AIP SUPPLEMENT

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Following supplement is issued for information, guidance and necessary action. This supplement will replace the Low Visibility Procedure published in AIP India 6th edition dated 1st August 2007 and AIP Supplement No. 33/2006.

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SUB: LOW VISIBILITY PROCEDURES – IGI AIRPORT, NEW DELHI

IGI Airport, Delhi has been upgraded upto ILS CAT IIIB operations for Rwy 28, Rwy 29, and Rwy 11. Accordingly, the existing Low Visibility Procedures have been updated to include the operations for Rwy 29 and Rwy 11 also. The Supplement is issued for information, guidance and necessary action.

LOW VISIBILITY PROCEDURES - FOR CAT II/CAT IIIA/CAT IIIB OPERATIONS AT IGI AIRPORT, DELHI

CHAPTER 1

DEFINITIONS & ABBREVIATIONS

1.1 **Category I (CAT I) operation :** A precision instrument approach and landing with a decision height not lower than 60m (200 feet) and with either a visibility not less than 800m, or a runway visual range not less than 550 meters.

1.2 **Category II (CAT II) operation** : A precision instrument approach and landing with a decision height lower than 60M (200 feet) but not lower than 30M (100 feet), and a runway visual range not less than 350 meters.

1.3 **Category IIIA (CAT IIIA) operation** : A precision instrument approach and landing with:

a) a decision height lower than 30M (100 feet), or no decision height; and
b) a runway visual range not less than 200 meters.

(NOTE : AT IGI, Delhi Airport, DH-15M and RVR-200M has been specified for Cat IIIA operations)

1.4 **Category IIIB (CAT IIIB) operation** : A precision instrument approach and landing with:

a) a decision height lower than 15M (50 feet) or no decision height ; and
b) a runway visual range less than 200M but not less than 50M.

(NOTE : AT IGI, Delhi Airport, no DH and RVR-50M has been specified for Cat IIIB operations)

1.5 **Decision Height**: A specified altitude or height in the precision approach at which a missed approach must be initiated if the required visual reference to continue the approach has not been established.

1.6 **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 insight its boundaries will cause unacceptable disturbance to the ILS signal-in-space.

1.7 **ILS Sensitive Area**: An area extending beyond the ILS 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 to provide protection against interferences cause by large moving objects outside the critical area but still normally within the airfield boundary.

1.8 **Low Visibility Procedures**: Low Visibility Procedures (LVP) are instructions for the safe and efficient operation of aircraft and vehicles during CAT II/CAT IIIA/CAT IIIB operations and Low Visibility Take-offs.

1.9 **Low Visibility Take-Off**: Low Visibility Take-off is a departure carried out when the Runway Visual Range is less than 500M.

1.10 **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.

1.11 **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.

1.12 **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 CAT II/CAT IIIA/CAT IIIB operations and Low Visibility Take-offs.

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

ADC	**:**	**AERODROME CONTROL**
ADM	**:**	**AIRPORT DUTY MANAGER**
AFSS	**:**	**AIRPORT FIRE SAFETY SERVICE**
AGL	**:**	**AIRFIELD GROUND LIGHTING**
AOCC	**:**	**AIRPORT OPERATIONS CONTROL CENTRE**
ATC	**:**	**AIR TRAFFIC CONTROL**
ATIS	**:**	**AUTOMATIC TERMINAL INFORMATION SERVICE**
GP	**:**	**GLIDE PATH**
ILS	**:**	**INSTRUMENT LANDING SYSTEM**
ITH	**:**	**INTERMEDIATE TAXI HOLDING POSITION**
LLZ	**:**	**LOCALIZER**
LSA	**:**	**LOCALIZER SENSITIVE AREA**
LVP	**:**	**LOW VISIBILITY PROCEDURE**
MID	**:**	**MID POINT**
MET	**:**	**METEOROLOGY**
ODM	**:**	**OPERATIONS DUTY MANAGER**
RVR	**:**	**RUNWAY VISUAL RANGE**
SMC	**:**	**SURFANCE MOVEMENT CONTROL**
SP	**:**	**SAFEGUARDING PROCEDURES**
SSO	**:**	**SHIFT SUPERVISORY OFFICER**
TDZ	**:**	**TOUCHDOWN ZONE**

WSO : WATCH SUPERVISORY OFFICER

ASMGCS : ADVANCED SURFACE MOVEMENT GUIDANCE & CONTROL SYSTEM

CHAPTER 2

INTRODUCTION

2.1 General

2.1.1 Runway 28, Runway 29 and Runway11 at IGI Airport are equipped for the CAT II/ CAT IIIA/CATIII B operations.

2.1.2 The following equipment shall be serviceable to the required standard to support CAT II/CAT IIIA/CAT IIIB operations :-

a. ILS localizer, Glide path and ILS DME or Outer Marker and Middle Marker

b Airfield ground lighting (AGL) System

c. RVR system

d. Standby power for ILS and airfield ground lighting system

e. ASMGCS for Cat IIIA/Cat IIIB operations. At least SMR or multilateration system shall be available.

2.1.3 The pilot shall ensure that he is suitably qualified and certified to carryout the required category of ILS approach.

2.2 **Safeguarding Procedures (SP)**

2.2.1 Safeguarding Procedures are the necessary actions to prepare the airport for CAT II/CAT IIIA /CAT IIIB operation (Low Visibility Procedures). They include inspection of airfield ground lighting system, termination of all work in progress and removal of all equipment/material from localizer and glide path sensitive area and the manoeuvring area, restrictions on the movement of vehicles on the manoeuvring area and aprons.

2.2.2 Watch Supervisory Officer at IGI Airport will co-coordinate with all the concerned agencies for implementation of Low Visibility Procedures.

2.2.3 SP shall be implemented whenever ATC considers the introduction of Low Visibility Procedure is necessary.

Low Visibility Procedures (LVP)

2.3

2.3.1 Visibility Procedures are the actions to ensure the safe operation of aircraft during periods of reduced visibility or low cloud base.

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

ATC Requirement

2.4

2.4.1 WSO (ATC) shall implement and cancel LVP when so required and inform all concerned.

2.4.2 When any equipment listed in Para 2.1.2 above becomes unserviceable during periods of LVP, the concerned ATC unit shall advise the aircraft and accordingly CATII/CAT IIIA /CAT IIIB operations shall be suspended and information to this effect shall be included in ATIS broadcast.

2.4.3 When Safeguarding Procedure (SP) is initiated SMC shall select the appropriate AGL CAT II /CAT IIIA/CAT IIIB facilities. These facilities shall remain selected until SP and LVP are cancelled.

ILS Sensitive and Critical Areas

2.5

2.5.1 The ILS critical and sensitive areas have been shown as per diagram at Annexure-I A, I B and I C.

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

2.5.2 Diagram indicating the Critical and Sensitive area of ILS for all runways shall be available with apron control.

Reporting RVR

2.6

2.6.1 There are three RVR transmissometers for Rwy 28/29/11 located at Touchdown Zone (TDZ), Mid-point (MID) and Stop End (END). **The reference RVR value for the implementation and cancellation of LVP shall be lower of the TDZ, MID or END RVR reading.**

2.6.2 When reporting RVR to pilots the TDZ RVR shall always be passed for both the runways..

In addition to Para 2.6.2

2.6.3

a) For CAT II operations – If TDZ RVR is below 550 meters then MID RVR shall also be passed.

b) For CAT IIIA operations – If TDZ RVR is below 350 meters, MID and END RVR reading shall also be passed. TDZ, MID and END RVR shall be available.

c) For CAT IIIB operations – If TDZ RVR is below 200m, MID and END RVR shall also be passed. TDZ, MID and END RVR shall be available.

CHAPTER 3

IMPLEMENTATION OF SAFEGUARDING PROCEDURES (SP) AND LOW VISIBILITY PROCEDRUES (LVP)

Criteria for Implementing Safeguarding Procedures (SP)

3.1

Safeguarding Procedures shall be initiated when either of the runway in use:

3.1.1

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

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

Criteria for Implementing Low Visibility Procedures (LVP)

3.2

Low Visibility Procedures shall be implemented when -

3.2.1

a) either, TDZ, MID or END RVR is less than 800 meters; and/or

b) cloud ceiling is less than 200 Feet; and

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

(NOTE : Though LVP is implemented when RVR is less than 800M, ILS CAT I operations will continue till TDZ RVR is less than 550M.)

Implementation of Safeguarding Procedures (SP)

3.3

3.3.1 On the receipt of Outlook for Low Visibility the Watch Supervisory Officer will inform the Manager, AOCC, the Communication/Technical supervisor and the Aerodrome Tower Controller.

3.3.2 On receipt of the above information the above mentioned agencies will take action for proper planning for activation of LVP.

NOTE : Action to be taken by various agencies is attached as Annexure III

3.3.3 When all the concerned agencies have completed their necessary actions they shall report to WSO (ATC) that their Safeguarding Procedure (SP) is completed and the

airport is safeguarded for CAT II/CAT IIIA/ CAT IIIB operations.

Implementation of Low Visibility Procedures

3.4

3.4.1 WSO shall implement Low Visibility Procedure when either TDZ, MID or END is less than 800M and/or the cloud ceiling is less than 200 Feet. He will inform the following :-

a. Aerodrome Tower Controller
b. Approach Radar Controller
c. Communication/Technical Shift Supervisory Officer (SSO)
d. Duty Met. Officer

He will also ensure that "LOW VISIBILITY PROCEDURE IN FORCE" is included in ATIS broadcast.

3.4.2 Aerodrome tower Controller on being notified that LVP are to commence will inform-

a. Fire station
b AOCC and obtain confirmation that ground SP have been implemented and runway has been safeguarded,
and
c. Include "Low Visibility Procedures in force" in ATIS broadcast.

