

**AD 2. AERODROMES****VILK AD 2.1 AERODROME LOCATION INDICATOR AND NAME**

VILK - CHAUDHARY CHARAN SINGH AIRPORT, LUCKNOW / INTL

**VILK AD 2.2 AERODROME GEOGRAPHICAL AND ADMINISTRATIVE DATA**

1	Aerodrome reference point coordinates and its site	264543N 0805300E 072.5 DEG/533 m from RWY 09/27 & isolation bay taxi intersection
2	Direction and distance of aerodrome reference point from the center of the city or town which the aerodrome serves	210 DEG, 11KM from Lucknow Railway Station.
3	Aerodrome elevation and reference temperature	405 FT / 41.0 DEG C
4	Magnetic variation, date of information and annual change	0.25 DEG E (2010) /0.017 DEG E
5	Name of aerodrome operator, address, telephone, telefax, e-mail address, AFS address, website (if available)	Airport Director, Airports Authority of India, Chaudhary Charan Singh Airport Lucknow, Lucknow - 226009
	Telephone:	+91-522-2435777, 2435404, +91-9839097888
	Fax:	+91-522-2438404
	AFS:	VILKYHYX
	Email:	apdlko@aai.aero
6	Types of traffic permitted (IFR/VFR)	IFR/VFR
7	Remarks	

**VILK AD 2.3 OPERATIONAL HOURS**

1	Aerodrome Operator	MON-FRI 0400-1230 UTC (0930-1800 IST) SAT, SUN+ HOL : Nil
2	Custom and immigration	See Remark No. 12
3	Health and sanitation	NIL
4	AIS briefing office	H24
5	ATS reporting office (ARO)	H24
6	MET Briefing office	H24
7	Air Traffic Service	H24
8	Fuelling	0030-1630 UTC (0600-2200 IST)
9	Handling	Avbl (INDO-THAI)
10	Security	H24
11	De-icing	NIL
12	Remarks	Customs and immigration facilities are provided to cover operations of scheduled INTL. Flights. The facilities can be arranged to cover any authorized non- sked operations on request with 24hrs PN.
	ATS approved hourly runway traffic handling capacity	Maximum number of arrival and departure- 12 (The minimum spacing BTN two successive ARR shall be more than 5 min) Maximum number of arrival only – 06 Maximum number of departure only -10

**VILK AD 2.4 HANDLING SERVICES AND FACILITIES**

1	Cargo-handling facilities	Limited-Manual
2	Fuel and Oil types	JET A1
3	Fuelling facilities and capacity	Bowsers: 27 KL 1 No. JET –A1 16 KL 3 No. JET –A1 11 KL 1 No. JET –A1 Total Capacity : 860000 Ltrs ATF/JET A1 Static store 200KLx4=800KL.
4	De-icing facilities	NIL
5	Hangar space for visiting aircraft	NIL
6	Repair facilities for visiting aircraft	NIL
7	Remarks	Nil

**VILK AD 2.5 PASSENGER FACILITIES**

1	Hotel(s) at or in the vicinity of aerodrome	In the City
2	Restaurant(s) at or in the vicinity of aerodrome	At AD and in the city
3	Transportation possibilities	Taxi, city Bus
4	Medical Facilities	First aid at AD. Hospital in the city
5	Bank and post office at or in the vicinity of aerodrome	Banks: 0930-1730 except sunday Post office: 0930-1730 except sunday
6	Tourist office	At AD during ACFT Ops.
7	Remarks	Nil

**VILK AD 2.6 RESCUE AND FIRE FIGHTING SERVICES**

1	Aerodrome category for fire fighting	Within ATS HR: CAT-7
2	Rescue equipment	Available as per category.
3	Capability for removal of disabled aircraft	NIL
4	Remarks	Nil

**VILK AD 2.7 SEASONAL AVAILABILITY CLEARING**

1	Type(s) of clearing equipment	Nil
2	Clearance priorities	Nil
3	Remarks	Nil

**VILK AD 2.8 APRONS, TAXIWAYS AND CHECK LOCATIONS/POSITIONS DATA**

1	Designation, surface and strength of aprons	Refer Aircraft Parking/Docking Chart
2	Designation, width, surface and strength of taxiways	Refer Aircraft Parking/Docking Chart
3	Location and elevation of altimeter checkpoints	Location Not AVBL
4	Location of VOR checkpoints	VOR VOR/DME LKN TWY A R097/0.4NM TWY B R099/0.2NM TWY C R109/0.1NM
5	Position of INS checkpoints	
6	Remarks	Nil

**VILK AD 2.9 SURFACE MOVEMENT GUIDANCE AND CONTROL SYSTEM AND MARKINGS**

1	Use of aircraft stand identification signs, taxiway guidelines and visual docking/parking guidance system at aircraft stands	TWY guidance signal at all the intersection with TWY and RWY and at all holding position Guidelines at Apron. Nose in guidance at aircraft stands.
2	Runway and taxiway markings and lights	<p>RWY Markings Designation, THR, TDZ, centre line, aiming point, edge. Lights RWY 27: THR, TDZ, centre line, edge, end RWY 09: THR, centre line, edge, end.</p> <p>TWY Marking Centre line, edge, holding position. Lights Centre line lights on TWY C. Edge lights on TWY A, B, C, D &amp; E</p>
3	Stop bars (if any)	TWY A (90M from RWY CL), TWY B (90M from RWY CL), TWY C (94.5M from RWY CL), TWY D (240M from RWY CL) TWY E (100M from RWY CL)
4	Remarks	RWY guard lights provided at TWY C

**VILK AD 2.10 AERODROME OBSTACLES**

In Approach/Take-off/Circling Area and at AD					
1	2	3	4	5	6
RWY/Area affected	Obstacle type	Coordinates	Elevation	Marking/LGT	Remarks
27/TKOF 09/APCH	OTHER	264542.6N 0805222.3E	420 FT	NIL	MOBILE ROAD TRAFFIC (ROAD ELEV.123.0M+5M MOBILE TRAFFIC)
27/TKOF 09/APCH	OTHER	264537.1N 0805219.2E	423 FT	NIL	MOBILE ROAD TRAFFIC (ROAD ELEV.123.8M+5M MOBILE TRAFFIC)
27/TKOF 09/APCH	STADIUM	264533.8N 0805205.7E	446 FT	NIL	INDOOR STADIUM (S.A.I.)
27/TKOF 09/APCH	OTHER	264541.1N 0805221.5E	423 FT	NIL	MOBILE ROAD TRAFFIC (ROAD ELEV.123.8M+5M MOBILE TRAFFIC)
27/TKOF 09/APCH	OTHER	264530.6N 0805210.5E	462 FT	NIL	CELLPHONE MAST
27/TKOF 09/APCH	TREE	264540.8N 0805424.4E	433 FT	NIL	Peepal Tree
27/TKOF 09/APCH	TREE	264540.8N 0805424.6E	431 FT	NIL	Neem Tree
27/TKOF 09/APCH	TREE	264540.8N 0805424.1E	425 FT	NIL	Neem Tree
27/TKOF 09/APCH	TREE	264540.8N 0805423.2E	438 FT	NIL	Peepal Tree
27/TKOF 09/APCH	TREE	264540.7N 0805423.0E	432 FT	NIL	Peepal Tree
27/TKOF 09/APCH	TREE	264540.8N 0805422.6E	430 FT	NIL	Tree

In Approach/Take-off/Circling Area and at AD					
1	2	3	4	5	6
RWY/Area affected	Obstacle type	Coordinates	Elevation	Marking/LGT	Remarks
27/TKOF 09/APCH	ANTENNA	264538.8N 0805423.1E	420 FT	NIL	Alignment antenna
27/TKOF 09/APCH	OTHER	264539.4N 0805220.6E	421 FT	NIL	Mobile Road Traffic
27/APCH 09/TKOF	OTHER	264542.4N 0805421.0E	418 FT	NIL	MOBILE ROAD TRAFFIC (ROAD ELEV.122.3M+5M MOBILE TRAFFIC)
27/APCH 09/TKOF	TREE	264542.6N 0805421.9E	444 FT	NIL	TREE
27/APCH 09/TKOF	OTHER	264539.4N 0805220.6E	421 FT	NIL	Mobile Road Traffic
In circling area and at AD	OTHER	264537.3N 0805229.6E	407 FT	NIL	APPROACH LIGHT
In circling area and at AD	BUILDING	264529.9N 0805212.2E	440 FT	NIL	BUILDING TOP
In circling area and at AD	BUILDING	264542.8N 0805236.3E	416 FT	NIL	SECURITY HUT
In circling area and at AD	OTHER	264533.0N 0805346.6E	405 FT	NIL	MET BLDG
In circling area and at AD	BUILDING	264542.8N 0805359.1E	413 FT	NIL	G.P. HUT
In circling area and at AD	TREE	264546.0N 0805406.3E	446 FT	NIL	GROUP OF TREES
In circling area and at AD	TREE	264545.1N 0805421.8E	435 FT	NIL	GROUP OF TREES
In circling area and at AD	OTHER	264535.6N 0805400.9E	409 FT	NIL	MET INSTRUMENT
In circling area and at AD	ANTENNA	264542.7N 0805359.3E	454 FT	NIL	G.P. ANTENNA
In circling area and at AD	TREE	264531.3N 0805356.2E	462 FT	NIL	GROUP OF TREES
In circling area and at AD	ANTENNA	264542.4N 0805402.0E	416 FT	NIL	G.P. MONITOR ANTENNA
In circling area and at AD	POLE	264533.4N 0805349.4E	410 FT	NIL	MET POLE
In circling area and at AD	TREE	264545.9N 0805409.0E	445 FT	NIL	GROUP OF TREES
In circling area and at AD	OTHER	264433.2N 0805055.8E	574 FT	NIL	PYLON MAST
In circling area and at AD	OTHER	264434.0N 0805104.3E	579 FT	NIL	PYLON MAST
In circling area and at AD	TOWER	265224.3N 0805156.9E	981 FT	NIL	T. V. TOWER
In circling area and at AD	OTHER	264634.2N 0805046.8E	571 FT	NIL	CELLPHONE MAST
In circling area and at AD	OTHER	264543.9N 0805318.3E	424 FT	NIL	W.D.I.
In circling area and at AD	OTHER	264533.0N 0805344.0E	410 FT	NIL	MET LIGHT
In circling area and at AD	OTHER	264540.7N 0805303.2E	400 FT	NIL	TAXI HOLDING B

In Approach/Take-off/Circling Area and at AD					
1	2	3	4	5	6
RWY/Area affected	Obstacle type	Coordinates	Elevation	Marking/LGT	Remarks
In circling area and at AD	TOWER	264655.0N 0805313.9E	557 FT	NIL	BSNL tower
In circling area and at AD	TOWER	264437.6N 0805135.4E	599 FT	NIL	Tower
In circling area and at AD	TOWER	264426.9N 0805149.0E	609 FT	NIL	Tower
In circling area and at AD	TOWER	264432.1N 0805147.8E	588 FT	NIL	Tower
In circling area and at AD	OTHER	264439.7N 0805104.2E	556 FT	NIL	Pylon
In circling area and at AD	OTHER	264535.6N 0805400.9E	409 FT	NIL	Telvent Scopograph
In circling area and at AD	OTHER	264535.7N 0805358.6E	420 FT	NIL	WDI
In circling area and at AD	OTHER	264537.2N 0805357.8E	403 FT	NIL	PAPI
In circling area and at AD	OTHER	264536.9N 0805357.8E	403 FT	NIL	PAPI
In circling area and at AD	OTHER	264536.6N 0805357.8E	403 FT	NIL	PAPI
In circling area and at AD	OTHER	264536.4N 0805357.9E	403 FT	NIL	PAPI
In circling area and at AD	OTHER	264536.3N 0805249.4E	405 FT	NIL	PAPI
In circling area and at AD	OTHER	264536.0N 0805249.4E	405 FT	NIL	PAPI
In circling area and at AD	OTHER	264535.7N 0805249.4E	405 FT	NIL	PAPI
In circling area and at AD	OTHER	264535.4N 0805249.4E	405 FT	NIL	PAPI
In circling area and at AD	ELECTRICAL SYSTEM	264535.3N 0805243.3E	405 FT	NIL	Electric pillar box

**VILK AD 2.11 METEOROLOGICAL INFORMATION PROVIDED**

1	Name of the associated meteorological office	Lucknow
2	Hours of service and, where applicable, the designation of the responsible meteorological office outside these hours	H24
3	Office responsible for preparation of TAFs and periods of validity and interval of issuance of the forecasts	Lucknow 9,24HR
4	Availability of the trend forecast for the aerodrome and interval of issuance	Trend forecast BTN 0000 to 1600UTC half hourly. BTN 1630 to 2330UTC forecast hourly without trend.
5	Information on how briefing and/or consultation is provided	Provided
6	Types of flight documentation supplied and language(s) used in flight documentation	Charts and Tabular form. English WAFC Product.
7	Charts and other information displayed or available for briefing or consultation	S, U85, U70, U50, U30, U20

8	Supplementary equipment available for providing information on meteorological conditions, e.g. weather radar and receiver for satellite images;	Telex , Telefax, Satellite display work station Three new transmissometer (DRISHTI) systems installed at RWY27 and commissioned for TDZ, MID AND END RVR of RWY27. The RVR data may be used for aviation purpose.
9	The air traffic services unit(s) provided with meteorological information	Lucknow ATC and ACS
10	Additional information, e.g. concerning any limitation of service.	Operational hour of Met briefing: 2330-1630 Hrs UTC.

