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Aeronautical Information Services
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AIC
02 /25
10 JUL 2025

Subject: IMPLEMENTATION OF LOW VISIBILITY PROCEDURE AT HAZRAT SHAHJALAL INTERNATIONAL AIRPORT, DHAKA (VGHS).

Hazrat Shahjalal International Airport, Dhaka has been upgraded from ILS CAT-I to ILS CAT-II operation for RWY-14. Accordingly low Visibility Procedure has been introduced for the smooth operations of RWY-14. This AIC has been issued for information guidance and necessary action which is effective from 10 July 2025. Low Visibility Procedure has been attached herewith.

Dhaka
03 July 2025.

Low Visibility Procedure (LVP) Operation

&

CAT-II Operation RWY-14

Hazrat Shahjalal International Airport, Dhaka

Civil Aviation Authority of Bangladesh

Version 1.0

Effective From 10 July 2025

Table of Contents

6. ACTIONS TO BE TAKEN BY VARIOUS AGENCIES (ANNEXURE – A)

- Action by Watch Supervisor Officer (WSO)/Approach Radar Controller
  - Implementation of Safeguarding Procedures (SP)
  - Implementation of LVP
  - Termination of LVP/ SP
- Action by Tower Supervisor/Controller
- Action by Tower Controller
- Action by Surface Movement Controller
- Action by Approach Radar Controller
- Action by ECR Shift In-Charge (CNS)
- Action by Duty Officer, Meteorological Office
- Action by Apron Desk/DSO/Flight Management:
- Action by CCR Shift In-Charge (Electrical)
- Action by Shift Engineers (Civil)
- Action by Airport Rescue & Fire Fighting Service (Fire)
- Action by Airport Security Section (AVSEC)
- Action by Other Airport Agencies (Airlines, Padma Oil, Catering Agencies, Airport Police, Customs, Immigration, Health Etc.)

1. DEFINITIONS & ABBREVIATIONS:

Aerodrome Operating Minima- The limits of usability of an aerodrome for:

a) take-off, expressed in terms of runway visual range and/or visibility and, if necessary, cloud conditions;

b) landing in 2D instrument approach operations, expressed in terms of visibility and/or runway visual range; minimum descent altitude/height (MDA/H) and, if necessary, cloud conditions; and

c) landing in 3D instrument approach operations, expressed in terms of visibility and/or runway visual range and decision altitude/height (DA/H) appropriate to the type and/or category of the operation.

Instrument Approach Operations. An approach and landing using instruments for navigation guidance based on an instrument approach procedure. There are two methods for executing instrument approach operations:

a) a two-dimensional (2D) instrument approach operation, using lateral navigation guidance only; and

b) a three-dimensional (3D) instrument approach operation, using both lateral and vertical navigation guidance.

Note. — Lateral and vertical navigation guidance refers to the guidance provided either by:

a) a ground-based radio navigation aid; or

b) computer-generated navigation data from ground-based, space-based, self-contained navigation aids or a combination of these.

Instrument approach operations shall be classified based on the designed lowest operating minima below which an approach operation shall only be continued with the required visual reference as follows (Annex-6, para 4.2.8.3):

a) Type A: a minimum descent height or decision height at or above 75 m (250 ft); and

b) Type B: a decision height below 75 m (250 ft).

Type B instrument approach operations are categorized as:

1) Category I (CAT I): 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;

2) Category II (CAT II): a decision height lower than 60 m (200 ft), but not lower than 30 m (100 ft) and a runway visual range not less than 300 m;

3) Category III (CAT III): a decision height (DH) lower than 30 m (100 ft), or no decision height and a runway visual range less than 300 m or no runway visual range limitations.

Note 1. — Where decision height (DH) and runway visual range (RVR) fall into different categories of operation, the instrument approach operation would be conducted in accordance with the requirements of the most demanding category.

Note 2. — The required visual reference means that section of the visual aids or of the approach area which should have been in view for sufficient time for the pilot to have made an assessment of the aircraft position and rate of change of position, in relation to the desired flight path. In the case of a circling approach operation the required visual reference is the runway environment.

Note 3. — Guidance on approach classification as it relates to instrument approach operations, procedures, runways and navigation systems is contained in the All Weather Operations Manual (Doc 9365).

Decision Height: 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.

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.

Note - 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.

ILS Sensitive Area: An area extending beyond the ILS critical area where the parking and/or movement of vehicles, including aircraft, are controlled to prevent the possibility of unacceptable interference to the ILS signal during ILS operations.

Note - The sensitive area is protected to provide protection against interferences cause by large moving objects outside the critical area but still normally within the airfield boundary.

Low-visibility operations (LVO): Approach operations in RVRs less than 550 m and/or with a DH less than 60 m (200 ft) or take-off operations in RVRs less than 400 m.

Low Visibility Procedures: Specific procedures applied at an aerodrome for the purpose of ensuring safe operations during Categories II and III approaches and/or low visibility take-offs.

Low Visibility Take-Off (LVTO): A term used in relation to flight operations referring to a take-off on a runway where the RVR is less than 400m.

Missed approach procedure: The procedure to be followed if the approach cannot be continued.

Obstacle Free Zone: The airspace above the inner approach surface, inner transitional surface and balked landing surface and that portion of the strip bounded by these surfaces,

which is not penetrated by any fixed obstacle other than of low mass and frangible mounting, required for air navigation purposes.

Runway Visual Range: The range over which the pilot of an aircraft on the centerline of a runway can see the runway surface markings or the lights delineating the runway or identifying its centerline.

Safeguarding Procedures: Safeguarding Procedures (SP) are instructions for relevant airport departments and airside operators to prepare ground services and facilities for low visibility operations, in order that when LVP are implemented all SP are complete and airport is configured for Low Visibility Procedures and Low Visibility Take-offs.

Touchdown Zone- The portion of a runway, beyond the threshold, where it is intended landing aeroplanes first contact the runway.

Visibility- Visibility for aeronautical purposes is the greater of:

a) the greatest distance at which a black object of suitable dimensions, situated near the ground, can be seen and recognized when observed against a bright background;

b) The greatest distance at which lights in the vicinity of 1000 candelas can be seen and identified against an unlit background.

Note 1. — The two distances have different values in air of a given extinction coefficient, and the latter b) varies with the background illumination. The former a) is represented by the meteorological optical range (MOR).

Note 2. — The definition applies to the observations of visibility in local routine and special reports, to the observations of prevailing and minimum visibility reported in METAR and SPECI and to the observations of ground visibility.