Cancellation of Safeguarding Procedures and Low Visibility Procedures

3.5

WSO may terminate LVP when -

3.5.1

a. Meteorological conditions improve and TDZ, MID & END RVR are 800 meters or more and the cloud ceiling is 200 Feet or higher, and trend is for improvement for both runways.

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

3.5.2 WSO should consult Meteorological Office for forecast before canceling SP and LVP.

3.5.3 On canceling LVP, Aerodrome Control shall include it in the subsequent two ATIS broadcasts that "Low Visibility Procedures are cancelled". Aerodrome tower Controller will inform all the concerned agencies as specified at para 3.4.2.

If SP are implemented and LVP are not subsequently initiated and meteorological

3.5.4 conditions improve and the visibility/RVR is more than 1200 meters and the cloud ceiling is 400 feet or higher and both are forecast to remain above the required SP criteria, WSO may cancel SP.

CHAPTER 4

LOW VISIBILITY PROCEDURE OPERATIONS

Approach/ Radar Control Procedures

4.1

During LVP the approach radar controller shall have the following information -

4.1.1

a. Status of ILS
b. Serviceability of visual aids
c. RVR information of TDZ, MID and END.

In addition to the information normally transmitted by approach radar control, the
4.1.2 following information must be passed to the arriving aircraft on first contact or as soon as possible -

a. The current TDZ RVR, and

i) For CAT II operations – If TDZ RVR is below 550 meters then MID RVR shall also be passed. TDZ & MID RVR shall be available.

ii) For CAT IIIA operations - If TDZ RVR is below 350 meters, then MID & END RVR readings shall also be passed. TDZ, MID and END RVR shall be available.

iii) For CAT IIIB operations – IF TDZ RVR is below 200 meters, then MID and END RVR shall also be passed. TDZ, MID and END RVR shall be available.

c. The unserviceability of any component parts of CAT II/CAT IIIA/IIIB facilities not previously broadcast on ATIS.

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

Suitable spacing between the arriving aircrafts may be provided to ensure that the
4.1.4 arriving aircraft can be given a landing clearance by 2NM from touchdown. The spacing of **12 NM** between two successive landing aircraft may be necessary. If there is a departure between the two arrivals the spacing between the arriving aircraft may be suitably increased.

NOTE: To ensure that the departing aircraft passes overhead the Localizer before the inbound aircraft reaches 2NM from touch down, a departing aircraft

must commence its take-off run before an arriving aircraft passes 5NM from touch down. [***Not applicable if segregate mode is in operation***].

4.1.5 Approach radar controller shall not subject an aircraft carrying out CAT II/CAT IIIA/ CAT IIIB approaches to any speed control.

Aerodrome Control Procedures

4.2

4.2.1 Arriving aircrafts shall be issued landing clearance not later than 2NM from touch down, if landing clearance cannot be issued when the aircraft is 2NM from touchdown it shall be instructed to carryout a missed approach.

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

4.2.3 Landing clearance shall not be issued until :-

a. A preceding landing aircraft has vacated Localizer Sensitive Area [LSA]
b. A preceding departing aircraft is airborne and has passed over the localizer antenna. ***[Not applicable if segregate mode is in operation***]

4.2.4 The LSA in front of an arriving aircraft shall not be infringed from the time it is 2NM from the touchdown until it has completed its landing roll.

4.2.5 The Low Visibility Taxi routes are intended to assist the pilots in determining their location on the airport during the periods of low visibility. The lights on the taxiway not in use may be switched off.

4.2.6 During Take-off in CAT II/CAT IIIA/CAT IIIB condition the Localizer Sensitive Area [LSA] in front of a departing aircraft shall not be infringed from the time, take-off, clearance is issued until the aircraft has departed and passed over the localizer antenna.

4.2.7 ADC shall initiate emergency action if an aircraft is not seen or is not in radio contact as expected.

Surface Movement Control Procedures

4.3

4.3.1 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.

4.3.2 Taxiing aircraft should be routed in accordance with the prescribed Low Visibility Routes to ensure a simple one-way traffic flow is maintained, however it may be necessary for operational reasons to sometimes route aircraft via alternative taxiways.

4.3.3 During LVP full use should be made of Intermediate Taxi holding position and selective switching of taxiway centreline lights to control traffic and provide additional visual guidance to pilots.

4.3.4 Surface Movement Controller shall monitor the status of taxiway lights and immediately advise the aircraft under its control of any unserviceability affecting the LVP taxiways.

During the period of LVP the lights on taxiways that are not being used should be switched off wherever possible.

4.3.5 Surface Movement Controller should monitor the progress of arriving aircraft 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 when the aircraft has reached the colour coded part of the exit taxiway centreline light after making allowance for aircraft size to ensure that the entire aircraft is clear of the ILS sensitive area.

4.3.6 Vehicles movement when RVR is less than 550 meters should be restricted. Only operationally essential vehicle duly authorized by Apron Control should be permitted to operate on the maneuvering area. These vehicles shall remain out side the Localizer Sensitive Area [LSA]. Any movement of vehicle on the maneuvering area shall be coordinated with ATC. During Cat IIIB operations, vehicles fitted with transponders (vehicle locators) should only be permitted on the maneuvering area. However, other vehicles crossing taxiway N and M1 on service road shall be regulated by official of apron control deploying manpower with two way R/T communication under control of Apron Control-II

4.4 Low Visibility Procedure Taxi Route

NOTE 1 : During the Cat II/III Operations no taxi tracks other than specified at Para 4.4.5 to 4.4.16 shall be used. The edge lights and centreline lights of other taxiways shall be switched off.

NOTE 2 : During the Cat II operations provision of taxi track centre line lights is not mandatory. Aircraft may be allotted the stands other than designated for CAT IIIA/CAT IIIB operations. Similarly, aircraft may taxi out from the stands other than designated for CATIIIA/CATIIIB operations provided entry to the Rwy is made via taxiway equipped with STOP BARS**.**

4.4.1 In LVP, during CAT-II / III A & B conditions, aircraft shall be routed in accordance with the Low Visibility Procedures taxi routes.

4.4.2a During CAT IIIA/CAT IIIB conditions i.e. when RVR reduces to less than 350 meters, 'Follow me' service will be provided to arriving/departing aircraft on request.

4.4.2b Any immediate portion of exit taxiways not available, ATC will guide the aircraft to the nearest exit through ASMGCS. Follow me service can be put into use under such circumstances upto the RVR of 100 meter only.

4.4.3 Person providing Follow-Me service shall be trained and fully familiar with the taxi routes intersections and other manoeuvring area/apron/bays.

4.4.4 Full length of Rwy 28 is available for departing (domestic) aircraft. Lighted guidance is available for making 180 degree in the beginning of RWY 28.

Taxi routing for Arrivals and Departures Rwy 28

4.4.5 **International Arrivals (Refer Annexure II A) –**

(i) After landing on Runway 28 vacate on N and thereafter –

a. taxi via N, S, R3, R1 for Stand Nos. 41 to 45
b. taxi via N, S, R4 for Stand Nos. 48 & 49
c. taxi via N, S, R3, R2 for Stand Nos. 46 & 47
d. taxi via N, S, R3 for Stand Nos. 86 & 87
e. taxi via N, S for Stand Nos. 88 & 89
f. taxi via N, S, R3, R for Stand Nos. 98 to 103

(ii) If "N" South of P is not available then after landing on Runway 28 vacate on 'N' and thereafter –

a. taxi via 'N' 'P' 'M1' 'R1' for stand 41 to 45
b. taxi via 'N' 'P' 'M1' 'R2' for stand 46 to 49
c. taxi via 'N' 'P' 'M1' 'R3' for stand 86 & 87.
d. taxi via 'N' 'P' 'M1' 'R3' S for stand 88 & 89.

(Note : If Taxiway 'S' is not available parking stands No.88&89 can not be used.)

e. taxi via 'N' 'P' 'M1' 'R' for stand 98 to 103

(iii) After landing on Runway 28 if vacates via M , then

a. taxi via M, M1, R1 for Stand Nos. 41 to 45
b. taxi via M, M1, R2 for Stand Nos. 46 to 49
c. taxi via M,M1,R3, for Stand Nos. 86 & 87
d. taxi via M,M1,R3,S for Stand Nos. 88 & 89
e. taxi via M,M1,R for Stand Nos. 98 to 103.

(iva) If centre line lights on taxiway "N" North of P is not available and End RVR is more than 100M, follow me Jeep may be provided for vacation of the runway.

(ivb) If taxiway "N" North of P is not available due to any other reason, the CAT IIIA/CAT IIIB operation will be suspended and will be downgraded to CAT II. Aircraft will back track and exit via 'M' and follow routing given in para 4.4.5 (iii).

4.4.6 **Taxi routing for Domestic Arrivals (Refer Annexure II B) –**

(i) After landing on Runway 28 vacate via 'D1' or 'D'; and thereafter –

a. taxi via 'D', Runway 09, Twy 'A' to Stand Nos. 1 to 13

b. taxi via ‘D’, Runway 09 and ‘C1’ for Stand No. 15, 16, 17
c. taxi via ‘D’ E2, E, B3 for Stand Nos.19 to 30
d. taxi via ‘D’ E2, F2 for Stand Nos.135 to 142

(ii) If an aircraft over-shoots ‘D’ taxi track it will vacate runway on ‘E4’ and taxi via E4, E2, D and follow the above routing mentioned in ‘a’ for stand no.1 – 13 and ‘b’ for stand 15-17.

(iii) If an aircraft over-shoots ‘D’ taxi track it will vacate runway on ‘E4’ and taxi via E4, E2 and follow the above routing mentioned in ‘c’ for stand no.19 – 30 and ‘d’ for stand no.135 – 142.

(iv) If ‘D’ taxi track is not available (if taxiway ‘D’ and ‘E2’ junction is available)

i) For case ‘a’ and ‘b’ (i.e. for stands 1 to 13 and 15 to 17) aircraft to vacate on N and taxi via P, W, cross Runway 28, C,C1, Twy A for stand no. 1-13 and via C for stand no. 15-17.
ii) For case ‘c’ (i.e. for stands 19 to 30) aircraft to vacate on E4 and taxi via E2, E, B3.
iii) For case ‘d’ (i.e. for stands 135 to 142) aircraft to vacate on E4 and taxi via E2, F2.

