

RADIO FIX AND HOLDING DATA RECORD

NAME: BONNA

STATE: MN

COUNTRY: US

ICAO REGION CODE: K3

LATITUDE/LONGITUDE: 444608.17N/0925609.02W

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 NM	FAC FEET	MRA	MAA
1	MINNEAPOLIS	I-INN	LOC/DME		121.35	121.35	13.12	14.47		5000	6000

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
I-INN	LOC/DME	R-121	15	5000	6000

HOLDING:

HOLDING TYPE OF ACTION: NO CHANGE

REMARKS:

MINNEAPOLIS (FAC 1) USED TO ESTABLISH FIX COORDINATES
I-INN DME: 445303.67N/0931148.87W.
LOCATION IAW 8260.54A FORMULA 2-16B.
ESTABLISHED ESV IS FOR LOC/GS.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 30R	1		KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Z RWY 30R			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Y RWY 30R			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: MILITARY IAP, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 12

DATE OF REVISION: 01/05/2017

REASON FOR REVISION:

1. UPDATED FIX USE: DELETED ILS V RWY 30R KMSP; UPDATED PROCEDURE NAME FOR ILS Z OR LOC RWY 30R TO ILS OR LOC RWY 30R.
2. ADDED RADAR TO FIX TYPE AND DELETED INT FROM FIX TYPE.
3. DELETED FAC 2 FROM FIX MAKEUP AND DELETED FAC 2 FROM FIX USE.
4. CHANGED ESV DISTANCE FROM 14 TO 15.
5. UPDATED DME COORDINATES IN REMARKS.

DEVELOPED BY:

DATE: 08/18/2016

OFFICE: AJV-5421

NAME: JAMES ROGERS

APPROVED BY:

DATE:

OFFICE: AJV-5420

NAME: TONY LAWSON

SIGNATURE:

DISTRIBUTION:

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

QUALITY
22
CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: CIJOT

STATE: MN

COUNTRY: US

ICAO REGION CODE: K3

LATITUDE/LONGITUDE: 445147.96N/0930909.38W

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 NM	FAC FEET	MRA	MAA
1	MINNEAPOLIS	I-INN	LOC/DME		121.35	121.35	2.27	3.62		1420	5300

HOLDING:

HOLDING TYPE OF ACTION: NO CHANGE

REMARKS:

I-INN DME: 445303.67N/0931148.87W.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 30R	1		KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Z RWY 30R			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: MILITARY IAP, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 3

DATE OF REVISION: 01/05/2017

REASON FOR REVISION:

1. UPDATED FIX USE: CHANGED ILS Z OR LOC RWY 30R TO ILS OR LOC RWY 30R; UPDATED MRA.
2. ADDED RADAR TO FIX TYPE.
3. UPDATED DME COORDINATES IN REMARKS.

DEVELOPED BY:

DATE: 08/22/2016

OFFICE: AJV-5421

NAME: JAMES ROGERS

APPROVED BY:

DATE:

OFFICE: AJV-5420

NAME: TONY LAWSON

SIGNATURE:

DISTRIBUTION:

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

QUALITY
22
CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: GEEQU

STATE: WI

COUNTRY: US

ICAO REGION CODE: K5

LATITUDE/LONGITUDE: 444614.91N/0924519.26W

TYPE: WP

AIRSPACE DOCKET:

FIX TYPE OF ACTION: NO CHANGE

HOLDING:

HOLDING TYPE OF ACTION: NO CHANGE

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 30R			KMSP	MINNEAPOLIS	MN (US)
IAP	ILS Z OR LOC RWY 30L			KMSP	MINNEAPOLIS	MN (US)
IAP	ILS Z RWY 30L (CAT II)			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Z RWY 30L			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Y RWY 30L			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Y RWY 30R			KMSP	MINNEAPOLIS	MN (US)
STAR	KKILR (RNAV)			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: STAR, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 1

DATE OF REVISION: 01/05/2017

REASON FOR REVISION:

1. UDPATED FIX USE: ADDED ILS OR LOC RWY 30R KMSP; ILS Z OR LOC RWY 30L; ILS Z RWY 30L (CAT II); RNAV (GPS) Z RWY 30L; RNAV (RNP) Y RWY 30L.

