Flight Procedure Tracking Form	Action: FLIGHT CHECK	Task Type: IAP	Date Open: 08/15/2012	Task #: 2011072926923407001	Request #: 20110729269234
Procedure: RNAV (RNP) Z RWY 12 R ORIG		**Airport ID:** KMSP	**Airport:** MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN		**Reimbursable #:**
City: MINNEAPOLIS	**ST:** MN	**GPS #:**		**Estimated Chart Date:** 05/02/2013	**FICO #:**
Fac ID:	**Fac. Type:** RNP	**Specialist:** BETTY RICHARDS			

Procedure Review

MAG VAR P1

	Rec'd	Rel'd	Full Name	Comments
Lead:	09/05/2012	01/11/2013	JILL OLSON	
QA:	01/11/2013	01/11/2013	SCOTT BEARD	
Liaison:	01/11/2013		Spurlin	REPLACEMENT 1/11/13 - MAGVAR

Procedure Comments: ENROUTE **Remark Type:** INFORMATION

MINNEAPOLIS, MN MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (KMSP) RNAV (RNP) Z RWY 12R, ORIG (RNP) ENROUTE-YES FC: 3.19.13 PUB: 5.2.13

ATTACHED FORMS: 8260-3; 8260-10; 8260-9; 8260-2(S): CFBCW, ORIG; EEDDN, ORIG; EFEXX, ORIG; FARMINGTON (FGT) VTAC, REV 17; KINNS-INT, REV 7; KRLSN, ORIG; PAETN-INT, REV 2; TIETN, ORIG; UTHNK-INT, REV 2; WAYZA-INT, REV 9; WDLND, ORIG; ZESTY-INT, REV 2.
REQUEST FLIGHT CHECK VERIFICATION OF 861 MSL POLE (27-020830) (445327.07N/0931447.75W). 4/D ACCURACY APPLIED.
CONTACT: JILL OLSON/STEVE BARNETT -AVJ-353 LEADS, 405.954.4014 / 405.954.9307.

RNAV (RNP) Z RWY 12R

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

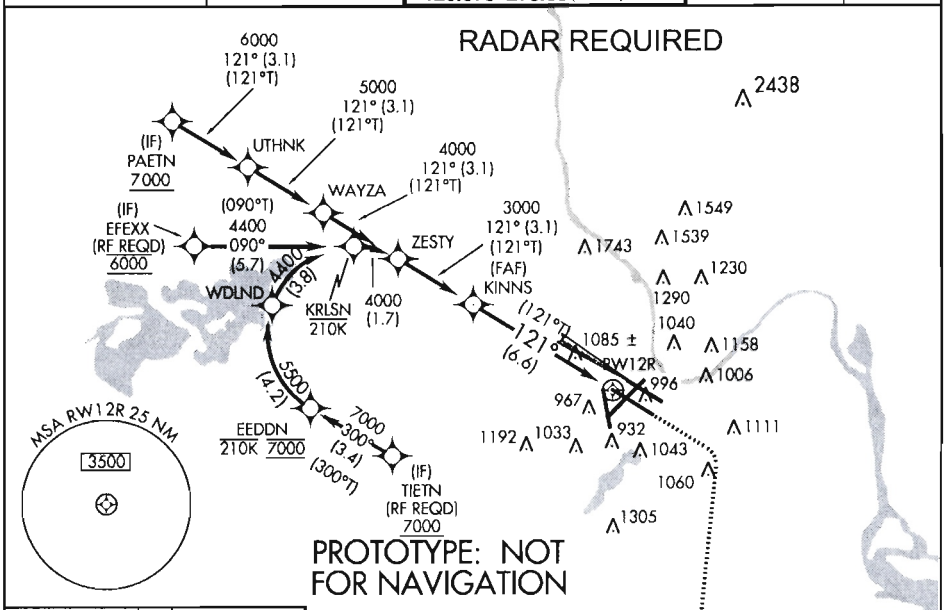
APP CRS	Rwy Idg	10000
121°	THRE	842
	Apt Elev	842

For uncompensated Baro-VNAV systems, procedure NA below -19°C (-2°F) or above 54°C (130°F). For inoperative ALSF, increase RNP 0.30 all Cats visibility to 1½. Simultaneous approach authorized with Rwy 12L. GPS required. Use of FD or AP providing RNAV track guidance required during simultaneous operations.

ALSF-1

MISSED APPROACH: Climb to 1300 then climbing right turn to 3000 direct FGT VORTAC and hold.

ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275 DEP 120.8	119.3 335.5	123.95 273.55 (12L-30R) 126.7 273.55 (12R-30L, 4-22) 123.675 273.55 (17-35)	N 121.8 348.6 S 121.9 348.6 W 127.925	133.2



ELEV 842 | D | THRE 842

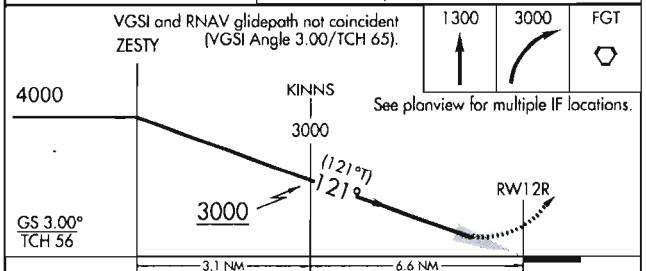
MISSED APCH FIX

FARMINGTON FGT (358°T) 358° 178° (178°T) 4 NM

CFBCW: 4455.687N / 09328.015W
EEDDN: 4453.024N / 09330.190W
EFEXX: 4458.768N / 09336.030W
FGT: 4437.857N / 09310.923W
KINNS: 4456.695N / 09321.987W
KRLSN: 4458.767N / 09328.011W
PAETN: 4503.190N / 09337.134W
UTHNK: 4501.570N / 09333.343W
WAYZA: 4459.947N / 09329.554W
WDLND: 4456.667N / 09332.125W
ZESTY: 4458.322N / 09325.769W

HIRL all Rwys
REIL Rwys 17 and 30R
TDZ/CL Rwys 12L, 12R, 30L, and 35

VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 65).



1300	3000	FGT

See planview for multiple IF locations.

CATEGORY	A	B	C	D
RNP 0.30 DA	1279/50 437 (500-1)			

AUTHORIZATION REQUIRED

APP CRS	Rwy Idg	10000
121°	THRE	842
	Apt Elev	842

RNAV (RNP) Z RWY 12R

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

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ALSF-1

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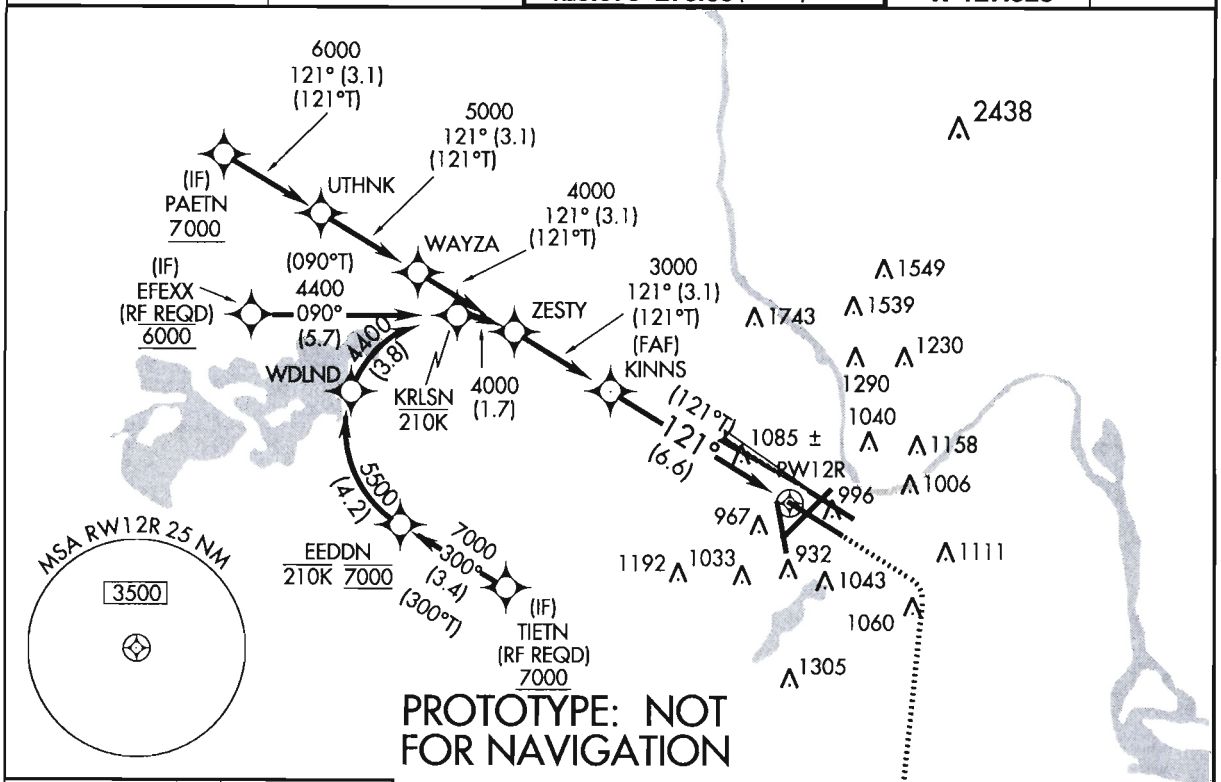
ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275 DEP 120.8	119.3 335.5	123.95 273.55 (12L-30R) 126.7 273.55 (12R-30L, 4-22) 123.675 273.55 (17-35)	N 121.8 348.6 S 121.9 348.6 W 127.925	133.2