(v) If the center line lights of taxiway ‘E4’ and ‘D’ both are not available aircraft will vacate runway on M or N and taxi via P, W, cross Runway 28, C and thereafter:-

i) Via ‘C1’, Rwy 09, Twy A for front stand 1-13
ii) Stand no. 15-17.
iii) Via ‘B’, E, B3 for stand 19-30.
iv) Via B, E, E2 , F2 for stand 135 to 142.

(vi) In case of center line lights of taxiway ‘D’, ‘E4’ and ‘N’ [North of ‘P’] taxi tracks are not available CAT IIIA /CAT IIIB operations will be suspended and will be down graded to CAT II. Aircraft will back track RWY28 and exit via ‘F’ or ‘B’ or ‘C’ (depending upon the parking stand).

NOTE – If Twy D is not available, Twy D1 shall not be used for vacation. Aircraft will vacate via E4 and follow taxi routing explained in 4.4.6 ii & iii.

Airline operators will be responsible for ensuring that the parking stand area is clear of all equipment when aircraft is taxiing in for parking/docking.

4.4.7 **Taxi routing for International Departures (Refer Annexure II C) –**

(i) From Parking Stand 41 to 45: Aircraft to follow the taxi route— R1, R, L1, P to CAT II/III Holding Point, RWY28.

(ii) From Parking Stand 46 to 48: Aircraft to follow the taxi route – R2, R, L1, P to CAT II/III Holding Point, RWY 28.

(iii) From Parking Stand 49: Aircraft to follow the taxi route – R4, R2, R, L1, P to CAT II/III Holding Point, RWY 28.

(iv) From Parking Stand 86 to 89: Aircraft to follow the taxi route – R3, R, L1, P to CAT II/III Holding Point, RWY 28.

(v) From Parking Stand 98 to103: Aircraft to follow the taxi route – R, L1, P to CAT II/III Holding point of RWY28.

(vi) If 'P' is not available the CAT IIIA/CAT IIIB operation will continue for International arrivals, International departures and alternate routing for domestic Arrivals shall be suspended till compliance of centre line lights on Twy P.

Taxi routing for Domestic Departures (Refer Annexure II D) –

4.4.8 (i) Aircraft on Parking Stands 15, 16 and 17 (Code Letter 'D' aircraft) to pushback facing south and taxi via C to CAT II/III Holding Point RWY28.
(Note: aircraft of Category 'D" while requesting for start up shall mention its category and requirements for pushback).

(ii) Aircraft on Parking Stands 15, 16 and 17 (Code Letter 'C' aircraft) to taxi via taxiway 'A', Rwy 27, 'C1', 'C' to CAT II/III Holding Point RWY28. Aircraft shall taxi out clear of arrivals/departures on parking stands 1 to 13.

(iii) Aircraft on Parking Stands 1 to 13 to pushback facing South to taxi out via taxilane 'A', 'C' to CAT II/III Holding Point RWY28,.Aircraft from parking stand 1 to 13 shall be cleared to taxi out only when cleared to line up Rwy 28.

(iv) Aircraft on Parking Stands 19 to 27 to taxi via C to CAT II/III holding point RWY 28.

(v) Aircraft on Parking Stands 28 to 30 to taxi via C1,C to CAT II/III holding point RWY 28.

(vi) Aircraft on Parking Stands 19 and 20 shall be cleared to taxi out of stand only when cleared to line-up RWY 28 for departure.

(vii) Aircraft on Parking Stands 135 to 142 to taxi via F3, F, E, Runway 09, C1, C to CAT II/III Holding Point RWY 28.

NOTE:

(1) The airline operators will ensure that push back area is clear of all equipment before push back is commenced.

(2) Aircraft intending to use full length of RWY28 will have to back-track on the runway for line-up. Aircraft may depart from intersection of Taxiway 'C' and runway 28 (Takeoff run available is 10,900 feet), to avoid back-track.

(3) Aircraft intending to use full length of the runway shall advise ATC at the time of Pushback/Start up.

4.4.9 **Taxi routing for International Arrivals during segregated (Rwy 29 for arrivals and Rwy 28 for departures) two Rwy operations.(Refer Annexure II E) –**

After landing on Rwy 29, vacate via Z7, thereafter taxi via S5, T, CW2, S :

a) R3, R1 for Stand Nos. 41 to 45

b) R3, R2 for Stand Nos. 46 to 47

c) R4 for Stand Nos. 48 & 49

d) R3, R for Stand Nos. 98 to 103

e) R3 for Stand Nos. 86 & 87

f) S for Stand Nos. 88 & 89

4.4.10 **Taxi routing for Domestic Arrivals during segregated (Rwy 29 for arrivals and Rwy 28 for departures) two Rwy operations. (Refer Annexure II E) –**

i) After landing on Rwy29, vacate via Z7 thereafter taxi via S5, T, CW2, N,P, M cross Rwy28/10 for "D", then
   a. Via Rwy 09, Twy A for stands 1 to 13
   b. Via Rwy 09, Twy C1 for stands 15 to 17.
   c. Via Twy E2, E, B3 for stands 19-30.
   d. Via E2, F2 for stands 135-142

ii) If Twy N south of Twy P is not available then after landing on Rwy29, vacate via Z7 thereafter taxi via S5, T, CW2, S,R3, M1, M cross Rwy28/10 for "D", then

   a. Via Rwy 09, Twy A for stands 1 to 13
   b. Via Rwy 09, Twy C1 for stands 15 to 17.
   c. Via Twy E2, E, B3 for stands 19-30.
   d. Via E2, F2 for stands 135-142

iii) If Twy D is not available then after 4.4.10 (i) or (ii) taxi via Twy N, Runway 10, E4 and follow taxi routing explained in 4.4.6 ii & iii

4.4.11 **Taxi routing for International Departures during segregated (Rwy 29 for arrivals and Rwy 28 for departures) two Rwy operations .**

Same as para 4.4.7

Taxi routing for Domestic Departures during segregated (Rwy 29 for

4.4.12 **arrivals and Rwy 28 for departures) two Rwy operations .**

Same as para 4.4.8

Taxi routing for arrivals and departures, Runway 11

4.4.13 **Taxi routing for International Arrivals (Refer Annexure II E) –**

After landing on Runway 11 vacate on Z2 or Z3 thereafter taxi via Twy Z, CW2, Y, CW1, S, R3

i) R1 ---------- for stand 41-45
ii) R2 ---------- for stand 46-47
iii) R4 for stand no. 48 & 49
iii) ------ for stand 86-89
vi) R----------for stand 98 to 103

4.4.14 **Taxi routing for Domestic Arrivals –**

After landing on Runway 11 vacate via Z2 or Z3 thereafter taxi via Twy Z, CW2, Y,CW1, S, R3,R,L1,

i) P,W Cross Rwy28 for Twy C then via Apron taxi lane A----for stands 1-13
ii) P,W Cross Rwy28 for Twy C then Twy C1 --------for stand 15-17
iii) L, Rwy 10, Twy F, B3 --------- for stand 19-30.
iv) L, Rwy 10, Twy F, F3 --- for stand 135-142.

4.4.15 **Taxi routing for International Departures –**

(i) From Parking Stand 41 to 45: Aircraft to follow the taxi route— R1, M1, P,N, CW2, T, S5 to CAT II/III Holding Point, RWY 11.

(ii) From Parking Stand 46 to 48: Aircraft to follow the taxi route – R2, R, M1, P,N,CW2,T,S5 to CAT II/III Holding Point, RWY 11.

(iii) From Parking Stand 49: Aircraft to follow the taxi route – R4, R2, R, M1,P, N,CW2,T,S5 to CAT II/III Holding Point, RWY 11.

(iv) From Parking Stand 86 to 89: Aircraft to follow the taxi route – R3,R, M1, P, N,CW2,T,S5 to CAT II/III Holding Point, RWY 11.

(v) From Parking Stand 98 to103: Aircraft to follow the taxi route – R, L1, P, N,CW2,T,S5 to CAT II/III Holding Point, RWY 11.

Note 1 : Only one aircraft will be permitted push-back at a time on

(i) Parking Stand No. 41 to 45;
(ii) Parking Stand No. 46 to 49;
(iii) Parking Stand No. 86 to 89; and
(iv) Parking Stand No. 98 to 103.
(v) Departure from stand No. 86 to 89 shall be permitted only when there is no Arrival.

Note 2 : Simultaneous push back shall not be permitted on

(i) Parking Stand 45 and 46; and
(ii) Parking Stand 49 and 86 to 87

Note 3 : The airline operators will ensure that push back area is clear of all equipment before push back is commenced.

4.4.16 **Taxi routing for Domestic Departures –**

i) Aircraft on stand no. 1 to 13 to push back facing north and taxi via Twy A, Rwy 27,Twy D, Cross Rwy from Twy D to M then taxi via Twy P, N, CW2,T,S5 to CAT-II/III holding point Rwy 11.
ii) From stand no. 15 to 17 to taxi via Twy A, Rwy 27, Twy D, Cross Rwy from Twy D to M then taxi via Twy P, N, CW2,T,S5 to CAT-II/III holding point Rwy 11.
iii) From stand no. 19 to 30 to taxi via Twy C1, Rwy 27, Twy D, Cross Rwy from Twy D to M then taxi via Twy P, N, CW2,T,S5 to CAT-II/III holding point Rwy 11.
iv) From stand no.135 to 142 aircraft to push back facing North to taxi via Twy F2, E2, Twy D, Cross Rwy from Twy D to M then taxi via Twy P, N, CW2,T,S5 to CAT-II/III holding point Rwy 11.

