

## DME DME Assessment Results for PANGG5 path FWA\_TACTT

### Results Summary

Flyability:	Completed
DME/DME:	Completed - No Critical DMEs
Name:	Joshua G-CTR Brechbi
Project File:	C:\Users\Joshua G-CTR Brechbi\OneDrive - Federal Aviation Administration\02 - DME Assessments\KMDW\PANGG\KMDW STAR PANGG FIVE DME 20230421.tgs
Output File:	C:\Users\Joshua G-CTR Brechbi\OneDrive - Federal Aviation Administration\02 - DME Assessments\KMDW\PANGG\KMDW [IFPA] PANGG5 20230424_0732 CDT\FWA_TACTT\KMDW PANGG5 RNAV STAR FWA TACTT 20230424_0732 CDT.pdf
Procedure Name:	PANGG5
Software: DmeDmePlugin:	7.1.0
Date/Time:	04/24/2023 07:32 CDT
Databases:	DTED Level 0 Max

### 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
FWA	WP	N40° 58' 44.6315", W085° 11' 17.0092"	3400	VNAV	200	FLY_BY	TF
BAGEL	WP	N41° 30' 57.5100", W085° 36' 49.2800"	3400	VNAV	200	FLY_BY	TF
PANGG	WP	N41° 31' 30.0300", W086° 04' 20.3900"	3400	VNAV	200	FLY_BY	TF
MEGGZ	WP	N41° 31' 24.2800", W086° 23' 44.6500"	3400	VNAV	200	FLY_BY	TF
AWSUM	WP	N41° 31' 19.7400", W086° 34' 23.3500"	3400	VNAV	200	FLY_BY	TF
IROCK	WP	N41° 31' 08.7300", W086° 54' 18.7100"	3400	VNAV	200	FLY_BY	TF
HALIE	WP	N41° 30' 57.8500", W087° 09' 31.9500"	3400	VNAV	200	FLY_BY	TF
GERMN	WP	N41° 42' 06.6000", W087° 15' 06.5800"	3400	VNAV	200	FLY_BY	TF
LNANE	WP	N41° 45' 18.3800", W087° 16' 42.9200"	3400	VNAV	200	FLY_BY	TF
BOCAH	WP	N41° 51' 00.7800", W087° 20' 15.4900"	3000	VNAV	200	FLY_BY	TF
TACTT	WP	N41° 51' 00.8200", W087° 26' 16.7700"	3000	VNAV	200	FLY_BY	TF

## DME DME Assessment Results for PANGG5 path FWA\_TACTT

Flyability	
Flight Type:	RNAV_STAR
Selected Airport:	KMDW [IFPA]
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	
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:	Allowed
DoD Facilities:	Not included
Foreign Facilities:	Not included
High DMEs:	Included
Low DMEs:	Included
Terminal DMEs:	Included
Flight Check DMEs:	Not selected
Higher Altitudes:	Not Evaluated
Near Maximum Altitude:	Not Evaluated
Automatic ESVs:	Not enabled
Disabled DMEs:	LFD

# DME DME Assessment Results for PANGG5 path FWA\_TACTT

DME/DME (Continued)										
DMEs Used										
#	Name	Lat/Lon	MAGVAR	Range	Type	Source	Critical	Status	Time	Distance
1	OBK	N42° 13' 16.9555", W087° 57' 06.0134"	2.0 W	130	DH	IFPA	NO	Enabled	17.3 %	17.3 %
2	OKK	N40° 31' 40.0078", W086° 03' 28.7950"	5.0 W	130	H	IFPA	NO	Enabled	14.5 %	14.5 %
3	GSH	N41° 31' 30.5586", W086° 01' 40.6316"	0.0 E	130	H	IFPA	NO	Enabled	46.6 %	46.6 %
4	MZZ	N40° 29' 35.9904", W085° 40' 45.3000"	3.0 W	40	L	IFPA	NO	Enabled	14.5 %	14.6 %
5	GIJ	N41° 46' 07.0005", W086° 19' 06.4268"	0.0 E	130	H	IFPA	NO	Enabled	42.8 %	42.8 %
6	CGT	N41° 30' 36.0237", W087° 34' 17.5660"	2.0 E	40	L	IFPA	NO	Enabled	18.6 %	18.6 %
7	ELX	N42° 08' 39.8845", W086° 07' 21.7408"	0.0 E	40	L	IFPA	NO	Enabled	0.4 %	0.4 %
8	MIE	N40° 14' 14.2533", W085° 23' 38.5315"	3.0 W	40	L	IFPA	NO	Enabled	4.4 %	4.4 %
9	EON	N41° 16' 10.6765", W087° 47' 27.7925"	2.0 E	40	L	IFPA	NO	Enabled	15.6 %	15.6 %
10	GCO	N41° 59' 38.7200", W087° 54' 08.3800"	0.0 E	40	L	IFPA	NO	Enabled	14.1 %	14.1 %
11	FWA	N40° 58' 44.6315", W085° 11' 17.0092"	6.0 W	130	H	IFPA	NO	Enabled	19.2 %	19.2 %
12	OXI	N41° 19' 19.4116", W086° 38' 57.4387"	0.0 E	130	H	IFPA	NO	Enabled	52.6 %	52.6 %
13	LFD	N42° 03' 44.9620", W084° 45' 54.4770"	5.0 W	40	L	IFPA	NO	Disabled		

Flight Check DME Selection						
Distance [NM]	Selected DMEs					Alternate
0.0	OKK	GSH	MIE			
3.1	OKK	FWA	GSH	MIE		
3.8	GSH	MZZ	OKK	FWA	MIE	
5.9	MZZ	GSH	OKK	FWA		
19.4	MZZ	GSH	FWA			
23.3						
32.1	GSH	FWA				
37.6						
47.6	GIJ	OXI				
59.3	GSH	ELX	GIJ	OXI		
59.8	GIJ	OXI				
63.1	GIJ	OXI	GSH			
71.1	GSH	GIJ				
75.4	GSH	GIJ	OXI			
85.9	CGT	OXI	GSH	GIJ		
95.0	GIJ	OXI	GSH			
96.1	GIJ	OXI				
100.3	GIJ	OXI	EON			
104.7	EON	OXI				
109.7	EON	OXI	CGT			
110.3	EON	OBK	OXI	CGT		
112.4	EON	OBK	OXI			
114.5	EON	OBK	OXI	GCO		
120.1	EON	OXI	OBK	CGT	GCO	
121.2	CGT	OBK	OXI	GCO		
122.1	CGT	OBK	GCO			

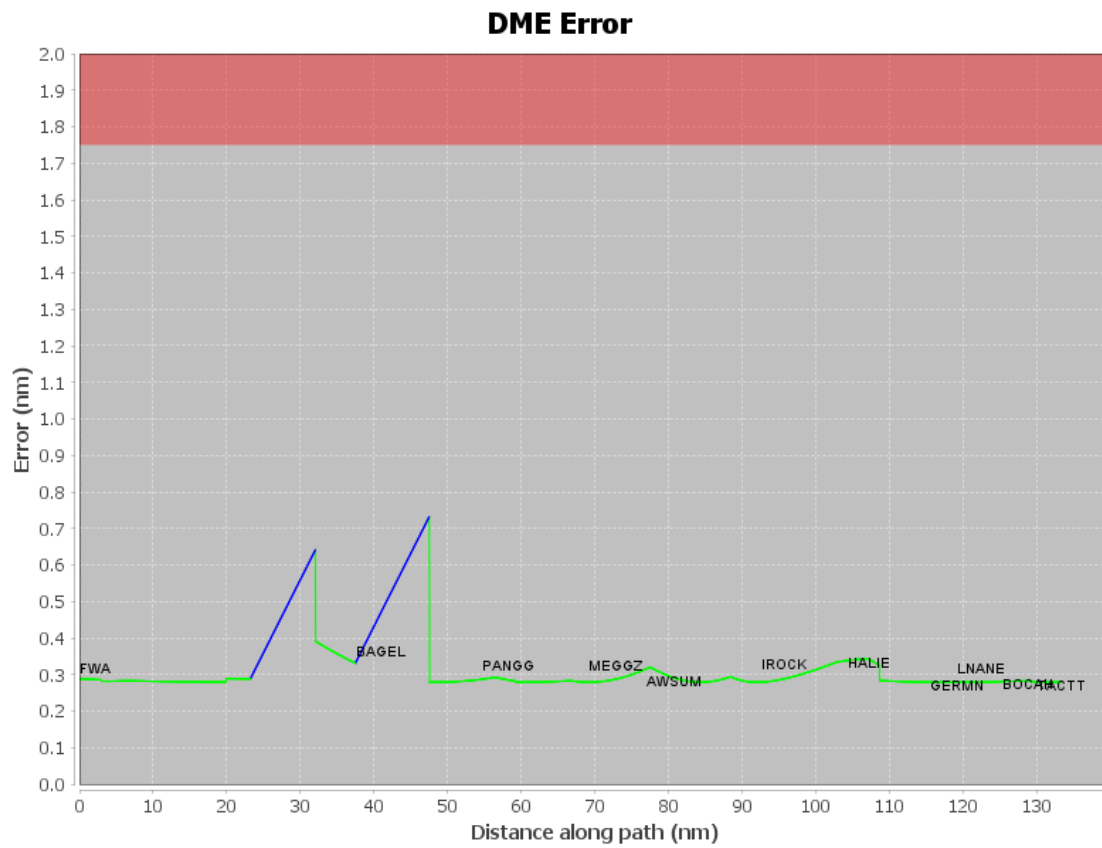
# DME DME Assessment Results for PANGG5 path FWA\_TACTT

Inertial Drift Segments			
#	Start Location	End Location	Length [NM]
1	N41° 18' 43.3626", W085° 27' 03.7855"	N41° 26' 17.6635", W085° 33' 05.5853"	8.8249
2	N41° 30' 57.5100", W085° 36' 49.2800"	N41° 31' 14.1128", W085° 50' 10.4315"	10.0341

Available DMEs by Waypoints			
Waypoint Before	Waypoint After	DME List	Suggested DMEs
FWA	BAGEL	FWA, MIE, MZZ, GSH, OKK	
BAGEL	PANGG	OXI, GIJ	
PANGG	MEGGZ	ELX, OXI, GIJ, GSH	
MEGGZ	AWSUM	OXI, GIJ, GSH	
AWSUM	IROCK	OXI, CGT, GIJ, GSH	
IROCK	HALIE	OXI, EON, GIJ, GSH	
HALIE	GERMN	OXI, CGT, GCO, EON, OBK	
GERMN	LNANE	OXI, CGT, GCO, EON, OBK	
LNANE	BOCAH	CGT, GCO, OBK	
BOCAH	TACTT	CGT, GCO, OBK	

