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AERONAUTICAL INFORMATION SERVICE
AIRPORTS AUTHORITY OF INDIA
RAJIV GANDHI BHAVAN
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AIP SUPPLEMENT

Sl. No. 22/2008

Dt : 05/03/2008

File No. AAI/NAD/09-09/03/AIP-SUPP (Part-AIS)

Following Supplement regarding the VOR Procedure Rwy 09 – Bangalore International Airport Ltd. (BIAL) is issued for information, guidance and necessary action. The date of implementation shall be notified through G-Series NOTAM separately after the successful flight trials of the procedure.


K. RAMALINGAM
CHAIRMAN

AIRPORTS AUTHORITY OF INDIA

[Effective date - To be notified]

VOR Procedure Rwy 09 – Bangalore International Airport Ltd. (BIAL)
(DME REQUIRED)

All radials and distances are from VOR (112.3 BIA)

1.	Holding Procedures:-	
1.1	BIBDU (R-077/21D)	One minute right hand pattern inbound track 257 Deg M. Minimum holding altitude F85.
1.2	BEGRA (R-027/21D)	One minute right hand pattern inbound track 207 Deg M. Minimum holding altitude F85.
1.3	TAREX (R-310/21D)	One minute left hand pattern inbound track 130 Deg M. Minimum holding altitude F85.
1.4	EKVOG (R-282/21D)	One minute left hand pattern inbound track 102 Deg M. Minimum holding altitude F85.
	(NOTE : Simultaneous holding at EKVOG and TAREX at same level is not authorized)	
2.	Procedure	(Note : Speed shall be restricted to 185 KT IAS maximum prior to crossing the lead radial (R-282).

2.1	ATS routes W42N/W43N/W118N/W117 BANGO 2 Arrival	Leave VOR (112.3 BIA) on track 310 Deg M (R-310) descending to 7000 feet. At 15D turn left to intercept 17 DME arc descending to 6600 feet. Crossing lead radial 282 turn left Hdg 125 to establish final approach track 092 Deg M descending to 5900 feet. At FAF 11.5D descend to MDA/H. (Note : Aircraft from ATS route W43N/W118N shall commence left turn at R-205/03 DME to intercept the outbound track 310.)
2.2	ATS route W101E/W56S TAREX 2 Arrival	From TAREX proceed on track 130 Deg M (R-310) descending to 6600 feet. At 19 DME turn right to intercept 17 DME arc. Crossing lead radial 282 turn left Hdg 125 to establish final approach track 092 Deg M descending to 5900 feet. At FAF 11.5D descend to MDA/H.
2.3	ATS route W57S/W47S BEGRA 2 Arrival	From BEGRA proceed on track 207 Deg M (R-027) maintaining FL85. At 19 DME turn right to intercept 17 DME arc. Crossing radial 340 descend to 6600 feet and crossing lead radial 282 turn left Hdg 125 to establish final approach track 092 Deg M descending to 5900 feet. At FAF 11.5D descend to MDA/H.
2.4	From EKVOG EKVOG 2 Arrival	From EKVOG proceed on Hdg 125 to establish on final approach track 092 Deg M (R-272) descending to 5900 feet to cross IF 17D at or above 6600 feet. At FAF 11.5D descend to MDA/H. (Note : Aircraft from ATS route W81 may join holding at EKVOG via 26DME arc).
2.5	ATS route W81 OPABO 2 Arrival	From OPABO (R-268/21D) turn left to establish final approach track 092 Deg M (R-272) descending to 6600 feet Crossing IF 17D descend to 5900 feet. At FAF 11.5D descend to MDA/H.
2.6	From BIBDU BIBDU 2 Arrival	From BIBDU proceed on track 257 Deg M (R-077) maintaining FL85. At 19 DME turn right to intercept 17 DME arc and thereafter, follow, the procedure applicable to BEGRA 2 Arrival.
3	IF Altitude at IF FAF Altitude at FAF Descent gradient	17D 6600 feet 11.5D 5900 feet 5.24% (3 degree)

4	OCA	Straight in 3620 feet Circling Cat A/B 3620 feet Cat C/D 3870 feet (Visual Manouvring (Circling) is restricted to North of Aerodrome Only).
5	MAPt	2.6 DME

6. Distance (VOR DME)/ Altitude Information :

Distance (NM)	11.5D	11D	10D	9D	8D	7D	6D	5D
Altitude (Feet)	5900	5720	5400	5090	4770	4450	4130	3810

7 Rate of Descent / Ground Speed Information :

Ground Speed (Kt)	80	100	120	140	160	180
Rate of Descent (Ft./Min)	425	530	635	740	845	955

8 M.A. Procedure : Climb straight ahead until VOR (BIA). Then turn left climb on R-077 (BIA) to 5000 feet. Crossing 8 DME climb to 7000 feet and proceed to BIBDU to join holding at FL85 or as instructed by ATC.