2. The abbreviations used in descriptions of Low Visibility Procedures have the following meanings:

ACAS - Airborne Collision Avoidance System

AGL - Aeronautical Ground Light

ALS - Approach Lighting System

AOC - Air Operator Certificate

AOCC - Airport Operations Control Centre

AOM - Aerodrome Operating Minima

A-SMGCS - Advanced Surface Movement Guidance and Control System

ARFF - Airport Rescue & Fire Fighting

ATC - Air Traffic Control

ATIS - Automatic Terminal Information Service

ATS - Air Traffic Services

AWO - All-Weather Operations

BALS - Basic Approach Lighting System

BARO-VNAV - Barometric Vertical Navigation

CDFA - Continuous descent final approach

CFIT - Controlled flight into terrain

CMV - Converted meteorological visibility

DA - Decision altitude

DA/H - Decision altitude/height

DDM - Difference in depth of modulation

DH - Decision height

DME - Distance measuring equipment

FAF - Final approach fix

FALS - Full approach lighting system

FMS - Flight management system

GNSS - Global navigation satellite system

GP - Glide Path

HIALS - High intensity approach lighting system

IALS - Intermediate approach lighting system

IAS - Indicated airspeed

IFR - Instrument flight rules

IHP - Intermediate Holding Position

ILS - Instrument landing system

IMC - Instrument meteorological conditions

LDA - Landing distance available

LED - Light emitting diode

LOC - Localizer

LNAV - Lateral navigation

LP - Localizer performance

LPV - Localizer performance with vertical guidance

LSA - Localizer Sensitive Area

LVO - Low-visibility operations

LVP - Low-visibility procedures

MAPt - Missed approach point

MDA - Minimum descent altitude

MDA/H - Minimum descent altitude/height

MDH - Minimum descent height

MEL - Minimum equipment list

MET - Meteorological

METAR - Aviation routine weather report

MID - Runway mid-point

MLS - Microwave landing system

MOC - Minimum obstacle clearance

MSL - Mean sea level

MTBO - Mean time between outages

NALS - No approach lighting system

NDB - Non-directional beacon

NOTAM - Notice to airmen

NPA - Non-precision approach

OCA - Obstacle clearance altitude

OCA/H - Obstacle clearance altitude/height

OCH - Obstacle clearance height

OFZ - Obstacle-free zone

PA - Precision approach

PAR - Precision approach radar

PBN - Performance-based navigation

RCLL - Runway centre line lights

RNAV - Area navigation

RNP - Required navigation performance

RTZL - Runway touchdown zone lights

RVR - Runway visual range

SARPs - Standards and Recommended Practices

SBAS - Satellite-based augmentation system

SID - Standard instrument departure

SIGMET - Significant weather report

SMC - Surface Movement Control

SP - Safe Guarding Procedures

SPECI - Aerodrome special meteorological report

SRA - Surveillance radar approach

STAR - Standard instrument arrival

TDZ - Touchdown zone

THR - Threshold

TSO - Tower Supervisory Officer

VGSI - Visual glideslope indicators

VIS - Visibility

VMC - Visual meteorological conditions

VNAV - Vertical navigation

VOR - Very high frequency omnidirectional radio range

WSO - Watch Supervisory Officer

2. INTRODUCTION

2.1 General

2.1.1 At HSIA Airport, Dhaka, Runway 14 is equipped with ILS CAT II facilities. Low visibility procedures (LVP) shall be implemented at the airport before the conduct of ILS CAT-II Operations and/or Departures in RVR less than 400m.

2.1.2 LVP shall only be implemented when Safeguarding Procedures (SP) have been completed and the airport is configured for low visibility operations.

2.1.3 The pilot shall ensure that he/she is suitably qualified and certified to carry out the required category of ILS approach. It shall be the responsibility of the Pilot to decide the category of ILS Approach he/she may wish to carry out under the given conditions.

2.2 Equipment

2.2.1 The following equipment shall be serviceable to the required standard.

a) ILS localizer Transmitters (Both Main and Stand by) Ref Para 2.2.2

b) ILS glide path Transmitter (Both Main and Stand by) Ref Para 2.2.2

c) ILS Landing DME Transponder (Both Main and Stand by) Ref Para 2.2.2

d) Airfield ground lighting system (AGL) according to the requirement of Para 2.2.2.

e) Instrumented RVR system: (TDZ & MID for CAT II) Ref Para 2.2.2

f) Standby power supply for ILS

g) UPS/ Standby Diesel Generator Set for aeronautical ground lighting system.

h) Advanced Surface Movement Guidance and Control System (A-SMGCS) and Follow Me vehicle for CAT II operations/ LVTO (for RVR below 400M).

When any equipment and facilities listed in Para 2.2.1 above becomes unserviceable during periods of LVP, the concerned ATC unit shall advise all aircraft and accordingly suspend CAT II/LVTO operations (Ref para 3.4). Information to this effect shall be included in ATIS broadcast.

The pilot shall ensure that he/she is suitably qualified and certified to carry out the required category of ILS approach.

2.2.2 The unserviceability of the above mentioned items will affect the operations as given in the table Below.:

Facility	**Unserviceability**	**Restrictions**
		Arrivals
ILS Localizer	One transmitter Unserviceable	Suspend CAT-II operations
ILS Glide Path	One transmitter Unserviceable	Suspend CAT-II operations
ILS DME	One transmitter Unserviceable	Suspend CAT-II operations

RVR System	TDZ RVR	Suspend CAT-II operations
	MID RVR	Suspend CAT-II operations
Stand By Power Supply	Generator unserviceable	Suspend CAT-II operations
Approach lights	The inner 450 meters more than 05% of all lights	Suspend CAT-II operations
	Beyond 450 meters more than 15% of all lights	Suspend CAT-II operations
Runway Edge lights	More than 5% of all lights	Suspend CAT-II operations
	Two adjacent lights	Suspend CAT-II operations
Runway Center-line lights	More than 5% of all Lights	Suspend CAT-II operations
	3 (Three) adjacent lamps	Suspend CAT-II operations
Touchdown Zone lights	More than 10% of all Lights	Suspend CAT-II operations
	Lateral Three lamp in a Barrette Longitudinally Two lamp	Suspend CAT-II operations
Threshold lights	More than 5% of all Lights	Suspend CAT-II operations
	Two adjacent lamps	Suspend CAT-II operations
Runway End lights	More than 25% of all Lights	Suspend CAT-II operations
	Two adjacent lamps	Suspend CAT-II operations
Stop Bar Lights	Two adjacent lamps	Suspend CAT-II operations
Taxiway Centre-line Lights	Two adjacent Lamps	Close affected taxiways, use alternate taxi route

** No aircraft will be allowed for making 180^0 turn on the Runway during CAT-II ILS operation.

* Spacing between RWY Centre Line lights is 15m

NOTE 1: Un-serviceability of any of the following facilities does not affect CAT-II operations:

i) PAPI

ii) Taxiway edge lights on curves.

2.3 ILS Sensitive and Critical Areas

2.3.1 The ILS critical and sensitive areas have been shown in ANNEXURE C1-C2-C3. Protection of these areas during CAT-II operations shall be ensured as per Standard Operating Procedures.

Note: Signage indicating the limits of localizer and glide paths sensitive areas are provided.

2.3.2 Diagram indicating the Critical and Sensitive area of ILS for RWY-14 shall be available with apron control, control tower and WSO/App. Controller.

2.4 Reporting of RVR Values

2.4.1 Touch-down zone RVR needs to be reported for Cat I operations; touch-down and mid zone RVR for Cat II operations. In all cases, touch-down zone RVR will always be controlling RVR. The mid zone can be lower than the touch-down zone provided conditions enumerated in Note 1 below are satisfied. The following table should be used for reference;

Table 2-1

Type of operation	RVR	
	Touch-down zone	Mid zone
CAT-I	600 m	125 m
CAT-II	350m	125 m

Note 1: The use of minimum RVRs in the table above is subject to:

- operator authorization;
- aeroplane authorization;
- flight crew training and qualification; and
- aerodrome facilities.

3. SAFEGUARDING AND LOW VISIBILITY PROCEDURE

3.1 Safeguarding Procedures (SP)

3.1.1 Criteria for Initiation of Safeguarding Procedures:

Safeguarding Procedures shall be initiated when:

a) The RVR is less than 1200 m or visibility is forecast to deteriorate to 800m or less; and/or

b) The cloud ceiling is 400 ft and forecast to fall to 200 ft or less.

3.1.2 Necessary actions to prepare the airport for Low Visibility Procedures:

a. inspection of aeronautical ground lighting system,

b. termination of all work in progress in the localizer and glide path sensitive area and the maneuvering area,

c. removal of all equipment/material from localizer and glide path sensitive area and the maneuvering area,

d. restrictions on the movement of vehicles on the maneuvering area and aprons.