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CHAPTER 5

DESCRIPTION OF EQUIPMENTS

Runway Visual Range (RVR)

5.1 There are three transmissometer for recording RVR RWY 28, One unit is located at the touch down zone; one unit is positioned at runway mid point and one unit at the end of runway. RVR values always refer to Touchdown RVR (TDZ), Mid-point RVR (MID) and Stop End RVR (END).

5.1.1 There are three trans-missometer for recording RVR RWY 29/11. One unit is located at the touch down zone; one unit is positioned at runway mid point and third unit is located at Touchdown of opposite Rwy.

5.1.2 **RVR is reported in the following scales :**

From 3000 meters to 1200 meters increments of 100 meters
From 1200 meters to 800 meters increments of 50 meters
From 800 meters to 50 meters increments of 25 meters

5.1.3 **Equipment serviceability for CAT II/CAT IIIA/CAT IIIB operations :**

For Cat II operations TDZ, and MID RVR shall be available.

For CAT III A/ IIIB operations TDZ, MID and END RVR shall be available**.**

5.2 **Airfield Ground Lighting (AGL) System**

5.2.1 The Precision Approach lighting system for CAT II/CAT IIIA/CAT IIIB operations are installed on RWY28 and Rwy 29/Rwy 11 at IGI Airport.

5.2.2 During CAT II/CAT IIIA/CAT IIIB operation, the standby generator will take over as the AGL Primary Power Source and the main supply becomes the backup power source.

5.2.3 The following taxiways have CAT III A/IIIB standard taxiway lighting.

International side – Taxiway P, L, L1, M, M1, N, S, R, R1, R2, R3 , R4.W, *CE1,CE2,CW1,CW2,S4,S5.T,Y,Y5,Y6,Z,Z1,Z2, Z3,Z4,Z5, Z6,Z7,Z8, Z9*

Domestic side – Taxiway A, B, B3, C, C1, D, D1, E, E2, E4, F, F2, F3 and portion of RWY27 between taxiway D and A, taxi-lane A and taxi-lane joining C1 and C.

5.2.4 The following parking stands have been provided with the Cat IIIA / IIIB centerline lighting system:

a. International Apron : Parking stand 41 to 49, 86 to 89 and 98 to 103

b. Domestic Apron : Parking stand 1 to 13, 15 to 17, 19 to 30 and 134 to 142.

5.2.5 **Stop Bar** : Stop bars have been provided on the following taxi tracks:

International Side:

N, M, P, W, CE1,CE2,CW1,CW2,S4,S5.T,Z,Z1,Z2, Z8, Z9

Domestic Side : D, E4 and on taxi lane joining C1 & C.

5.2.6 No clearance bar has been provided. The alternate yellow and green lights have been provided on the following taxi tracks:

a. International side:

N, Z3,Z4,Z5,Z6,Z7.

b. Domestic side: D, D1 and E4

c. When the aircraft has crossed these alternate yellow and green lights the aircraft is clear of ILS sensitive areas.

5.2.7 Intermediate Taxi Holding (ITH) have been provided on the following taxi track

i International side:

R1	(Short of intersection of R, M1 and R3)
M1	(Short of intersection of R, R1 and R3)
S	(Short of R3/R4)
M1	(Short of P)
P	(West Short of intersection of M and M1)
P	(East Short of intersection of M and M1)
L1	(Short of intersection P and L)
R	[Short of L1 (East of L1)]

ON TWY 'Z'
East & West of Z3
East & West of Z4
East & West of Z5
East of Z6
East of Z7
Short of intersection S4 (Eastern side S4)

S4	South of S4 & short of Z
S5	South of S5 & short of Z
S4	North of S4 intersection Y
S5	North of S5 intersection Y&T

Y	Short of intersection S4, short of Y5 both sides & Short of CW2
T	Short of intersection S5 , short of Y5 both sides ,short of CW2 & short of CW1
CW1, CW2	Both sides short of W1,W2 & W3
CW1, CW2	At intersection Twy S

iv) Domestic side:

A	(Short of RWY27)
B	(ShortofE)EastofE Taxiway
B	(Short of C)
C1	(Short of Stand 15)
E	(South of RWY 09/27)
E	(South of E2/E junction)
E	(Short of E1 (North side)
E2 – West of taxiway 'D'	(Short of intersection E2 and D)
E2 – East of taxiway 'D'	(Short of intersection E2 and D)
E2	(West of intersection of E/E2)
E2	(West of intersection of E2/F1)
E2	(Short of intersection of E4, E3)
E4	(Short of Runway 10)
F	West of Twy E- intersection E& F

5.2.8 When LVP is in force the AGL must comply with the minimum serviceability requirement.

AGL Facility	CAT II/CAT IIIA/CAT IIIB Unserviceability	Restrictions
Approach Lights	The inner 450 meters-more than 5 % of all lights	Suspend CAT II/CAT IIIA/CAT IIIB operations.
	Beyond 450 meters more than 15% of all lights.	
Runway Edge Lights	More than 5% of all lights	Suspend CAT II/CAT IIIA/CAT IIIB operations.
	Two adjacent lamps	
Runway Centre-line Lights	More than 5% of all lights	Suspend CAT II/CAT IIIA /CAT IIIB operations.
	Two adjacent lamps	
Touchdown Zone Lights	More than 10% of all lights	Suspend CAT II/CATIIIA /CAT IIIB Operations.
	Two lamps in a barrette	
Threshold Lights	More than 5% of all lights	Suspend CAT II/CATIIIA/CAT IIIB Operations.
	Two adjacent lamps	
Runway End Lights	More than 25% of all lights	Suspend CAT II/CATIIIA/CAT IIIB Operations.
	Two adjacent lamps	
Taxiway Centre-line Lights	Not applicable to CAT II operations	Close affected taxiways, use alternate taxi route.
	More than 5% of all lights	
	Two consecutive lamps	
Standby Generators	Generator in any one unit.	Suspend CAT II/CAT IIIA/CAT IIIB operations.

NOTE 1 - If any two lamps in a Stop Bar are unserviceable that taxi-track shall not be used during CAT IIIA/CAT IIIB operation.

NOTE 2 - Unserviceability of any of the following facilities does not affect CAT II/ CAT III A/CAT III B Operations.

a. PAPI
b. Taxiway Edge Lights
c. Taxiway clearance lights on TWY N and D [alternate green and yellow lights]

5.3 Lighting Inspections

5.3.1 One of the LVP criteria is that the appropriate airfield ground lights must have been inspected during the hour preceding implementation of LVP, and thereafter every subsequent two hour period. These lighting inspections should be accorded priority and, if necessary, aircraft operations may have to be delayed.

5.3.2 Operational Duty Manager is responsible for organizing lighting inspections. He shall arrange an inspection of the relevant airfield ground lighting. To ensure minimum delay in completing the inspection, separate teams may inspect the landing runway, associated taxiways and apron area.

5.3.3 For SP and LVP only the lighting for the active runway and associated taxiways are inspected.

5.4 Non-Visual Ground Surveillance System :

5.4.1 IGI Airport has been equipped with Surface Movement Radar and Advance Surface Movement Guidance and Control System. The system provides non-visual electronics surveillance of manoeuvring area and facilitates the controllers to identify potential ground conflict and runway incursions.

5.4.2 For Cat IIIA/Cat IIIB Operations availability of Non-Visual Surveillance System such as Surface Movement Radar (SMR) / Advance Surface Movement and Guidance Control System is mandatory.

5.5 Navigational Aids

5.5.1 RWY28 and Rwy 29 have been equipped with Instrument Landing System (ILS) for CATII/CATIIIA/CAT IIIB.

5.5.2 The ILS Category Monitor Panel at the Control Tower console indicate the ILS category availability by monitoring the following equipment:

a. Main and standby localizer transmitters
b. Main and standby glide path transmitters

5.5.3 The status of the following facilities is monitored and displayed by a separate nav-aid status indicator panel :

a. ILS DME
b. Outer Marker
c. Middle Marker

5.5.4 ILS equipment serviceability required for CAT II/CAT IIIA/CAT IIIB operations:

a. Both main and standby localizer transmitters;
b. Both main and standby glide path transmitters;
c. One standby power generator in each unit.
d. Outer marker
e. Middle marker

NOTE 1 - Unserviceable ILS DME will not change the status of ILS provided
OM and MM are serviceable for runway 28 only.

NOTE 2 - Unserviceable Outer Marker and/or Middle Marker will not change
the status of ILS provided ILS DME is operational for runway 28 only.

5.5 Airport Fire Safety Services (AFSS)

5.5.1 The AFSS shall be on Weather Standby Position whenever LVP are in force. Following predetermined positions will be taken by safety services vehicles when LVP are in force:

a. One CFT south of RWY28/10 near TWY L
b. One CFT north of RWY28/10 near TWY E
C Two CFT north of Z opposite Z5

5.5.2 In the event of an incident when LVP are in force, ADC and SMC should provide the maximum assistance in directing AFSS to required location.

