

DME DME Assessment Results for Q156_path UPUGE_KEKPE

Results Summary	
Flyability:	Completed
DME/DME:	Completed - No Critical DMEs
Name:	Derrick CTR Aubuchon
Project File:	C:\Users\Derrick CTR Aubuchon\OneDrive - Federal Aviation Administration\Desktop\DLA Working_20251002\TWLC\Q121&Q156\Q121-Q156.tgs
Output File:	C:\Users\Derrick CTR Aubuchon\OneDrive - Federal Aviation Administration\Desktop\DLA Working_20251002\TWLC\Q121&Q156\DMEDME\Q156_20251021_1728 EDT\UPUGE_KEKPE\Q156 RNAV ROUTE UPUGE KEKPE 20251021_1728 EDT.pdf
Procedure Name:	Q156_
Software: DmeDmePlugin:	7.5.1
Date/Time:	10/21/2025 17:28 EDT
Databases:	MITRE 3DEP 3 arcsec

Failures
No Failures

Warnings
No Warnings

Informational
No Informational

Notes For Flight Check
None

Flight Plan							
Name	Type	Lat/Lon	Altitude (ft)	VNAV Mode	Ground Speed (kts)	Turn Type	Leg Type
UPUGE	WP	N46° 38' 04.560000", W112° 10' 02.390000"	24000	VNAV	260	FLY_BY	TF
HEXOL	WP	N46° 36' 49.090000", W111° 09' 20.700000"	24000	VNAV	260	FLY_BY	TF
STORZ	WP	N46° 13' 58.390000", W105° 12' 52.300000"	24000	VNAV	260	FLY_BY	TF
JELRO	WP	N45° 48' 43.830000", W102° 51' 46.960000"	28000	VNAV	340	FLY_BY	TF
KEKPE	WP	N45° 17' 54.910000", W100° 16' 49.040000"	28000	VNAV	340	FLY_BY	TF

Flyability	
Flight Type:	RNAV_ROUTE
Selected Airport:	
Climb Gradient:	None assigned
Speeds:	200 Ground Speed to 11000 FT
	240 Ground Speed to 18000 FT
	260 Ground Speed to 24000 FT
	340 Ground Speed above 24000 FT
Descent During a Turn:	Allowed
VNAV Mode:	Flight Plan

DME DME Assessment Results for Q156_ path UPUGE_KEKPE

DME/DME	
RNP:	RNP 2
Flight Mode:	Manual
Line of Sight (DTED Level 0 Max):	Evaluated
Inertial Drift:	Enabled
Initial Drift:	0.558 NM
INS Drift Rate:	8.0 NM/Hour
Range Mode:	OSV
RNP Edges:	Evaluated
Min DME Range:	3.0 NM
DME Types:	DME, VOR-DME, VORTAC
DME Include Angles:	30 to 150
Critical DMEs:	Not Allowed
DoD Facilities:	Not included
Foreign Facilities:	Not included
High DMEs:	Included
Low DMEs:	Not included
Terminal DMEs:	Not included
Flight Check DMEs:	Not selected
Higher Altitudes:	Not Evaluated
Near Maximum Altitude:	Not Evaluated
Automatic ESVs:	Not enabled
Disabled DMEs:	None

