
- Notifying the AOC when all SPs/LVPs are cancelled
- Communicating LVPs via ATIS.

7.6.3.2 Airport Duty Manager

When informed by AOC that Safeguarding action is required, the ODM is responsible for taking the following actions:

- Completing Safeguarding Procedures
- Removing all contractors from the maneuvering area
- Securing all access gates with assistance from Airfield Security (RSAF).
- Closing the vehicle circulation on Perimeter Fence Road at north and south side (RWY 17 and RWY 35). The exact location where the vehicle traffic will be stopped is 200 m away from the RWY 17 and RWY 35 runway edge on RWY's each side. GPSA markers are installed to provide exact location of stopping.
- Activate LVPs Signage. The LVPs signage is distributed throughout the airside to allow vehicle drivers to be aware of the LVPs.

NOTE: As an additional control that would ensure high protection level for critical and sensitive areas of ILS localizer and Glide path, Tibah had configured a geo-fencing parameters on the vehicle tracking system (VTS) and identified the critical and sensitive areas to ensure non entry of unauthorized vehicles. Accordingly, the VTS system will alert the system users (Safety, Airside Operations and AOC personnel) and notify for an entry of unauthorized vehicle to the critical and/or sensitive areas. Upon that, VTS user will respond and prevent any unauthorized entry to sensitive/critical areas.

7.6.3.3 Vehicle Drivers

When informed by the ODM that SPs and LVPs are in force, ALL Vehicle Drivers are responsible for:

- Restricting maneuvering area movements to those which are essential for the safe operation of the airport. Line Supervisors/Manager (and in the final analysis the ODM) will determine whether or not vehicle movements are deemed necessary
- Do not cross taxiway crossing points (exp. TWY N and P). TWY crossing during LVPs are forbidden.
- When in doubt about LVPs or whether they remain in force check with the ODM, and not ATC.
- NOT crossing illuminated **RED** stop-bars.
- Reporting any unserviceability of equipment, signs or lighting to the AOC/ODM without delay.
- Operating with TWO personnel in the vehicle whenever LVPs is in force.
- During LVO, only Airside operation personnel are allowed to enter the maneuvering area in coordination with ATC (ATC permission through VHF radio) however, other department's personnel (including SANS SME and AGL) are NOT allowed to enter the maneuvering area during LVO unless escorted by airside operation vehicle (FOLLOW ME VEHICLES).

7.6.3.4 Fire Rescue Services

During all LVPs states the FRS are to standby on the stations while the major foam tenders are running and manned with necessary staff wearing proper PPEs.

7.6.3.5 Meteorology Station Maneuvering Area Activities

In case GAMEP (General Authority of Meteorology and Environmental Protection) personnel are required to move on the maneuvering area, such as controlling RVR units, a Follow Me Vehicle shall provide the needed transportation at all times during LVO.

7.6.4 Equipment Failures

7.6.4.1 Aerodrome Lighting - Airfield Lighting (AFL)

In the event of any lighting unserviceability or deficiency, the ODM is to be informed immediately.

The ODM is responsible for:

- Informing/ensuring that ATC is aware of the problem
- Contacting the AFL Duty technicians to ascertain the exact nature of the lighting deficiency
- Informing the ATC Duty Manager of the deficiency, agreeing the implication for aircraft operations and determining what actions are to be taken
- Taking necessary actions to enable continued operation of the aerodrome in the prevailing conditions.
- Promulgating any operational changes without delay via proposing a NOTAM to ATC.

7.6.5 LVP (ILS CAT II) termination (Termination phase)

Termination Phase is established to facilitate a smooth transition back to normal operations.

ATC TWR may/shall terminate LVPs when:

- MET conditions improve and TDZ and MID RVR RWY 35/17 are 550m or more and/or visibility is 800m or more and height of cloud ceiling is 300FT or higher, and forecast for more improvement.
- Facilities, equipment and services necessary for CATII operations are degraded and/or the prevailing conditions are considered unsafe for such operations.*

* ***NOTE:*** *If the degrading expected to be solved in short period of time, LVP shall be suspended (not terminated).*

- On termination of LVPs, ATC TWR shall update the ATIS and include — Low Visibility Procedures CAT II are terminated — in the subsequent tow ATIS broadcasts.
- TWR once terminates LVPs, shall Inform AOC which accordingly will inform all other concerned agencies/stakeholders.

7.6.6 Suspension of LVP ILS CAT II

If the weather condition deteriorates and either RVR falls below 350m and/or cloud ceiling falls below 100 ft., ATC TWR shall suspend ILS CAT II operation until weather condition improves to ILS CAT II requirements.

7.7 Aircraft Movement within maneuvering area during Low Visibility Operations

7.7.1 General Rules

- During LVO, aircraft routing will vary depending on aircraft location. All aircraft require ATC clearance prior to entering any aircraft maneuvering area. PMIA Airside Operations will provide ‘follow me’ service for aircraft at all times on the movement area. During LVPs, only RWY 17/35 will be used as active runway.
- During LVO, TWYs B, C, D1, J2, J3, J4, J5 & J7 shall not be used, it will be considered as an unserviceable portions during LVO.
- During LVO, all landing aircraft will be escorted with Follow Me until East Apron to the assigned aircraft parking stand. After landing, the meeting points of the aircraft with follow me vehicle are as below **(Figure 1)**:
  - After vacating RWY 35 – TWY J8/ TWY D, after Runway Vacated (Runway Hold Short) sign (in order to allow the aircraft to clear LSA).
  - After vacating RWY 17 – TWY J/TWY A, after Runway Vacated (Runway Hold Short) sign (in order to allow the aircraft to clear LSA).

- During LVPs, all departing aircrafts will be escorted with Follow Me until RWY 17/35. The meeting point for departing aircraft and Follow Me vehicle is immediately after the push back on related Taxiway such as TWY L, TWY M, TWY D, TWY R or TWY S.
- For departing aircraft, follow me service termination point is on TWY J/TWY A Runway Hold Short for RWY 35 or TWY J8/TWY D Runway Hold Short for RWY 17 **(Figure 2).**
- After the termination of departing aircraft follow me service, the follow me vehicle shall vacate the active taxiway to safety area, at least 51 m., report to ATC as all active area clear and follow me service is completed, wait in this position until the aircraft takes-off **(Figure 3).**

7.7.2 LVPs Taxi routes for Departure & Landing Aircrafts

7.7.2.1 Departure Taxi Route for RWY 17

→ **From East Apron Stands 103 until 120 (incl. 120) and Stands 127, 128, 129, 130 and 131:**
- Step 1: Push Back onto TWY L facing north.
- Step 2: Taxi on TWY L until TWY P, left turn and join TWY P, right turn onto TWY J.
- Step 3: Taxi on TWY J until TWY J8, holding short for RWY 17.

→ **From East Apron Stands 121 until 126 (incl.126) and Stands 132, 133, 134 and 135:**
- Step 1: Push back onto TWY M facing north.
- Step 2: Taxi on TWY M until TWY P, left turn and join TWY P, cross TWY L, right turn onto TWY J.
- Step 3: Taxi on TWY J until TWY J8, holding short for RWY 17.

→ **From West Apron Commercial Stands:**
- Step 1: Pushed back as prescribed in AIP.
- Step 2: Taxi on TWY D to Holding position RWY 17.

→ **From Royal Terminal and West remote Apron:**
- Step 1: Pushed back as prescribed in AIP.
- Step 2: Taxi on TWY R until TWY D, left turn and join TWY D.
- Taxi on TWY D Holding position RWY 17.

7.7.2.2 Departure Taxi Route for RWY 35

→ **From East Apron Stands 103 and 104:**
- Step 1: Push Back onto TWY L, facing north
- Step 2: Taxi on TWY L until TWY K, left turn and join TWY K, left turn onto TWY J.
- Step 3: Taxi on TWY J until TWY J holding position for RWY 35, holding short for RWY 35.

→ **From East Apron Stands 105 until 120 (incl.120) and Stands 127, 128, 129, 130 and 131:**
- Step 1: Push back onto TWY L facing south.
- Step 2: Taxi on TWY L until TWY K, right turn and join TWY K, left turn join TWY J.
- Step 3: Taxi on TWY J until TWY J holding position for RWY 35, holding short for RWY 35.

→ **From East Apron Stands 121, 122, 123, 124, 125 and 126:**
- Step 1: Push back onto TWY M, facing north
- Step 2: Taxi on TWY M until TWY N, left turn and join TWY N, left turn and join TWY L.
- Step 3: Taxi on TWY L until TWY K, right turn and join TWY K, left turn join TWY J.
- Step 4: Taxi on TWY J until TWY J holding position for RWY 35, holding short for RWY 35.

→ **From East Apron Stands 132, 133, 134 and 135:**
- Step 1: Push back onto TWY M, facing south
- Step 2: Taxi on TWY M until TWY N, right turn and join TWY N, left turn and join TWY L.
- Step 3: Taxi on TWY L until TWY K, right turn and join TWY K, left turn join TWY J.

- Step 4: Taxi on TWY J until TWY J holding position for RWY 35, holding short for RWY 35.

→ **From West Apron Commercial Stands:**
- Step 1: Pushed back as prescribed in AIP.
- Step 2: Taxi on TWY D until TWY A, turn left and join TWY A.
- Step 3: Cross RWY 18/36 via TWY A until holding position for RWY 35

→ **From Royal Terminal and West remote Apron:**
- Step 1: Pushed back as prescribed in AIP.
- Step 2: Taxi on TWY R until TWY D, right turn and join TWY D.
- Step 3: Taxi on TWY D until TWY A, turn left and join TWY A.
- Step 4: Cross RWY 18/36 via TWY A until holding position for RWY 35

7.7.2.3 Arriving Aircraft Taxi Route - RWY 35

→ **For East Apron Stands 103 until 120 (incl.120) and Stands 127, 128, 129, 130 and 131:**
- Step 1: Vacate RWY 35 via TWY J8.
- Step 2: Taxi onto TWY J, taxi until TWY P, left turn onto TWY P.
- Step 3: Taxi until TWY L, right turn onto TWY L to proceed to assigned stand.

→ **For East Apron Stands 121, 122, 123, 124, 125, 126, 132, 133, 134 and 135:**
- Step 1: Vacate RWY 35 via TWY J8.
- Step 2: Taxi onto TWY J, taxi until TWY P, left turn onto TWY P.
- Step 3: Taxi until TWY M, right turn and join TWY M to proceed to assigned stand.

→ **For West Apron Stands 01, 02, 03, 04, 05, 06, 07, 08 and 09:**
- Step 1: Vacate RWY 35 via TWY D.
- Step 2: Taxi on TWY D to assigned stand.

→ **For West Apron Stands 10, 11, 12and 13:**
- Step 1: Vacate RWY 35 via TWY D.
- Step 2: Taxi on TWY D until TWY S.
- Step 3: Taxi to assigned stand via TWY S.

→ **For Royal Apron and West remote parking:**
- Step 1: Vacate RWY 35 via TWY D.
- Step 2: Taxi on TWY D until TWY R.
- Step 3: Taxi to assigned stand via TWY R.

7.7.2.4 Arriving Aircraft Taxi Route - RWY 17

→ **For East Apron Stands 103 and 104:**
- Step 1: Vacate RWY 17 via TWY J.
- Step 2: Taxi on TWY J, continue until TWY K, right turn and join TWY K, right turn and join TWY L.
- Step 3: Proceed to assigned stand.

→ **For East Apron Stands 105 until 120 (incl.120) and Stands 127, 128, 129, 130 and 131:**
- Step 1: Vacate RWY 17 via TWY J.

- Step 2: Taxi on TWY J, continue until TWY K, right turn and join TWY K, left turn and join TWY L (for Stand 105, taxi directly on Stand Lead-In Line)
- Step 3: Proceed to assigned stand.

→ **For East Apron Stands 121 until 126 (incl. 126):**

- Step 1: Vacate RWY 17 via TWY J.
- Step 2: Taxi on TWY J, continue until TWY K, right turn and join TWY K, left turn and join TWY L.
- Step 3: Taxi on TWY L until TWY N, right turn and join TWY N, right turn and join TWY M.
- Step 4: Proceed to assigned stands.

→ **For East Apron Stands 132, 133, 134 and 135:**

- Step 1: Vacate RWY 17 via TWY J.
- Step 2: Taxi on TWY J, continue until TWY K, right turn and join TWY K, left turn and join TWY L.
- Step 3: Taxi on TWY L until TWY N, right turn and join TWY N, left turn and join TWY M.
- Step 4: Proceed to assigned stands.

→ **For West Apron Stands 01, 02, 03, 04, 05, 06, 07, 08 and 09:**

- Step 1: Vacate RWY 17 via TWY A.
- Step 2: Taxi on TWY A, cross RWY 18/36.
- Step 3: Join TWY D via TWY A.
- Step 3: Taxi on TWY D and proceed to assigned stand.

→ **For West Apron Stands 10, 11, 12and 13:**

- Step 1: Vacate RWY 17 via TWY A.
- Step 2: Taxi on TWY A, cross RWY 18/36 and join TWY D.
- Step 3: Taxi on TWY D until TWY S, proceed to assigned stand.

→ **For Royal Apron and West remote parking:**

- Step 1: Vacate RWY 17 via TWY A.
- Step 2: Taxi on TWY A, cross RWY 18/36 and join TWY D.
- Step 3: Taxi on TWY D until TWY R, proceed to assigned stand.