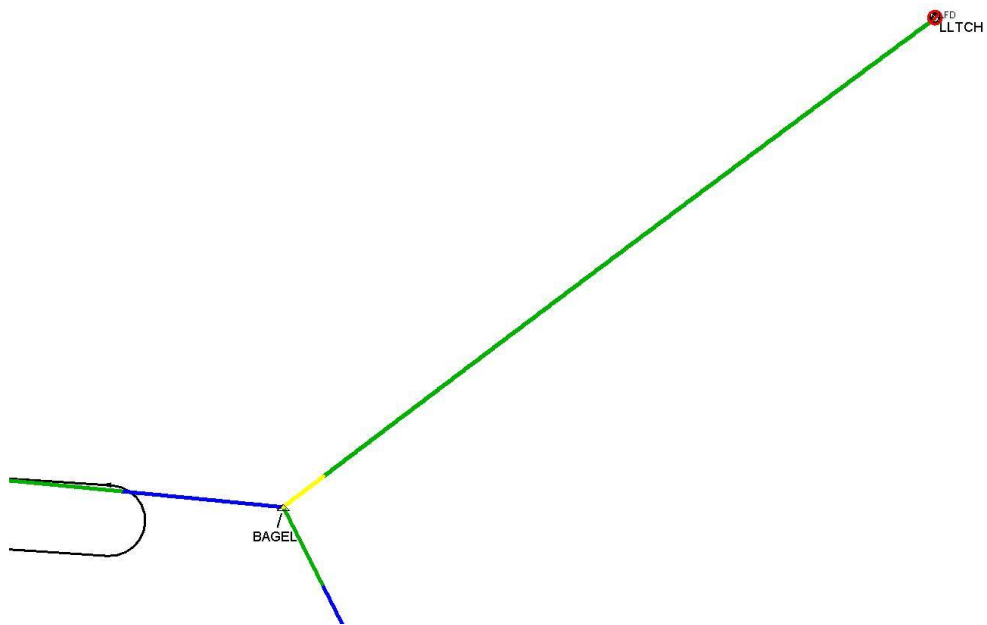
User Data Files								
#	File Name							
1	UserDMEsKMDW [IFPA] PANGG4 RNAV STAR_20220823_1052 CDT.udt							
User DMEs								
#	Name	Lat/Lon	MAGVAR	Range	Elevation [ft]	Frequency	Replaces	Status
1	MIE FAA 830745 - 030 MIE [IFPA]	N40° 14' 14.2533", W085° 23' 38.5315"	3.0 W	40	934.3	114.4	MIE FAA 830745 - 030	
ESV:		Bearing [True]: 4.0° to 17.0° Bearing [Mag]: 7.0° to 20.0°				Arc Distance: Out to 51.0 NM Altitude: 3300.0 to 16000.0 ft		
2	MZZ FAA 831294-8 MZZ [IFPA]	N40° 29' 35.9904", W085° 40' 45.3000"	3.0 W	40	853.5	108.6	MZZ FAA 831294-8	
ESV:		Bearing [True]: 5.0° to 32.0° Bearing [Mag]: 8.0° to 35.0°				Arc Distance: Out to 53.0 NM Altitude: 3400.0 to 15000.0 ft		
3	VIO FAA 970430 - 016 VIO [IFPA]	N42° 47' 12.1822", W085° 29' 49.4620"	4.0 W	130	802	115.95	VIO FAA 970430 - 016	
ESV:		Bearing [True]: 141.0° to 154.0° Bearing [Mag]: 145.0° to 158.0°				Arc Distance: Out to 60.0 NM Altitude: 3300.0 to 16000.0 ft		
4	OKK FAA 961442-27 OKK [IFPA]	N40° 31' 40.0078", W086° 03' 28.7950"	5.0 W	130	825.8	113.5	OKK FAA 961442-27	
ESV:		Bearing [True]: 32.0° to 57.0° Bearing [Mag]: 37.0° to 62.0°				Arc Distance: Out to 53.0 NM Altitude: 3300.0 to 16000.0 ft		
5	GSH FAA 793617-17 GSH [IFPA]	N41° 31' 30.5586", W086° 01' 40.6316"	0.0 E	130	851.8	113.7	GSH FAA 793617-17	
ESV:		Bearing [True]: 119.0° to 136.0° Bearing [Mag]: 119.0° to 136.0°				Arc Distance: Out to 52.0 NM Altitude: 3300.0 to 16000.0 ft		
6	ELX FAA 830645-5 ELX [IFPA]	N42° 08' 39.8845", W086° 07' 21.7408"	0.0 E	40	793.7	116.6	ELX FAA 830645-5	
ESV:		Bearing [True]: 100.0° to 150.0° Bearing [Mag]: 100.0° to 150.0°				Arc Distance: Out to 53.0 NM Altitude: 3400.0 to 20000.0 ft		
7	AZO FAA 830743 - 006 AZO [IFPA]	N42° 14' 13.1493", W085° 33' 11.3463"	0.0 E	40	868.8	null	AZO FAA 830743 - 006	
ESV:		Bearing [True]: 101.0° to 111.0° Bearing [Mag]: 101.0° to 111.0°				Arc Distance: Out to 41.0 NM Altitude: 3300.0 to 16000.0 ft		

# DME DME Assessment Results for PANGG5 path FWA\_TACTT



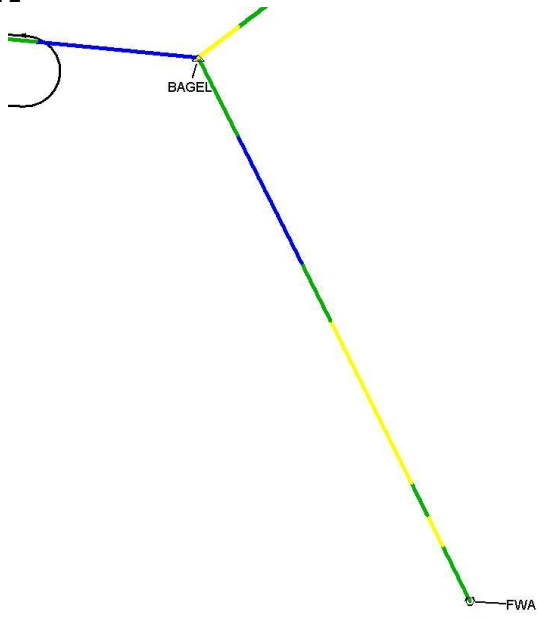
# DME DME Assessment Results for PANGG5 path FWA\_TACTT

Graphic Depiction 1



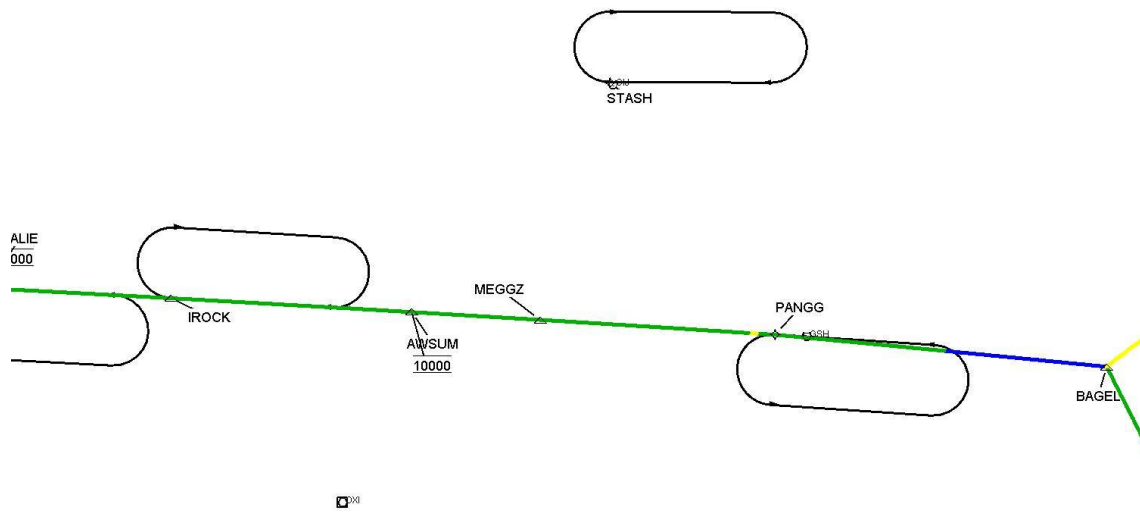
## DME DME Assessment Results for PANGG5 path FWA\_TACTT

Graphic Depiction 2



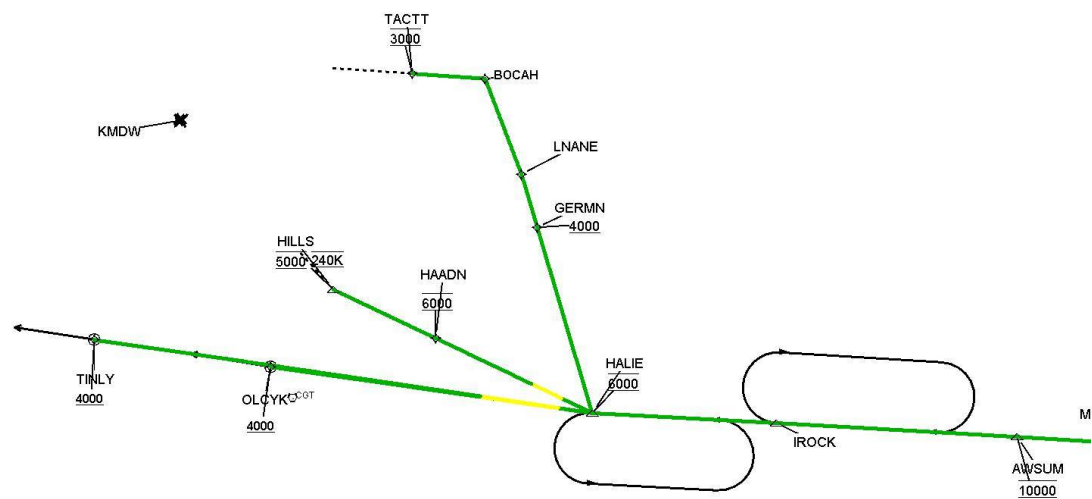
# DME DME Assessment Results for PANGG5 path FWA\_TACTT

Graphic Depiction 3





DME DME Assessment Results for PANGG5 path FWA\_TACTT



## DME DME Assessment Results for PANGG5 path HALIE\_HILLS

### Results Summary

Flyability:	Completed
DME/DME:	Completed - No Critical DMEs
Name:	Joshua G-CTR Brechbi
Project File:	C:\Users\Joshua G-CTR Brechbi\OneDrive - Federal Aviation Administration\02 - DME Assessments\KMDW\PANGG\KMDW STAR PANGG FIVE DME 20230421.tgs
Output File:	C:\Users\Joshua G-CTR Brechbi\OneDrive - Federal Aviation Administration\02 - DME Assessments\KMDW\PANGG\KMDW [IFPA] PANGG5 20230424_0732 CDT\HALIE_HILLS\KMDW PANGG5 RNAV STAR HALIE HILLS 20230424_0732 CDT.pdf
Procedure Name:	PANGG5
Software: DmeDmePlugin:	7.1.0
Date/Time:	04/24/2023 07:32 CDT
Databases:	DTED Level 0 Max