3.1.3 Process of initiation of Safeguarding Procedures:

a) When meteorological conditions meet the criteria for initiation of SP as stipulated in Para 3.1.1. The Approach Controller will inform Apron Desk/DSO/Flight Management, ECR Shift In-Charge (CNS), CCR Shift In-Charge, TSO/TC and Duty Met Officer.

b) On receipt of the above information the concerned agencies will take action as mentioned in Para 6.

c) When all the concerned agencies have completed their necessary actions they shall report to WSO/TSO/App. Controller that their Safeguarding Procedure (SP) is completed and the airport is safeguarded for LVP operations.

3.2 LOW VISIBILITY PROCEDURES (LVP)

3.2.1 Criteria for implementation of Low Visibility Procedures:

Low Visibility Procedures shall be implemented when,

a) Either, TDZ RVR is less than 800m; and/or Cloud ceiling is less than 400 ft; and

b) Safeguarding Procedures (SP) have been completed and the airport is safeguarded.

(Note: Though LVP is implemented when RVR is less than 800m, ILS CAT I operation will continue till TDZ RVR is not less than 600m)

3.2.2 Actions to be taken upon Implementation of Low Visibility Procedures

3.2.2.1 When meteorological conditions meet the criteria for LVP as stipulated in Para 3.2.1, and airport is safeguarded, WSO/TSO/App. WSO/APP Controller shall implement Low Visibility Procedure and inform:

a) Aerodrome Tower Supervisor (TSO)/Tower Controller (TC);

b) Approach Radar Controller (TAR) when required;

c) ECR Shift In-Charge (CNS);

d) CCR Shift In-Charge;

e) Duty Met. Officer.

3.2.2.2 Upon implementation of LVP, Tower Supervisor (TSO)/Tower Controller (TC) will inform:

a) Fire station

b) Apron Desk/ Flight Management/DSO

And ensure that **"LOW VISIBILITY PROCEDURE IN FORCE"** is included in ATIS Broadcast by TSO/TC. This information will remain in ATIS still the cancelation of LVP.

3.3 Actions to be Taken by Various Agencies During LVP and SP

Details are enumerated in Annexure-A.

3.4 Cancellations of Safeguarding Procedures (SP) & Low Visibility Procedure (LVP)

3.4.1. WSO/TSO/App Controller (TAR) may terminate LVP when:

a) Meteorological conditions improve and TDZ & MID RVR are 800 m or more and/or the cloud ceiling is 400 ft or higher, and trend is for improvement for runway14; or,

b) Facilities and equipment (listed in Para 2.2.1) necessary for CAT II operations are degraded and/or the prevailing conditions are considered unsafe for such operations.

3.4.2. On cancellation of LVP by WSO/TSO/App Controller (TAR) shall inform all concerned agencies and include **"LOW VISIBILITY PROCEDURES ARE CANCELLED"** in the subsequent to ATIS broadcasts.

3.4.3. In case SP has been completed, but LVP is not initiated and subsequently meteorological conditions improve such that the visibility/RVR is more than 1200m, cloud ceiling is 400 ft or higher and both are forecast to remain above the required SP criteria, WSO/TSO/App Controller (TAR) may cancel SP.

4. LOW VISIBILITY OPERATING PROCEDURES (LVP)

4.1 AERODROME GROUND LIGHTING

4.1.1 When Safeguarding Procedure (SP) is implemented TSO/TC shall ensure appropriate selection of aerodrome ground lighting CAT II facilities. These facilities shall remain selected until SP and LVP are cancelled.

4.1.2 During SP and LVP, CCR Shift In-charge shall monitor the status of all concerned ground lights and immediately advise ATC Tower of any un-serviceability affecting the operations.

4.1.3 TSO shall report any un-serviceability of AGL observed in the Tower indicator or reported by aircraft.

4.1.4 During the period of LVP, the lights on taxiways that are not being used may be switched off.

4.2 LIGHTING INSPECTION PROCEDURES

4.2.1. The appropriate aeronautical ground lights must be inspected during the hour preceding implementation of LVP and thereafter every subsequent two-hour period. CCR Shift In-Charge shall carry out close monitoring of serviceability of AGL. The lighting inspections should be accorded high priority and for this purpose aircraft operations may have to be delayed if necessary.

4.2.2. CCR Shift In-charge shall be responsible for organizing inspections of the relevant aeronautical ground lighting. To ensure minimum delay in completing the inspection, separate teams may inspect the landing runway, associated taxiways and apron area.

4.2.3. Only the lighting for the active runway and associated taxiways are required to be inspected.

4.3 APPROACH/ RADAR CONTROL PROCEDURES

4.3.1. During LVP the Approach Radar Controller (TAR) shall have the following information

a) Status of ILS

b) RVR information of TDZ and MID.

Note: Any degradation in any of the above facilities shall be immediately intimated to the arriving and departing aircraft by Approach/Tower controller

4.3.2. In addition to the information normally transmitted by Approach Radar Controller, the information specified in 4.1.3 and 4.1.4 must be passed to the arriving aircraft on first contact or as soon as possible along-with the un-serviceability, if any, of any component parts of CAT II facilities not previously broadcast on ATIS.

4.3.3. When reporting RVR to pilots, the TDZ RVR shall always be passed for Landing RWY.

4.3.4. In addition to Para 4.3.3, for CAT II Operations - If TDZ RVR is below 600m then MID RVR shall also be passed.

4.3.5. Approach Radar Controller should vector the arriving aircraft to intercept the localizer at a distance not less than 10NM from touchdown.

4.3.6. Suitable spacing between the arriving aircraft should be provided to ensure that the arriving aircraft can be given a landing clearance by 4 NM from touchdown. If there is a departure between the two arrivals, the spacing between the arriving aircraft may be suitably increased to ensure that the departing aircraft passes **0.5** NM (DAC VOR) from end of Runway before the inbound aircraft reaches 4NM from touchdown.

4.3.7. Approach Radar Controller shall not subject an aircraft carrying out CAT II approaches to any speed control when within 20NM from touchdown.

4.4 AERODROME CONTROL PROCEDURES

4.4.1. Arriving aircraft shall be issued landing clearance not later than 4NM from touchdown. If landing clearance cannot be issued when the aircraft is 2NM from touchdown it shall be instructed to carry out a missed approach.

4.4.2. Arriving aircraft should be given unimpeded taxi route to allow it to clear the localizer sensitive area expeditiously.

4.4.3 Departing aircraft will not be allowed to lineup once arriving aircraft has established localizer.

4.4.3. The LSA in front of an arriving aircraft shall not be infringed from the time it is 4NM from the touchdown until it has completed its landing roll.

4.4.4. Landing clearance shall not be issued until a preceding landing aircraft has vacated Localizer Sensitive Area (LSA) and confirmed by Pilot.

4.4.5. Aerodrome Control shall initiate emergency action if an aircraft is not seen/observed in A-SMGCS/visually or not in radio contact as expected.

4.4.6 In case of communication lost with Tower Frequency 118.3 MHz while aircraft on final for landing or on the Runway for departure and not received the clearance, aircraft shall contact Dhaka ground (SMC) frequency 121.8 MHz.

44.4.7 If aircraft has been received the landing or take-off clearance, the landing aircraft will make landing and vacate the Runway via available taxiway, then contact Dhaka ground (SMC) frequency 121.8 MHz. On the other hand, the departing aircraft will execute take-off and after airborne change to Dhaka Approach Frequency 121.3 MHz.

4.5 SURFACE MOVEMENT CONTROL PROCEDURES

4.5.1 Pilots need additional guidance and information when taxiing during periods of reduced visibility and CAT-II operation. The view from the cockpit of the aircraft is very limited. Therefore, taxi instructions and essential local traffic information should be passed in a clear and concise manner.