ELEV 842 | D | THRE 842

MISSED APCH FIX

FARMINGTON FGT

178° (178°T) 4 NM

358° (358°T)

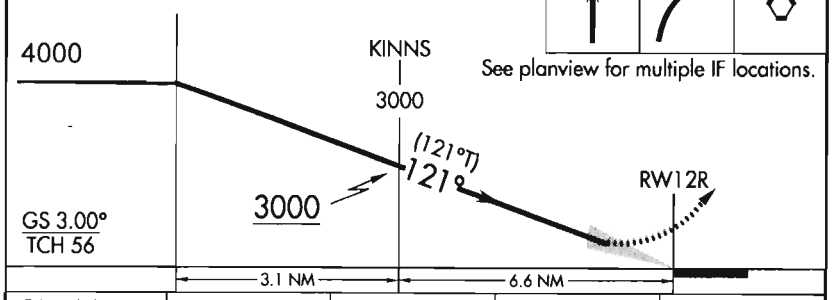
CFBCW: 4455.687N / 09328.015W
EEDDN: 4453.024N / 09330.190W
EFEXX: 4458.768N / 09336.030W
FGT: 4437.857N / 09310.923W
KINNS: 4456.695N / 09321.987W
KRLSN: 4458.767N / 09328.011W
PAETN: 4503.190N / 09337.134W
UTHNK: 4501.570N / 09333.343W
WAYZA: 4459.947N / 09329.554W
WDLND: 4456.667N / 09332.125W
ZESTY: 4458.322N / 09325.769W

HIRL all Rwys
REIL Rwys 17 and 30R
TDZ/CL Rwys 12L, 12R, 30L, and 35

VGSI and RNAV glidepath not coincident (VGSI Angle 3.00/TCH 65).

1300 | 3000 | FGT

See planview for multiple IF locations.



CATEGORY	A	B	C	D
RNP 0.30 DA	1279/50 437 (500-1)			

AUTHORIZATION REQUIRED

MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)
44°53'N-93°13'W RNAV (RNP) Z RWY 12R

US DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

RNAV (RNP) - STANDARD, INSTRUMENT APPROACH PROCEDURE, TITLE 14 CFR PART 97.33

Bearings, headings, courses, 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 in feet RVR.

TERMINAL ROUTES

FROM	TO	COURSE AND DISTANCE	ALTITUDE
TIETN (IF)	EEDDN (TF) (FB) (RNP 1.00)	300.17 / 3.40	7000
EEDDN	WDLND (RF) (FB) (RNP 1.00)	(3.08 NM RADIUS CW (CFBCW)/4.22	5500
WDLND	KRLSN (RF) (FB) (RNP 1.00)	(3.08 NM RADIUS CW (CFBCW)/3.84	4400
KRLSN	ZESTY (RF) (FB) (RNP 1.00)	(3.08 NM RADIUS CW (CFBCW)/1.67	4000
EFEXX (IF)	KRLSN (TF) (FB) (RNP 1.00)	089.96 / 5.69	4400
(SEE FORM 8260-10)			

MISSED APPROACH

RNP: DA

CLIMB TO 1300 THEN CLIMBING RIGHT TURN TO 3000 DIRECT FGT VORTAC AND HOLD.

ADDITIONAL FLIGHT DATA:
HOLD S, RT, 358.03 INBOUND.
CHART FAS OBST: 949 TOWER 445330N/0931505W
DISTANCE TO THLD FROM 437 HATH: 1.20 NM.
CHART MINIMUM 7000 AT PAETN
CHART MANDATORY 6000 AT EFEXX
CHART MINIMUM 7000 AT TIETN
CHART MANDATORY 7000 AT EEDDN
CHART LOC RWY 12L
ROUTE TYPE: A, H
ROUTE TYPE QUALIFIER 1: F
ROUTE TYPE QUALIFIER 2: S
#TCH 897.6 (DO NOT CHART)

1. PT ____ SIDE OF COURSE ____ OUTBOUND ____ FT WITHIN ____ MILES OF ____ (IAF)
2. PROFILE STARTS AT ZESTY
3. FAC: 121.24 FAF: ____ DIST FAF TO MAP: ____ THLD: ____
4. MIN. ALT: ZESTY 4000, KINNS 3000
5. DIST TO THLD FROM OM: 6.60 MM: ____ IM: ____ 150 HAT: ____ 100 HAT: ____ GS ANT: ____
6. MIN GS INCPT: 3000 GS ALT AT: KINNS 3000 OM: ____ MM: ____ IM: ____
7. GS ANGLE: 3.00 TCH: 55.8# 34:1 IS CLEAR
8. MSA FROM: RW12R 3500

MAG VAR: 0E EPOCH YEAR: 2015

MINIMUMS

TAKEOFF: SEE FAA FORM 8260-15A FOR THIS AIRPORT | ALTERNATE: N A | STANDARD

CATEGORY =====>	A			B			C			D			E		
	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA
AUTHORIZATION REQUIRED															
RNP 0.30 DA	1279	5000	437	1279	5000	437	1279	5000	437	1279	5000	437			

NOTES:
CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, PROCEDURE NA BELOW -19C (-2F) OR ABOVE 54C (130F).
CHART NOTE: FOR INOPERATIVE ALSF, INCREASE RNP 0.30 ALL CATS VISIBILITY TO 1 1/2.
CHART NOTE: SIMULTANEOUS APPROACH AUTHORIZED WITH RWY 12L.
(SEE FORM 8260-10)

QUALITY 4 CHECKED

CITY AND STATE	ELEVATION: 842 THRE: 842 AIRPORT NAME:	FACILITY IDENTIFIER:	PROCEDURE NO./AMDT NO./EFFECTIVE DATE:	SUP:
MINNEAPOLIS, MN	MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN	RNAV	RNAV (RNP) Z RWY 12R, ORIG	AMDT: NONE
				DATED

ALL AFFECTED PROCEDURES REVIEWED?	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE
[ ] YES [X] NO		**ROUTINE**

COORDINATED WITH:

ATA	AAT	ALPA	APA	AOPA	NBAA	OTHER (specify)
[ ]	[ ]	[X]	[ ]	[X]	[X]	[X] **ZMP, MSP APP CON, AMGR**

FLIGHT CHECKED BY

NAME:	FIFO	DATE:

DEVELOPED BY

NAME:	FIFO	DATE:
BETTY RICHARDS	**AJV-353**	**10/18/2012**

APPROVED BY

NAME:		FIFO	DATE:
LARRY H STROUT	**MANAGER**	**AJV-353**	

CHANGES:

ORIG

REASONS:

FPT REQUEST

01/08/2013: THIS IS AN UPDATED COPY OF THE FORM DEVELOPED ON 10/18/2012.
1. TERMINAL ROUTE PAETN TO UTHNK ALTITUDE CHANGED 5000 TO 6000.
2. ADDITIONAL FLIGHT DATA CHART MINIMUM AT PAETN CHANGED 5000 TO 7000.
3. ADDED CHART PLANVIEW NOTE: RADAR REQUIRED.

US DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

RNAV (RNP) - STANDARD,
INSTRUMENT APPROACH PROCEDURE, - TITLE 14 CFR PART 97.33

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TERMINAL ROUTES, (CONT.):

FROM	TO	COURSE AND DISTANCE	ALTITUDE
PAETN (IF)	UTHNK (TF) (FB) (RNP 1.00)	121.06 / 3.14	6000
UTHNK	WAYZA (TF) (FB) (RNP 1.00)	121.10 / 3.14	5000
WAYZA	ZESTY (TF) (FB) (RNP 1.00)	121.15 / 3.14	4000
ZESTY	KINNS (TF) (FB) (RNP 1.00)	121.19 / 3.14	3000
KINNS (FAF)	RW12R (MAP) (TF) (FO)	121.24 / 6.60	
RW12R (MAP)	1300 MSL (CA)	121.24	1300
1300 MSL	FGT VORTAC (DF) (FO)		3000

NOTES, (CONT.):
CHART NOTE: GPS REQUIRED.
CHART PLANVIEW NOTE AT KRLSN : MAX 210 KIAS.
CHART PLANVIEW NOTE AT EEDDN : MAX 210 KIAS.
CHART PLANVIEW NOTE ADJACENT TO EFEXX: RF REQUIRED.
CHART PLANVIEW NOTE ADJACENT TO TIETN: RF REQUIRED.
CHART PROFILE NOTE: VGSI AND RNAV GLIDEPATH NOT COINCIDENT.
CHART PROFILE NOTE: SEE PLANVIEW FOR MULTIPLE IF LOCATIONS.
CHART NOTE: USE OF FD OR AP PROVIDING RNAV TRACK GUIDANCE REQUIRED DURING SIMULTANEOUS OPERATIONS.
CHART PLANVIEW NOTE: RADAR REQUIRED.

