Flight Procedure Tracking Form	Action: FLIGHT CHECK	Task Type: IAP	Date Open: 08/21/2012	Task #: 2011072926923408004	Request #: 20110729269234
Procedure: ILS OR LOC RWY 12 R AMDT 10		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: HKZ	**Fac. Type:** ILS	Specialist: ANKUR VERMA			

Procedure Review

MAG VAR

	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		Sparlin	REPLACEMENT 1/11/13 - MAGVAR

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

MINNEAPOLIS, MN MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (KMSP) ILS OR LOC RWY 12R, AMDT 10 ENROUTE-NO FC: 3.19.13 PUB: 5.2.13

ATTACHED FORMS: ESV REPORTS; 8260-3; 8260-10; 8260-9; 8260-2(S): FARMINGTON (FGT) VTAC, REV 17; KINNS-INT, REV 7; PAETN-INT, REV 2; UTHNK-INT, REV 2; WABBS-INT, REV 7; WAYZA-INT, REV 9; ZESTY-INT, REV 2; (INFO ONLY) FLYING CLOUD (FCM) VDME, REV 10.
FLCK NOTE: REQUEST FLIGHT CHECK VERIFICATION 1436 MSL TOWER 450306N/0933413W (27-001535) 4D ACCURACY APPLIED.
CONTACT: JILL OLSON/STEVE BARNETT -AVJ-353 LEADS, 405.954.4014 / 405.954.9307.

ILS or LOC RWY 12R

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

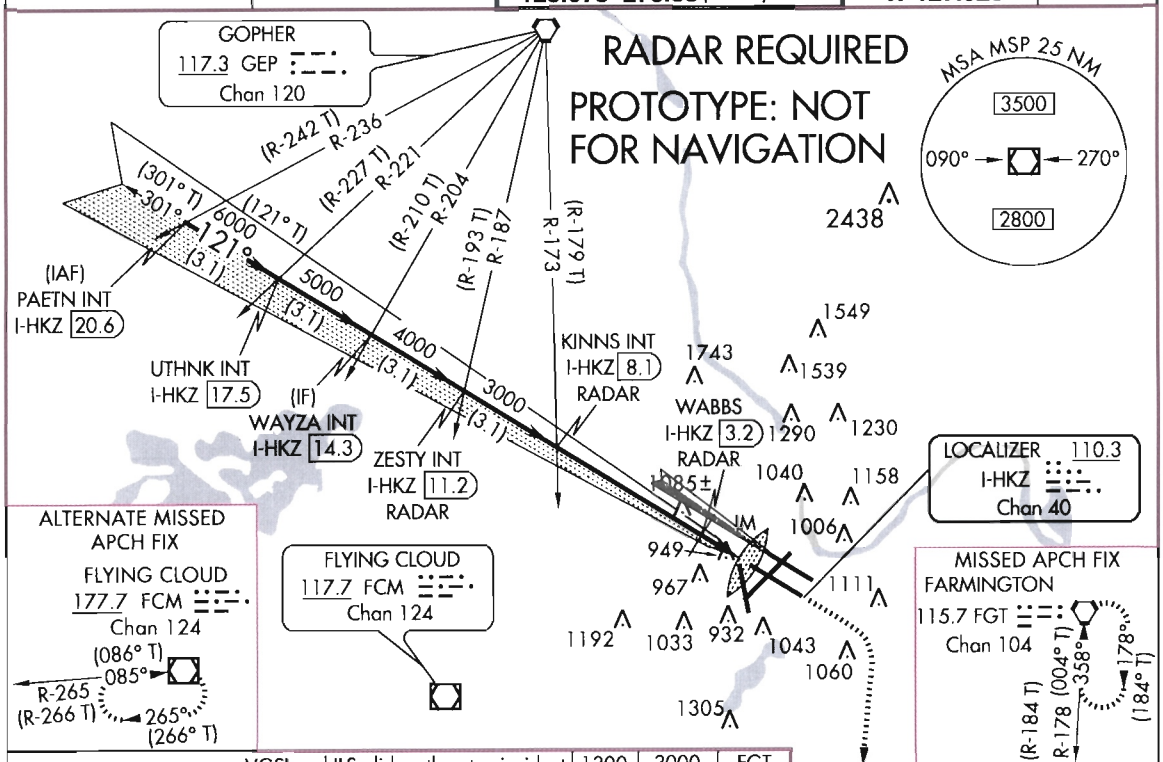
LOC/DME I-HKZ	APP CRS	Rwy Idg	10000
110.3	121°	THRE	842
Chan 40		Apt Elev	842

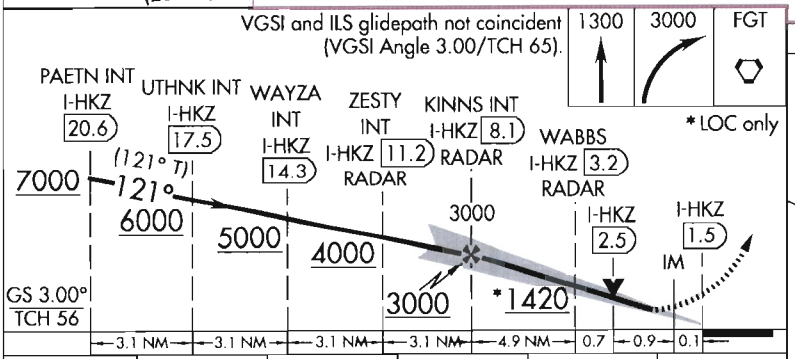
TA For inop ALSF, increase S-ILS 12R Cat E visibility to RVR 4000 and S-LOC 12R Cat E visibility to 1⅝. WABBS FIX minimums: For inop ALSF, increase S-LOC 12R Cat E visibility to RVR 6000. Simultaneous approach authorized with Rwy 12L.

ALSF-1

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

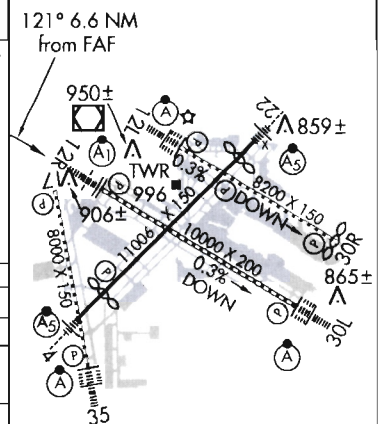
ATIS	MINNEAPOLIS APP CON	MINNEAPOLIS TOWER	GND CON	CLNC DEL
ARR 135.35 239.275	126.95 335.5	123.95 273.55 (12L-30R)	N 121.8 348.6	133.2
DEP 120.8		126.7 273.55 (12R-30L, 4-22)	S 121.9 348.6	
		123.675 273.55 (17-35)	W 127.925	





CATEGORY	A	B	C	D	E
S-ILS 12R	1042/18 200 (200-½)				
S-LOC 12R	1420/24 578 (600-½)		1420-1¼ 578 (600-1¼)		
CIRCLING	1420-1 578 (600-1)		1420-1¾ 578 (600-1¾)	1460-2 618 (700-2)	1660-3 818 (900-3)
WABBS FIX MINIMUMS					
S-LOC 12R	1240/24 398 (400-½)		1240/35 398 (400-¾)		
CIRCLING	1360-1 518 (600-1)		1360-1½ 518 (600-1½)	1460-2 618 (700-2)	1660-3 818 (900-3)

ELEV 842 D THRE 842



FAF to MAP 6.6 NM					
Knots	60	90	120	150	180
Min:Sec	6:36	4:24	3:18	2:38	2:12

LOC/DME I-HKZ	APP CRS	Rwy Idg 10000
110.3	121°	THRE 842
Chan 40		Apt Elev 842

ILS RWY 12R (SA CAT I)

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

T A REQUIRES SPECIFIC OPSPEC, MSPEC, OR LOA APPROVAL AND USE OF HUD TO DH.
Simultaneous approach authorized with Rwy 12L.

