

TEL:+88-02-8901904-19/ 3409
FAX: +88 02 8901411
AFS: VGHQYOYX
E-mail: adaishq@caab.gov.bd

Aeronautical Information Services
Civil Aviation Authority, Bangladesh
Headquarters, Kurmitola,
Dhaka-1229, Bangladesh

AIP Supplement

AIP SUPP
08/18
11 OCT 2018

PUBLICATION DATE: 16 AUG 2018.

EFFECTIVE DATE: 0000 UTC, 11 OCT 2018.

SUB: RNP Approach Procedure for RWY23 and RWY05 at Shah Amanat International Airport, Chittagong, Bangladesh.

1. INTRODUCTION:

- 1.1 The following RNP Approach (RNAV GNSS) Procedure is designed for VGEG in accordance with the criteria as stipulated in the ICAO PANS-OPS (DOC 8168) Vol. II and ICAO Manual of PBN (Doc 9613). This procedure can be flown as a Non-Precision Approach (NPA) down to LNAV minima or an Approach with Vertical Guidance (APV) using barometric vertical navigation (BaroVNAV) down to LNAV/VNAV minima.
- 1.2 The RNP Approach Procedure is designed to enhance the VGEG safety and efficiency of aircraft operations with an alternative approach procedure to access the airport.
- 1.3 This version to the RNP approach procedure for Runway 23 & Runway 05 at Shah Amanat International Airport will be effective from 0000UTC, 11 OCT 2018.
- 1.4 The name of the approach chart is designated in accordance with the ICAO Cir 336 AN/195 and Amendment 6 to Doc8168, Procedures for Air Navigation Services-Aircraft Operations (PANS-OPS), Volumes I and II, where it states that "..... procedures that are currently named RNAV and meet the PBN specification of RNP APCH or RNP AR APCH will be designated RNP. This change will be fully implemented by 1 December 2022".
- 1.5 Details of the RNP Approach procedure for Runway 23 & Runway 05 at Shah Amanat International Airport, Chittagong are given in the attachment with this cover page. The individual Approach Procedure for both RWY05 and RWY23, including Chart, Coding table and procedure description, are given as below:
 - i) RNP Approach RWY 05 : Chart & Coding Table : Attachment A1
Procedure Description of RNP Approach RWY 05 : Attachment A2
 - ii) RNP Approach RWY 23 : Chart & Coding Table : Attachment B1
Procedure Description of RNP Approach RWY 23 : Attachment B2

2. APPROVALS

- 2.1 Aircraft Operators and pilots must possess the necessary operational approvals to conduct RNP APCH (RNAV GNSS) and BARO-VNAV operations from their respective State authorities to carry out this procedure.
- 2.2 The on-board performance monitoring and alerting criteria for specific navigation system and functional requirement must be in accordance to Volume II, Part C- Chapter 5 of the ICAO Manual on PBN (Doc 9613).
- 2.3 Before commencing the procedure, pilot in command must ensure that the navigation database is current and the aircraft's capability of conducting the procedure like GNSS availability system performance, etc.

3. CONTINGENCY PROCEDURES

- 3.1 The pilot must notify ATC of any loss of the RNP APCH capability, together with the proposed course of action. If unable to comply with the requirements of an RNP APCH procedure, ATC shall be informed as soon as possible the alternate course of action from the pilots of the concerned aircraft. The loss of RNP APCH capability includes any failure or event causing the aircraft to no longer satisfy the RNP APCH requirements.