**VILK AD 2.12 RUNWAY PHYSICAL CHARACTERISTICS**

Designations	TRUE Bearings	Dimensions of RWY (M)	Strength of pavement (PCN) and associated data) and surface of runway and associated stopways	Geographical coordinates for threshold and runway end
1	2	3	4	5
09	89.13 DEG	2742 x 45 M	76/F/C/W/T Concrete	THR: 264537.36N 0805236.12E RWY END: 264538.62N 0805409.74E
27	269.13 DEG	2742 x 45 M	76/F/C/W/T Concrete	THR: 264538.62N 0805409.74E RWY END: 264537.28N 0805230.45E

THR elevation and highest elevation of TDZ of precision APP RWY	Slope of runway and associated stopway	Dimensions of stopway (M)	Dimensions of clearway (M)	Dimensions of strips (M)
6	7	8	9	10
THR: 405.0FT TDZ: 405.0FT		NIL	NIL	2862 x 300 M
THR: 399.0FT TDZ: 403.0FT		NIL	NIL	2862 x 300 M

Dimensions of runway end safety areas	Location and description of arresting system (if any)	Existence of an obstacle-free zone	Remarks.
11	12	13	14
90M x 150M		---	1. APCH Slope - 1:50 2. PCN UPTO 2210M: 76/F/C/W/T, Surface: TARMAC PCN FM 2210M to 2742M: 74/R/C/W/T. Surface: CONCRETE
115M x 150M		---	1. APCH Slope - 1:50 2. PCN UPTO 532 M: 74/R/C/W/T, Surface: CONCRETE PCN FM 532M to 2742M: 76/F/C/W/T, Surface: TARMAC

**VILK AD 2.13 DECLARED DISTANCES**

RWY Designator	Take-off run available TORA (M)	Take-off distance available TODA (M)	Accelerate distance available ASDA (M)	Landing distance available LDA (M)	Remarks (including runway entry or start point where alternative reduced declared distances have been declared)
1	2	3	4	5	6
09	2742	2742	2742	2585	
27	2742	2742	2742	2742	

**VILK AD 2.14 APPROACH AND RUNWAY LIGHTING**

Runway Designator	Type, length and intensity of approach lighting system	Runway threshold lights, colour and wing bars	Type of visual slope indicator system	Length of runway touchdown zone lights
1	2	3	4	5
09	SALS 420 M LIH	Green AVBL	PAPI RIGHT/3.00 DEG MEHT (58.09FT)	
27	CAT III 900 M LIH	Green AVBL	PAPI LEFT/3.00 DEG MEHT (54.43FT)	900 M
Length, spacing, colour and intensity of runway centre line lights	Length, spacing, colour and intensity of runway edge lights	Colour of runway end lights and wing bars	Length and colour of stopway lights	Remarks
6	7	8	9	10
2742 M 15 M LIH	2742 M 60 M LIH	Red	NIL	1.RWY centreline from THR to 1842M-white, from 1842M to 2442M- ALTN red and white from 2442M to end light-red 2.RWY Edge lights from beginning to displaced THR red. From THR to 2142M – white and from 2142M to end - yellow.
2742 M 15 M LIH	2742 M 60 M LIH	Red	NIL	1.RWY Centreline lights from THR to 1842M - white, from 1842 to 2442M - ALTN red and white and from 2442M to end light-red. 2.RWY Edge Lights from THR to 2142M- white and from 2142M to endyellow

**VILK AD 2.15 OTHER LIGHTING, SECONDARY POWER SUPPLY**

1	Location, characteristics and hours of operation of aerodrome beacon/identification beacon (if any)	ABN	At tower building, FLG W&G EV 3SEC, H24
		IBN	NIL

2	Location and lighting (if any) of anemometer/landing direction indicator;	LDI	56M NNE of ARP,Lighted
		Anemometer	Available
3	Taxiway edge and taxiway centre line lights;	Edge	ALL TWY
		Centre Line	TWY C
4	Secondary power supply including switch-over time;	Secondary power supply to all lighting at AD Switch-over time: CAT II/III: 1 SEC CAT-I: 15 SEC	
5	Remarks	Parking stands lights on parking stand no. 11, 12, 13, 14 are available	

**VILK AD 2.16 HELICOPTER LANDING AREA**

1	Geographical coordinates of the geometric centre of touchdown and lift-off (TLOF) or of each threshold of final approach and take-off (FATO) area	
2	TLOF and/or FATO area elevation:	
3	TLOF and FATO area dimensions to the nearest metre or foot, surface type, bearing strength and marking;	
4	True bearings of FATO;	
5	Declared distances available	
6	Approach and FATO lighting;	
7	Remarks	Not established

**VILK AD 2.17 AIR TRAFFIC SERVICE AIRSPACE**

1	Airspace designation, geographical coordinates and lateral limits	CTR: Circular area centered on DVOR LKN (264531N 0805340E) within a 25NM radius.
2	Vertical limits	FL 50
3	Airspace classification	D
4	Call sign and language(s) of the air traffic services unit providing service;	Lucknow Tower, English
5	Transition altitude	4000 FT
6	Hours of applicability	HO
7	Remarks	Nil

**VILK AD 2.18 AIR TRAFFIC SERVICES COMMUNICATION FACILITIES**

Service Designation	Call sign	Channel(s)	SATVOICE Number(s), if available
1	2	3	4
ACS	Lucknow Control	120.450 MHZ	
TWR	Lucknow Tower	118.600 MHZ	
ATIS	Lucknow	126.800 MHZ	

Logon address, as appropriate	Hours of operation	Remarks
5	6	7
	H24	NIL
	H24	NIL
	H24	BTN 0130 - 1630 UTC half Hourly 1630 - 0130 UTC Hourly



**VILK AD 2.19 RADIO NAVIGATION AND LANDING AIDS**

Type of aids, magnetic variation and type of supported operation for ILS/MLS, basic GNSS, SBAS and GBAS, and for VOR/ILS/MLS station used for technical lineup of the aid	Identification	Frequency(ies), Channel number(s), Service provider, and reference path identifier(s) (RPI), as appropriate	Hours of operation, as appropriate;
1	2	3	4
LOC 27	ILUC	109.900 MHz	H24
GP 27	ILUC	333.800 MHz	H24
DME ILS 27	ILUC	CH36X	H24
DVOR/DME	LKN	117.400 MHz CH121X	H24

Geographical coordinates of the position of the transmitting antenna	Elevation of transmitting antenna of DME/ elevation of GBAS reference point	Service volume radius from the GBAS reference point	Remarks
5	6	7	8
264537.3N 0805221.3E			ILS CAT-IIIB
264542.8N 0805359.4E			3 DEG
264542.8N 0805359.4E	431 FT		Collocated with GP27
264530.8N 0805339.9E	431 FT		

**VILK AD 2.20 LOCAL AERODROME REGULATIONS**

## **PUSHBACK PROCEDURES**

### **1. From Bay No. 14 (Code C/D/E Aircraft)**

- Pushback and Startup shall be facing only East abeam bay no. 12.
- Taxi out via taxiway B.
- Taxiway C is blocked when aircraft pushes back abeam bay no.12.
- No arrival/departure shall taxi in/out via Taxiway C.

### **2. From Bay No. 13 (Code D/E Aircraft)**

- Pushback may be given facing West or East depending upon the traffic flow on taxiway 'B' and 'C.'

#### **a) Facing East:**

- Pushback and Startup facing east abeam bay no. 12.
- Taxi out via taxiway B.
- Taxi way C is blocked when aircraft pushes back abeam bay no. 12.
- No arrival/departure shall taxi in/out via Taxiway C.

#### **b) Facing West:**

- Pushback facing west abeam bay no. 09.
- Startup shall be given only when aircraft is abeam bay no. 09.
- Taxi out via taxiway D/E.
- Taxi way C will be blocked when aircraft pushed back abeam bay no.09.
- No arrival/departure shall taxi in/out via taxiway C.
- Arrival can vacate via taxiway B to park at Bay No. 12, 13 and 14.

### **3. From Bay No. 13 (Code C aircraft)**

- Pushback may be given facing West or East depending upon the traffic flow on taxiway 'B' and 'C.'

#### **a) Facing East:**

- Pushback and Startup facing east abeam bay no. 12.
- Taxi out via taxiway B.
- Taxiway C will be blocked when aircraft pushed back abeam bay no.12.
- No arrival/departure shall taxi in/out via Taxiway C.

#### **b) Facing West:**

- Pushback and Startup may be given facing west abeam bay no.13.
- Taxi out via taxiway C/D/E.
- Taxiway B is blocked when aircraft pushes back abeam bay no.13.

### **4. From Bay No. 12 (Code C Aircraft)**

#### **a) Facing East:**

- Pushback and Startup facing east abeam bay no.12.
- Taxi out via taxiway B.
- Taxiway C is blocked when aircraft pushes back abeam bay no.12.
- No arrival/departure shall taxi in/out via taxiway C.

#### **i) Facing West:**

- Pushback and Startup may be given facing west abeam bay no.12.
- Taxi out via taxiway C/D/E.
- Taxiway B will be blocked when aircraft pushed back abeam bay no.12.

### **5. From Bay No. 11 (Code C Aircraft)**

- Pushback may be given facing West or East depending upon the traffic flow on taxiway 'B' and 'C' and RWY in use.

#### **a) Facing East:**

- Pushback and Startup facing east abeam bay no.11.
- Taxi out via taxiway B only.
- Taxiway C is blocked when aircraft pushes back abeam bay no.11.
- No arrival/departure shall taxi in/out via Taxiway C.
- For taxiing out via C the aircraft may be advise to continue the Pushback abeam bay No 10.

#### **b) Facing West:**

- Pushback and Startup may be given facing west abeam bay no.11.
- Taxi out via taxiway D/E.
- Taxiway C is blocked when aircraft pushes back abeam bay no.11.
- No arrival/departure shall taxi in/out via taxiway C.

### **6. From Bay No. 10 (Code C Aircraft)**

- Pushback may be given facing West or East depending upon the traffic flow on taxiway 'B' and 'C' and RWY in use.

#### **a) Facing East:**

- Pushback and Startup facing east abeam bay no.10.
- Taxi out via taxiway C or B.
- Taxiway C is blocked when aircraft pushes back abeam bay no.10.
- No arrival/departure shall taxi in/out via taxiway C.

**b) Facing West:**

- Pushback and Startup may be given facing west abeam bay no.10.
- Taxi out via taxiway D/E.
- Taxi way C is blocked when aircraft pushes back abeam bay no.10.
- No arrival/departure shall taxi in/out via taxiway C.

**7. From Bay No. 09 (Code C Aircraft)**

- Pushback may be given facing West or East depending upon the traffic flow on taxiway 'B' and 'C' and RWY in use.

**a) Facing East:**

- Pushback and Startup facing east abeam bay no. 09.
- Taxi out via taxiway C or B.

**b) Facing West:**

- Pushback and Startup may be given facing west abeam bay no.09.
- Taxi out via taxiway D/E.

**8. From Bay No. 08 (Code C Aircraft)**

- Pushback may be given facing West or East depending upon the traffic flow on taxiways and RWY in use.

**a) Facing East:**

- Pushback and Startup facing east abeam bay no.08.
- Taxi out via taxiway C or B.

**b) Facing West:**

- Pushback and Startup may be given facing west abeam bay no.08.
- Taxi out via taxiway D/E.

**9. From Bay No. 07 (Code C Aircraft)**

- Pushback may be given facing West or East depending upon the traffic flow on taxiways and RWY in use.

**a) Facing East:**

- Pushback and Startup facing east abeam bay no.07.
- Taxi out via taxiway C or B.

**b) Facing West:**

- Pushback and Startup may be given facing west abeam bay no.07.
- Taxi out via taxiway D/E.

**10. From Bay No. 06 (Code C Aircraft)**

- Pushback may be given facing West or East depending upon the traffic flow on taxiways and RWY in use.

**a) Facing East:**

- Pushback and Startup facing east abeam bay no.06.
- Taxi out via taxiway C or B only.

**b) Facing West:**

- Pushback and Startup may be given facing west abeam bay no.06.
- Taxi out via taxiway D/E.

**11. From Bay No. 05 (Code C Aircraft)**

- Pushback may be given facing West or East depending upon the traffic flow on taxiways and RWY in use.

**a) Facing East:**

- Pushback and Startup facing east abeam bay no.05.
- Taxi out via taxiway C or B only.

**b) Facing West:**

- Pushback and Startup may be given facing west abeam bay no.05.
- Taxi out via taxiway D/E.

**12. From Bay No. 04 (Code C Aircraft)**

- Pushback may be given facing West or East depending upon the traffic flow on taxiways and RWY in use.

**a) Facing East:**

- Pushback and Startup facing east abeam bay no.04.
- Taxi out via taxiway C or B only.

**b) Facing West:**

- Pushback and Startup may be given facing west abeam bay no.04. Taxi out via taxiway D/E.