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	126.95 335.5	123.95 273.55 (12L-30R)	N 121.8 348.6	133.2
DEP 120.8		126.7 273.55 (12R-30L, 4-22)	S 121.9 348.6	
		123.675 273.55 (17-35)	W 127.925	

RADAR REQUIRED

GOPHER 117.3 GEP Chan 120

MSA MSP 25 NM: 3500 (090° → ← 270°) 2800

(R-242 T) R-236 (R-227 T) R-221 (R-210 T) R-204 (R-193 T) R-187 (R-179 T) R-173

(301° T) 301° (121° T) 121° 6000 (3.1) 5000 (3.1) 4000 (3.1) 3000 (3.1)

(IAF) PAETN INT I-HKZ 20.6

UTHNK INT I-HKZ 17.5 (IF)

WAYZA INT I-HKZ 14.3

ZESTY INT I-HKZ 11.2 RADAR

KINNS INT I-HKZ 8.1 RADAR

LOCALIZER 110.3 I-HKZ Chan 40

FLYING CLOUD 117.7 FCM Chan 124

MISSED APCH FIX FARMINGTON 115.7 FGT Chan 104 (004° T) 358° 178° (184° T) (R-184 T) R-178

2438 1549 1743 1539 1290 1230 1040 1158 1085± IM 1006 949 967 1111 1192 1033 932 1043 1060 1305

ELEV 842 D THRE 842

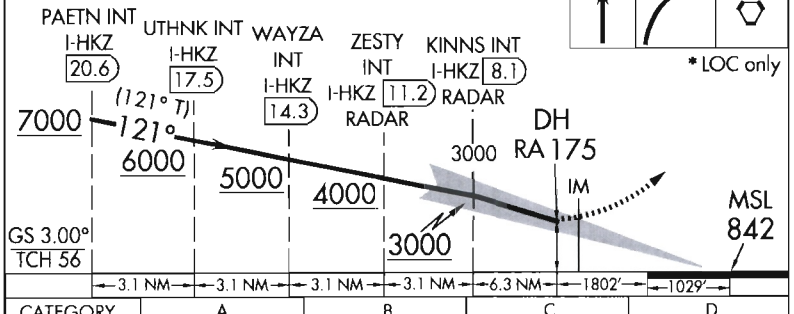
ALTERNATE MISSED APCH FIX
FLYING CLOUD 177.7 FCM Chan 124
(086° T) 085° 265° (266° T) R-265 (R-266 T)

PROTOTYPE: NOT FOR NAVIGATION

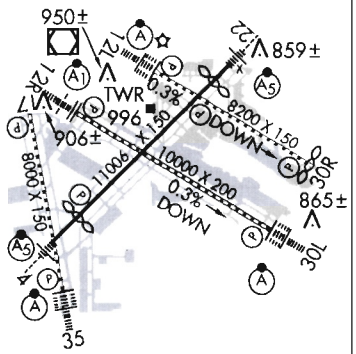
VGSI and ILS glidepath not coincident (VGSI Angle 3.00/TCH 65).

1300 | 3000 | FGT

* LOC only



CATEGORY	A	B	C	D
S-ILS 12R	RA 175/14 150 DA 992			



SA CATEGORY I ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

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

LOC/DME I-HKZ	APP CRS	Rwy Idg 10000
110.3 Chan 40	121°	THRE 842
		Apt Elev 842

ILS RWY 12R (CAT II)

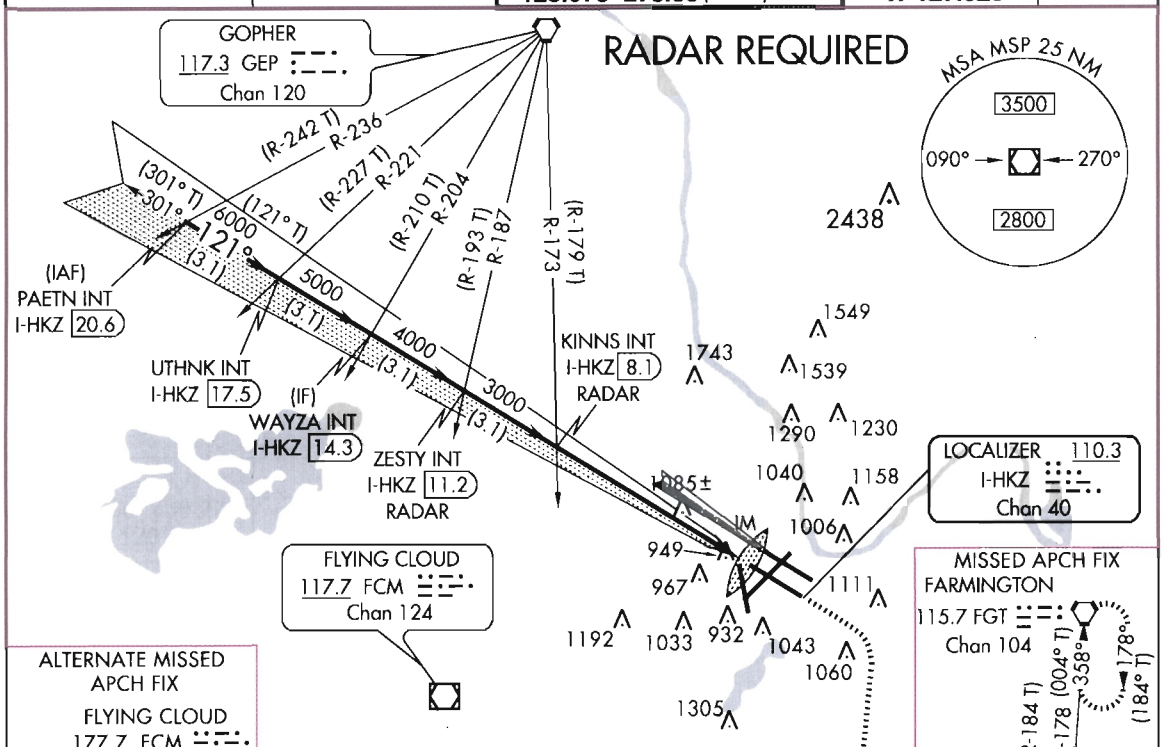
MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN (MSP)

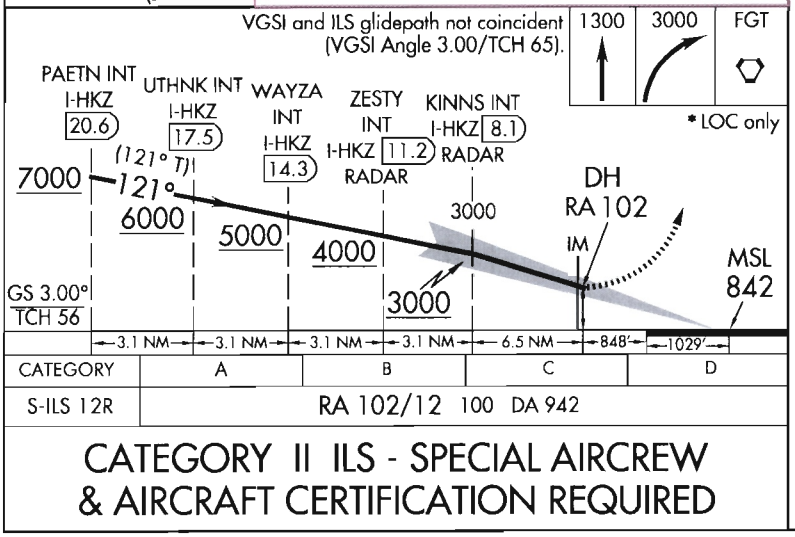
RVR 1000 AUTHORIZED WITH SPECIFIC OPSPEC, MSPEC, OR LOA APPROVAL AND USE OF AUTOLAND OR HUD TO TOUCHDOWN.
Simultaneous approach authorized with Rwy 12L.

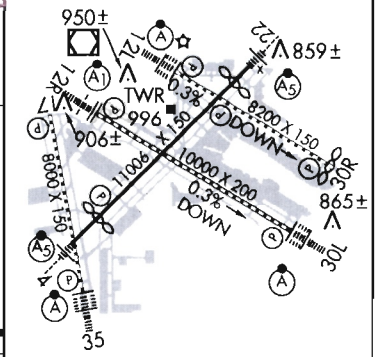
ALSF-1

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	126.95 335.5	123.95 273.55 (12L-30R)	N 121.8 348.6	133.2
DEP 120.8		126.7 273.55 (12R-30L, 4-22)	S 121.9 348.6	
		123.675 273.55 (17-35)	W 127.925	







CATEGORY II ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED

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

ILS RWY 12R (CAT III)

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

LOC/DME I-HKZ	APP CRS	Rwy Idg 10000
110.3	121°	THRE 842
Chan 40		Apt Elev 842

T A — Simultaneous approach authorized with Rwy 12L.