DME DME Assessment Results for Q156_path UPUGE_KEKPE

DME/DME (Continued)										
DMEs Used										
#	Name	Lat/Lon	MAGVAR	Range	Type	Source	Critical	Status	Time	Distance
1	RAP	N43° 58' 33.738100", W103° 00' 44.381600"	13.0 E	130	H		NO	Enabled	23.1 %	26.1 %
2	LVM	N45° 42' 08.933700", W110° 26' 32.826300"	15.0 E	130	DH		NO	Enabled	24 %	22.7 %
3	HVR	N48° 32' 25.661800", W109° 46' 11.953200"	16.0 E	130	DH		NO	Enabled	14.7 %	13.9 %
4	DLN	N45° 14' 54.866100", W112° 32' 49.667300"	18.0 E	130	DH		NO	Enabled	10.7 %	10.1 %
5	DPR	N45° 04' 41.431000", W101° 42' 54.257000"	10.0 E	130	DH		NO	Enabled	31.9 %	35.6 %
6	HLN	N46° 36' 24.557000", W111° 57' 12.510600"	12.0 E	130	H		NO	Enabled	23.9 %	22.6 %
7	ABR	N45° 25' 02.484000", W098° 22' 07.390600"	7.0 E	130	DH		NO	Enabled	8.3 %	10.2 %
8	MLS	N46° 22' 56.015700", W105° 57' 12.721200"	9.0 E	130	DH		NO	Enabled	53.3 %	50.4 %
9	GDV	N47° 08' 00.140000", W104° 48' 17.060000"	0.0 E	130	DH		NO	Enabled	46.2 %	44.7 %
10	COD	N44° 37' 13.625500", W108° 57' 53.702100"	14.0 E	130	DH		NO	Enabled	23.8 %	22.6 %
11	PHP	N44° 03' 29.662500", W101° 39' 51.095600"	12.0 E	130	DH		NO	Enabled	18.6 %	22.9 %
12	SHR	N44° 50' 32.279900", W107° 03' 39.961000"	10.0 E	130	DH		NO	Enabled	37.3 %	35.3 %
13	HIA	N45° 51' 42.435400", W112° 10' 10.590700"	18.0 E	130	H		NO	Enabled	6.9 %	6.5 %
14	BIL	N45° 48' 30.813100", W108° 37' 28.731300"	14.0 E	130	H		NO	Enabled	49.7 %	47 %
15	GCC	N44° 20' 51.982500", W105° 32' 36.549200"	9.0 E	130	H		NO	Enabled	25.9 %	24.5 %
16	HON	N44° 26' 24.300000", W098° 18' 39.905100"	0.0 E	130	DH		NO	Enabled	5.1 %	6.3 %
17	DIK	N46° 51' 36.139900", W102° 46' 24.599400"	14.0 E	130	H		NO	Enabled	42 %	44.5 %
18	LWT	N47° 03' 10.692300", W109° 36' 22.205300"	15.0 E	130	DH		NO	Enabled	42.1 %	39.8 %
19	BIS	N46° 45' 42.340300", W100° 39' 55.465600"	12.0 E	130	DH		NO	Enabled	23.8 %	27.9 %
20	CTB	N48° 33' 53.814700", W112° 20' 35.715800"	17.0 E	130	DH		NO	Enabled	8.6 %	8.2 %
21	WYS	N44° 40' 32.770000", W111° 07' 41.410000"	0.0 E	130	DH		NO	Enabled	8.9 %	8.4 %
22	LKT	N45° 01' 16.722000", W114° 05' 03.252000"	13.0 E	130	DH		NO	Enabled	0.4 %	0.4 %
23	GGW	N48° 12' 55.095700", W106° 37' 31.509000"	14.0 E	130	DH		NO	Enabled	25.4 %	24 %
24	BZN	N45° 47' 02.036100", W111° 09' 19.637600"	18.0 E	130	DH		NO	Enabled	8.7 %	8.3 %
25	GTF	N47° 26' 59.928300", W111° 24' 43.793100"	16.0 E	130	H		NO	Enabled	30.9 %	29.3 %