DEVELOPED BY:

DATE: 08/29/2016

OFFICE: AJV-5421

NAME: JAMES ROGERS

APPROVED BY:

DATE:

OFFICE: AJV-5420

NAME: TONY LAWSON

SIGNATURE:

DISTRIBUTION:

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

QUALITY
22
CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: GOPHER VORTAC

STATE: MN

COUNTRY: US

ICAO REGION CODE: K3

LATITUDE/LONGITUDE: 450844.47N/0932223.45W

TYPE:

AIRSPACE DOCKET:

FIX TYPE OF ACTION: NO CHANGE

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	FEET	MRA	MAA
1	GOPHER	GEP	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 TIME	LENGTH DME	HOLDING ALTITUDES MIN	MAX	TEMPLATES MIN	MAX
1	NW	GEP	VORTAC	297.00	117.00	L	1		3000	14000	4	10
2	N	GEP	VORTAC	346.00	166.00	L	1		2600	14000	4	10
3	W	GEP	VORTAC	264.00	084.00	R	1		2700	14000	4	10
4	NW		WP	297.00	117.00	L		4	3000	14000	5	11
5	N		WP	346.00	166.00	L		4	2700	14000	5	11
6	W		WP	265.00	085.00	R		4	2700	14000	5	11

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	TOWER (27-000032)	451043.00N/0932100.00W	1530	4D
1	265	TOWER (27-000032)	451043.00N/0932100.00W	1530	4D
2	200	TOWER (27-000032)	451043.00N/0932100.00W	1530	4D
3	200	TOWER (27-000032)	451043.00N/0932100.00W	1530	4D
4	200	TOWER (27-000032)	451043.00N/0932100.00W	1530	4D
4	265	TOWER (27-000032)	451043.00N/0932100.00W	1530	4D
5	200	TOWER (27-000032)	451043.00N/0932100.00W	1530	4D
6	200	TOWER (27-000032)	451043.00N/0932100.00W	1530	4D

REASON FOR NONSTANDARD HOLDING:

PAT 1 ATC REQUEST

PAT 2 ATC REQUEST

PAT 4 ATC REQUEST

PAT 5 ATC REQUEST

HOLDING RESTRICTIONS:

HOLDING LIMITED TO ESTABLISHED PATTERNS.

REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED.

HOLDING PATTERN 1 AND 4 EVALUATED FOR MILITARY AIRCRAFT AT KMSP.

ASSIGNED FACILITY MAGVAR: E6 1965.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
DP	DES MOINES			KDSM	DES MOINES	IA (US)
DP	COULT			KANE	MINNEAPOLIS	MN (US)
DP	KBREW			KANE	MINNEAPOLIS	MN (US)
DP	WLSTN			KANE	MINNEAPOLIS	MN (US)
DP	COULT			KFCM	MINNEAPOLIS	MN (US)
DP	KBREW			KFCM	MINNEAPOLIS	MN (US)
DP	WLSTN			KFCM	MINNEAPOLIS	MN (US)
DP	COULT			KMSP	MINNEAPOLIS	MN (US)
DP	KBREW			KMSP	MINNEAPOLIS	MN (US)
DP	LEINY (RNAV)			KMSP	MINNEAPOLIS	MN (US)
DP	WLSTN			KMSP	MINNEAPOLIS	MN (US)
DP	COULT			KSTP	ST PAUL	MN (US)
DP	KBREW			KSTP	ST PAUL	MN (US)
DP	WLSTN			KSTP	ST PAUL	MN (US)
DP	BLUFS			KOMA	OMAHA	NE (US)
EN ROUTE	J106					(US)
EN ROUTE	J114					(US)
EN ROUTE	J21					(US)
EN ROUTE	J25					(US)
EN ROUTE	J36					(US)
EN ROUTE	J68					(US)
EN ROUTE	J70					(US)
EN ROUTE	J70					(US)
EN ROUTE	Q501					(US)
EN ROUTE	Q502					(US)
EN ROUTE	V148					(US)
EN ROUTE	V161					(US)
EN ROUTE	V2					(US)
EN ROUTE	V218					(US)
EN ROUTE	V413					(US)
EN ROUTE	V505					(US)