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	126.95 335.5	123.95 273.55 (12L-30R)	N 121.8 348.6	133.2
DEP 120.8		126.7 273.55 (12R-30L, 4-22)	S 121.9 348.6	
		123.675 273.55 (17-35)	W 127.925	

RADAR REQUIRED

GOPHER 117.3 GEP Chan 120

MSA MSP 25 NM: 3500 (090° → ← 270°) 2800

(R-242 T) R-236 (R-227 T) R-221 (R-210 T) R-204 (R-193 T) R-187 (R-179 T) R-173

(301° T) 301° (121° T) 121° 6000 (3.1) 5000 (3.1) 4000 (3.1) 3000 (3.1)

(IAF) PAETN INT I-HKZ 20.6

UTHNK INT I-HKZ 17.5 (IF)

WAYZA INT I-HKZ 14.3

ZESTY INT I-HKZ 11.2 RADAR

KINNS INT I-HKZ 8.1 RADAR

LOCALIZER 110.3 I-HKZ Chan 40

FLYING CLOUD 117.7 FCM Chan 124

ALTERNATE MISSED APCH FIX
FLYING CLOUD 177.7 FCM Chan 124
(086° T) 085° R-265 (R-266 T) 265° (266° T)

MISSED APCH FIX
FARMINGTON 115.7 FGT Chan 104
(R-184 T) R-178 (004° T) 358° 178° (184° T)

2438 1549 1743 1539 1290 1230 1040 1158 1085± IM 1006 949 967 1111 1192 1033 932 1043 1060 1305

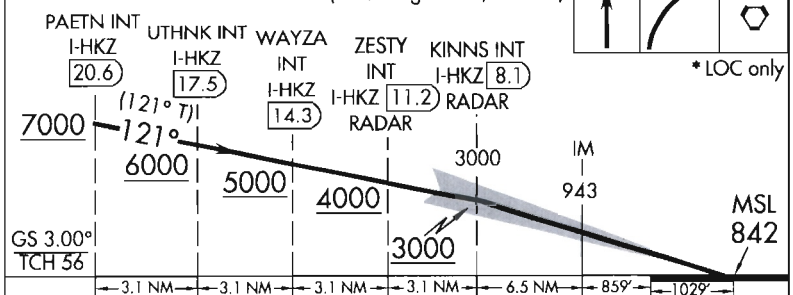
PROTOTYPE: NOT FOR NAVIGATION

ELEV 842 D THRE 842

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

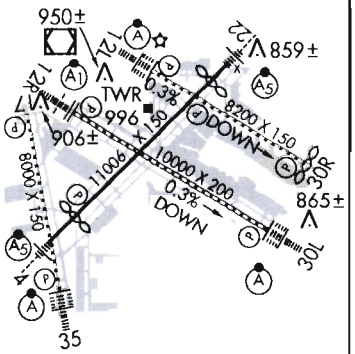
1300	3000	FGT
↑	↗	⬡

* LOC only



CATEGORY	A	B	C	D
S-ILS 12R	CAT IIIa RVR 07			
S-ILS 12R	CAT IIIb NA			
S-ILS 12R	CAT IIIc NA			

CATEGORY III ILS - SPECIAL AIRCREW & AIRCRAFT CERTIFICATION REQUIRED



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

ESV Details

Originating Office :	Airspace Docket Number :	Request Type : Establish	
Facility Data			
Chart Name : KMSP	City : MINNEAPOLIS	Ident : HKZ	State : MN
Type/Class : GS	Frequency : M335	Reference No.: 12098222	

Expanded Service Volume Data: (Requesting Officer)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude
FAA 702506-006	300	0	15	50	53

Requirement: GS AT WAYZA		
Signature: Verma Ankur	Routing Symbol: AJV-353	Date: 09/26/2012

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 702506-006	300	0	15	50	53	APPROVE

Requirement/Remarks: GS AT WAYZAAPPROVED. PEND. FLIGHT CHK/INSPECT @ THE REQ. DIST. AND MIN ALT.		
Signature: NASSR NASHAAT	Routing Symbol:	Date: 10/02/2012

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 702506-006	300	0	15	50	53	APPROVE

Requirement/Remarks: GS AT WAYZAAPPROVED. PEND. FLIGHT CHK/INSPECT @ THE REQ. DIST. AND MIN ALT.		
Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 10/03/2012

Expanded Service Volume Data: (FIFO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 702506-006	300	0				

Requirement/Remarks:		
Signature:	Routing Symbol:	Date:

ESV Details

Originating Office :	Airspace Docket Number :	Request Type : Establish	
Facility Data			
Chart Name : KMSP	City : MINNEAPOLIS	Ident : HKZ	State : MN
Type/Class : GS	Frequency : M335	Reference No.: 12098220	

Expanded Service Volume Data: (Requesting Officer)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude
FAA 702506-005	300	0	12	40	53

Requirement: GLIDESLOPE ESV AT ZESTY		
Signature: Verma Ankur	Routing Symbol: AJV-353	Date: 09/26/2012

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 702506-005	300	0	12	40	53	APPROVE

Requirement/Remarks: GLIDESLOPE ESV AT ZESTYAPPROVED. PEND. FLIGHT CHK/INSPECT @ THE REQ. DIST. AND MIN ALT.		
Signature: NASSR NASHAAT	Routing Symbol:	Date: 10/02/2012

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 702506-005	300	0	12	40	53	APPROVE

Requirement/Remarks: GLIDESLOPE ESV AT ZESTYAPPROVED. PEND. FLIGHT CHK/INSPECT @ THE REQ. DIST. AND MIN ALT.		
Signature: CHRISTEIN THOMAS	Routing Symbol:	Date: 10/03/2012

Expanded Service Volume Data: (FIFO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 702506-005	300	0				

Requirement/Remarks:		
Signature:	Routing Symbol:	Date:

ESV Details

Originating Office :	Airspace Docket Number :	Request Type : Establish	
Facility Data			
Chart Name : FLIP	City : MINNEAPOLIS	Ident : HKZ	State : MN
Type/Class : GS	Frequency : M335	Reference No.: 12123122	

Expanded Service Volume Data: (Requesting Officer)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude
FAA 702506-009	300	0	18	50	70

Requirement: FIX UTHNK		
Signature: NELSON STEVEN	Routing Symbol: AJV-353	Date: 12/05/2012

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 702506-009	300	0	18	50	70	APPROVE

Requirement/Remarks: FIX UTHNKAPPROVED. PEND. FLIGHT CHK/INSPECT @ THE REQ. DIST. AND MIN ALT.		
Signature: NASSR NASHAAT	Routing Symbol:	Date: 12/05/2012

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 702506-009	300	0	18	50	70	APPROVE

Requirement/Remarks: FIX UTHNKAPPROVED. PEND. FLIGHT CHK/INSPECT @ THE REQ. DIST. AND MIN ALT.		
Signature: Hughes Dennis	Routing Symbol:	Date: 12/05/2012

Expanded Service Volume Data: (FIFO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 702506-009	300	0				

Requirement/Remarks:		
Signature:	Routing Symbol:	Date:

ESV Details

Originating Office :	Airspace Docket Number :	Request Type : Establish	
Facility Data			
Chart Name : FLIP	City : MINNEAPOLIS	Ident : HKZ	State : MN
Type/Class : GS	Frequency : M335	Reference No.: 12123140	

Expanded Service Volume Data: (Requesting Officer)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude
FAA 702506-010	300	0	21	50	80

Requirement: FIX PAETN		
Signature: NELSON STEVEN	Routing Symbol: AJV-353	Date: 12/05/2012

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 702506-010	300	0	21	50	80	APPROVE

Requirement/Remarks: FIX PAETNAPPROVED. PEND. FLIGHT CHK/INSPECT @ THE REQ. DIST. AND MIN ALT.		
Signature: NASSR NASHAAT	Routing Symbol:	Date: 12/05/2012

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 702506-010	300	0	21	50	80	APPROVE

Requirement/Remarks: FIX PAETNAPPROVED. PEND. FLIGHT CHK/INSPECT @ THE REQ. DIST. AND MIN ALT.		
Signature: Hughes Dennis	Routing Symbol:	Date: 12/05/2012

Expanded Service Volume Data: (FIFO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 702506-010	300	0				

Requirement/Remarks:		
Signature:	Routing Symbol:	Date:

ESV Details

Originating Office :	Airspace Docket Number :	Request Type : Establish	
Facility Data			
Chart Name : FLIP	City : MINNEAPOLIS	Ident : HKZ	State : MN
Type/Class : LOC	Frequency : M110.3	Reference No.: 12123302	

Expanded Service Volume Data: (Requesting Officer)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude
FAA 740451-008	300	0	21	50	80

Requirement: FIX PAETN		
Signature: NELSON STEVEN	Routing Symbol: AJV-353	Date: 12/06/2012