QUALITY 4 CHECKED

CITY AND STATE	ELEVATION: 842 THRE: 842	FACILITY IDENTIFIER:	PROCEDURE NO./ AMDT NO./EFFECTIVE DATE:	SUP:
MINNEAPOLIS, MN	AIRPORT NAME: MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN	RNAV	RNAV (RNP) Z RWY 12R, ORIG	AMDT: NONE
				DATED:

ALL AFFECTED PROCEDURES REVIEWED? ☐ YES ☐ NO	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE

COORDINATED WITH:

ATA ☐ AAT ☐ ALPA ☐ APA ☐ AOPA ☐ NBAA ☐ OTHER ☐ (specify) _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME:	FIFO	DATE:
APPROVED BY		
NAME:	FIFO	DATE:

CHANGES:

REASONS:

U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

RNAV (RNP) STANDARD INSTRUMENT APPROACH PROCEDURE

FLIGHT STANDARDS SERVICES - **FAR PART 97.33**

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ARINC PACKET - 424-18 - RNAV (RNP)

```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
NAVAID  12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------
        SUSAD        FGT   K3011570VTH  N44375143W093105537    N44375143W093105537E0060009722     NARFARMINGTON

                 1         2         3         4         5         6         7         8         9         0         1         2         3
WP      12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------
        SUSAEAENRT   CFBCW K30    W     N44554124W093280087                        E0007     NAR           CNF(CFBCW)
        SUSAEAENRT   EEDDN K30    W     N44530142W093301139                        E0007     NAR           EEDDN
        SUSAEAENRT   EFEXX K30    W     N44584606W093360181                        E0008     NAR           EFEXX
        SUSAEAENRT   KINNS K30    C     N44564170W093215924                        E0006     NAR           KINNS
        SUSAEAENRT   KRLSN K30    W     N44584602W093280067                        E0007     NAR           KRLSN
        SUSAEAENRT   PAETN K30    C     N45031141W093370807                        E0008     NAR           PAETN
        SUSAEAENRT   TIETN K30    W     N44511907W093260353                        E0007     NAR           TIETN
        SUSAEAENRT   UTHNK K30    C     N45013418W093332056                        E0008     NAR           UTHNK
        SUSAEAENRT   WAYZA K30    C     N44595682W093293325                        E0007     NAR           WAYZA
        SUSAEAENRT   WDLND K30    W     N44564002W093320751                        E0008     NAR           WDLND
        SUSAEAENRT   ZESTY K30    C     N44581933W093254615                        E0007     NAR           ZESTY

                 1         2         3         4         5         6         7         8         9         0         1         2         3
AIRPORT 12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------
        SUSAP KMSPK3AMSP     0     110YHN44525510W093131840E000000842         1800018000C    MNAR    MINNEAPOLIS-ST PAUL INTL/WOLD-

                 1         2         3         4         5         6         7         8         9         0         1         2         3
SEGMENT 12345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------
        SUSAP KMSPK3FH12RZ AEFEXX 010EFEXXK3EA0E  B    IF                                  06000     18000                 A FS
        SUSAP KMSPK3FH12RZ AEFEXX 020KRLSNK3EA0E    010TF                               + 04400          210              A-FS
        SUSAP KMSPK3FH12RZ AEFEXX 030ZESTYK3EA0EE  R010RF       0030800900    12120017   + 04000                 CFBCW K3EAA FS
        SUSAP KMSPK3FH12RZ APAETN 010PAETNK3EA0E  B    IF                               + 07000     18000                 A FS
        SUSAP KMSPK3FH12RZ APAETN 020UTHNKK3EA0E    010TF                               + 06000                           A FS
        SUSAP KMSPK3FH12RZ APAETN 030WAYZAK3EA0E    010TF                               + 05000                           A FS
        SUSAP KMSPK3FH12RZ APAETN 040ZESTYK3EA0EE   010TF                               + 04000                           A FS
        SUSAP KMSPK3FH12RZ ATIETN 010TIETNK3EA0E  B    IF                               + 07000     18000                 A FS
        SUSAP KMSPK3FH12RZ ATIETN 020EEDDNK3EA0E    010TF                                 07000          210              A-FS
        SUSAP KMSPK3FH12RZ ATIETN 030WDLNDK3EA0E   R010RF       0030803002    01860042   + 05500                 CFBCW K3EAA FS
        SUSAP KMSPK3FH12RZ ATIETN 040KRLSNK3EA0E   R010RF       0030800186    09000038   + 04400          210    CFBCW K3EAA-FS
        SUSAP KMSPK3FH12RZ ATIETN 050ZESTYK3EA0EE  R010RF       0030800900    12120017   + 04000                 CFBCW K3EAA FS
        SUSAP KMSPK3FH12RZ H      010ZESTYK3EA0E  I    IF                               + 04000     18000                 A FS
        SUSAP KMSPK3FH12RZ H      020KINNSK3EA1E  F 010TF                               + 03000                 RW12R K3PGA FS
        SUSAP KMSPK3FH12RZ H      020KINNSK3EA2W                                              A031                          FS
        SUSAP KMSPK3FH12RZ H      030RW12RK3PG0GY M 031TF                                 00898            -300           A FS
```

QUALITY 4 CHECKED

CITY AND STATE	ELEVATION: 842 THRE: 842	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
MINNEAPOLIS, MN	AIRPORT NAME: **MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN**	**RNAV**	**RNAV (RNP) Z RWY 12R, ORIG**	AMDT: **NONE**
				DATED:

ALL AFFECTED PROCEDURES REVIEWED? ☐ YES ☐ NO	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE

COORDINATED WITH:

ATA ☐ AAT ☐ ALPA ☐ APA ☐ AOPA ☐ NBAA ☐ OTHER (specify) ☐ _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME:	NFPG	DATE:
APPROVED BY		
NAME:	NFPG	DATE:

CHANGES:

REASONS:

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```
        SUSAP KMSPK3FH12RZ H      040          0  M      CA                  1212        + 01300                          A FS
        SUSAP KMSPK3FH12RZ H      050FGT  K3D 0VY        DF                              + 03000                          A FS
        SUSAP KMSPK3FH12RZ H      060FGT  K3D 0VE  R     HM                  35800040    + 03000                          A FS
```

```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
RUNWAY  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KMSPK3GRW12R   0100001213 N44531604W093140287-0300    +0229400842000056200IIHKZ3
```