### 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
HALIE	WP	N41° 30' 57.8500", W087° 09' 31.9500"	3400	VNAV	200	FLY_BY	TF
HAADN	WP	N41° 34' 53.0300", W087° 22' 52.4600"	3400	VNAV	240	FLY_BY	TF
HILLS	WP	N41° 37' 25.4000", W087° 31' 34.1800"	3400	VNAV	240	FLY_BY	TF

### Flyability

Flight Type:	RNAV_STAR
Selected Airport:	KMDW [IFPA]
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 PANGG5 path HALIE\_HILLS

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:	Allowed
DoD Facilities:	Not included
Foreign Facilities:	Not included
High DMEs:	Included
Low DMEs:	Included
Terminal DMEs:	Included
Flight Check DMEs:	Not selected
Higher Altitudes:	Not Evaluated
Near Maximum Altitude:	Not Evaluated
Automatic ESVs:	Not enabled
Disabled DMEs:	LFD

DME/DME (Continued)										
DMEs Used										
#	Name	Lat/Lon	MAGVAR	Range	Type	Source	Critical	Status	Time	Distance
1	OBK	N42° 13' 16.9555", W087° 57' 06.0134"	2.0 W	130	DH	IFPA	NO	Enabled	87.5 %	88.4 %
2	JOT	N41° 32' 47.1067", W088° 19' 06.2780"	2.0 E	130	H	IFPA	NO	Enabled	12.5 %	13.9 %
3	IKK	N41° 04' 27.7626", W087° 51' 00.5883"	0.0 E	40	L	IFPA	NO	Enabled	12.5 %	11.6 %
4	CGT	N41° 30' 36.0237", W087° 34' 17.5660"	2.0 E	40	L	IFPA	NO	Enabled	87.5 %	88.4 %
5	EON	N41° 16' 10.6765", W087° 47' 27.7925"	2.0 E	40	L	IFPA	NO	Enabled	100 %	100 %
6	GCO	N41° 59' 38.7200", W087° 54' 08.3800"	0.0 E	40	L	IFPA	NO	Enabled	62.9 %	65.7 %
7	OXI	N41° 19' 19.4116", W086° 38' 57.4387"	0.0 E	130	H	IFPA	NO	Enabled	80.4 %	78.2 %
8	LFD	N42° 03' 44.9620", W084° 45' 54.4770"	5.0 W	40	L	IFPA	NO	Disabled		

Flight Check DME Selection						
Distance [NM]	Selected DMEs					Alternate
0.0	EON	OXI				
2.1	IKK	OBK	EON	OXI	CGT	
4.2	EON	OBK	OXI	CGT		
6.1	EON	OBK	GCO	CGT	OXI	
14.0	CGT	GCO	EON	OBK		
15.3	CGT	GCO	EON	OBK	JOT	

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

Available DMEs by Waypoints			
Waypoint Before	Waypoint After	DME List	Suggested DMEs
HALIE	HAADN	OXI, CGT, GCO, EON, IKK, OBK	
HAADN	HILLS	OXI, CGT, GCO, EON, OBK, JOT	

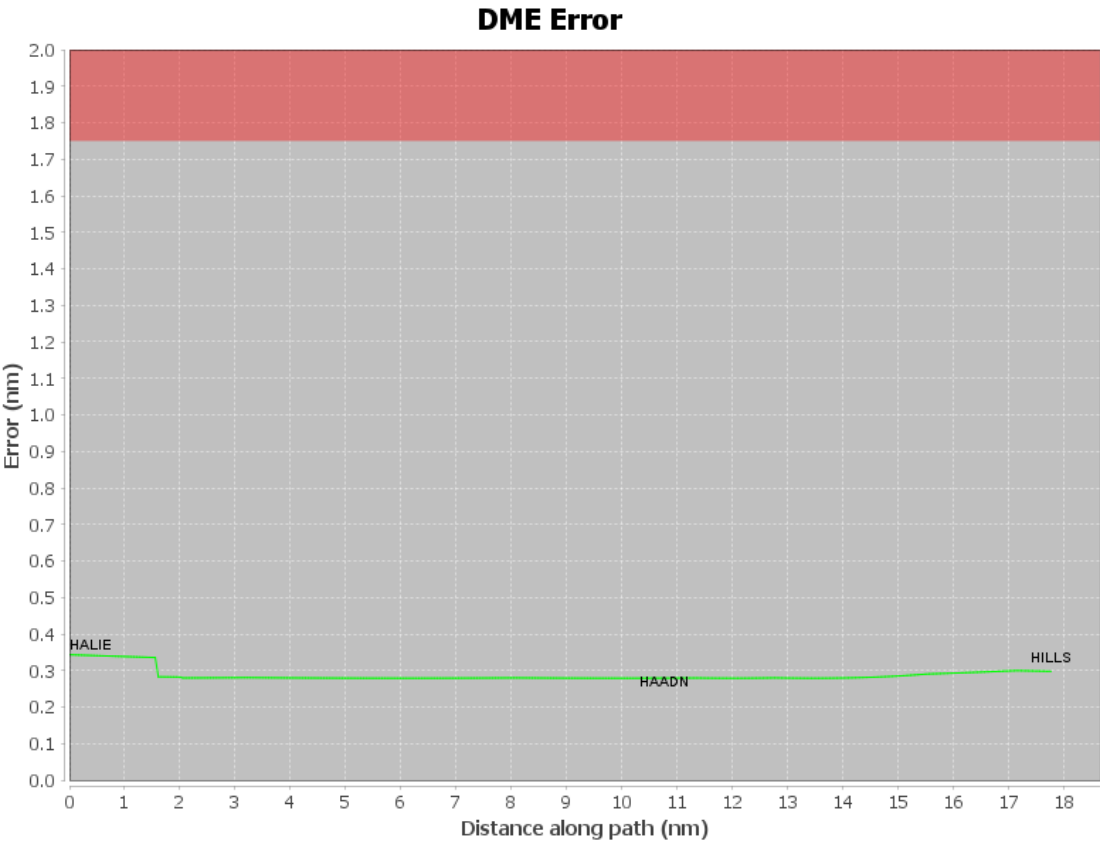
# DME DME Assessment Results for PANGG5 path HALIE\_HILLS

## User Data Files

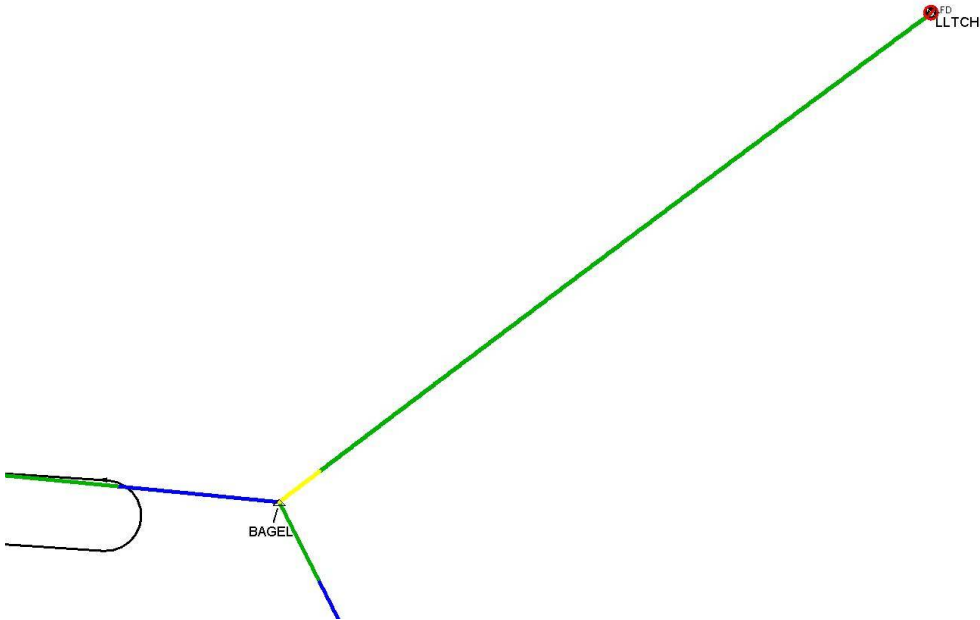
#	File Name
1	UserDMesKMDW [IFPA] PANGG4 RNAV STAR_20220823_1052 CDT.udt

## User DMEs

#	Name	Lat/Lon	MAGVAR	Range	Elevation [ft]	Frequency	Replaces	Status
1	MIE FAA 830745 - 030 MIE [IFPA]	N40° 14' 14.2533", W085° 23' 38.5315"	3.0 W	40	934.3	114.4	MIE FAA 830745 - 030	
ESV:		Bearing [True]: 4.0° to 17.0° Bearing [Mag]: 7.0° to 20.0°				Arc Distance: Out to 51.0 NM Altitude: 3300.0 to 16000.0 ft		
2	MZZ FAA 831294-8 MZZ [IFPA]	N40° 29' 35.9904", W085° 40' 45.3000"	3.0 W	40	853.5	108.6	MZZ FAA 831294-8	
ESV:		Bearing [True]: 5.0° to 32.0° Bearing [Mag]: 8.0° to 35.0°				Arc Distance: Out to 53.0 NM Altitude: 3400.0 to 15000.0 ft		
3	VIO FAA 970430 - 016 VIO [IFPA]	N42° 47' 12.1822", W085° 29' 49.4620"	4.0 W	130	802	115.95	VIO FAA 970430 - 016	
ESV:		Bearing [True]: 141.0° to 154.0° Bearing [Mag]: 145.0° to 158.0°				Arc Distance: Out to 60.0 NM Altitude: 3300.0 to 16000.0 ft		
4	OKK FAA 961442-27 OKK [IFPA]	N40° 31' 40.0078", W086° 03' 28.7950"	5.0 W	130	825.8	113.5	OKK FAA 961442-27	
ESV:		Bearing [True]: 32.0° to 57.0° Bearing [Mag]: 37.0° to 62.0°				Arc Distance: Out to 53.0 NM Altitude: 3300.0 to 16000.0 ft		
5	GSH FAA 793617-17 GSH [IFPA]	N41° 31' 30.5586", W086° 01' 40.6316"	0.0 E	130	851.8	113.7	GSH FAA 793617-17	
ESV:		Bearing [True]: 119.0° to 136.0° Bearing [Mag]: 119.0° to 136.0°				Arc Distance: Out to 52.0 NM Altitude: 3300.0 to 16000.0 ft		
6	ELX FAA 830645-5 ELX [IFPA]	N42° 08' 39.8845", W086° 07' 21.7408"	0.0 E	40	793.7	116.6	ELX FAA 830645-5	
ESV:		Bearing [True]: 100.0° to 150.0° Bearing [Mag]: 100.0° to 150.0°				Arc Distance: Out to 53.0 NM Altitude: 3400.0 to 20000.0 ft		
7	AZO FAA 830743 - 006 AZO [IFPA]	N42° 14' 13.1493", W085° 33' 11.3463"	0.0 E	40	868.8	null	AZO FAA 830743 - 006	
ESV:		Bearing [True]: 101.0° to 111.0° Bearing [Mag]: 101.0° to 111.0°				Arc Distance: Out to 41.0 NM Altitude: 3300.0 to 16000.0 ft		