Expanded Service Volume Data: (FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 740451-008	300	0	21	50	80	APPROVE

Requirement/Remarks: FIX PAETNAPPROVED. PEND. FLIGHT CHK/INSPECT @ THE REQ. DIST. AND MIN ALT.		
Signature: NASSR NASHAAT	Routing Symbol:	Date: 12/06/2012

Expanded Service Volume Data: (Super FMO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 740451-008	300	0	21	50	80	APPROVE

Requirement/Remarks: FIX PAETNAPPROVED. PEND. FLIGHT CHK/INSPECT @ THE REQ. DIST. AND MIN ALT.		
Signature: Hughes Dennis	Routing Symbol:	Date: 12/06/2012

Expanded Service Volume Data: (FIFO)

ESV ID	Radial 1	Radial 2	Distance	Minimum Altitude	Maximum Altitude	Action Type
FAA 740451-008	300	0				

Requirement/Remarks:		
Signature:	Routing Symbol:	Date:

US DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION

ILS - STANDARD INSTRUMENT APPROACH PROCEDURE TITLE 14 CFR PART 97.29

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
PAETN INT/I-HKZ 20.62 DME (IAF)	UTHNK INT/I-HKZ 17.48 DME	121.33 / 3.14 (I-HKZ)	6000
UTHNK INT/I-HKZ 17.48 DME	WAYZA INT/I-HKZ 14.34 DME	121.33 / 3.14 (I-HKZ)	5000
WAYZA INT/I-HKZ 14.34 DME (IF)	ZESTY INT/I-HKZ 11.20 DME/RADAR	121.33 / 3.14 (I-HKZ)	4000
ZESTY INT/I-HKZ 11.20 DME/RADAR	KINNS INT/I-HKZ 8.06 DME/RADAR	121.33 / 3.14 (I-HKZ)	3000

MISSED APPROACH

ILS: DA
LOC: 6.60 MILES AFTER KINNS INT/I-HKZ 8.06 DME/RADAR OR AT I-HKZ 1.46 DME FIX

CLIMB TO 1300 THEN CLIMBING RIGHT TURN TO 3000 DIRECT FGT VORTAC AND HOLD, OR AS DIRECTED BY ATC.

ALTERNATE MA: CLIMB TO 1300 THEN CLIMBING RIGHT TURN TO 3000 DIRECT FCM VOR/DME AND HOLD.

1. PT ____ SIDE OF COURSE ____ OUTBOUND ____ FT WITHIN ____ MILES OF ____ (IAF)
2. PROFILE STARTS AT PAETN
3. FAC: 121.33 FAF: KINNS INT/I-HKZ 8.06 DME/RADAR DIST FAF TO MAP: 6.60 THLD: 6.60
4. MIN. ALT: PAETN 7000, UTHNK 6000, WAYZA 5000, ZESTY 4000, KINNS 3000, WABBS/ 3.16 DME/RADAR 1420*
5. DIST TO THLD FROM OM: - MM: - IM: 859 150 HAT: 1802 100 HAT: 848 GS ANT: 1029
6. MIN GS INCPT: 3000 GS ALT AT: KINNS 3000 OM: - MM: - IM: 943
7. GS ANGLE: 3.00 TCH: 55.8
8. MSA FROM: MSP VOR/DME 090-270 2800, 270-090 3500

ADDITIONAL FLIGHT DATA:

HOLD S, RT, 358.03 INBOUND.
CHART IN PLANVIEW: ALTERNATE MA HOLDING, HOLD W FCM VOR/DME, RT, 085.00 INBOUND.
CHART FAS OBST: 949 TOWER 445330N/0931505W
CHART VDP AT 2.51 DME*;
DISTANCE VDP TO THLD 1.04 MILES.
*LOC ONLY.
CHART IN PLANVIEW: FCM VOR/DME.
CHART LOC RWY 12L.

MAG VAR: 0E EPOCH YEAR: 2015

MINIMUMS

TAKEOFF: SEE FAA FORM 8260-15A FOR THIS AIRPORT | ALTERNATE: N A | ILS: STANDARD # | LOC: 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
S-ILS 12R	1042	1800	200	1042	1800	200	1042	1800	200	1042	1800	200	1042	1800	200
S-LOC 12R	1420	2400	578	1420	2400	578	1420	1 1/4	578	1420	1 1/4	578	1420	1 1/4	578
CIRCLING	1420	1	578	1420	1	578	1420	1 3/4	578	1460	2	618	1660	3	818
WABBS FIX MINIMUMS															
S-LOC 12R	1240	2400	398	1240	2400	398	1240	3500	398	1240	3500	398	1240	3500	398
CIRCLING	1360	1	518	1360	1	518	1360	1 1/2	518	1460	2	618	1660	3	818

NOTES:
SA CATEGORY I ILS SPECIAL AIRCREW AND AIRCRAFT CERTIFICATION REQUIRED S-ILS 12R: CAT A, B, C, D, RA 175, RVR 1400, HATh 150, DA 992 MSL.
CATEGORY II ILS SPECIAL AIRCREW AND AIRCRAFT CERTIFICATION REQUIRED S-ILS 12R: CAT A, B, C, D, RA 102, RVR 1200, HATh 100, DA 942 MSL.
(SEE FORM 8260-10)

CAT D 700-2, CAT E 900-3
@ CAT E 900-3

QUALITY 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	I-HKZ	ILS OR LOC RWY 12R, AMDT 10 ILS RWY 12R (SA CAT I) ILS RWY 12R (CAT II) , ILS RWY 12R (CAT III)	AMDT: 9 DATED 02/11/2010

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

COORDINATED WITH:

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

FLIGHT CHECKED BY

NAME:	FIFO	DATE:

DEVELOPED BY

NAME:	FIFO	DATE:
JILL OLSON (ANKUR VERMA)	AJV-353	11/28/2012

APPROVED BY

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

CHANGES:

1. TRML ROUTES CHANGED ALL COURSES FROM 120.34 TO 121.33.
2. TRML ROUTES CHANGED ALL DISTANCES FROM 2.87, 2.91, 2.96, 3.00 TO 3.14.
3. TRML ROUTES REMOVED ASTERISKS FROM ALTITUDES.
4. TRML ROUTES UPDATED ALL FIX DME LOCATIONS.
5. PROFILE SECTION LINE 3 CHANGED FAC FROM 120.34 TO 121.33 AND DIST FAF TO MAP/THLD CHANGED FROM 6.48 TO 6.60.
6. MINIMUMS CHANGED S-LOC 12R VIS CAT C/D/E FROM 5000/6000/1 1/2 RESPECTIVELY TO 1 1/4.
7. MINIMUMS CHANGED CIRCLING VIS CAT C FROM 1 1/2 TO 1 3/4.
8. MINIMUMS CHANGED WABBS S-LOC 12R VIS CAT C/D/E FROM 2400/4000/5000 RESPECTIVELY TO RVR 3500.
9. MISSED APP CHANGED LOC MAP FROM 6.40 MILES AFTER KINNS INT/I-HKZ 7.94 DME/RADAR OR AT I-HKZ 1.46 DME FIX TO 6.60 MILES AFTER KINNS INT/8.06 DME/RADAR OR AT I-HKZ 1.46 DME FIX.
10. MISSED APP CHANGED FROM CLIMB TO 1500 THEN CLIMBING RIGHT TURN TO 5000 DIRECT FGT VTAC AND HOLD, CONTINUE CLIMB-IN-HOLD TO 5000; OR WHEN DIRECTED BY ATC, CLIMB TO 1500 THEN CLIMBING RIGHT TURN TO 5000 DIRECT FCM VOR/DME AND HOLD, CONTINUE CLIMB-IN-HOLD TO 5000, HOLD W, RT 085.00 INBOUND TO CLIMB TO 1300 THEN CLIMBING RIGHT TURN TO 3000 DIRECT FGT VTAC AND HOLD, OR AS DIRECTED BY ATC CLIMB TO 1300 THEN CLIMBING RIGHT TURN TO 3000 DIRECT FCM VOR/DME AND HOLD.