```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
MSA     123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KMSPK3SRW12RK3PG                0   18018003525                                                                    M
```

QUALITY 4 CHECKED

CITY AND STATE	ELEVATION: 842 THRE: 842	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
MINNEAPOLIS, MN	AIRPORT NAME: MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN	RNAV	RNAV (RNP) Z RWY 12R, ORIG	AMDT: NONE
				DATED:

ALL AFFECTED PROCEDURES REVIEWED? ☐ YES ☐ NO	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE

COORDINATED WITH:

ATA ☐ AAT ☐ ALPA ☐ APA ☐ AOPA ☐ NBAA ☐ OTHER (specify) ☐ _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME:	NFPG	DATE:
APPROVED BY		
NAME:	NFPG	DATE:

CHANGES:

REASONS:

U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

RNAV (RNP) STANDARD INSTRUMENT APPROACH PROCEDURE

FLIGHT STANDARDS SERVICES - **FAR PART 97.33**

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ARINC SUMMARY - 424-18 - RNAV (RNP)

ROUTES	TRANSITION	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
	EFEXX	EFEXX	010		IF		FB				AT 06000	
	EFEXX	KRLSN	020		TF		FB	1.0			AA 04400	AB 210
	EFEXX	ZESTY	030		RF	R	FB	1.0		001.7	AA 04000	
	PAETN	PAETN	010		IF		FB				AA 07000	
	PAETN	UTHNK	020		TF		FB	1.0			AA 06000	
	PAETN	WAYZA	030		TF		FB	1.0			AA 05000	
	PAETN	ZESTY	040		TF		FB	1.0			AA 04000	
	TIETN	TIETN	010		IF		FB				AA 07000	
	TIETN	EEDDN	020		TF		FB	1.0			AT 07000	AB 210
	TIETN	WDLND	030		RF	R	FB	1.0		004.2	AA 05500	
	TIETN	KRLSN	040		RF	R	FB	1.0		003.8	AA 04400	AB 210
	TIETN	ZESTY	050		RF	R	FB	1.0		001.7	AA 04000	
		ZESTY	010	FACF	IF		FB				AA 04000	
		KINNS	020	FAF	TF		FB	1.0			AA 03000	
		RW12R	030	MAP	TF		FO	0.3			AT 00898	

MISSED APPROACH	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
		040		CA		FB		121.2(121.2T)		AA 01300	
	FGT	050		DF		FO				AA 03000	
	FGT	060		HM	R	FO		358.0(358.0T)	004.0	AA 03000	

POINT DATA	WAYPOINT	LAT IN SECS	LONG IN SECS	LAT IN MINS	LONG IN MINS
	FGT	N443751.43	W0931055.37	N4437.857	W09310.923
	CFBCW	N445541.24	W0932800.87	N4455.687	W09328.015
	EEDDN	N445301.42	W0933011.39	N4453.024	W09330.190
	EFEXX	N445846.06	W0933601.81	N4458.768	W09336.030
	KINNS	N445641.70	W0932159.24	N4456.695	W09321.987
	KRLSN	N445846.02	W0932800.67	N4458.767	W09328.011
	PAETN	N450311.41	W0933708.07	N4503.190	W09337.135
	TIETN	N445119.07	W0932603.53	N4451.318	W09326.059
	UTHNK	N450134.18	W0933320.56	N4501.570	W09333.343
	WAYZA	N445956.82	W0932933.25	N4459.947	W09329.554
	WDLND	N445640.02	W0933207.51	N4456.667	W09332.125
	ZESTY	N445819.33	W0932546.15	N4458.322	W09325.769
	RW12R	N445316.04	W0931402.87	N4453.267	W09314.048

RUNWAY DATA	RWY	THRESHOLD ELEVATION	TCH
	RW12R	00842	56

CITY AND STATE	ELEVATION: 842 THRE: 842	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
MINNEAPOLIS, MN	AIRPORT NAME: **MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN**	**RNAV**	**RNAV (RNP) Z RWY 12R, ORIG**	AMDT: **NONE**
				DATED:

ALL AFFECTED PROCEDURES REVIEWED? ☐ YES ☐ NO	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE

COORDINATED WITH:

ATA ☐ AAT ☐ ALPA ☐ APA ☐ AOPA ☐ NBAA ☐ OTHER (specify) ☐ _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME:	NFPG	DATE:
APPROVED BY		
NAME:	NFPG	DATE:

CHANGES:

REASONS:

U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

RNAV (RNP) STANDARD INSTRUMENT APPROACH PROCEDURE

FLIGHT STANDARDS SERVICES - **FAR PART 97.33**

Bearings, headings, courses, 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 in feet RVR.

QUALITY 4 CHECKED

CITY AND STATE	ELEVATION: 842 THRE: 842	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
MINNEAPOLIS, MN	AIRPORT NAME: **MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN**	**RNAV**	**RNAV (RNP) Z RWY 12R, ORIG**	AMDT: **NONE**
				DATED:

ALL AFFECTED PROCEDURES REVIEWED? ☐ YES ☐ NO	COORDINATES OF FACILITIES	REQUIRED EFFECTIVE DATE

COORDINATED WITH:

ATA ☐ AAT ☐ ALPA ☐ APA ☐ AOPA ☐ NBAA ☐ OTHER (specify) ☐ _____

FLIGHT CHECKED BY		
NAME:	FIFO	DATE:
DEVELOPED BY		
NAME:	NFPG	DATE:
APPROVED BY		
NAME:	NFPG	DATE:

CHANGES:

REASONS:

STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD

PART - A OBSTRUCTION DATA

1. APP SEGMENT	FROM	TO	OBSTRUCTION	COORDINATES	ELEV. MSL	ROC	ALT. ADJUSTMENTS	MIN. ALT.
INTERMEDIATE	TIETN	EEDDN	1. AAO	445430.00N/0932824.00W	1257 (4E)	500	AC98 AT5145	7000
(RNP 1.00)			2. TERRAIN	445433.00N/0932824.00W	1057 (1100)		AS1500	2600
INTERMEDIATE S/D	EEDDN	WDLND	3. AAO	445321.00N/0933424.00W	1293 (4E)	500	AC98 AT3609	5500
(RNP 1.00)			4. TERRAIN	445324.00N/0933424.00W	1093 (1100)		AS1500	2600
INTERMEDIATE S/D	WDLND	KRLSN	5. AAO	445945.00N/0933118.00W	1273 (4E)	500	AC98 AT2529	4400
(RNP 1.00)			6. TERRAIN	445948.00N/0933115.00W	1073 (1100)		AS1500	2600
INTERMEDIATE S/D	KRLSN	ZESTY	7. TOWER (27-000393)	445934.00N/0932841.00W	1319 (5D)	500	AC50 AT2131	4000
(RNP 1.00)			8. TERRAIN	445809.00N/0932751.00W	1027 (1000)		AS1500	2500
INTERMEDIATE	EFEXX	KRLSN	9. AAO	450021.00N/0933545.00W	1286 (4E)	500	AC98 AT2516	4400
(RNP 1.00)			10. TERRAIN	450021.00N/0933545.00W	1086 (1100)		AS1500	2600
INTERMEDIATE	PAETN	UTHNK	11. TOWER (27-001535)	450306.00N/0933413.00W	1436 (5E)	500	AC125 AT3939	6000
(RNP 1.00)			10. TERRAIN	450021.00N/0933545.00W	1086 (1100)		AS1500	2600
INTERMEDIATE S/D	UTHNK	WAYZA	9. AAO	450021.00N/0933545.00W	1286 (4E)	500	AC98 AT3116	5000
(RNP 1.00)			6. TERRAIN	445948.00N/0933115.00W	1073 (1100)		AS1500	2600
3. MISSED APPROACH MAP:								
ELEV:								

4. CIRCLING AREA	DISTANCE	HT. ABV. ARPT. REQUIRED	HT. ABV. ARPT. ACTUAL
CATEGORY A	1.3 NM	350	
CATEGORY B	1.5 NM	450	
CATEGORY C	1.7 NM	450	
CATEGORY D	2.3 NM	550	
CATEGORY E	4.5 NM	550	

5. MINIMUM SAFE ALTITUDES — PRIMARY NAVAID: **RW12R**

SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A
360-360	TWR (27-000499)	021/ 11.2	2438 (1D)	3500					

QUALITY CHECKED 4

CITY AND STATE	ELEVATION: 842 / AIRPORT NAME:	FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
MINNEAPOLIS, MN	MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN	RNAV	RNAV (RNP) Z RWY 12R, ORIG	AGL

PART B - SUPPLEMENTAL DATA

1. COMMUNICATIONS WITH:	2. WEATHER SERVICE	3. ALTIMETER SETTING
ZMP ARTCC MSP APP CON	[ ] NWS [ ] FAA [ ] A/C OTHER: ASOS	SOURCE: KMSP DISTANCE: HOURS REMOTE OPERATION:
SATISFACTORY ON:		
[X] VHF [X] UHF [ ] HF	LOCATION: KMSP	ADJUSTMENT: 0

4. MONITOR STATUS		
	PRIMARY NAVAID:	
	MONITOR POINT:	
HRS OPTN:	CAT 1	
	CAT 3	

5. APPROACH & RUNWAY LIGHTING		
	X	ALSF-1 12R ALSF-2 12L, 30L, 35
		(S) SALS
	X	MALSR 22, 04 MALSF 30R
	X	HIRL 12L, 30R, 17, 22, 30L, 04, 12R, 35
		MIRL
	X	REIL 30R, 17
	X	TDZ 12L, 30L, 12R, 35
	X	C/L 12L, 30R, 17, 30L, 12R, 35
	X	OTHER (SPECIFY) PAPI-4R 17 PAPI-4L 12L, 30R, 22, 30L, 04, 12R, 35

6. RUNWAY MARKINGS		
	BASIC	
	ALL WEATHER	PIR-G 12L, 30R, 22, 30L, 04, 12R, 35
	INSTRUMENT	NPI-G 17

7. RUNWAY VISUAL RANGE		
