

**FEDERAL AVIATION ADMINISTRATION
FLIGHT STANDARDS SERVICE
RNAV (RNP) STANDARD INSTRUMENT APPROACH PROCEDURE**

TITLE 14 CFR PART 97.33

Bearings, headings, courses, tracks and radials are magnetic. Elevations and altitudes are in feet, MSL, except HAT, HAA, TCH, and RA. Altitudes are minimum altitudes unless otherwise indicated.
Ceilings are in feet above airport elevation. Distances are in nautical miles unless otherwise indicated, except visibilities which are in statute miles or feet RVR.

<u>AIRPORT</u> RALEIGH-DURHAM INTL	<u>AIRPORT ID</u> KRDU	<u>PROCEDURE NAME</u> RNAV (RNP) Z RWY 23R	<u>ORIGINAL/AMENDMENT</u> 3	<u>CITY</u> RALEIGH/DURHAM	<u>STATE</u> NC	
<u>AIRPORT ELEVATION</u> 435	<u>TDZE</u> 409	<u>SUPERSEDED</u> RNAV (RNP) Z RWY 23R	<u>ORIGINAL/AMENDMENT</u> 2B	<u>DATED</u> 05/24/2018	<u>MAG VAR</u> 9W	<u>EPOCH YEAR</u> 2020
<u>FACILITY</u> RNAV	<u>COORDINATES OF FACILITIES</u>	<u>ACTUAL EFFECTIVE DATE</u> 25 FEBRUARY 2021	<u>REQUIRED EFFECTIVE DATE</u> ROUTINE	<u>CANCEL/SUSPEND</u>		

TERMINAL ROUTES

<u>FROM</u>	<u>FIX TYPE</u>	<u>TO</u>	<u>FIX TYPE</u>	<u>LEG TYPE</u>	<u>FO/FB</u>	<u>RNP</u>	<u>COURSE</u>	<u>DISTANCE</u>	<u>ALTITUDE</u>
BUTTS	IAF	WARMS		TF	FB	1.00	149.99	6.30	4000
WARMS		DABKE		TF	FB	1.00	204.02	5.20	4000
ESELL	IAF	MARBY		TF	FB	1.00	250.49	7.95	5000
MARBY	IAF	DABKE		TF	FB	1.00	234.28	3.14	4000
DABKE		PRSTN		TF	FB	1.00	234.31	2.65	3000
PRSTN	IF	BODLY	PFAF	TF	FB	1.00	234.20	3.00	2200
GLEYS	IF	JOLTY		TF	FB	1.00	054.14	2.73	5100
JOLTY		NOBVE		TF	FB	1.00	054.12	1.48	4700
NOBVE		BODLY	PFAF	RF	FB	1.00	(2.50 NM RADIUS CW (CFVVP))	7.85	2200
BODLY	PFAF	RW23R	MAP	TF	FO	0.30	234.20	5.45	
RW23R	MAP	1000 MSL		CA			234.20		1000
1000 MSL		DUHAM		DF	FO	1.00			2200

MISSED APPROACH

MAP:
RNP: DA

MISSED APPROACH INSTRUCTIONS:

CLIMB TO 1000 THEN CLIMBING RIGHT TURN TO 2200 DIRECT DUHAM AND HOLD.

ALTERNATE MISSED APPROACH INSTRUCTIONS:



PROFILE:

1. PT	SIDE OF COURSE	OUTBOUND	FT WITHIN	MILES OF	(IAF)
2. PROFILE STARTS AT BODLY					
3. FAC:	234.20	PFAF: BODLY	DIST PFAF TO MAP:		DIST PFAF TO THLD:
4. MIN ALT:	BODLY 2200				
5. DIST TO THLD FROM PFAF:	5.45	MM:	IM:	150 HAT:	351 HAT: 0.93 GS ANT:
6. MIN GP INCPT:	2200	GP ALT AT PFAF :	BODLY 2200	OM:	MM: IM:
7. GP ANGLE:	3.00	34:1: IS CLEAR	20:1: IS CLEAR	TCH: 55.0	
8. MSA FROM:	RW23R 3400				

PBN REQUIREMENTS NOTE:

RNP AR APCH - GPS

NOTES:

CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, PROCEDURE NA BELOW -12°C OR ABOVE 54°C.
CHART PROFILE NOTE: SEE PLANVIEW FOR MULTIPLE IF LOCATIONS.
CHART PROFILE NOTE: VGSI AND RNAV GLIDEPATH NOT COINCIDENT (VGSI ANGLE {ANGLE}/TCH {FEET}).
CHART PLANVIEW NOTE ADJACENT TO GLEYS: RF REQUIRED.
CHART NOTE: FOR INOPERATIVE ALS, INCREASE RNP 0.15 ALL CATS VISIBILITY TO RVR 5500, INCREASE RNP 0.30 ALL CATS VISIBILITY TO 1 3/8 SM.
CHART NOTE: SIMULTANEOUS APPROACH AUTHORIZED, EXCEPT FOR ARRIVALS AT GLEYS.
CHART PLANVIEW NOTE AT GLEYS: MAX 210 KIAS.
CHART PLANVIEW NOTE AT BUTTS: MAX 210 KIAS.
CHART PLANVIEW NOTE AT ESELL: MAX 210 KIAS.
CHART PLANVIEW NOTE AT MARBY: MAX 210 KIAS.
CHART PLANVIEW NOTE AT NOBVE: MAX 200 KIAS UNTIL BODLY.

ADDITIONAL FLIGHT DATA:

CHART MANDATORY 6000 AT BUTTS.
CHART MANDATORY 6000 AT ESELL.
CHART MANDATORY 6000 AT GLEYS.
CHART MANDATORY 4000 AT WARMS.
HOLD N, RT, 172.91 INBOUND.
DISTANCE TO THLD FROM 351 HAT: 0.93 NM.