7.8 Process Flowchart

N.A

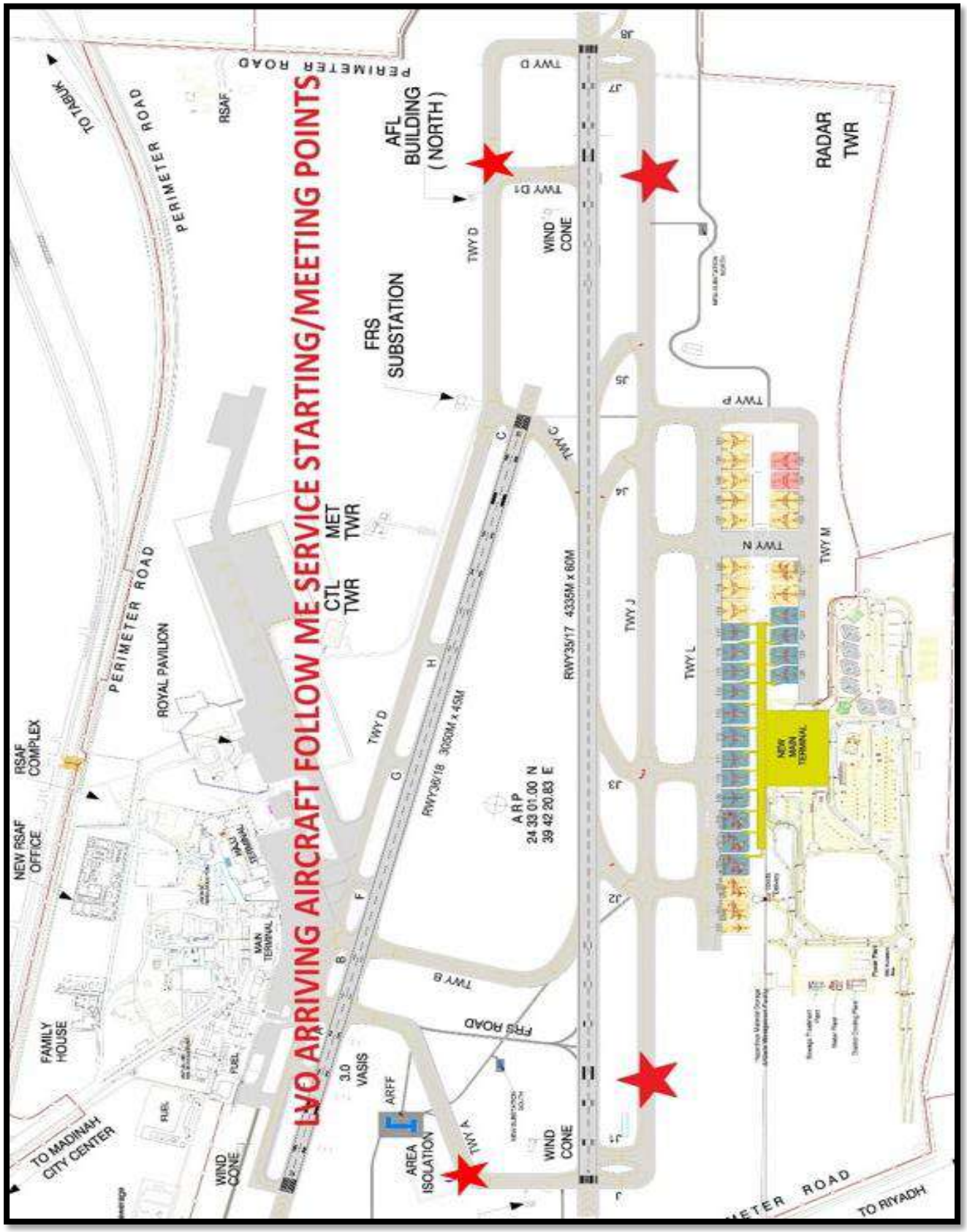

Figure 1 LVO Arriving Aircraft Follow Me Service Starting/Meeting Points

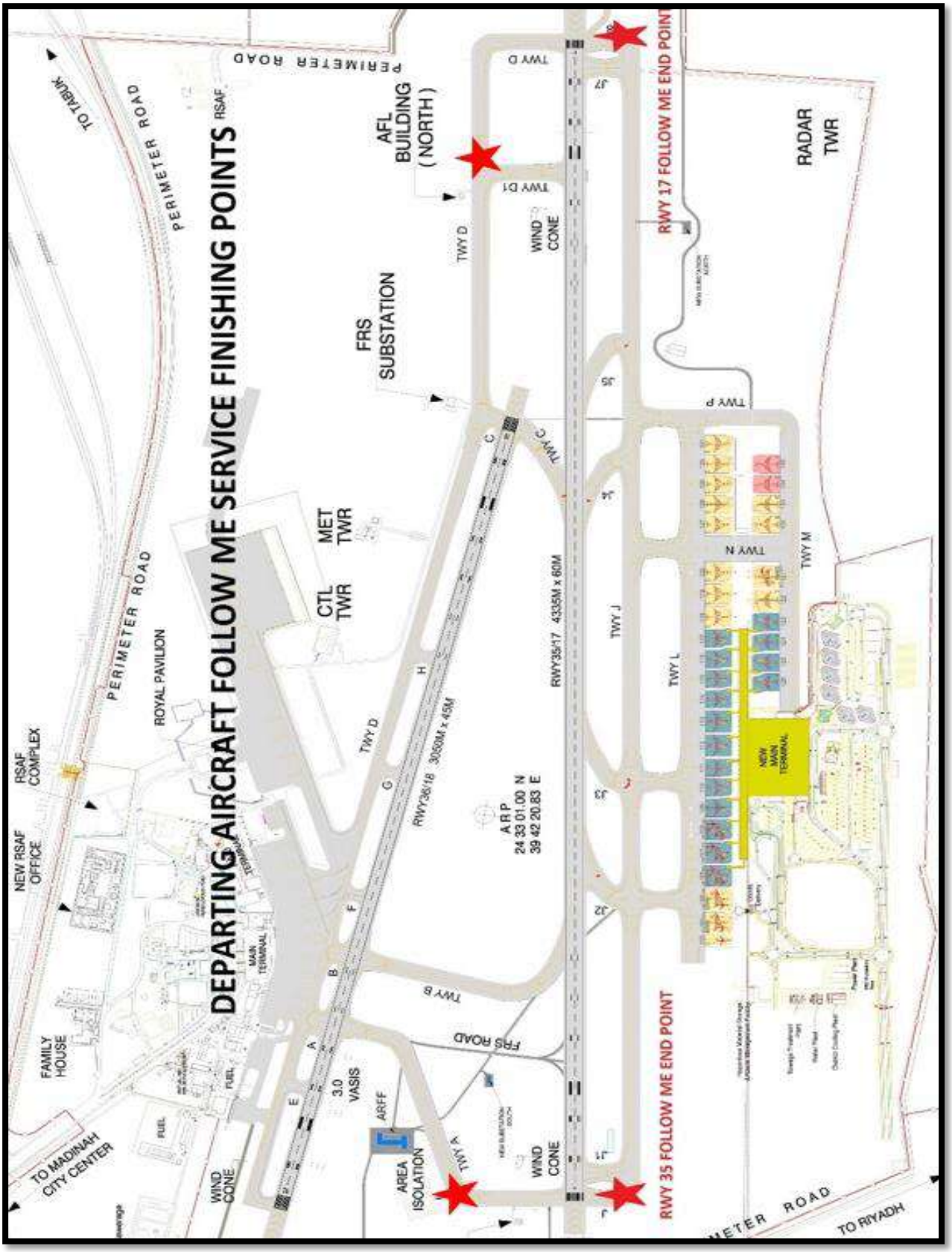

Figure 2 Departing Aircraft Aircraft Follow Me Service Finishing Points

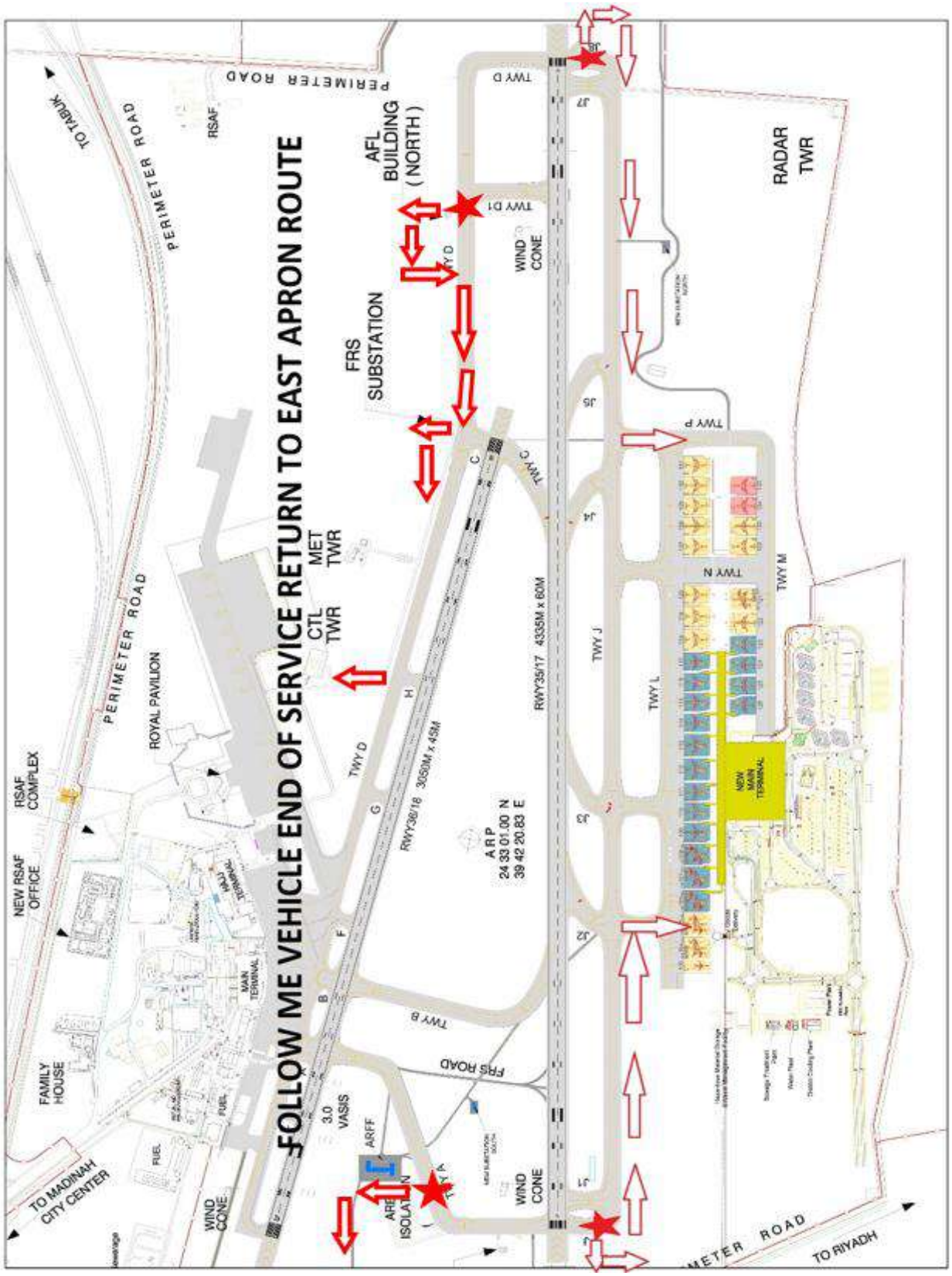

Figure 3 Follow Me Vehicles End of Service Return to East/West Apron Routes

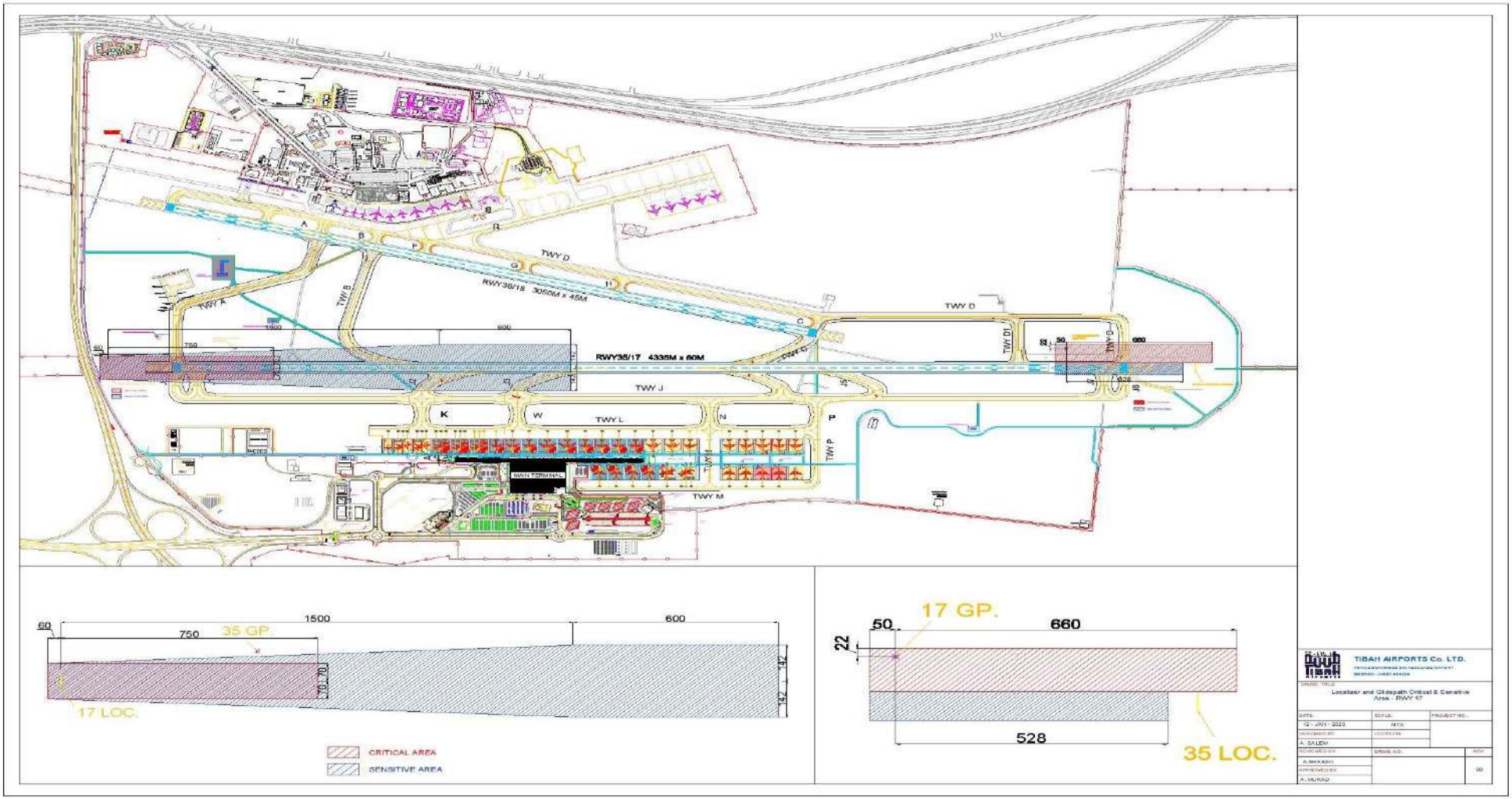

Figure 4 OEMA-Localizer& Glide Path CATII-Critical & Sensitive Area

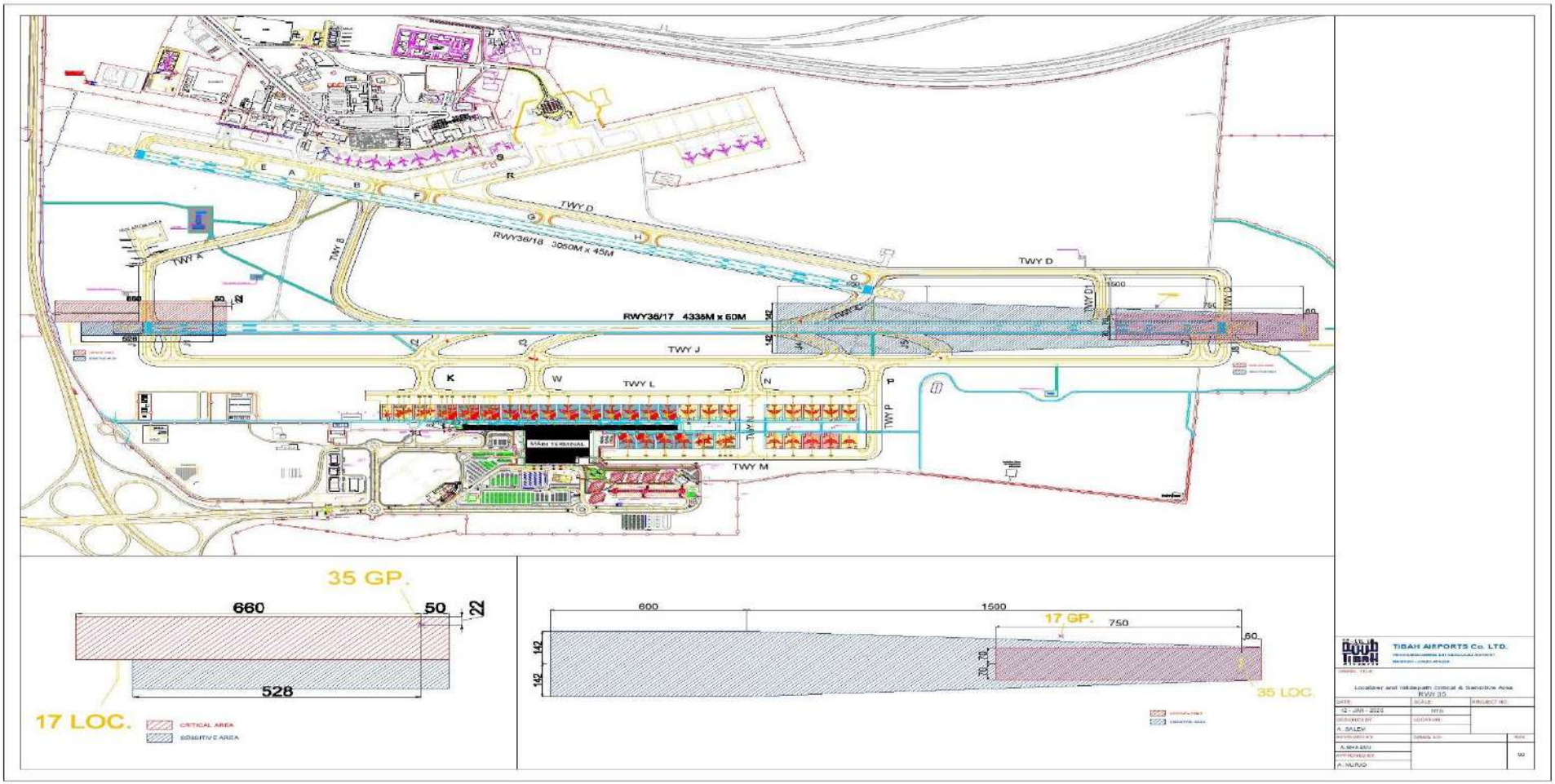

Figure 5 OEMA-Localizer& Glide Path CATII-Critical & Sensitive Area

8.0 Abbreviations and Acronyms

AGL	Aeronautical Ground Light
AOC	Airport Operations Center
ATC	Air Traffic Control
ATIS	Automatic Terminal Information services.
FRS	Fire and Rescue Service
GAME	General Authority of Meteorology and Environment
GP	Glide Path
GPSA	Glide Path Sensitive Area
ILS	Instrument Landing System
LLZ	Localizer
LSA	Localizer Sensitive Area
LVO	Low Visibility Operations
LVP	Low Visibility Procedures
MET	Meteorological, or Meteorology
MID	Mid-Point
ODM	Operations Duty Manager
PAPI	Precision Approach Path Indicator.
RVR	Runway Visual Range
SP	Safe Guarding Procedures
TDZ	Touchdown Zone
TWR	Airport Tower

Further Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

REDUCED AERODROME VISIBILITY PROCEDURES (RAVP)

Document Number:	TIBAH-AIROPS-SOP-38
Document Owner:	Safety and Aerodrome Operations Directorate
Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	Updated GACA regulations (GACAR 139—D7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

The safety of ground movements must be maintained all the times at OEMA. During reduced visibility, PMIA ATS Unit has adopted safe ATC procedures to support continuity of aircraft operations at OEMA. However, ATCOs manage traffic that is unsighted or with very limited visibility. The main safety concern is with controlling ground movements from/to maneuvering area during reduced visibility.

1.1 Regulation and Reference Documents

- PMIA Aerodrome Manual
- GACAR 139

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 6.1; 7.5 and 8.1
- ISO 14001:2015 Clauses 6.1; and 7.5

2.0 Purpose

This document defines the procedures of reporting technical defects within aerodrome (Movement area).

3.0 Relevant Stakeholders

Direct Use	Aware Of
Service Providers, Stakeholders and All Airport Users	GACA
SANS – MED ATSU	Stakeholders
Safety & Aerodrome OPS Directorate	

4.0 Scope

This SOP dictates the required procedures during aerodrome reduced visibility. These procedures must be applied when the surface visibility values reading reaches 1200 meters and/or RVR 800m.

5.0 Applicable Areas within the Airfield

All Airport Areas.

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Implementation of Aerodrome Reduced visibility procedures (**RAVP**)	When the surface visibility values reading reaches 1200 meters and/or RVR 800m	Safe and continuous operation at PMIA	MED-ATSU and AOC	Safe and continuous operation at PMIA	When the surface visibility values reading reaches 1200 meters and/or RVR 800m these procedures must be implemented (100% compliance)

7.0 Process Description

7.1 Purpose

The safety of ground movements must be maintained all the times at OEMA. During reduced visibility, PMIA ATS Unit has adopted safe ATC procedures to support continuity of aircraft operations at OEMA. However, ATCOs manage traffic that is unsighted or with very limited visibility. The main safety concern is with controlling ground movements from/to maneuvering area during reduced visibility.

Therefore, safeguarding measures must be implemented during Reduced Aerodrome Visibility Condition (RAVC) to allow ATCOs to have the required level of confidence that there is no obstruction within operational areas when they clear an aircraft for take-off and landing or issuing taxi instructions. The protection is mainly related to vehicles movements and ILS CSA.

For the continuity of safe services and in spirit of cooperation in between, PMIA ATS Unit and TIBAH agreed on the following:

7.1.1 RAVP Reporting

When the surface visibility values reading reaches 1200 meters and/or RVR 800m, TWR shall inform the AOC to initiate the implementation of safeguarding procedures to ensure that all ground movements from/to maneuvering area are fully controlled and known for ATCOs at the Control Tower, as they cannot maintain visual surveillance over the maneuvering area.

7.1.2 Safeguarding of Ground Movements (RAVP)

Upon receiving this notification stating that visibility reduced as indicated above, following safeguarding procedures must be applied:

- AOC; Notify all concerned agencies / stakeholders that the airport is under reduced Visibility Procedures;
- Safety and Aerodrome operation in coordination with MED-ATSU; Restrict the movement of vehicles on the movement area (maneuvering area & aprons) to the essential minimum.
- Aerodrome operation, SANS SME and Technical department; terminate all works in progress and withdrawal all equipment/materials from LLZ and GP sensitive areas and the maneuvering area.
- Aerodrome Operation; Ensure that Follow-me vehicles are available at aprons and maintain listening watch on ATC TWR Ground frequency.
- Once the safeguarding measures listed above are completed, AOC shall inform ODM and ATC TWR.

7.1.3 Cancellation of Restrictions on Ground Movements

When visibility improves and Tower visibility is assessed to be sufficient for visual surveillance, ATC TWR shall notify AOC that normal operations resume. The AOC must notify all concerned agencies / stakeholders that restrictions on ground movements are lifted and the airport is under normal operations.

7.2 Process Flowchart

N/A.

8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

AERODROME OPERATIONS DURING ADVERSE WEATHER

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Document Owner:	Safety and Aerodrome Operations Directorate
Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	Updated GACA regulations (GACAR 139—D7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

This procedures (SOPs) explain required steps that must be followed in case if adverse weather, strong wind and Low /Reduced visibility condition being predicted by METO office.

NOTE: Low Visibility Procedures are provided in Aerodrome Manual, Section 5.16 and SOP No. 37; while Aerodrome Reduced Visibility Procedures are provided in this document, SOP No. 38.

1.1 Regulation and Reference Documents

- PMIA Aerodrome Manual
- GACAR 139

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 6.1; 7.5 and 8.1
- ISO 14001:2015 Clauses 6.1; and 7.5

2.0 Purpose

This document defines the procedure to be followed in the event of adverse weather and thunderstorm activity.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Safety & Aerodrome Operation Directorate	GACA Airport Authority
Tibah Operations Duty Manager	All Stakeholders & Service Providers
Tibah Airport Operations Center	
Air Navigation Services (ATC)	
Meteorological Department (METO Office)	

4.0 Scope

This SOP dictates the required and preventive measures when having thunderstorm at PMIA. It explains the process of receiving the weather information, the preventive actions that should be taken by the airport staff, and the tasks under airside operations department.

5.0 Applicable Areas within the Airfield

N/A.

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Monitoring Weather Forecasts	Safety & Aerodrome operations directorate should maintain general awareness of weather prospects	Readiness for any adverse weather or thunderstorm hazards	PMIA METO Office will inform ATC and AOC. AOC will broadcast warning message to airport community (Stakeholders)	FAX device or email	Compliance 100%

7.0 Process Description

7.1 Weather Information and Readiness

The Safety & Aerodrome operations directorate will maintains a general awareness of weather prospects by monitoring the prevailing weather Forecasts.
PMIA METO Office will issue a Thunderstorm Warning (or any other warning related to weather) directly to the ATC and Airport operations center - AOC (via FAX device or electronically through email or MET webpage) when forecast weather conditions present a significant risk of thunderstorm activity in the vicinity of PMIA. Such warnings may be valid for up to 24 hours although may give short notice of the arrival of storms. Upon receiving such warnings, the AOC will issue a warning message to the airport community if thunderstorm/weather conditions are apparent in the vicinity of the airport even if no warning has been issued by PMIA METO Office.

Thunderstorms represent a hazard to airport operations due to the potential for:

- Lightning bolts striking aircraft, vehicles, buildings or persons
- Very heavy rain or hail
- Poor visibility (Low Visibility; RVR less than 550 m or cloud ceiling less than 200ft but more than 100ft)
- Strong gusty winds
- Wind shear
- Interference with radio transmissions and compasses
- Electrical outages

7.2 Preventative Actions by Airport Staff

- Tibah Airport operation duty manager (ODM) will inform ATC Duty Manager that a warning has been issued covering all stakeholder employees working in airside.
- When Visibility reduced to 800m/RVR to 550m or less or cloud celling reduced to 200 and less, ATC or AOC will accordingly declare Alert 4-W (further details available in Aerodrome Emergency Response Manual – Alert 4W).
- When wind speed exceed 25 knot, ATC or AOC will accordingly declare Alert 4-W (further details available in Aerodrome Emergency Response Manual – Alert 4W).
- Owing to the potential hazards prevalent during thunderstorms, certain preventative measures should be taken as well as airlines and other service providers will activate adverse weather policy.
- All companies operating within airside should regularly review the risks arising from thunderstorm activity on their operations and ensure that policies, risk assessments are documented procedures are in place.
- When in doubt, all airside workers/stakeholder must consult with Aerodrome Operations team.
- If lightning strike reported with 5 km around PMIA by METO office, ACFT Refueling and headset service must be suspended until the risk terminated (ODM shall coordinate with METO office)

7.3 Tasks under Aerodrome Operations Department

- The Aerodrome Operations staff responsible to follow-up the safe and secured implementation of the above mentioned aerodrome operations procedures and events.
- In such hazardous weather, aerodrome operations staff must conduct continuous apron and maneuvering area inspections ensuring safe operations in coordination with ATC.
- Any unsafe condition/occurrences must be reported immediately to ATC and AOC.
- Any unsafe condition/occurrences must be reported through SMS Pro. Reporting system (www.pmiasafety.com).

7.4 Associated Ops Records as Follows:

- The aerodrome operations staff are responsible to maintain any valuable records related to the above mentioned aerodrome operations events and activities.

7.5 Strong Wind & Gale (Storm) Plan

7.5.1 Definition of wind conditions

- Strong Wind - Mean speed 24+ kts
- Gale Force Wind - Mean speed 34+ kts
- Severe Gale Force Wind - Mean speed 44+ kts
- Storm Force Wind - Mean speed 52+ kts
- Violent Storm Force Wind - Mean speed 60+ kts

7.5.2 Notification

METO Office will issue Strong Wind and Gale Warnings direct to the ATC and AOC (via fax device or email). Accordingly, AOC must inform Tibah operations duty manager (ODM), aerodrome operations and Safety team and all service providers.