**13. Bay No. 1, 2, 3 (Code C Aircraft) are Power in and Power out stands.****14. Bay No. 03A (Code D/E Aircraft)**

- Pushback may be given facing West or East depending upon the traffic flow on taxiways and RWY in use.

**a) Facing East:**

- *If Runway in use 27, Pushback and Startup should be given facing east abeam bay no.03A to minimize Runway occupancy.*
- Taxi out via taxiway C or B only.
- Arrival can taxi in to bay no. 1 & 2 only via Taxiway D/E.

**b) Facing West:**

- Pushback and Startup may be given facing west abeam bay no.03A.
- Taxi out via taxiway D or E.

- Arrival can taxi in to bay no. 1 & 2 only.

**15. Bay No. 05 (Code D/E Aircraft)**

- Pushback may be given facing West or East depending upon the traffic flow on taxiways and RWY in use.

**1. Facing East:**

- *If Runway in use 27 Pushback and Startup should be given facing east abeam bay no.05 to minimize Runway occupancy.*
- Taxi out via taxiway C or B only.
- Arrival can taxi in to bay no. 1 & 2 only.

**2. Facing West:**

- Pushback and Startup may be given facing west abeam bay no.05.
- Taxi out via taxiway D or E.
- Arrival can taxi in to bay no. 1, 2 & 3 only.
- Pushback from Bay no.7 and taxi in to Bay no.7 shall not be given when aircraft is pushing back or pushed back from Bay no. 05.

**Precautions to be taken while giving pushback:**

- Pushback shall not be approved to an aircraft until other aircraft taxiing on taxi lane is clear of the bay of aircraft requesting pushback.
- Only one pushback at a time is approved from stands 11, 12, 13 and 14.
- Taxiway C is blocked when aircraft pushes back abeam stand no. 10, 11 & 12. No arrival/departure shall taxi in/out via Taxiway C.
- ATC shall mention the direction of pushback and taxi lane in pushback clearances.
- Startup can be given after completion of pushback.
- 180 degrees turn on apron/taxiways/taxi lane shall not be given/approved by ATC to aircraft.
- Stands 3A, 5 for Code D/E aircraft and stands 4, 5, 6, 7, 8, 9, 10, 11, 12, 13 and 14 are power-in and pushback stands. Power out shall not be permitted from these stands.
- Ensuring correct pushback on Taxi lane as per instructions received from ATC is the responsibility of Airline Operator. All aircraft shall be pushed back up to the specified pushback position marking (i.e., the nose wheel of the aircraft shall be at the point where the stand lead in line meets the aircraft stand taxi lane) corresponding to the stand from which pushback was commenced unless otherwise instructed by ATC.
- Clearance of aircraft on apron from ground handling equipment, vehicular traffic is the responsibility of Ground handling agents and airlines operator.
- No person/vehicle shall operate on manoeuvring area without obtaining authorization from Aerodrome Control Tower. In spite of such authorization, entry to Runway or Runway strip shall be subject to further specific authorization by ATC tower.
- Permission from ATC tower is required by operational jeep or maintenance team to inspect/maintain apron except runway for operational requirement on watch and ward basis.

**VILK AD 2.21 NOISE ABATEMENT PROCEDURES**

**NIL**

**VILK AD 2.22 FLIGHT PROCEDURES**

**I. LOW VISIBILITY PROCEDURES:****1. DEFINITIONS AND ABBREVIATIONS:**

**1.1 Precision approach and landing operations:** An instrument approach procedure based on navigation systems (ILS, MLS, GLS and SBAS CAT I) designed for 3D instrument approach operations Type A or B.

**1.2 ILS Category I (CAT I) Operations:** 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.

**1.3 ILS Category II (CAT II) Operations:** 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.

**1.4 ILS Category III Operations:**

**1.4.1 CAT IIIA Operations:** A precision instrument approach and landing with -

i. a decision height lower than 30 m (100 ft) or no decision height; and

ii. a runway visual range not less than 175 m.

**1.4.2 CAT IIIB Operations:** A precision instrument approach and landing with -

i. a decision height lower than 15 m (50 ft) or no decision height; and

ii. a runway visual range less than 175 m but not less than 50 m.

**1.5 Decision Altitude/Height (DA/H):** 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.

**1.6 ILS Critical Area:** An area of defined dimensions about the localizer and glide path antennas where vehicles, including aircraft, are excluded during all ILS operations. The critical area is protected because the presence of vehicles and/or aircraft inside its boundaries will cause unacceptable disturbance to the ILS signal-in-space.

**1.7 ILS Sensitive Area:** An area extending beyond the critical area where the parking and/or movement of vehicles, including aircraft, is controlled to prevent the possibility of unacceptable interference to the ILS signal during ILS operations. The sensitive area is protected to provide protection against interference caused by large moving objects outside the critical area but still normally within the airfield boundary.

**1.8 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.

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

**1.10 Obstacle Free Zone (OFZ):** The airspace above the inner approach surface, inner transitional surfaces, and balked landing surface and that portion of the strip bounded by these surfaces, which is not penetrated by any fixed obstacle other than a low-mass and frangibly mounted one required for air navigation purposes.

**1.11 Runway Visual Range (RVR):** The range over which the pilot of an aircraft on the centreline of a runway can see the runway surface markings or the lights delineating the runway or identifying its centreline.

**1.12 Safeguarding Procedures (SP):** 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 Safeguarding procedures are complete and airport is configured for CAT II/CAT IIIA/CAT IIIB Operations and Low Visibility Take-Offs.

**1.13 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.

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

**1.15 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.*

**1.16 Missed approach procedure-** The procedure to be followed if the approach cannot be continued

1.17 The abbreviations used in description to Low Visibility Procedures have the following meaning.

ADC Aerodrome Control  
AFSS Airport Fire Safety Services  
ATC Air traffic Control  
ATIS Aerodrome Terminal Information Service  
CCR Constant Current Regulator  
FAP Final Approach Point  
ILS Instrument Landing System  
LOC Localizer  
LSA Localizer Sensitive Area  
LVP Low Visibility Procedure  
MET Meteorology  
MID Mid-Point  
OFZ Obstacle Free Zone  
RVR Runway Visual Range  
SMC Surface Movement Control  
SP Safeguarding Procedures  
SSO Technical/Communication Shift Supervisory Officer  
TDZ Touch-down Zone  
WSO Watch Supervisory Officer  
ASMGCS Advanced Surface Movement Guidance Control System

## **2. INTRODUCTION**

### **2.1 General**

2.1.1 RWY 27 at Chaudhary Charan Singh Airport, Lucknow is equipped for the CAT II/CAT IIIA/CAT IIIB Operations.

2.1.2 The following equipment shall be serviceable to the required standards to support CAT II/CAT IIIA/CAT IIIB Operations:

- a. ILS localizer, Glide Path and ILS DME
- b. Aerodrome Ground Lighting System
- c. Instrumented RVR system (TDZ, MID & END)
- d. Standby power supply for ILS and aerodrome ground lighting system
- e. SMR (ASMGCS) for CAT IIIA/CAT IIIB operations and LVTO (for RVR below 400 m). The pilot shall ensure that he/she is suitably qualified and certified to carry out the required category of ILS approach

2.1.3 It will 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 Safeguarding Procedures (SP)**

2.2.1 Safeguarding Procedures are the mandatory actions to prepare airport for CAT II/CAT IIIA/CAT IIIB operations (Low Visibility Procedures). They include inspection of aerodrome ground lighting, 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 apron.

2.2.2 WSO/Tower Supervisor at Chaudhary Charan Singh Airport, Lucknow shall 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 Procedures is necessary based on criteria in para 3.

**2.3 Low Visibility Procedures (LVP):** Low Visibility Procedures are the procedures to ensure the safe operation of aircraft during periods of reduced visibility or low cloud base.

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

### **2.4 ATC Requirement**

2.4.1 WSO (ATC) shall implement and cancel LVP when so required based on criteria in para 3 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 CAT II/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 implemented SMC shall select the appropriate aerodrome ground lighting system CAT II /CAT IIIA/CAT IIIB facilities. These facilities shall remain selected until SP and LVP are cancelled.

### **2.5 ILS Critical Areas and Sensitive Areas**

2.5.1 The ILS critical and sensitive areas have been shown in the chart at Annexure-2

*Note: Signage indicating the limits of localizer and glide path sensitive areas is provided.*

2.5.2 Chart indicating the critical and sensitive area of ILS is also available with apron control, control tower and WSO.

## **2.6 Reporting RVR**

2.6.1 There are three RVR transmissometer located at Touch-down Zone (TDZ), Mid-point (MID) and End Point Zone (END). The reference RVR value for the implementation and cancellation of LVP shall be the lower of the TDZ, MID RVR & END RVR

2.6.2 When reporting RVR to pilots the TDZ RVR shall always be intimated for the concerned Landing RWY.

2.6.3 In addition to Para 2.6.2

- a. For CAT II Operations - If TDZ RVR is below 550 m then MID RVR shall also be intimated.
- b. For CAT IIIA Operations - If TDZ RVR is below 300 m, MID and END RVR reading shall also be intimated. TDZ, MID and END RVR shall be available.
- c. For CAT IIIB Operations - If TDZ RVR is below 175 m, MID and END RVR shall also be intimated. TDZ, MID and END RVR shall be available.

## **3. IMPLEMENTATION OF SAFEGUARDING PROCEDURES (SP) AND LOW VISIBILITY PROCEDURES (LVP)**

### **3.1. Criteria for Implementing Safeguarding Procedures (SP)**

3.1.1. Safeguarding Procedures shall be initiated when:

- a. The RVR is less than 1200 m or visibility is forecast to deteriorate to 800 m or less; and/or
- b. The cloud ceiling is 400 ft and forecast to fall to 200 ft or less.

### **3.2 Criteria for Implementing Low Visibility Procedures (LVP)**

Low Visibility Procedures shall be implemented when –

- a. Either, TDZ, MID or END RVR is less than 800m; and/or
- b. Cloud ceiling is less than 200ft; and
- c. Safeguarding Procedures (SP) have been completed and the airport safeguarded.

*NOTE: Though LVP is implemented when RVR is less than 800 m, ILS CAT I operations will continue till TDZ RVR is not less than 550 m.*

### **3.3 Implementation of Safeguarding Procedures (SP)**

3.3.1 On the receipt of forecast for Low Visibility and/or cloud ceiling, the Watch Supervisory Officer will inform Technical Supervisor, Aerodrome Tower Supervisor, Approach Control Supervisor, Security Supervisor, Terminal Manager, Electrical Engineering Supervisor & Duty MET Officer.

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

*Note 1: Action to be taken by various agencies is attached as Annexure 1. 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 LVP operations.*

*Note 2: Though LVP is implemented when RVR is less than 800 m, ILS CAT I operations will continue till TDZ RVR is not less than 550 m.*

### **3.4 Implementation of Low Visibility Procedures**

3.4.1 On receipt of confirmation of completion of all the required actions by the various agencies mentioned in Para 3.3.1, WSO shall implement Low Visibility Procedure when either TDZ, MID or END RVR is less than 800 m and/or the cloud ceiling is less than 200ft.

The implementation of LVP shall be intimated to:

- a. Aerodrome Tower Supervisor.
- b. Approach Controller.
- c. Communication/Technical Shift Supervisory Officer (SSO)
- d. Duty Met. Officer
- e. Security Supervisor
- f. Terminal Manager
- g. Electrical Engineering Supervisor

3.4.2 WSO will also ensure that “**LOW VISIBILITY PROCEDURES IN FORCE**” is included in ATIS Broadcast.

3.4.3 Aerodrome Tower Controller on being notified that LVP are to commence, will inform

- a. Fire station; and
- b. Include “Low Visibility Procedures in Force” in ATIS broadcast.

### **3.5 Cancellation of Safeguarding Procedures (SP) & Low Visibility Procedures (LVP)**

3.5.1 WSO may terminate LVP when –

- a. Meteorological conditions improve and TDZ, MID & END RVR are 800 m or more and/or the cloud ceiling is 200 ft 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 cancelling SP and LVP.

3.5.3 On cancelling 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 3.4.1.

3.5.4 If SP are implemented and LVP are not subsequently initiated and meteorological conditions improve and the visibility/RVR is more than 1200 m and/or the cloud ceiling is 400 ft or higher and both are forecast to remain above the required SP criteria, WSO may cancel SP

## **4. LOW VISIBILITY PROCEDURE OPERATIONS**

### **4.1. Approach Control Procedures**

4.1.1. During LVP the approach controller and Tower controller shall have the following information:

- a. Status of ILS;
- b. Serviceability of visual aids;
- c. RVR information

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

4.1.2. In addition to the information normally transmitted by Approach control, following information shall be intimated to the arriving aircraft on first contact or as soon as possible thereafter– The current TDZ RVR, and

- a. For CAT II operations - If TDZ RVR is below 550 m then MID RVR shall also be intimated. TDZ & MID RVR shall be available.
- b. For CAT IIIA operation - If TDZ RVR is below 300 m, then MID & END RVR readings shall also be intimated. TDZ, MID and END RVR shall be available.
- c. For CAT IIIB operations - If TDZ RVR is below 175 m, then MID and END RVR shall also be intimated. TDZ, MID and END RVR shall be available.
- d. The un-serviceability of any component parts of CAT II/CAT IIIA/IIIB facilities not previously broadcast on ATIS.