QUALITY
22
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EN ROUTE	V510			(US)
EN ROUTE	V78			(US)
EN ROUTE	V82			(US)
EN ROUTE	V97			(US)
IAP	VOR -A	KCFE	BUFFALO	MN (US)
IAP	NDB RWY 34	KCBG	CAMBRIDGE	MN (US)
IAP	RNAV (GPS) RWY 34	KCBG	CAMBRIDGE	MN (US)
IAP	RNAV (GPS) RWY 28	KMG	MAPLE LAKE	MN (US)
IAP	VOR-A	KMG	MAPLE LAKE	MN (US)
IAP	ILS OR LOC/DME RWY 27	3 KANE	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) RWY 18	KANE	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) RWY 27	6 KANE	MINNEAPOLIS	MN (US)
IAP	VOR RWY 9	3 KANE	MINNEAPOLIS	MN (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 10R	KFCM	MINNEAPOLIS	MN (US)
IAP	VOR RWY 10R	KFCM	MINNEAPOLIS	MN (US)
IAP	ILS OR LOC RWY 30	KLVN	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) RWY 14L	5 KMIC	MINNEAPOLIS	MN (US)
IAP	VOR OR GPS-A	2 KMIC	MINNEAPOLIS	MN (US)
IAP	ILS OR LOC RWY 12L (ALT MA)	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS OR LOC RWY 30R	1 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)
IAP	ILS Z OR LOC RWY 35	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS Z RWY 35 (CAT II/III)	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS Z RWY 35 (SA CAT I)	KMSP	MINNEAPOLIS	MN (US)
IAP	LOC RWY 17	KMSP	MINNEAPOLIS	MN (US)
IAP	LOC RWY 22	KMSP	MINNEAPOLIS	MN (US)
IAP	LOC RWY 4	1 KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) RWY 4	4 KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Z RWY 30R	4 KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Z RWY 35	4 KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Y RWY 30R	4 KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Y RWY 35	4 KMSP	MINNEAPOLIS	MN (US)
IAP	NDB RWY 15	KPNM	PRINCETON	MN (US)
IAP	ILS OR LOC RWY 9	KRGK	RED WING	MN (US)
IAP	RNAV (GPS) RWY 34	KROS	RUSH CITY	MN (US)
IAP	LOC RWY 34	KSGS	SOUTH ST PAUL	MN (US)
IAP	NDB-B	KSGS	SOUTH ST PAUL	MN (US)
IAP	ILS OR LOC RWY 31	KSTC	ST CLOUD	MN (US)
IAP	VOR RWY 31	KSTC	ST CLOUD	MN (US)
IAP	NDB RWY 4	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)
IAP	RNAV (GPS) RWY 14	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	KMG	MAPLE LAKE	MN (US)
STAR	AGUDE	KANE	MINNEAPOLIS	MN (US)
STAR	ENCEE (RNAV)	KANE	MINNEAPOLIS	MN (US)
STAR	GOPHER	KANE	MINNEAPOLIS	MN (US)
STAR	TWOLF	KANE	MINNEAPOLIS	MN (US)
STAR	AGUDE	KFCM	MINNEAPOLIS	MN (US)
STAR	ENCEE (RNAV)	KFCM	MINNEAPOLIS	MN (US)
STAR	GOPHER	KFCM	MINNEAPOLIS	MN (US)
STAR	TWOLF	KFCM	MINNEAPOLIS	MN (US)
STAR	AGUDE	KLVN	MINNEAPOLIS	MN (US)
STAR	ENCEE (RNAV)	KLVN	MINNEAPOLIS	MN (US)
STAR	GOPHER	KLVN	MINNEAPOLIS	MN (US)
STAR	TWOLF	KLVN	MINNEAPOLIS	MN (US)
STAR	AGUDE	KMIC	MINNEAPOLIS	MN (US)
STAR	ENCEE (RNAV)	KMIC	MINNEAPOLIS	MN (US)
STAR	GOPHER	KMIC	MINNEAPOLIS	MN (US)
STAR	TWOLF	KMIC	MINNEAPOLIS	MN (US)
STAR	BAINY (RNAV)	KMSP	MINNEAPOLIS	MN (US)
STAR	EAU CLAIRE	KMSP	MINNEAPOLIS	MN (US)
STAR	GOPHER	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	ENCEE (RNAV)	KSTP	ST PAUL	MN (US)
STAR	GOPHER	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)