MINIMUMS:
TAKEOFF: SEE FAA FORM 8260-15A FOR THIS AIRPORT

ALTERNATE: NA ☐ STANDARD

CATEGORY:	A			B			C			D			E		
FINAL TYPE	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA	DA/MDA	VIS	HAT/HAA
AUTHORIZATION REQUIRED															
RNP 0.15 DA	760	3000	351	760	3000	351	760	3000	351	760	3000	351			
RNP 0.30 DA	910	5500	501	910	5500	501	910	5500	501	910	5500	501			

CHANGES - REASONS

1. REMOVED INITIAL SEGMENTS TO PRSTN FROM PAINS AND BUTTS AND ADDED INITIAL SEGMENTS TO PRSTN FROM BUTTS AND ESELL - PER FPT DESIGN REQUEST.
2. CHANGED INTERMEDIATE SEGMENT TO CLIFE FROM GLEYS TO BODLY FROM GLEYS AND MOVED NOBVE .95 NE - PER FPT DESIGN REQUEST.
3. REMOVED PFAF FIX CLIFE ADDED PFAF FIX BODLY - PER FPT DESIGN REQUEST.
4. CHANGED MISSED APPROACH INSTRUCTION FROM "CLIMB 3000 ON TRACK 234 TO SCHOO AND HOLD" TO " CLIMB TO 1000 THEN CLIMBING TURN TO 2200 DIRECT DUHAM AND HOLD" - PER FPT DESIGN REQUEST.
5. CHANGED PROFILE LINE 2 FROM "PROFILE STARTS AT CLIFE" TO "PROFILE STARTS AT PRSTN" - IAW WITH 8260.19H AND FPT DESIGN REQUEST.
6. CHANGED PROFILE LINE 3 MIN ALT: "CLIFE 1900" TO "PRSTN 3000, BODLY 2200" - IAW 8260.19H
7. CHANGED PROFILE LINE 5 DIST TO THLD FROM OM: 4.51 TO 5.45, ADDED 351 HAT 0.93 - IAW 8260.19H.
8. CHANGED PROFILE LINE 6 MIN GP INT: 3000 TO 2200, GS ALT AT: CLIFE 1900 TO GP ALT AT PFAF: BODLY 2200 - IAW 8260.19H.
9. REMOVED PBN REQUIREMENTS NOTE: RNP AR APCH, RF REQUIRED FROM NOTES SECTION, ADDED NOTES TO PBN REQUIREMENTS NOTE SECTION.
10. CHANGED CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, PROCEDURE NA BELOW -12°C OR ABOVE 54°C - NEW ACT CALCULATION AND UPDATED FORMAT IAW 8260.19H
11. CHANGED CHART NOTE: FOR INOPERATIVE ALS, INCREASE RNP 0.15 ALL CATS VISIBILITY TO 1 1/4, INCREASE RNP 0.30 ALL CATS VISIBILITY TO 1 7/8 TO CHART NOTE: FOR INOPERATIVE ALS, INCREASE RNP 0.15 ALL CATS VISIBILITY TO RVR 5500, INCREASE RNP 0.30 ALL CATS VISIBILITY TO 1 3/8 - NEW VIS CHECK CALCULATION AND UPDATED INOP TABLE IAW 8261.3D.
12. CHANGED RNP 0.15 DA/HAT FROM 779/370 TO 760/351, VISIBILITY ALL CATS FROM 4000 TO 3000, RNP 0.30 DA/HAT FROM 978/569 TO 910/501, VISIBILITY ALL CATS FROM 1 1/2 TO 5500 - NEW OBST EVALUATION AND VIS CHECK CALCULATION.

- 5/20/2020: THIS IS AN UPDATED COPY OF THE FORM DEVELOPED ON 1/03/2020.
1. ADDED IAF TO MARBY IN TERMINAL ROUTES.
2. ADDED CHART MANDATORY 4000 AT WARMS.
3. ADDED CHART SPEED ICON IN PLANVIEW AT MARBY: MAX 210 KIAS.
4. CHANGED CHART SPEED ICON IN PLANVIEW AT NOBVE: MAX 210 KIAS TO CHART SPEED ICON IN PLANVIEW AT NOBVE: MAX 210 KIAS UNTIL BODLY.

- 6/03/2020: THIS IS AN UPDATED COPY OF THE FORM DEVELOPED ON 1/03/2020.
1. ADDED PFAF TO FIX TYPE FOR TERMINAL ROUTES "PRSTN TO BODLY" AND "NOBVE TO BODLY."
2. CHANGED ALL REFERENCE OF FAF TO PFAF IN PROFILE SECTION.

- 1/12/2021: THIS IS A CORRECTED COPY OF THE FORM APPROVED ON 11/6/2020.
- 1.CORRECTED PBN REQUIREMENT NOTE TO ADD "GPS".



COORDINATED WITH:

A4A ☒ ALPA ☒ AOPA ☒ APA ☒ HAI ☐ NBAA ☒ OTHER: ZDC, RDU APP CON, RDU ATCT, AMGR

FLIGHT CHECKED BY

THOMAS ROBERT CONKLIN

Digitally signed by

DONALD H LANIER

Nov 06, 2020

OFFICE

FIOG

DATE

03/04/2020

DEVELOPED BY

DONALD H. LANIER (DEXTER SWEETING)

Digitally signed by

DONALD H LANIER

Nov 06, 2020

OFFICE

AJV-A431

DATE

01/03/2020

APPROVED BY

GEORGE DAVIS

Digitally signed by

DONALD H LANIER

Nov 06, 2020

OFFICE

AJV-A430

DATE

TITLE
MANAGER