4. CANCELLATION

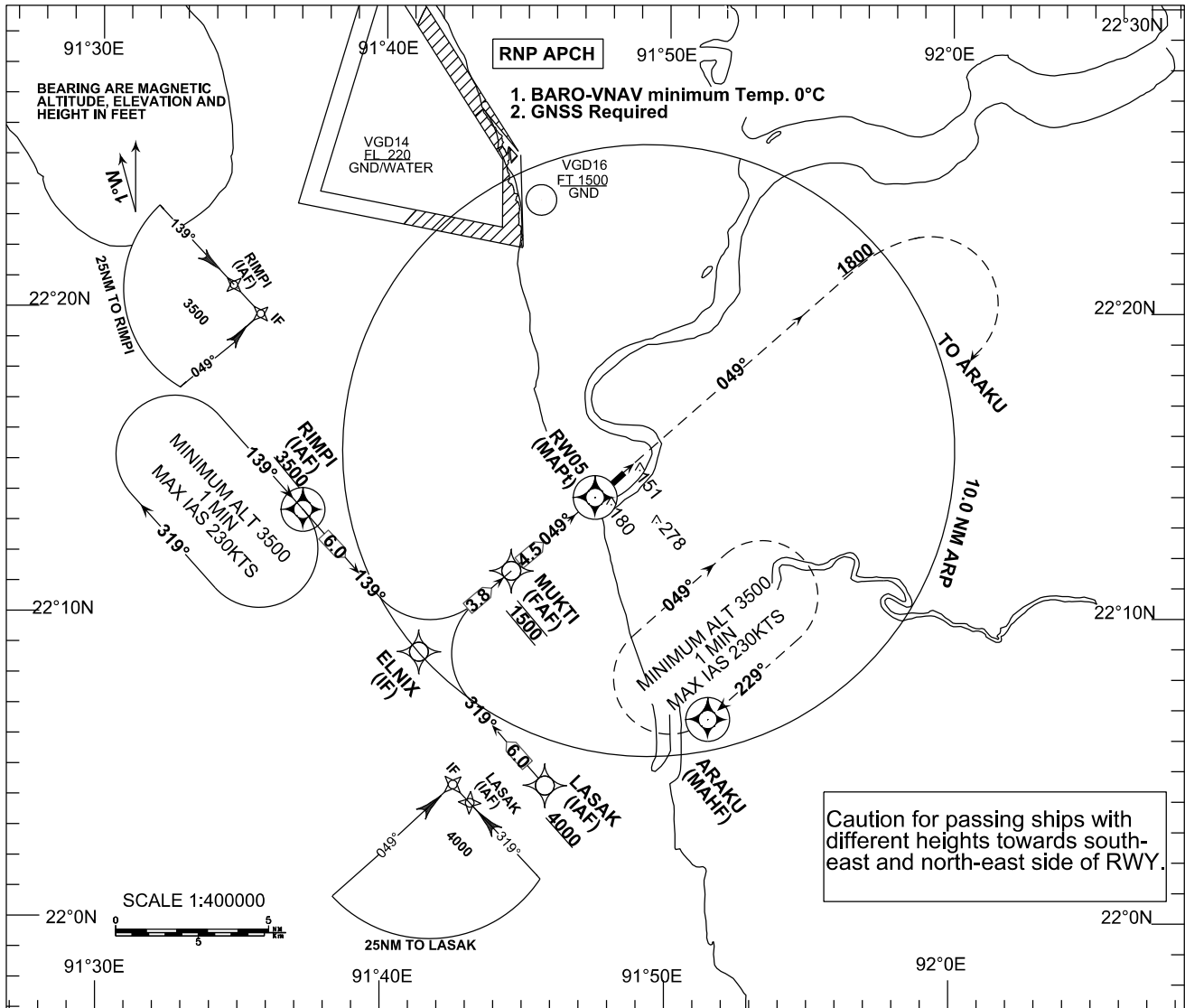
- 4.1 This AIP Supplement will be cancelled when the contents will be incorporated into AIP Bangladesh.

INSTRUMENT
APPROACH
CHART - ICAO

AD ELEV 14 (ft)
OCH RELATED TO
THR RWY 05-ELEV 14(ft)

TWR: 118.4 MHZ(PRI)
119.4 MHZ(Stand by)
SMC: 121.8 MHZ

CHITTAGONG, BANGLADESH
SHAH AMANAT INTERNATIONAL AIRPORT (VGEG)
RNP RWY 05 (LNAV/VNAV ONLY)

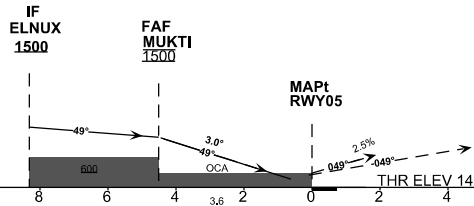


MISSED APPROACH:

Climb on course 049° at or above 1800ft,
then turn right direct to **ARAKU** for holding
at 3500ft or as directed by ATC.