4.1.3. During CAT II/CAT IIIA and CAT IIIB operations, Approach Control/Tower shall ensure that subsequent arrival is cleared for CAT II or CAT IIIA or CAT IIIB ILS approach only after preceding arriving aircraft has landed and vacated the runway or has carried out missed approach. This is to ensure that the Critical and Sensitive area of ILS are not infringed and back track requirements are met.

*Note: The departing aircraft must commence take-off run before the arriving aircraft has crossed the FAP. This is to ensure that the departing aircraft is clear of the ILS Sensitive and Critical Areas*

### **4.2 Aerodrome Control Procedures**

4.2.1 Arriving aircraft shall be issued landing clearance before it crosses the FAP.

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. Preceding landing aircraft has vacated the runway and is clear of the localizer sensitive area (LSA), or preceding landing aircraft, carrying out missed approach, has passed over the localizer antenna.
  - b. Preceding departing aircraft is airborne and has passed over the localizer antenna.
- 4.2.4 The ILS Critical & Sensitive Area in front of an arriving aircraft shall not be infringed from the time the arriving aircraft crosses the Final Approach Point (FAP) 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.
- 4.2.6 Aerodrome Control shall initiate immediate emergency action if an aircraft is not seen or not in radio contact as expected.

#### **4.3 Surface movement Control Procedures**

- 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, unless otherwise necessitated due to operational requirements.
- 4.3.3 Surface Movement Control/Tower Supervisor shall monitor the status of taxiway lights and immediately advise the aircraft under its control of any unserviceability affecting the LVP taxiways.
- 4.3.4 Surface Movement Control/Tower Supervisor should monitor the progress of arriving aircraft as they vacate the runway after landing and ensure that they do not stop within the limits of ILS (LOC & GP) Critical & Sensitive Area, thereby degrading ILS integrity for subsequent landing aircraft.
- 4.3.5 Pilots shall report RWY vacated when aircraft is clear of the ILS sensitive area. Runway vacated boards have been provided at a distance of 160 m from runway centreline on TWY A, B, C, D and E.
- 4.3.6 When RVR is less than 800 m vehicle movement should be restricted. Only operationally essential vehicle duly authorized by Surface Movement Control/Tower Supervisor should be permitted to operate. These vehicles shall remain outside the ILS (LOC & GP) Critical & Sensitive Area. Any movement of vehicle on the manoeuvring area shall be coordinated with ATC.

#### **4.4 Low Visibility Procedure Taxi Route**

- 4.4.1 When LVP is in force, aircraft shall be routed in accordance with the pre-designated taxi routes, unless otherwise necessitated due operational requirements.
- 4.4.2 During CAT II or CAT IIIA or CAT IIIB ILS visibility conditions i.e. when RVR reduced to less than 550 m, 'Follow me' service will be provided to arriving/departing aircraft 'on request'.
- Note: Follow me service shall be provided by trained personnel who is fully familiar with the taxi routes, intersections and other manoeuvring area/apron/bays*
- 4.4.3 The following taxi routes shall be used for arrivals
- a. After landing on RWY 27 vacate via TWY 'C' and then taxi to parking stands 11 to 14 as applicable.  
Note: Airline operators will be responsible for ensuring that the parking stand area is clear of all equipment when aircraft is taxiing in for parking (airlines may consider engaging wing walkers for the same).
  - b. Taxi routing for departures - Taxi to CAT II/IIIA/IIIB holding position RWY 27 via TWY 'C' from stand No. 11 to 14:  
*Note 1: The airline operators will ensure that push-back area is clear of all equipment before push back is commenced.*  
*Note 2: Due to availability of CAT IIIB lighting on TWY 'C' only at present, following procedures shall be adopted for arrivals and departures to avoid traffic conflict:*
    - i. Departing aircraft from stand 11 to 14 may be given push back and start-up abeam stand no 06 so that it is clear of TWY 'C'. Taxi to departing aircraft shall be given only if arriving aircraft is parked in its respective stand
    - ii. Departure shall be instructed to taxi to enter runway only if it is ensured that departure will commence its take off run before the arriving aircraft reports 6NM on ILS.
    - iii. No departure shall be instructed to enter runway once arriving aircraft has left 'LKN' VOR for ILS procedure.
- 4.4.4 At present, TWY 'C' and Stand no 11 to 14 are equipped with CAT IIIB lighting system as per short term interim plan submitted to DGCA by AAI and agreed to by DGCA vide letter no. AV.20015/09/08-AL dated 15-07-2014. Therefore, during CAT IIIA and CAT IIIB operations, arrivals and departures shall use TWY 'C' only.

**Note:** The remaining TWYs 'B', 'D' and 'E' and remaining parking stands from 1 to 10 will be equipped with CAT IIIB lighting system in the next phase and shall be notified through separate NOTAM.

## 5. DESCRIPTION OF EQUIPMENT

### 5.1. Runway Visual Range (RVR)

5.1.1. There are three transmissometer recording RVR values for RWY 27 one unit is located at the touch down zone (TDZ) and others unit at runway mid-point (MID) and endpoint (END). RVR values always refer to as Touchdown RVR (TDZ) and Mid-point RVR (MID) and end-point (END).

5.1.2. RVR is reported in the following scales:

- In the increments 25 m when less than 400 m.
- In the increments 50 m when RVR greater than 400 m but less than 800 m.
- In the increments 100 m when greater than 800 m.
- The maximum reportable value of RVR is 2000 m. When RVR is above 1500 m, it is reported as 2000 m.

5.1.3. RVR serviceability for CAT II/CAT IIIA/CAT IIIB operations:

- For CAT II operations TDZ and MID RVR shall be available.
- For CAT IIIA/IIIB operations TDZ, MID and END RVR shall be available.

### 5.2. Aerodrome Ground Lighting System

5.2.1. The Precision Approach lighting system for CAT II/CAT IIIA/CAT IIIB operations are installed on RWY 27 at Chaudhary Charan Singh Airport, Lucknow.

5.2.2. During CAT II/CAT IIIA/CAT IIIB operations, the generator will take over as primary power source and the mains supply becomes the backup power source.

5.2.3. The taxiway 'C' has CAT IIIA/IIIB standard taxiway lighting.

5.2.4. Parking stands from 11 to 14 have been provided with CAT IIIA/CAT IIIB Centreline lighting system.

5.2.5. STOP BAR: Stop bars have been provided on the following TWY: A (Holding Position RWY 27), B and C, D, E.

5.2.6. When LVP is in force the aerodrome ground lighting must comply with the following minimum serviceability requirement

Aerodrome Ground Lighting Facility	CAT II/CAT IIIA/CAT IIIB Unserviceability	Restrictions
<b>Approach Lights</b>	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	
<b>Runway Edge lights</b>	More than 5% of all Lights	Suspend CAT II/CAT IIIA/CAT IIIB operations
	Two adjacent lamps	
<b>Runway centre line lights</b>	More than 5% of all Lights	Suspend CAT II/CAT IIIA/CAT IIIB operations
	Two adjacent lamps	
<b>Touchdown Zone lights</b>	More than 10% of all Lights	Suspend CAT II/CAT IIIA/CAT IIIB operations
	Two adjacent lamps	
<b>Threshold lights</b>	More than 5% of all Lights	Suspend CAT II/CAT IIIA/CAT IIIB operations
	Two adjacent lamps	
<b>Runway End lights</b>	More than 25% of all Lights	Suspend CAT II/CAT IIIA/CAT IIIB operations
	Two adjacent lamps	
<b>Taxiway centre line lights</b>	Not applicable to CATII operation	Close affected taxiways, use alternate taxi route.
	Two adjacent lamps	

Aerodrome Ground Lighting Facility	CAT II/CAT IIIA/CAT IIIB Unserviceability	Restrictions
Standby Generators	Generators in any one substation	Suspend CAT II/CAT IIIA/CAT IIIB operations in the affected runway.
<p><i>Note: An unserviceability of any of the following facilities does not affect the CAT II/CAT IIIA/CAT IIIB operations:</i></p> <p>a. PAPI</p> <p>b. Taxiway edge lights on curves</p>		

*Note: An unserviceability of any of the following facilities does not affect the CAT II/CAT IIIA/CAT IIIB operations:*

a. PAPI

b. Taxiway edge lights on curves

### 5.3. Inspections of Aerodrome Ground Lighting System

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

5.3.2. In-charge CCR is responsible for organising lighting inspections when WSO/Tower Supervisor/Tower Duty Officer informs that Safeguarding Procedures are to be implemented. He shall arrange an inspection of the relevant aerodrome ground lighting system. 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. Chaudhary Charan Singh Airport, Lucknow is equipped with Advanced Surface Movement Guidance 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 Advanced Surface Movement Guidance Control System is mandatory.

### 5.5. Navigational Aids

5.5.1. RWY 27 has been equipped with Instrument Landing System (ILS) for CAT II/CAT IIIA/CAT IIIB.

5.5.2. The ILS Category Monitor Panel at the Control Tower console indicates 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 ILS DME is monitored and displayed by a separate nav-aid status indicator panel.

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. Stand by power supply for each unit.

d. ILS DME

### 5.6. Airport Rescue and Fire Fighting Services (ARFF)

5.6.1. The ARFF shall be on Weather Standby Position whenever LVP are in force. Following predetermined positions will be taken by ARFF vehicles when LVP are in force:

a. Near New Glide Path

b. In front of Fire station near the approach road to runway

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

## **6. SUMMARY OF THE LOW VISIBILITY PROCEDURES**

**6.1.** Subject to completion of safe guarding procedures, LVP comes into operation when:

6.1.1. Either TDZ and/or MID RVR is below 800 m; and / or

6.1.2. Cloud ceiling below 200 ft

### **6.2. Vehicular movement**

6.2.1. Vehicles shall not be cleared to enter/cross the runway once an inbound aircraft has crossed the Final Approach Point (FAP).

6.2.2. Vehicular movement on the movement area shall be restricted to essential vehicles only.

6.2.3. Vehicles shall not be held at any point closer to the runway than the CAT II/CAT IIIA/CAT IIIB holding position/ stop bars.

### **6.3. Aircraft movement**

6.3.1. Aircraft shall not be held at any point closer to the runway than the CAT II/CAT IIIA/CAT IIIB holding position/stop-bars.

6.3.2. Aircraft shall be permitted to enter the runway via TWY 'C' only.

6.3.3. Aircraft shall be permitted to exit the runway via TWY 'C' only.

### **6.4. ATC Procedures**

6.4.1. Departing aircraft must cross the LOC antenna before the arriving aircraft has crossed the Final Approach Point (FAP).

6.4.2. The aim will be to give landing clearance to the arriving aircraft before it crosses the Final Approach Point (FAP).

6.4.3. Protection of localizer/glide path and critical and sensitive area must be ensured.

6.4.4. The ILS Critical & Sensitive Area 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 aerial.

6.4.5. During CAT II/CAT IIIA and CAT IIIB operations, Approach Control/Tower shall ensure that subsequent arrival is cleared for CAT II or CAT IIIA or CAT IIIB ILS approach only after preceding arriving aircraft has landed and vacated the runway or has carried out missed approach. This is to ensure that the Critical and Sensitive area of ILS are not infringed and back track requirements are met

## **7. ACTIONS TO BE TAKEN BY VARIOUS AGENCIES**

**7.1** Before commencement of winter season, a meeting will be held by Airport Director, Chaudhary Charan Singh Airport, Lucknow 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.

**7.2** All the agencies shall ensure that staff and drivers are suitably trained during CAT II/CAT IIIA/CAT IIIB operations

**7.3** A refresher program for ATCO's and personnel responsible for airside operations shall be conducted in October/November every year.

### **7.4 Action by Watch Supervisory Officer (WSO)/Tower Supervisor, AAI**

#### **7.4.1 Implementing Safeguarding Procedures**

7.4.1.1 When RVR is less than 1200 m and visibility is forecast to deteriorate to 800 m or less

and/or the cloud ceiling is 400 ft and is forecast to fall to 200 ft or less, WSO/Tower

Supervisor will inform the SSO/Duty Officer (Equipment Room) for implementing the

Safeguarding Procedures:

#### **7.4.2 Implementing LVP**

7.4.2.1 WSO/Tower Supervisor shall implement Low Visibility Procedure when either:

7.4.2.2 TDZ RVR, MID RVR OR END RVR is less than 800 m; and/or

7.4.2.3 Cloud ceiling is less than 200 ft.

#### **7.4.3 For the purpose of commencing Low Visibility Procedure, WSO/Tower Supervisor shall inform:**

7.4.3.1 SSO/Duty Officer (Equipment Room)

7.4.3.2 Duty Met. Officer

7.4.3.3 Senior Manager/Manager/Astt. Manager (Electrical) in shift on telephone.

7.4.3.4 Senior Manager/Manager/Astt. Manager (Civil) (during day time only) - to stop all civil works in progress in movement area. During CAT II/CAT IIIA/CAT IIIB Operations, no equipment, manpower or material shall be present in sensitive areas of localizer, glide path and OFZ.