Response actions:

7.5.2.1 Tibah Airport operations duty manager (ODM) is responsible for:

- Inform entire airport departments through available warning means such as notification boards, emails or through telephone (activate alert 4W if needed).
- Instigating inspections to ensure that the possibility of FOD blowing on the movement areas is minimized in coordination with Aerodrome OPS and ATC (the inspection will be conducted by aerodrome operations team once warning is received)
- Instigating inspections to ensure that apron equipment is secured and parked appropriately in order to minimize the possibility of such equipment blowing on to persons, aircraft or vehicles in coordination with Aerodrome OPS and safety team (inspection will be conducted by Aerodrome operations staff and Safety inspectors as well).
- Through Aerodrome operations staff, ODM responsible of Ensuring that any construction contractors in airside areas take appropriate action to secure equipment and materials, as well as lowering cranes etc. when appropriate
- Instigating inspections to ensure aircraft are adequately chocked and/or tied down to prevent weather cocking (Through Aerodrome operations staff and handling agencies).
- Coordinate with Passenger Boarding Staff (PBB) ensuring that all out of use air bridges are retracted, lowered to their lower limits and parked correctly with shutters down and doors closed. Follow-up inspections will be undertaken by Aerodrome operations staff and safety inspectors.

7.5.2.2 Handling Agents and other ramp staff are responsible for:

- Activate company's strong wind policy.
- ULD's to be checked to ensure they are correctly racked with stops' raised. Where possible towing EMPTY ULD containers should be avoided during strong winds.
- Steps and other lift-equipment must be fully lowered and, where possible, turned into wind with stabilizers down and brakes ON.
- Ensuring that all covers on trucks and trailers are lashed down

- Ensuring that parked steps have stabilizers down and brakes on
- Check that all equipment is correctly parked and secured
- Removing any items of litter or debris that are likely to constitute a FOD Hazard to aircraft.

7.5.2.3 Aircraft Engineers are responsible for:

- Activate company's strong wind policy
- Ensuring aircraft are fully and well chocked and the parking brake reset at regular intervals in accordance with company and aircraft manufacturer requirements.

7.5.2.4 Non-standard parking of aircraft

Parked aircraft may sustain damage to control surfaces or may risk ground-swinging in strong wind conditions. It will be for airlines and aircraft engineers to determine whether it is desirable to park any particular aircraft facing into the prevailing wind.
When this is the case the relevant operator must contact Airport Operations Center (AOC) and make this request. Aircraft must not be re-positioned without approval from the ATC.
The ATC and ODM will consider the practicality of non-standard parking and will consult with Aerodrome Operations team should any possibility of impact on taxiway strips and adjacent stands be suspected.
Permission to park non-standard will be given only by the ODM in close contact with ATC. If necessary the ODM will discuss requirements with the operator's representative. Aircraft will not normally be allowed to park non-standard under their own power but will require to be re-positioned by a tug after arrival and disembarkation. Likewise, aircraft parked non-standard into wind will not normally be permitted to self-maneuver off stand due to the hazards posed by jet blast, particularly on pier-served/contact stands.

7.6 Process Flowchart

N/A.

8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

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Standard Operating Procedure (SOP)

DIVERTED FLIGHTS PROCEDURE

Document Number:	TIBAH-AIROPS-SOP-40
Document Owner:	Safety and Aerodrome Operations Directorate
Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Selim Telmoudi & Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	Updated GACA regulations (GACAR 139—D7)	All	Hassan Al Bar Selim Telmoudi

1.0 Introduction

This procedure is intended to provide airport service to users, visitors, Tibah's (Stakeholders), employees, with clear guidance on the rules, responsibilities related to diverted flights from/to Prince Mohammed Bin Abdulaziz International Airport.
Set out the arrangements to meet operational requirements and passenger satisfaction.
Make best use of available resources for smooth and safe operation.
Increase the operations control over the activities of the airport aprons & terminals.
The purpose of this procedure is to supply the AOC, ODMs and TO staff with a guide containing practical recommendations and directions related to their function and their tasks in case of diverted flight from/to Prince Mohammed Bin Abdulaziz International Airport.

1.1 Regulation and Reference Documents

- PMIA Emergency Response Plan
- Customer Complaints & Feedback Handling Manual

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 6.1; 7.5 and 8.1
- ISO 14001:2015 Clauses 6.1; and 7.5

2.0 Purpose

This procedure is intended to provide clear guidance on the rules, responsibilities when having diverted flights from/to Prince Mohammed Bin Abdulaziz International Airport.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Airport Operations Center (AOC)	Safety & Aerodrome OPS Directorate
Tibah Terminal Operations	GACA Aviation Standards
Tibah PBB and BHS team	GACA Airport Authority
MED-ATSU	Service Providers and Stakeholders
Safety & Aerodrome OPS	

4.0 Scope

This procedure is intended to provide clear guidance on the rules, responsibilities when having diverted flights from/to Prince Mohammed Bin Abdulaziz International Airport.

5.0 Applicable Areas within the Airfield

N/A.

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Diverted Flights from/To PMIA	AOC, Upon the receipt of a diverted ACFT report from MED ATSU (official source of information), AOC will inform immediately the ODM, Safety, Aerodrome OPS, Terminal OPS and ARFF (related notification list will be updated) and will explain the reason of these diversions and sources of information	Safe and smooth OPS	AOC and FIDS	Safe, continuous and smooth OPS	AOC must update the FIDS and must communicate related department immediately (100% Compliance)

7.0 Process Description

7.1 Diversions from PMIA

For any case, that can happen in PMIA, as weather, airports security, systems conditions, some flights can be diverted to others airports. When it becomes obvious that there will be a number of diversions, the following points should be considered:

7.1.1 AOC

Airport operation center should:

- Upon the receipt of a diverted ACFT report from MED ATSU (official source of information), AOC will inform immediately the ODM, Safety, Aerodrome OPS, Terminal OPS and ARFF (related notification list will be updated) and will explain the reason of these diversions and sources of information
- Keep full coordination with METEO office (in case of weather condition) through METO telephone No.0148420115
- Update the FIDS ("FLT XXXX Diverted To XXX)
- Keep close coordination with ATC and update all related departments.
- Keep coordination with ATC in order to avoid any congestion when situation back to normal
- Send email to 'IROPS" including all details related to aircrafts
- Keep updating the same email whenever there is an additional information.

7.1.2 ODM

ODM will arrange a brief meeting with related stakeholders. The object of the briefing is to gather information and to disseminate it to all concerned. The following points should be considered:

- Is there an estimate time of arrival from diverted airport?
- Is there any departure affected by the diversion of arrival?

Note: in that case ODM will make sure that departure passengers are well assist by ground handler and airline.

- Contact must be maintained with the airlines to establish which aircrafts have diverted and their destinations.
- Based on the first email sent by AOC related to aircrafts diverted, ODM will send a general mail through AOC to management to inform about all diverted flights and keep updating it each 30 minutes.
- ODM, Should inform all stakeholders through sharing room and write all the information in the sharing report.

7.1.3 Terminal Operations

Terminal operation staff should be close to arrival area in order to guide visitors (waiting for arrival passengers) and reply to their question whenever it is needed.

7.1.4 Information Desk

Information desk staff should be aware and updated about all information related to diverted flights and estimated time for arrivals in order to replay to visitors questions.

7.1.5 Ground Handling Agencies

Ground handler should be ready to such situation and

- Have an internal plan to cover the diverted flights to PMIA

- Make sure that they have enough staff and materiel
- Increase the number of staff in arrival zone to guide passengers
- Dispatch enough number of handling equipment to West apron so they will serve diverted ACFT that might be accommodated at west apron.

7.1.6 Aerodrome Operations

- Upon receipt of an ACFT diversion from PMIA, Airside OPS team must be ready for any request from ATSU or ODM and must respond immediately.
- If reason was strong wind or adverse weather, then at least Two Airside OPS agents must inspect east and west apron ensuring secure ULDs and safe operations.
- Closely coordinate with AOC and ODM and respond to any hazards/undesired occurrence within the movement area.

7.2 Diversions to PMIA

In case of diversions, to PMIA

7.2.1 AOC

The Airport Operation Center should:

- Make sure that there is enough stands position available to receive the coming aircrafts.

Stands position available:

Insure that maximum number of stands position will be available to cover maximum number of aircrafts coming by:

- Keep in mind always that 90% of these flights will keep passengers on board and will wait that situation back to normal to depart from PMIA
- Use all remote MARS stands for Narrow Body aircrafts (104-105-121)
- Use all remote stands that are unused in our operation for the next 6 hours minimum
- Try to manage the operation in order to get more stands available for these flights
- However our stands positions are saturated, AOC should coordinate with ODM, Airside operation and Ground handler that there is possibility to use some stands from West Apron (except Royal stands and stands 8, 9, 10, 11, 12 and 13).
- Keep close coordination with airlines (Airlines must confirm if they need to off-load passengers or not so other related departments must be communicated accordingly)
- Fill the flight data form (Doc # TIBAH-AOC-FRM-04) with correct and clear information and share it later with revenue department for approval.
- Revenue department will verify on monthly basis, before the billing process, all diverted flights mentioned as “technical issue” in AODB to be in conformity with the signed forms. In case of flight with a status “technical landing” in AODB but without a signed form, the revenue department should verify the subject with AOC for a final correction
- In case of flight not considered as “technical issue”, AOC should inform revenue about that normal flight (not planned in slots and there is no representative) to ensure immediate billing payment and the aircraft should not take-off before a confirmation from revenue department to AOC.

Needed information:

- Date
- Flight Number
- ACFT Registration

- ACFT Stand Number
- Actual time of arrival
- Reason of diversion : as declared by MED-ATSU
- Total passengers
- If there is off-load of passengers:
  - Did they left terminal or not?
  - Is there any replacement flight?

- Off-loading gate
- Is there any fueling request

- Keep coordination with ATC in order to avoid any congestion in departures when situation back to normal
- Send email to 'IROPS" including all details related to aircrafts
- Keep updating this email whenever there is an additional information

7.2.2 ODM

ODM will coordinate and inform needed stakeholders. The following points should be considered:

- Has the aircraft landed?
- Will the passengers disembark or remain them inside aircraft?
- Is there an estimate time of arrival to PMIA, and departure from PMIA?
- Ensure that there is enough parking stands for the coming aircrafts.
- Contact must be maintained with the airlines for new estimated time for departure.
- Based on the first email sent by AOC related to aircrafts diverted, ODM will send a general e-mail to management to inform about any action taken related to passengers or airport status.
- ODM, Should inform all stakeholders through sharing room and write all the information in the sharing report.

Note: in case of deplaning of aircraft and some passengers decide to leave the airport:

- **For domestic passengers**, ODM will share this information with all stakeholders and save all necessary information in the sharing report.
- **For international passengers,** ODM will coordinate with immigration for that issue, inform all stakeholders, save all necessary information in sharing report and inform AOC to register it in "Flight Data Form"

7.2.3 Terminal OPS

- Terminal operation staff should be on site (terminal side) and report all actions taken related to passengers
- In coordination with ODM will dedicate suitable terminal/area to receive passengers from diverted ACFT "when required". Terminal/area identification number must be shared with AOC and all involved stakeholders immediately.

Waiting areas:

- Domestic bus gates 201-202: for domestic flights with capacity of 2 flights maximum
- Domestic departures gates: 106-107-108-109: with capacity of 2 flights in each gates if we don't have traffic on it.
  - Coordination must be done with related department (AOC, PBB, GH) to send passengers to departure level

- International bus gates 203-204-205 :with for international flights with capacity of 3 flights maximum
- International departures gates 110-111-112-113-114-115-116-117-123-124-125-126: with capacity of one flight per gate whenever the gate is not useable for current traffic and will not affect it.
    - Coordination must be done with related department (AOC, PBB, GH) to send passengers to departure level

7.2.4 Aerodrome Operations

- Upon receipt of a diverted ACFT report, one Airside OPS agent will immediately move to west apron ensuring readiness of west apron facilities.
- Coordinate with ATSU via VHF radio and respond immediately to any request from MED-ATSU.
- Keep close coordination with AOC and ODM and respond immediately to any request.
- Provide follow me service whenever requested by unfamiliar pilots in coordination with AOC and MED-ATSU
- Increase number of movement area inspections in coordination with MED-ATSU when required
- Monitor closely the main service road (road link west apron by east apron) ensuring safe vehicles and passenger buses flow.

7.2.5 Safety Inspection

- Respond to ACFT stand ensuring safe disembarking process
- Coordinate with AIB and report the case if required
- Coordinate closely with AOC and ODM and respond immediately to any request.
- Report the case through the SMS Pro. If required
- In coordination with Airside OPS, inspect west apron facilities and ensure the area is free from FOD.

7.2.6 ARFF (Airport Fire Fighting and Rescue)

- ARFF vehicles must be ready at ARFF positions
- Upon receipt of ACFT diversion report, the fire control will notify all ARFF staff
- ARFF vehicles and personnel shall be ready and shall respond immediately for any emergency situation
- Keep close coordination with MED-ATSU, AOC and ODM

7.3 Process Flowchart

N.A

8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

SAFETY INFRINGEMENTS

Document Number:	TIBAH-AIROPS-SOP-41
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Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	Updated GACA regulations (GACAR 139—D7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

The authority to impose a strict airside safety regime is derived from the GACA rules and regulations. PMIA employees (Safety & Aerodrome OPS, RSAF and GACA Airport Authority) can only issue a financial penalty.

1.1 Regulation and Reference Documents

- GACAR 139
- GACA infringements rules
- Aerodrome Manual

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.5 and 8.1
- ISO 14001:2015 Clauses 7.5 and 8.1

2.0 Purpose

These document explains the safety infringements at PMIA.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Aerodrome OPS Directorate	All service providers and stakeholders
RSAF	Contractors
GACA Airport Authority	GACA Aviation Standards Sector

4.0 Scope

This SOPs applies to PMIA employees, airlines, handling agents, airport operator personnel and all other aerodrome companies and departments, including contractors, delivery companies, and to any individual temporarily cleared to proceed onto the airside operation area (AOA).

5.0 Applicable Areas within the Airfield

N.A

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Questions arising from individual infringements should be addressed to the Head of Safety Department.	All grievances will be dealt with through the appeals process (within 3 working days from the fine issuance).	Safe OPS at PMIA	Safety department at 813 8333	Safe OPS at PMIA	All grievances will be dealt with through the appeals process (within 3 working days from the fine issuance).

7.0 Process Description

7.1 Authority

The authority to impose a strict airside safety regime is derived from the GACA rules and regulations. PMIA employees can only issue a financial penalty.

7.2 Principles

- Any fine imposed will be issued against the individual involved in the infringement and copy must be shared with the involved employer within max (30) working days.
  (**NOTE**: a fine might be imposed against the involved employer if a violation made where no individual identified)
- Ignorance of rules is not an acceptable excuse.
- Except where a situation is dangerous, or where there is cause to believe that a serious violation may have occurred, airside companies will be given a short time to rectify any faults or spillages.
- Any financial penalties will normally be directed at an airline or their nominated handling agent with the expectation that they would wish to be aware of all violations associated with their turnaround, and that they will recover the costs from their contracted companies.
- For individual infringements, PMIA may recommend a fixed financial penalty. Additionally, a period of further training at the employer's expense may also be imposed.
- Questions arising from individual infringements should be addressed to the Head of Safety Department.
- All grievances will be dealt with through the appeals process (within 3 working days from the fine issuance).
- GACA Airport Director or his duly authorized representative (RSAF, Safety Depart. and Aerodrome Ops Departments) is authorized to violate users in the Air Operations Area (AOA) if safety breach observed through the VTS (Vehicle Tracking System).

7.3 Those Involved

This policy applies to PMIA employees, airlines, handling agents, and all other airside companies, including contractors, delivery companies, and to any individual temporarily cleared to proceed onto the airside.

7.4 Endorsement

The principle of dealing with airside infringements by means of a penalty scheme was approved by GACA.

المخالفات	الجزاءات في المرة الأولى	الجزاءات في المرة الثانية فأكثر
الدخول للمناطق المحظورة بدون إذن مسبق	غرامة 500 ريال + سحب البطاقة الأمنية حتى إتمام دورة تدريبية	غرامة 1500 ريال + سحب رخصة القيادة داخل الساحات حتى إتمام دورة تدريبية
عدم إعطاء الأولوية لعبور الطائرات	غرامة 500 ريال + سحب البطاقة الأمنية حتى إتمام دورة تدريبية	غرامة 1500 ريال + سحب رخصة القيادة داخل الساحات حتى إتمام دورة تدريبية
التدخين داخل ساحات المطار	غرامة 400 ريال + سحب البطاقة الأمنية حتى إتمام دورة تدريبية	غرامة 800 ريال + سحب رخصة القيادة داخل الساحات حتى إتمام دورة تدريبية
التسبب في حادث (سيارة أو طائرة) من جراء الإهمال	غرامة 500 ريال + سحب البطاقة الأمنية حتى إتمام دورة تدريبية	غرامة 1500 ريال + سحب رخصة القيادة داخل الساحات حتى إتمام دورة تدريبية
القيادة بدون الحصول على رخصة قيادة	غرامة 500 ريال + سحب البطاقة الأمنية حتى إتمام دورة تدريبية	غرامة 1500 ريال + سحب البطاقة الأمنية حتى إتمام دورة تدريبية
السير عكس الاتجاه	غرامة 500 ريال + سحب البطاقة الأمنية حتى إتمام دورة تدريبية	غرامة 1500 ريال + سحب رخصة القيادة داخل الساحات حتى إتمام دورة تدريبية
قيادة السيارة / المعدة بطريقة غير آمنة	غرامة 500 ريال + سحب البطاقة الأمنية حتى إتمام دورة تدريبية	غرامة 1500 ريال + سحب رخصة القيادة داخل الساحات حتى إتمام دورة تدريبية
إحضار مواد خطرة إلى المملكة بدون فسح مسبق	خطاب إنذار إلى الشركة الناقلة مع التعهد بعدم تكرار ذلك مع مراعاة إرجاع الشحنة المخالفة على حساب الشركة	غرامة 50000 ألف ريال مع إرجاع الشحنة المخالفة وتحمل جميع النفقات المستلزمة بإرجاع الشحنة على حساب الشركة

Table 3 Penalty Scheme (1 - 2)

المخالفات	الجزاءات في المرة الأولى	الجزاءات في المرة الثانية	الجزاءات في المرة الثالثة
القيادة برخصة قيادة منتهية الصلاحية	غرامة 100 ريال	غرامة 200 ريال + سحب البطاقة الأمنية حتى تجديد الرخصة	غرامة 400 ريال + سحب رخصة القيادة داخل الساحات حتى حضور دورة تدريبية
القيادة بسرعة عالية مع وجود حاويات مقطورة مع المعدة، أو قطر أكثر من 4 حاويات (فارغة أو محملة)	غرامة 200 ريال	غرامة 400 ريال + سحب البطاقة الأمنية حتى حضور دورة تدريبية	غرامة 800 ريال + سحب رخصة القيادة داخل الساحات حتى حضور دورة تدريبية
الوقوف داخل منطقة وقوف الطائرات بدون حاجة تشغيلية	غرامة 200 ريال	غرامة 400 ريال + سحب البطاقة الأمنية حتى حضور دورة تدريبية	غرامة 800 ريال + سحب رخصة القيادة داخل الساحات حتى حضور دورة تدريبية
الوقوف في مناطق عدم الوقوف	غرامة 100 ريال	غرامة 200 ريال + سحب البطاقة الأمنية حتى حضور دورة تدريبية	غرامة 400 ريال + سحب رخصة القيادة داخل الساحات حتى حضور دورة تدريبية
التجاوز خلال السير بطريقة خاطئة	غرامة 100 ريال	غرامة 200 ريال + سحب البطاقة الأمنية حتى حضور دورة تدريبية	غرامة 400 ريال + سحب رخصة القيادة داخل الساحات حتى حضور دورة تدريبية
التسبب في تسرب الوقود خلال تعبئة الطائرات كنتيجة لإهمال الموظف	غرامة 100 ريال	غرامة 200 ريال + سحب البطاقة الأمنية حتى حضور دورة تدريبية	غرامة 400 ريال + سحب البطاقة الأمنية حتى يتم تغيير عمله
رمي المخلفات في ساحة المطار	إنذار للمتسبب و تنظيف المنطقة فوراً	غرامة 200 ريال + إنذار مشرف النوبة وتسحب البطاقة من المتسبب حتى حضور دورة تدريبية	غرامة 400 ريال + سحب رخصة القيادة داخل الساحات حتى حضور دورة تدريبية

Table 2 Penalty Scheme (2 - 2)

7.5 Areas Covered

- Statutory duty requirements.
- Blocked aircraft stands
- Blocked roads, clearways and walkways
- Abandoned equipment
- Failure to keep clean licensed and tenanted areas
- Driving offences and poor driving standards
- Operating unserviceable vehicles and equipment
- Spillages
- Evidence of poor company training standards
- Failure to wear personal protective clothing and equipment
- Unnecessary marshalling of aircraft
- Pedestrian safety
- Smoking in prohibited areas
- Parking violations (vehicles and equipment)
- Air bridge driving offences

7.6 Process Flowchart

N/A.