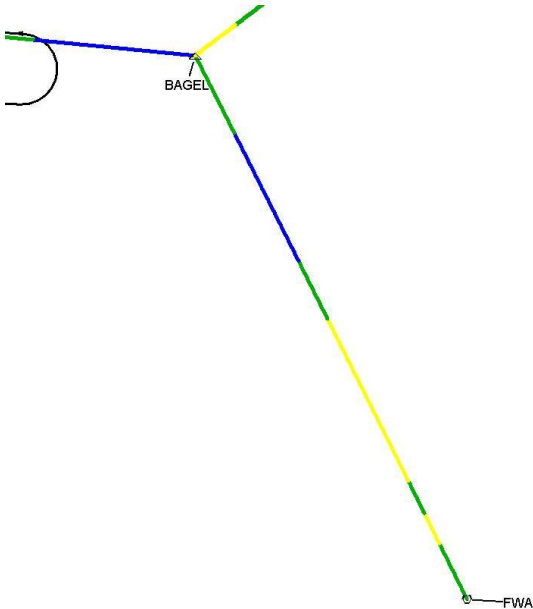


Graphic Depiction 1



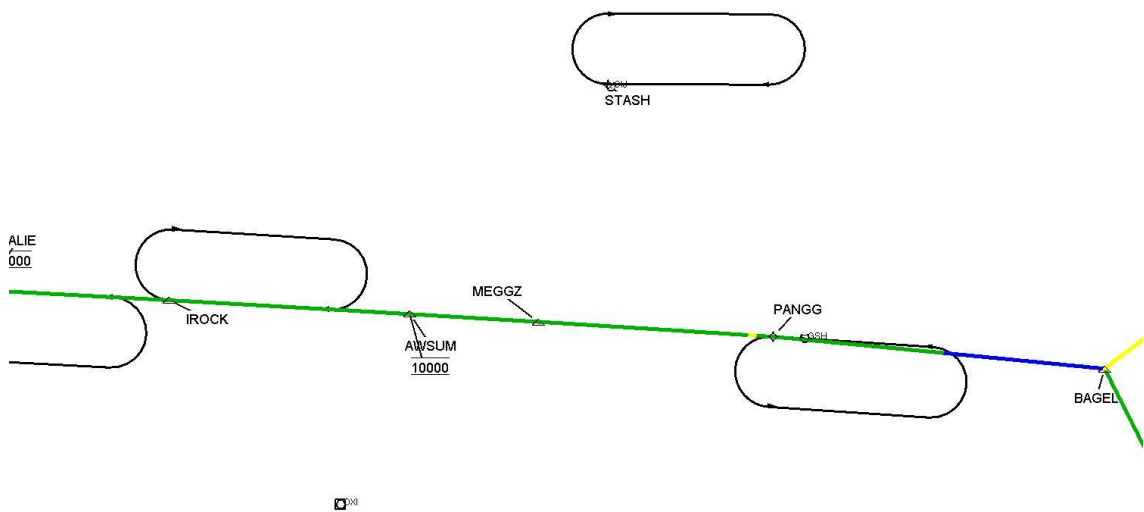
DME DME Assessment Results for PANGG5 path HALIE\_HILLS

Graphic Depiction 2



DME DME Assessment Results for PANGG5 path HALIE\_HILLS

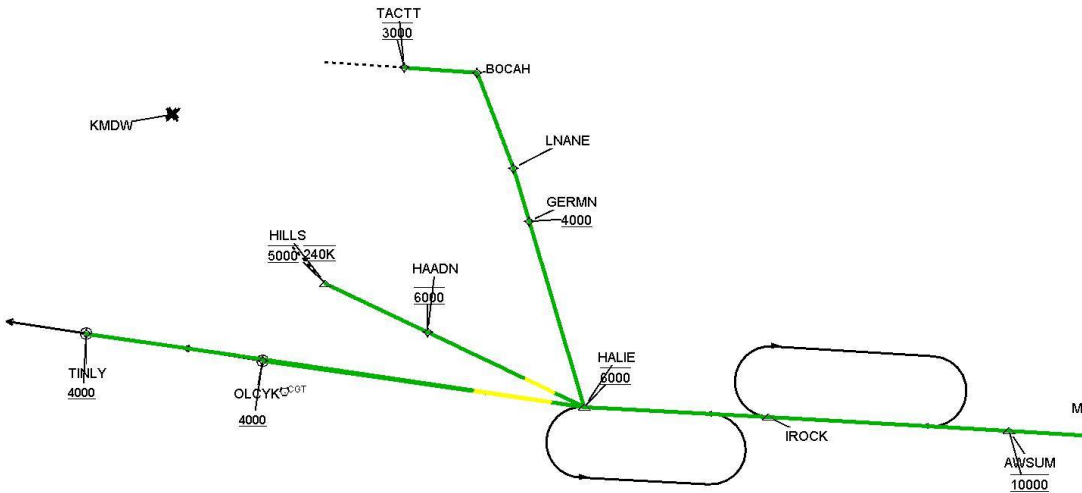
Graphic Depiction 3





DME DME Assessment Results for PANGG5 path HALIE\_HILLS

Graphic Depiction 4



## DME DME Assessment Results for PANGG5 path HALIE\_OLCYK

### Results Summary

Flyability:	Completed
DME/DME:	Completed - No Critical DMEs
Name:	Joshua G-CTR Brechbi
Project File:	C:\Users\Joshua G-CTR Brechbi\OneDrive - Federal Aviation Administration\02 - DME Assessments\KMDW\PANGG\KMDW STAR PANGG FIVE DME 20230421.tgs
Output File:	C:\Users\Joshua G-CTR Brechbi\OneDrive - Federal Aviation Administration\02 - DME Assessments\KMDW\PANGG\KMDW [IFPA] PANGG5 20230424_0732 CDT\HALIE_OLCYK\KMDW PANGG5 RNAV STAR HALIE OLCYK 20230424_0732 CDT.pdf
Procedure Name:	PANGG5
Software: DmeDmePlugin:	7.1.0
Date/Time:	04/24/2023 07:32 CDT
Databases:	DTED Level 0 Max

### 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
HALIE	WP	N41° 30' 57.8500", W087° 09' 31.9500"	3400	VNAV	200	FLY_BY	TF
OLCYK	WP	N41° 32' 24.6900", W087° 36' 16.0600"	3400	VNAV	200	FLY_OVER	TF

### Flyability

Flight Type:	RNAV STAR
Selected Airport:	KMDW [IFPA]
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 PANGG5 path HALIE\_OLCYK

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:	Allowed
DoD Facilities:	Not included
Foreign Facilities:	Not included
High DMEs:	Included
Low DMEs:	Included
Terminal DMEs:	Included
Flight Check DMEs:	Not selected
Higher Altitudes:	Not Evaluated
Near Maximum Altitude:	Not Evaluated
Automatic ESVs:	Not enabled
Disabled DMEs:	LFD

DME/DME (Continued)										
DMEs Used										
#	Name	Lat/Lon	MAGVAR	Range	Type	Source	Critical	Status	Time	Distance
1	OBK	N42° 13' 16.9555", W087° 57' 06.0134"	2.0 W	130	DH	IFPA	NO	Enabled	89.3 %	89.3 %
2	JOT	N41° 32' 47.1067", W088° 19' 06.2780"	2.0 E	130	H	IFPA	NO	Enabled	37.5 %	37.5 %
3	IKK	N41° 04' 27.7626", W087° 51' 00.5883"	0.0 E	40	L	IFPA	NO	Enabled	89.8 %	89.8 %
4	CGT	N41° 30' 36.0237", W087° 34' 17.5660"	2.0 E	40	L	IFPA	NO	Enabled	63.6 %	63.6 %
5	EON	N41° 16' 10.6765", W087° 47' 27.7925"	2.0 E	40	L	IFPA	NO	Enabled	100 %	100 %
6	GCO	N41° 59' 38.7200", W087° 54' 08.3800"	0.0 E	40	L	IFPA	NO	Enabled	63.1 %	63.1 %
7	OXI	N41° 19' 19.4116", W086° 38' 57.4387"	0.0 E	130	H	IFPA	NO	Enabled	68.6 %	68.6 %
8	LFD	N42° 03' 44.9620", W084° 45' 54.4770"	5.0 W	40	L	IFPA	NO	Disabled		

Flight Check DME Selection						
Distance [NM]	Selected DMEs					Alternate
0.0	EON	OXI				
2.1	IKK	OBK	EON	OXI	CGT	
6.2	IKK	OXI	EON	CGT		
6.2	EON	OBK	IKK	GCO	OXI	CGT
7.0	EON	OBK	IKK	OXI	CGT	
13.9	CGT	OBK	EON	GCO	IKK	JOT
14.8	EON	GCO	OBK	IKK	JOT	

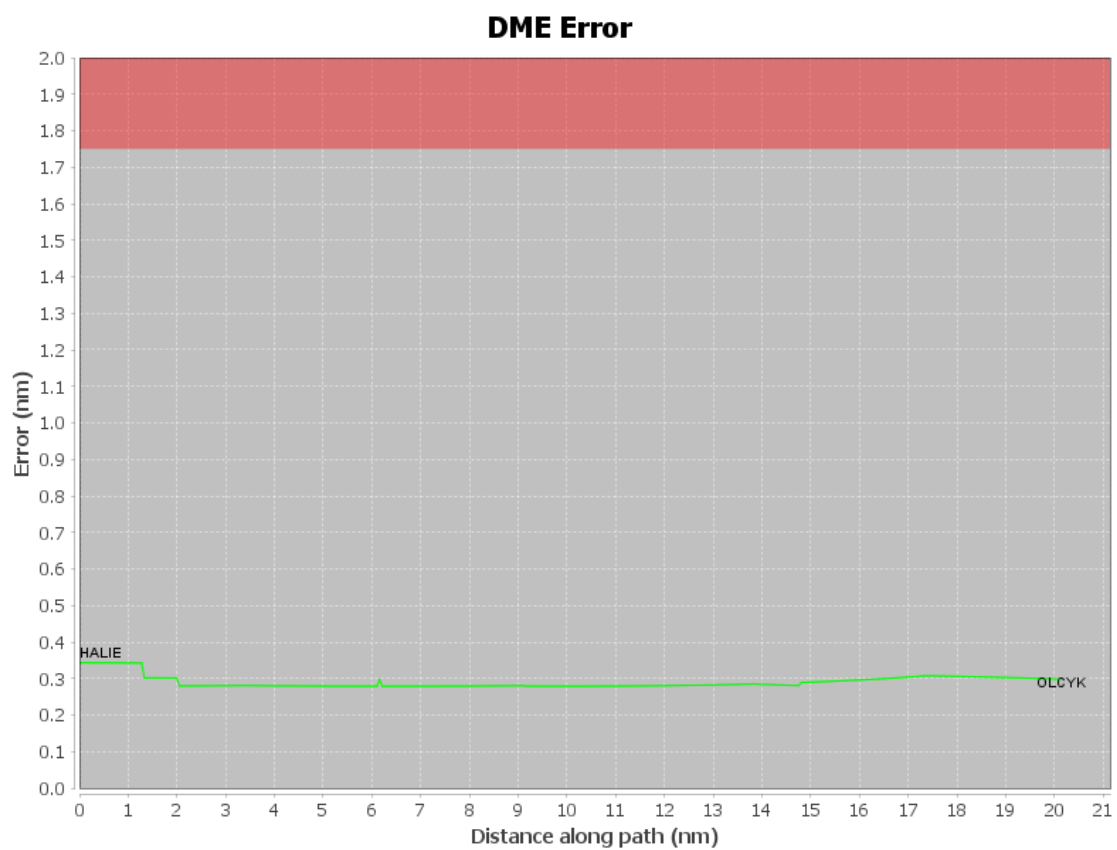
Inertial Drift Segments			
#	Start Location	End Location	Length [NM]