7.4.3.5 CISF Control Room for access control of unauthorized persons/vehicles.

7.4.3.6 Terminal Manager to inform all airlines, oil companies, custom, immigration, catering agencies, health & ground handling agencies at Chaudhary Charan Singh Airport, Lucknow.

7.4.4 WSO/Tower Supervisor would declare LVP effective after confirmation from concerned wings, all actions have been completed.

7.4.5 WSO/Tower Supervisor shall also ensure that "**LOW VISIBILITY PROCEDURES IN FORCE**" is included in ATIS broadcast.

7.4.6 WSO/Tower Supervisor may terminate LVP in consultation with Duty Met. Officer when:

7.4.6.1 Prevailing meteorological conditions improve and both the TDZ RVR and MID RVR are 800 m or more; and

7.4.6.2 Cloud ceiling is 200 ft or higher, and trend is for improvement. OR

7.4.6.3 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.

7.4.7 WSO/Tower Supervisor will intimate SSO/Duty Officer (Equipment Room) regarding the termination of LVP operation.

**7.5 Action by Tower Controller and Approach Controller:**

7.5.1 On being notified by WSO/Tower Supervisor that ILS CAT II/CAT IIIA/CAT IIIB Low Visibility Procedures are to commence, the Aerodrome Tower Controller will:

7.5.1.1 Inform Aerodrome Rescue & Fire Fighting Services for Weather Standby Position

7.5.1.2 Check ILS status

7.5.1.3 Check aerodrome ground lighting is correctly selected and operating properly

7.5.1.4 Check transmissometer display

7.5.1.5 Check status of ASMGCS.

7.5.2 After the commencement of ILS CAT II/CAT IIIA/CAT IIIB operations, the Aerodrome Tower Controller will: -

7.5.3 Ensure that message "ILS CAT II/CAT IIIA/CAT IIIB Low Visibility Procedures in Operation" is included in the ATIS Broadcast.

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

7.5.5 Inform RVR at touch-down to arriving aircraft. In addition, if TDZ RVR is below 600 m, then MID RVR shall also be intimated.

*Note: After an aircraft is 8 NM from Touch Down or has passed outer- marker RVR observations need not be passed unless there is a change in RVR values.*

7.5.6 Provide adequate spacing between the successive arriving aircraft so that landing clearance may be issued to the preceding aircraft before it crosses the Final Approach Point (FAP). Consideration should also be given for a departing aircraft using full length of runway for take-off. Special precaution may be exercised when departing aircraft enters the runway via taxiway "C".

7.5.7 Consideration should be given for the time taken by the previous landing aircraft to clear the critical area of the localizer. Give an unimpeded taxi route to arriving aircraft to allow it to clear the localizer sensitive area expeditiously.

7.5.8 Inform pilots/approach controller of failures of ILS, lighting system, transmissometer relevant to ILS CAT II/CAT IIIA/CAT IIIB Low Visibility Operations.

7.5.9 Initiate emergency action if aircraft on CAT II/ CAT IIIA/CAT IIIB ILS is not seen or is not in radio contact as expected.

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

a. During the period the Low Visibility Procedures are effective:

b. Monitor surface movement of aircraft and essential vehicles on the manoeuvring area.

c. Inform all taxiing aircraft of the preceding taxiing or holding aircraft.

**7.6 Action by SSO/Duty Officer (Equipment Room)**

7.6.1 On receipt of 'Forecast for LVPs' from the WSO/Tower Supervisor, SSO/Duty Officer (Equipment Room) will:

7.6.1.1 Check the status of:

7.6.1.1.1 Main and standby ILS system (LOC/Glide Path/ILS-DME); and

7.6.1.1.2 Indicators in the ATC units.

7.6.1.1.3 ASMGCS

7.6.1.2 Inform WSO/Tower Supervisor of any unserviceability in the equipment which is likely to affect ILS CAT II/CAT IIIA/CAT IIIB operation.

7.6.1.3 On receipt of 'Advisory Message' from WSO/Tower Supervisor that LVPs are to be made effective, SSO/Duty Officer (Equipment Room) will continuously monitor the performance of ILS system and intimate WSO/Tower Supervisor of any unserviceability which may affect ILS CAT II/CAT IIIA/CAT IIIB operations.

**7.7 Senior Manager (Security)/Security Supervisor**

**7.7.1** After initiation of Safeguarding Procedures Senior Manager (Security)/Security Supervisor in Security jeep shall ensure that no unauthorised vehicle/person enters or is present in the sensitive/critical areas of localizer and glide path.

**7.7.2** All civil/electrical works-in-progress to be stopped immediately and men/material/equipment to be removed from the sensitive/critical areas of localizer, glide path and OFZ.

**7.7.3** After ensuring above, will confirm the same to the WSO/Tower Supervisor.

**7.7.4** Security jeep shall remain available near the LSA barrier near parking bay No. 1 and will maintain R/T listening watch on Walkie-Talkie.

**7.7.5** Ensure that no workers/vehicles (including grass cutting contractor, garbage removal contractor, electrical/civil contractor, etc.) shall enter the operational area during the operations of ILS CAT II/CAT IIIA/CAT IIIB Low Visibility Operations are in progress.

**7.8 Action by Senior Manager (Electrical)/Manager (Electrical)/Asth. Manager (Electrical):** On receipt of advice to implement Low Visibility Procedures from WSO/Tower Supervisor, Electrical Section will:

**7.8.1** Check in following aerodrome ground lighting associated with RWY 27 is serviceable and can be operated at full intensity.

7.8.1.1 Approach lighting system.

7.8.1.2 Runway Edge lights

7.8.1.3 Runway threshold and end lights

7.8.1.4 Runway centreline lights

7.8.1.5 Runway touch-down zone lights

7.8.1.6 Stop Bar lights

7.8.1.7 Taxiway edge lights

7.8.1.8 Taxiway centreline (shall be made available).

7.8.1.9 Taxi holding position lights

7.8.1.10 Runway clearance light

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

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

**7.8.3** Ensure that generator takes over as primary power source and the mains supply becomes the backup power source

**7.8.4** Ensure that Circuit Control Room (CCR) is manned and position himself at New Power House for standby power supply requirements and shall remain available on telephone or maintain a listening watch on Walkie-Talkie.

**7.8.5** Coordinate for regular inspection of aerodrome ground lighting and inform the unserviceability or any change in status of any facility/systems to WSO/Tower Supervisor/TWR immediately.

**7.9 Action by Terminal Manager**

**7.9.1** The Terminal Manager will ensure that all entry/exit are restricted through NTB (Gate No.2) only. (All other gates i.e. gate no. 1, 3, 4 and U.P State aviation gate shall remain closed during LVP in operation).

**7.9.2** Duty Terminal Manager (DTM) shall coordinate with CISF to stop vehicular movement on the perimeter road around Runway 27 approach and Gate No.2, except AAI operational vehicles fitted with R/T and Transponders and operating with prior clearance from ATC.

**7.9.2.1** DTM shall coordinate with CISF to deploy manpower at barriers on service road near glide path and Bay No.1 for closing the barrier and stopping the vehicular movement.

*Note: Both the barriers shall be in lowered position whenever LVP is in progress.*

**7.10 Action by Main Fire Station**

**7.10.1** Ensure that AFSS are on Weather Standby Position at following pre-determined position (PDP) whenever LVP is in force.

7.10.1.1 Near Old Glide Path

7.10.1.2 In front of Fire station near the approach road to runway

**7.11 Action by CISF Inspector-In-Charge/CISF Control Room**

**7.11.1** 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 essential vehicles to use service road towards RWY 27 side only, for proceeding to localizer and vice-versa, till such time the termination of ILS CAT II Low Visibility Procedures.

**7.11.2** For carrying out Security Checks, Inspector In-Charge of CISF Control Room would be escorted by 'Follow-Me Jeep' for which they would liaise with WSO/Tower Supervisor.

**7.11.3** The inspector in charge shall ensure that movement of security personnel is restricted only through NTB (Gate No.2).

**7.12 Action by Duty Officer-Meteorology**

7.12.1 Duty Met. Officer would issue a 'Forecast for Low Visibility Procedures' to the Watch Supervisory Officer WSO/ Tower Supervisor whenever he expects that the RVR RWY 27 and/or cloud ceiling will fall below 800 m and/or 200 ft or less respectively.

7.12.2 Whenever the Duty Met. Officer anticipates that RVR RWY 27 is likely to fall below 800M and/or cloud ceiling to 200 ft or less within next 2 hours, he will issue an 'Advisory Message' to WSO/Tower Supervisor to this effect.

7.12.3 Whenever the RVR and/or cloud ceiling are 800M and/or 200 ft respectively and the trend is towards improvement in these elements of weather conditions, the Duty Met Officer may, when requested by WSO/Tower Supervisor, advise him about such improving weather conditions for the purpose of termination of LVP operation.

7.12.4 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 (TDZ), Mid-Point (MID) and END RVR 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 phenomenon within two hours.*

### **7.13 Action by Other Agencies (Airlines, Refuelling Companies, Catering Agencies, Customs, Immigration, Health etc.)**

7.13.1 All agencies operating in the operational area shall ensure that only those vehicles that 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.

7.13.2 All the vehicles must have their VELO/obstruction lights "ON" during Low Visibility Procedures operations.

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

7.13.4 No vehicle/equipment/personnel shall enter in and around the vicinity of the runways or taxi-tracks except with prior permission of Tower Supervisor.

### **8. Termination of Low Visibility Procedures**

8.1 When metrological conditions have improved and both the TDZ and MID/RVR are 800M or more, cloud ceiling is 200 ft or higher and trend is for improvement, WSO/Tower Supervisor would terminate operations of LVPs. He may obtain advice from Duty Met. Officer regarding improvement in weather conditions for the purpose of termination of LVP operations.

8.2 The WSO/Tower Supervisor will intimate SSO/Duty Officer (Equipment Room) regarding the termination of LVP operations.

8.3 Aerodrome Tower Controller will in turn to inform all concerned/all the previously notified personnel to resume normal operations.

### **9. Procedures for Protection of Critical Area and Sensitive Area of ILS during Low Visibility Operations**

#### **9.1 Introduction**

9.1.1 The occurrence of interference to ILS signals is dependent on the total environment around the ILS antennas, and the antenna characteristics. Any large reflecting objects, including vehicles or fixed objects such as structures within the radiated signal coverage, will potentially cause multipath interference to the ILS course and path structure. The location and size of the reflecting fixed objects and structures in conjunction with the directional qualities of the antennas will determine the static course or path structure quality whether Category I, II or III. Movable objects can degrade this structure to the extent that it becomes unacceptable. The areas within which this degradable interference is possible need to be defined and recognized. For the purposes of developing protective zoning criteria, these areas can be divided into two types, i.e. critical areas and sensitive areas:

a. The ILS critical area is an area of defined dimensions about the localizer and glide path antennas where vehicles, including aircraft, are excluded during all ILS operations. The critical area is protected because the presence of vehicles and/or aircraft inside its boundaries will cause unacceptable disturbance to the ILS signal-in-space.

b. The ILS sensitive area is an area extending beyond the critical area where the parking and/or movement of vehicles, including aircraft, is controlled to prevent the possibility of unacceptable interference to the ILS signal during ILS operations. The sensitive area is protected against interference caused by large moving objects outside the critical area but still normally within the airfield boundary.

#### **9.2 Purpose**

9.2.1 The purpose of these procedures is to issue guidelines to ATCOs and officials of other agencies working at Lucknow Airport so as to ensure that the critical and sensitive areas of ILS are protected during low visibility operations as per the guidelines given below:

#### **9.3 Protection of ILS Critical & Sensitive Areas:**

9.3.1 ATCOs shall comply with the following guidelines for protection of Localizer Critical/Sensitive area during CAT II/III/ IIB Operations:

9.3.2 Approach Control/Aerodrome Control Tower shall ensure that a succeeding arriving aircraft is cleared for CAT II or CAT IIIA or CAT IIIB ILS approach only after the:

- a. Preceding arriving aircraft has landed and vacated the runway and is clear of localizer critical and sensitive Area or has carried out the missed approach procedure and has passed over localizer antenna.
- b. Preceding departing aircraft is airborne and has passed over the localizer antenna.

9.3.3 Arriving aircraft should be given un-impeded taxi route to allow it to clear the localizer and Glide Path Critical and Sensitive area expeditiously.

9.3.4 The Localizer and Glide Path Critical and Sensitive area in front of an arriving aircraft shall not be infringed from the time the arriving aircraft crosses the Final Approach Point until it has completed its landing roll.

9.3.5 The ATCO's shall activate the ILS Critical and Sensitive area map saved in the ASMGCS.

9.3.6 On receipt of advisory message from WSO/Tower Supervisor that LVP is to be made effective, CISF Staff (deployed round-the-clock in two huts near the boundary wall near Glide Path Sensitive area) shall ensure that no unauthorized movement takes place in the portion of Glide path sensitive area which falls within the AAI boundary.

9.3.7 Home guards shall be deployed to protect the portion of Glide Path sensitive area which falls outside the AAI boundary.