QUALITY
22
CHECKED

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 20

DATE OF REVISION: 01/05/2017

REASON FOR REVISION:

1. UPDATED FIX USE: DELETED ILS V RWY 30L/R KMSP; UPDATED PROCEDURE NAME FOR ILS Z OR LOC RWY 30R TO ILS OR LOC RWY 30R; ADDED LEINY (RNAV) KMSP; ADDED ILS OR LOC RWY 30 KLVN; ADDED ILS Z OR LOC RWY 35, ILS Z RWY 35 (CAT II/III), ILS Z RWY 35 (SA CAT I) KMSP.

DEVELOPED BY: **DATE:** 08/22/2016 **OFFICE:** AJV-5421 **NAME:** JAMES ROGERS

APPROVED BY: **DATE:** **OFFICE:** AJV-5420 **NAME:** TONY LAWSON

SIGNATURE:

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

QUALITY
22
CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: GROVZ

STATE: MN

COUNTRY: US

ICAO REGION CODE: K3

LATITUDE/LONGITUDE: 444250.91N/0924838.71W

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	FAC FEET	MRA	MAA
1	MINNEAPOLIS	I-INN	LOC/DME		121.35	121.35	19.40	20.75		5000	8000

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
I-INN	LOC/DME	R-121	21	5000	8000

HOLDING:

HOLDING TYPE OF ACTION: NO CHANGE

REMARKS:

MINNEAPOLIS (FAC 1) USED TO ESTABLISH FIX COORDINATES
I-INN DME: 445303.67N/0931148.87W.
LOCATION IAW 8260.54A FORMULA 2-16B.
ESTABLISHED ESV IS FOR LOC/GS.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 30R	1		KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Z RWY 30R			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Y RWY 30R			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: MILITARY IAP, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 6

DATE OF REVISION: 01/05/2017

REASON FOR REVISION:

1. UPDATED FIX USE: DELETED ILS V RWY 30R KMSP; UPDATED PROCEDURE NAME FOR ILS Z OR LOC RWY 30R TO ILS OR LOC RWY 30R.
2. ADDED RADAR TO FIX TYPE AND DELETED INT FROM FIX TYPE.
3. DELETED FAC 2 FROM FIX MAKEUP AND DELETED FAC 2 FROM FIX USE.
4. UPDATED DME COORDINATES IN REMARKS.