SEE 8260-10

REASONS:

1, 2, 5. FAF AND FIXES WERE MOVED TO MATCH RNAV (GPS) Y RWY 12R.
3. NO LONGER GLIDEPATH INTERCEPTS.
4. FIXES WERE MOVED TO MATCH RNAV (GPS) Y RWY 12R, THUS DME DISTANCES CHANGED.
6, 7, 8. IAW 8260.3B CHAPTER 3.
9. KINNS WAS MOVED TO MATCH RNAV (GPS) Y RWY 12R WHICH CHANGED DME DESCRIPTORS.
10. PER MSP ATC REQUEST TO LOWER THE CLR LIMIT ALT FROM 5000 TO 3000.
11. FRESH EVALUATION YIELDED DIFFERENT CONTROLLING OBSTACLES AND NEW SURVEY.
12, 14, 16. PER CURRENT EVALUATION.
13. PER AJV-353 LEAD REQUEST.
15. FIXES PLACED ON 3 DEGREE GLIDEPATH; NOTE NOT NECESSARY.
17. IAW MEMO DTD OCT 27 2010 SBJ IMPLEMENTATION OF AFS-400 MEMO, SPECIAL AUTHORIZATION CAT I AND II INSTRUMENT PROCEDURE CHARTS, DTD APRIL 22, 2010.
18. MSP FACILITY IS CLOSER TO AIRPORT; CHANGED ON ENTIRE MSP PROJECT.
19. DUE TO NEW SURVEY/USE OF HATH.
20. AIR TRAFFIC AND INDUSTRY REQUEST IN ORDER TO CONNECT WITH THE STARS.
21. AIR TRAFFIC REQUEST.

SEE 8260-10

QUALITY 4 CHECKED

US DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

ILS - STANDARD

INSTRUMENT APPROACH PROCEDURE - TITLE 14 CFR PART 97.29

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 aiport elevation. Distances are in nautical miles unless otherwise indicated, except visibilities which are in statute miles or in feet RVR.

NOTES, (CONT.):

CATEGORY III ILS SPECIAL AIRCREW AND AIRCRAFT CERTIFICATION REQUIRED. S-ILS-12R: CAT IIIa CAT A,B,C,D, RVR 700. CAT IIIb NA. CAT IIIc NA.

CHART PLANVIEW NOTE: RADAR REQUIRED.

CHART PROFILE NOTE: VGSI AND ILS GLIDEPATH NOT COINCIDENT.

CHART NOTE: FOR INOPERATIVE ALSF, INCREASE S-ILS 12R CAT E VISIBILITY TO RVR 4000, AND S-LOC 12R CAT E VISIBILITY TO 1 5/8.

CHART NOTE: WABBS FIX MINIMUMS: FOR INOPERATIVE ALSF, INCREASE S-LOC 12R CAT E VISIBILITY TO RVR 6000.

CHART NOTE: SIMULTANEOUS APPROACH AUTHORIZED WITH RWY 12L.

SA CAT I CHART NOTE: REQUIRES SPECIFIC OPSPEC, MSPEC, OR LOA APPROVAL AND USE OF HUD TO DH.

CAT II RVR 1000 CHART NOTE: RVR 1000 AUTHORIZED WITH SPECIFIC OPSPEC, MSPEC, OR LOA APPROVAL AND USE OF AUTOLAND OR HUD TO TOUCHDOWN.

QUALITY CHECKED 4

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	I-HKZ	ILS OR LOC RWY 12R, AMDT 10 ILS RWY 12R (SA CAT I) ILS RWY 12R (CAT II) , ILS RWY 12R (CAT III)	AMDT: 9 DATED: 02/11/2010

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:

CHANGES CONT.
11. ADDTL FLT DATA CHANGED FAS OBST FROM 979 TREE 445419N/0931546W TO 949 TOWER 445330N/0931505W. 12. ADDTL FLT DATA CHANGED DIST VDP TO THLD FROM 1.05 TO 1.04. 13. ADDTL FLT DATA CHANGED MAGVAR FROM 1E 2010 TO 0E 2015. 14. NOTES CHANGED CAT II RA FROM 106 TO 102. 15. NOTES DELETED ASTERISK WHEN ASSIGNED BY ATC INTERCEPT GLIDEPATH AT 4000 OR 5000 OR 6000. 16. NOTES UPDATED INOPERATIVE ALSF NOTES. 17. NOTES ADDED SA CAT I. 18. MSA FACILITY CHANGED FROM FCM VOR/DME TO MSP VOR/DME. 19. DA CHANGED FROM 1041 TO 1042 AND ALL HATS/HAAS CHANGED 1 FT.
20. CHANGED ALTITUDE AT PAETN FROM 7000 TO 5000; CHANGED ALTITUDE AT UTHNK FROM 6000 TO 5000.
21. PROFILE STARTS CHNAGED FROM PAETN TO WAYZA.

REASONS:

REASONS CONT.
PDF EDITS:
1. PROFILE LINE 1 DELETED PT NA.
2. PROFILE LINE 5 ADDED 150 HAT: 1802.
3. NOTES ADDED SA CAT I, CAT II, AND CAT III.
4. ADDED ILS SA CAT I AND ILS CAT II TO 8260-9.
5. MISSED APPROACH CHANGED KINNS DESCRIPTION FROM KINNS INT/HKZ 8.06 DME TO KINNS INT/I-HKZ 8.06 DME.
6. PROCEDURE NAME ADDED SA CAT I AND CAT II AND CAT III.
7. 8260-9 BACKSIDE BLOCK 2 DELETED FAA X.

01/07/13: THIS AN UPDATED COPY OF THE FORM DEVELOPED ON 11/28/12:
1. CHANGED ALTITUDE AT PAETN FROM 5000 TO 7000.
2. CHANGED ALTITUDE AT UTHNK FROM 5000 TO 6000.
3. CHANGED PROFILE START LOCATION FROM WAYZA TO PAETN.

QUALITY 4 CHECKED

U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION

ILS STANDARD INSTRUMENT APPROACH PROCEDURE

FLIGHT STANDARDS SERVICES - **FAR PART 97.29**

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.

ARINC PACKET - 424-18 - ILS

```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
NAVAID   123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
         ------------------------------------------------------------------------------------------------------------------------------------
         SUSAD        FGT   K3011570VTH  N44375143W093105537    N44375143W093105537E0060009722     NARFARMINGTON
         SUSAD        MSP   K3011530VDLW N44534740W093141153    N44534740W093141153E0020008331     NARMINNEAPOLIS
         SUSAD KMSPK3 IHKZ  K3011030 IT                    IHKZN44522693W093122056     008260     NARMINNEAPOLIS-ST PAUL INTL/WOLD-

                 1         2         3         4         5         6         7         8         9         0         1         2         3
WP       123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
         ------------------------------------------------------------------------------------------------------------------------------------
         SUSAEAENRT   KINNS K30    C     N44564170W093215924                      E0006     NAR           KINNS
         SUSAEAENRT   PAETN K30    C     N45031141W093370807                      E0008     NAR           PAETN
         SUSAEAENRT   UTHNK K30    C     N45013418W093332056                      E0008     NAR           UTHNK
         SUSAEAENRT   WAYZA K30    C     N44595682W093293325                      E0007     NAR           WAYZA
         SUSAEAENRT   ZESTY K30    C     N44581933W093254615                      E0007     NAR           ZESTY

                 1         2         3         4         5         6         7         8         9         0         1         2         3
AIRPORT  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
         ------------------------------------------------------------------------------------------------------------------------------------
         SUSAP KMSPK3AMSP     0     110YHN44525510W093131840E000000842          18000018000C    MNAR    MINNEAPOLIS-ST PAUL INTL/WOLD-

                 1         2         3         4         5         6         7         8         9         0         1         2         3
SEGMENT  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
         ------------------------------------------------------------------------------------------------------------------------------------
         SUSAP KMSPK3FI12R  APAETN 010PAETNK3EA0E  A    IF                                  + 07000     18000                0 NS
         SUSAP KMSPK3FI12R  APAETN 020UTHNKK3EA0E       TF                                  + 06000                          0 NS
         SUSAP KMSPK3FI12R  APAETN 030WAYZAK3EA0E  B    TF                                  + 05000                          0 NS
         SUSAP KMSPK3FI12R  APAETN 040ZESTYK3EA0EE      CF IHKZK3      3014011512130031PI   + 04000                          0 NS
         SUSAP KMSPK3FI12R  I      010ZESTYK3EA0E  I    IF IHKZK3      30140115        PI   J 040000300018000                   0 NS
         SUSAP KMSPK3FI12R  I      020KINNSK3EA0E  F    CF IHKZK3      3014008412100031PI   H 0300003000        -300MSP   K3D 0 NS
         SUSAP KMSPK3FI12R  I      030RW12RK3PG0GY M    CF IHKZK3      3014001812100066PI     00898             -300           0 NS
         SUSAP KMSPK3FI12R  I      040         0  M     CA                    1213          + 01300                          0 NS
         SUSAP KMSPK3FI12R  I      050FGT  K3D 0VY  R   DF                                  + 03000                          0 NS
         SUSAP KMSPK3FI12R  I      060FGT  K3D 0VE  R   HM                    3580T010      + 03000                          0 NS

                 1         2         3         4         5         6         7         8         9         0         1         2         3
RUNWAY   123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
         ------------------------------------------------------------------------------------------------------------------------------------
         SUSAP KMSPK3GRW12R   0100001213 N44531604W093140287-0300    +022940084200005620OIIHKZ3

                 1         2         3         4         5         6         7         8         9         0         1         2         3
ILS      123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
         ------------------------------------------------------------------------------------------------------------------------------------
         SUSAP KMSPK3IIHKZ3   011030RW12RN44522038W093115435121 3N44530739W0931353540837 10290370300E00005600835
```