NO TURN BEFORE MAPt.

TRANSITION LEVEL FL 060
TRANSITION ALTITUDE 4000FT



CATEGORY OF ACFT		A	B	C	D
OCA(OCH)	LNAV/VNAV	341(327)			
	LNAV	410(396)			
DISTANCE	5 NM	4 NM	3 NM	2 NM	1 NM
ALTITUDE	1660	1340	1020	710	390
(HEIGHT)	(1646)	(1326)	(1006)	(696)	(376)

CATEGORY OF ACFT	A	B	C	D
SPEED	90	120	150	180
RATE OF DESCENT/GS	478	637	796	955
FAF TO THRO5	03:00	02:15	01:48	01:30

Type of Approach	Visibility Minima(m)	
	BALS	NALS
LNAV/VNAV	1500	2000
LNAV	1900	2300

NEW

CODING TABLE

TABULAR DESCRIPTION										
SLNo	Path Descriptor	Waypoint Ident	Fly Over	Course M (T)	Turn	DST (NM)	Altitude (FT)	Speed Limit	VP/ATC H	NAV SPEC
10	IF	RIMPI	-	-	-	-	+3500	-230	-	RNP APCH
20	TF	ELNIX	-	139° (138.33°)	-	6.0	+1500	-200	-	RNP APCH
10	IF	LASAK	-	-	-	-	+4000	-230	-	RNP APCH
20	TF	ELNIX	-	319° (318.33°)	-	6.0	+1500	-200	-	RNP APCH
10	IF	ELNIX	-	049° (048.33°)	-	-	+1500	-200	-	RNP APCH
20	TF	MUKTI	-	049° (048.33°)	-	3.8	@1500	-	-	RNP APCH
30	TF	RW05	Y	049° (048.33°)	-	4.5	@64	-	-3.0/50	RNP APCH
40	CA	RW05	-	049° (048.33°)	-	-	+1800	-	-	RNP APCH
50	DF	ARAKU	Y	-	R	-	-	-230	-	RNP APCH
60	HM	ARAKU	Y	229° (228.33°)	R	-	3500	-230	-	RNP APCH

WAYPOINT LIST

RNP RWY05 (LNAV/VNAV only)	
WAYPOINT IDENTIFIER	COORDINATES
RIMPI (IAF)	N 22:13:24.49 E 91:37:10.73
LASAK (IAF)	N 22:04:24.78 E 91:45:46.38
ELNIX (IF)	N 22:08:54.69 E 91:41:28.69
MUKTI (FAF)	N 22:11:26.83 E 91:44:32.15
RW05 (MAPt)	N 22:14:27.00 E 91:48:09.48
ARAKU (MAHF)	N 22:06:35.30 E 91:51:26.51

Procedure Description (RNP Approach RWY 05) :

- (i) From IAF (Right) : LASAK

The aircraft approaching to IAF (Right) will descend at or above 4000ft till reaching the LASAK and join the procedure on track 319⁰ (Mag). Then descend to 1500ft and execute a Fly-by turn at IF (ELNIX), it will join the intermediate track of 049⁰ (Mag). Aircraft will reach 1500ft before reaching FAF (MUKTI). The intermediate segment length is 3.8NM and the FAF (MUKTI) is placed at a distance of 4.5NM from THR05.

There is no Holding over LASAK.

- (ii) There is no IAF (Center) for this procedure.

- (iii) From IAF (Left) : RIMPI

The aircraft approaching to IAF (RIMPI) will descend at or above 3500ft till reaching the RIMPI and join the procedure on track 139⁰ (Mag). Then descent to 1500ft and execute a Fly-by turn at IF (ELNIX), it will join the intermediate track of 049⁰ (Mag). Aircraft will reach 1500ft before reaching FAF (MUKTI). The intermediate segment length is 3.8NM and the FAF (MUKTI) is placed at a distance of 4.5NM from THR05.