8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

STORAGE AND HANDLING OF UNIT LOAD DEVICES (ULDs)

Document Number:	TIBAH-AIROPS-SOP-42
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Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	Updated GACA regulations (GACAR 139—D7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

ULDs must be always stored and secured in safe manner. Any ULD found 'on the Apron floor' Aerodrome Operations team will treat as FOD and will issue a report and fine accordingly.

1.1 Regulation and Reference Documents

- GACAR 139
- PMIA Aerodrome Manual.
- PMIA Airport Emergency Plan.

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.5 and 8.1
- ISO 14001:2015 Clauses 7.5 and 8.1

2.0 Purpose

To explain the procedures for safe maintenance of aircraft on the apron and procedures for ground testing of aircraft engines

3.0 Relevant Stakeholders

Direct Use	Aware Of
Safety & Aerodrome OPS Directorate	GACA Airport Authority
Service Providers & Ground Handlers	GACA Aviation Standards Sector
	Airlines

4.0 Scope

These procedures explain the safe storage of ULDs within movement area at PMIA. All Handling agency must comply with these procedures in addition to their standards in this regard.

5.0 Applicable Areas within the Airfield

N.A

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Unsafe Storage of ULDs	Handling Agents will only use the Racks to store ULDs or other devices to prevent them from being moved by wind	Safe and smooth operations at PMIA	AOC and SMS Pro. system	Safe and smooth operations at PMIA	Unsafe Storage of ULDs must be reported immediately to AOC and through SMS Pro. System (100 % Compliance)

7.0 Process Description

7.1 Operating Procedures

Aerodrome Operations Manager will agree with airline handling agents and ULD providers the seasonal assessment of the number of ULD's required to meet their operational demands, no later than September 30th (Winter Requirements) and March 31st (Summer Requirements).

Ground Handling Company personnel will carry out inspections of ULD containers each week. Airlines will be informed of any breach of the agreed figures. The Airline will then be given seven days' notice to remove any units over the agreed figure. Any units not removed within the reasonable time will be charged at a fee as published in the MA fees and charges.

Handling Agents will only use the Racks to store ULDs or other devices to prevent them from being moved by wind. Any company not adhering to these requirements are subject to an Infringement being served to them. Damaged ULD's will be stored at West Apron Remote Apron prior to removal for repair.

Any ULD found 'on the Apron floor' Aerodrome Operations team will treat as FOD and will issue a report and fine accordingly.

Airlines and Handling Agents have agreed through their contracts with airport operator to manage these sites and to ensure safe storage for all containers. Any damage to the racking or unsafe working practice observed whilst using these facilities must be reported to the AOC immediately and through SMS Pro. System as a safety hazard.

7.2 Process Flowchart

N/A.

8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1

0

Standard Operating Procedure (SOP)

TARMAC DELAY CONTINGENCY PLAN

Document Number:	TIBAH-AIROPS-SOP-43
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Supersedes:	Previous Version of this Document
Effective Date:	1 December 2021
Prepared by:	Hassan Al Bar

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
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II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 January 2021	Updated GACA regulations (GACAR 139—D7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

PMIA Tarmac Delay Contingency Plan will be activated during times when passengers on flights are experiencing irregular operations involving a lengthy tarmac delay. In most cases the cause of lengthy tarmac delays are outside of PMIA's or Airline's reasonable control (e.g., weather conditions, Air Traffic Control (ATC) instructions, government operating restrictions, or airport construction projects). Regardless of the cause, PMIA is committed to implementing the measures in this Tarmac Delay Contingency Plan

1.1 Regulation and Reference Documents

- ICAO Annex 2 – Rules of the Air
- Aerodrome Manual

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 6.1; 7.5 and 8.1
- ISO 14001:2015 Clauses 6.1; and 7.5

2.0 Purpose

The purpose of this Operating Procedure is to describe how PMIA will handle lengthy tarmac delays. PMIA's goal is to make every flight a safe and pleasant experience for our customers.

3.0 Relevant Stakeholders

Direct Use	Aware Of
Airlines	GACA Airport Authority
Stakeholders including GS Providers	GACA Aviation Standards
Tibah Terminal OPS	Tibah Management

4.0 Scope

In most cases the cause of lengthy tarmac delays are outside of PMIA's or Airline's reasonable control (e.g., weather conditions, Air Traffic Control (ATC) instructions, government operating restrictions, or airport construction projects). Regardless of the cause, PMIA is committed to implementing the measures in this Tarmac Delay Contingency Plan.

5.0 Applicable Areas within the Airfield

N.A

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
PMIA Tarmac Delay Contingency Plan	When passengers on flights are experiencing irregular operations involving a lengthy tarmac delay	Smooth OPS at PMIA	AOC	Smooth Operations	PMIA Tarmac Delay Contingency Plan will be activated when passengers on flights are experiencing irregular operations involving a lengthy tarmac delay (100% Compliance)

7.0 Process Description

PMIA Tarmac Delay Contingency Plan will be activated during times when passengers on flights are experiencing irregular operations involving a lengthy tarmac delay. In most cases the cause of lengthy tarmac delays are outside of PMIA's or Airline's reasonable control (e.g., weather conditions, Air Traffic Control (ATC) instructions, government operating restrictions, or airport construction projects). Regardless of the cause, PMIA is committed to implementing the measures in this Tarmac Delay Contingency Plan.

7.1 Aircraft Delays

PMIA will not permit an aircraft to remain on the tarmac for more than four hours before allowing passengers to deplane, unless:

- The pilot-in-command determines there is a safety-related or security-related reason why the aircraft cannot leave its position on the tarmac to deplane passengers; or
- Air traffic control advises the pilot-in-command that returning to the gate or another disembarkation point elsewhere in order to deplane passengers would significantly disrupt airport operations.

PMIA will implement this plan no later than once an aircraft has been on the tarmac for three hours after the aircraft leaves the gate (in the case of departure) or touches down (in the case of arrival). The pilot-in-command will coordinate with local Saudi Airlines personnel and Tibah Airport Operations to arrange for a gate or hardstand, and will return to that gate or hardstand as soon as practical in order to deplane customers within the three hour period, unless it is evident that the aircraft will be able to depart the airport or arrive at the gate within 30 minutes from that three hour point.

7.2 Adequate Food and Water

The airline/owner or operator of the airplane will provide adequate food and potable water no later than two hours after the aircraft leaves the gate (in the case of departure) or touches down (in the case of arrival) if the aircraft remains on the tarmac, unless the pilot-in-command determines that safety or security considerations preclude such service.

7.3 Adequate Lavatory Facilities and Medical Assistance

The airline/owner or operator of the airplane will provide operable lavatory facilities, as well as adequate medical attention, if needed, while the aircraft remains on the tarmac (provided that the pilot-in-command has indicated it is safe for passengers to move freely through the cabin).

In the event that all lavatories become inoperable during a tarmac delay, the airline/owner or operator of the airplane will return to the gate as soon as practical or make other arrangements to service the aircraft to return the lavatories to operating condition.

Should a medical situation arise where the aircraft crew and aircraft housed medical material is inadequate to address the situation, the pilot-in-command will be notified and appropriate arrangements will be made by the airplane in coordination with Tibah Airport Operations.

7.4 Flight Delay Status

The airline/owner or operator of the airplane will notify passengers regarding the status of the delay every 30 minutes while the aircraft is delayed, including the reasons for the tarmac delay, if known.

Passenger who chooses to deplane may not be permitted to re-board the aircraft and will be notified of this possibility if it exists. Passengers who deplane and are permitted to re-board must present their boarding passes prior to re-boarding the aircraft.

7.5 Recordkeeping

Together with the airline/owner or operator of the airplane, PMIA AOC is equally responsible for management of flight delays and cancellations. A proper log shall be kept by the airline/owner or operator of the airplane and Tibah AOC, consisting below information.

- Flight number;
- Length of the delay;
- Precise cause of the delay;
- The actions taken to minimize hardships for passengers, including the provision of food and water, the maintenance and servicing of lavatories, and medical assistance;
- Whether the flight ultimately took off (in the case of a departure delay or diversion) or returned to the gate; and
- An explanation for any tarmac delay that exceeded 3 hours (i.e., why the aircraft did not return to the gate by the 3-hour mark).

This contingency plan is separate from and not a part of the airline/owner or operator of the airplane's Conditions of Carriage.

7.6 Process Flowchart

N/A.

8.0 Abbreviations and Acronyms

Abbreviations and Acronyms are provided in Aerodrome Manual, Part No.1.

Standard Operating Procedure (SOP)

Global Reporting Format (GRF)

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Prepared by:	Zaid Badawi

I. Preface

As a commitment of TIBAH Airports Operation Company to comply with GACA Regulations and Standards: This procedure/(Manual) is documented to show the safe operations of Aerodrome processes/activities at Prince Mohammed Bin Abdulaziz International Airport; and to confirm that what is documented herein of processes and procedures are reflecting the filed actions and activities at the PMIA Aerodrome.

Authorization:

Quality Check By:	Operational Check By:	Compliance Check By:	Approved By:
Abdullah Alharbi	Hassan Al Bar	Muhammad Bilal Rashid	Ahmad S Sharqawi
Quality Management Chief	Safety and Aerodrome Operations Director	Quality & Compliance Manager	Deputy Managing Director
P.P._____	_____	_____	_____

II. Contents

III. Revision History

Rev. #	Date	Revision Description	Revised Page(s)	Prepared by
6.1	1 November 2021	GACAR updated versions (GACAR 139-ED 7)	All	Hassan Al Bar Safety and Aerodrome Operations Director

1.0 Introduction

The ICAO Global Reporting Format (GRF) is a globally-harmonized methodology for runway surface condition assessment and reporting that it is intended to be the only such reporting format for international aviation, with the objective of reducing runway excursions, thus improving the safety of airport operations. The aim of this SOP is to assist airport personnel to implement the new Runway Condition reporting requirements as outlined in ICAO Circular 355 (Assessment, Measurement and Reporting of Runway Surface Conditions).
To alleviate the burden on Member States during, and in the aftermath of, the COVID-19 pandemic, the Council, at the same meeting (220-8), adopted amendments on the postponement of the applicability date, from 5 November 2020 to 4 November 2021, for provisions related to an enhanced global reporting format for assessing and reporting runway surface conditions (GRF)"

1.1 Regulation and Reference Documents

- GACAR 139 – Appendix E3
- ICAO PANS Doc 9981
- PMIA Aerodrome Manual
- GACAR 139

1.2 Reference to the ISO Standards & Guidelines (If applicable)

- ISO 9001:2015 Clause 7.5; 74 and 8.1
- ISO 14001:2015 Clauses 7.5 and 7.4

2.0 Purpose

The GRF was developed by the International Civil Aviation Organization (ICAO) to help mitigate the risk of runway excursions.

The GRF is established to:

a) **Standardization**: Establish a common language between all related parties in airports with one system (AD Operator, Aircraft Operators, Pilots, ATC, AIM, MET, etc)
b) **Improved Safety:** Better understanding of runway conditions & fewer runway excursions.
c) **Improved Efficiency:** Flight crews can better correlate reported runway surface conditions to contaminated landing and take-off performance data & Airport operators have an objective method of reporting runway surface conditions to flight crews

3.0 Relevant Stakeholders

Direct Use	Aware Of
Saudi Air Navigation Services (MAD-ATSU)	Airlines Operators
Safety & Aerodrome OPS (Tibah)	GACA
MET Office at PMIA	SANS

4.0 Scope

This SOP is associated to all Airside Operations staff, ATC TWR Controllers and METO staff.

5.0 Applicable Areas within the Airfield

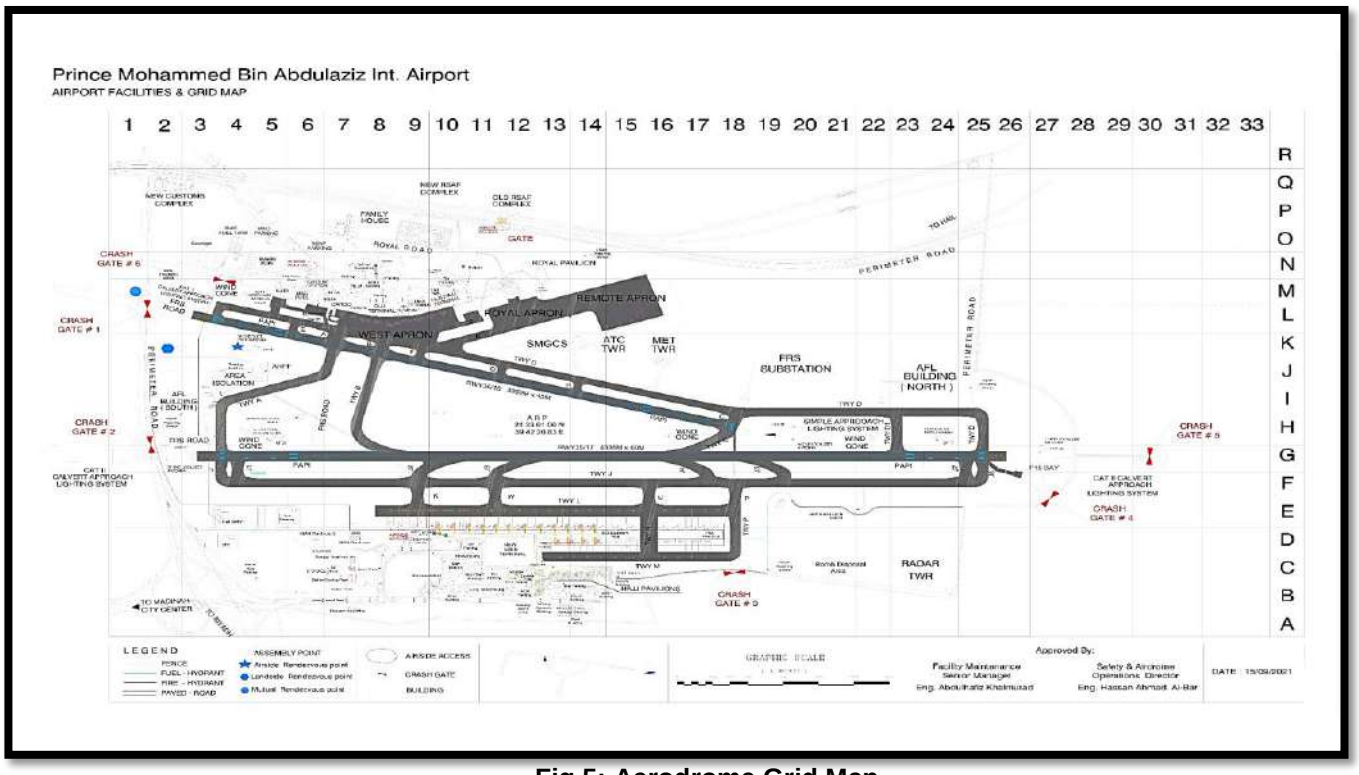

Fig 5: Aerodrome Grid Map

6.0 Applicable KPIs and Performance Measures

The performance measures and Key Performance Indicators (KPIs) applicable to this SOP are listed in the table below:

Table 1 - Key Performance Indicators (KPIs)

Name	Description	Main Drivers	Reporting	Output	Threshold
Reporting the runway surface conditions	The RCR shall be established when a significant change in runway surface condition occurs due to water, snow, slush, ice or frost (and should continue to reflect significant changes longer contaminated). until the runway is no	Mitigate the risk of Airplane RWY Excursion	Airside OPS inspectors in coordination with MAD-ATSU	Safe and smooth ACFT Take-off and landing	100% Compliance
SNOWTAM Issuance	SNOWTAM shall be issued and published whenever one or more of the defined Thirds on the in-use RWY found covered by more than 25% of contaminant (i.e. Water) and the depth of the contaminant is more than 3 mm		Airside OPS inspectors in coordination with SANS (AIM)		

7.0 Process Description

The Global Reporting Format (GRF) is a globally harmonized methodology for assessing and reporting runway surface conditions. The GRF was developed by the International Civil Aviation Organization (ICAO) to help mitigate the risk of runway excursions.

7.1 What is the Common GRF?

- language between all actors of the system that is based on the impact on aeroplane performance of the runway surface condition
- The runway condition report (RCR) is based on assessment and reporting of runway surface conditions enabling Flight crew determination of performance

7.2 The Benefits of the GRF

- Improved safety

Better understanding of runway conditions & fewer runway excursions

- Improved efficiency

Better situational awareness, Better decision making and fewer runway closures

- Reduced ENV impact

Fewer runway excursions, better traffic management and better management of deicing products

7.3 The GRF five fundamentals elements

- Definition of the runway surface conditions
- Definition of the runway surface condition descriptors.
- The runway condition assessment matrix (RCAM)
- The runway condition code (RWYCC)
- The runway condition report (RCR)

7.4 The runway surface conditions

- Description of the condition(s) of the runway surface used in the runway condition report which establishes the basis for the determination of the runway condition code for aeroplane performance purposes:
  - Dry runway;
  - Wet runway;
  - Slippery wet; and
  - Contaminated runway

7.5 The runway surface condition descriptors

- Compacted snow;
- Dry snow;
- Frost;
- Ice;
- Slush;
- Wet
- Standing Water;
- Wet Ice; and
- Wet Snow

Further details are included in table 7.6.1.

7.6 The runway condition assessment matrix (RCAM)

A matrix allowing the assessment of the runway condition code, using associated procedures, from a set of observed runway surface condition(s) and pilot report of braking action.

Runway condition assessment matrix (RCAM)			
Assessment criteria		Downgrade assessment criteria	
Runway condition code	Runway surface description	Aeroplane deceleration or directional control observation	Pilot report of runway braking action
6	• DRY	---	---
5	• FROST • WET (The runway surface is covered by any visible dampness or water up to and including 3 mm depth) ***Up to and including 3 mm depth:*** • SLUSH • DRY SNOW • WET SNOW	Braking deceleration is normal for the wheel braking effort applied AND directional control is normal.	GOOD
4	***−15°C and Lower outside air temperature:*** • COMPACTED SNOW	Braking deceleration OR directional control is between Good and Medium.	GOOD TO MEDIUM
3	• WET ("slippery wet" runway) • DRY SNOW or WET SNOW (any depth) ON TOP OF COMPACTED SNOW ***More than 3 mm depth:*** • DRY SNOW • WET SNOW ***Higher than −15°C outside air temperature[1]:*** • COMPACTED SNOW	Braking deceleration is noticeably reduced for the wheel braking effort applied OR directional control is noticeably reduced.	MEDIUM
2	***More than 3 mm depth of water or slush:*** • STANDING WATER • SLUSH	Braking deceleration OR directional control is between Medium and Poor.	MEDIUM TO POOR
1	• ICE [2]	Braking deceleration is significantly reduced for the wheel braking effort applied OR directional control is significantly reduced.	POOR
0	• WET ICE [2] • WATER ON TOP OF COMPACTED SNOW [2] • DRY SNOW or WET SNOW ON TOP OF ICE [2]	Braking deceleration is minimal to non-existent for the wheel braking effort applied OR directional control is uncertain.	LESS THAN POOR

Table 7.6.1: Runway condition assessment matrix (RCAM)

7.7 The runway condition code (RWYCC)

The RWYCC is a number describing the runway surface condition to be used in the runway condition report. The purpose of the runway condition code is to permit an operational aeroplane performance calculation by the flight crew.

The RCR is:

- Designed to report runway surface condition in a standardized manner
- Common language between all actors of the system: aerodrome operators, aircraft operator s, aircraft manufacturers, ANSPs, AIM, MET and stakeholders.
- Allow flight crew to accurately determine aeroplane take other off and landing performance

Runway condition assessment matrix (RCAM)			
Assessment criteria		Downgrade assessment criteria	
Runway condition code	Runway surface description	Aeroplane deceleration or directional control observation	Pilot report of runway braking action
6	• DRY	---	---
5	• FROST • WET (The runway surface is covered by any visible dampness or water up to and including 3 mm depth) ***Up to and including 3 mm depth:*** • SLUSH • DRY SNOW • WET SNOW	Braking deceleration is normal for the wheel braking effort applied AND directional control is normal.	GOOD
4	***−15°C and Lower outside air temperature:*** • COMPACTED SNOW	Braking deceleration OR directional control is between Good and Medium.	GOOD TO MEDIUM
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2	***More than 3 mm depth of water or slush:*** • STANDING WATER • SLUSH	Braking deceleration OR directional control is between Medium and Poor.	MEDIUM TO POOR
1	• ICE [2]	Braking deceleration is significantly reduced for the wheel braking effort applied OR directional control is significantly reduced.	POOR
0	• WET ICE [2] • WATER ON TOP OF COMPACTED SNOW [2] • DRY SNOW or WET SNOW ON TOP OF ICE [2]	Braking deceleration is minimal to non-existent for the wheel braking effort applied OR directional control is uncertain.	LESS THAN POOR

Table 7.7.1: The runway condition code (RWYCC)

7.8 Stakeholder responsibilities

7.8.1 Meteorology Department - PMIA

7.8.1.1 MET office shall monitor the weather condition changes continually and comply with requirements of GACAR 179.

7.8.1.2 MET office at PMIA/OEMA is responsible of passing weather forecasts information including Weather warning reports in timely manner to Tibah AOC, Airside OPS department, Safety department and Aerodrome and Rescue Firefighting department via email.