DEVELOPED BY:

DATE: 08/18/2016

OFFICE: AJV-5421

NAME: JAMES ROGERS

APPROVED BY:

DATE:

OFFICE: AJV-5420

NAME: TONY LAWSON

SIGNATURE:

DISTRIBUTION:

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

QUALITY
22
CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: JACKO

STATE: MN

COUNTRY: US

ICAO REGION CODE: K3

LATITUDE/LONGITUDE: 444924.96N/0930340.22W

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 NM	FAC FEET	MRA	MAA
1	MINNEAPOLIS	I-INN	LOC/DME		121.35	121.35	6.84	8.19	49759	3000	5300

HOLDING:

HOLDING TYPE OF ACTION: NO CHANGE

REMARKS:

MINNEAPOLIS (FAC 1) USED TO ESTABLISH FIX COORDINATES
LOCATION IAW 8260.54A FORMULA 2-16B.
I-INN DME LAT/LONG: 445303.67N/0931148.87W.
PRECISE FIX COORDINATES: 444924.957N/0930340.217W

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 30R	1		KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Z RWY 30R			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Y RWY 30R			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: MILITARY IAP, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 10

DATE OF REVISION: 01/05/2017

REASON FOR REVISION:

1. UPDATED FIX USE: DELETED ILS V RWY 30R KMSP; UPDATED PROCEDURE NAME FOR ILS Z OR LOC RWY 30R TO ILS OR LOC RWY 30R.
2. DELETED INT FROM FIX TYPE.
3. DELETED FAC 2 FROM FIX MAKEUP AND DELETED FAC 2 FROM FIX USE.
4. UPDATED DME COORDINATES IN REMARKS.
5. CHANGED DME DISTANCE FROM FAC 1 TO 6.84.

DEVELOPED BY:

DATE: 08/18/2016

OFFICE: AJV-5421

NAME: JAMES ROGERS

APPROVED BY:

DATE:

OFFICE: AJV-5420

NAME: TONY LAWSON

SIGNATURE:

DISTRIBUTION:

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

QUALITY
22
CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: KANAC

STATE: MN

COUNTRY: US

ICAO REGION CODE: K3

LATITUDE/LONGITUDE: 445201.91N/0925553.14W

TYPE: WP, INT, DME

AIRSPACE DOCKET:

FIX TYPE OF ACTION: NO CHANGE

FIX MAKE-UP FACILITIES:

FAC	NAME	IDENT	TYPE	CLASS	MAG BRG	TRUE BRG	DME	DIST FROM FAC NM	MRA	MAA
1	GOPHER	GEP	VORTAC	H	125.47	131.47	25.16	25.16	3000	17500
2	FARMINGTON	FGT	VORTAC	H	031.00	037.00	17.77	17.77	3000	17500
3	MINNEAPOLIS	MSP	VOR/DME	L	095.59	097.59	13.13	13.13	3000	17500

HOLDING:

HOLDING TYPE OF ACTION: NO CHANGE

PATTERNS:

PAT	DIR	IDENT	TYPE	RAD/CRS/BRG	CRS INBOUND	TURN (L OR R)	LEG LENGTH TIME	DME	HOLDING ALTITUDES MIN	MAX	TEMPLATES MIN	MAX
1	SE	GEP	VORTAC	125.47	305.47	R	1		3000	14000	5	11
2	E	MSP	VOR/DME	095.59	275.59	R	1		3000	14000	5	11
3	E		WP	095.59	275.59	R		4	3000	14000	5	11

CONTROLLING OBSTRUCTIONS:

PAT	AIRSPEED	OBSTRUCTION	COORDINATES	ELEVATION	ACCURACY CODE
1	200	AAO	445457.00N/0925645.00W	1339	4E
1	265	AAO	444615.00N/0923542.00W	1395	4E
2	200	AAO	445457.00N/0925645.00W	1339	4E
2	265	TOWER (55-000156)	445630.32N/0923935.00W	1466	2C
3	200	AAO	445457.00N/0925645.00W	1339	3E
3	265	TOWER (55-000156)	445630.32N/0923935.00W	1466	2C

HOLDING RESTRICTIONS:

HOLDING LIMITED TO ESTABLISHED PATTERN.