For Holding over RIMPI :

IAS	Inbound track	Turn direction	Timing	Minimum Holding Altitude
230 kts	139 ⁰ (Mag)	Right hand pattern	1 min O/B	3500ft

Missed Approach procedure:

In case of missed approach, aircraft will climb on course 049⁰ to 1800ft or above then turn right and follow DF leg to join the holding waypoint ARAKU at 3500ft or as directed by ATC. No turn before MAPt.

Note i) For commencing approach aircraft will join IAF direct from the CTR point of respective route, unless otherwise directed by ATC or provided RADAR vector.

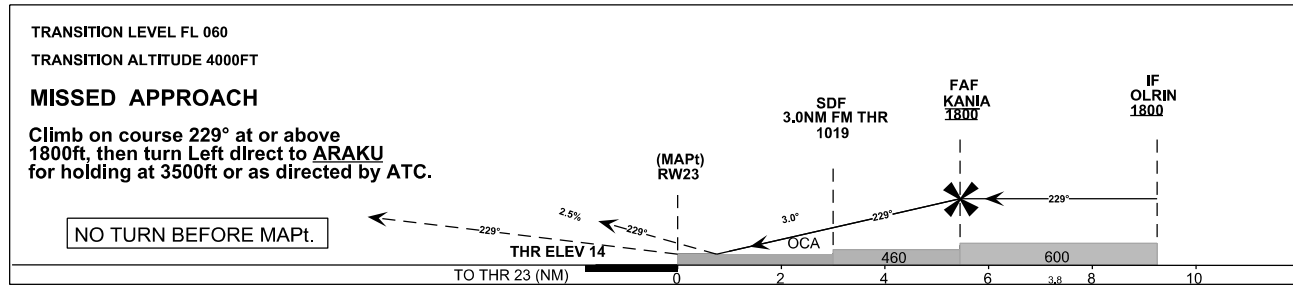
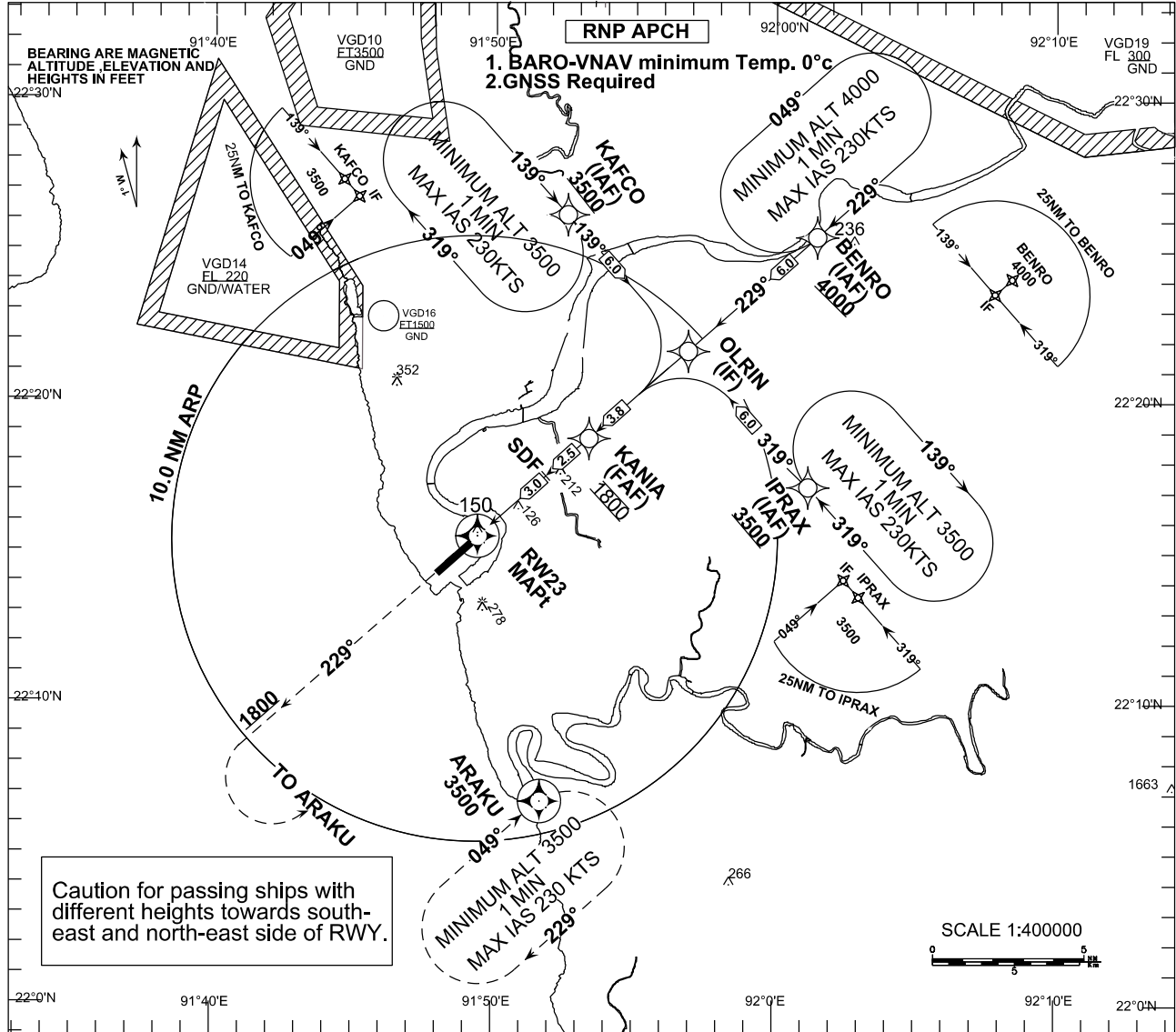
Note ii) Simultaneous holding over RIMPI and ARAKU shall be kept vertically separated.