#### **VILK AD 2.23 ADDITIONAL INFORMATION**

1. Two 90FT high steel lattice Mast raised at Tx station located 264657.90N 0805301.70E lighted and 264656.90N 0805303.70E unlighted.
2. One lattice Mast for VHF link erected on top of Terminal Building with coordinates 264500.90N 0805253.70E Hgt 14.6M AGL Hgt of mast 136.6M AMSL. Mast is lighted.
3. Both lighted and unlighted landing Direction indicator (LDI) available at VILK. Position between TWY 'B' and TWY 'C'
4. Pilot to exercise caution while Taxing IN/OUT with low power from Apron.
5. ADS-B GND EQPT commissioned and OPR.
6. PERM commissioning of ASR-MSSR.
7. ATS surveillance based services using ASR/MSSR/ADS-B shall also be provided during the operations within the jurisdiction of Lucknow Area Control to suitably equipped aircraft within the coverage area of Lucknow ASR/MSSR/ADS-B ground station on VHF 120.45 MHZ and standby 122.5 MHZ.
8. ADS-B equipped aircraft flying within Lucknow Area Control jurisdiction shall comply with provisions contain in AIP Supplement 18/2014.

#### **VILK AD 2.24 CHARTS RELATED TO AN AERODROME**

1. Aerodrome Chart
2. Aircraft Parking/Docking Chart
3. Aerodrome Obstacle Chart Type – A (Operating Limitations) RWY 09
4. Aerodrome Obstacle Chart Type – A (Operating Limitations) RWY 27
5. Precision Approach Terrain Chart RWY 27
6. ILS CAT I Procedure RWY27
7. ILS CAT II/IIIA/IIIB Procedure RWY27
8. VOR Procedure RWY 09
9. VOR Procedure RWY 27
10. ATC Surveillance Minimum Altitude Chart



AERODROME  
CHART

26°45'42.670"N  
080°53'00.344"E

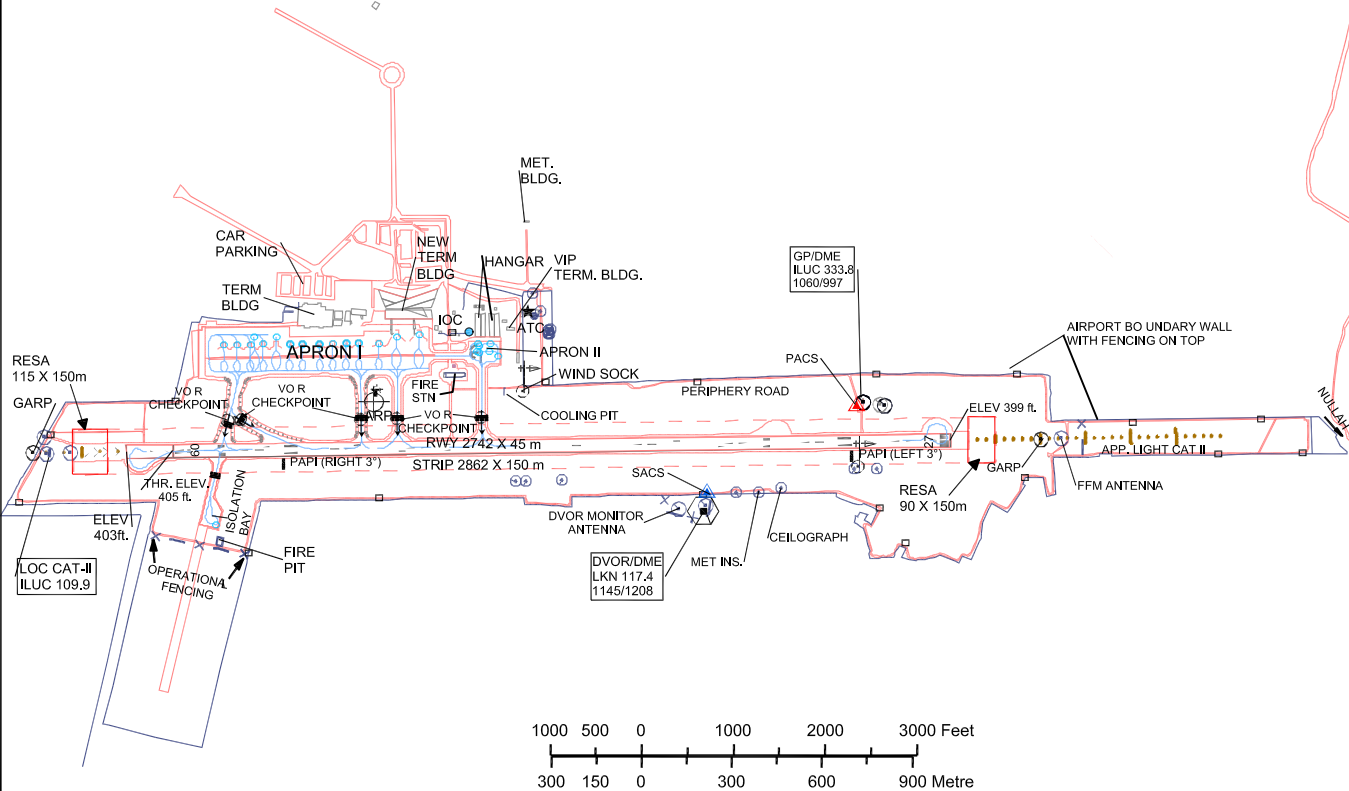
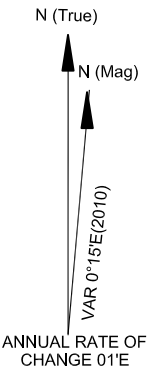
ELEV 405

TWR 118.6MHz

LUCKNOW, INDIA  
CHAUDHARY CHARAN SINGH AIRPORT

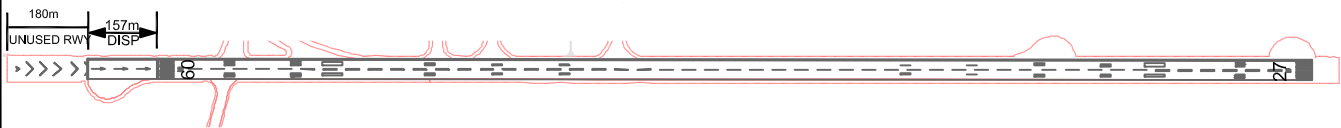
RWY	DIRECTION	THR	THR	BEARING
		CO-ORDINATES	ELEV.	STRENGTH
09	089°	26°45'37.361"N 080°52'36.116"E	405	76/F/C/W/T UPTO 2210M FROM BEARING RWY 09 & 74/R/C/W/T FOR REST TARMAC
27	269°	26°45'38.622"N 080°54'09.742"E	399	74/R/C/W/T UPTO 532M FROM BEGINNING RWY 27 & 76/F/C/W/T FOR REST CONCRETE

. DATUM : WGS-84  
. DIMENSIONS IN METRES  
. ELEVATIONS IN FEET  
. TAXI WAYS 23m WIDE



LEGEND	
VOR CHECK POINT	⊕
RWY HOLDING POSITION	≡≡≡

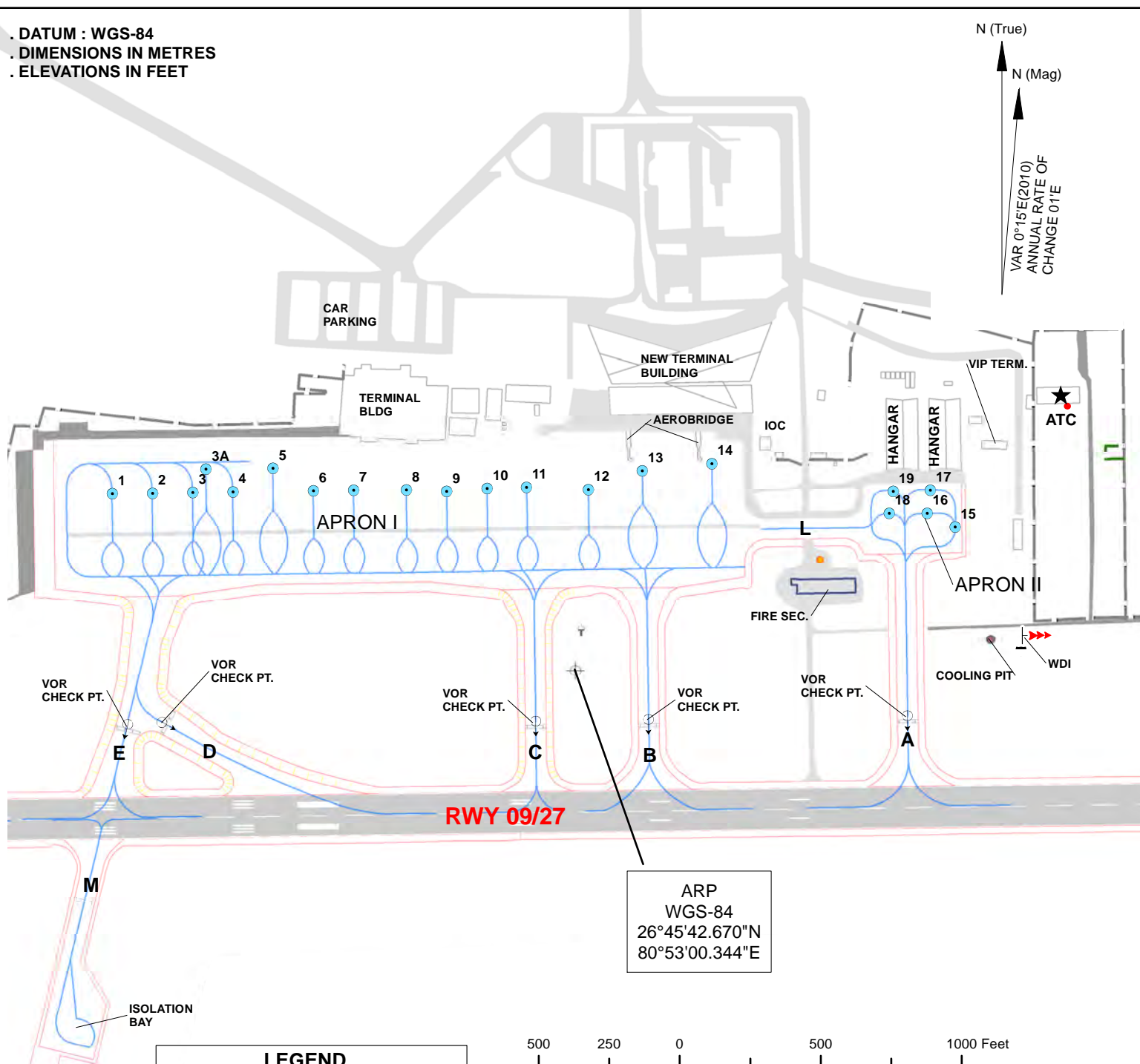
MARKINGS AIDS RUNWAY 09/27





NOTE:-  
. SIMULTANEOUS OPERATION ON RAPID EXIT TWY 'D' AND TWY 'E' NOT AVBL.  
. AERONAUTICAL GROUND LIGHTS ARE NOT SHOWN IN THIS CHART

. DATUM : WGS-84  
. DIMENSIONS IN METRES  
. ELEVATIONS IN FEET

Diagram illustrating the relationship between N (True) and N (Magnetic). The vertical line represents N (True), and the slightly tilted line represents N (Mag). The angle between them is labeled VAR 0°15'E(2010) ANNUAL RATE OF CHANGE 01'E.



LEGEND	
AIRCRAFT STAND	 <b>19</b>
RWY HOLDING POSITION	

A horizontal number line with two scales. The top scale is labeled 'Feet' and has major tick marks at 500, 250, 0, 500, and 1000. The bottom scale is labeled 'Metres' and has major tick marks at 100, 50, 0, 100, 200, and 300. The line is divided into segments by these tick marks, with the 0 mark serving as the central point of comparison.