7.8.1.3 MET office update Tibah's mentioned departments and will update them for any change in the weather condition via email.

7.8.1.4 MET office will provide any supportive data related to the weather condition via the defined Telephones whenever requested by Tibah mentioned departments.

7.8.2 Tibah Airside OPS Department

7.8.2.1 Assessing the runway surface conditions

- The Airside OPS team assesses the runway surface conditions whenever water, snow, slush, ice or frost are present on an operational runway, using runway condition assessment matrix (RCAM)
- A runway condition code (RWYCC) assessment, along with will be assigned based on the a description of the runway surface can be used by the flight crew for aeroplane performance calculations.
- This report, based on the type, depth and coverage of contaminants, is the best assessment of the runway surface condition by the Airside OPS team.
- All other pertinent information may be taken into consideration
- Upgrading or downgrading RWYCC using the defined procedures in this document using the the RCAM.

Assess the runway surface conditions, including contaminants, for each third of the runway length, and report them by means of a uniform RWY condition report (RCR) as follows:

7.8.2.2 Upon the receipt of weather report from METO office whenever water, snow, slush, ice or frost are present or forecasted on PMIA/OEMA (on an operational runway), the on-duty Airside OPS inspector will immediately respond and proceed to the In-use RWY in coordination with MAD-ATSU TWR (ATC TWR permits shall be obtained ahead to enter the maneuvering area)

7.8.2.3 The Airside OPS inspector will inspect the in-use RWY defining percentages of the RWY contamination coverage over the RWY Thirds as shown in figure 7.8.2.1 (i.e. water coverage)

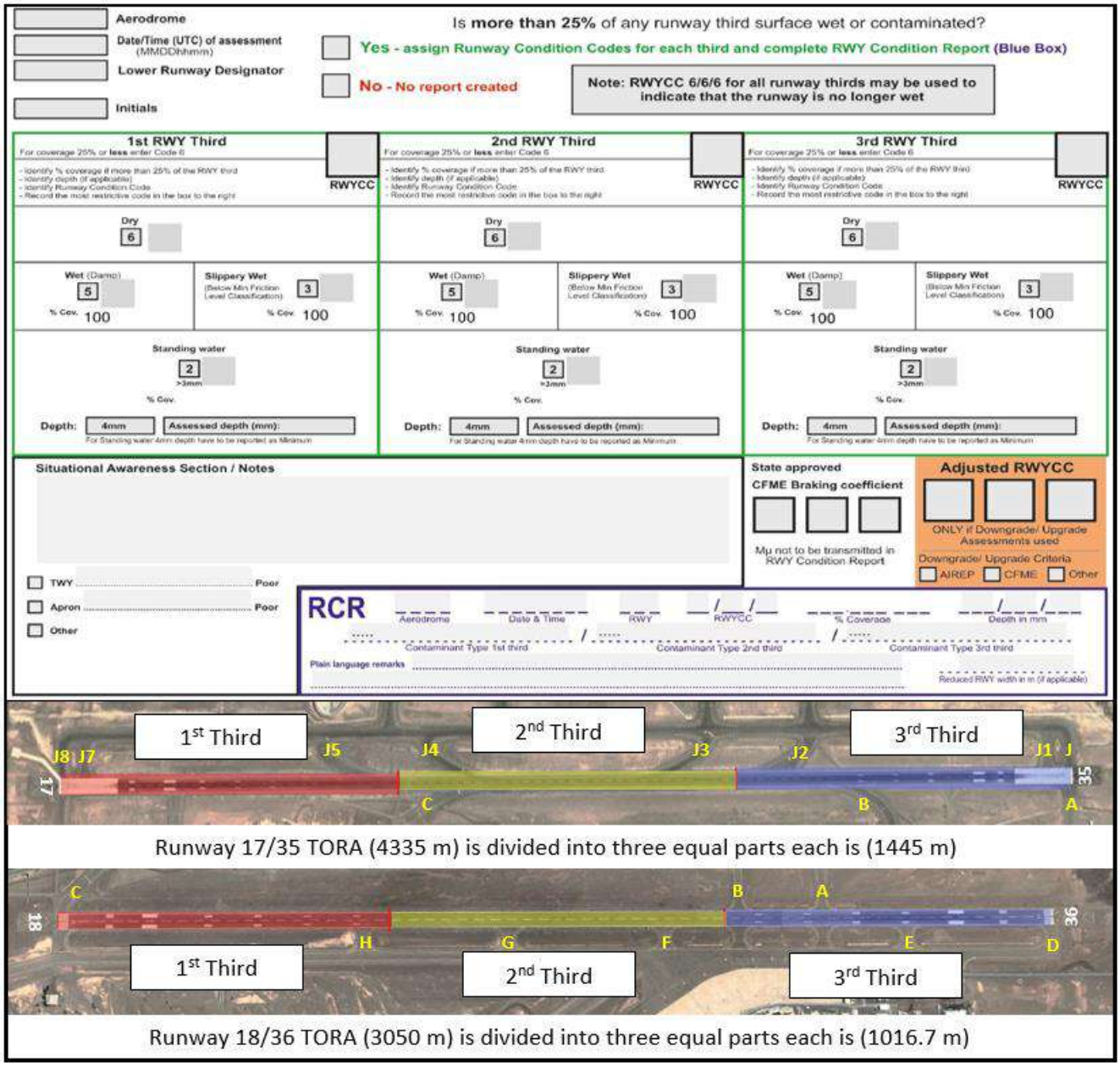
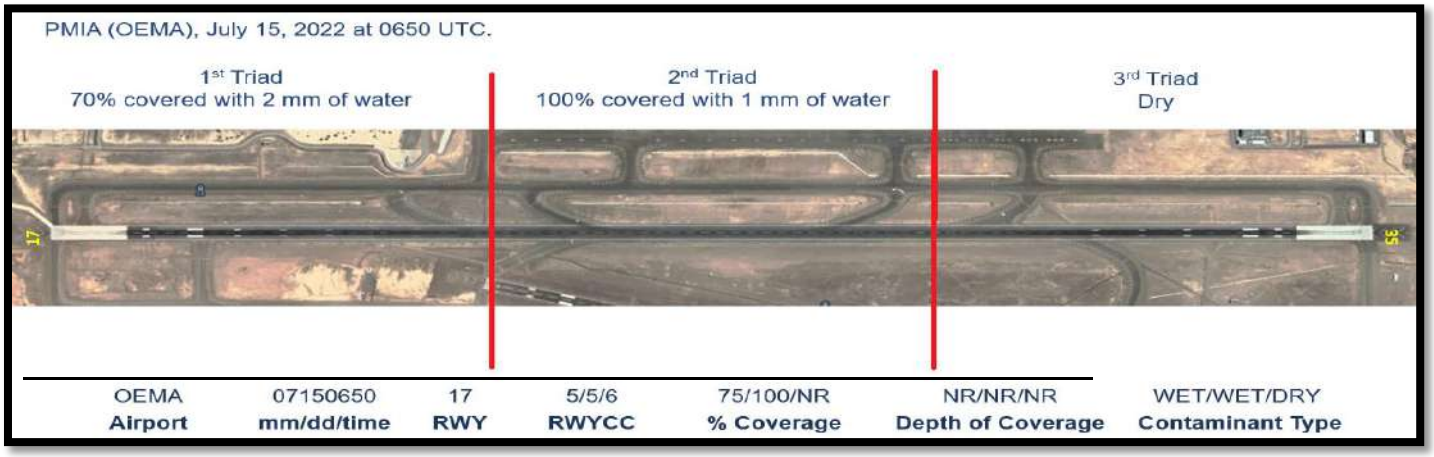


Figure 7.8.2.1: The runway Condition Report

7.8.2.4 If one or more of the defined Thirds on the in-use RWY found covered by more than 25% of contaminant (i.e. Water) and the depth of the contaminant is less than 4 mm, then the airside OPS inspector will immediately report the RCR (see Figure 7.8.2.1) to the ATC TWR controller via Ground Frequency (see below example):

- **Example:**



Airfield 01: *Medina ground **(Who are you calling)**, Airfield 01 **(Who are you)***

ATC Controller: *Airfield 01, Medina Ground Go ahead.*

Airfield 01: *Medina Ground, Airfield 01, position RWY 17/35 **(Where you are)**, RWY Condition report*

ATC Controller: *Airfield 01, Medina Ground, confirm RWY Condition Report **(Command)**.*

Airfield 01: *Medina Ground, Airfield 01, RCR:*

- OEMA (Airport Name/ICAO Code)
- 07150650 (mm/dd/time) UTC
- 17 (Lower RWY Designation number)
- 5/5/6 (RWYCC of each third of the in-use RWY)
- 75/100/NR (% Coverage of each third of the in-use RWY)
- NR/NR/NR (Depth of Coverage of each third of the in-use RWY)
- WET/WET/DRY (Contaminant Type of each third of the in-use RWY)

NOTE: The Airside OPS inspector will convey the above listed data to ATC Controller via VHF radio (Ground Frequency) respectively however, hard copy/Scanned Copy by email of the RCR will be handed-over to the ATC TWR maximum within (3) Hours.

ATC Controller: *Airfield 01, Medina Ground, (Read back the RCR)*

- The Airside OPS inspector will repeat the RWY condition assessment as follows:
  a) Minimum once per shift, the inspection and assessment will be repeated and above procedures will be repeated whenever change is observed until the case is terminated.
  b) Whenever change in weather is observed either by ATC, MET office or by the airside OPS inspector
  c) If needed, any other information (e.g. a pilot report of runway braking action).

- When the case is terminated, the Airside OPS inspector will terminate the case whenever the weather condition is improved so, the Airside OPS inspector will report the case is closed to the ATC TWR controllers via VHF radio (Ground Frequency) however, hard copy/Scanned copy by email of the RCR will be handed-over to the ATC TWR maximum within (3) Hours.

7.8.2.5 **SNOWTAM Issuance**: If one or more of the defined Thirds on the in-use RWY found covered by more than 25% of contaminant (i.e. Water) and the depth of the contaminant is more than 3 mm, then the airside OPS inspector will issue a SNOWTAM in coordination with ATC TWR then will share the SNOWTAM message form “signed” to SANS AIM via the agreed contact details in the

SLA between Tibah and SANS AIM for publication purpose. (The SNOWTAM will be terminated after 8 Hours).

7.8.2.6 Vehicle's Radio Failure

In case the Airside OPS inspector experience a radio failure, the driver shall vacate immediately the RWY to nearest safe area and shall contact ATC controllers or AOC via cell phone or any other communication means for support.

7.8.2.7 Airside OPS staff Training:

Prior the implementation of the GRF, all Airside OPS inspectors will be well trained on the GRF and RCR implementation procedures through the certified GRF team leader/members at PMIA/OEMA however, a refresh training should be provided for each inspector (at least once a year). Moreover, all newly recruited Airside OPS inspectors will be trained on the GRF implementation procedures prior commencing their duties.

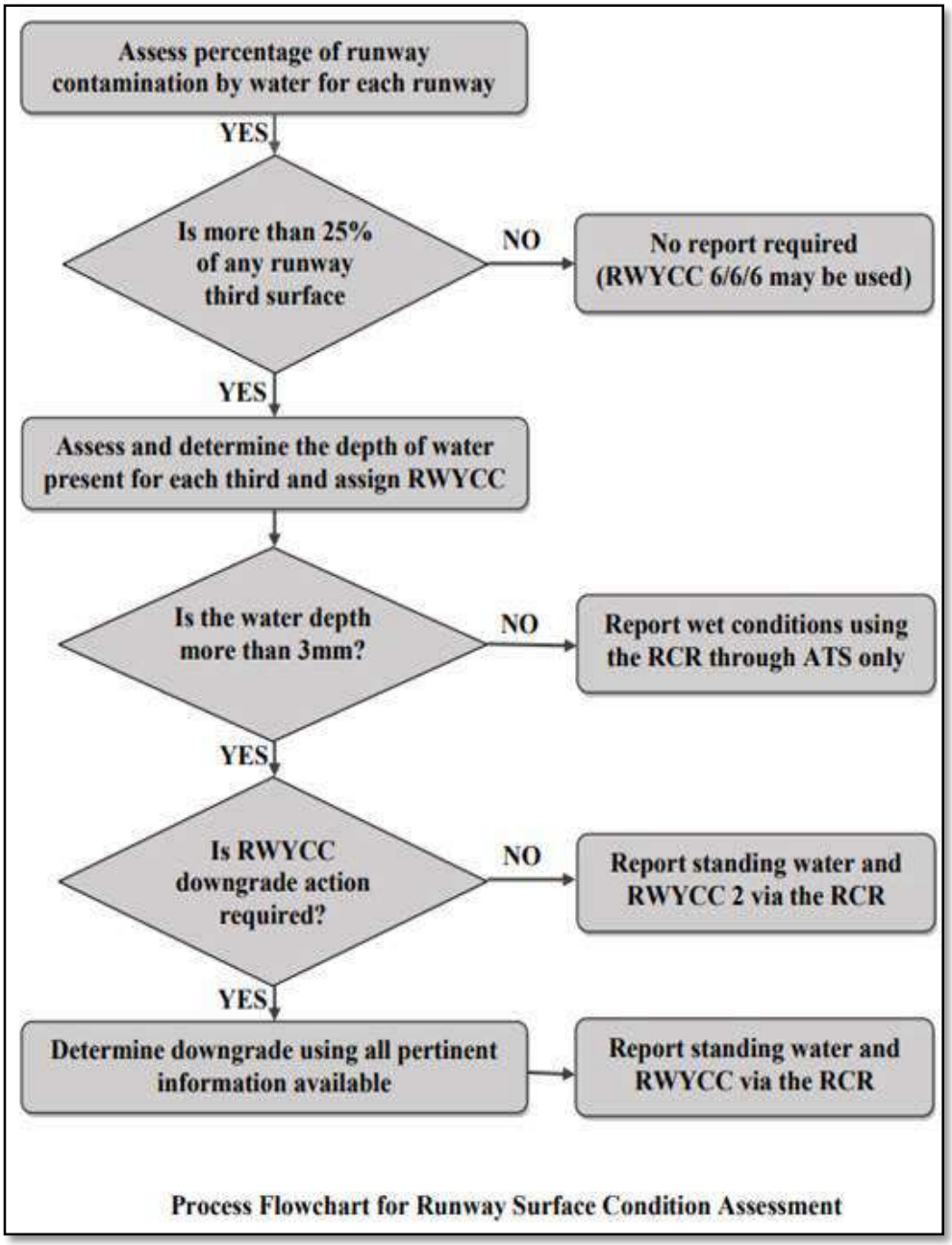
7.8.3 Air Traffic Control (ATC TWR – OEMA)

7.8.3.1 ATC Controller will facilitate/support the Airside OPS inspector movement and access to the maneuvering area depend on the traffic.
7.8.3.2 Upon the receipt of the RCR from Airside OPS, the ATC Controller Will update the ATIS accordingly; or
7.8.3.3 Will convey the RCR to the Airmen (upon Airmen request) via VHF Radio (Ground or Local Frequencies).
7.8.3.4 If possible, ATC Controllers will notify Airside OPS of any observed changes in weather conditions.
7.8.3.5 The LOA between Airside OPS department (Tibah) and ATC TWR (SANS) shall be updated in accordance with the new requirements of the GRF.

7.8.4 SANS Aeronautical Information management (AIM)

7.8.4.1 Upon the receipt of the SNOWTAM message form by email (Contact details are detailed in the SLA between Tibah & SANS AIM), AIM officer will review the SOWTAM then he will publish it as per the agreed format.
7.8.4.2 The SLA shall be updated in accordance with new requirement related to the GRF.

8.0 Process Flowchart



Process Flowchart for Runway Surface Condition Assessment

9.0 Abbreviations and Acronyms

AD: Aerodrome
PMIA: Prince Mohammed Bin Abdulaziz int. Airport.
OEMA: ICAO Code of PMIA
SANS: Saudi Air Navigation Services
AIM: Aeronautical Information Management
ARFF: Aerodrome Rescue and Firefighting department
Airside OPS: Airside Operation department
AOC: Airport Operation Center
ATC TWR: Air traffic Control Tower
ATCC: Air traffic Control Controllers
MAD-ATSU: Madina Air Traffic Services Unit
METO: Meteorology Office
GRF: Global Reporting format
RCR: RWY Condition Report
RCAM: The runway condition assessment matrix
RWYCC: The runway condition code
ATIS: Automatic terminal information service
ATS: Air Traffic Services

ANNEX B

AERODROME DRAWINGS

List of Drawings:

Drawing No.	Title
1	AERODROME PLAN/CHART
2	AERODROME GRID MAP
3	AIRFIELD LIGHTING – RWY 18/36
4	AIRFIELD LIGHTING – RWY 17/35
5	AIRFIELD MARKINGS PLAN
6	PRECISION APPROACH TERRAIN CHART – ICAO – RWY 17
7	PRECISION APPROACH TERRAIN CHART – ICAO – RWY 35
8	Type A – RWY 18/36
9	Type A – RWY 17/35
10	ANNEX 14 OLS – SHEET 1
11	ANNEX 14 OLS - SHEET 2
12	Vehicles Ground movement Plan

AERODROME CHART - ICAO

24°33'01"N
039°42'21"E

ELEV 2134

TWR: 118.3 124.2
GND: 121.9 121.5
ATIS: 126.85

MADINAH/PRINCE MOHAMMAD BIN ABDULAZIZ INTERNATIONAL

VAR 4° E - 2020

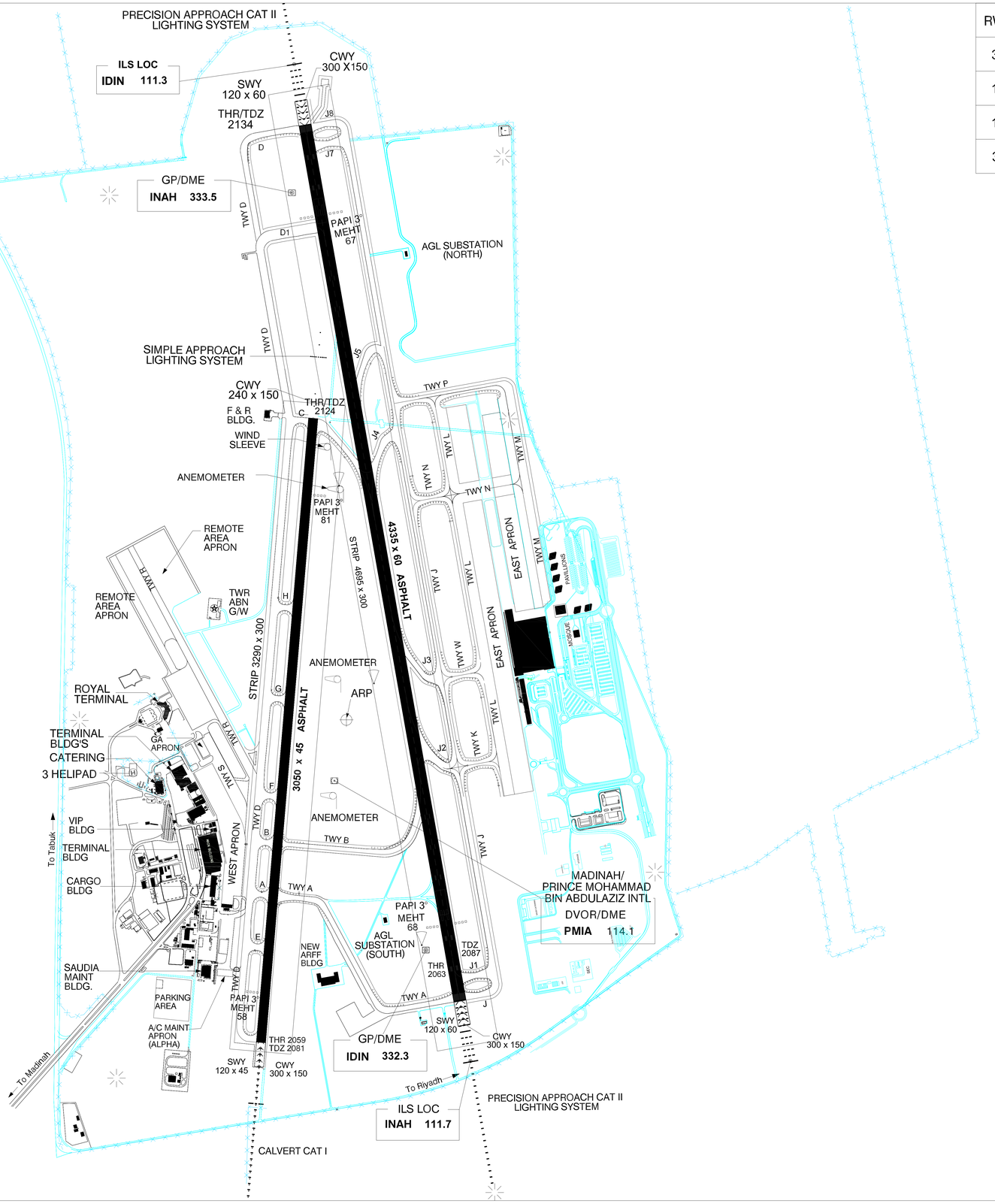
ELEV, ALT IN FEET
ALT IN FEET
DIMENSIONS IN METRES
BRG ARE MAG
ANNUAL RATE OF CHANGE 3' E

ALTIMETER CHECKPOINT POSITION:
WEST APRON 24°32'43.5"N 039°42'00.7"E
ELEVATION: 2080 FT
EAST APRON 24°33'17.1"N 039°42'46.9"E
ELEVATION: 2107 FT

NOTE:
APRON ACFT MAINT (ALPHA) SOUTH WEST END TWY D OPR FOR ALL ACFT WITH ACN LESS THAN PCN 63/R/B/W/T, AND EXERCISE EXTREME CAUTION NO ATC VISUAL CONTACT.