REMARKS:

GOPHER (FAC 1) AND FARMINGTON (FAC 2) USED TO ESTABLISH FIX COORDINATES
 PRECIPITOUS TERRAIN EVALUATION COMPLETED.
 HOLDING PATTERNS EVALUATED FOR MILITARY AIRCRAFT AT KMSP.
 PAT 3 200K PATTERN IPDS AC USED.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
EN ROUTE	V2-97	1, 2				(US)
IAP	ILS OR LOC RWY 12L	2, 3	2	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS OR LOC RWY 12L (ALT MA)	1, 2	1	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS OR LOC RWY 30R (ALT MA)	2, 3	2	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (CAT II)	2, 3	2	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (CAT II) (ALT MA)	1, 2	1	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (CAT III)	2, 3	2	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (CAT III) (ALT MA)	1, 2	1	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (SA CAT I)	2, 3	2	KMSP	MINNEAPOLIS	MN (US)
IAP	ILS RWY 12L (SA CAT I) (ALT MA)	1, 2	1	KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Z RWY 12L		3	KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Y RWY 12L		3	KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: MILITARY IAP, IAP, CONTROLLER, EN ROUTE LOW

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 2

DATE OF REVISION: 01/05/2017

REASON FOR REVISION:

1. UPDATED FIX USE: DELETED ILS V RWY 30L/30R KMSP; UPDATED PROCEDURE NAME FOR ILS Z OR LOC RWY 30R TO ILS OR LOC RWY 30R.

DEVELOPED BY: DATE: 08/16/2016 OFFICE: AJV-5421 NAME: JAMES ROGERS

APPROVED BY: DATE: OFFICE: AJV-5420 NAME: TONY LAWSON

SIGNATURE:

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



RADIO FIX AND HOLDING DATA RECORD

NAME: SAMMZ

STATE: MN

COUNTRY: US

ICAO REGION CODE: K3

LATITUDE/LONGITUDE: 444746.62N/0925954.51W

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 NM	FAC FEET	MRA	MAA
1	MINNEAPOLIS	I-INN	LOC/DME		121.35	121.35	9.98	11.33		4000	5300

HOLDING:

HOLDING TYPE OF ACTION: NO CHANGE

REMARKS:

MINNEAPOLIS (FAC 1) USED TO ESTABLISH FIX COORDINATES
I-INN DME: 445303.67N/0931148.87W.
LOCATION IAW 8260.54A FORMULA 2-16B.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 30R	1		KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Z RWY 30R			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Y RWY 30R			KMSP	MINNEAPOLIS	MN (US)
STAR	KKILR (RNAV)			KMSP	MINNEAPOLIS	MN (US)
STAR	MUSCL (RNAV)			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: MILITARY IAP, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 5

DATE OF REVISION: 01/05/2017

REASON FOR REVISION:

1. UPDATED FIX USE: DELETED ILS V RWY 30R KMSP; UPDATED PROCEDURE NAME FOR ILS Z OR LOC RWY 30R TO ILS OR LOC RWY 30R; ADDED KKILR (RNAV) AND MUSCL (RNAV) KMSP.
2. ADDED RADAR TO FIX TYPE AND DELETED INT FROM FIX TYPE.
3. DELETED FAC 2 FROM FIX MAKEUP AND DELETED FAC 2 FROM FIX USE.
4. UPDATED DME COORDINATES IN REMARKS.

DEVELOPED BY:

DATE: 08/18/2016

OFFICE: AJV-5421

NAME: JAMES ROGERS

APPROVED BY:

DATE:

OFFICE: AJV-5420

NAME: TONY LAWSON

SIGNATURE:

DISTRIBUTION:

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

QUALITY
22
CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: SOGGY

STATE: MN

COUNTRY: US

ICAO REGION CODE: K3

LATITUDE/LONGITUDE: 444740.29N/0925133.11W

TYPE: WP

AIRSPACE DOCKET:

FIX TYPE OF ACTION: NO CHANGE

HOLDING:

HOLDING TYPE OF ACTION: NO CHANGE

REMARKS:

PRECISE FIX COORDINATES: 444740.290N/0925133.112W.