4.5.2 SMC shall inform all taxiing aircraft of the preceding taxiing or holding aircraft.

4.5.3 Aircraft should be assigned taxi-routes in accordance with Tables 4-1, as far as practicable. However, due to infrastructural constraints at HSIA, Dhaka, there are some conflicting taxiway intersections as well as overlapping portions in arrival and departure taxi routes in the mentioned tables. Sometimes, it may be necessary to route aircraft via alternative taxiways due to operational reasons. However, alternate taxi-route will be exercised during CAT-II conditions only.

4.5.4 Follow-me shall be kept stand by and provided when requested by Pilots.

4.5.5 Surface Movement Controller should monitor the progress of arriving aircraft on A-SMGCS Display as they vacate the runway after landing and ensure that they do not stop within the Localizer Sensitive Area (LSA) thereby degrading ILS integrity for subsequent landing aircraft. Pilots shall report runway vacated on RTF using the guidance of color coded exit taxiway centerline lights.

4.5.6 Vehicle movement, when RVR is less than 600m, should be restricted. Only operationally essential vehicle duly authorized by Tower control/SMC should be permitted to operate on the maneuvering area. These vehicles shall remain outside the Localizer Sensitive Area(LSA). Any movement of vehicle on the maneuvering area shall be coordinated with ATC through Walkie-Talkie. During CAT II operations, vehicle fitted with (Vehicle Tracker) System (VTS) shall only be permitted on the maneuvering area.

4.6 LOW VISIBILITY PROCEDURE TAXI ROUTE

4.6.1 After LVP is declared, AGL Shift Supervisor will ensure that the lead-in lights of all CAT-II compatible stands are switched ON.

4.6.2 During CAT II or ILS visibility conditions i.e. when RVR reduced to less than 600 m, 'Follow me' service shall be provided whenever deemed necessary by ATC or requested by pilot. "FOLLOW ME" service can be put into use up to a minimum visibility of 150m.

4.6.3 Person providing "FOLLOW ME" service shall be trained and fully familiar with the taxi routes intersections and other maneuvering area/apron/parking stands.

4.6.4 During CAT II ILS operations, aircraft should be routed in accordance with the pre-designated taxi routes as given in Table 4-1 below, unless otherwise necessitated due operational requirements:

Table 4-1

RWY 14	Arrival taxi routes to Main Apron & Cargo Apron	Route I: Vacate via TWY S1, then TWY S, TWY C i. Bay 4 to 11 (Main Apron) ii. Stand 18 to 26 (Main Apron) iii. then via TWY N, TWY F to Stand 12S to 14N, and stand 15 to 18N (Main Apron) iv. then via TWY N, TWY E to Stand D5 to D18 (Cargo Apron) Route II: Vacate via TWY S2, then TWY S, TWY C i. Bay 4 to 11 (Main Apron) ii. Stand 18 to 26 (Main Apron) iii. then via TWY N, TWY F to Stand 12S to 14N, and stand 15 to 18N (Main Apron) iv. then via TWY N, TWY E to Stand D5 to D18 (Cargo Apron) Route III: Vacate via TWY S3, then TWY S, TWY C i. Bay 4 to 11 (Main Apron) ii. Stand 18 to 26 (Main Apron) iii. then via TWY N, TWY F to Stand 12S to 14N, and stand 15 to 18N (Main Apron) iv. then via TWY N, TWY E to Stand D5 to D18 (Cargo Apron)
	Departure taxi routes from Main Apron & Cargo Apron	Taxi to CAT II holding point RWY 14 via i. Stands 4 to 11, Stands 18 to 26 (Main Apron) – TWY C, N, N2 or N1 ii. Stands 12S to 14N, Stand 15 to 18N (Apron) – TWY F, N, N2 or N1 iii. Stands D5 to D18, (Cargo Apron) – TWY E, N, N2 or N1
	Hotspots	Junction of TWY N, N1, E, (during route I and II) Junction of TWY S, N, C (during route I and II)

4.7 VEHICULAR MOVEMENT

4.7.1 Vehicle movement, when RVR is less than 600m, should be restricted. Only operationally essential vehicle duly authorized by Apron Desk/Tower/SMC should be permitted to operate on the maneuvering area. These vehicles shall remain outside the Localizer Sensitive Area [LSA].

4.7.2 Any movement of vehicle on the maneuvering area shall be coordinated with ATC.

4.7.3 During CAT II operations, vehicles fitted with walkie-talkie, Beacon lights, VTS (when available) serviceable shall only be permitted on the maneuvering area. However, other vehicles crossing taxiways, on service road and Apron taxiways shall be regulated by Tower/SMC/Apron Desk.

4.7.4 A diagram showing vehicular lanes is provided in ANNEXURE – B and B1.

4.8 AIRCRAFT MOVEMENT

4.8.1 Aircraft shall not be held at any point closer to the runway than the CAT-II holding point/ stop-bar.

4.8.2 If any portion of taxiways mentioned in Table 4-1 is not available for taxiing, CAT-II operation Runway 14 shall be suspended.

4.9 LOW VISIBILITY TAKE-OFF (LVTO)

4.9.1 LVTO pertains to take off when the RVR is below 400 m and is applicable whenever the reported RVR in any zone (touch-down/mid RVR) is below 400 m. The facilities and conditions of Table 4-2 below will be as per the lowest RVR reported in any zone (e.g. if the RVR is 400/300 representing the two zones, then the 300 m will be the RVR for reckoning facilities and conditions of Table 4-2.

Table 4-2

Take-Off RVR/Visibility	
Facilities	RVR/Visibility[1] CAT A, B,C & D
Adequate visual reference[2] (Day only)	500 m
Runway Edge Lights or Runway Center Line Markings[3]	400 m
Runway Edge Lights and Runway Center Line Markings[3]	300 m

Note 1 – The TDZ RVR/VIS may be assessed by the pilot.
Note 2 - Adequate Visual reference means, that a pilot is able to continuously identify the take-off surface and maintain directional control.

Note 3 - For night operations at least runway edge lights or center line lights and runway end lights are available.

4.9.2 An operator shall not conduct low visibility take-off in less than 400m RVR unless approved by Chairman, CAAB.

4.9.3 An operator shall not conduct take-off with visibility/RVR less than Category I conditions unless low visibility procedures are enforced.

5. DESCRIPTION OF EQUIPMENT AND SERVICES

5.1 RUNWAY VISUAL RANGE (RVR)

5.1.1 There are three transmissometers for RWY 14 to record RVR values. One transmissometer is located each at touchdown zone, runway midpoint and end of runway. RVR values always refer to Touchdown RVR (TDZ) and Mid-point RVR (MID).

5.1.2 RVR is reported in the following scales:

a) From 2000m to 1200m, increments of 100m

b) From 1200m to 800m, increments of 50m

c) From 800m to 350m, increments of 25m

5.1.3 Equipment serviceability for CAT II operations, TDZ and MID RVR transmissometers shall be available.

5 .2 AERONAUTICAL GROUND LIGHTING(AGL) SYSTEM

5.2.1 The Precision Approach lighting system for CAT II operations are installed for RWY 14 at HSIA.

5.2.2 The Electrical Power Supply Systems for AGL are so designed that the time interval between failure of the primary source of power and the complete restoration of the services for visual aids associated CATII operations, shall be in accordance with maximum switch-over times one (1) second.

5.2.3 During the LVP operation, irrespective of RVRs, the Dhaka Electric Supply Company Ltd. (DESCO) power supply will be the primary source through on line UPS for the systems which require a maximum of one second switchover time and the DG set shall be put into operation mode to meet the requirements in case of power failure. The power change over for other systems which are not covered with the UPS back up shall be getting the power supply through DG Sets within 15 seconds from the time of power failure.