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**	**I-HKZ**	**ILS OR LOC RWY 12R, AMDT 10** **ILS RWY 12R (SA CAT I)** **ILS RWY 12R (CAT II), ILS RWY 12R (CAT III)**	AMDT: **9** DATED: **02/11/2010**

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:

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.

```
                1         2         3         4         5         6         7         8         9         0         1         2         3
MSA     123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------------------
        SUSAP KMSPK3SMSP  K3D                 0   0902700352527009002825                                                                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	I-HKZ	ILS OR LOC RWY 12R, AMDT 10 ILS RWY 12R (SA CAT I) ILS RWY 12R (CAT II), ILS RWY 12R (CAT III)	AMDT: 9 DATED: 02/11/2010

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

ILS STANDARD INSTRUMENT APPROACH PROCEDURE

FLIGHT STANDARDS SERVICES - **FAR PART 97.29**

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.

ARINC SUMMARY - 424-18 - ILS

ROUTES	TRANSITION	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
	PAETN	PAETN	010	IAF	IF		FB				AA 07000	
	PAETN	UTHNK	020		TF		FB				AA 06000	
	PAETN	WAYZA	030		TF		FB				AA 05000	
	PAETN	ZESTY	040		CF		FB		121.3()	003.1	AA 04000	
		ZESTY	010	FACF	IF		FB				AA 04000 GI 03000	
		KINNS	020	FAF	CF		FB		121.0()	003.1	GI 03000 GS 03000	
		RW12R	030	MAP	CF		FO		121.0()	006.6	AT 00898	

MISSED APPROACH	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
		040		CA		FB		121.3()		AA 01300	
	FGT	050		DF	R	FO				AA 03000	
	FGT	060		HM	R	FO		358.0()	T01.0	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
	MSP	N445347.40	W0931411.53	N4453.790	W09314.192
	IHKZ (DME)	N445226.93	W0931220.56	N4452.449	W09312.343
	KINNS	N445641.70	W0932159.24	N4456.695	W09321.987
	PAETN	N450311.41	W0933708.07	N4503.190	W09337.135
	UTHNK	N450134.18	W0933320.56	N4501.570	W09333.343
	WAYZA	N445956.82	W0932933.25	N4459.947	W09329.554
	ZESTY	N445819.33	W0932546.15	N4458.322	W09325.769
	RW12R	N445316.04	W0931402.87	N4453.267	W09314.048
	IHKZ (LOC)	N445220.38	W0931154.35	N4452.340	W09311.906

RUNWAY DATA	RWY	THRESHOLD ELEVATION	TCH
	RW12R	00842	56

QUALITY 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**	**I-HKZ**	**ILS OR LOC RWY 12R, AMDT 10** **ILS RWY 12R (SA CAT I)** **ILS RWY 12R (CAT II), ILS RWY 12R (CAT III)**	AMDT: **9** DATED: **02/11/2010**

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

LOC STANDARD INSTRUMENT APPROACH PROCEDURE

FLIGHT STANDARDS SERVICES - **FAR PART 97.25**

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.

ARINC PACKET - 424-18 - LOC

```
                 1         2         3         4         5         6         7         8         9         0         1         2         3
NAVAID   123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
         ----------------------------------------------------------------------------------------------------------------------------------
         SUSAD        FGT   K3011570VTH  N44375143W093105537    N44375143W093105537E0060009722     NARFARMINGTON
         SUSAD        MSP   K3011530VDLW N44534740W093141153    N44534740W093141153E0020008331     NARMINNEAPOLIS
         SUSAD KMSPK3 IHKZ  K3011030 IT                    IHKZN44522693W093122056     008260     NARMINNEAPOLIS-ST PAUL INTL/WOLD-

                 1         2         3         4         5         6         7         8         9         0         1         2         3
WP       123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
         ----------------------------------------------------------------------------------------------------------------------------------
         SUSAEAENRT   KINNS K30    C     N44564170W093215924                    E0006     NAR          KINNS
         SUSAEAENRT   PAETN K30    C     N45031141W093370807                    E0008     NAR          PAETN
         SUSAEAENRT   UTHNK K30    C     N45013418W093332056                    E0008     NAR          UTHNK
         SUSAEAENRT   WABBS K30    C     N44540907W093160543                    E0005     NAR          WABBS
         SUSAEAENRT   WAYZA K30    C     N44595682W093293325                    E0007     NAR          WAYZA
         SUSAEAENRT   ZESTY K30    C     N44581933W093254615                    E0007     NAR          ZESTY

                 1         2         3         4         5         6         7         8         9         0         1         2         3
AIRPORT  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
         ----------------------------------------------------------------------------------------------------------------------------------
         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  123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
         ----------------------------------------------------------------------------------------------------------------------------------
         SUSAP KMSPK3FL12R  APAETN 010PAETNK3EA0E  A    IF                                  + 07000     18000                0 NS
         SUSAP KMSPK3FL12R  APAETN 020UTHNKK3EA0E       TF                                  + 06000                          0 NS
         SUSAP KMSPK3FL12R  APAETN 030WAYZAK3EA0E  B    TF                                  + 05000                          0 NS
         SUSAP KMSPK3FL12R  APAETN 040ZESTYK3EA0EE      CF IHKZK3      3014011512130031PI   + 04000                          0 NS
         SUSAP KMSPK3FL12R  L      010ZESTYK3EA0E  I    IF IHKZK3      30140115        PI   + 04000     18000                0 NS
         SUSAP KMSPK3FL12R  L      020KINNSK3EA0E  F    CF IHKZK3      3014008412100031PI   + 03000                MSP   K3D 0 NS
         SUSAP KMSPK3FL12R  L      021WABBSK3EA0E S     CF IHKZK3      3014003512100049PI   + 01420           -301              0 NS
         SUSAP KMSPK3FL12R  L      030RW12RK3PG0GY M    CF IHKZK3      3014001812100017PI     00898           -301              0 NS
         SUSAP KMSPK3FL12R  L      040          0  M    CA                    1213          + 01300                          0 NS
         SUSAP KMSPK3FL12R  L      050FGT  K3D 0VY  R   DF                                  + 03000                          0 NS
         SUSAP KMSPK3FL12R  L      060FGT  K3D 0VE  R   HM                    3580T010      + 03000                          0 NS

                 1         2         3         4         5         6         7         8         9         0         1         2         3
RUNWAY   123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
         ----------------------------------------------------------------------------------------------------------------------------------
         SUSAP KMSPK3GRW12R   0100001213 N44531604W093140287-0300     +022940084200005620OIIHKZ3

                 1         2         3         4         5         6         7         8         9         0         1         2         3
ILS      123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
```

QUALITY 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**	**I-HKZ**	**ILS OR LOC RWY 12R, AMDT 10** **ILS RWY 12R (SA CAT I)** **ILS RWY 12R (CAT II), ILS RWY 12R (CAT III)**	AMDT: **9** DATED: **02/11/2010**

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:

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.

```
        ------------------------------------------------------------------------------------------------------------------------
        SUSAP KMSPK3IIHKZ3   011030RW12RN44522038W0931154351213N44530739W0931353540837 10290370300E00005600835
                  1         2         3         4         5         6         7         8         9         0         1         2         3
MSA     123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012345678901234567890123456789012
        ------------------------------------------------------------------------------------------------------------------------
        SUSAP KMSPK3SMSP  K3D                0   0902700352527009002825                                                          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	I-HKZ	ILS OR LOC RWY 12R, AMDT 10 ILS RWY 12R (SA CAT I) ILS RWY 12R (CAT II), ILS RWY 12R (CAT III)	AMDT: 9 DATED: 02/11/2010

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

LOC STANDARD INSTRUMENT APPROACH PROCEDURE

FLIGHT STANDARDS SERVICES - **FAR PART 97.25**

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.