INSTRUMENT
APPROACH
CHART - ICAO

AD ELEV 14 (ft)
OCH RELATED TO
THR RWY 23-ELEV 14(ft)

TWR : 118.4 MHZ (PRI)
119.4 MHZ (Stand by)
SMC : 121.8 MHZ

CHITTAGONG, BANGLADESH
SHAH AMANAT INTERNATIONAL AIRPORT (VGEG)
RNP RWY 23 (LNAV/VNAV ONLY)



CATEGORY OF ACFT		A	B	C	D
OCA(OCH)	LNAV/VNAV	311(297)			
	LNAV	400(386)			
DISTANCE	5 NM	4 NM	3 NM	2 NM	1 NM
ALTITUDE	1660	1340	1020	710	390
(HEIGHT)	(1646)	(1326)	(1006)	(696)	(376)

CATEGORY OF ACFT	A	B	C	D
SPEED	90	120	150	180
RATE OF DESCENT/GS	478	637	796	955
FAF TO THR23	03:36	02:42	02:09	01:48

Type of Approach	Visibility Minima (m)		
	FALS	BALS	NALS
LNAV/VNAV	900	1200	1800
LNAV	1400	2000	2300

NEW

CODING TABLE

TABULAR DESCRIPTION

SL NO	Path Descriptor	Waypoint Ident	Fly Over	Course M(T)	Turn	DST (NM)	Altitude (FT)	Speed Limit	VPATCH	NAV SPEC
10	IF	IPRAX	-	-	-	-	+3500	-230	-	RNP APCH
20	TF	OLRIN	-	319° (318.38°)	-	6.0	+1800	-200	-	RNP APCH
10	IF	KAFCO	-	-	-	-	+3500	-230	-	RNP APCH
20	TF	OLRIN	-	139° (138.38°)	-	6.0	+1800	-200	-	RNP APCH
10	IF	BENRO	-	-	-	-	+4000	-230	-	RNP APCH
20	TF	OLRIN	-	229° (228.39°)	-	6.0	+1800	-200	-	RNP APCH
10	IF	OLRIN	-	-	-	-	+1800	-200	-	RNP APCH
20	TF	KANIA	-	229° (228.37°)	-	3.8	@1800	-	-	RNP APCH
30	TF	RW23	Y	229° (228.34°)	-	5.4	@64	-	-3.0/50	RNP APCH
40	CA	RW23	-	229° (228.34°)	-	-	+1800	-	-	RNP APCH
50	DF	ARAKU	Y	-	L	-	-	-230	-	RNP APCH
60	HM	ARAKU	Y	049° (048.33°)	R	-	3500	-230	-	RNP APCH

WAYPOINT LIST

RNP RWY23 (LNAV/VNAV only)	
WAYPOINT IDENTIFIER	COORDINATES
KAFCO(IAF)	N 22:26:10.52E 91:52:35.35
BENRO(IAF)	N 22:25:40.35E 92:01:43.95
IPRAX(IAF)	N 22:17:10.39E 92:01:11.25
OLRIN(IF)	N 22:21:40.51E 91:56:53.44
KANIA(FAF)	N 22:19:08.54E 91:53:49.59
RW23(MAPt)	N 22:15:30.42E 91:49:26.04
ARAKU(MAHF)	N 22:06:35.30E 91:51:26.51

Procedure Description (RNP Approach RWY 23) :

(i) From IAF (Right) : KAFCO