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CHAPTER 6

SUMMARY OF THE LOW VISIBILITY PROCEDURES

6.1 Subject to completion of safe guarding procedures, LVP comes into operation, -

a. when either TDZ, MID or END RVR below 800 meters, **and/or**

b cloud ceiling below 200 feet

6.2 **Vehicular movement**

a. Aircraft or vehicles shall not be cleared to cross the runway once an inbound aircraft is 8NM from touchdown.

b Vehicular movement on the manoeuvring area shall be restricted to essential vehicles.

b. During CAT IIIB operations only vehicles equipped with transponder (Vehicle Locator) shall operate in manoeuvring area. However, other vehicles crossing taxiway N and M1 on service road shall be regulated by official of Apron Control by deploying man power with two way R/T communication under control of Apron Control II.

c. Vehicles shall not be held at any point closer to the runway than the CAT II/ CAT IIIA/CAT IIIB holding point/stopbar

6.3 **Aircraft Movement**

a. Aircraft shall not be held at any point closer to the runway than the CAT II/CAT IIIA/CAT IIIB holding point/stopbar

b. Aircraft shall not be permitted to enter the runway at any point other than P, M C for departure from runway 28.

c. Under CAT IIIA/CAT IIIB aircraft shall not be permitted to exit the runway 28 at any point other than N,M, E4, D1 & D , runway 29 via Z7 and Rwy 11 Via Z2 or Z3.

d. If 'N' North of 'P' is not available the CAT IIIA/CAT IIIB operations will be suspended and down graded to CAT II. Aircraft will back track and exit via 'M'.

e. In case 'D' is not available the aircraft will exit via 'N' taxi via 'N' 'P' and W, cross rwy RWY28 and vacate via 'C'.

f. n case ‘N’ and ‘D’ both are not available the CAT IIIA/CAT IIIB operations shall be suspended and downgraded to CAT II. Aircraft will back track and taxi via ‘C’ for domestic Apron.

g. Aircraft which have landed are not to be instructed to hold on a runway turn-off.

6.4 ATC Procedures

a. The aim will be to give landing clearance by 2NM; an initial spacing of ***12NM*** or more may be necessary to achieve this.

b. Departing aircraft must commence their take off run before an inbound aircraft passes 5NM from touchdown. ***Not applicable if segregate mode is in operation***

c. Protection of ILS (Glide Path & Localizer) Sensitive area must be ensured.

ANNEXURE IA

RWY 29 ILS CAT-IIIB CRITICAL AND SENSITIVE AREAS IGI AIRPORT

ANNEXURE IB

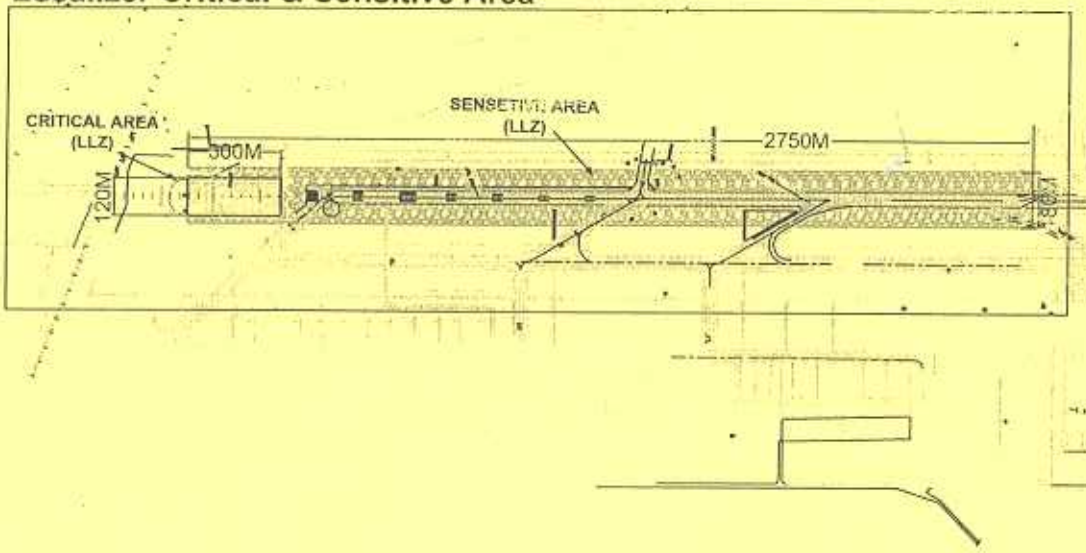
RWY 11 ILS CAT-IIIB CRITICAL AND
SENSITIVE AREAS IGI AIRPORT

ANNEXURE I C

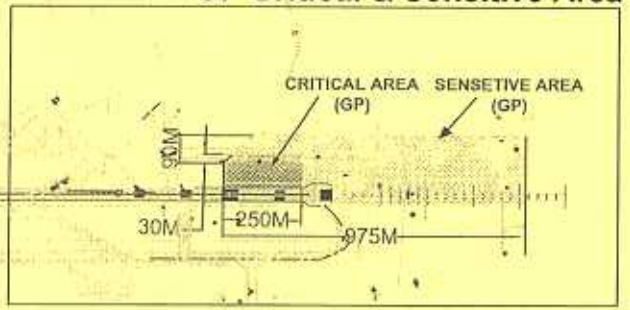
ILS - CRITICAL AND SENSITIVE AREA 28

DELHI, INDIA
INDIRA GANDHI INT'L AIRPORT

Localizer Critical & Sensitive Area



GP Critical & Sensitive Area

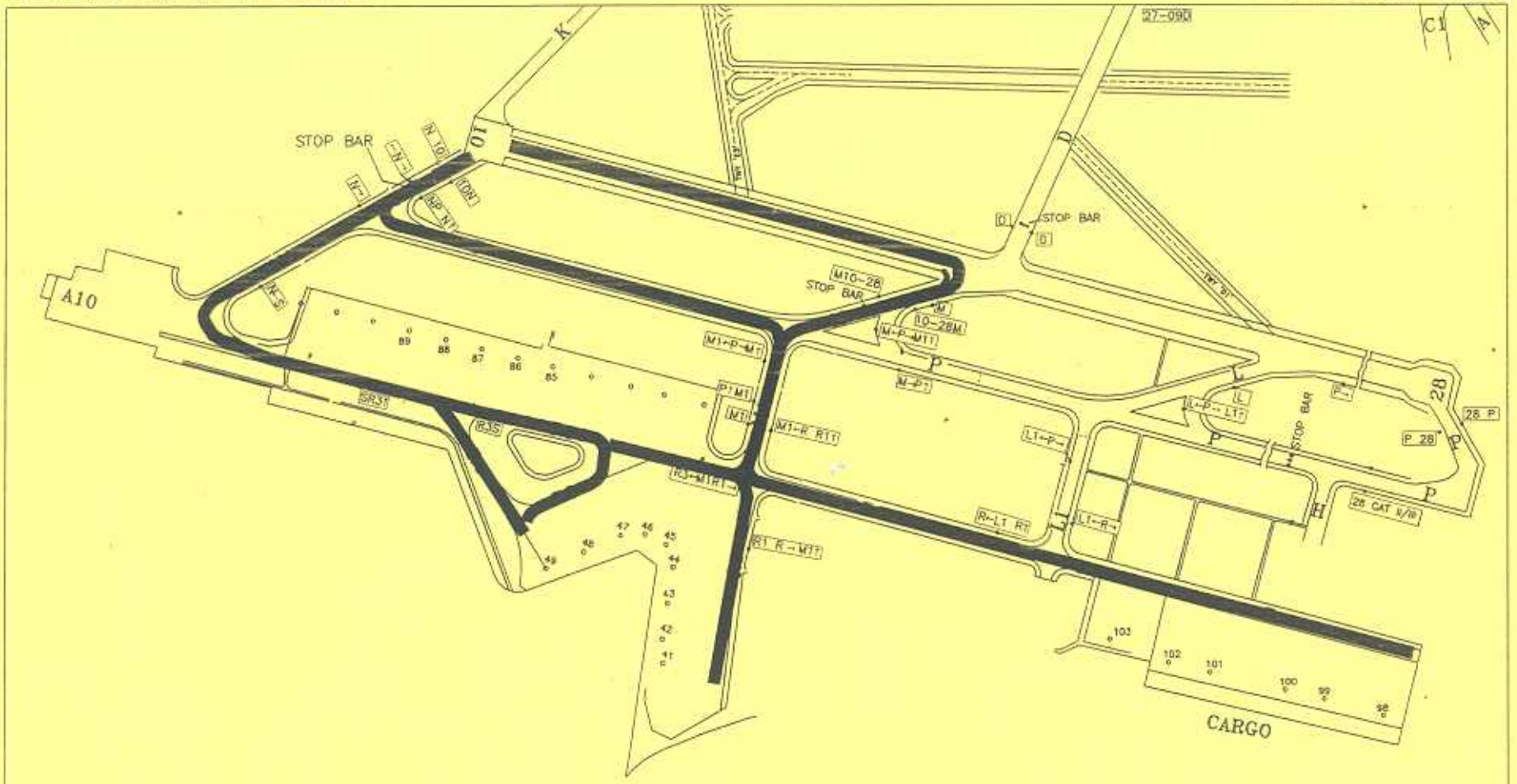


AIP Supplement No. 70/08

DRG. NO.- AAI/CS-12/DELHI/2000 (CARTO)