ARINC SUMMARY - 424-18 - LOC

ROUTES	TRANSITION	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
	PAETN	PAETN	010	IAF	IF		FB				AA 07000	
	PAETN	UTHNK	020		TF		FB				AA 06000	
	PAETN	WAYZA	030		TF		FB				AA 05000	
	PAETN	ZESTY	040		CF		FB		121.3()	003.1	AA 04000	
		ZESTY	010	FACF	IF		FB				AA 04000	
		KINNS	020	FAF	CF		FB		121.0()	003.1	AA 03000	
		WABBS	021	SDF	CF		FB		121.0()	004.9	AA 01420	
		RW12R	030	MAP	CF		FO		121.0()	001.7	AT 00898	

MISSED APPROACH	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
		040		CA		FB		121.3()		AA 01300	
	FGT	050		DF	R	FO				AA 03000	
	FGT	060		HM	R	FO		358.0()	T01.0	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
	MSP	N445347.40	W0931411.53	N4453.790	W09314.192
	IHKZ (DME)	N445226.93	W0931220.56	N4452.449	W09312.343
	KINNS	N445641.70	W0932159.24	N4456.695	W09321.987
	PAETN	N450311.41	W0933708.07	N4503.190	W09337.135
	UTHNK	N450134.18	W0933320.56	N4501.570	W09333.343
	WABBS	N445409.07	W0931605.43	N4454.151	W09316.091
	WAYZA	N445956.82	W0932933.25	N4459.947	W09329.554
	ZESTY	N445819.33	W0932546.15	N4458.322	W09325.769
	RW12R	N445316.04	W0931402.87	N4453.267	W09314.048
	IHKZ (LOC)	N445220.38	W0931154.35	N4452.340	W09311.906

RUNWAY DATA	RWY	THRESHOLD ELEVATION	TCH
	RW12R	00842	56

QUALITY 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**	**I-HKZ**	**ILS OR LOC RWY 12R, AMDT 10** **ILS RWY 12R (SA CAT I)** **ILS RWY 12R (CAT II), ILS RWY 12R (CAT III)**	AMDT: **9** DATED: **02/11/2010**

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.
INITIAL	PAETN INT/I-HKZ	UTHNK INT/I-HKZ	1. TOWER (27-001535)	450306.00N/0933413.00W	1436 (4D)	1000	AT 3564	6000
	20.62 DME	17.48 DME	2. TERRAIN	450021.00N/0933545.00W	1086 (1100)		AS1500	2600
INITIAL: STEPDOWN	UTHNK INT/I-HKZ	WAYZA INT/I-HKZ	3. AAO	445948.00N/0933115.00W	1273 (4E)	1000	AT2727	5000
	17.48 DME	14.34 DME	4. TERRAIN	445948.00N/0933115.00W	1073 (1100)		AS1500	2600
INTERMEDIATE	WAYZA INT/I-HKZ	ZESTY INT/I-HKZ	5. TOWER (27-000393)	445934.00N/0932841.00W	1319 (5D)	500	AT2181	4000
	14.34 DME	11.20 DME/RADAR	6. TERRAIN	445745.00N/0932551.00W	1041 (1000)		AS1500	2500
INTERMEDIATE:	ZESTY INT/I-HKZ	KINNS INT/I-HKZ	7. TOWER (27-000565)	445956.00N/0932354.00W	1361 (4D)	500	AT1139	3000
STEPDOWN	11.20 DME/RADAR	8.06 DME/RADAR	8. TERRAIN	445745.00N/0932551.00W	1041 (1000)		AS1500	2500
FINAL: ILS	KINNS INT/I-HKZ	RW12R				ASC		1042/200
	8.06 DME/RADAR							
FINAL: LOC	KINNS INT/I-HKZ	WABBS/ 3.16	9. AAO	445519.53N/0931856.58W	1129 (2C)	250	XL30	1420
	8.06 DME/RADAR	DME/RADAR						
2. PROCEDURE TURN	NA							
3. MISSED APPROACH MAP:	DA / 6.60 MILES	FGT VORTAC				ASC		3000
	AFTER KINNS		11. TOWER (27-001201)	444121.00N/0930423.00W	1753 (5D)	1000		2800
ELEV:	873/990		12. TERRAIN	443848.00N/0931845.00W	1146 (1100)		AS1500	2600

4. CIRCLING AREA	DISTANCE		HT. ABV. ARPT.			13. BLDG (27-000367)	445120.51N/0931334.62W	1043 (1A)	300	SI	1420 / 1360
CATEGORY A	1.3 NM	REQUIRED	350	ACTUAL	578 / 518	13. BLDG (27-000367)	445120.51N/0931334.62W	1043 (1A)	300	SI	1420 / 1360
CATEGORY B	1.5 NM		450		578 / 518	13. BLDG (27-000367)	445120.51N/0931334.62W	1043 (1A)	300	SI	1420 / 1360
CATEGORY C	1.7 NM		450		578 / 518	14. TANK (27-001379)	445503.51N/0930959.71W	1158 (1A)	300		1460 / 1460
CATEGORY D	2.3 NM		550		618 / 618	15. STACK (27-000479)	444839.00N/0931457.00W	1305 (5D)	300	AC50 / AC50	1660 / 1660
CATEGORY E	4.5 NM		550		818 / 818						

5. MINIMUM SAFE ALTITUDES — PRIMARY NAVAID: MSP VOR/DME

SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A	SECTOR	OBSTRUCTION	BRG/DIST	ELEVATION (MSL)	M S A
090-270	TWR (27-001201)	151/ 14.3	1753 (5D)	2800					
270-090	TWR (27-000499)	022/ 10.8	2438 (1D)	3500					

QUALITY 4 CHECKED

CITY AND STATE	ELEVATION: 842 / AIRPORT NAME:	FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
MINNEAPOLIS, MN	MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN	I-HKZ	ILS OR LOC RWY 12R, AMDT 10 ILS RWY 12R (SA CAT I) ILS RWY 12R (CAT II) , ILS RWY 12R (CAT III)	AGL

PART B - SUPPLEMENTAL DATA

1. COMMUNICATIONS WITH:	2. WEATHER SERVICE	3. ALTIMETER SETTING
ZMP ARTCC MSP APP CON MSP TOWER	N W S / F A A / A / C — OTHER: ASOS	SOURCE: KMSP DISTANCE: HOURS REMOTE OPERATION: KMSP
SATISFACTORY ON:		
X V H F X U H F H F	LOCATION: KMSP	ADJUSTMENT: 0

4. MONITOR STATUS	PRIMARY NAVAID: I-HKZ	
	MONITOR POINT: MSP ATCT	
	HRS OPTN: CAT 1	24
	HRS OPTN: CAT 3	

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

5. APPROACH & RUNWAY LIGHTING

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: 841.2
	DISTANCE FROM RWY: 1029	ELEV GP ANTENNA: 837.9
		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: JILL OLSON (ANKUR VERMA)	DATE: 11/28/2012
TITLE: AERONAUTICAL INFORMATION SPECIALIST	OFFICE: AJV-353

PART C - REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED.

SEE ATTACHED AIRSPACE LETTER.

IF AND IAF FIXES PLACED ON GS USING 54A FORMULA 2-16B AT ATC REQUEST FOR SIMULTANEOUS OPS.

VDA N/A: VERTICAL PATH PROCEDURE.

BACKUP ALTIMETER SOURCE NOT ADDED, AIRPORT HAS REDUNDANT WEATHER SOURCE.

KMSP ASOS ON SERVICE A: 24 HRS.
VGSI: 3.00/65.5

KMSP0345 PENETRATES THE 34:1 SFC BUT WILL BE REMOVED PER CEN FPT.

XP41: TO KEEP CURRENTLY PUBLISHED MINIMA.

MISSED APPROACH OBSTACLES CONT.
ALTERNATE:
ASC 3000
16. AAO 444343.00N/0931722.60W 1395 (6A) 1000 2400
17. TERRAIN 444343.00N/0931722.60W 1195 (1200) AS1500
2700

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.
FINAL: LOC STEPDOWN	WABBS/I-HKZ 3.16	6.60 MILES AFTER	10. TOWER (27-001471)	445330.00N/0931505.00W	949 (2C)	250	XP41	1240
	DME	KINNS INT/HKZ						
		8.06 DME/RADAR						
		OR AT I-HKZ						
		1.46 DME FIX						
FINAL: ILS CAT II	KINNS INT/I-HKZ	RW12R				ASC		942/100
	8.06 DME/RADAR							
SA CAT I	KINNS INT/I-HKZ	RW12R				ASC		992/150
	8.06 DME/RADAR							

3. MISSED APPROACH	
MAP:	
ELEV:	

4. CIRCLING AREA	DISTANCE	REQUIRED	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	

HT. ABV. ARPT.