DME DME Assessment Results for Q156_path UPUGE_KEKPE

Flight Check DME Selection						
Distance [NM]	Selected DMEs					Alternate
0.0	HLN	HIA	BZN	GTF	DLN	LVM
6.3	BZN	GTF	LVM	LWT	HIA	DLN
32.8	HLN	GTF	BZN	LWT	LVM	DLN
41.8	LVM	LWT	HLN	GTF	DLN	BIL
50.2	LVM	LWT	GTF	HLN	HVR	BIL
71.2	LWT	GTF	BIL	HLN	WYS	HVR
94.0	BIL	LWT	GTF	HLN	HVR	COD
108.3	HLN	LWT	GTF	COD	BIL	
108.9	HVR	HLN	COD	BIL	GTF	
109.1	HLN	COD	BIL	GTF		
119.3	COD	GTF				
119.8	COD	GTF	HVR			
122.7	COD	GTF				
123.2	COD	GTF	HVR			
123.4	COD	GTF				
126.0	COD	GTF	HVR			
127.1	COD	GTF	HVR	BIL		
127.7	MLS	BIL	COD	HVR	GTF	
133.0	MLS	BIL	COD	GTF		
134.1	MLS	BIL	COD	GTF	SHR	
147.6	MLS	BIL	LWT	COD	SHR	
199.1	MLS	SHR	BIL	GGW	LWT	GDV
229.7	MLS	SHR	GGW	BIL	GDV	
255.1	BIL	GGW	GCC	GDV	SHR	
273.0	MLS	GDV	SHR	GCC	DIK	GGW
278.4	MLS	GDV	SHR	GCC	DIK	
312.3	MLS	GDV	DIK	GCC		
323.6	MLS	GDV	DIK	GCC	DPR	
358.8	DPR	DIK	GDV	MLS	RAP	
387.8	DPR	DIK	BIS	GDV	PHP	RAP
408.5	DPR	BIS	DIK	PHP	RAP	
441.4	DIK	BIS	RAP	PHP		
442.7	DIK	BIS	RAP	DPR	PHP	
443.6	DIK	BIS	RAP	DPR		
444.7	DIK	BIS	RAP	DPR	PHP	
479.3	ABR	BIS	DPR	DIK	PHP	HON
490.8	DPR	BIS	ABR	PHP	HON	

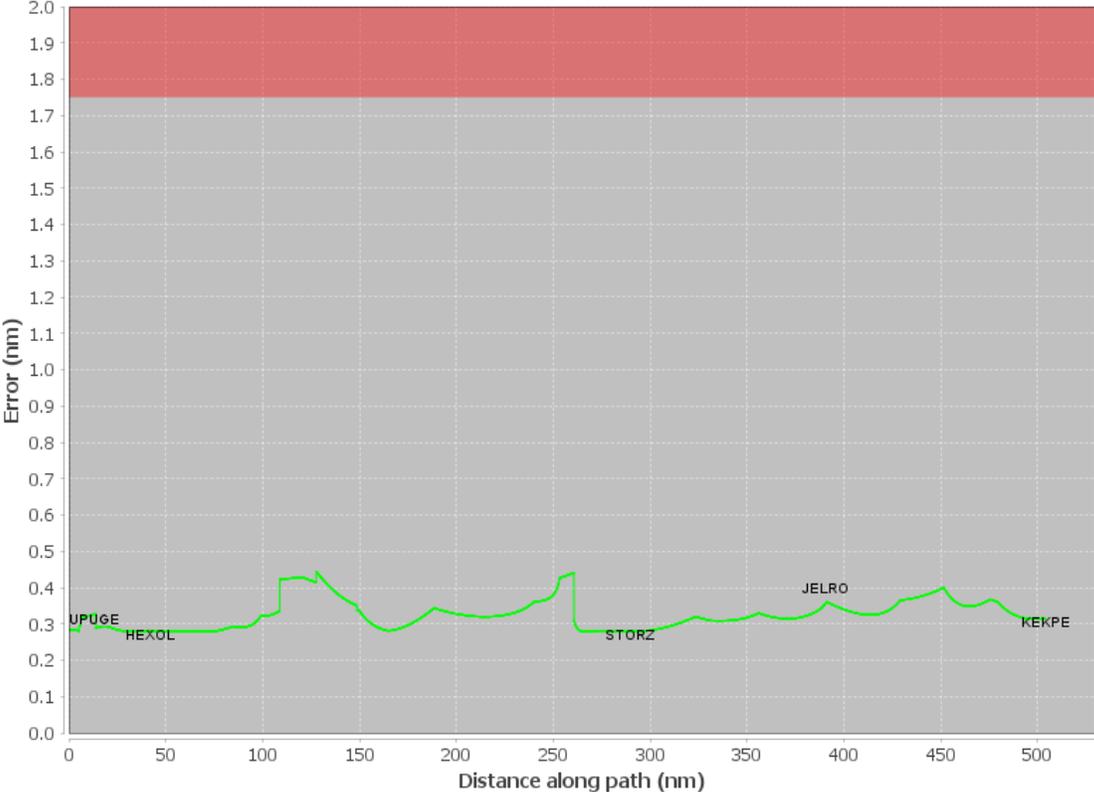
Inertial Drift Segments			
#	Start Location	End Location	Length [NM]