TAXIWAY ROUTING DURING CAT II/III OPERATIONS
INTERNATIONAL ARRIVAL ROUTE

DELHI, INDIA
INDIRA GANDHI INT'L AIRPORT

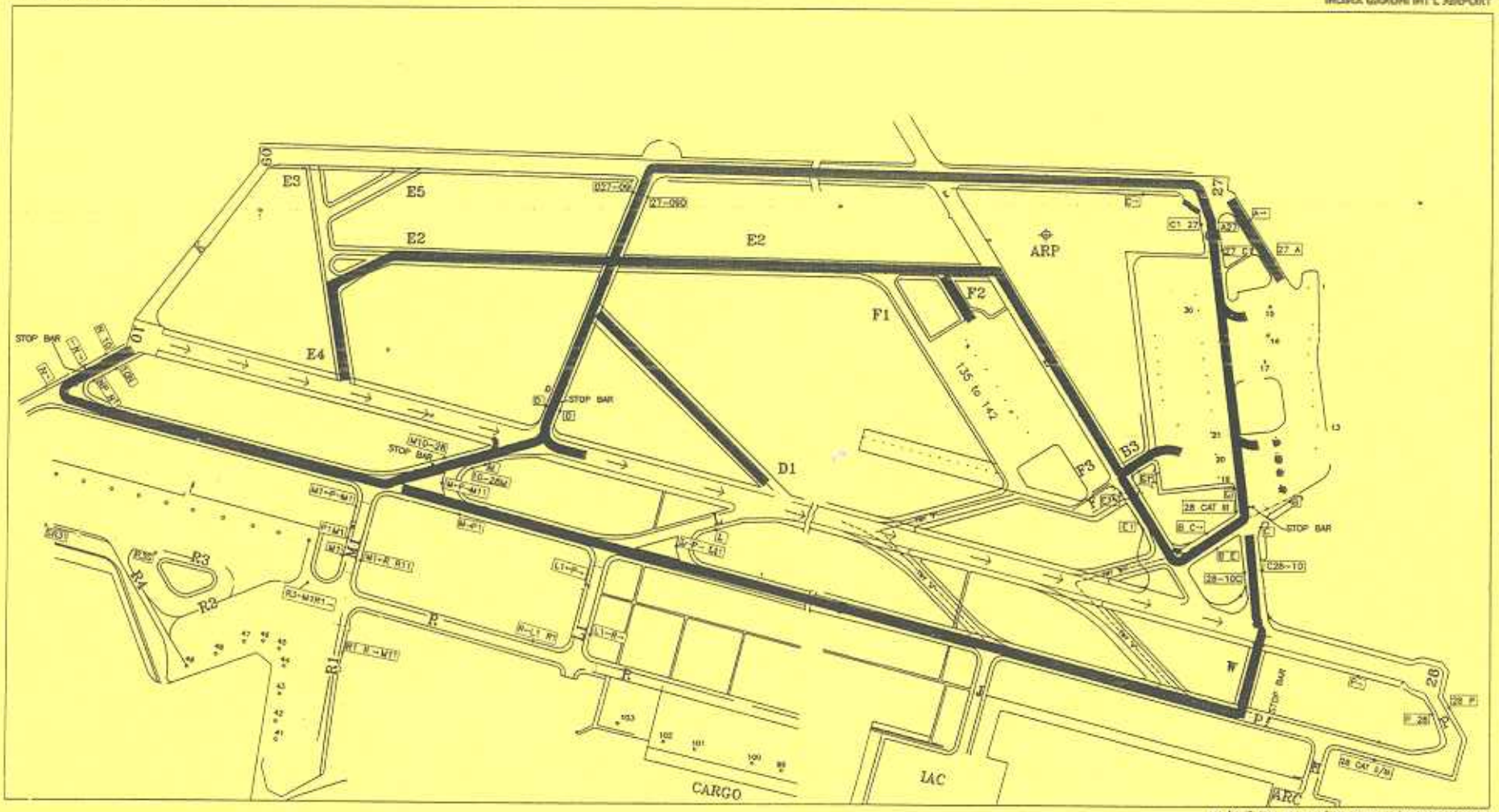


AAI (NAD) DRG. No. AAI/TAXI-ROUTE-3/DELHI/2006(CARTO)

ANNEXURE II B

TAXIWAY ROUTING DURING CAT III OPERATIONS
DOMESTIC ARRIVAL ROUTE

DELHI, INDIA
INDIRA GANDHI INT'L AIRPORT



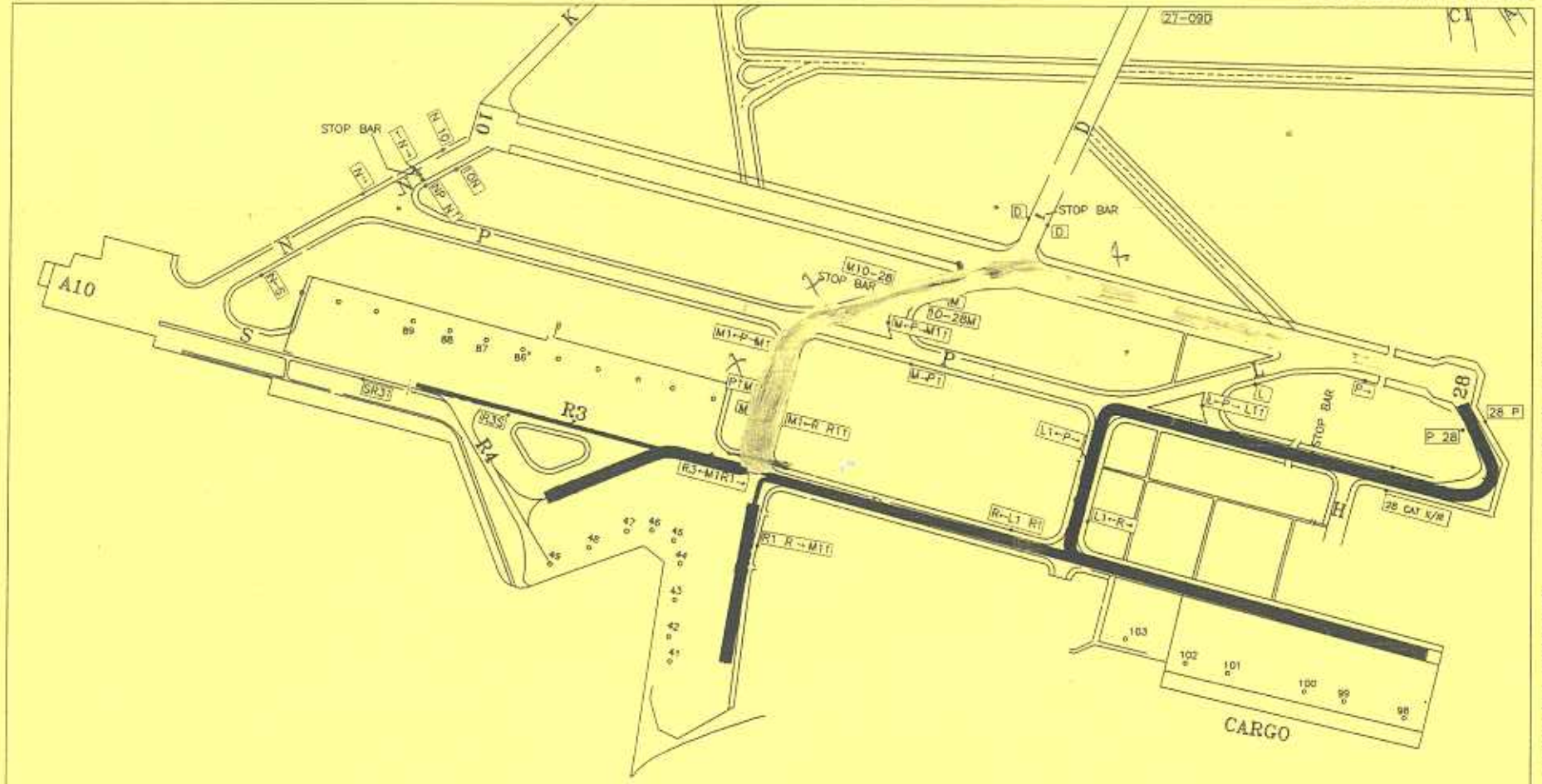
AAI (NAD) DRC. No. AAI/TAXI-ROUTE-5/DELHI/2008(CAT'D)

LVP IGI AIRPORT NEW DELHI
AIP Supplement No. 70/2008

ANNEX II

TAXIWAY ROUTING DURING CAT II/III OPERATIONS
INTERNATIONAL DEPARTURE ROUTE

DELHI, INDIA
INDIRA GANDHI INT'L AIRPORT

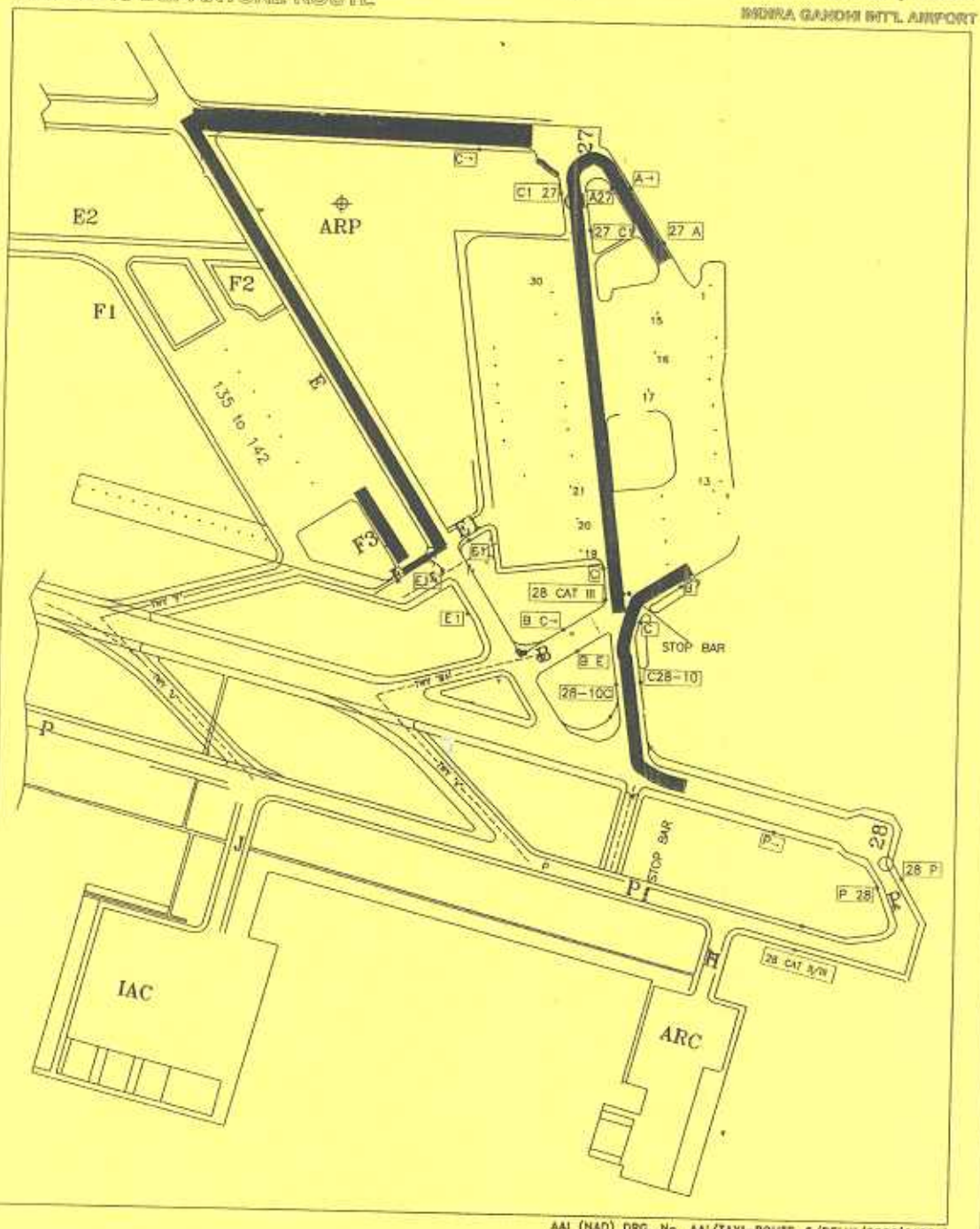


AAI (NAD) DRG. No. AAI/TAXI-ROUTE-4/DELHI/2006(CARTO)