NOTE:
RWY 17/35 PRIMARY RUNWAY
RWY 18/36 WILL BE USED IN BAD WEATHER AND LOW VISIBILITY OR WHEN RWY 17/35 IS U/S AND UNDER ATC AUTHORIZATION.

WARNING:
DURING LANDING OR TAKING OFF WIDE BODIED ACFT ON RWY 18/36, ANY TAXIING ON PARALLEL TWY IS NOT ALLOWED AND VICE VERSA.



RWY	DIRECTION	THR	THR GUND	BEARING STRENGTH
36	360°	24°32'10"N 039°42'07"E	30	PCN 59/F/A/W/T ASPHALT
18	180°	24°33'49"N 039°42'14"E	30	
17	165°	24°34'35"N 039°42'12"E	30	PCN 80/R/A/W/T CONCRETE (BEYOND 250M PCN 75/F/A/W/T)
35	345°	24°32'17"N 039°42'41"E	30	

TAXIWAYS 25 m WIDE (EXCEPT TWYs E,F,G,H & PART OF TWY D PARALLEL TO RWY 18/36: 23 M)

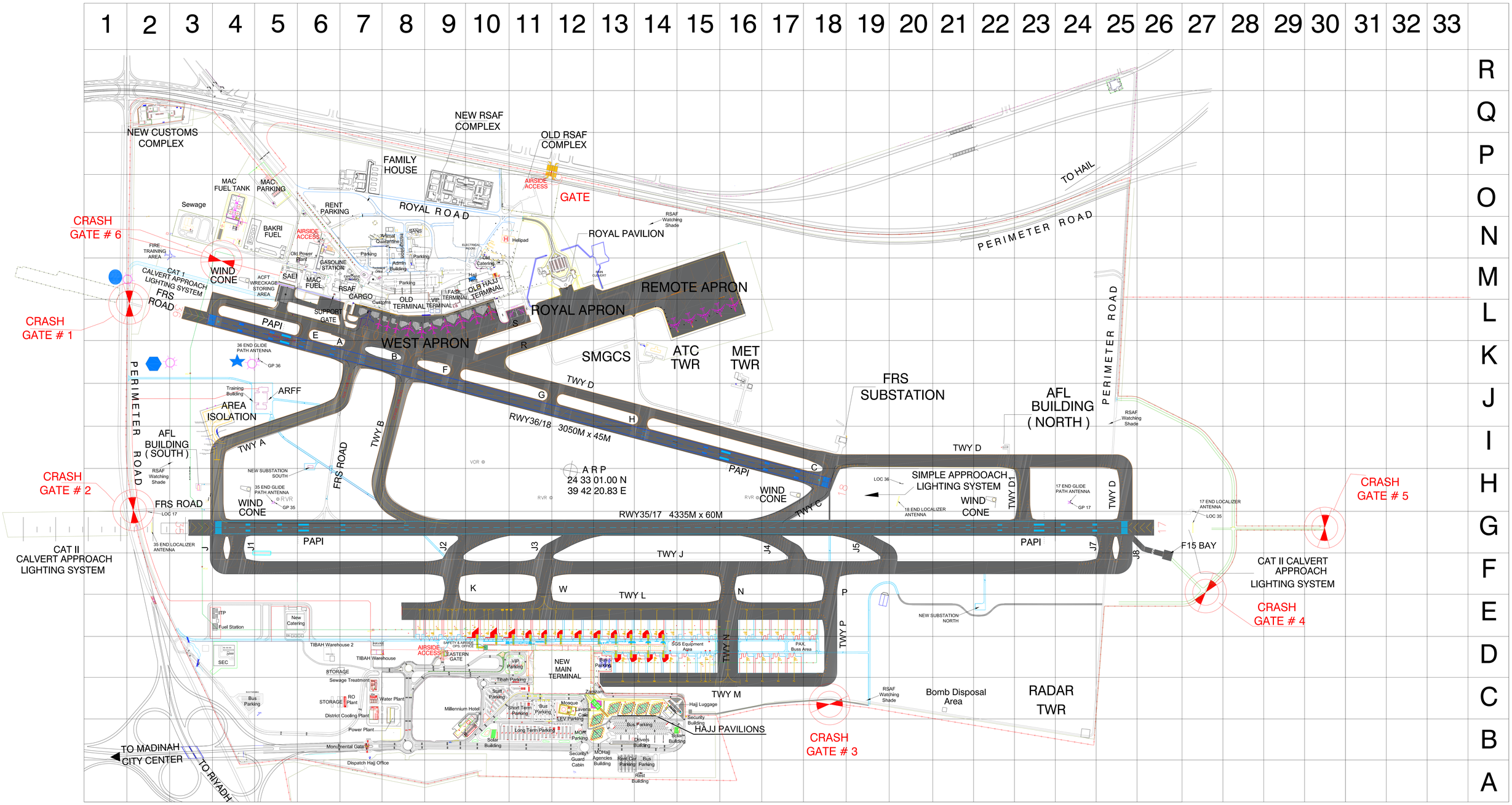
METRES
300 0 500 1000
1000 2000 1000 2000 3000
FEET

LEGEND	
WIND SHEAR SENSOR	
RWY VISUAL RANGE (RVR)	
ANEMOMETER	
HELIPAD	H
SERVICE ROAD	
FENCE	

CHANGE : *MAG VAR revised*

Prince Mohammed Bin Abdulaziz Int. Airport

AIRPORT FACILITIES & GRID MAP



LEGEND

- FENCE
- FUEL - HYDRANT
- FIRE - HYDRANT
- PAVED - ROAD

- ASSEMBLY POINT
- Airside Rendezvous point
- Landside Rendezvous point
- Mutual Rendezvous point

- AIRSIDE ACCESS
- CRASH GATE
- BUILDING

GRAPHIC SCALE

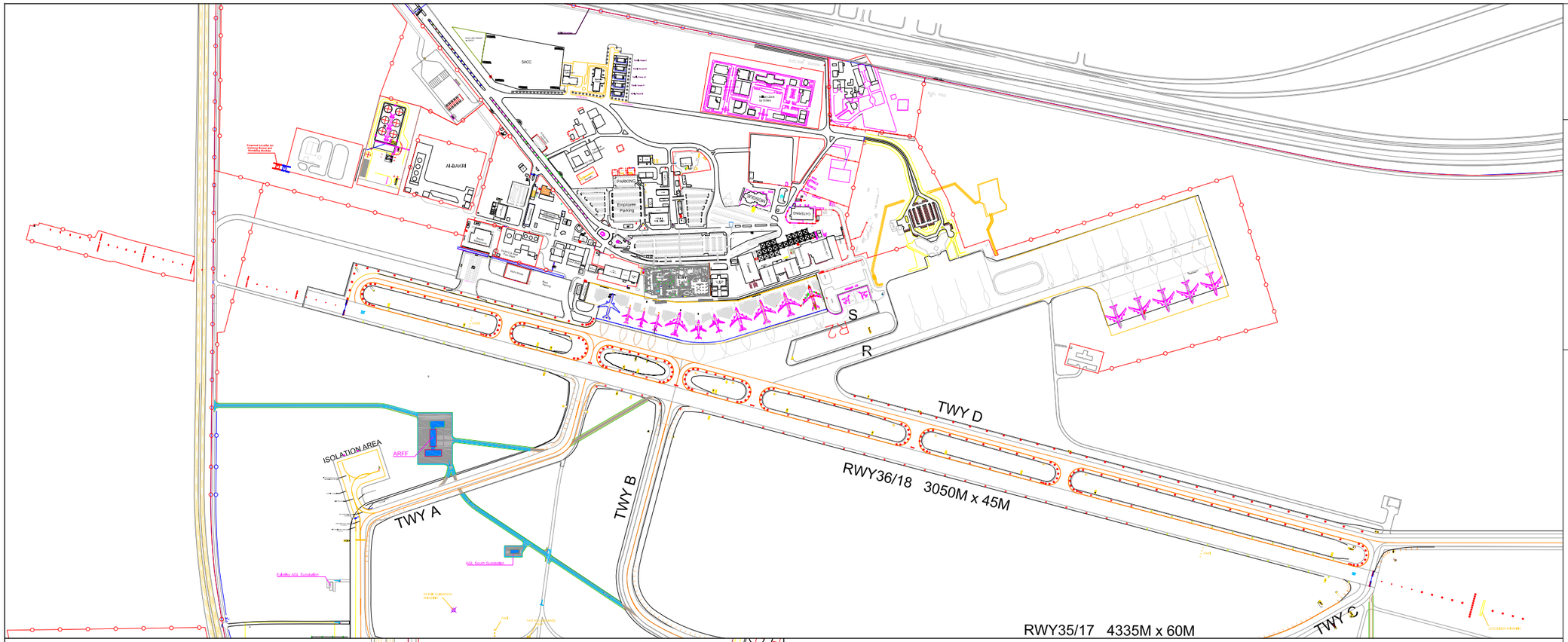
(IN METERS)

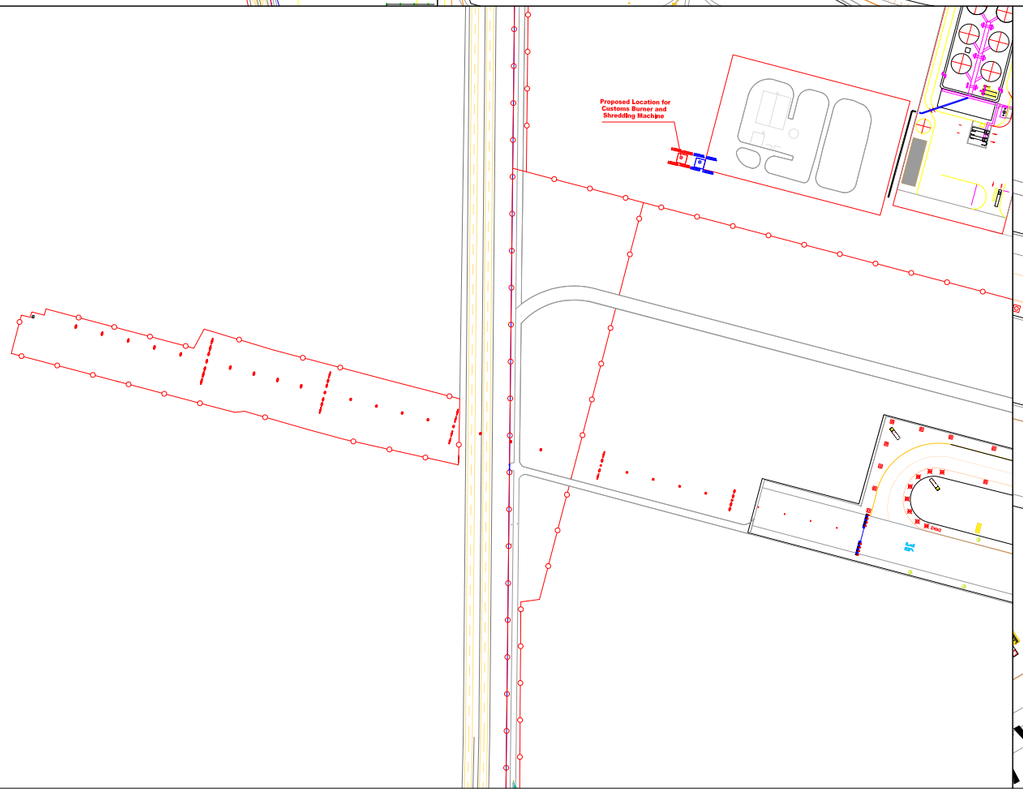
0 200 300 400 600 800 1000 1200

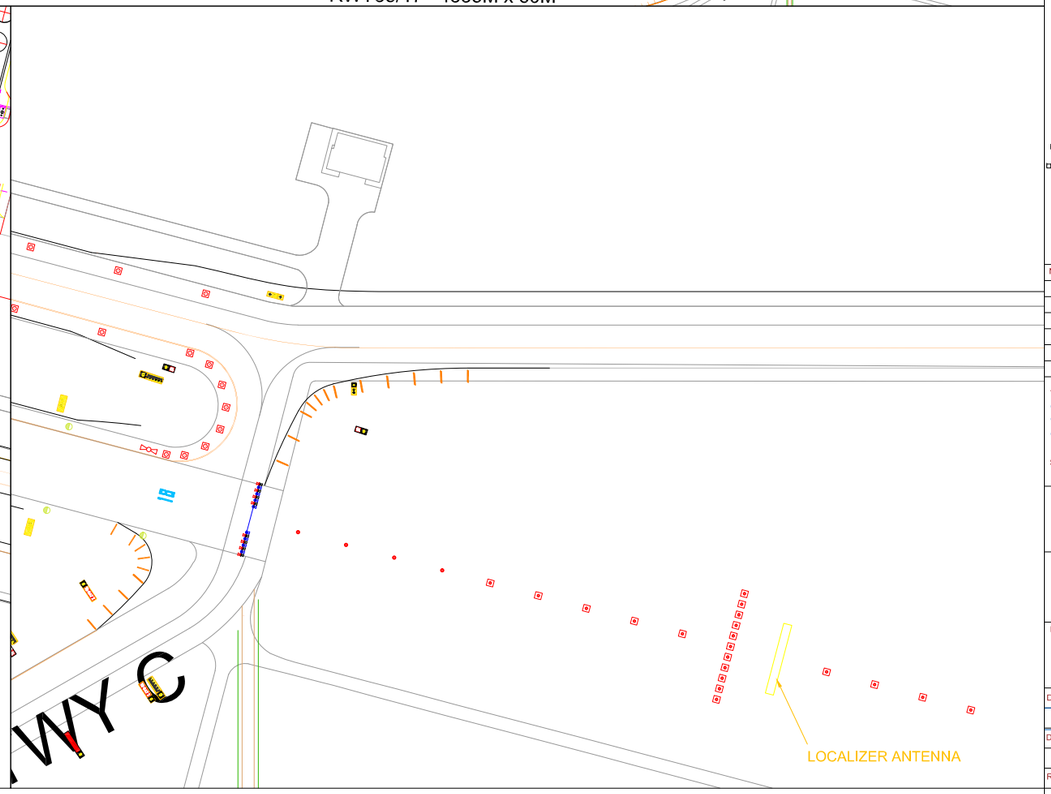
Approved By:

Facility Maintenance Senior Manager	Safety & Airdrome Operations Director
Eng. Abdulhafiz Khalmurad	Eng. Hassan Ahmad. Al-Bar

DATE : 15/09/2021







36 APPROACH

18 APPROACH

NOTES:

A. ALL MEASUREMENTS ARE NOMINAL AND MAY VARY WITH THE APPROVAL OF TIBAH AIRPORTS OPERATION Co. LTD.

B. ALL MEASUREMENTS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.

C. DRAWING ISSUED ARE TO BE VERIFIED BY THE CONTRACTOR.

D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE TRUE SETTING OUT AND SHALL OBTAIN THE APPROVAL OF TIBAH AIRPORTS Co. LTD.

E. CONTRACTOR'S RESPONSIBILITY TO CHECK DRAWING AND ANY DESIGN DETAIL FOR THE INDENTED RESULTS.

F. CONTRACTOR'S RESPONSIBILITY TO SUBMIT SAMPLES OF MATERIALS AND FINISHES PRIOR TO FINAL APPLICATION.

LEGEND:

No.	REVISION	REVIEWED BY	DATE.

APPROVAL / COMMENTS

CODE 1 ☐ APPROVED
CODE 2 ☐ APPROVED WITH COMMENTS
CODE 3 ☐ REVISE & RE-SUBMIT

SIGNED ON BEHALF OF: . . . . . DATE . . . . . .

PROJECT:

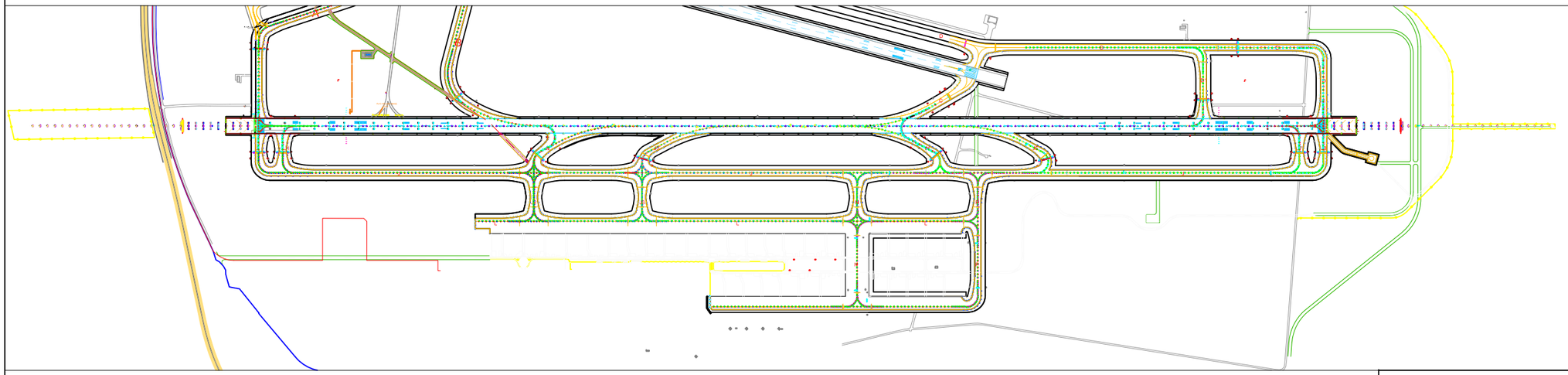
RWY 18-36 AGL

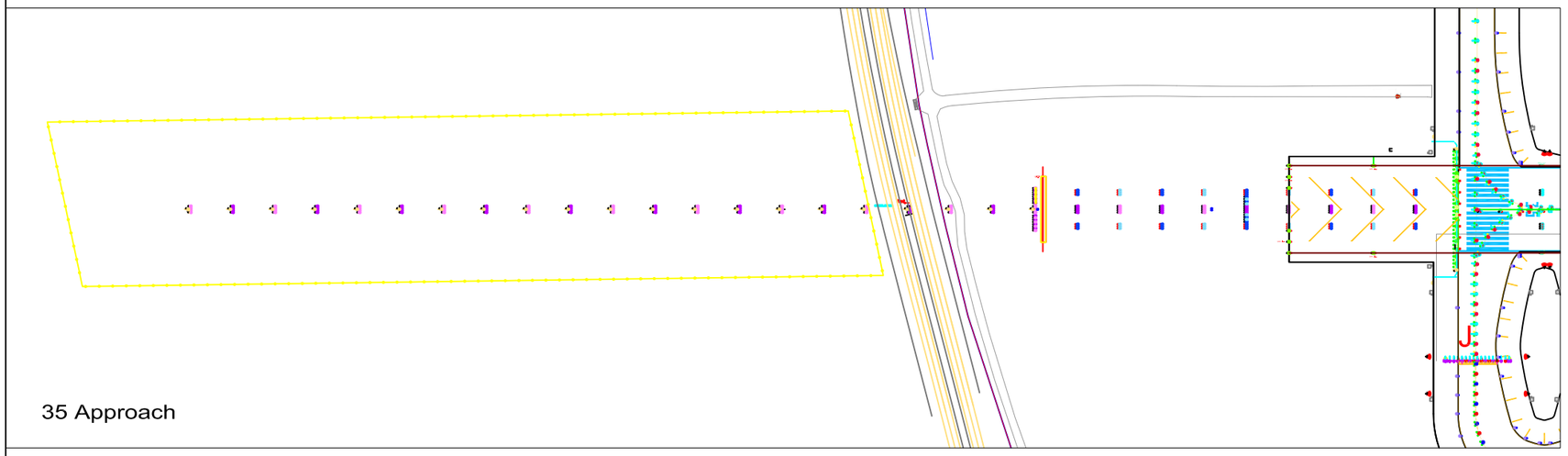
TIBAH AIRPORTS Co. LTD.
PRINCE MOHAMMED BIN ABDULAZIZ AIRPORT
MADINAH - SAUDI ARABIA