9 MSA : Sector 025 – 180 5500 feet upto 25NM
Sector 180 – 025 5900 feet upto 25NM

(CAUTION : Aircraft operating at Military Airfield Yelahanka located at 240 Deg/7NM from ARP/ BIAL).

8. Aerodrome operating minima

Aerodrome Operating Minima	Category A (Visb./RVR)		Category B (Visb./RVR)		Category C (Visb./RVR)		Category D (Visb./RVR)	
	ALS	ALS OUT	ALS	ALS OUT	ALS	ALS OUT	ALS	ALS OUT
Normal Minima Straight-in	1600	2400	1600	2400	2800	3600	3200	4000
Restricted Minima Straight-in	2000	2800	2000	2800	3200	4000	3600	4400
Normal Circling Minima		3600		3600		4000		4400
Restricted Circling Minima		3600		3600		4400		4800

INSTRUMENT
APPROACH
CHART

AERODROME ELEV. 3004ft.
HEIGHTS RELATED TO
THR RWY 09 ELEV.3001ft

APP. 121.25
TWR. 124.35
TAR. 119.45

BANGALORE INT.
INDIA
VOR RWY 09

77°30'E 77°40' 77°50' 78°00'

All Radials and Distances are from VOR (112.3 BIA) unless otherwise specified.
COORDS OF RADIO NAV AID WGS-84
BEARING ARE MAGNETIC
ALTITUDE, ELEVATIONS AND HEIGHTS IN FEET.

MNM SECT ALT
Sector 180 to 025
5900ft upto 25NM

Simultaneous holding at EKVVG and TAREX at same level is not authorised

NOTE:
Speed shall be restricted to 185kts IAS for Aircraft following DME arc procedure prior to crossing lead radial (R-282)

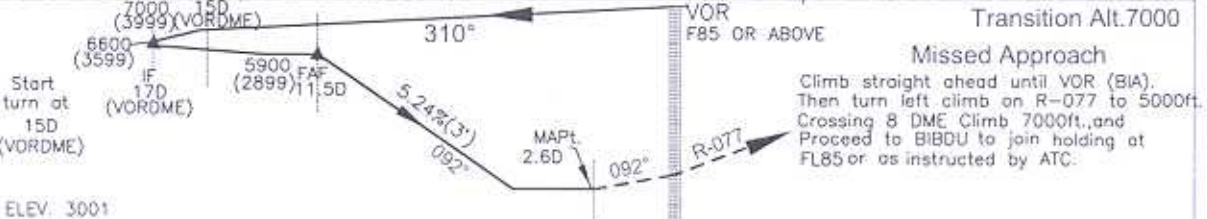
DME REQUIRED

Aircraft from ATS route W81 (R-268) may join holding at EKVVG via 260DME arc.

VOR BIA 112.3
13° 12' 23.39"N
77° 43' 51.25"E

MNM SECT ALT
Sector 025 to 180
5500ft upto 25NM

VISUAL MANOVRING(CIRCLING) IS RESTRICTED TO NORTH OF AERODROME ONLY.



			Distance /Altitude information								
O C A			Distance(NM)	11.5D	11D	10D	9D	8D	7D	6D	5D
CATEGORY OF AIRCRAFT	A/B	C/D	Distance(NM)	11.5D	11D	10D	9D	8D	7D	6D	5D
STRAIGHT-IN	3620	3620	Altitude (ft.)	5900	5720	5400	5090	4770	4450	4130	3810
CIRCLING	3620	3870	Rate of Descent /Ground speed information								
			Ground speed (kt.)			80	100	120	140	160	180
			Rate of descent (ft/min)			425	530	635	740	845	955
AERODROME OPERATING MINIMA			CATEGORY A		CATEGORY B		CATEGORY C		CATEGORY D		
	ALS	ALS OUT	ALS	ALS OUT	ALS	ALS OUT	ALS	ALS OUT	ALS	ALS OUT	
NORMAL MINIMA STRAIGHT-IN	1600	2400	1600	2400	2800	3600	3200	4000	3600	4400	
RESTRICTED MINIMA STRAIGHT-IN	2000	2800	2000	2800	3200	4000	4000	4000	3600	4400	
NORMAL CIRCLING MINIMA		3600		3600		4400		4400		4400	
RESTRICTED CIRCLING MINIMA		3600		3600		4400		4400		4800	

DRG. NO. AAI/06-IALC/ 08/06.03.08