WGS84 CO-ORDINATES FOR AIRCRAFT STANDS			WGS84 CO-ORDINATES FOR AIRCRAFT STANDS			BEARING STRENGTH		SUITABILITY OF AIRCRAFT	
1.	26°45'48.870"N	080°52'42.204"E	11.	26°45'49.101"N	080°52'58.419"E	APRON I	PCN 74/R/C/X/T	AIRCRAFT 1 TO 3	UPTO B737-900/A321
2.	26°45'48.886"N	080°52'43.771"E	12.	26°45'49.029"N	080°53'00.841"E	APRON II	PCN 70/R/C/W/T	AIRCRAFT 3A -	B744
3.	26°45'48.914"N	080°52'45.355"E	13.	26°45'49.692"N	080°53'20.951"E	TWY A	PCN 37/F/C/W/T	AIRCRAFT 4 TO 12	UPTO B737-900/A321
3A.	26°45'49.731"N	080°52'45.869"E	14.	26°45'49.947"N	080°53'50.673"E	TWY B	PCN 70/F/C/W/T	AIRCRAFT 13 & 14	UPTO B747-400
4.	26°45'48.933"N	080°52'46.923"E	15.	26°45'47.730"N	080°53'15.197"E	TWY C	PCN 70/F/C/W/T	AIRCRAFT 15 TO 19	UPTO KING AIR B-300
5.	26°45'49.771"N	080°52'48.489"E	16.	26°45'48.208"N	080°53'14.106"E	TWY D & E	PCN 70/R/C/W/T	TYPE OF AIRCRAFT	
6.	26°45'48.978"N	080°52'50.073"E	17.	26°45'49.022"N	080°53'14.226"E	TWY L & M	PCN 70/R/C/W/T		
7.	26°45'48.998"N	080°52'51.645"E	18.	26°45'48.202"N	080°53'12.624"E	ISOLATION BAY PCN			
8.	26°45'49.013"N	080°52'53.713"E	19.	26°45'48.974"N	080°53'12.773"E				
9.	26°45'48.958"N	080°52'55.294"E							
10.	26°45'49.066"N	080°52'56.873"E							

**NOTE:-**

NOTE:-  
 . SIMULTANEOUS OPERATION ON RAPID EXIT TWY 'D' AND TWY 'E' NOT AVBL.  
 . AERONAUTICAL GROUND LIGHTS ARE NOT SHOWN IN THIS CHART

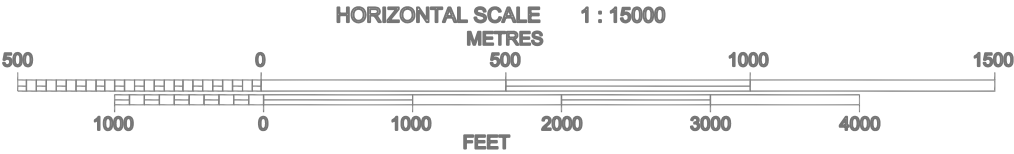
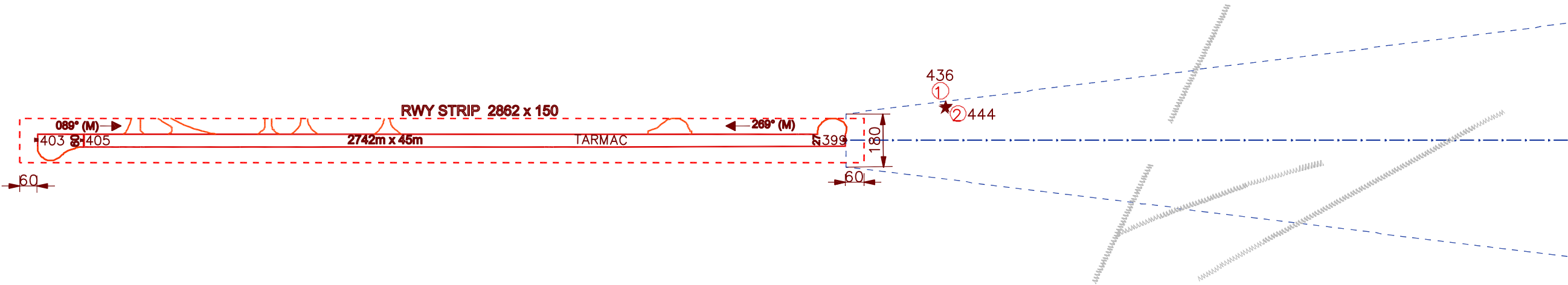
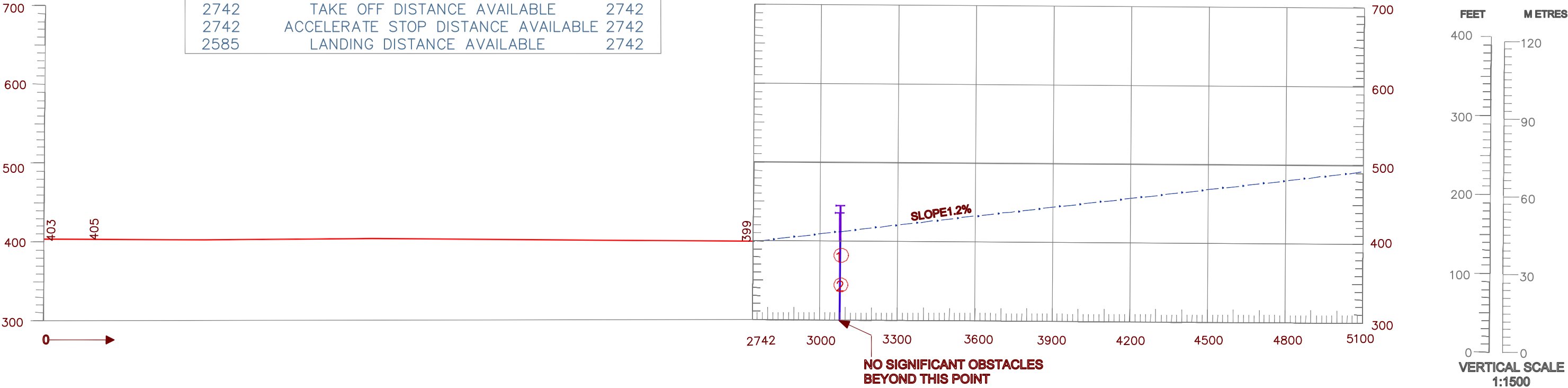
ELEVATIONS IN FEET  
ALL OTHER DIMENSIONS IN METRES

MAGNETIC VARIATION : 0°15'E (2010)

RWY 09/27

DECLARED DISTANCES

RWY 09		RWY 27
2742	TAKE OFF RUN AVAILABLE	2742
2742	TAKE OFF DISTANCE AVAILABLE	2742
2742	ACCELERATE STOP DISTANCE AVAILABLE	2742
2585	LANDING DISTANCE AVAILABLE	2742



ORDER OF ACCURACY

HORIZONTAL : 3m  
VERTICAL : 1ft.

- NOTES:
- The objects that have been shielded due to presence of other higher objects have not been shown in this chart.
  - Datum - All Elevations are AMSL.
  - Periphery road without traffic is no obstacle.
  - Consult Notam for latest information.
  - Rwy direction rounded to nearest degree.(Magnetic)
  - All obstacles shown in this chart are based on aeronautical obstacle Survey January,2015

AMENDMENT RECORD

NO.	DATE	ENTERED BY

AERONAUTICAL INFORMATION UPTO - JAN 2015

Instruments Used : DGPS NAVCOM SF-2040G NCT-2000D GPS Engine  
PENTAX TOTAL STATION W-825 NX  
PENTAX TOTAL STATION R-325 NX

CHART NO. AAI/01 - OBS/CARTO/2015  
Map Ref. : QA:TA.LUCK:IN 1/3  
CHANGE : NEW SURVEY  
Date of Issue : 09-08-2015  
Supersedes Date : 12-05-2015

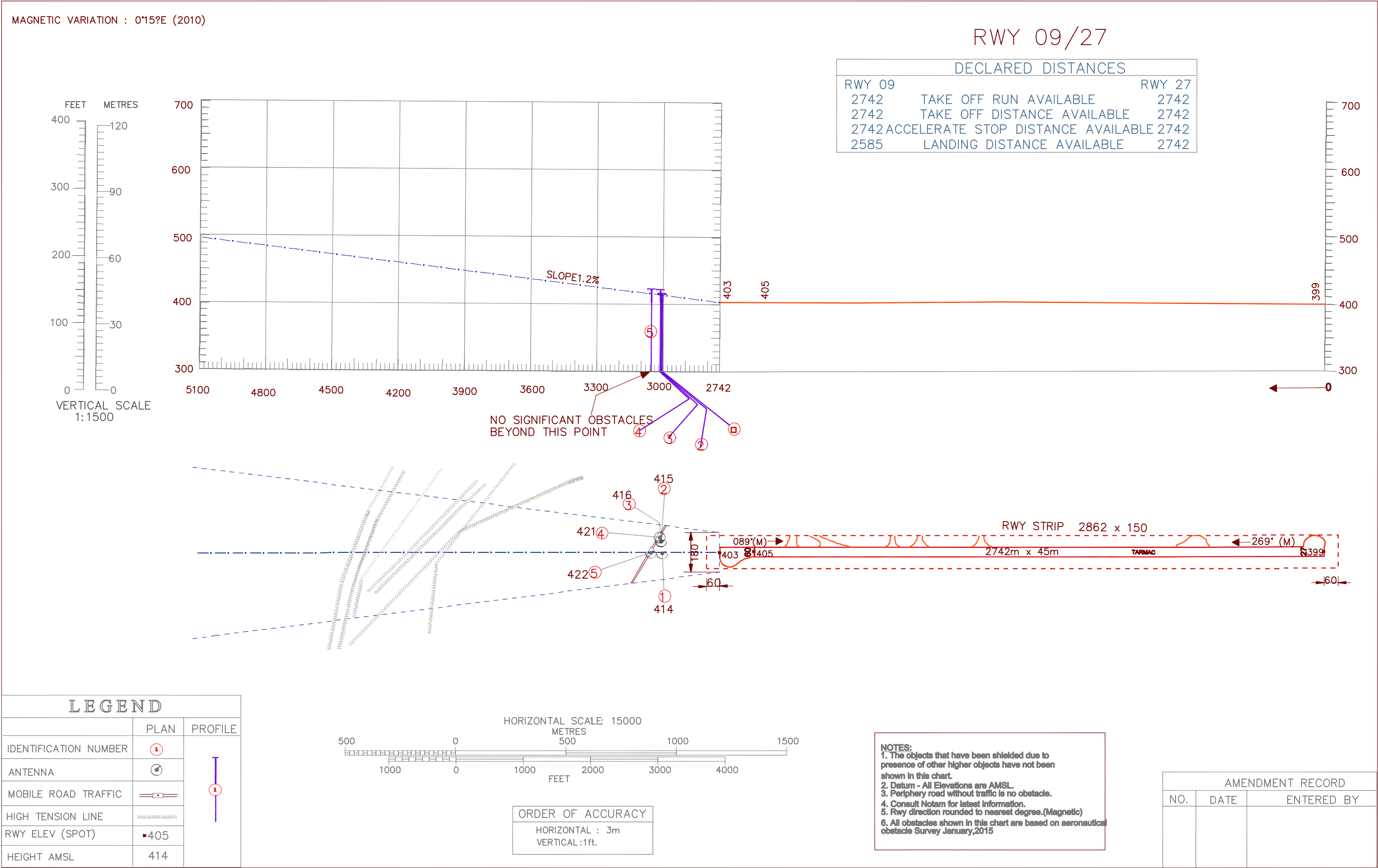
# AERODROME OBSTACLE CHART

INDIA / LUCKNOW

ELEVATIONS IN FEET  
ALL OTHER DIMENSIONS IN METRES

TYPE A (OPERATING LIMITATIONS)