Available DMEs by Waypoints			
Waypoint Before	Waypoint After	DME List	Suggested DMEs
UPUGE	HEXOL	CTB, HIA, LVM, LKT, BIL, DLN, BZN, LWT, GTF, HLN	
HEXOL	STORZ	LVM, BIL, HVR, GCC, DLN, DIK, LWT, HLN, WYS, MLS, GGW, GTF, GDV, COD, SHR	
STORZ	JELRO	RAP, MLS, GCC, DIK, DPR, GDV, PHP, SHR, BIS	
JELRO	KEKPE	RAP, ABR, HON, DPR, DIK, GDV, PHP, BIS	

DME DME Assessment Results for Q156_path UPUGE_KEKPE

User Data Files								
#	File Name							
None								
User DMEs								
#	Name	Lat/Lon	MAGVAR	Range	Elevation [ft]	Frequency	Replaces	Status
None								

DME Error



DME DME Assessment Results for Q156_path KEKPE_UPUGE

Results Summary	
Flyability:	Completed
DME/DME:	Completed - No Critical DMEs
Name:	Derrick CTR Aubuchon
Project File:	C:\Users\Derrick CTR Aubuchon\OneDrive - Federal Aviation Administration\Desktop\DLA Working_20251002\TWLC\Q121&Q156\Q121-Q156.tgs
Output File:	C:\Users\Derrick CTR Aubuchon\OneDrive - Federal Aviation Administration\Desktop\DLA Working_20251002\TWLC\Q121&Q156\DMEDME\Q156_20251021_1728 EDT\KEKPE_UPUGE\Q156 RNAV ROUTE KEKPE UPUGE 20251021_1728 EDT.pdf
Procedure Name:	Q156_
Software: DmeDmePlugin:	7.5.1
Date/Time:	10/21/2025 17:28 EDT
Databases:	MITRE 3DEP 3 arcsec

Failures
No Failures

Warnings
No Warnings

Informational
No Informational

Notes For Flight Check
None

Flight Plan							
Name	Type	Lat/Lon	Altitude (ft)	VNAV Mode	Ground Speed (kts)	Turn Type	Leg Type
KEKPE	WP	N45° 17' 54.910000", W100° 16' 49.040000"	28000	VNAV	340	FLY_BY	TF
JELRO	WP	N45° 48' 43.830000", W102° 51' 46.960000"	28000	VNAV	340	FLY_BY	TF
STORZ	WP	N46° 13' 58.390000", W105° 12' 52.300000"	24000	VNAV	260	FLY_BY	TF
HEXOL	WP	N46° 36' 49.090000", W111° 09' 20.700000"	24000	VNAV	260	FLY_BY	TF
UPUGE	WP	N46° 38' 04.560000", W112° 10' 02.390000"	24000	VNAV	260	FLY_BY	TF

Flyability	
Flight Type:	RNAV_ROUTE
Selected Airport:	
Climb Gradient:	None assigned
Speeds:	200 Ground Speed to 11000 FT
	240 Ground Speed to 18000 FT
	260 Ground Speed to 24000 FT
	340 Ground Speed above 24000 FT
Descent During a Turn:	Allowed
VNAV Mode:	Flight Plan