5.2.4 Stop Bars: Stop bars have been provided on taxiway N1 and N2, at CAT II holding position for runway 14

5.2.5 Entry taxiway lights: The Stop Bars mentioned in Para 5.2.4. have been provided with interlocked Entry taxiway centerline lights

5.2.6 Exit taxiway lights: The alternate yellow and green centerline lights for exit taxiways have been installed on taxiway S1 & S2, S3 for CAT II operation runway 14.

5.2.7. Taxiway edge lights: Taxiway edge lights are available on all Taxiways curve.

5.3 NAVIGATIONAL AIDS

5.3.1 RWY 14 has been equipped with Instrument Landing System (ILS) for CAT-II operations.

5.3.2 The ILS Category Monitor Panel at the Control Tower indicate availability of ILS category by displaying the status of the following equipment:

i. Localizer transmitters

ii. Glide path transmitters

iii. ILS DME

Note: Since indicators in Tower display status of only the operating localizer and Glide-path transmitters, ECR Officer In-charge shall promptly inform WSO//App. Controller and TSO/Tower Controller about failure of any of main and/or standby transmitters of any unit, even if non-operative.

5.3.3 ILS equipment serviceability required for CAT II operations: -

i. Both main and standby localizer transmitters;

ii. Both main and standby glide path transmitters;

iii. Main and Standby power supply for each unit of ILS.

iv. ILS DME

5.4 AIRPORT RESCUE & FIRE FIGHTING SERVICE (ARFF)

5.4.1 During LVP following predetermined positions (PDP) will be taken by ARFF vehicles:

a) Fire Emergency Road holding point (west of Fire station)

b) In front of main fire station

5.4.3 ARFF vehicles shall move from PDPs only after positive clearance from ATC.

5.4.4 In the event of an incident when LVP are in force, Aerodrome Control and SMC should provide the maximum assistance in directing ARFF to required location.

ANNEXURE – A

6. ACTIONS TO BE TAKEN BY VARIOUS AGENCIES

6. 1 Before commencement of winter season, a meeting will be held by Executive Director, HSIA, along with all stake-holders, in the month of November every year to inform all airlines and agencies operating at airport about their roles/ responsibilities and create awareness to ensure cooperation for safe airport operations during periods of low visibility.

6.2 a) All the agencies shall ensure that staff and drivers are suitably trained during LVP operations.

b) All Sections shall maintain Log Book of starting & ending SG & LVP operations including their actions and time properly.

6.3 Action by ATC Watch Supervisory Officer (WSO), HSIA

6.3.1 Implementation of Safeguarding Procedures (SP)

When RVR is less than 1200m and visibility is forecast to deteriorate 800m or below and/or the cloud ceiling is 400ft and is forecast to fall to 200ft or less, WSO/TSO/App. Controller (TAR) shall initiate Safeguarding Procedures and inform:

a) Apron Desk In-charge/DSO/Flight Management/AOCC
b) ECR Shift In-Charge (CNS), HSIA
c) Tower Supervisor (TSO)
d) CCR Shift In-Charge
e) Duty Met Officer

6.3.2 Implementation of LVP

6.3.2.1 WSO/TSO/App. Controller(TAR) shall implement Low Visibility Procedures when either

a) TDZ or MID RVR is less than 800m; and/or Cloud ceiling is less than 200ft, and

b) Safeguarding Procedures (SP) have been completed and the airport is configured for Low Visibility Operations.

6.3.2.2 WSO/TSO/App. Controller (TAR) shall inform:

a) Aerodrome Tower Supervisor (TSO) as appropriate

b) Approach Radar Controller (TAR) as appropriate

c) ECR Shift In-Charge (CNS), HSIA

d) CCR In-Charge

e) Duty Met. Officer

6.3.3 Termination of LVP/ SP:

6.3.3.1. WSO/TSO/Approach Controller(TAR) may terminate LVP when:

a) Meteorological conditions improve and TDZ & MID RVR are 800 m or more and the cloud ceiling is 200 ft or higher, and trend is for improvement for both runways, or

b) Facilities, equipment and services necessary for CAT II operations are degraded and/or the prevailing conditions are considered unsafe for such operations.

6.3.3.2. WSO/TSO/Approach Controller(TAR) should intimate cancellation of LVP to:

a) Aerodrome Tower Supervisor (TSO)
b) Approach Radar Controller (TAR)
c) ECR Shift In-Charge (CNS), HSIA
d) CCR Shift In-Charge;
e) Duty Met. Officer
f) Apron Desk In-charge/DSO/Flight Management/AOCC

6.3.3.3. In case SP has been completed, but LVP is not initiated and subsequently meteorological conditions improve such that the visibility/RVR is more than 1200m, cloud ceiling is 400ft or higher and both are forecast to remain above the required SP criteria, WSO/TSO/Approach Controller(TAR) may cancel SP.

6.4 Action by Tower Supervisor/Controller:

6.4.1 On being notified by WSO/TSO/App. Controller(TAR) that Safeguarding Procedures have been initiated, TSO/TC shall:

a) inform Aerodrome Rescue & Fire Fighting Services,
b) check ILS status
c) check that AGL is correctly selected and operating properly
d) check RVR displays

6.4.2 On commencement of Low Visibility Procedures, TSO/TC shall:

a) inform Aerodrome Rescue & Fire Fighting Services & Apron Desk/DSO/Flight Management

b) check ATIS broadcast and include the message that "ILS CAT II Low Visibility Procedures in Force".

c) ensure that record of all actions pertaining to ATC is maintained with time and signed by the officer taking action.

6.4.3 TSO shall promptly inform ECR Shift In-Charge (CNS) and/or Apron Desk/CCR Shift In-charge, as appropriate, of any unserviceability of ILS/AGL observed or reported.

On cancellation of LVP by WSO, TSO shall inform all concerned agencies and include **"LOW VISIBILITY PROCEDURES ARE CANCELLED"** in the subsequent two ATIS broadcasts.

6.5 Action by Tower Controller

6.5.1 After the commencement of Low Visibility Procedures, Tower Controller shall:

a) Give landing clearance to aircraft not later than 4NM from touchdown.

b) Inform changes in RVR readings to the landing aircraft.

c) Give an unimpeded taxi route to arriving aircraft to allow it to clear the Localizer Sensitive Area expeditiously.

d) Inform pilots about failures of ILS, lighting system, transmissometer relevant to ILS CAT II and Low Visibility Operations.

e) Initiate emergency action if aircraft on CAT II ILS is not seen (on radar display or otherwise) or not in radio contact, as expected.

6. 6 Action by Surface Movement (SMC) Controller

6.6.1 During the period the Low Visibility Procedures are effective the Surface Movement Controller shall:

a) Monitor all surface movement of aircraft and vehicles on the manoeuvring area.

b) Inform all taxiing aircraft of the preceding taxiing or holding aircraft.

c) Hand over only one aircraft at a time to Tower Controller.

6.6.2 Pilots need additional guidance and information when taxiing during periods of reduced visibility. The view from the cockpit of the aircraft is very limited. Therefore, taxi instructions and essential traffic information should be passed in a clear and concise manner.

6.6.3 Aircraft should be assigned taxi-routes in accordance Tables 4-1, as far as practicable. However, due to infrastructural constraints at HSIA, there are some conflicting taxiway intersections as well as overlapping portions in arrival and departure taxi routes in Table 4-1. Sometimes, it may be necessary to route aircraft via alternative taxiways due to operational reasons.

6.6.4 Ensure availability of 'Follow Me' service to aircraft as and when requested by Pilot.

6.7 Action by Approach Radar Controller

6.7.1 On being advised by WSO that ILS CAT II Low Visibility Procedures are in force, the Approach/Radar Controller shall:

a) Inform the arriving aircraft **"ILS CAT II "Low Visibility Procedures in Force".**

Note: Ensure that Pilot acknowledges of being cleared for ILS CAT II approach.

b) Inform TDZ RVR to arriving aircraft and in addition, for CAT II operations - If TDZ RVR is below 600m then MID RVR shall also be passed.