Available DMEs by Waypoints			
Waypoint Before	Waypoint After	DME List	Suggested DMEs
HALIE	OLCYK	OXI, CGT, GCO, EON, IKK, OBK, JOT	

# DME DME Assessment Results for PANGG5 path HALIE\_OLCYK

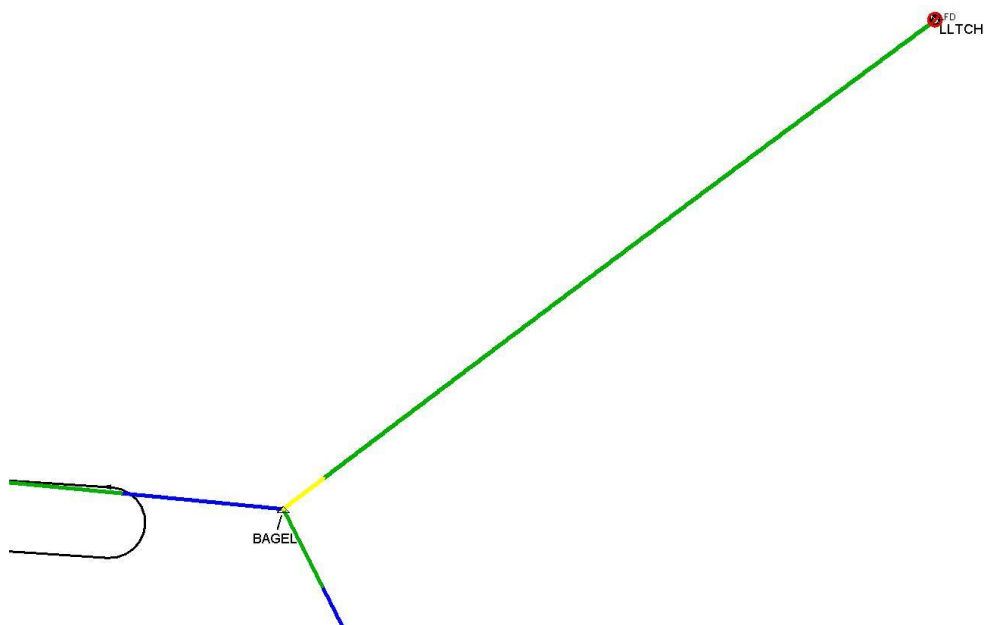
User Data Files								
#	File Name							
1	UserDMEsKMDW [IFPA] PANGG4 RNAV STAR_20220823_1052 CDT.udt							
User DMEs								
#	Name	Lat/Lon	MAGVAR	Range	Elevation [ft]	Frequency	Replaces	Status
1	MIE FAA 830745 - 030 MIE [IFPA]	N40° 14' 14.2533", W085° 23' 38.5315"	3.0 W	40	934.3	114.4	MIE FAA 830745 - 030	
ESV:		Bearing [True]: 4.0° to 17.0° Bearing [Mag]: 7.0° to 20.0°				Arc Distance: Out to 51.0 NM Altitude: 3300.0 to 16000.0 ft		
2	MZZ FAA 831294-8 MZZ [IFPA]	N40° 29' 35.9904", W085° 40' 45.3000"	3.0 W	40	853.5	108.6	MZZ FAA 831294-8	
ESV:		Bearing [True]: 5.0° to 32.0° Bearing [Mag]: 8.0° to 35.0°				Arc Distance: Out to 53.0 NM Altitude: 3400.0 to 15000.0 ft		
3	VIO FAA 970430 - 016 VIO [IFPA]	N42° 47' 12.1822", W085° 29' 49.4620"	4.0 W	130	802	115.95	VIO FAA 970430 - 016	
ESV:		Bearing [True]: 141.0° to 154.0° Bearing [Mag]: 145.0° to 158.0°				Arc Distance: Out to 60.0 NM Altitude: 3300.0 to 16000.0 ft		
4	OKK FAA 961442-27 OKK [IFPA]	N40° 31' 40.0078", W086° 03' 28.7950"	5.0 W	130	825.8	113.5	OKK FAA 961442-27	
ESV:		Bearing [True]: 32.0° to 57.0° Bearing [Mag]: 37.0° to 62.0°				Arc Distance: Out to 53.0 NM Altitude: 3300.0 to 16000.0 ft		
5	GSH FAA 793617-17 GSH [IFPA]	N41° 31' 30.5586", W086° 01' 40.6316"	0.0 E	130	851.8	113.7	GSH FAA 793617-17	
ESV:		Bearing [True]: 119.0° to 136.0° Bearing [Mag]: 119.0° to 136.0°				Arc Distance: Out to 52.0 NM Altitude: 3300.0 to 16000.0 ft		
6	ELX FAA 830645-5 ELX [IFPA]	N42° 08' 39.8845", W086° 07' 21.7408"	0.0 E	40	793.7	116.6	ELX FAA 830645-5	
ESV:		Bearing [True]: 100.0° to 150.0° Bearing [Mag]: 100.0° to 150.0°				Arc Distance: Out to 53.0 NM Altitude: 3400.0 to 20000.0 ft		
7	AZO FAA 830743 - 006 AZO [IFPA]	N42° 14' 13.1493", W085° 33' 11.3463"	0.0 E	40	868.8	null	AZO FAA 830743 - 006	
ESV:		Bearing [True]: 101.0° to 111.0° Bearing [Mag]: 101.0° to 111.0°				Arc Distance: Out to 41.0 NM Altitude: 3300.0 to 16000.0 ft		

## DME DME Assessment Results for PANGG5 path HALIE\_OLCYK



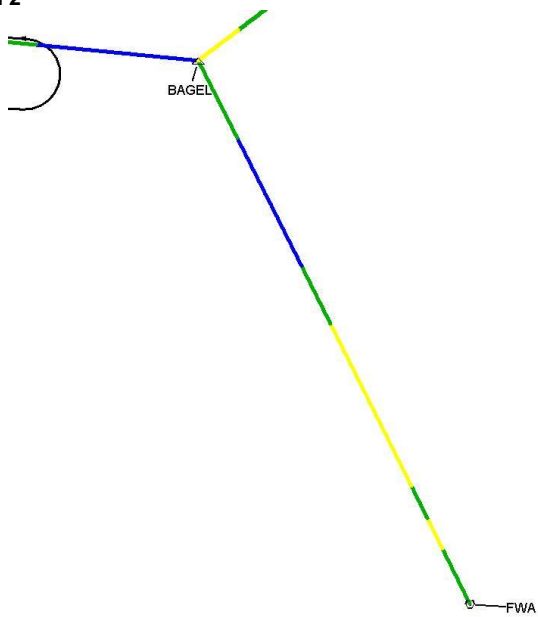
## DME DME Assessment Results for PANGG5 path HALIE\_OLCYK

Graphic Depiction 1



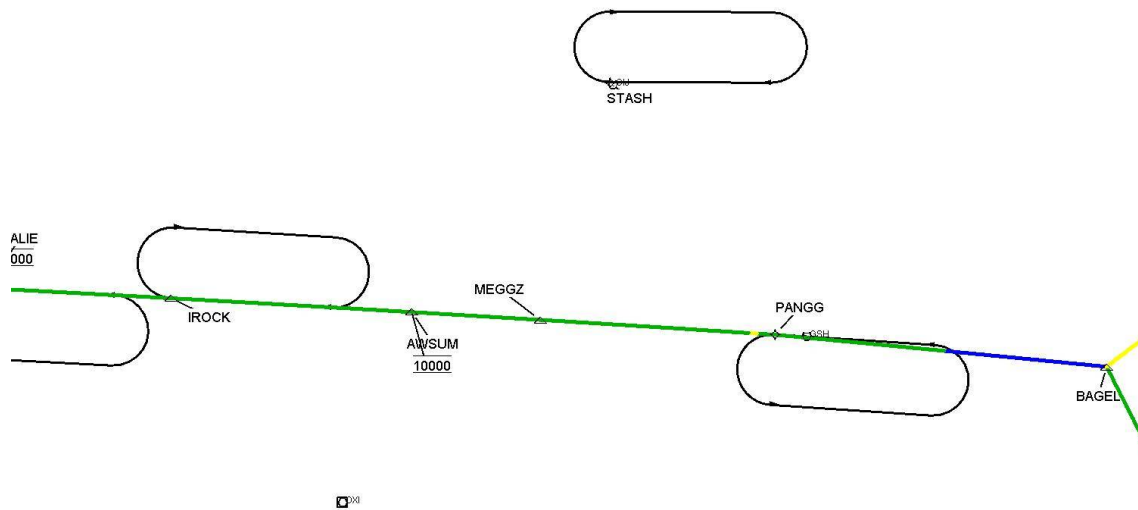
## DME DME Assessment Results for PANGG5 path HALIE\_OLCYK

Graphic Depiction 2



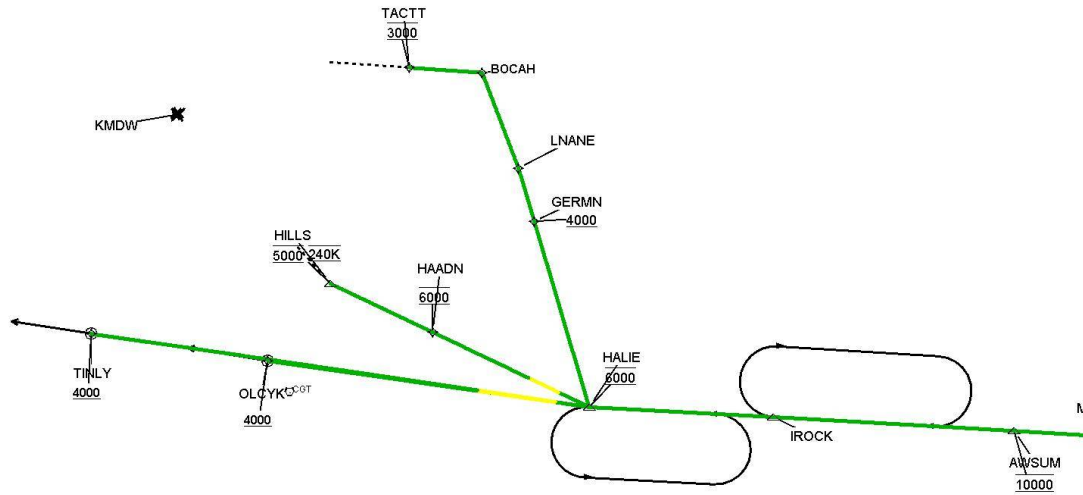
# DME DME Assessment Results for PANGG5 path HALIE\_OLCYK