	APPROACH	12L, 30R, 17, 22, 30L, 04, 12R, 35
	MIDFIELD	12L, 30R, 17, 30L, 12R, 35
	ROLL OUT	12L, 30R, 17, 22, 30L, 04, 12R, 35

8. GLIDE PATH		
GP ANGLE: 3.00	ELEV RWY THRESHOLD: 841.8	
DISTANCE FROM RWY:	ELEV GP ANTENNA:	
	THRESHOLD CROSSING HEIGHT: 55.8	

9. FINAL APPROACH COURSE AIMING			
	X	RUNWAY THRESHOLD	FT. FROM THRESHOLD
	X	ON CENTERLINE	FT. FROM CENTERLINE

10. WAIVERS: NONE

PART D - PREPARED BY:	DATE:
BETTY RICHARDS	10/18/2012
TITLE: AERONAUTICAL INFORMATION SPECIALIST	OFFICE: AJV-353

PART C - REMARKS:

MAX SPEED WDLND TO KRLSN - 210 KIAS.

MAX SPEED EEDDN TO WDLND - 210 KIAS.

MAX SPEED KRLSN TO ZESTY - 210 KIAS.

PRECIPITOUS TERRAIN EVALUATION COMPLETED.

SPECIAL AIRCRAFT AND AIRCREW AUTHORIZATION REQUIRED (SAAAR) FAAO 8260.52 CRITERIA USED.

MISSED APPROACH: FAAO8260.54 CRITERIA USED.

BARO-VNAV BELOW -19C (-2F) OR ABOVE 54C (130F).
ACT: -27C
DELTA ISA LOW: -32.33C
DESCENT RATE: STANDARD TEMP 965, HIGH TEMP 1127
TEMPERATURE HIGH LIMITS AND DESCENT VALUES DERIVED FROM AFS-400 CALCULATOR.
CRITICAL LOW TEMPERATURE DERIVED FROM 09/26/2012 CALCULATOR.

OCS SLOPE 21.97:1

AVERAGE COLD TEMPERATURE BASED ON 5-YEAR HISTORY (2007-2011).

VEB DATA: SEE ATTACHED SPREADSHEET.

VGSI DATA: 3.00/65.5

BACK UP ALTIMETER NOT PUBLISHED--REDUNDANT SOURCES ON AIRPORT.

RF SEGMENT RADIUS/BANK ANGLE COMPUTATIONS:

SEGMENT	ALTITUDE	KIAS	HAA	VKTW*	TR	BA
EEDDN-WDLND	7000	210	6158.1	49	3.08	21.50
WDLND--KRLSN	5500	210	4658.1	48	3.08	20.52
KRLSN--ZESTY	4400	210	3558.1	50	3.08	20.17

SEE ATTACHED AIRSPACE LETTER.

QUALITY 4 CHECKED

STANDARD INSTRUMENT APPROACH PROCEDURE DATA RECORD

PART - A OBSTRUCTION DATA

1. APP SEGMENT	FROM	TO	OBSTRUCTION	COORDINATES	ELEV. MSL	ROC	ALT. ADJUSTMENTS	MIN. ALT.
INTERMEDIATE S/D	WAYZA	ZESTY	5. AAO	445945.00N/0933118.00W	1273 (4E)	500	AC98 AT2129	4000
(RNP 1.00)			12. TERRAIN	450036.00N/0932848.00W	1030 (1000)		AS1500	2500
INTERMEDIATE S/D	ZESTY	KINNS	13. AAO	445739.00N/0932548.00W	1241 (4E)	500	AC98 AT1023 VEB138	3000
(RNP 1.00)			14. TERRAIN	445745.00N/0932551.00W	1040 (1000)		AS1500	2500
FINAL: RNP 0.30	KINNS	RW12R	15. TOWER (27-001471)	445330.00N/0931505.00W	949 (2C)	21.97:1	AC20	1279/437
MISSED APPROACH	DA	RW12R				ASC		
(RNP 0.30-1.00)								
MISSED APPROACH	RW12R	FGT VORTAC				ASC		
(RNP 0.30-1.00)								
3. MISSED APPROACH MAP:	DA	FGT VORTAC				ASC		3000
			16. TOWER (27-001294)	444205.00N/0930903.00W	1455 (4D)	1000	AC50	2600
ELEV:	1118		17. TERRAIN	444512.00N/0931348.00W	1100 (1100)		AS1500	2600

4. CIRCLING AREA	DISTANCE		HT. ABV. ARPT.		
CATEGORY A	1.3 NM	REQUIRED	350	ACTUAL	
CATEGORY B	1.5 NM		450		
CATEGORY C	1.7 NM		450		
CATEGORY D	2.3 NM		550		
CATEGORY E	4.5 NM		550		

5. MINIMUM SAFE ALTITUDES — PRIMARY NAVAID:

SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A

CITY AND STATE		FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
MINNEAPOLIS, MN	ELEVATION: 842 AIRPORT NAME: MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN	RNAV	RNAV (RNP) Z RWY 12R, ORIG	AGL

PART B - SUPPLEMENTAL DATA

1. COMMUNICATIONS WITH:	2. WEATHER SERVICE	3. ALTIMETER SETTING
SATISFACTORY ON:	☐ N W S OTHER: ☐ F A A ☐ A / C	SOURCE: DISTANCE: HOURS REMOTE OPERATION:
☐ V H F ☐ U H F ☐ H F	LOCATION:	ADJUSTMENT:

4. MONITOR STATUS	PRIMARY NAVAID:	
	MONITOR POINT:	
	HRS OPTN:	CAT 1
		CAT 3

5. APPROACH & RUNWAY LIGHTING	☐	**ALS**
	☐	**(S) SALS**
	☐	**MALS**
	☐	**HIRL**
	☐	**MIRL**
	☐	**REIL**
	☐	**TDZ**
	☐	**C/LINE**
	☐	**OTHER (SPECIFY)**

6. RUNWAY MARKINGS	BASIC	
	ALL WEATHER	
	INSTRUMENT	
7. RUNWAY VISUAL RANGE	APPROACH	
	MIDFIELD	
	ROLL OUT	
8. GLIDE PATH	GP ANGLE:	ELEV RWY THRESHOLD:
	DISTANCE FROM RWY:	ELEV GP ANTENNA:
		THRESHOLD CROSSING HEIGHT:

9. FINAL APPROACH COURSE AIMING	☐	RUNWAY THRESHOLD	FT. FROM THRESHOLD
	☐	ON CENTERLINE	FT. FROM CENTERLINE

10. WAIVERS:

PART D - PREPARED BY:	DATE:
TITLE:	OFFICE:

PART C - REMARKS:

RADIO FIX AND HOLDING DATA RECORD

NAME: CFBCW **STATE:** MN **COUNTRY:** US

LATITUDE/LONGITUDE: 445541.24N/0932800.87W **TYPE:** CNF

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** ESTABLISH

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (RNP) Z RWY 12R			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 03/07/2013

DEVELOPED BY: **DATE:** 10/04/2012 **OFFICE:** AJV-353 **NAME:** BETTY RICHARDS

APPROVED BY: **DATE:** **OFFICE:** AJV-353 **NAME:** LARRY STROUT

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZMP
ATC FACILITY: MSP APP CON, MSP ATCT
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: EEDDN **STATE:** MN **COUNTRY:** US

LATITUDE/LONGITUDE: 445301.42N/0933011.39W **TYPE:** WP

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** ESTABLISH

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (RNP) Z RWY 12R			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 05/02/2013

REASON FOR REVISION:

01/10/2013: THIS IS AN UPDATED COPY OF THE FORM DEVELOPED ON 09/13/2012:
1. UPDATED FIX USE.
2. REMOVED STAR FROM REQUIRED CHARTING.

DEVELOPED BY: **DATE:** 09/13/2012 **OFFICE:** AJV-353 **NAME:** BEV L BORDY

APPROVED BY: **DATE:** **OFFICE:** AJV-353 **NAME:** LARRY STROUT

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZMP
ATC FACILITY: MSP APP CON, MSP ATCT
OTHER:

QUALITY 4 CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: EFEXX **STATE:** MN **COUNTRY:** US

LATITUDE/LONGITUDE: 445846.06N/0933601.81W **TYPE:** WP

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** ESTABLISH

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (RNP) Z RWY 12R			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 07/24/2014

REASON FOR REVISION:

01/10/2013: THIS IS AN UPDATED COPY OF THE FORM DEVELOPED ON 10/17/2012:
1. UPDATED FIX USE.
2. REMOVED STAR FROM REQUIRED CHARTING.

DEVELOPED BY: **DATE:** 10/17/2012 **OFFICE:** AJV-353 **NAME:** STEPHEN PETERSON

APPROVED BY: **DATE:** **OFFICE:** AJV-353 **NAME:** LARRY STROUT

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZMP
ATC FACILITY: MSP APP CON
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: FARMINGTON VORTAC **STATE:** MN **COUNTRY:** US

LATITUDE/LONGITUDE: 443751.43N/0931055.37W **TYPE:**

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	FARMINGTON	FGT	VORTAC	H							45000

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

PATTERNS:

PAT	DIR	IDENT	TYPE	RAD/CRS/BRG	CRS INBOUND	TURN (L OR R)	LEG LENGTH TIME	LEG LENGTH DME	HOLDING ALTITUDES MIN	HOLDING ALTITUDES MAX	TEMPLATES MIN	TEMPLATES MAX
1	S	FGT	VORTAC	178.03	358.03	R	1		2800	14000	4	10
2	E	FGT	VORTAC	085.00	265.00	L	1		3000	14000	4	10
3	S		WP	178.03	358.03	R		4	3000	6000	5	6

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	TOWER (27-000313)	442835.00N/0931107.00W	1474	4D
2	200	TOWER (27-001333)	443417.00N/0930441.00W	1360	5D
3	200	TOWER (27-000313)	442835.00N/0931107.00W	1474	4D

REASON FOR NONSTANDARD HOLDING:
PAT 2 ATC REQUEST

HOLDING RESTRICTIONS:
HOLDING LIMITED TO ESTABLISHED PATTERNS.

