

U.S. DEPARTMENT of TRANSPORTATION – FEDERAL AVIATION ADMINISTRATION
GRAPHIC DEPARTURE PROCEDURE (DP)

Bearings, headings, courses, tracks, and radials are magnetic. Elevation and altitudes are in feet MSL. Altitudes are minimum altitudes unless otherwise indicated. Ceilings are in feet above airport elevation. Distances are in nautical miles. Visibilities are in statute miles or feet RVR unless otherwise indicated. Graphic depictions attached.

DP Name	Number	DP Computer Code	Superseded Number	Dated	Effective Date
MCRAY	TWO	MCRAY2.MCRAY	ONE	13 NOV 14	15 OCT 2015

TYPE: RNAV SID

DP ROUTE DESCRIPTION:

TAKEOFF RWY 1C/1L: CLIMB HEADING 010.65 TO 820, THEN ON HEADING 340.00 OR AS ASSIGNED BY ATC, EXPECT RADAR VECTORS TO HAYGR, THENCE...
TAKEOFF RWY 1R: CLIMB HEADING 010.67 TO 820, THEN ON HEADING 340.00 OR AS ASSIGNED BY ATC, EXPECT RADAR VECTORS TO HAYGR, THENCE...
TAKEOFF RWY 19C/19R: CLIMB HEADING 190.65 TO 820, THEN RIGHT TURN HEADING 320.00 OR AS ASSIGNED BY ATC, EXPECT RADAR VECTORS TO HAYGR, THENCE...
TAKEOFF RWY 19L: CLIMB HEADING 190.67 TO 820, THEN RIGHT TURN HEADING 320.00 OR AS ASSIGNED BY ATC, EXPECT RADAR VECTORS TO HAYGR, THENCE...
TAKEOFF RWY 30: CLIMB HEADING 300.65 TO 820, THEN ON HEADING 320.00 OR AS ASSIGNED BY ATC, EXPECT RADAR VECTORS TO HAYGR, THENCE...

...ON TRACK 346.64 TO MCRAY, MAINTAIN 3000 OR AS DIRECTED BY ATC. EXPECT CLEARANCE TO FILED ALTITUDE WITHIN TEN (10) MINUTES AFTER DEPARTURE.

TRANSITION ROUTES (GRAPHIC DEPICTION ONLY):

Transition Name	Transition Computer Codes	From	To	Distance	MEA	MOCA	Crossing Altitudes/Fixes
		FIX/NAVAID	FIX/NAVAID				

PROCEDURAL DATA NOTES/TAKEOFF MINIMUMS:

NOTE: RNAV 1.
NOTE: DME/DME/IRU OR GPS REQUIRED.
NOTE: RADAR REQUIRED.
NOTE: TURBOJETS ONLY.

TAKEOFF MINIMUMS:
RWY 1C, 1L, 1R, 19C, 19L, 19R, 30, STANDARD WITH MINIMUM CLIMB OF 500 FT PER NM TO 820.

TAKEOFF OBSTACLES NOTES:

NOTE: RWY 1C, TREES 2815 FT FROM DER, 1031 FT LEFT OF CENTERLINE, UP TO 80 FT AGL/345 FT MSL. SIGN 64 FT FROM DER, 303 FT RIGHT OF CENTERLINE, 13 FT AGL/272 FT MSL.
NOTE: RWY 1L, TOWER 1917 FT FROM DER, 680 FT LEFT OF CENTERLINE, 51 FT AGL/330 FT MSL.
NOTE: RWY 19C, SIGN 100 FT FROM DER, 472 FT LEFT OF CENTERLINE, 4 FT AGL/289 FT MSL. VEHICLES ON ROAD 24 FT FROM DER, 274 FT RIGHT OF CENTERLINE, UP TO 15 FT AGL/293 FT MSL.
NOTE: RWY 30, TREES 2264 FT FROM DER, 1033 FT RIGHT OF CENTERLINE, UP TO 72 FT AGL/383 FT MSL.