Graphic Depiction 3





# DME DME Assessment Results for PANGG5 path HALIE\_OLCYK



## DME DME Assessment Results for PANGG5 path HALIE\_TINLY

### Results Summary

Flyability:	Completed
DME/DME:	Completed - No Critical DMEs
Name:	Joshua G-CTR Brechbi
Project File:	C:\Users\Joshua G-CTR Brechbi\OneDrive - Federal Aviation Administration\02 - DME Assessments\KMDW\PANGG\KMDW STAR PANGG FIVE DME 20230421.tgs
Output File:	C:\Users\Joshua G-CTR Brechbi\OneDrive - Federal Aviation Administration\02 - DME Assessments\KMDW\PANGG\KMDW [IFPA] PANGG5 20230424_0732 CDT\HALIE_TINLY\KMDW PANGG5 RNAV STAR HALIE TINLY 20230424_0732 CDT.pdf
Procedure Name:	PANGG5
Software: DmeDmePlugin:	7.1.0
Date/Time:	04/24/2023 07:32 CDT
Databases:	DTED Level 0 Max

### 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
HALIE	WP	N41° 30' 57.8500", W087° 09' 31.9500"	3400	VNAV	200	FLY_BY	TF
TINLY	WP	N41° 33' 19.0800", W087° 50' 57.5600"	3400	VNAV	200	FLY_OVER	TF

### Flyability

Flight Type:	RNAV_STAR
Selected Airport:	KMDW [IFPA]
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 PANGG5 path HALIE\_TINLY

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:	Allowed
DoD Facilities:	Not included
Foreign Facilities:	Not included
High DMEs:	Included
Low DMEs:	Included
Terminal DMEs:	Included
Flight Check DMEs:	Not selected
Higher Altitudes:	Not Evaluated
Near Maximum Altitude:	Not Evaluated
Automatic ESVs:	Not enabled
Disabled DMEs:	LFD

DME/DME (Continued)										
DMEs Used										
#	Name	Lat/Lon	MAGVAR	Range	Type	Source	Critical	Status	Time	Distance
1	OBK	N42° 13' 16.9555", W087° 57' 06.0134"	2.0 W	130	DH	IFPA	NO	Enabled	93.4 %	93.4 %
2	JOT	N41° 32' 47.1067", W088° 19' 06.2780"	2.0 E	130	H	IFPA	NO	Enabled	59.6 %	59.6 %
3	IKK	N41° 04' 27.7626", W087° 51' 00.5883"	0.0 E	40	L	IFPA	NO	Enabled	93.4 %	93.4 %
4	CGT	N41° 30' 36.0237", W087° 34' 17.5660"	2.0 E	40	L	IFPA	NO	Enabled	74.9 %	74.9 %
5	DPA	N41° 53' 25.3373", W088° 21' 00.6389"	2.0 E	40	L	IFPA	NO	Enabled	29.9 %	29.9 %
6	EON	N41° 16' 10.6765", W087° 47' 27.7925"	2.0 E	40	L	IFPA	NO	Enabled	100 %	100 %
7	GCO	N41° 59' 38.7200", W087° 54' 08.3800"	0.0 E	40	L	IFPA	NO	Enabled	76.9 %	76.9 %
8	OXI	N41° 19' 19.4116", W086° 38' 57.4387"	0.0 E	130	H	IFPA	NO	Enabled	44.1 %	44.1 %
9	LFD	N42° 03' 44.9620", W084° 45' 54.4770"	5.0 W	40	L	IFPA	NO	Disabled		

Flight Check DME Selection						
Distance [NM]	Selected DMEs					Alternate
0.0	EON	OXI				
2.1	IKK	OBK	EON	OXI	CGT	
13.8	CGT	OBK	EON	GCO	IKK	JOT
14.9	EON	GCO	OBK	IKK	JOT	

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

Available DMEs by Waypoints			
Waypoint Before	Waypoint After	DME List	Suggested DMEs
HALIE	TINLY	OXI, CGT, GCO, DPA, EON, IKK, OBK, JOT	

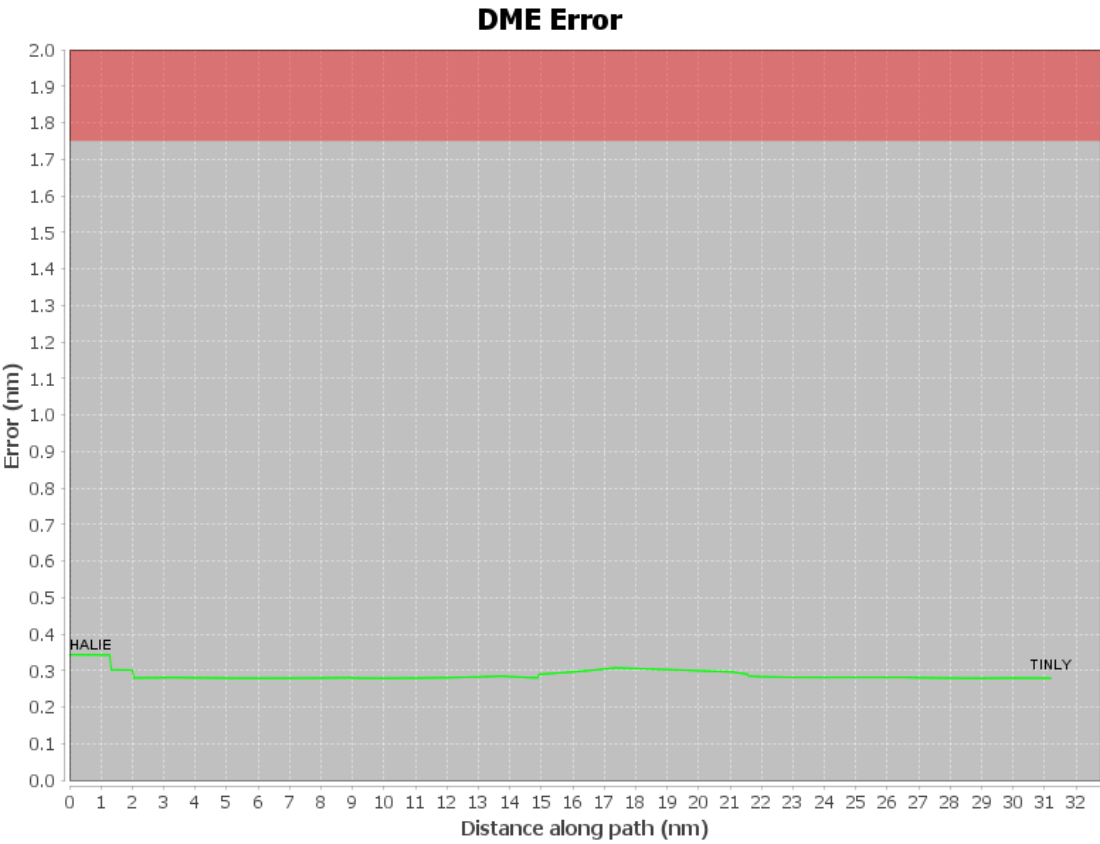
# DME DME Assessment Results for PANGG5 path HALIE\_TINLY

## User Data Files

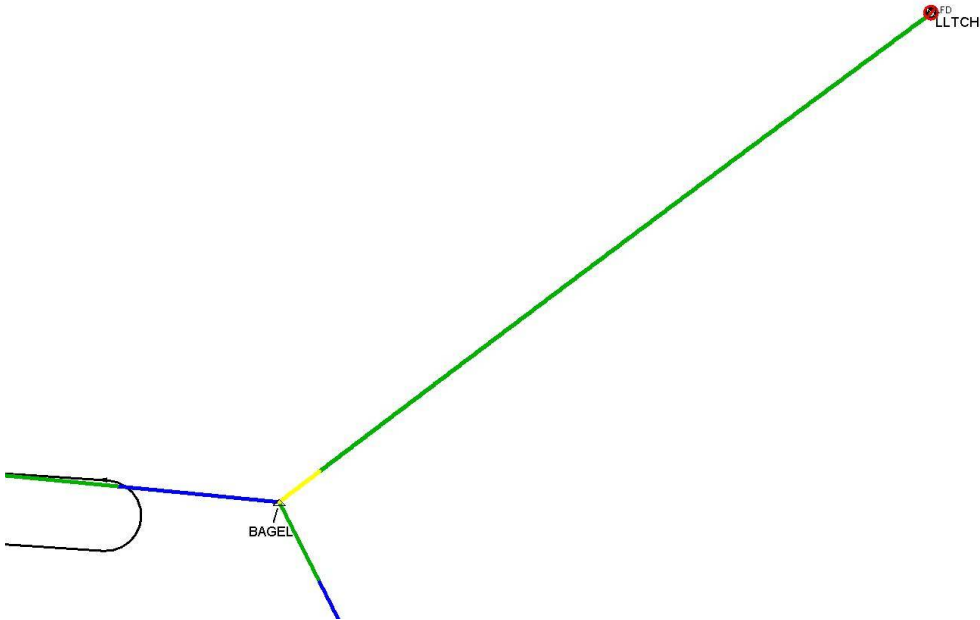
#	File Name
1	UserDMEsKMDW [IFPA] PANGG4 RNAV STAR_20220823_1052 CDT.udt