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	ROCHESTER			KANE	MINNEAPOLIS	MN (US)
DP	SCHEP			KANE	MINNEAPOLIS	MN (US)
DP	WAUKON			KANE	MINNEAPOLIS	MN (US)
DP	ROCHESTER			KFCM	MINNEAPOLIS	MN (US)
DP	SCHEP			KFCM	MINNEAPOLIS	MN (US)
DP	WAUKON			KFCM	MINNEAPOLIS	MN (US)
DP	COULT			KMSP	MINNEAPOLIS	MN (US)
DP	DARWIN			KMSP	MINNEAPOLIS	MN (US)
DP	KBREW			KMSP	MINNEAPOLIS	MN (US)
DP	MEADOW LAKE			KMSP	MINNEAPOLIS	MN (US)
DP	MINNEAPOLIS			KMSP	MINNEAPOLIS	MN (US)
DP	ORSKY			KMSP	MINNEAPOLIS	MN (US)
DP	ROCHESTER			KMSP	MINNEAPOLIS	MN (US)
DP	SCHEP			KMSP	MINNEAPOLIS	MN (US)
DP	SMERF (RNAV)			KMSP	MINNEAPOLIS	MN (US)
DP	WAUKON			KMSP	MINNEAPOLIS	MN (US)
DP	ZMBRO			KMSP	MINNEAPOLIS	MN (US)
DP	AGUDE			KSGS	SOUTH ST PAUL	MN (US)
DP	ROCHESTER			KSTP	ST PAUL	MN (US)
DP	SCHEP			KSTP	ST PAUL	MN (US)
DP	WAUKON			KSTP	ST PAUL	MN (US)
EN ROUTE	V13					(US)
EN ROUTE	V161					(US)
EN ROUTE	V171					(US)
EN ROUTE	V26					(US)
EN ROUTE	V411					(US)
EN ROUTE	V82					(US)
IAP	COPTER ILS OR LOC RWY 10R			KFCM	MINNEAPOLIS	MN (US)
IAP	ILS OR LOC RWY 10R			KFCM	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) RWY 10L			KFCM	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) RWY 28L			KFCM	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) RWY 28R			KFCM	MINNEAPOLIS	MN (US)
IAP	ILS OR LOC RWY 30		2	KLVN	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) RWY 12			KLVN	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) RWY 30			KLVN	MINNEAPOLIS	MN (US)
IAP	VOR RWY 12		2	KLVN	MINNEAPOLIS	MN (US)
IAP	CONVERGING ILS RWY 35			KMSP	MINNEAPOLIS	MN (US)
IAP	ILS OR LOC RWY 12L (ALT MA)			KMSP	MINNEAPOLIS	MN (US)
IAP	ILS OR LOC RWY 12R		1	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS OR LOC RWY 35			KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (CAT II) (ALT MA)			KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (CAT III) (ALT MA)			KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (SA CAT I) (ALT MA)			KMSP	MINNEAPOLIS	MN (US)

QUALITY CHECKED

IAP	ILS RWY 12R (CAT II)	1	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12R (CAT III)	1	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12R (SA CAT I)	1	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 35 (CAT II)		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 35 (CAT III)		KMSP	MINNEAPOLIS	MN (US)
IAP	LOC RWY 17	1	KMSP	MINNEAPOLIS	MN (US)
IAP	LOC RWY 22	1	KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) RWY 22	3	KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Y RWY 12R	3	KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Z RWY 12R	3	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS OR LOC RWY 30		KOWA	OWATONNA	MN (US)
IAP	ILS OR LOC RWY 9	2	KRGK	RED WING	MN (US)
IAP	LOC RWY 34		KSGS	SOUTH ST PAUL	MN (US)
IAP	NDB OR GPS-B		KSGS	SOUTH ST PAUL	MN (US)
IAP	RNAV (GPS) RWY 34		KSGS	SOUTH ST PAUL	MN (US)
IAP	NDB RWY 4		K21D	ST PAUL	MN (US)
IAP	RNAV (GPS) RWY 32		K21D	ST PAUL	MN (US)
IAP	ILS OR LOC RWY 14		KSTP	ST PAUL	MN (US)
IAP	ILS OR LOC RWY 32		KSTP	ST PAUL	MN (US)
IAP	NDB RWY 31		KSTP	ST PAUL	MN (US)
STAR	AGUDE		KCFE	BUFFALO	MN (US)
STAR	AGUDE		KFBL	FARIBAULT	MN (US)
STAR	AGUDE		KGYL	GLENCOE	MN (US)
STAR	AGUDE		KMGG	MAPLE LAKE	MN (US)
STAR	AGUDE		KANE	MINNEAPOLIS	MN (US)
STAR	TWOLF		KANE	MINNEAPOLIS	MN (US)
STAR	AGUDE		KFCM	MINNEAPOLIS	MN (US)
STAR	TWOLF		KFCM	MINNEAPOLIS	MN (US)
STAR	AGUDE		KLVN	MINNEAPOLIS	MN (US)
STAR	TWOLF		KLVN	MINNEAPOLIS	MN (US)
STAR	AGUDE		KMIC	MINNEAPOLIS	MN (US)
STAR	TWOLF		KMIC	MINNEAPOLIS	MN (US)
STAR	KASPR		KMSP	MINNEAPOLIS	MN (US)
STAR	TWOLF		KMSP	MINNEAPOLIS	MN (US)
STAR	WILDD		KMSP	MINNEAPOLIS	MN (US)
STAR	AGUDE		KRGK	RED WING	MN (US)
STAR	AGUDE		KSGS	SOUTH ST PAUL	MN (US)
STAR	AGUDE		K21D	ST PAUL	MN (US)
STAR	AGUDE		KSTP	ST PAUL	MN (US)
STAR	TWOLF		KSTP	ST PAUL	MN (US)
STAR	AGUDE		KRNH	NEW RICHMOND	WI (US)
STAR	TWOLF		KRNH	NEW RICHMOND	WI (US)
STAR	AGUDE		KOEO	OSCEOLA	WI (US)
STAR	TWOLF		KOEO	OSCEOLA	WI (US)

REQUIRED CHARTING: DP, STAR, IAP, AREA, CONTROLLER, EN ROUTE LOW, EN ROUTE HIGH

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 17 **DATE OF REVISION:** 03/07/2013

REASON FOR REVISION:
UPDATED FAC 1 FROM HISTORY.
CHANGED PATTERN 2 MIN HOLDING FROM 2800 TO 3000.
REMOVED PATTERN 1 AND 3 AIRSPEED 310 OBSTACLE.
REMOVED ALL CLIMB-IN-HOLD PATTERNS.

DEVELOPED BY: **DATE:** 09/18/2012 **OFFICE:** AJV-353 **NAME:** JILL OLSON (KISSY MAXFIELD)

APPROVED BY: **DATE:** **OFFICE:** AJV-353 **NAME:** LARRY STROUT

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZMP
ATC FACILITY: MSP APP CON, MSP ATCT
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: KINNS **STATE:** MN **COUNTRY:** US

LATITUDE/LONGITUDE: 445641.70N/0932159.24W **TYPE:** WP, RADAR, INT, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	MINNEAPOLIS	I-HKZ	LOC/DME		301.33	301.33	8.06	8.38	50948	3000	5300
2	GOPHER	GEP	VORTAC	H	172.64	178.64		12.05		3000	5300

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

REMARKS:
I-HKZ DME COORDINATES 445226.93N/0931220.56W

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 12R	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12R (CAT II)	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12R (CAT III)	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12R (SA CAT I)	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Y RWY 12R			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Z RWY 12R			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: IAP, CONTROLLER

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 7 **DATE OF REVISION:** 03/07/2013

REASON FOR REVISION:
UPDATED FIX USE.
FIX MOVED 737 FT NORTHWEST.
FAC 1 CHANGED MAG/TRUE CRS FROM 300.34/301.34 TO 301.33/301.33.
FAC 1 CHANGED DME FROM 7.94 TO 8.06.
FAC 1 CHANGED DIST FROM FAC NM/FT FROM 8.26/50214 TO 8.38/50948.
FAC 2 CHANGED MAG/TRUE CRS FROM 172.15/178.15 TO 172.64/178.64.
FAC 2 CHANGED DIST FROM FAC FROM 12.12 TO 12.05.
ADDED CONTROLLER TO REQUIRED CHARTING.
I-HKZ DME COORDINATES CHANGED FROM 445226.92N/0931220.54W TO 445226.93N/0931220.56W.

DEVELOPED BY: **DATE:** 09/26/2012 **OFFICE:** AJV-353 **NAME:** JILL OLSON (ANKUR VERMA)

APPROVED BY: **DATE:** **OFFICE:** AJV-353 **NAME:** LARRY STROUT

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZMP
ATC FACILITY: MSP APP CON, MSP ATCT
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: KRLSN **STATE:** MN **COUNTRY:** US

LATITUDE/LONGITUDE: 445846.02N/0932800.67W **TYPE:** WP

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** ESTABLISH

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (RNP) Z RWY 12R			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 03/07/2013

DEVELOPED BY: **DATE:** 10/03/2012 **OFFICE:** AJV-353 **NAME:** BETTY RICHARDS

APPROVED BY: **DATE:** **OFFICE:** AJV-353 **NAME:** LARRY STROUT

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: CEN
ARTCC: ZMP
ATC FACILITY: MSP APP CON, MSP ATCT