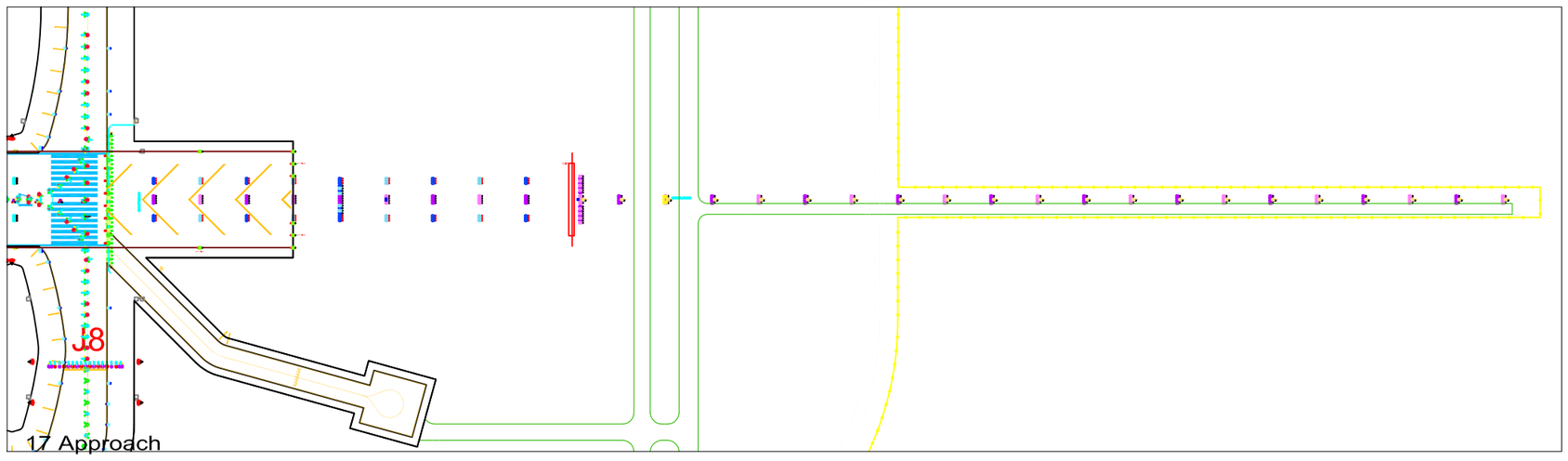
DRWG. TITLE:

RWY 18-36 AGL AS BUILT LAYOUT

DATE:	SCALE:	PROJECT NO.:
September 15, 2021	NTS	
DESIGNED BY:	LOCATION:	
A.SALEM	RWY 18-36	
REVIEWED BY:	DRWG. NO:	REV.
A.MURAD	T-WI-ENGIN-001	04
APPROVED BY:		







LIGHT LEGENDS

- ELEVATED APPROACH CENTERLINE LIGHT, CLEAR
- INSET APPROACH CENTERLINE LIGHT, CLEAR
- ELEVATED APPROACH SIDE ROW LIGHT, RED
- INSET APPROACH SIDE ROW LIGHT, RED
- ELEVATED SEQUENCE FLASH LIGHT, CLEAR
- INSET RUNWAY THRESHOLD INDICATOR LIGHT (RTIL), CLEAR
- INSET THRESHOLD/RUNWAY END LIGHT, GREEN/RED
- INSET THRESHOLD LIGHT, GREEN
- INSET THRESHOLD WINGBAR LIGHT, GREEN
- PRECISION APPROACH PATH INDICATOR LIGHT (PAPI)
- ELEVATED RUNWAY EDGE LIGHT, CLEAR/CLEAR
- ELEVATED RUNWAY EDGE LIGHT, CLEAR/YELLOW
- INSET RUNWAY EDGE LIGHT, CLEAR/CLEAR
- INSET RUNWAY EDGE LIGHT, CLEAR/YELLOW
- RUNWAY CENTERLINE LIGHT, CLEAR/CLEAR
- RUNWAY CENTERLINE LIGHT, CLEAR/YELLOW
- RUNWAY TOUCHDOWN ZONE LIGHT, CLEAR
- RAPID EXIT TAXIWAY INDICATOR LIGHT (RETIL), YELLOW
- INSET STOPBAR LIGHT, RED, UNIDIRECTIONAL
- INSET STOPBAR LIGHT, RED, BIDIRECTIONAL
- ELEVATED STOPBAR LIGHT, RED, UNIDIRECTIONAL
- RUNWAY GUARD LIGHT, YELLOW/YELLOW
- TAXIWAY INTERMEDIATE HOLDING POSITION LIGHT, YELLOW
- STOPWAY EDGE LIGHTS

- TAXIWAY CENTERLINE LIGHT, GREEN/GREEN, BIDIRECTIONAL, CURVE, 1 LAMP
- TAXIWAY CENTERLINE LIGHT, GREEN/GREEN, BIDIRECTIONAL, CURVE, 1 LAMP (CONTROL & MONITORED)
- TAXIWAY CENTERLINE LIGHT, GREEN/GREEN, BIDIRECTIONAL, CURVE, 2 LAMP (CONTROL & MONITORED)
- TAXIWAY CENTERLINE LIGHT, GREEN/YELLOW, BIDIRECTIONAL, CURVE, 1 LAMP
- TAXIWAY CENTERLINE LIGHT, GREEN/YELLOW, BIDIRECTIONAL, CURVE, 1 LAMP (CONTROL & MONITORED)
- TAXIWAY CENTERLINE LIGHT, GREEN/YELLOW, BIDIRECTIONAL, CURVE, 2 LAMP (CONTROL & MONITORED)
- TAXIWAY CENTERLINE LIGHT, YELLOW/GREEN, BIDIRECTIONAL, CURVE, 1 LAMP
- TAXIWAY CENTERLINE LIGHT, YELLOW/GREEN, BIDIRECTIONAL, CURVE, 1 LAMP (CONTROL & MONITORED)
- TAXIWAY CENTERLINE LIGHT, YELLOW/GREEN, BIDIRECTIONAL, CURVE, 2 LAMP (CONTROL & MONITORED)
- TAXIWAY CENTERLINE LIGHT, GREEN/GREEN, BIDIRECTIONAL, STRAIGHT, 1 LAMP
- TAXIWAY CENTERLINE LIGHT, GREEN/GREEN, BIDIRECTIONAL, STRAIGHT, 1 LAMP (CONTROL & MONITORED)
- TAXIWAY CENTERLINE LIGHT, GREEN/GREEN, BIDIRECTIONAL, STRAIGHT, 2 LAMP (CONTROL & MONITORED)
- TAXIWAY CENTERLINE LIGHT, GREEN/YELLOW, BIDIRECTIONAL, STRAIGHT, 1 LAMP
- TAXIWAY CENTERLINE LIGHT, GREEN/YELLOW, BIDIRECTIONAL, STRAIGHT, 1 LAMP (CONTROL & MONITORED)
- TAXIWAY CENTERLINE LIGHT, GREEN/YELLOW, BIDIRECTIONAL, STRAIGHT, 2 LAMP (CONTROL & MONITORED)
- TAXIWAY CENTERLINE LIGHT, GREEN, UNIDIRECTIONAL, CURVE LEFT
- TAXIWAY CENTERLINE LIGHT, YELLOW, UNIDIRECTIONAL, CURVE LEFT
- TAXIWAY CENTERLINE LIGHT, GREEN, UNIDIRECTIONAL, CURVE RIGHT
- TAXIWAY CENTERLINE LIGHT, YELLOW, UNIDIRECTIONAL, CURVE RIGHT
- TAXIWAY CENTERLINE LIGHT, GREEN, UNIDIRECTIONAL, STRAIGHT
- TAXIWAY CENTERLINE LIGHT, YELLOW, UNIDIRECTIONAL, STRAIGHT
- TAXIWAY EDGE LIGHT, BLUE, OMNIDIRECTIONAL

No.	REVISION	REVIEWED BY	DATE

APPROVAL / COMMENTS

CODE 1 ☐ APPROVED
CODE 2 ☐ APPROVED WITH COMMENTS
CODE 3 ☐ REVISE & RE-SUBMIT

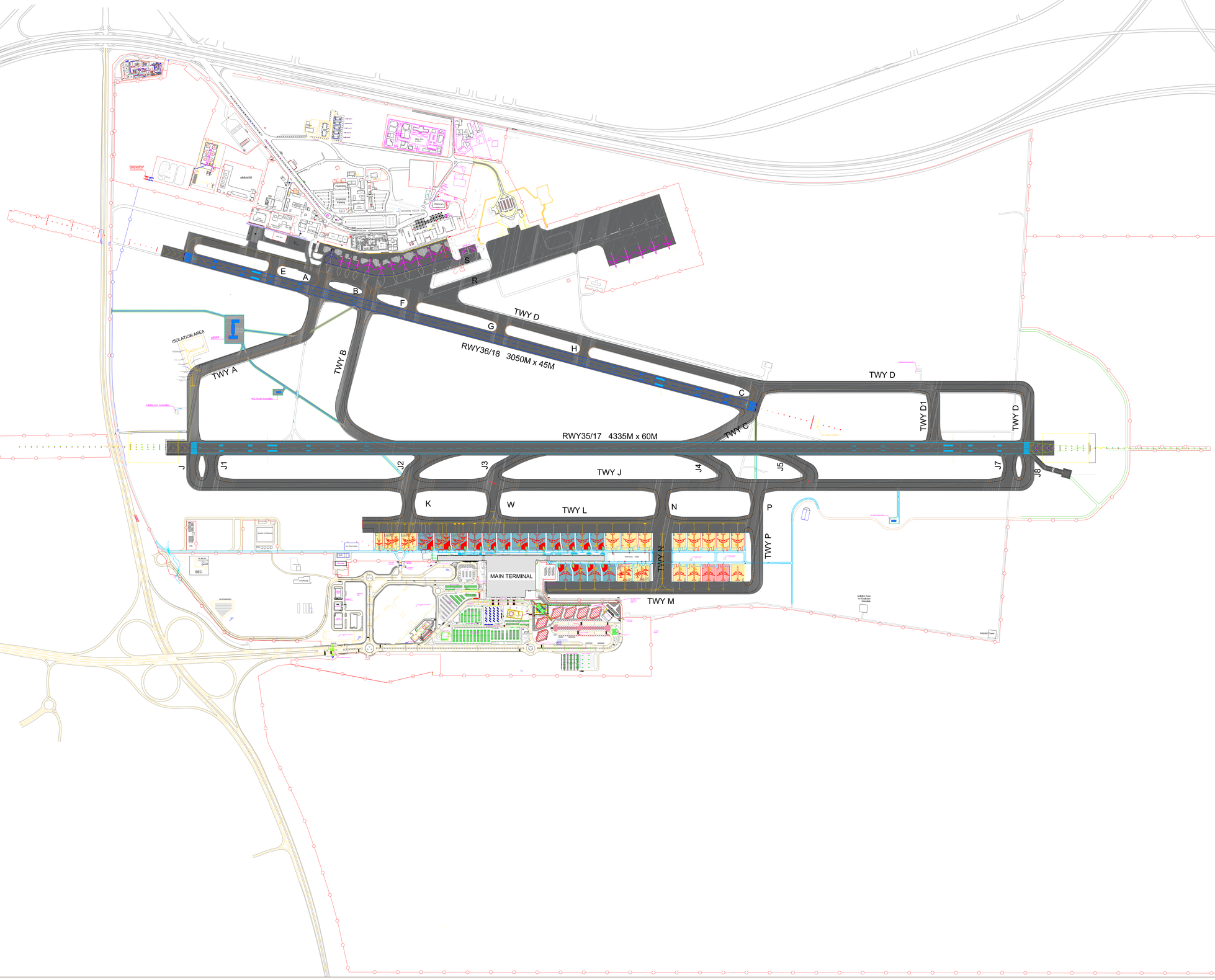
SIGNED ON BEHALF OF: _____ DATE _____

PROJECT: RWY 18-36 AGL

TIBAH AIRPORTS Co. LTD.
PRINCE MOHAMMED BIN ABDULAZIZ AIRPORT
MADINAH - SAUDI ARABIA

DRWG. TITLE: RWY 18-36 AGL AS BUILT LAYOUT

DATE:	SCALE:	PROJECT NO.:
December 23, 2019	NTS	
DESIGNED BY:	LOCATION:	
A. Khalmurad	RWY 18-36	
REVIEWED BY:	DRWG. NO:	REV.
	T-WI-ENGIN-001	02
APPROVED BY:		



NOTES:

A. ALL MEASUREMENTS ARE NOMINAL AND MAY VARY WITH THE APPROVAL OF TIBAH AIRPORTS OPERATION Co. LTD.

B. ALL MEASUREMENTS ARE IN MILLIMETERS UNLESS OTHERWISE SPECIFIED.

C. DRAWING ISSUED ARE TO BE VERIFIED BY THE CONTRACTOR.

D. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE TRUE SETTING OUT AND SHALL OBTAIN THE APPROVAL OF TIBAH AIRPORTS Co. LTD.

E. CONTRACTOR'S RESPONSIBILITY TO CHECK DRAWING AND ANY DESIGN DETAIL FOR THE INDENTED RESULTS.

F. CONTRACTOR'S RESPONSIBILITY TO SUBMIT SAMPLES OF MATERIALS AND FINISHES PRIOR TO FINAL APPLICATION.

LEGEND:

No.	REVISION	REVIEWED BY	DATE.

APPROVAL / COMMENTS

CODE 1 ☐ APPROVED
CODE 2 ☐ APPROVED WITH COMMENTS
CODE 3 ☐ REVISE & RE-SUBMIT

SIGNED ON BEHALF OF: DATE

PROJECT:

PMIA

TIBAH AIRPORTS Co. LTD.
PRINCE MOHAMMED BIN ABDULAZIZ AIRPORT
MADINAH - SAUDI ARABIA

DRWG. TITLE:

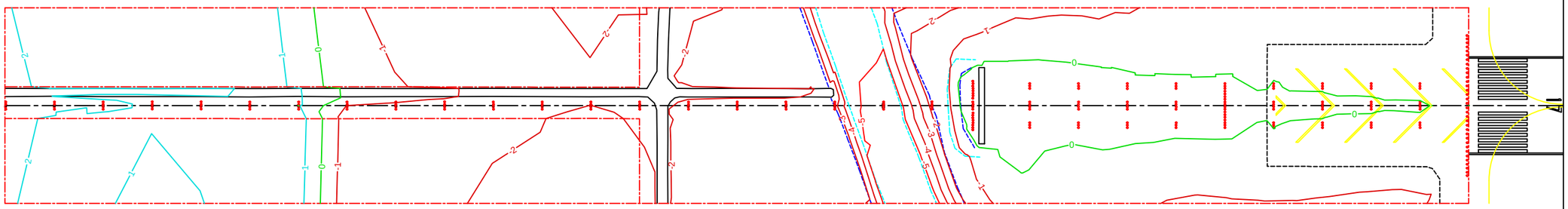
MASTER PLAN LAYOUT

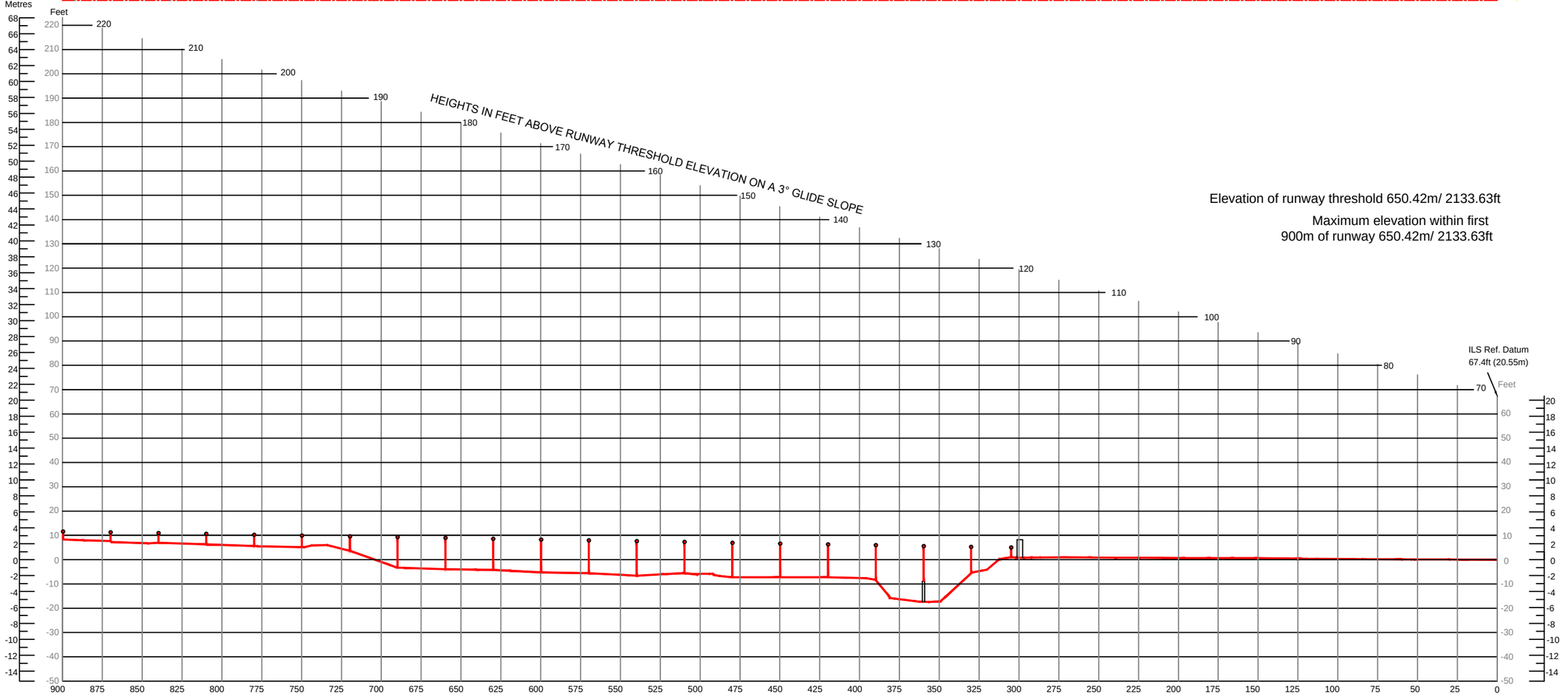
DATE:	SCALE:	PROJECT NO.:
September 15, 2021	NTS	
DESIGNED BY:	LOCATION:	
A.SALEM	MASTER PLAN	
REVIEWED BY:	DRWG. NO:	REV.
A.MURAD	T-L0	04
APPROVED BY:		
A.MURAD		

ELEVATIONS IN METERS
ALL OTHER DIMENSIONS IN METRES

PRECISION APPROACH TERRAIN CHART - ICAO

MADINAH INTERNATIONAL
RUNWAY 17





Elevation of runway threshold 650.42m/ 2133.63ft

Maximum elevation within first
900m of runway 650.42m/ 2133.63ft

LEGEND	
BUILDING OR LARGE STRUCTURE	
CENTRELINE PROFILE	
DEVIATION AT LEAST ±10FT (3M) FROM CENTRELINE PROFILE	

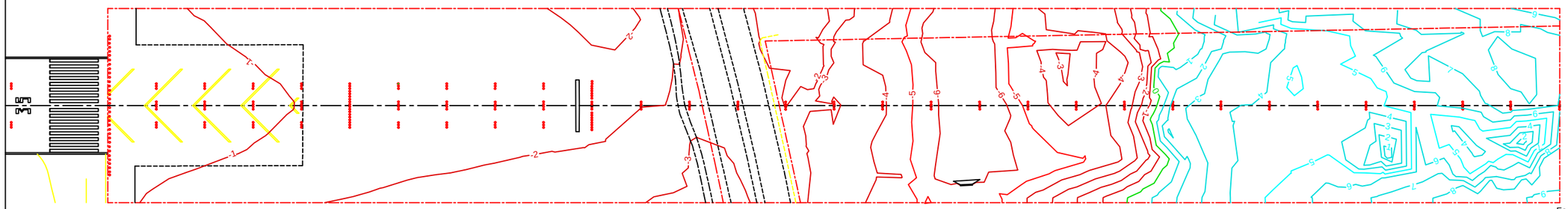
HORIZONTAL SCALE 1:2500
VERTICAL SCALE 1:500
CONTOURS AND HEIGHTS ARE IN METRES AND RELATED TO ELEVATION OF RUNWAY THRESHOLD

CHANGE: NEW SURVEY
Aerodrome Information Current FEB 2017
Based on survey dated FEB 2017