## User DMEs

#	Name	Lat/Lon	MAGVAR	Range	Elevation [ft]	Frequency	Replaces	Status
1	MIE FAA 830745 - 030 MIE [IFPA]	N40° 14' 14.2533", W085° 23' 38.5315"	3.0 W	40	934.3	114.4	MIE FAA 830745 - 030	
ESV:		Bearing [True]: 4.0° to 17.0° Bearing [Mag]: 7.0° to 20.0°				Arc Distance: Out to 51.0 NM Altitude: 3300.0 to 16000.0 ft		
2	MZZ FAA 831294-8 MZZ [IFPA]	N40° 29' 35.9904", W085° 40' 45.3000"	3.0 W	40	853.5	108.6	MZZ FAA 831294-8	
ESV:		Bearing [True]: 5.0° to 32.0° Bearing [Mag]: 8.0° to 35.0°				Arc Distance: Out to 53.0 NM Altitude: 3400.0 to 15000.0 ft		
3	VIO FAA 970430 - 016 VIO [IFPA]	N42° 47' 12.1822", W085° 29' 49.4620"	4.0 W	130	802	115.95	VIO FAA 970430 - 016	
ESV:		Bearing [True]: 141.0° to 154.0° Bearing [Mag]: 145.0° to 158.0°				Arc Distance: Out to 60.0 NM Altitude: 3300.0 to 16000.0 ft		
4	OKK FAA 961442-27 OKK [IFPA]	N40° 31' 40.0078", W086° 03' 28.7950"	5.0 W	130	825.8	113.5	OKK FAA 961442-27	
ESV:		Bearing [True]: 32.0° to 57.0° Bearing [Mag]: 37.0° to 62.0°				Arc Distance: Out to 53.0 NM Altitude: 3300.0 to 16000.0 ft		
5	GSH FAA 793617-17 GSH [IFPA]	N41° 31' 30.5586", W086° 01' 40.6316"	0.0 E	130	851.8	113.7	GSH FAA 793617-17	
ESV:		Bearing [True]: 119.0° to 136.0° Bearing [Mag]: 119.0° to 136.0°				Arc Distance: Out to 52.0 NM Altitude: 3300.0 to 16000.0 ft		
6	ELX FAA 830645-5 ELX [IFPA]	N42° 08' 39.8845", W086° 07' 21.7408"	0.0 E	40	793.7	116.6	ELX FAA 830645-5	
ESV:		Bearing [True]: 100.0° to 150.0° Bearing [Mag]: 100.0° to 150.0°				Arc Distance: Out to 53.0 NM Altitude: 3400.0 to 20000.0 ft		
7	AZO FAA 830743 - 006 AZO [IFPA]	N42° 14' 13.1493", W085° 33' 11.3463"	0.0 E	40	868.8	null	AZO FAA 830743 - 006	
ESV:		Bearing [True]: 101.0° to 111.0° Bearing [Mag]: 101.0° to 111.0°				Arc Distance: Out to 41.0 NM Altitude: 3300.0 to 16000.0 ft		

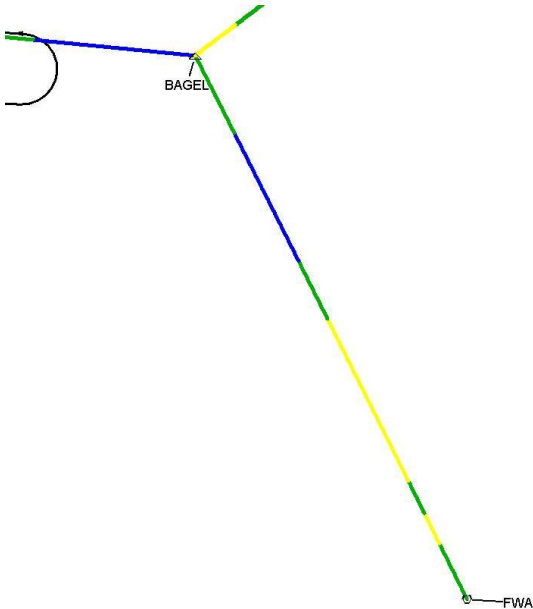


Graphic Depiction 1



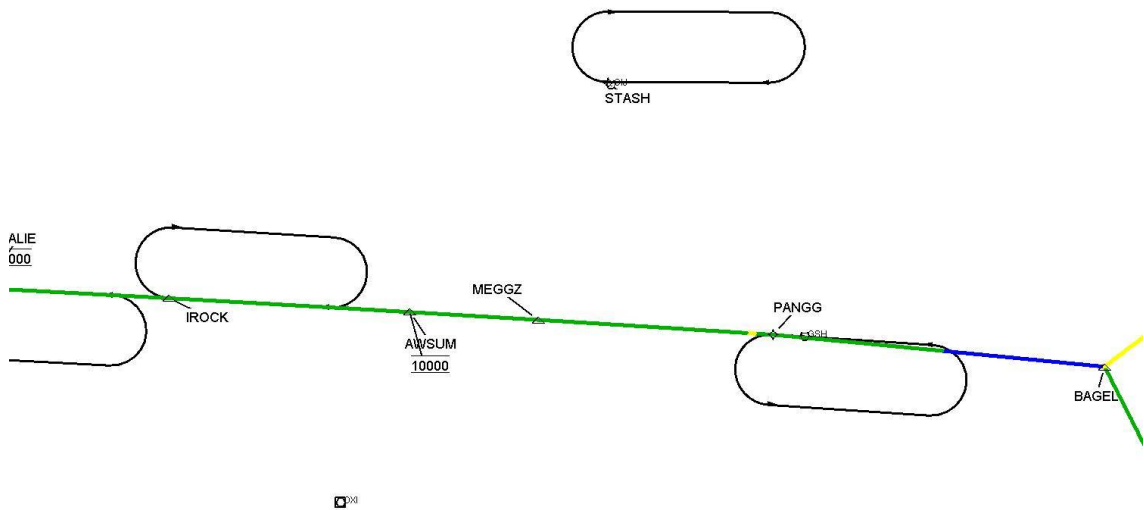
DME DME Assessment Results for PANGG5 path HALIE\_TINLY

Graphic Depiction 2



DME DME Assessment Results for PANGG5 path HALIE\_TINLY

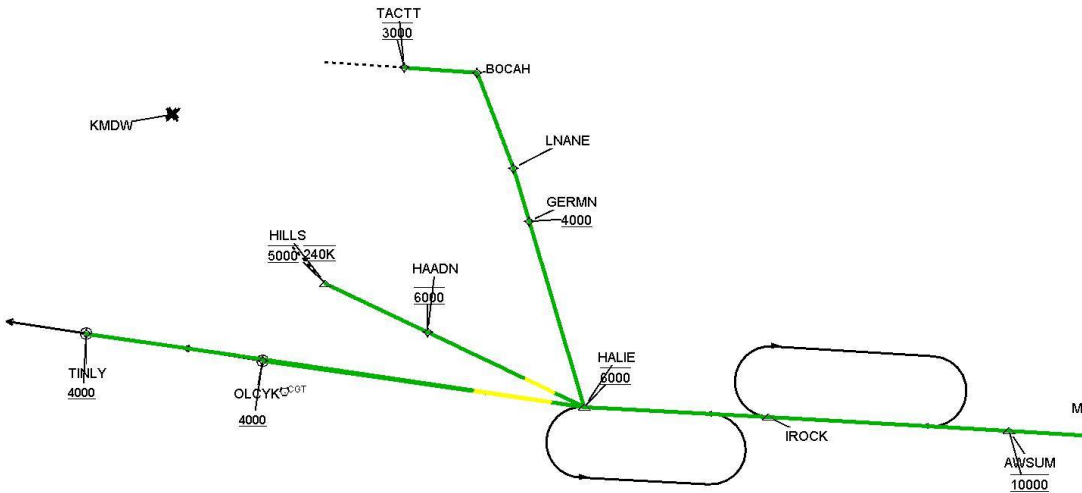
Graphic Depiction 3





DME DME Assessment Results for PANGG5 path HALIE\_TINLY

Graphic Depiction 4



## DME DME Assessment Results for PANGG5 path LLTCH\_BAGEL

### Results Summary

Flyability:	Completed
DME/DME:	Completed - No Critical DMEs
Name:	Joshua G-CTR Brechbi
Project File:	C:\Users\Joshua G-CTR Brechbi\OneDrive - Federal Aviation Administration\02 - DME Assessments\KMDW\PANGG\KMDW STAR PANGG FIVE DME 20230421.tgs
Output File:	C:\Users\Joshua G-CTR Brechbi\OneDrive - Federal Aviation Administration\02 - DME Assessments\KMDW\PANGG\KMDW [IFPA] PANGG5 20230424_0732 CDT\LLTCH_BAGEL\KMDW PANGG5 RNAV STAR LLTCH BAGEL 20230424_0732 CDT.pdf
Procedure Name:	PANGG5
Software: DmeDmePlugin:	7.1.0
Date/Time:	04/24/2023 07:32 CDT
Databases:	DTED Level 0 Max

### 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
LLTCH	WP	N42° 03' 44.1814", W084° 45' 55.7063"	3400	VNAV	200	FLY_BY	TF
BAGEL	WP	N41° 30' 57.5100", W085° 36' 49.2800"	3400	VNAV	200	FLY_BY	TF

### Flyability

Flight Type:	RNAV_STAR
Selected Airport:	KMDW [IFPA]
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 PANGG5 path LLTCH\_BAGEL

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:	Allowed
DoD Facilities:	Not included
Foreign Facilities:	Not included
High DMEs:	Included
Low DMEs:	Included
Terminal DMEs:	Included
Flight Check DMEs:	Not selected
Higher Altitudes:	Not Evaluated
Near Maximum Altitude:	Not Evaluated
Automatic ESVs:	Not enabled
Disabled DMEs:	LFD

DME/DME (Continued)										
DMEs Used										
#	Name	Lat/Lon	MAGVAR	Range	Type	Source	Critical	Status	Time	Distance
1	GSH	N41° 31' 30.5586", W086° 01' 40.6316"	0.0 E	130	H	IFPA	NO	Enabled	45.3 %	45.3 %
2	GIJ	N41° 46' 07.0005", W086° 19' 06.4268"	0.0 E	130	H	IFPA	NO	Enabled	6.3 %	6.3 %
3	JXN	N42° 15' 33.2631", W084° 27' 30.7776"	0.0 E	130	DH	IFPA	NO	Enabled	63.9 %	63.9 %
4	AZO	N42° 14' 13.1493", W085° 33' 11.3463"	0.0 E	40	L	IFPA	NO	Enabled	78.3 %	78.3 %
5	ELX	N42° 08' 39.8845", W086° 07' 21.7408"	0.0 E	40	L	IFPA	NO	Enabled	62.9 %	62.9 %
6	VIO	N42° 47' 12.1822", W085° 29' 49.4620"	4.0 W	130	H	IFPA	NO	Enabled	19.2 %	19.2 %
7	FWA	N40° 58' 44.6315", W085° 11' 17.0092"	6.0 W	130	H	IFPA	NO	Enabled	6.3 %	6.3 %
8	LFD	N42° 03' 44.9620", W084° 45' 54.4770"	5.0 W	40	L	IFPA	NO	Disabled		

Flight Check DME Selection						
Distance [NM]	Selected DMEs					Alternate
0.0	VIO	JXN	AZO			
9.7	AZO	JXN				
18.6	AZO	JXN	ELX			
27.5	GSH	AZO	JXN	ELX		
32.1	GSH	AZO	ELX			
39.4	ELX	GSH				
47.1	GSH	FWA	ELX	GIJ		