ANNEXURE II - D

TAXIWAY ROUTING DURING CAT II/III OPERATIONS
DOMESTIC DEPARTURE ROUTE

DELHI, INDIA
INDIRA GANDHI INTL AIRPORT

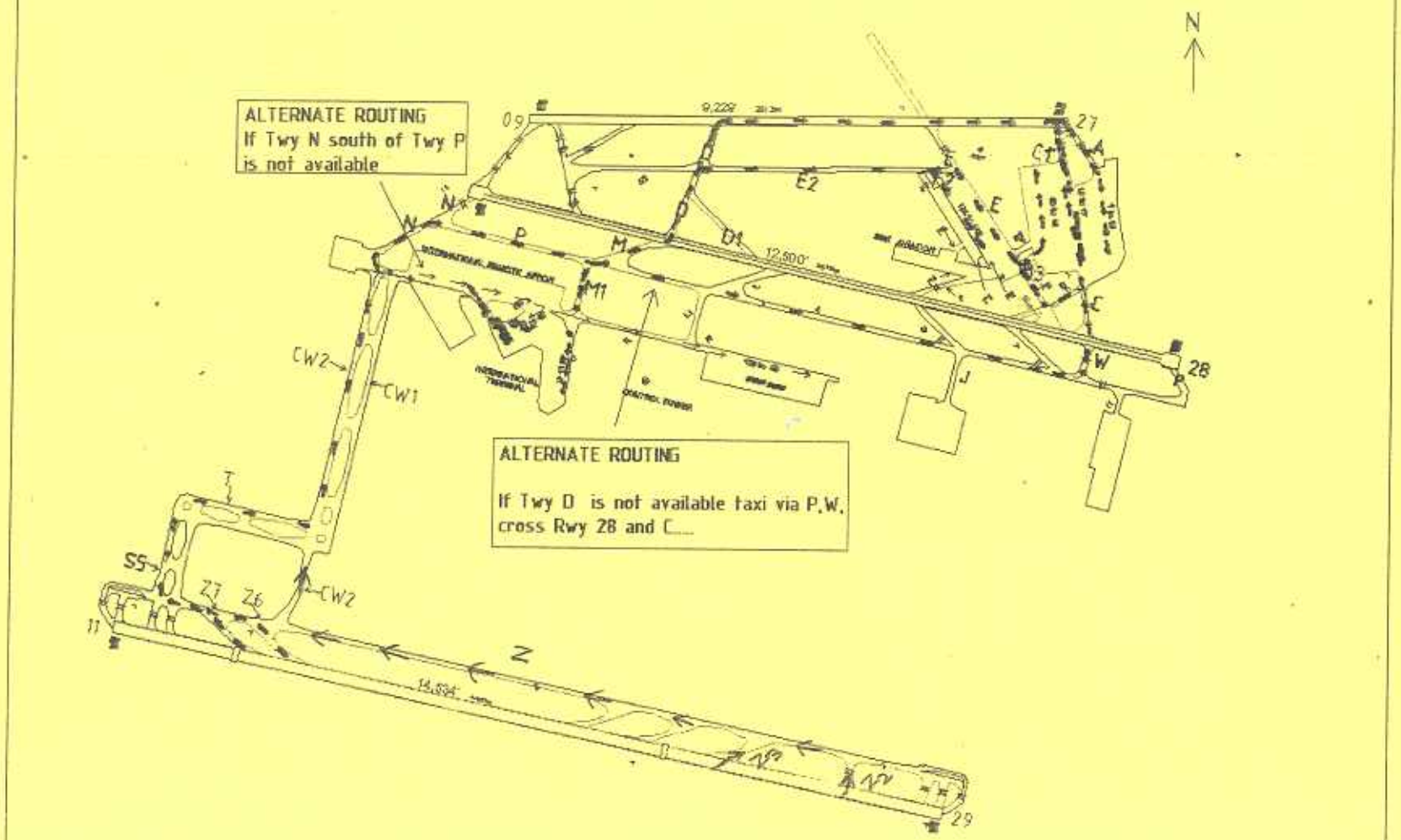


AAI (NAD) DRG. No. AAI/TAXI-ROUTE-6/DELHI/2006(CARTO)

ANNEXURE II-E

TAXIWAY ROUTING DURING CAT II/III OPERATIONS
DOMESTIC/INTERNATIONAL ARRIVAL ROUTE

DELHI, INDIA
INDIRA GANDHI INT'L AIRPORT



ANNEX URE-III

ACTIONS TO BE TAKEN BY VARIOUS AGENCIES

1. Before commencement of winter season, a meeting will be held by Chief Operating officer, Delhi International Airport Private Ltd. and Regional Executive Director (Northern Region), AAI 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.

2. All the agencies shall ensure that staff and drivers are suitably trained during CATIII operations.

3. **Action by Watch Supervisory Officer (WSO), AAI**

3. 1 Implementing Safeguarding Procedures - When RVR is less than 1200m and visibility is forecast to deteriorate to 800 m or less and/or the cloud ceiling is 400 feet and is forecast to fall to 200 feet or less, WSO will inform –

a. AOCC,
b. Communication/ Technical supervisor (SSO), AAI
c. Aerodrome Tower Controller, AAI
-for implementation of Safeguarding Procedures.

3. 2 **Implementing LVP**

3. 2. 1 WSO shall implement Low Visibility Procedures when either

a. TDZ and, MID or END RVR is less than 800 m; **and/or**
b. cloud ceiling is less than 200 feet.

3. 2. 2 WSO shall inform Aerodrome Tower Controller and Approach/Radar Controller, Duty Met. Officer and Communication/Technical Shift Supervisor Officer (SSO) also ensure that "LOW VISIBILITY PROCEDURE IN FORCE" is included in ATIS broadcast.

3. 3 WSO may terminate LVP when -

a. in consultation with Meteorological Office, meteorological conditions improve and TDZ, MID & END RVR are 800 m or more **and**
b. cloud ceiling is 200 feet or higher and trend is for improvement.
c. facilities, equipment and services necessary for CAT II/CAT III operations are degraded and/or the prevailing conditions are considered unsafe for such operations.

3. 3. 1 WSO will intimate Aerodrome Tower Controller, Approach/Radar Controller and Communication Technical Shift Supervisory Officer (SSO) regarding the termination of LVP operation

4. **Action by Aerodrome Tower Controller:**

4. 1 On being notified by WSO that ILS CAT II/CAT III Low Visibility Procedures are to commence, the Aerodrome Tower Controller will:

a. inform Aerodrome Rescue & Fire Fighting Services & AOCC,
b. check ILS status
c. check lighting is correctly selected and operating properly
d. check transmissometer displays

4. 2 After the commencement of ILS CAT II/CAT III operations, the Aerodrome Tower Controller shall -

a. check ATIS broadcast and include the message that "ILS CAT II/ CAT III Low Visibility Procedures in operation".
b. give landing clearance to aircraft not later than 2NM from touchdown.
c. inform changes in RVR readings to the landing aircraft.

d. give an unimpeded taxi route to arriving aircraft to allow it to clear the Localizer Sensitive Area expeditiously.
e. inform pilots of all failures of ILS, lighting system, transmissometers relevant to ILS CAT II/ CAT III Low Visibility Operations.
f. initiate emergency action if aircraft on CAT II/CAT III ILS is not seen (on radar or otherwise) or is not in radio contact, as expected.

4. 2. 1 Record of the above actions with time be maintained and signed by the officer taking action.

5. **Action by Approach/Radar Controller**

5. 1 On being advised by WSO that ILS CAT II/CAT III Low Visibility Procedures are effective, the Approach/Radar Controller shall :-

a. inform the arriving aircraft "ILS CAT II/CAT IIIA/CAT IIIB Low Visibility Procedures in operation".

(Note: Ensure that Pilot acknowledges of being cleared for ILS CATII/ CAT IIIA/CATIIIB approach.)

b. **i**nform TDZ RVR to arriving aircraft and in addition

(i) For CAT II operations - If TDZ RVR is below 550 m then MID RVR shall also be passed.
(ii) For CAT IIIA operations – If TDZ is below 350 m, then MID & End RVR readings shall also be passed.

(iii) For CAT IIIB operations - If TDZ is below 200m then MID and END RVR shall be passed.

NOTE: After an aircraft is 8NM from Touch Down or has passed outer marker, 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.
e. issue landing clearance to arriving aircraft not later than 2NM from touchdown.