CHAUDHARY CHARAN SINGH INTL. AIRPORT / RWY 27

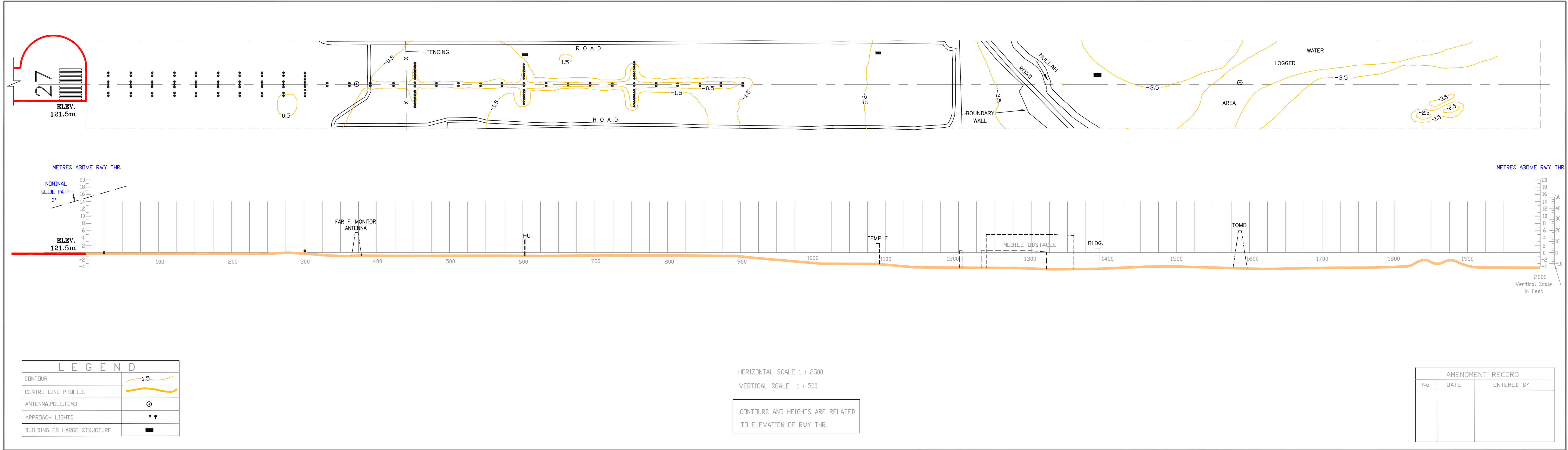


PRECISION APPROACH TERRAIN CHART

INDIA/LUCKNOW  
LUCKNOW AIRPORT  
RWY 27

DISTANCES AND ELEVATIONS IN METRES

CONSULT NOTAM FOR LATEST INFORMATION



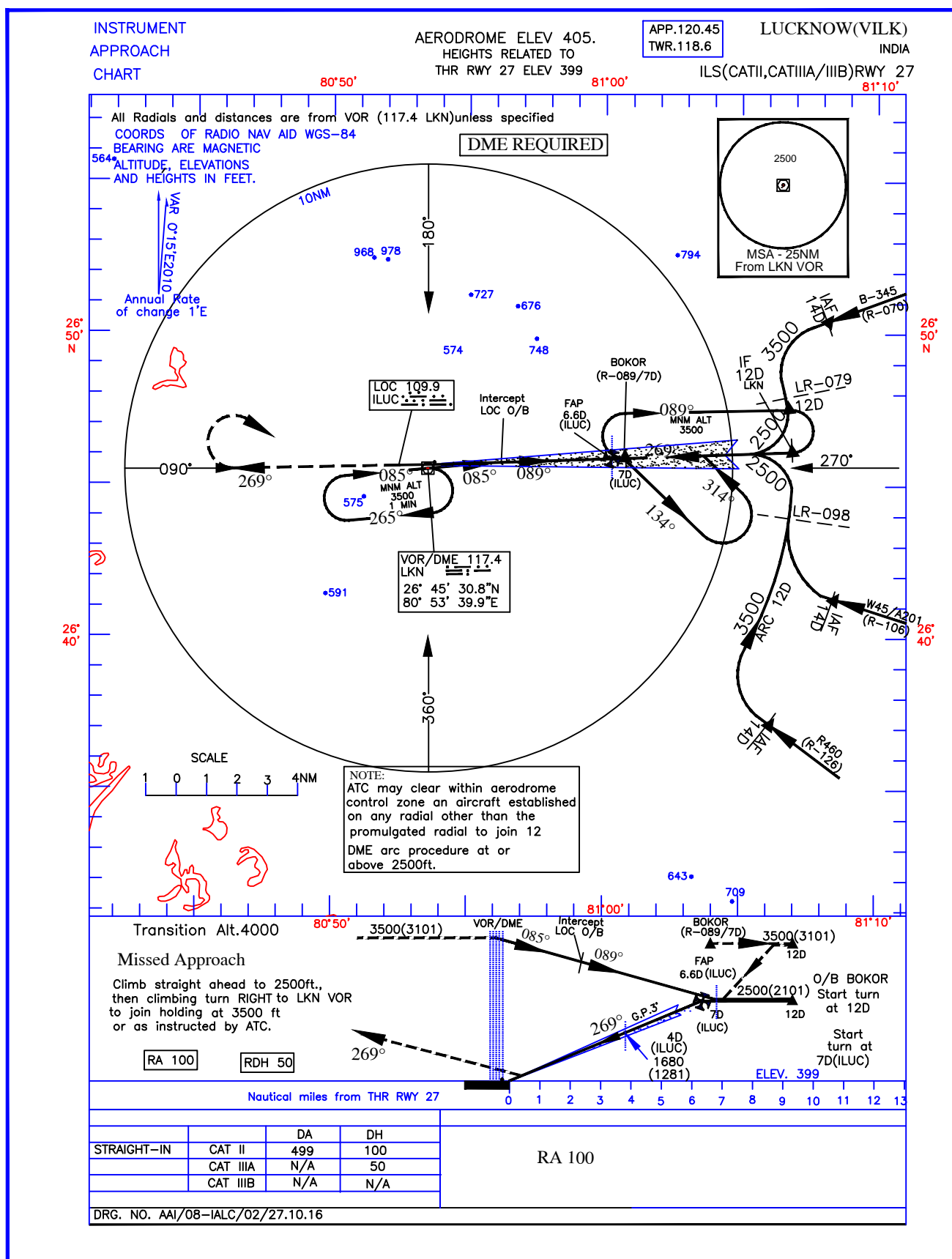
DATE OF AERONAUTICAL INFORMATION : Sept.2016

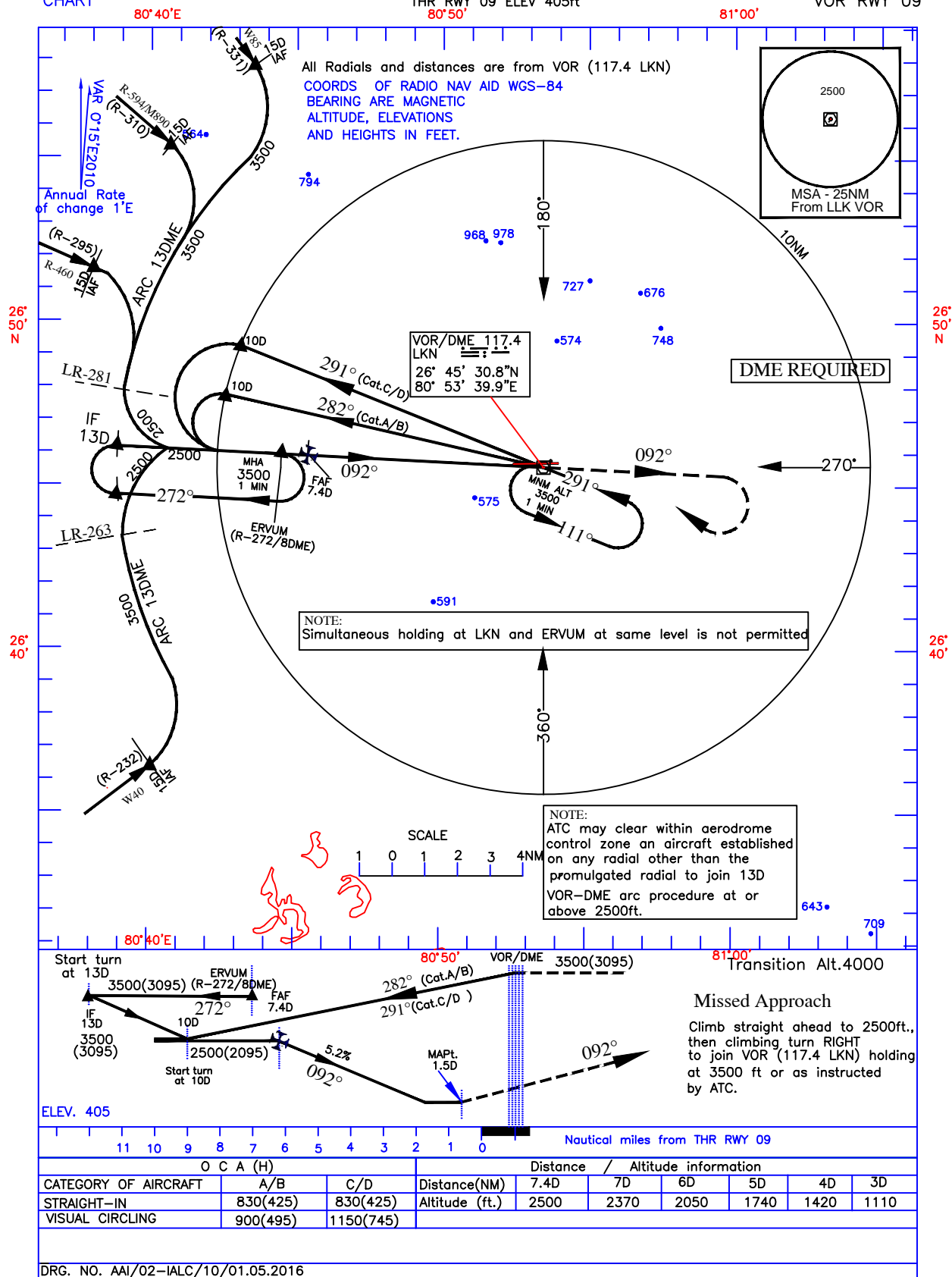
AIRPORTS AUTHORITY OF INDIA

AAI DRG. No2-PRECISION APP. CHART/2016(CARTO)







INSTRUMENT  
APPROACH  
CHARTHEIGHTS RELATED TO  
AERODROME ELEV 405ft.  
THR RWY 09 ELEV 405ftAPP.120.45  
TWR.118.6LUCKNOW  
INDIA  
VOR RWY 09



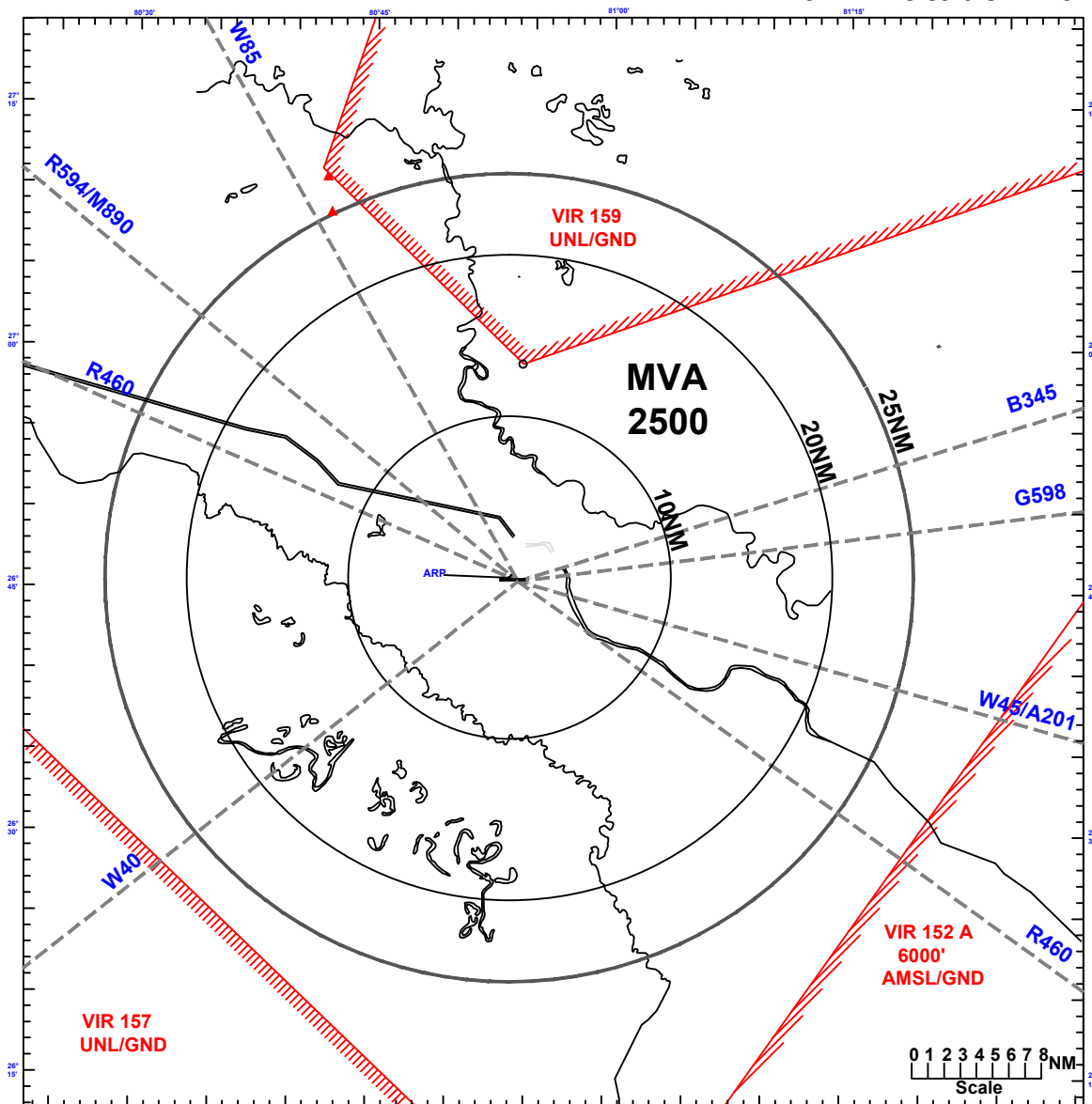


Ad. Elev-404

Transition Alt.- 4000

Mag. Var. - 0°15' E (2010)

All altitude in feet

APP 120.45  
TWR 118.60**LUCKNOW (VILK)  
ATC Surveillance  
Minimum Altitude Chart****Radio Communication Failure Procedure:**

When providing navigational guidance to aircraft based on the use of an air traffic services surveillance system for pilot interpreted final approach aid, following radio communication failure procedure shall be applicable :-

1. If radio communication failure takes place prior to interception of final approach track, aircraft shall maintain the last assigned altitude or 3500Ft whichever is higher and proceed to LKN VOR via shortest route to join the holding procedure. After joining the holding procedure aircraft shall carryout the instrument approach procedure for which navigational guidance was provided.
2. If radio communication failure occurs after interception of the final approach track, aircraft should continue the approach and land if visual or carryout the missed approach and join the LKN VOR holding at 3500Ft. After joining the holding procedure aircraft shall carryout the instrument approach procedure for which navigational guidance was provided.

**NOTE:**

1. Altitudes shown are based on QNH.
2. Only significant spot elevations are shown
3. ATC Surveillance Minimum Altitudes are established within 25NM of ARP. (26 45 43 N 80 53 00 E) . Chart may only be used for cross-checking of altitude assigned while the aircraft is identified.