DME DME Assessment Results for Q156_ path KEKPE_UPUGE

DME/DME	
RNP:	RNP 2
Flight Mode:	Manual
Line of Sight (DTED Level 0 Max):	Evaluated
Inertial Drift:	Enabled
Initial Drift:	0.558 NM
INS Drift Rate:	8.0 NM/Hour
Range Mode:	OSV
RNP Edges:	Evaluated
Min DME Range:	3.0 NM
DME Types:	DME, VOR-DME, VORTAC
DME Include Angles:	30 to 150
Critical DMEs:	Not Allowed
DoD Facilities:	Not included
Foreign Facilities:	Not included
High DMEs:	Included
Low DMEs:	Not included
Terminal DMEs:	Not included
Flight Check DMEs:	Not selected
Higher Altitudes:	Not Evaluated
Near Maximum Altitude:	Not Evaluated
Automatic ESVs:	Not enabled
Disabled DMEs:	None

DME DME Assessment Results for Q156_path KEKPE_UPUGE

DME/DME (Continued)										
DMEs Used										
#	Name	Lat/Lon	MAGVAR	Range	Type	Source	Critical	Status	Time	Distance
1	RAP	N43° 58' 33.738100", W103° 00' 44.381600"	13.0 E	130	H		NO	Enabled	22.2 %	26.1 %
2	LVM	N45° 42' 08.933700", W110° 26' 32.826300"	15.0 E	130	DH		NO	Enabled	25.2 %	22.7 %
3	HVR	N48° 32' 25.661800", W109° 46' 11.953200"	16.0 E	130	DH		NO	Enabled	15.4 %	13.9 %
4	DPR	N45° 04' 41.431000", W101° 42' 54.257000"	10.0 E	130	DH		NO	Enabled	30.2 %	35.6 %
5	DLN	N45° 14' 54.866100", W112° 32' 49.667300"	18.0 E	130	DH		NO	Enabled	11.2 %	10.1 %
6	HLN	N46° 36' 24.557000", W111° 57' 12.510600"	12.0 E	130	H		NO	Enabled	25.1 %	22.6 %
7	ABR	N45° 25' 02.484000", W098° 22' 07.390600"	7.0 E	130	DH		NO	Enabled	8.7 %	10.2 %
8	MLS	N46° 22' 56.015700", W105° 57' 12.721200"	9.0 E	130	DH		NO	Enabled	51 %	50.5 %
9	GDV	N47° 08' 00.140000", W104° 48' 17.060000"	0.0 E	130	DH		NO	Enabled	43.5 %	44.7 %
10	PHP	N44° 03' 29.662500", W101° 39' 51.095600"	12.0 E	130	DH		NO	Enabled	19.5 %	22.9 %
11	COD	N44° 37' 13.625500", W108° 57' 53.702100"	14.0 E	130	DH		NO	Enabled	25.1 %	22.6 %
12	SHR	N44° 50' 32.279900", W107° 03' 39.961000"	10.0 E	130	DH		NO	Enabled	38.1 %	35.3 %
13	HIA	N45° 51' 42.435400", W112° 10' 10.590700"	18.0 E	130	H		NO	Enabled	7.2 %	6.5 %
14	BIL	N45° 48' 30.813100", W108° 37' 28.731300"	14.0 E	130	H		NO	Enabled	52.2 %	47 %
15	HON	N44° 26' 24.300000", W098° 18' 39.905100"	0.0 E	130	DH		NO	Enabled	5.3 %	6.3 %
16	GCC	N44° 20' 51.982500", W105° 32' 36.549200"	9.0 E	130	H		NO	Enabled	23.6 %	24.5 %
17	DIK	N46° 51' 36.139900", W102° 46' 24.599400"	14.0 E	130	H		NO	Enabled	39.1 %	44.5 %
18	LWT	N47° 03' 10.692300", W109° 36' 22.205300"	15.0 E	130	DH		NO	Enabled	44.3 %	39.8 %
19	BIS	N46° 45' 42.340300", W100° 39' 55.465600"	12.0 E	130	DH		NO	Enabled	23.7 %	27.9 %
20	WYS	N44° 40' 32.770000", W111° 07' 41.410000"	0.0 E	130	DH		NO	Enabled	9.4 %	8.4 %
21	CTB	N48° 33' 53.814700", W112° 20' 35.715800"	17.0 E	130	DH		NO	Enabled	9.1 %	8.2 %
22	LKT	N45° 01' 16.722000", W114° 05' 03.252000"	13.0 E	130	DH		NO	Enabled	0.4 %	0.4 %
23	GGW	N48° 12' 55.095700", W106° 37' 31.509000"	14.0 E	130	DH		NO	Enabled	26.7 %	24 %
24	BZN	N45° 47' 02.036100", W111° 09' 19.637600"	18.0 E	130	DH		NO	Enabled	9.2 %	8.3 %
25	GTF	N47° 26' 59.928300", W111° 24' 43.793100"	16.0 E	130	H		NO	Enabled	32.5 %	29.3 %