5. MINIMUM SAFE ALTITUDES — PRIMARY NAVAID:

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

QUALITY CHECKED

CITY AND STATE		FACILITY	PROCEDURE AND AMENDMENT NO:	REGION
MINNEAPOLIS, MN	ELEVATION: 842 AIRPORT NAME: MINNEAPOLIS-ST PAUL INTL/WOLD-CHAMBERLAIN	I-HKZ	ILS OR LOC RWY 12R, AMDT 10 ILS RWY 12R (SA CAT I) ILS RWY 12R (CAT II) , ILS RWY 12R (CAT III	AGL

PART B - SUPPLEMENTAL DATA

1. COMMUNICATIONS WITH:	2. WEATHER SERVICE	3. ALTIMETER SETTING
SATISFACTORY ON:	☐ NWS ☐ FAA ☐ A/C OTHER:	SOURCE: DISTANCE: HOURS REMOTE OPERATION:
☐ VHF ☐ UHF ☐ HF	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:

QUALITY 4 CHECKED

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 3 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:
MINNEAPOLIS (FAC 1) USED TO ESTABLISH FIX COORDINATES
I-HKZ DME COORDINATES 445226.93N/0931220.56W
PFAF DETERMINED IAW FAAO 8260.54A FORMULA 2-16B

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:

QUALITY 3 CHECKED

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:

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:

QUALITY 4 CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: WABBS **STATE:** MN **COUNTRY:** US

LATITUDE/LONGITUDE: 445409.07N/0931605.43W **TYPE:** WP, RADAR, 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		301.33	301.33	3.16	3.48		1320	5300

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

REMARKS:
MINNEAPOLIS (FAC 1) USED TO ESTABLISH FIX COORDINATES
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		KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Y 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.
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.
REQUIRED CHARTING ADDED CONTROLLER.
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: 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:
MINNEAPOLIS (FAC 1) USED TO ESTABLISH FIX COORDINATES
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: 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:
MINNEAPOLIS (FAC 1) USED TO ESTABLISH FIX COORDINATES
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 3 CHECKED

RADIO FIX AND HOLDING DATA RECORD

INFO ONLY

NAME: FLYING CLOUD VOR/DME **STATE:** MN **COUNTRY:** US

LATITUDE/LONGITUDE: 444931.26N/0932633.68W **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	FLYING CLOUD	FCM	VOR/DME	L							17500

HOLDING: **HOLDING TYPE OF ACTION:** MODIFY

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	W	FCM	VOR/DME	265.00	085.00	R	1		2600	12000	4	9
2	W		WP	260.00	080.00	R		4	4000	6000	5	6

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
UPN	200	AAO	444343.00N/0931722.60W	1395	6A
1	200	AAO	445136.00N/0933551.00W	1247	4E
1	310	TOWER (27-001132)	444641.00N/0934450.00W	1459	5D
2	200	AAO	445248.00N/0933503.00W	1294	4E

HOLDING RESTRICTIONS:
UNPLANNED HOLDING AUTHORIZED AT OR ABOVE 4000.

PROCEDURES REQUIRING CLIMB-IN-HOLD:

PAT	PROCEDURE TITLE	AIRPORT IDENT	CITY	STATE
1	ILS OR LOC RWY 10R	KFCM	MINNEAPOLIS	MN (US)
1	VOR RWY 10R	KFCM	MINNEAPOLIS	MN (US)

REMARKS:
PRECIPITOUS TERRAIN EVALUATION COMPLETED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	ORSKY			KANE	MINNEAPOLIS	MN (US)
DP	ORSKY			KFCM	MINNEAPOLIS	MN (US)
DP	COULT			KMSP	MINNEAPOLIS	MN (US)
DP	DARWIN			KMSP	MINNEAPOLIS	MN (US)
DP	KBREW			KMSP	MINNEAPOLIS	MN (US)
DP	LEINY (RNAV)			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	WLSTN			KMSP	MINNEAPOLIS	MN (US)
DP	ZMBRO			KMSP	MINNEAPOLIS	MN (US)
DP	ORSKY			KSTP	ST PAUL	MN (US)
EN ROUTE	V412					(US)
EN ROUTE	V456					(US)
IAP	VOR-B			KCFE	BUFFALO	MN (US)
IAP	NDB RWY 31			KGYL	GLENCOE	MN (US)
IAP	COPTER ILS OR LOC RWY 10R		1	KFCM	MINNEAPOLIS	MN (US)
IAP	ILS OR LOC RWY 10R		1	KFCM	MINNEAPOLIS	MN (US)
IAP	VOR RWY 10R		1	KFCM	MINNEAPOLIS	MN (US)
IAP	VOR/DME RWY 36		1	KFCM	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) RWY 12			KLVN	MINNEAPOLIS	MN (US)
IAP	VOR RWY 12			KLVN	MINNEAPOLIS	MN (US)
IAP	CONVERGING ILS RWY 35			KMSP	MINNEAPOLIS	MN (US)
IAP	ILS OR LOC RWY 12R (CAT I/II/III) (ALT MA)		1	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS OR LOC RWY 35 (CAT I/II/III)			KMSP	MINNEAPOLIS	MN (US)
IAP	LOC RWY 17			KMSP	MINNEAPOLIS	MN (US)
IAP	LOC RWY 22		1	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS OR LOC RWY 14			KSTP	ST PAUL	MN (US)
IAP	ILS OR LOC RWY 32			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)

QUALITY 3 CHECKED

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, CONTROLLER, EN ROUTE LOW, EN ROUTE HIGH

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 10 **DATE OF REVISION:** 02/11/2010

REASON FOR REVISION:
NEW COORDINATES; FACILITY RE-LOCATED 3655 FT EAST.
MAGVAR UPDATED FROM 6E TO 1E.
LOWERED FAC 1 MAA FROM 28000 TO 17500.
UPDATED HOLDING PAT 1 RAD/CRS/BRG AND CRS INBOUND FROM 260.00/080.00 TO 265.00/085.00 DUE TO MAGVAR CHANGE.
UPDATED UNPLANNED HOLDING AND PAT 2 CONTROLLING OBSTRUCTIONS.
UPDATED HOLDING PAT 1 CONTROLLING OBSTRUCTION COORDINATES.
ADDED CLIMB-IN-HOLD (310K) PATTERN TO HOLDING PAT 1.
UPDATED HOLDING PAT 2 CONTROLLING OBSTRUCTION.
MOVED UNPLANNED HOLDING NOTE FROM REMARKS TO HOLDING RESTRICTIONS.
CONDUCTED/DOCUMENTED PRECIPITOUS TERRAIN EVALUATION.
ADDED DP TO REQUIRED CHARTING.
UPDATED FIX USE.

DEVELOPED BY: **DATE:** 11/10/2009 **OFFICE:** AVN-120 **NAME:** STEVEN SZUKALA (SCOTT CORY)

APPROVED BY: **DATE:** 02/11/2010 **OFFICE:** AVN-120 **NAME:** SUE CRUMB

SIGNATURE:

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

TERMINAL AIRSPACE DATA REQUIREMENTS

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

AIRPORT NAME: **MINNEAPOLIS-ST PAUL INTL** ID: **KMSP**

PROCEDURE: **ILS OR LOC RWY 12R** AMDT: **10**

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 (Enter THLD, FAF, ARP, FACILITY, as appropriate)	**THLD**	to 1000' point	**3.15**
2. Width of (Enter appropriate segment, final, intermediate, etc.)	**FINAL**	segment at 1000' point	**0.90**
3. True Course of	**FINAL**	segment containing 1000' point	**121.24**
4. High Terrain in	**FINAL**	segment containing 1000' point	**929**
5. Distance from (If 1500' point in PT maneuvering area or holding pattern note in remarks)	**THLD**	to 1500' point	**5.40**
6. Width of	**FINAL**	segment at 1500' point	**1.38**
7. True Course of	**FINAL**	segment containing 1500' point	**121.24**
8. High Terrain in	**FINAL**	segment containing 1500' point	**929**

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 (GPS) Z RWY 12L, ORIG
RNAV (GPS) Z RWY 12R, ORIG
RNAV (GPS) Z RWY 30L, ORIG
RNAV (GPS) Z RWY 30R, ORIG
RNAV (GPS) 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).