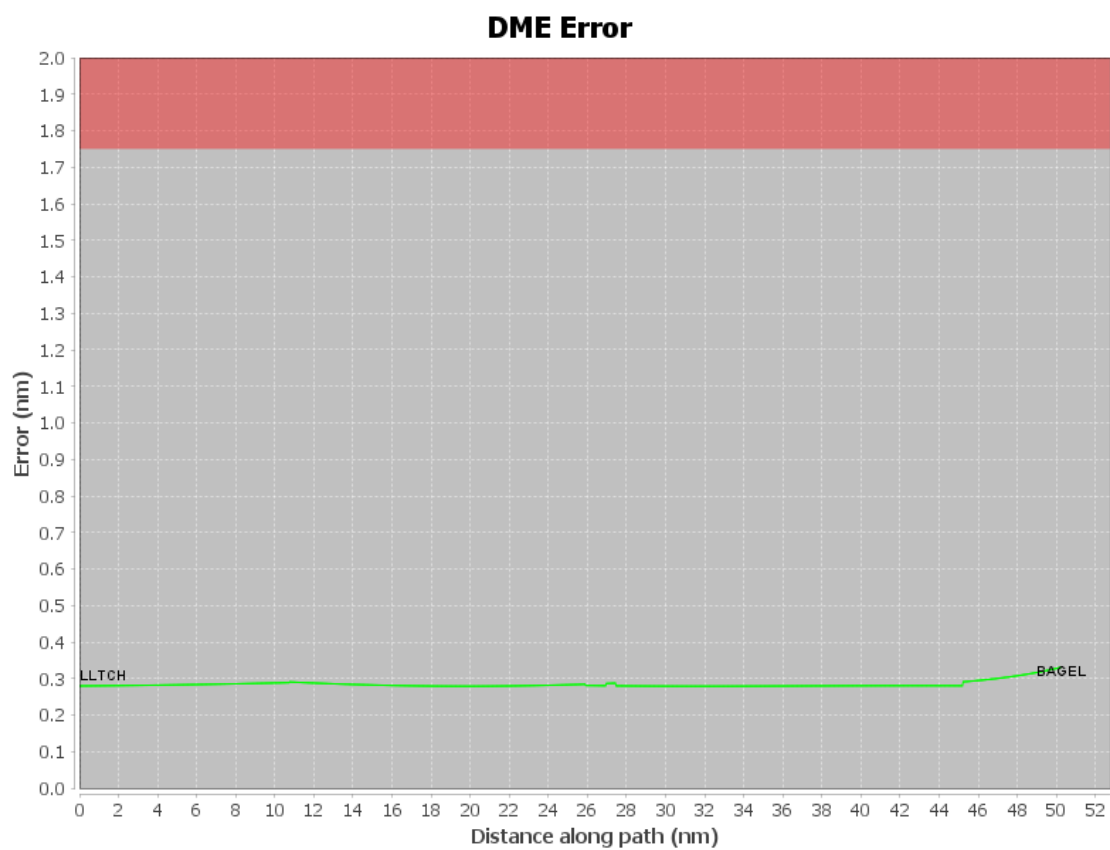
Inertial Drift Segments			
#	Start Location	End Location	Length [NM]

Available DMEs by Waypoints			
Waypoint Before	Waypoint After	DME List	Suggested DMEs
LLTCH	BAGEL	ELX, JXN, FWA, AZO, GIJ, VIO, GSH	

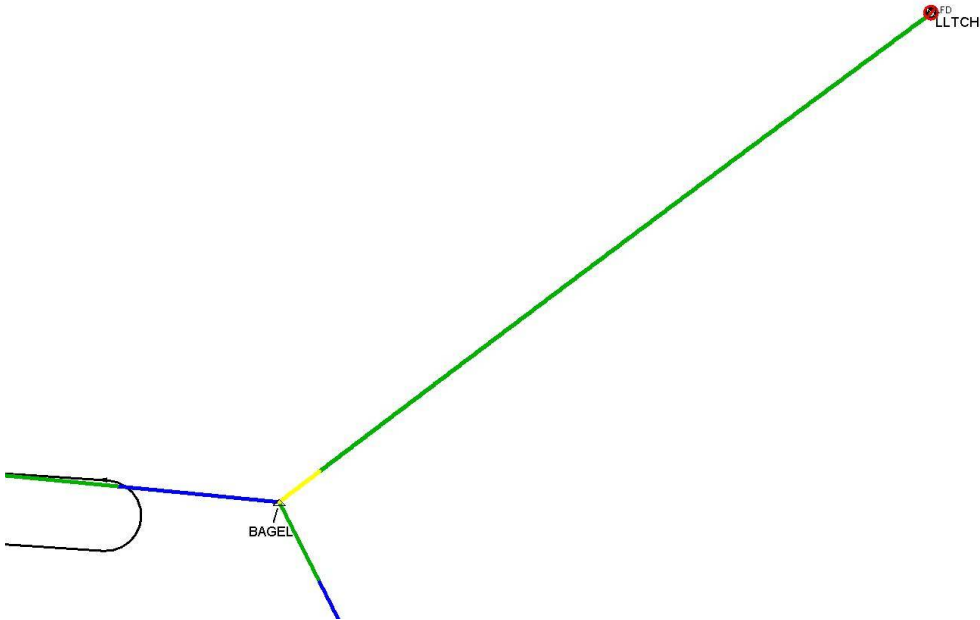
# DME DME Assessment Results for PANGG5 path LLTCH\_BAGEL

User Data Files								
#	File Name							
1	UserDMEsKMDW [IFPA] PANGG4 RNAV STAR_20220823_1052 CDT.udt							
User DMEs								
#	Name	Lat/Lon	MAGVAR	Range	Elevation [ft]	Frequency	Replaces	Status
1	MIE FAA 830745 - 030 MIE [IFPA]	N40° 14' 14.2533", W085° 23' 38.5315"	3.0 W	40	934.3	114.4	MIE FAA 830745 - 030	
ESV:		Bearing [True]: 4.0° to 17.0° Bearing [Mag]: 7.0° to 20.0°				Arc Distance: Out to 51.0 NM Altitude: 3300.0 to 16000.0 ft		
2	MZZ FAA 831294-8 MZZ [IFPA]	N40° 29' 35.9904", W085° 40' 45.3000"	3.0 W	40	853.5	108.6	MZZ FAA 831294-8	
ESV:		Bearing [True]: 5.0° to 32.0° Bearing [Mag]: 8.0° to 35.0°				Arc Distance: Out to 53.0 NM Altitude: 3400.0 to 15000.0 ft		
3	VIO FAA 970430 - 016 VIO [IFPA]	N42° 47' 12.1822", W085° 29' 49.4620"	4.0 W	130	802	115.95	VIO FAA 970430 - 016	
ESV:		Bearing [True]: 141.0° to 154.0° Bearing [Mag]: 145.0° to 158.0°				Arc Distance: Out to 60.0 NM Altitude: 3300.0 to 16000.0 ft		
4	OKK FAA 961442-27 OKK [IFPA]	N40° 31' 40.0078", W086° 03' 28.7950"	5.0 W	130	825.8	113.5	OKK FAA 961442-27	
ESV:		Bearing [True]: 32.0° to 57.0° Bearing [Mag]: 37.0° to 62.0°				Arc Distance: Out to 53.0 NM Altitude: 3300.0 to 16000.0 ft		
5	GSH FAA 793617-17 GSH [IFPA]	N41° 31' 30.5586", W086° 01' 40.6316"	0.0 E	130	851.8	113.7	GSH FAA 793617-17	
ESV:		Bearing [True]: 119.0° to 136.0° Bearing [Mag]: 119.0° to 136.0°				Arc Distance: Out to 52.0 NM Altitude: 3300.0 to 16000.0 ft		
6	ELX FAA 830645-5 ELX [IFPA]	N42° 08' 39.8845", W086° 07' 21.7408"	0.0 E	40	793.7	116.6	ELX FAA 830645-5	
ESV:		Bearing [True]: 100.0° to 150.0° Bearing [Mag]: 100.0° to 150.0°				Arc Distance: Out to 53.0 NM Altitude: 3400.0 to 20000.0 ft		
7	AZO FAA 830743 - 006 AZO [IFPA]	N42° 14' 13.1493", W085° 33' 11.3463"	0.0 E	40	868.8	null	AZO FAA 830743 - 006	
ESV:		Bearing [True]: 101.0° to 111.0° Bearing [Mag]: 101.0° to 111.0°				Arc Distance: Out to 41.0 NM Altitude: 3300.0 to 16000.0 ft		

# DME DME Assessment Results for PANGG5 path LLTCH\_BAGEL

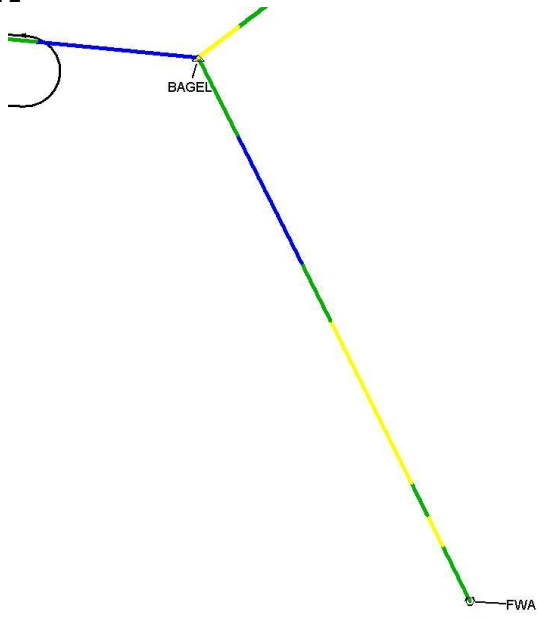


Graphic Depiction 1



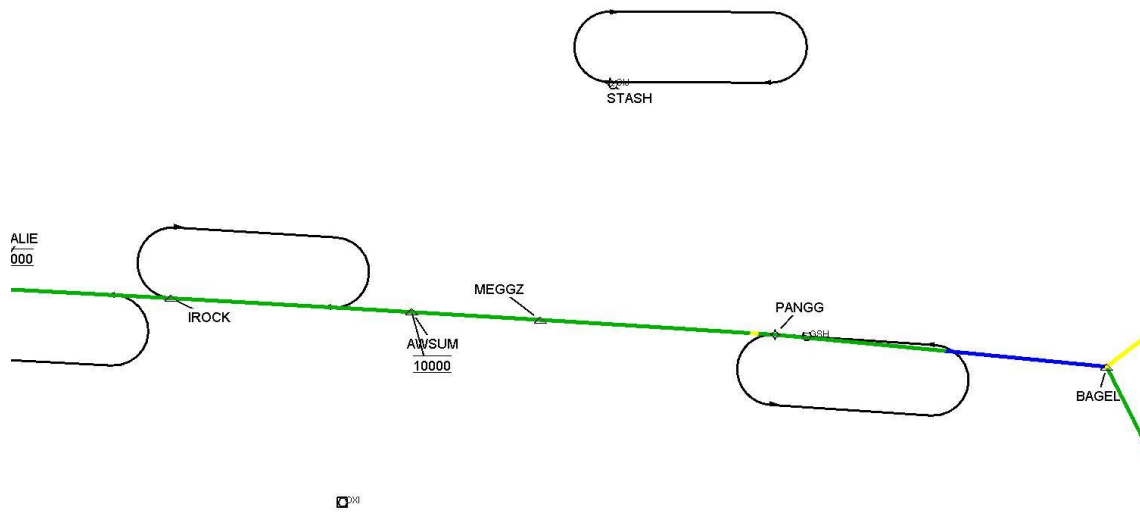
## DME DME Assessment Results for PANGG5 path LLTCH\_BAGEL

Graphic Depiction 2



# DME DME Assessment Results for PANGG5 path LLTCH\_BAGEL

Graphic Depiction 3





DME DME Assessment Results for PANGG5 path LLTCH\_BAGEL