CONTROLLING OBSTACLES:



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DP Name	Number	DP Computer Code	Superseded Number	Dated	Effective Date
MCRA Y	TWO	MCRA Y2.MCRA Y	ONE	13 NOV 14	15 OCT 2015

LOST COMMUNICATIONS PROCEDURES:

ADDITIONAL FLIGHT DATA:

REFERENCE MAG VAR: KIAD 10W EPOCH YEAR: 2000. DME/DME ASSESSMENT: SAT (RNP 2.0)

CHART TOP ALTITUDE: 3000.

CHART: MEA/MOCA FROM HAYGR TO MCRA Y, 8000/2700.

PILOT NAVIGATION AREA:

7 NM ARC CENTERED ON HAYGR (IF), CW
FROM: POINT A (BEARING 302 DEGREES TO HAYGR)
TO: POINT B (BEARING 032 DEGREES TO HAYGR)
MINIMUM ALTITUDE: 6000

AIRPORTS SERVED:

WASHINGTON DULLES INTL WASHINGTON, DC

COMMUNICATIONS:

ATIS, CLNC DEL, GND CON, TOWER, DEP CON 125.05/350.2

FIXES AND/OR NAVAIDS:



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MCRAY	TWO	MCRAY2.MCRAY	ONE	13 NOV 14	15 OCT 2015

REMARKS:

REQUIRED EFFECTIVE DATE:

ROUTINE

07/30/15

05/19/2015

COORDINATED WITH: Aug 11, 2015

ATA, ALPA, APA, AOPA, NBAA, ZDC, POTOMAC APP CON, IAD ATCT, ARPT MGR

CHANGES:

1. ADDED PNA 7 NM CENTERED ON HAYGR WITH MINIMUM ALTITUDE 6000.
2. MODIFIED DP ROUTE DESCRIPTION TAKEOFF RWY 1C/1L/1R: CHANGED FROM "CLIMBING LEFT TURN DIRECT ZEHRN (OR ATC ASSIGNED HEADING), THEN ON TRACK 339.84/29.67 TO MCRAY" TO "ON HEADING 340.00 OR AS ASSIGNED BY ATC, EXPECT RADAR VECTORS TO HAYGR."
3. MODIFIED DP ROUTE DESCRIPTION TAKEOFF RWY 19C/19R/19L: CHANGED FROM "CLIMBING RIGHT TURN DIRECT DUDDDD (OR ATC ASSIGNED HEADING, THEN ON DEPICTED ROUTE TO MCRAY)" TO "RIGHT TURN HEADING 320.00 OR AS ASSIGNED BY ATC, EXPECT RADAR VECTORS TO HAYGR."
4. MODIFIED DP ROUTE DESCRIPTION TAKEOFF RWY 30: CHANGED FROM "DIRECT HEFLN (OR ATC ASSIGNED HEADING), THEN ON DEPICTED ROUTE TO MCRAY" TO "ON HEADING 320.00 OR AS ASSIGNED BY ATC, EXPECT RADAR VECTORS TO HAYGR."
5. CHANGED PORTION OF THENCE NOTE FROM "MAINTAIN 3000" TO "ON TRACK 346.64 TO MCRAY, MAINTAIN 3000 OR AS DIRECTED BY ATC."
6. REMOVED NOTE "AIRCRAFT MAY BE RADAR VECTORED TO ZEHRN, DUDDDD, JUANN, HEFLN, STRKY, OR MCRAY."
7. ADDED TO ADDITIONAL FLIGHT DATA: CHART MEA/MOCA FROM HAYGR TO MCRAY, 8000/2700.
8. REMOVED FIXES DUDDDD, JUANN, HEFLN, STRKY, AND ZEHRN.
9. REMOVED TAKEOFF MINIMUMS RWY 12 NA-ATC.