ELEVATIONS IN METERS
ALL OTHER DIMENSIONS IN METRES

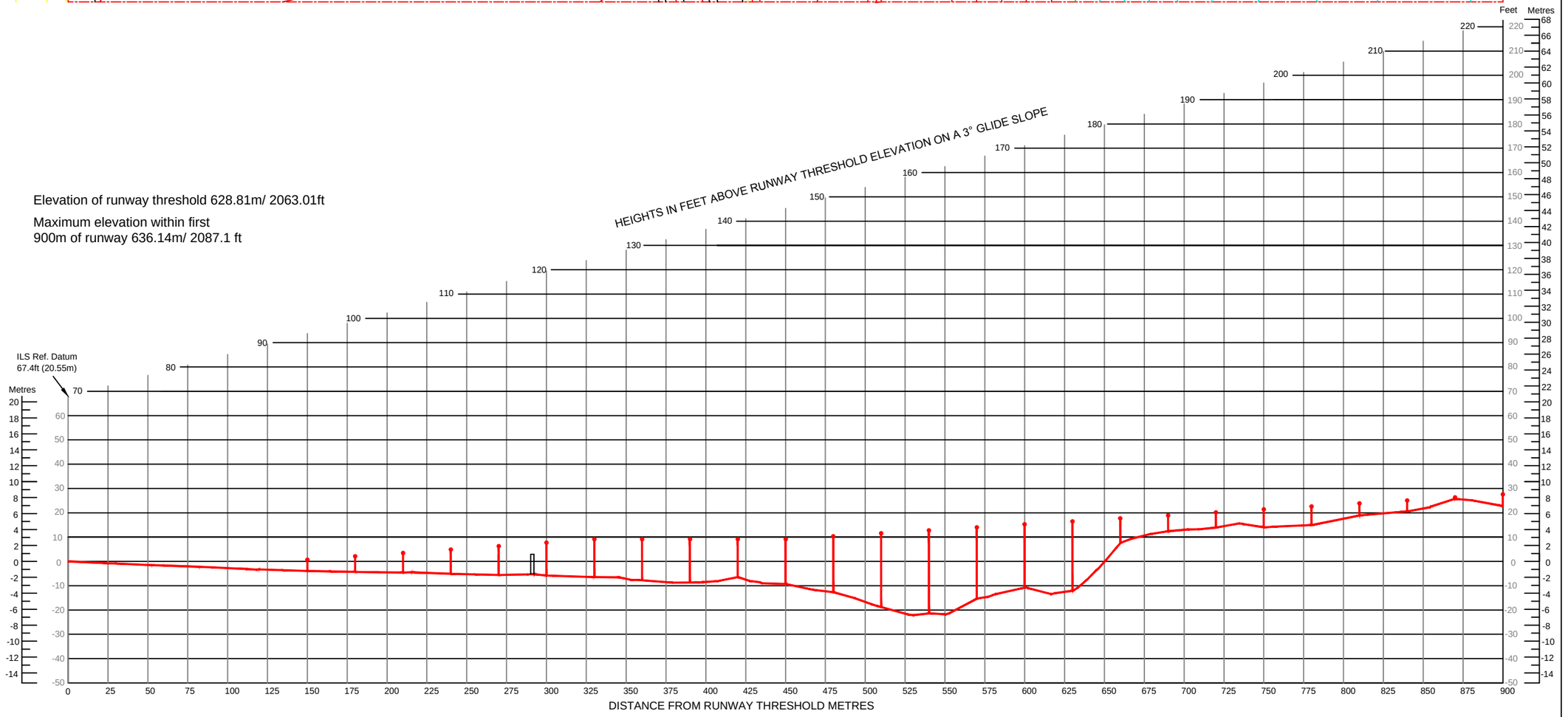
PRECISION APPROACH TERRAIN CHART - ICAO

MADINAH INTERNATIONAL
RUNWAY 35



Elevation of runway threshold 628.81m/ 2063.01ft

Maximum elevation within first
900m of runway 636.14m/ 2087.1 ft



LEGEND	
BUILDING OR LARGE STRUCTURE	
CENTRELINE PROFILE	
DEVIATION AT LEAST ±10FT (3M) FROM CENTRELINE PROFILE	

HORIZONTAL SCALE 1:2500
VERTICAL SCALE 1:500
CONTOURS AND HEIGHTS ARE IN METRES AND RELATED TO ELEVATION OF RUNWAY THRESHOLD

CHANGE: NEW SURVEY
Aerodrome Information Current FEB 2017
Based on survey dated FEB 2017

ELEVATIONS IN FEET
ALL OTHER DIMENSIONS IN METRES

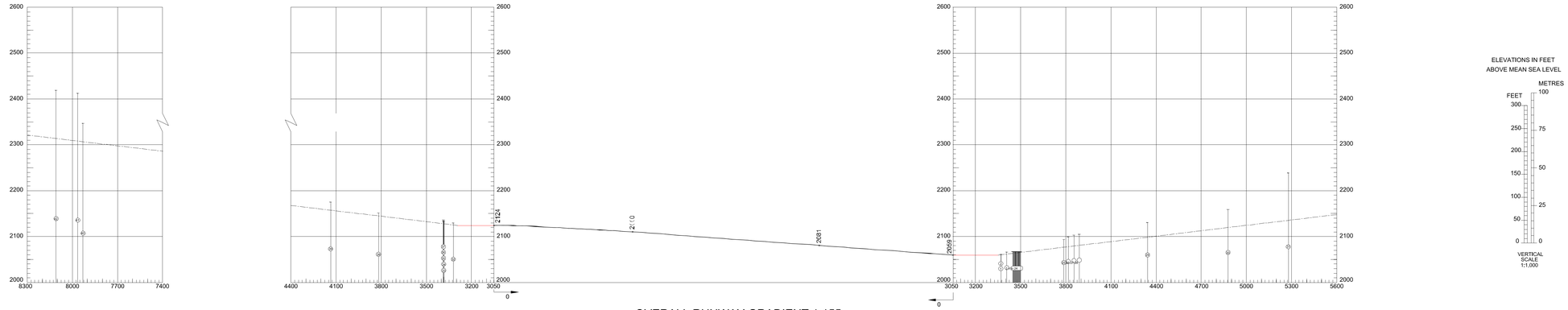
AERODROME OBSTACLE CHART - ICAO
TYPE A - OPERATING LIMITATIONS

Madinah / Prince Mohammad bin Abdulaziz Airport
KINGDOM OF SAUDI ARABIA
RWY 18-36

MAGNETIC VARIATION 4° E (2017)

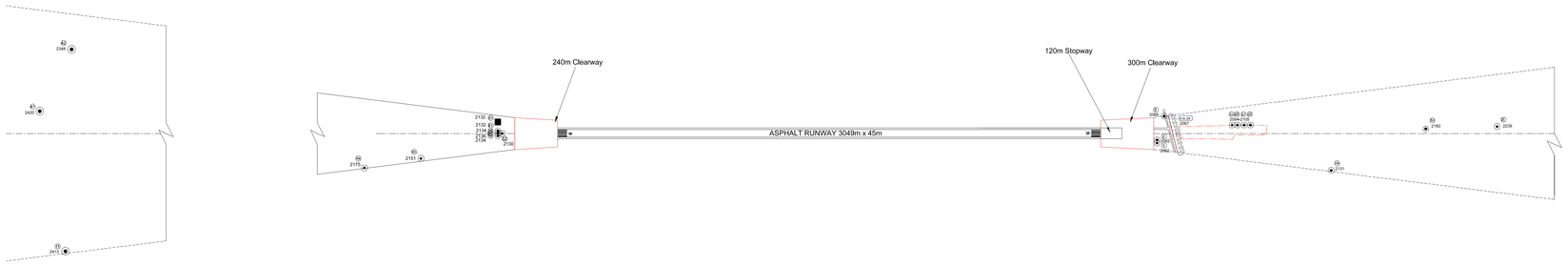
Runway 18-36

DECLARED DISTANCES		
RWY 18		RWY 36
3050	TAKE-OFF RUN AVAILABLE	3050
3350	TAKE-OFF DISTANCE AVAILABLE	3290
3170	ACCELERATE-STOP DISTANCE AVAILABLE	3050
3050	LANDING DISTANCE AVAILABLE	3050



OVERALL RUNWAY GRADIENT 1:155

ELEVATIONS IN FEET
ABOVE MEAN SEA LEVEL
FEET
METRES
VERTICAL SCALE 1:1,000



HORIZONTAL SCALE 1:10,000

METRES
500 400 300 200 100 0 500 1000 1500 2000 2500 3000

FEET
1000 500 0 1000 2000 3000 4000 5000 6000 7000 8000 9000 10000

LEGEND

		PROFILE
IDENTIFICATION NUMBER	(10)	
HEIGHT AMSL	25	
BUILDING	■	(13)
TREE / BUSH	✳	
POLE, AERIAL, TOWER, ETC	⊙	
MOBILE OBSTACLE		

ORDER OF ACCURACY: Horizontal 3m; Vertical 1ft
Aerodrome information current Feb 2017
Based on survey dated Feb 2017

ELEVATIONS IN FEET
ALL OTHER DIMENSIONS IN METRES

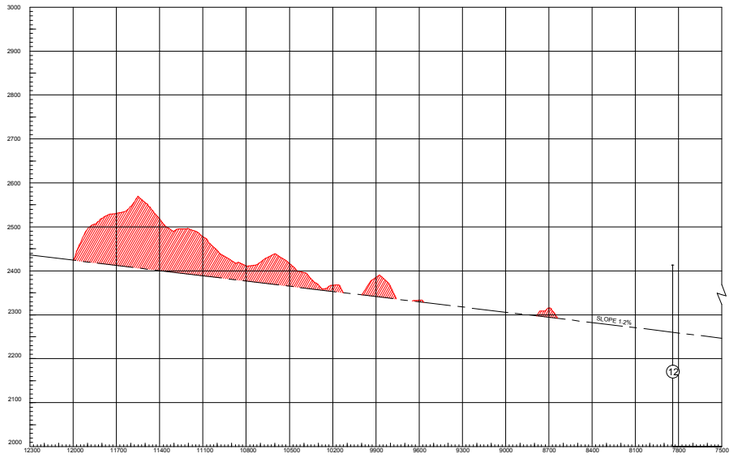
AERODROME OBSTACLE CHART - ICAO

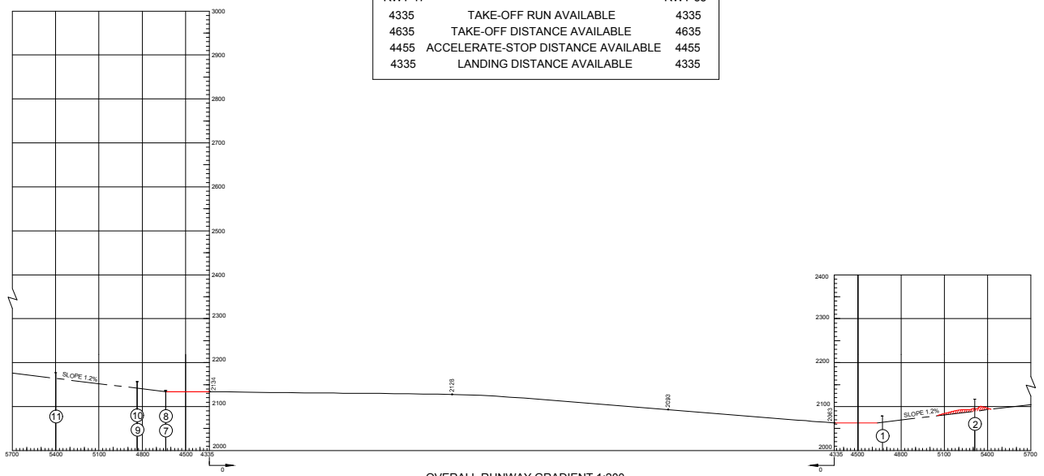
TYPE A - OPERATING LIMITATIONS

Madinah / Prince Mohammad bin Abdulaziz Airport
KINGDOM OF SAUDI ARABIA

RWY 17-35

MAGNETIC VARIATION 4° E (2017)

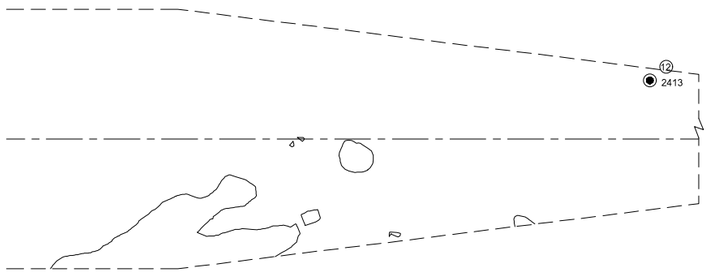


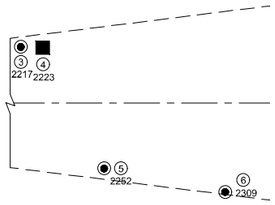


Runway 17-35

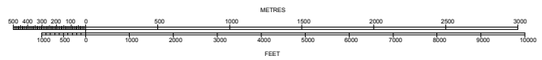
DECLARED DISTANCES		
RWY 17		RWY 35
4335	TAKE-OFF RUN AVAILABLE	4335
4635	TAKE-OFF DISTANCE AVAILABLE	4635
4455	ACCELERATE-STOP DISTANCE AVAILABLE	4455
4335	LANDING DISTANCE AVAILABLE	4335

OVERALL RUNWAY GRADIENT 1:200





LEGEND		
		PROFILE
HEIGHT AMSL	10 25	
BUILDING	■	13
TREE / BUSH	*	
POLE, AERIAL, TOWER, ETC	◉	
MOBILE OBSTACLE	═○═	



ORDER OF ACCURACY: Horizontal 3m; Vertical 1ft

Aerodrome information current Feb 2017

Based on survey dated Feb 2017

Runway 17-35

DECLARED DISTANCES		
RWY 17		RWY 35
4333	TAKE-OFF RUN AVAILABLE	4333
4633	TAKE-OFF DISTANCE AVAILABLE	4633
4453	ACCELERATE-STOP DISTANCE AVAILABLE	4453
4333	LANDING DISTANCE AVAILABLE	4333

Runway 18-36

DECLARED DISTANCES		
RWY 18		RWY 36
3049	TAKE-OFF RUN AVAILABLE	3049
3349	TAKE-OFF DISTANCE AVAILABLE	3289
3169	ACCELERATE-STOP DISTANCE AVAILABLE	3169
3049	LANDING DISTANCE AVAILABLE	3049

Approach Surface 17

Approach Surface 18

Take Off Climb 36

Take Off Climb 35

Conical Surface

Inner Horizontal

Outer Horizontal

Transitional Surface

Approach Surface 36

Approach Surface 35

Take Off Climb 18

Take Off Climb 17

	Amendments			
	Description	Drawn	Checked	Date
	Drawing created	SLC	OJB	April 2014
A	Amendments following 2015 Annual survey	ARC		October 2015
B	Amendments following 2017 survey. New obstacles start from 2500.	AMC	SLC	February 2017
C	Amendments following 2017 survey. New obstacles start from 2500.	MEB	SLC	April 2019

Drawing Title:

OEMA - Madinah, KSA

Annex 14 OLS

Sheet 1 of 2

Notes:

Levelling:
All heights are penetrations in metres except for contour heights which relate to Mean Sea Level (EGM2008)

Coordinates:
All coordinates are in metres and relate to UTM 37 grid

For details of obstructions shown, please see Annex J of Aerodrome Surveys Report

Surveyed By:
Please see Aerodrome Surveys Report

Scale: 1:25,000 @ A0

Date of Original Drawing: April 2014

Date of Issue: April 2019

Drawing Number: OEMA-323-14-03 Amendment: C

SLC GEOMATIC SOLUTIONS
Broadfields Court : Bicester Road : Aylesbury
Buckinghamshire : HP19 8BU : United Kingdom
www.slcassociates.co.uk
email: info@slcassociates.co.uk : tel: + 44 (0) 1296 717 500
ISO 9001 REGISTERED FIRM

Runway 17-35

DECLARED DISTANCES		
RWY 17		RWY 35
4333	TAKE-OFF RUN AVAILABLE	4333
4633	TAKE-OFF DISTANCE AVAILABLE	4633
4453	ACCELERATE-STOP DISTANCE AVAILABLE	4453
4333	LANDING DISTANCE AVAILABLE	4333

Runway 18-36

DECLARED DISTANCES		
RWY 18		RWY 36
3049	TAKE-OFF RUN AVAILABLE	3049
3349	TAKE-OFF DISTANCE AVAILABLE	3289
3169	ACCELERATE-STOP DISTANCE AVAILABLE	3169
3049	LANDING DISTANCE AVAILABLE	3049

Approach Surface 17
Approach Surface 18
Take Off Climb 36
Take Off Climb 35
Conical Surface
Inner Horizontal
Transitional Surface
Outer Horizontal
Take Off Climb 18
Take Off Climb 17
Approach Surface 35
Approach Surface 36
Scale: 1 in 5,000
Scale: 1 in 6,250

Amendments				
	Description	Drawn	Checked	Date
	Drawing created	SLC	OJB	April 2014
A	Amendments following 2015 survey	ARC		October 2015
B	Amendments following 2017 survey. New obstacles start from 2500.	AMC	SLC	February 2017
C	Mast ID 1124 reduced height by 5m declared by operator.	MEB	SLC	April 2019

SLC GEOMATIC SOLUTIONS
Broadfields Court : Bicester Road : Aylesbury
Buckinghamshire : HP19 8BU : United Kingdom
www.slcassociates.co.uk
email: info@slcassociates.co.uk : tel: + 44 (0) 1296 717 500
ISO 9001 REGISTERED FIRM

Drawing Title:

OEMA - Madinah, KSA

Annex 14 OLS

Sheet 2 of 2

Notes:

Levelling:
All heights are penetrations in metres except for contour heights which relate to Mean Sea Level (EGM2008)

Coordinates:
All coordinates are in metres and relate to UTM 37 grid

For details of obstructions shown, please see Annex J of Aerodrome Surveys Report

Surveyed By:
Please see Aerodrome Surveys Report

Scale: 1:25,000 @ A0

Date of Original Drawing: April 2014

Date of Issue: April 2019

Drawing Number: OEMA-323-14-04 Amendment: C

3.2.6 Vehicles Ground Movement Plan

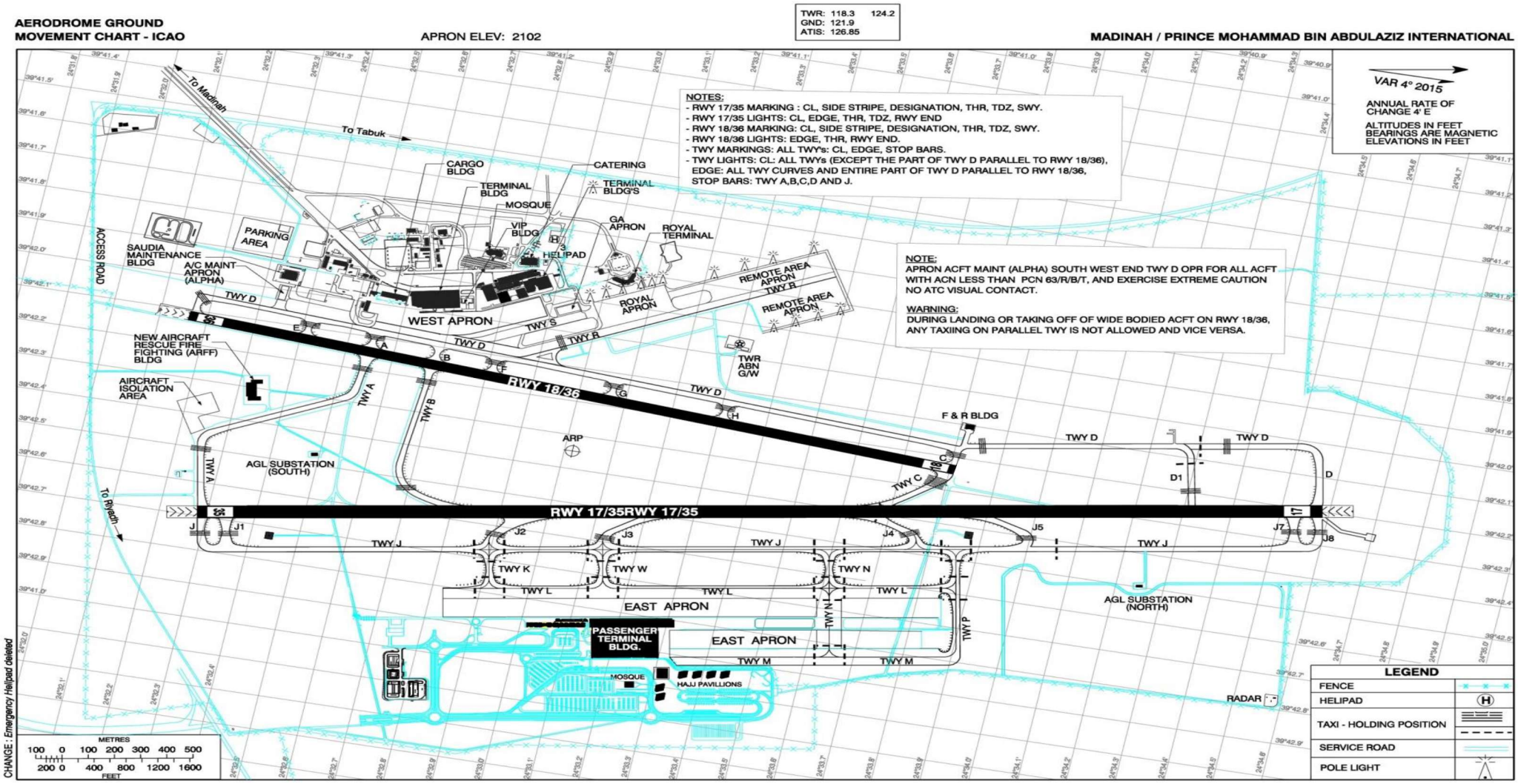


Figure 9 Ground Movement Plan