Note: After an aircraft is 8NM from Touch Down or has passed 6 ILS DME, RVR observations need not be passed unless there is changes in RVR values.

c) Vector the aircraft to intercept the localizer not less than 10NM from touchdown.
d) Not subject an aircraft to any speed control when within 20NM from touchdown.
e) Provide suitable spacing so as to ensure that landing clearance can be issued to arriving aircraft not later than 4NM from touchdown.

6.8 Action by ECR Shift In-Charge (CNS)

6.8.1 On receipt of "Outlook for LVP" from the WSO/TSO/App. Radar Controller, ECR Shift In-Charge (CNS) shall:

a) inform the Duty Officer, Equipment Room
b) inform the Duty Engineer, NAV-Aids,
c) check the status of:
   i. Main and standby ILS system (LLZ/Glide Path/ILS-DME); and
   ii. Indicators in the ATC units.
d) Inform WSO/Tower Supervisor/TC of any un-serviceability in the equipment which is likely to affect ILS CAT-II operation.

6.8.2 On receipt of "Advisory Message" from WSO/TSO/App. Radar Controller that LVP are to be ade effective ECR Shift In-Charge(CNS), HSIA shall maintain continuous monitor the performance of ILS equipment and will inform WSO/TSO/TAR of any un-serviceability which may affect ILS CAT II operation.

6.9 Action by Duty Officer, Meteorological Office

6.9.1 Duty Met Officer shall issue an 'Outlook for Low Visibility Procedures' to the Watch Supervisory Officer (WSO) whenever RVR Runway 14 is 1200m or less and visibility/RVR is forecast to deteriorate to 800 meters or less and/or cloud ceiling is 400 ft or less and expected to fall to 200 feet or less.
6.9.2 Whenever RVR Runway 14 is likely to fall below 800 meters and/or cloud ceiling is likely to fall to 200 feet or less within next two hours, the Duty Met Officer shall issue an 'Advisory Message' to WSO/TSO/TAR. (All the relevant transmissometer are serviceable.)

6.9.3 Whenever the RVR and/or cloud ceiling are 800 meter or more and/or 200 feet or more respectively with trend towards improvement, the Duty Met Officer shall advise WSO/TSO/TAR about such improving weather conditions for the purpose of termination of LVP operation.

6.9.4 The Duty Met Officer shall ensure that the all the Met equipment including RVR displays in ATC units in the Control Tower and Approach Control are serviceable. He/she shall also ensure that RVR/visibility recorders of Touch down zone and Mid- Point positions are serviceable.

Note: Due to high variability of meteorological elements in space and time and the limitations of forecasting techniques available, it may not be always possible to issue a precise forecast of RVR particularly in case of transient weather phenomenon within two hours.

6.10 Action by Apron Desk/DSO/Flight Management:

6.10.1 Action by Apron Desk In-Charge/DSO:

6.10.1.1 On receipt of instruction regarding implementing Safeguarding Procedure (SP) from ATC, Apron Desk In-Charge/DSO shall initiate following actions:

a. Inform all users of apron (airlines/stakeholders) regarding initiation of SP through email by using the following text:
"SAFEGUARDING PROCEDURE IMPLEMENTATION IN PROGRESS".

b. Restrict vehicular traffic on movement area. This shall be achieved by advising DSO/Apron Desk In-Charge to stop crossing taxiways of vehicles without coordination with Tower/SMC.

c. Close the available barriers on perimeter road leading to critical / sensitive area of navigational aids and active RWY:

i. crossing Taxiway C
ii. crossing Taxiway N1
iii. crossing Taxiway S1
iv. crossing Taxiway S2
v. crossing Taxiway S3
vi. crossing Taxiway S/N
vii. crossing Localizer 14 Antenna.

d. Temporary barriers to stop the' movement of vehicular traffic on Apron (where vehicular lane crossing taxiways) be provided at the following locations:

i. crossing Taxiway C
ii. crossing Taxiway F
iii. crossing Taxiway E.

e. Vehicles fitted with Walkie-Talkie, Beacon lights/VTS shall only be permitted to operate on maneuvering area.

f. Inform AGL/CCR Shift In-charge over walkie-talkie to check and confirm serviceability/ availability of UPS & Generator and keep the DG Set in to Auto operation mode.

g. Inform Civil and Electrical Maintenance Division to suspend all works in progress in operational area and removal of men, machinery and material from the work site, if in progress.

h. Inform WSO/TSO regarding completion of Safeguarding Procedures

i. Inform all users of Apron (airlines/stakeholders) regarding completion of safeguard procedure and/or enforcement of Low Visibility Procedure through e-mail by using the following text-

"*Safeguard Procedure Implemented*", and/ or "*Low Visibility Procedure Enforced*" respectively and thereafter confirm compliance to ATC Tower.

j. No vehicle on Apron shall enter/cross in the vicinity of runway or any taxiway without permission from ATC tower.

k. Positive co-ordination to be ensured with ATC tower, if any vehicle of Fire Services, Civil/Electrical Division or any other agency has to enter the runway or taxiways for urgent operational requirement.

l. As and when ATC notify to withdrawal of Safeguard Procedure, all concerned may be intimated through e-mail by using the following text -

"*SAFEGUARD PROCEDURE WITHDRAWAL IN PROGRESS*"

m. When Safeguard Procedure is withdrawn, cancellation of LVP shall be intimated to all concerned through e-mail by using the following text –

"***SAFEGUARD PROCEDURE WITHDRAWN AND LOW VISIBILITY PROCEDURE CANCELLED***" and confirm compliance to ATC Tower.

6.**11 Action by CCR Shift Engineers (Electrical)**

6.11.1 On receipt of notification to implement Safeguarding Procedures/Low Visibility Procedures from WSO/TSO/App. Radar Controller, AGL Shift In-charge will initiate following actions:

a. Check in co-ordination with DSO (if required) that following visual aids associated with RWY 14 are serviceable and can be operated at full intensity.

i. RWY 14 Approach Lighting System (CAT-II),
ii. Runway edge lights,
iii. Runway threshold and end lights,
iv. Runway Centre line lights,
v. Runway touchdown lights,
vi. Runway stop bar lights,
vii. Taxiway edge lights and taxiway centre line lights,
viii. Taxi-holding position lights,

Note: No adjustment of light intensities shall be made without permission from Control Tower.

b. Inform the serviceability of above visual lighting aids to WSO/Tower Supervisor.

c. Ensure that AGL Sub Station and CCR room is manned and position himself at CCR room for ALCMS Monitoring and ensure the power supply arrangements as specified at Para 5.2.3 above.

d. Inform the un-serviceability or any change in status of any facility/systems to WSO/TSO/TAR immediately.

e. Ensure that no electrical maintenance works is carried out during LVP either in power house or on any other electrical facilities used during CAT II operations

f. Maintain a constant listening watch on R/T (Walkie-Talkie Channel -4)

g. In case of continuous departure (gap between the departures is 10 minutes or less) or otherwise, as and when aircraft is pushed back for departure under LVP, ensure that AGL is running on UPS and Gen. set in Auto Mode.

h. Switch-off secondary power supply in co-ordination with ATC Tower if there is no arrival and/or departure

6. 12 Action by Shift Engineers (CIVIL)

6.12.1 On receipt of notification to implement Safeguarding procedure / Low Visibility Procedures from Tower, Shift Engineer, Civil Section will initiate following actions and confirm to Control Tower.

a. Stop the work, if in progress, in the operational area.

b. Remove men, machinery and material from the work site and ensure that they should leave the operational area.

c. Resuming of work shall only be initiated after obtaining positive clearance from Tower

6.14 Action by Airport Rescue & Fire Fighting Service (Fire)

6.14.1 On receipt of notification of implementation of safeguarding procedures/LVP, Airport Rescue and Fire Fighting Service (ARFFS) will proceed to Pre-Determined Positions (PDPs) after obtaining positive clearance from ATC prior before entering maneuvering area. Aerodrome Control and SMC should provide the maximum assistance in directing ARFFS to required location.