The aircraft approaching to IAF (Right) will descend at or above 3500ft till reaching the KAFCO and join the procedure on track 139⁰ (Mag). Then descend to 1800ft and execute a Fly-by turn at IF (OLRIN), it will join the intermediate segment on track of 229⁰ (Mag). Aircraft will reach 1800ft before reaching FAF (KANIA). The intermediate segment length is 3.8NM and the FAF (KANIA) is placed at a distance of 5.4NM from THR23. SDF is at 3.0NM from THR23.

For Holding over KAFCO :

IAS	Inbound track	Turn direction	Timing	Minimum Holding Altitude
230 kts	139 ⁰ (Mag)	Right hand pattern	1 min O/B	3500ft

(ii) From IAF (Center) : BENRO

The aircraft approaching to IAF (Center) will descend at or above 4000ft till reaching the BENRO and join the procedure on track 229⁰ (Mag), Then descend to 1800ft before reaching FAF (KANIA). The intermediate segment length is 3.8NM and the FAF (KANIA) is placed at a distance of 5.4NM from THR23. SDF is at 3.0NM from THR23.

For Holding over BENRO :

IAS	Inbound track	Turn direction	Timing	Minimum Holding Altitude
230 kts	229 ⁰ (Mag)	Right hand pattern	1 min O/B	4000 ft

(iii) From IAF (Left) : IPRAX

The aircraft approaching to IAF (IPRAX) will descend at or above 3500ft till reaching the IPRAX and join the procedure on track 319⁰ (Mag). Then descent to 1800ft and execute a Fly-by turn at IF (OLRIN), it will join the intermediate track of 229⁰ (Mag). Aircraft will reach 1800ft before reaching FAF (KANIA). The intermediate segment length is 3.8NM and the FAF (KANIA) is placed at a distance of 5.4NM from THR23. SDF is at 3.0NM from THR23.

For Holding over IPRAX :

IAS	Inbound track	Turn direction	Timing	Minimum Holding Altitude
230 kts	319 ⁰ (Mag)	Right hand pattern	1 min O/B	3500 ft

Missed Approach procedure:

In case of missed approach, aircraft climb on course 229⁰ at or above 1800ft then turn left and follow DF leg to join the holding waypoint ARAKU at 3500ft or as directed by ATC. No turn before MAPt.

Note i) For commencing approach aircraft will join IAF direct from the CTR point of respective route, unless otherwise directed by ATC or provided RADAR vector.

Note ii) Simultaneous holding over KAFCO, IPRAX, BENRO and ARAKU shall be kept vertically separated.