DME DME Assessment Results for Q156_path KEKPE_UPUGE

Flight Check DME Selection						
Distance [NM]	Selected DMEs					Alternate
0.0	DPR	BIS	ABR	PHP	HON	
31.7	DPR	DIK	ABR	BIS	PHP	RAP
51.7	DPR	DIK	BIS	RAP	PHP	
59.6	DIK	BIS	RAP	DPR		
60.6	DIK	BIS	RAP	DPR	PHP	
61.5	DIK	BIS	RAP	PHP		
62.8	DIK	BIS	RAP	DPR	PHP	
116.8	DPR	DIK	BIS	MLS	GDV	RAP
140.7	DPR	DIK	GDV	MLS	RAP	
156.6	GDV	DIK	DPR	MLS	GCC	
180.7	MLS	GDV	DIK	GCC		
191.9	MLS	GDV	DIK	GCC	SHR	
238.0	MLS	GDV	SHR	BIL	GCC	GGW
243.5	BIL	GGW	GCC	GDV	SHR	
268.8	MLS	SHR	GGW	BIL	GDV	
321.0	BIL	LWT	MLS	SHR	GGW	COD
347.0	BIL	LWT	MLS	LVM	COD	SHR
355.5	BIL	LWT	MLS	COD	SHR	
366.7	MLS	BIL	COD	GTF	SHR	
370.1	MLS	BIL	COD	GTF		
371.1	MLS	BIL	COD	GTF	HVR	
376.5	COD	GTF	HVR	BIL		
377.1	COD	GTF	HVR			
378.1	COD	GTF				
380.8	COD	GTF	HVR			
381.0	COD	GTF				
381.5	COD	GTF	HVR			
384.4	COD	GTF				
384.9	HLN	COD	BIL	GTF		
395.1	HVR	HLN	COD	BIL	GTF	
395.5	HLN	LWT	GTF	COD	BIL	
418.9	BIL	LWT	GTF	HLN	HVR	WYS
452.9	LWT	GTF	LVM	HLN	DLN	BIL
453.5	LVM	LWT	GTF	HLN	HVR	BIL
455.8	LVM	LWT	GTF	HLN	DLN	BIL
476.2	HLN	GTF	BZN	LVM	HIA	LWT
492.6	LVM	GTF	LWT	BZN	HIA	DLN

Inertial Drift Segments			
#	Start Location	End Location	Length [NM]

Available DMEs by Waypoints			
Waypoint Before	Waypoint After	DME List	Suggested DMEs
KEKPE	JELRO	RAP, ABR, HON, DPR, DIK, GDV, PHP, BIS	
JELRO	STORZ	RAP, MLS, GCC, DPR, DIK, GDV, PHP, SHR, BIS	
STORZ	HEXOL	LVM, BIL, HVR, GCC, DIK, DLN, LWT, HLN, WYS, MLS, GGW, GDV, GTF, COD, SHR	
HEXOL	UPUGE	CTB, HIA, LVM, BIL, LKT, DLN, BZN, LWT, GTF, HLN	

DME DME Assessment Results for Q156_path KEKPE_UPUGE

User Data Files

#	File Name
None	

User DMEs

#	Name	Lat/Lon	MAGVAR	Range	Elevation [ft]	Frequency	Replaces	Status
None								

DME DME Assessment Results for Q156_path KEKPE_UPUGE

DME Error