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: PAETN **STATE:** MN **COUNTRY:** US

LATITUDE/LONGITUDE: 450311.41N/0933708.07W **TYPE:** WP, INT, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	MINNEAPOLIS	I-HKZ	LOC/DME		301.33	301.33	20.62	20.94		5000	8000
2	GOPHER	GEP	VORTAC	H	236.09	242.09		11.83		5000	8000

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
I-HKZ	LOC/DME	BRG-301	21	5000	8000

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

REMARKS:
MINNEAPOLIS (FAC 1) USED TO ESTABLISH FIX COORDINATES
I-HKZ DME COORDINATES 445226.93N/0931220.56W
ESV IS FOR HKZ LOC AND GS.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 12R	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12R (CAT II)	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12R (CAT III)	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12R (SA CAT I)	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Y RWY 12R			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Z RWY 12R			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 2 **DATE OF REVISION:** 03/07/2013

REASON FOR REVISION:
UPDATED FIX USE.
FIX MOVED 5708 FT NORTHWEST.
CHANGED I-HKZ DME COORDINATES FROM 445226.92N/0931220.54W TO 445226.93N/0931220.56W.
FAC 1 CHANGED MAG/TRUE BRG FROM 300.34/301.34 TO 301.33/301.33.
FAC 1 CHANGED DME DIST FROM 19.68 TO 20.62.
FAC 1 CHANGED DIST FROM FAC FROM 20.00 TO 20.94.
FAC 1/2 MRA CHANGED FROM 3000 TO 5000.
FAC 2 CHANGED MAG/TRUE BRG FROM 232.03/238.03 TO 236.09/242.09.
FAC 2 CHANGED DIST FROM FAC FROM 11.37 TO 11.83.
ESV CHANGED FROM I-HKZ LOC/DME BRG-300 DIST 20 MIN ALT 3000 MAX ALT 8000 TO BRG-301 DIST 21 MIN ALT 5000 MAX ALT 8000.
ADDED WP TO FIX TYPE.

DEVELOPED BY: **DATE:** 09/26/2012 **OFFICE:** AJV-353 **NAME:** JILL OLSON (ANKUR VERMA)

APPROVED BY: **DATE:** **OFFICE:** AJV-353 **NAME:** LARRY STROUT

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZMP
ATC FACILITY: MSP APP CON, MSP ATCT
OTHER:

CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: TIETN **STATE:** MN **COUNTRY:** US

LATITUDE/LONGITUDE: 445119.07N/0932603.53W **TYPE:** WP

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** ESTABLISH

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (RNP) Z RWY 12R			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 05/02/2013

REASON FOR REVISION:

01/10/2013: THIS IS AN UPDATED COPY OF THE FORM DEVELOPED ON 10/01/2012:
1. UPDATED FIX USE.
2. REMOVED STAR FROM REQUIRED CHARTING.

DEVELOPED BY: **DATE:** 10/01/2012 **OFFICE:** AJV-353 **NAME:** BEV L BORDY

APPROVED BY: **DATE:** **OFFICE:** AJV-353 **NAME:** LARRY STROUT

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZMP
ATC FACILITY: MSP APP CON / MSP ATCT
OTHER:

QUALITY 4 CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: UTHNK **STATE:** MN **COUNTRY:** US

LATITUDE/LONGITUDE: 450134.18N/0933320.56W **TYPE:** WP, INT, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	MINNEAPOLIS	I-HKZ	LOC/DME		301.33	301.33	17.48	17.80		5000	7000
2	GOPHER	GEP	VORTAC	H	221.32	227.32		10.57		5000	7000

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
I-HKZ	LOC/DME	BRG-301	18	5000	7000

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

REMARKS:
MINNEAPOLIS (FAC 1) USED TO ESTABLISH FIX COORDINATES
I-HKZ DME COORDINATES 445226.93N/0931220.56W
ESV IS FOR HKZ GLIDESLOPE: R-300/18/5000-7000

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 12R	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12R (CAT II)	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12R (CAT III)	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12R (SA CAT I)	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Y RWY 12R			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Z RWY 12R			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 2 **DATE OF REVISION:** 03/07/2013

REASON FOR REVISION:
UPDATED FIX USE.
FIX MOVED 4063 FT NORTHWEST.
CHANGED I-HKZ DME COORDINATES FROM 445226.92N/0931220.54W TO 445226.93N/0931220.56W.
FAC 1 CHANGED MAG/TRUE BRG FROM 300.34/301.34 TO 301.33/301.33.
FAC 1 CHANGED DME FROM 16.81 TO 17.48.
FAC 1 CHANGED DIST FROM FAC FROM 17.14 TO 17.80.
FAC 1/2 CHANGED MRA FROM 3000 TO 5000.
FAC 2 CHANGED MAG/TRUE BRG FROM 217.78/223.78 TO 221.32/227.32.
FAC 2 CHANGED DIST FROM FAC FROM 10.40 TO 10.57.
ESV CHANGED FROM I-HKZ LOC/DME BRG-300 DIST 16 MIN ALT 3000 MAX ALT 7000 TO BRG-301 DIST 18 MIN ALT 5000 MAX ALT 7000.

DEVELOPED BY: **DATE:** 09/26/2012 **OFFICE:** AJV-353 **NAME:** JILL OLSON (ANKUR VERMA)

APPROVED BY: **DATE:** **OFFICE:** AJV-353 **NAME:** LARRY STROUT

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZMP
ATC FACILITY: MSP APP CON, MSP ATCT
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: WAYZA **STATE:** MN **COUNTRY:** US

LATITUDE/LONGITUDE: 445956.82N/0932933.25W **TYPE:** WP, INT, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	MINNEAPOLIS	I-HKZ	LOC/DME		301.33	301.33	14.34	14.66		5000	5300
2	GOPHER	GEP	VORTAC	H	204.04	210.04		10.16		5000	5300

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
I-HKZ	LOC/DME	BRG-301	15	5000	5300

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

REMARKS:
I-HKZ DME COORDINATES 445226.93N/0931220.56W

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 12R	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12R (CAT II)	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12R (CAT III)	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12R (SA CAT I)	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Y RWY 12R			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Z RWY 12R			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 9 **DATE OF REVISION:** 03/07/2013

REASON FOR REVISION:
UPDATED FIX USE.
FIX MOVED 2678 FT NORTHWEST.
CHANGED I-HKZ DME COORDINATES FROM 445226.92N/0931220.54W TO 445226.93N/0931220.56W.
FAC 1 CHANGED MAG/TRUE BRG FROM 300.34/301.34 TO 301.33/301.33.
FAC 1 CHANGED DME DIST FROM 13.90 TO 14.34.
FAC 1 CHANGED DIST FROM FAC FROM 14.22 TO 14.66.
FAC 1/2 CHANGED MRA FROM 3000 TO 5000.
FAC 2 CHANGED MAG/TRUE BRG FROM 201.55/207.55 TO 204.04/210.04.
FAC 2 CHANGED DIST FROM FAC FROM 10.17 TO 10.16.
ESV CHANGED FROM I-HKZ LOC/DME BRG-300 DIST 13 MIN ALT 3000 MAX ALT 5300 TO I-HKZ LOC/DME BRG-301 DIST 15 MIN ALT 5000 MAX ALT 5300.
ADDED WP TO FIX TYPE.

DEVELOPED BY: **DATE:** 09/26/2012 **OFFICE:** AJV-353 **NAME:** JILL OLSON (ANKUR VERMA)

APPROVED BY: **DATE:** **OFFICE:** AJV-353 **NAME:** LARRY STROUT

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZMP
ATC FACILITY: MSP APP CON, MSP ATCT
OTHER:

RADIO FIX AND HOLDING DATA RECORD

NAME: WDLND **STATE:** MN **COUNTRY:** US

LATITUDE/LONGITUDE: 445640.02N/0933207.51W **TYPE:** WP

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** ESTABLISH

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	RNAV (RNP) Z RWY 12R			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: ORIG **DATE OF REVISION:** 03/07/2013