6.15 Action by Airport Security Section (AVSEC)

6.15.1 On receipt of notification from Apron Desk that safeguarding procedure is being implemented, Apron Security Room shall initiate following actions:

a. Inform all access gates leading to operational area and Apron Security Room/Apron Desk under their respective controls in operational area to STOP entry of vehicles/personnel.

b. Confirm compliance on above to Apron Desk.

c. Only essential vehicles (e.g. catering, refueling or any other vehicle authorized by Officer Apron Desk may be permitted to use service road/Drive way.

d. To cross the apron east to west or west to east or Taxiway C/F/E shall be coordinated with Tower/SMC through Walkie-Talkie.

e. For carrying out security checks of Apron Security personnel; security vehicles will be carried out in co-ordination with Tower/SMC.

f. The Inspector in-charge shall ensure that movement of security personnel is restricted through gate 8 only Officer shall ensure by deploying adequate manpower that power house and other vital electrical installations are properly secured and protected against any unauthorized intrusion.

6.16 Action by Other Airport Agencies (Airlines, Padma Oil, Catering Agencies, Airport Police, Customs, Immigration, Health etc.):

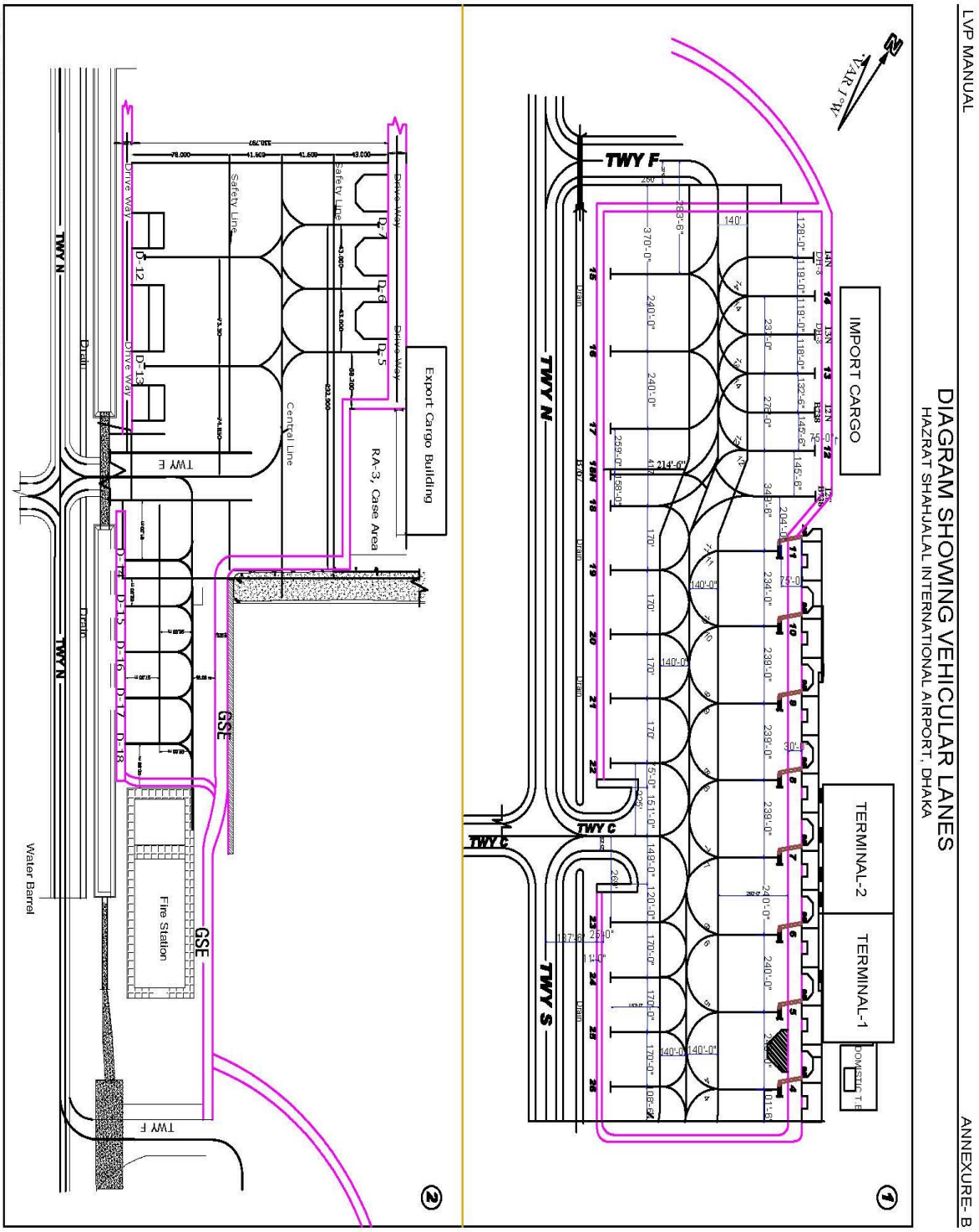
6.16.1 All agencies operating in the operational area shall ensure that minimum number of their vehicles, as are absolutely essential for aircraft operations, operate in the operational area. The drivers of these vehicles should keep a look out for taxiing aircraft and other vehicles to prevent accidents.