6. **Action by Surface Movement Control**

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 maneuvering area.
b. inform all taxiing aircrafts of the preceding taxiing or holding aircraft.
c. hand over only one aircraft at a time to Tower Controller.
d. Permit only the vehicles equipped with transponder in the maneuvering area during Cat IIIB operations. However, other vehicles crossing taxiway N and M1 on service road shall be regulated by official of Airside Operations, DIAL by deploying man power with two way R/T communication under control of Apron Control II.

7. **Action by Communication/Technical/Electronics Shift Supervisory Officer (SSO)**

7. 1 On receipt of 'Outlook for LVP' from the WSO, the Communication/Technical/ Shift Supervisory Officer [SSO] will inform the Duty Officer, Equipment Room and have the ILS equipment and its status indicators in ATC units checked up. He will inform WSO of any unserviceability in the equipment which is likely to affect ILS CAT II/CAT III operation.

7. 2 On receipt of 'Advisory Message' from WSO that LVP are to be made effective, SSO will maintain continuous watch on the performance of ILS equipment and will inform WSO of any un-serviceability which may affect ILS CAT II/CAT III operation.

8. **Action by Airside Operations ODM, DIAL:-**

8. 1 **Action by Manager, AOCC**

8. 1. 1 On receipt of advice from WSO to implement Low Visibility Procedures, the Duty Manager AOCC, will immediately inform the following:

(i) Airport Duty Manager(Shift)
(ii) Shift Engineer (electrical) on company channel
(iii) AGM (Civil), Operational Area Maintenance [during day time only] to ensure that all civil works in progress in movement area are stopped and that the work area is restored in complete serviceable condition and confirm to Airport Manager, Apron Control – I accordingly. During ILS CAT-II/CAT-III Low Visibility Operations, no equipment, manpower or material shall be present in sensitive areas of localizer and glide path.
(iv) Operations Duty Manager

(v) Central Industrial Security Force (CISF) Control Room-I
(vi) Domestic and International airlines via e-mail/SITA network.

8.2 Action by Operations Duty Manager/Apron control-I

8.2.1 Operations Duty Manager/ Apron Control-I shall deploy a Traffic Hand at barrier near gate no.2 to stop vehicular movement on the perimeter road around Runway 28 approach, except DIAL operational vehicles fitted with R/T and Transponders and operating with prior clearance from ATC.

8. 2. 3 Operations Duty Manager shall ensure through follow me vehicle that vehicles do not operate on the service road beyond gate no. 2 and taxiways C and E during CAT-III operations. Signboards for stopping movement of vehicles shall be switched 'ON'.

8.3 Follow –me vehicles:

8.3.1 Such vehicles shall ensure that

a. No vehicles/person enters or is present in the sensitive/critical areas of localizer and glide path.

b. All civil/electrical works in progress are to be stopped in the maneuvering area immediately and men/material/equipment to be removed from the sensitive/critical areas of localizer and glide path.

8.3.2 After ensuring above, follow-me vehicles will confirm the same to the ODM.

8.3.4 Subsequently, follow-me vehicle shall remain available in apron and will maintain listening watch on R/T 121.9 MHz company frequency

8.3.5 On receipt of information about unserviceability of any of the runway visual aids or power supply system, ODM through AOCC will immediately inform ATC Tower accordingly.

8.3.6 No vehicles on domestic apron shall enter/cross in the vicinity of runway or any taxiway without permission from ATC Control Tower. AOCC shall coordinate with Control Tower for permission, if any vehicles of the ARFF services, civil, electrical division or of any other agency has to enter the runway or taxi track for urgent operational requirement. During CAT IIIB operations such vehicles shall be equipped with transponder.

8.3.7 None of the workers/vehicles of grass cutting contractor, garbage removal contractor, and electrical/civil contractor shall enter the operational area during the operations of ILS CAT II/CAT III Low Visibility Procedures.

8.3.8 All coordination with DIAL units and ATC shall be carried out by Manager AOCC Manager.

8.3.9 ODM would advise ATC Tower/Watch Supervisory Officer when all actions are completed for commencement of LVP.

8.3.10 **Manager:-**

.

a. ODM/ Apron Control shall deploy one Traffic Hand at barrier on service road parallel to taxiway 'P' for closing the barrier and stopping the vehicular movement.

b. Arrange to divert all vehicular traffic from Terminal-II to Terminal-I from the service road around RWY10 beginning authorize operations of vehicles on maneuvering area with prior permission from ATC Control Tower only.

8.4 **Action by Shift Engineer (Electrical)**

8.4.1 On receipt of advice to implement Low Visibility Procedures from AOCC, Shift Engineer (Electrical) will check along with ODM that following visual aids associated with RWY28 are serviceable and can be operated at full intensity.

a. Approach lighting system
b. Runway edge lights
c. Runway threshold and end lights
d. Runway centre line lights
e. Runway touchdown zone lights
f. Stop Bar Lights
g. Taxiway edge lights
h. RWY holding position lights
i. Runway clearance light
j. TWY C / L lights

(N O T E-No adjustment in light intensity shall be made without permission from ATC Tower)

8.4.2 He shall ensure that no electrical maintenance works is carried out during LVP either in power house or on any electrical facilities used during CAT II/CAT III operations.

8.4.3 He will ensure that runway switch room is manned and position himself at New CCR hall for standby power supply requirements and will maintain a listening watch on company frequency He will ensure availability of power supply to meet CAT III requirement.

8.4.4 He will inform the un-serviceability or any change in status of any facility/systems to –ODM immediately.

8. 5 **Action by Airport Duty Manager (ADM) (shift)**

8. 5. 1 ADM will be overall responsible for ensuring smooth coordination between all DIAL units and other concerned agencies. He shall inform regarding implementation of LVP to

i) Terminal Duty Manager, Terminal- I A.
(ii) Terminal Duty Manager, Terminal- I B
(iii) Terminal Duty Manager, Terminal- II

8. 6 **Action by Terminal Duty Manager-II**

8. 6. 1 Inform

- CISF Control Room –II
- Duty Officer Cargo
- PRO Customs
- AFRRO (Assistant Foreigners Regional Registration Officer)
- Inspector Delhi Traffic Police

8.7 Action by Airport Terminal Manager- I A

Shall inform:

i. Blue Dart Aviation on 9818171392
ii. Jet Airways Cargo

8. 8 **Action by Fire Station-3 (Old fire station)**

8. 8. 1 Station Duty officer II will ensure that ARFF (Airport Rescue and Fire Fighting) vehicles equipped with serviceable transponder take predetermined positions. Following predetermined positions will be taken by ARFF vehicles:-

a. One CFT on north of RWY28/10 near TWY E
b. One CFT south of RWY 28/10 near TWY L.
c. Two CFT's North of Z opposite Z5

9 **Action by Airport Security Police (CISF)**

9. 1. Chief Airport Security officer shall ensure that power house and other vital electrical installations are properly secured and protected against any unauthorized intrusion by deploying adequate manpower.

9. 2 The Inspector in charge, on receipt of advice to implement Low Visibility Procedures, will immediately inform all access gates and CISF posts under their respective controls in operational area to restrict and guide all the vehicles to use the service road towards RWY10 side only, for proceeding to Terminal-II and vice-versa, till such time he is informed of termination of ILS CAT II/CAT III Low Visibility Procedures.

9. 3 For carrying out security checks of their security personnel on RWY28 side, Inspector In-Charge of CISF Control Room I/II would be escorted by 'Follow-Me vehicles' equipped with

transponder during CAT IIIB operations for which they would liaise with ODM.

10 **Action by Duty Officer (Meteorological Office)**

10 .1 Duty Meteorological Officer would issue an 'Outlook for Low Visibility Procedures' to the Watch Supervisory Officer [WSO] of air traffic services whenever he expects that the RVR [RWY28] and/or cloud ceiling will fall below 800 m and/or 200 feet or less respectively.

10 .2 Whenever Duty Met. Officer visualizes that RVR [Runway 28] is likely to fall below 800 m and/or cloud ceiling to 200 feet or less within next 2 hours, he will issue an 'Advisory Message' to WSO to this effect.

10 .3 When the RVR and/or cloud ceiling are 800 m and/or 200 feet respectively and the trend is towards improvement in these elements of weather conditions, the Duty Met Officer may, when requested by WSO, advise him about such improving weather conditions for the purpose of termination of LVP.

10 .4 The Duty met. Officer would ensure that the RVR displays in ATC units in the Control Tower and Approach Control are serviceable. He would also ensure that RVR/visibility recorders of Touch-down zone, Mid-point and end 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.

11 **Action by Other agencies at airport such as - Airlines, Re-fuelling Companies, Catering Agencies, Airport Police, Customs, Immigration, Health**

11 .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 taxing aircraft and other vehicles to prevent incident/ accidents. During CAT IIIB operations only vehicles equipped with serviceable transponder shall be permitted to operate in maneuvering area.

11 .2 All the vehicles must have their obstruction/ anti-collision lights “ON” during operation of low visibility procedures.

11 . 3 All vehicles operating between Terminal-I & Terminal-II shall use service road around RWY10 approach only.

11 . 4 Follow all instructions/sign boards provided for vehicular movement area/service roads.

11 . 5 No vehicle/equipment/personnel shall enter in and around the vicinity of the runways or taxi-tracks except with prior permission of ODM, who in turn shall coordinate with aerodrome control tower.

12 TERMINATION OF LOW VISIBILITY PROCEDURES

12.1 When met conditions improve and TDZ MID and END RVR are 800m or more and the cloud ceiling is 200 feet. or higher and trend is for improvement, the WSO would terminate operation of LVP. He may obtain advice from Duty Met. Officer, as provided at Para 10.3, about the improving weather conditions for the purpose of termination of LVP operations.

12 . 2 The WSO will intimate the following regarding termination of LVP operations

a. Aerodrome Tower Controller
b. Approach/Radar Controller
c. Communication/Technical Shift Supervisory Officer (SSO)

12 . 3 Aerodrome Tower Controller will in turn inform Airport AOCC, who will advise all the previously notified personnel to resume normal operations.

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