REASONS:

1. 2. 3. 4. ATC REQUEST TO VECTOR AIRCRAFT TO ENROUTE STRUCTURE.
5. PROVIDE AIRCRAFT TRACK FROM HAYGR TO MCRAY.
6. AIRCRAFT NOW VECTORED TO HAYGR.
7. IAW 8260.46E, APPENDIX E, 9(B).
8. NO LONGER REQUIRED.
9. CURRENT POLICY DOES NOT REQUIRE NA RUNWAYS TO BE LISTED.



DEPARTURE (DATA RECORD)

DP Name		Number	DP Computer Code		Superseded Number		Dated	Effective Date	
MCRAY		TWO	MCRAY2.MCRAY		ONE		13 NOV 14	15 OCT 2015	
FIX/NAVAID	LAT/LONG	C	FO/FB	LEG TYPE	TC	DIST (NM)	ALTITUDE	SPEED	REMARKS
RW01C (AER)	385620.64N/0772735.20W	N	-	-	-	-			
820 MSL	-	-	-	VA	000.65	-			CG 500 FT/NM TO 820
-	-	-	-	VM	330.00	-			LEFT TURN
HAYGR	392318.32N/0774637.08W	Y	FB	DF	-	-			
MCRAY	393217.69N/0775138.07W	Y	FB	TF	336.64	9.79			
RW01L (AER)	385641.88N/0772829.32W	N	-	-	-	-			
820 MSL	-	-	-	VA	000.65	-			CG 500 FT/NM TO 820
-	-	-	-	VM	330.00	-			LEFT TURN
HAYGR	392318.32N/0774637.08W	Y	FB	DF	-	-			
MCRAY	393217.69N/0775138.07W	Y	FB	TF	336.64	9.79			
RW01R (AER)	385525.53N/0772611.22W	N	-	-	-	-			
820 MSL	-	-	-	VA	000.67	-			CG 500 FT/NM TO 820
-	-	-	-	VM	330.00	-			LEFT TURN
HAYGR	392318.32N/0774637.08W	Y	FB	DF	-	-			
MCRAY	393217.69N/0775138.07W	Y	FB	TF	336.64	9.79			
RW19C (AER)	385814.31N/0772733.55W	N	-	-	-	-			
820 MSL	-	-	-	VA	180.65	-			CG 500 FT/NM TO 820
-	-	-	-	VM	310.00	-			RIGHT TURN
HAYGR	392318.32N/0774637.08W	Y	FB	DF	-	-			
MCRAY	393217.69N/0775138.07W	Y	FB	TF	336.64	9.79			
RW19L (AER)	385719.19N/0772609.53W	N	-	-	-	-			
820 MSL	-	-	-	VA	180.67	-			CG 500 FT/NM TO 820
-	-	-	-	VM	310.00	-			RIGHT TURN
HAYGR	392318.32N/0774637.08W	Y	FB	DF	-	-			
MCRAY	393217.69N/0775138.07W	Y	FB	TF	336.64	9.79			

QUALITY

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CHECKED



DEPARTURE (DATA RECORD)

DP Name	Number		DP Computer Code		Superseded Number		Dated	Effective Date	
MCRAY	TWO		MCRAY2.MCRA Y	ONE			13 NOV 14	15 OCT 2015	
FIX/NAVAID	LAT/LONG	C	FO/FB	LEG TYPE	TC	DIST (NM)	ALTITUDE	SPEED	REMARKS
RW19R (AER)	385814.78N/0772827.98W	N	-	-	-	-			
820 MSL	-	-	-	VA	180.65	-			CG 500 FT/NM TO 820
-	-	-	-	VM	310.00	-			RIGHT TURN
HAYGR	392318.32N/0774637.08W	Y	FB	DF	-	-			
MCRAY	393217.69N/0775138.07W	Y	FB	TF	336.64	9.79			
RW30 (AER)	385601.00N/0772721.23W	N	-	-	-	-			
820 MSL	-	-	-	VA	290.65	-			CG 500 FT/NM TO 820
-	-	-	-	VM	310.00	-			RIGHT TURN
HAYGR	392318.32N/0774637.08W	Y	FB	DF	-	-			
MCRAY	393217.69N/0775138.07W	Y	FB	TF	336.64	9.79			