6.16.2 All the vehicles must have their obstruction/beacon lights "ON" during operation of low visibility procedures.

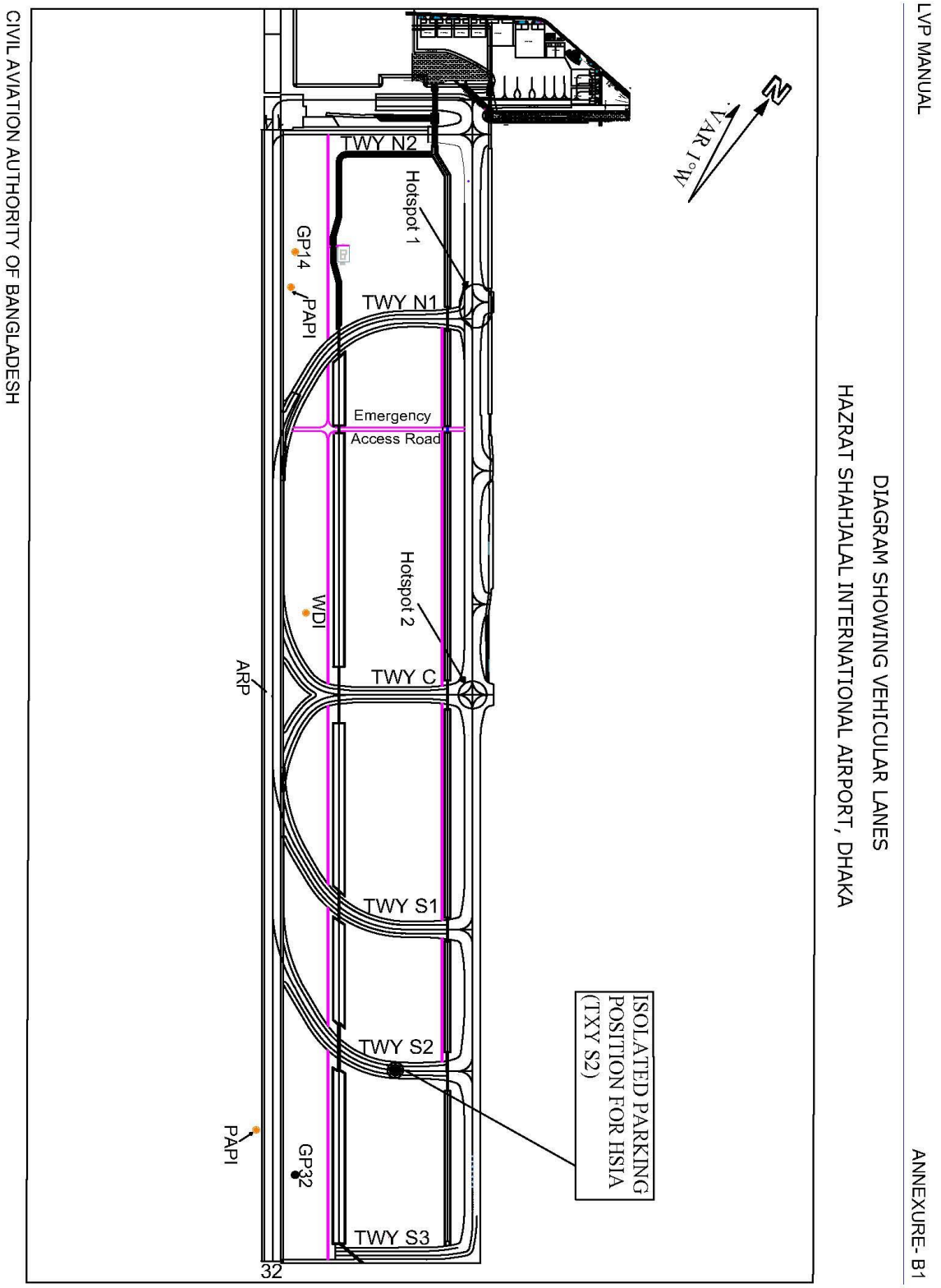
6.16.3 Follow all instructions/sign boards provided for vehicular movement area/service roads.

6.16.4 No vehicle/equipment/personnel shall enter in and around the vicinity of the runways or taxi-tracks except with prior permission of Apron Desk who in turn shall coordinate with aerodrome control tower or SMC.

ANNEXURE – B


LVP MANUAL
DIAGRAM SHOWING VEHICULAR LANES
HAZRAT SHAHJALAL INTERNATIONAL AIRPORT, DHAKA
ANNEXURE- B
CIVIL AVIATION AUTHORITY OF BANGLADESH
IMPORT CARGO
TERMINAL-2
TERMINAL-1
DOMESTIC TE
TWY F
TWY N
TWY C
TWY S
TWY E
Export Cargo Building
RA-3, Case Area
Drive Way
Safety Line
Central Line
Drain
GSE
Fire Station
Water Barrel
D-12
D-13
D-7
D-6
D-5
D-14
D-15
D-16
D-17
D-18
1
2

ANNEXURE – B1

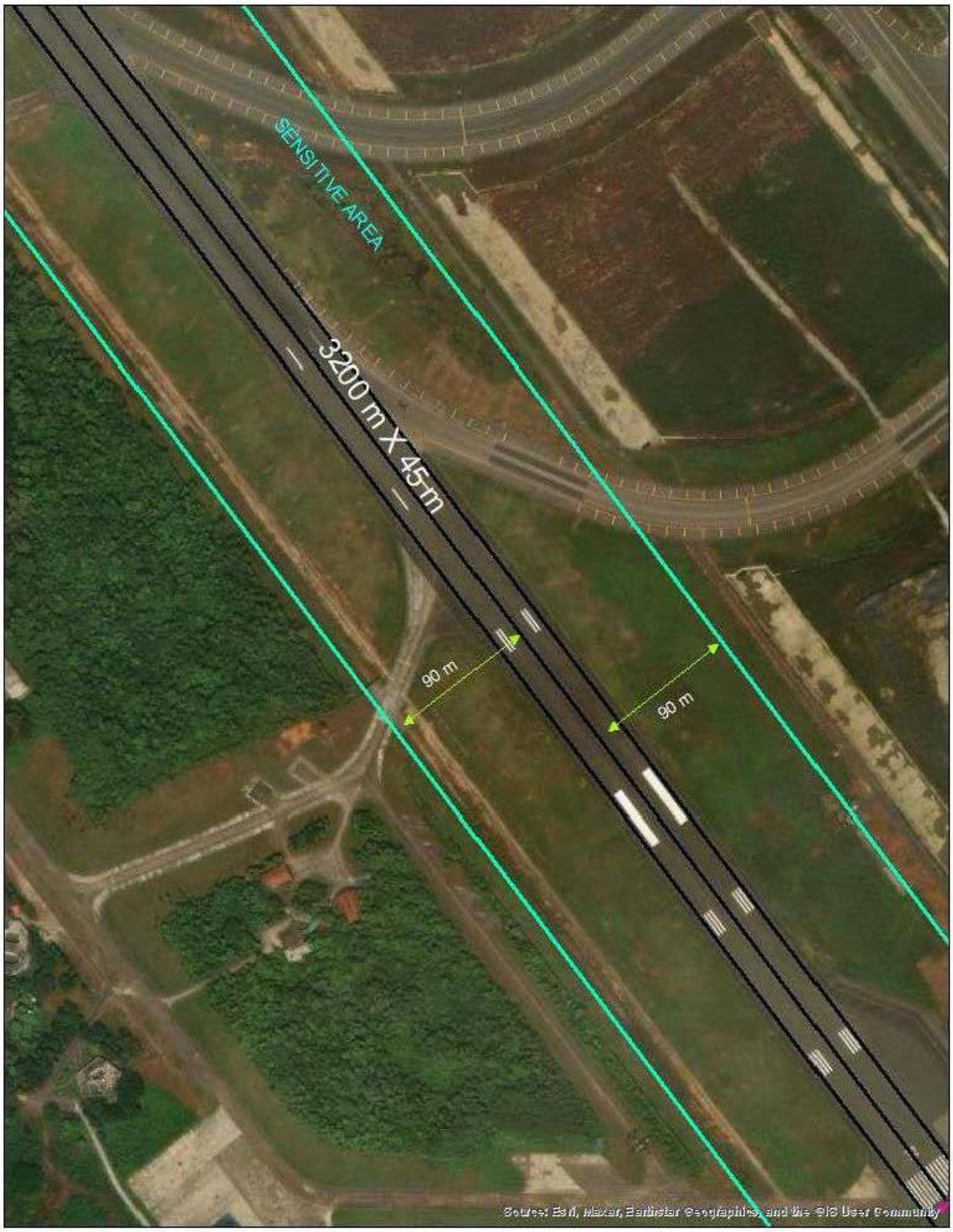

LVP MANUAL
DIAGRAM SHOWING VEHICULAR LANES
HAZRAT SHAHJALAL INTERNATIONAL AIRPORT, DHAKA
ANNEXURE- B1
CIVIL AVIATION AUTHORITY OF BANGLADESH
VAR 1°W
TWY N2
Hotspot 1
GP14
PAPI
TWY N1
Emergency
Access Road
Hotspot 2
WDI
ARP
TWY C
TWY S1
TWY S2
ISOLATED PARKING
POSITION FOR HSIA
(TXY S2)
PAPI
GP32
TWY S3
32

ANNEXURE – C1

Critical and Sensitive Area for Glide Path RWY 14

ANNEXURE – C2

CRITICAL AND SENSITIVE AREA FOR ILS- LOCALIZER



ANNEXURE – C3

CRITICAL AND SENSITIVE AREA FOR ILS- LOCALIZER