DEVELOPED BY: **DATE:** 10/03/2012 **OFFICE:** AJV-353 **NAME:** BETTY RICHARDS

APPROVED BY: **DATE:** **OFFICE:** AJV-353 **NAME:** LARRY STROUT

SIGNATURE:

DISTRIBUTION: **NFDC**
FPO: CEN
ARTCC: ZMP
ATC FACILITY: MSP APP CON, MSP ATCT
OTHER:

SIGNATURE CHECKED 5

RADIO FIX AND HOLDING DATA RECORD

NAME: ZESTY **STATE:** MN **COUNTRY:** US

LATITUDE/LONGITUDE: 445819.33N/0932546.15W **TYPE:** WP, RADAR, INT, DME

AIRSPACE DOCKET: **FIX TYPE OF ACTION:** MODIFY

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	DIST FROM FAC FEET	MRA	MAA
1	MINNEAPOLIS	I-HKZ	LOC/DME		301.33	301.33	11.20	11.52		4000	5300
2	GOPHER	GEP	VORTAC	H	186.96	192.96		10.69		4000	5300

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
I-HKZ	LOC/DME	BRG-301	12	4000	5300

HOLDING: **HOLDING TYPE OF ACTION:** NO CHANGE

REMARKS:
I-HKZ DME COORDINATES 445226.93N/0931220.56W

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 12R	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12R (CAT II)	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12R (CAT III)	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12R (SA CAT I)	1, 2		KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Y RWY 12R			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Z RWY 12R			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: IAP, CONTROLLER

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 2 **DATE OF REVISION:** 03/07/2013

REASON FOR REVISION:
UPDATED FIX USE.
FIX MOVED 1565 FT NORTHWEST.
CHANGED I-HKZ DME COORDINATES FROM 445226.92N/0931220.54W TO 445226.93N/0931220.56W.
FAC 1 CHANGED MAG/TRUE BRG FROM 300.34/301.34 TO 301.33/301.33.
FAC 1 CHANGED DME FROM 10.95 TO 11.20.
FAC 1 CHANGED DIST FROM FAC FROM 11.27 TO 11.52.
FAC 1/2 CHANGED MRA FROM 3000 TO 4000.
FAC 2 CHANGED MAG/TRUE BRG FROM 185.66/191.66 TO 186.66/192.96.
FAC 2 CHANGED DIST FROM FAC FROM 10.77 TO 10.69.
ADDED CONTROLLER TO REQUIRED CHARTING.
ADDED I-HKZ ESV.
ADDED WP TO FIX TYPE.

DEVELOPED BY: **DATE:** 09/26/2012 **OFFICE:** AJV-353 **NAME:** JILL OLSON (ANKUR VERMA)

APPROVED BY: **DATE:** **OFFICE:** AJV-353 **NAME:** LARRY STROUT

SIGNATURE:

DISTRIBUTION:
NFDC
FPO: CEN
ARTCC: ZMP
ATC FACILITY: MSP APP CON, MSP ATCT
OTHER:

QUALITY 5 CHECKED

TERMINAL AIRSPACE DATA REQUIREMENTS

CITY: **MINNEAPOLIS** STATE: **MN**

AIRPORT NAME: **MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN** ID: **KMSP**

PROCEDURE: **RNAV (RNP) Z RWY 12R** AMDT: **ORIG**

DOCKET#:
(96-AXX-X/Required/Not Required)

ALL DIST TO 1/100 NM; ELEV TO NEAREST FT; COORD TO 1/100 SEC; DEG TO 1/100 DG.

1. Distance from **THLD** to 1000' point **3.15**
   (Enter THLD, FAF, ARP, FACILITY, as appropriate)
2. Width of **FINAL** segment at 1000' point **1.20**
   (Enter appropriate segment, final, intermediate, etc.)
3. True Course of **FINAL** segment containing 1000' point **121.24**
4. High Terrain in **FINAL** segment containing 1000' point **948**
5. Distance from **THLD** to 1500' point **4.72**
   (If 1500' point in PT maneuvering area or holding pattern note in remarks)
6. Width of **FINAL** segment at 1500' point **1.20**
7. True Course of **FINAL** segment containing 1500' point **121.24**
8. High Terrain in **FINAL** segment containing 1500' point **948**
9. Threshold Coordinates (if straight-in) ... **445316.04N** / **0931402.87W**
10. ARP Coordinates ..... **445255.10N** / **0931318.40W**
11. Runway Approach End and distance furthest from ARP ..... RWY **30R**
    Distance **1.19** NM
12. FAF Coordinates ..... **445641.70N** / **0932159.24W**

REMARKS: Approach/Drawing attached.

Federal Aviation Administration

Memorandum

Date:

To: Dick Powell Manager, National Flight Data Center, AJV-21

From: Larry H. Strout, Manager, Central Products Team, AJV-353

Subject: **ACTION:** Magnetic Variation Change for Minneapolis-St Paul Intl/Wold-Chamberlain (KMSP)

The Magnetic Variation (MV) data for the airport(s) and/or facility(s) listed under the 'Airport/Facility" column will be revised effective concurrent with the publication of the procedure(s) listed below.

CONVERGING ILS RWY 30L, AMDT 1
CONVERGING ILS RWY 30R, AMDT 2
CONVERGING ILS RWY 35, AMDT 3
ILS OR LOC RWY 12L, ILS RWY 12L (CAT II), ILS RWY 12L (CAT III), AMDT 9
ILS OR LOC RWY 12R, ILS RWY 12R (CAT II), ILS RWY 12R (CAT III), AMDT 10
ILS OR LOC RWY 30L, ILS RWY 30L (CAT II), AMDT 45
ILS OR LOC RWY 30R, AMDT 14
ILS OR LOC RWY 35, ILS RWY 35 (CAT II), ILS RWY 35 (CAT III), AMDT 3
LOC RWY 4, AMDT 2
LOC RWY 17, AMDT 2
LOC RWY 22, AMDT 2
RNAV (GPS) Y RWY 12L, AMDT 3
RNAV (GPS) Y RWY 12R, AMDT 2
RNAV (GPS) Y RWY 30L, AMDT 3
RNAV (GPS) Y RWY 30R, AMDT 2
RNAV (GPS) Y RWY 35, AMDT 2
RNAV (RNP) Z RWY 12L, ORIG
RNAV (RNP) Z RWY 12R, ORIG
RNAV (RNP) Z RWY 30L, ORIG
RNAV (RNP) Z RWY 30R, ORIG
RNAV (RNP) Z RWY 35, AMDT 1

STARS:
ARCHS (RNAV) ONE
BAINY (RNAV) ONE
CLFAX (RNAV) ONE
DOWNZ (RNAV) ONE

FEINT (RNAV) ONE
HHOGS (RNAV) ONE

STARS:
HORML (RNAV) ONE
KKILR (RNAV) ONE
MORSS (RNAV) ONE
MUSCL (RNAV) ONE
NITZR (RNAV) ONE
TORGY (RNAV) ONE

GRAPHIC DP:
HESTIN TWO
LEINY FOUR
SLAYER TWO
SMERF FIVE

Estimated Chart Date: 03/07/2013

Please publish these changes in the National Flight Data Digest.

MINNESOTA

Location	Name	Airport /Facility	Identifier	Assigned Magnetic Variation Is	Epoch Year
Minneapolis	Minneapolis-St Paul Intl/Wold-Chamberlain	Airport	KMSP / MSP	Old 2° East New 0° East	2015
Minneapolis		ILS (CAT III)	BMA	Old 1° East New 0° East	2015
Minneapolis		ILS (CAT III)	HKZ	Old 2° East New 0° East	2015
Minneapolis		ILS	INN	Old 1° East New 0° East	2015
Minneapolis		ILS (CAT II)	MSP	Old 0° East New 0° East	2015
Minneapolis		ILS (CAT III)	PJL	Old 1° East New 0° East	2015
Minneapolis		LOC	APL	Old 1° East New 0° East	2015
Minneapolis		LOC	SIJ	Old 1° East New 0° East	2015
Minneapolis		LOC	TJZ	Old 1° East New 0° East	2015
Minneapolis	Minneapolis APP CON	ASR-9	MSP	Old 3° East New 0° East	2015

If you have any questions please notify Larry H. Strout, larry.h.strout@faa.gov (405-954-5070).

RNAV (RNP) Z RWY 12R

DO NOT REMOVE FROM PACKAGE

VEB
OCS Origin & Slope

Intermediate Segment Altitude:	3000
LTP Elevation:	841.8
Glidepath Angle:	3
TCH:	55.8
RNP Value:	0.30
Δ ISA:	-32.33

Straight In Segment

(*Wingspan* =<262) LTP to Origin:	3,900.28'
(*Wingspan* =<136) LTP to Origin:	3,680.57'
OCS Slope Ratio:	21.97 : 1

RF Turn Segment | Bank angle:	
(*Wingspan* =<262) LTP to Origin:	NA
(*Wingspan* =<136) LTP to Origin:	NA
OCS Slope Ratio:	NA

on 2.0

Intermediate Segment
VEB ROC

Glidepath Angle	3.00°
LTP MSL Elevation	814.80
TCH (ft)	55.80
OCS Slope	21.97
OCS Origin Distance (ft) *(measured along-track from LTP)*	3,900.28
Obstacle Distance (ft) *(measured along-track from LTP)*	57,186.31

VEB ROC *(at obstacle)*	**638**
Glidepath MSL altitude at Obstacle	3,945.97
OCS MSL altitude at Obstacle	3,308.24