FIX USE:

USE TYPE

USE TITLE

FAC

PAT

AIRPORT IDENT

CITY

STATE

IAP

ILS OR LOC RWY 30R

KMSP

MINNEAPOLIS

MN (US)

IAP

RNAV (RNP) Y RWY 30R

KMSP

MINNEAPOLIS

MN (US)

STAR

MUSCL (RNAV)

KMSP

MINNEAPOLIS

MN (US)

REQUIRED CHARTING: IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 1

DATE OF REVISION: 01/05/2017

REASON FOR REVISION:

1. UPDATED FIX USE: ADDED ILS OR LOC RWY 30R KMSP; ADDED MUSCL (RNAV) KMSP.

DEVELOPED BY:

DATE: 08/29/2016

OFFICE: AJV-5421

NAME: JAMES ROGERS

APPROVED BY:

DATE:

OFFICE: AJV-5420

NAME: TONY LAWSON

SIGNATURE:

DISTRIBUTION:

NFDC

FPO: CEN

ARTCC: ZMP

ATC FACILITY: MSP APP CON, MSP ATCT

OTHER:

QUALITY
22
CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: TRTEL

STATE: WI

COUNTRY: US

ICAO REGION CODE: K5

LATITUDE/LONGITUDE: 445157.46N/0924543.09W

TYPE: WP

AIRSPACE DOCKET:

FIX TYPE OF ACTION: NO CHANGE

HOLDING:

HOLDING TYPE OF ACTION: NO CHANGE

FIX USE:

USE TYPE
IAP
IAP
STAR

USE TITLE

ILS OR LOC RWY 30R
RNAV (RNP) Y RWY 30R
MUSCL (RNAV)

FAC

PAT

AIRPORT IDENT

KMSP
KMSP
KMSP

CITY

MINNEAPOLIS
MINNEAPOLIS
MINNEAPOLIS

STATE

MN (US)
MN (US)
MN (US)

REQUIRED CHARTING: STAR, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 1

DATE OF REVISION: 01/05/2017

REASON FOR REVISION:

1. UPDATED FIX USE: ADDED ILS OR LOC RWY 30R KMSP.

DEVELOPED BY:

DATE: 08/29/2016

OFFICE: AJV-5421

NAME: JAMES ROGERS

APPROVED BY:

DATE:

OFFICE: AJV-5420

NAME: TONY LAWSON

SIGNATURE:

DISTRIBUTION:

NFDC

FPO: CEN

ARTCC: ZMP

ATC FACILITY: MSP APP CON / MSP ATCT

OTHER:

QUALITY
22
CHECKED

RADIO FIX AND HOLDING DATA RECORD

NAME: WULAM

STATE: MN

COUNTRY: US

ICAO REGION CODE: K3

LATITUDE/LONGITUDE: 444429.60N/0925223.75W

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	FAC FEET	MRA	MAA
1	MINNEAPOLIS	I-INN	LOC/DME		121.35	121.35	16.26	17.61		5000	7000

EXPANDED SERVICE VOLUME (ESV):

FAC IDENT	FAC TYPE	RADIAL/BEARING	DISTANCE	MIN ALTITUDE	MAX ALTITUDE
I-INN	LOC/DME	R-121	18	5000	7000

HOLDING:

HOLDING TYPE OF ACTION: NO CHANGE

REMARKS:

MINNEAPOLIS (FAC 1) USED TO ESTABLISH FIX COORDINATES
I-INN DME: 445303.67N/0931148.87W.
LOCATION IAW 8260.54A FORMULA 2-16B.
ESTABLISHED ESV IS FOR LOC/GS.

FIX USE:

USE TYPE	USE TITLE	FAC	PAT	AIRPORT IDENT	CITY	STATE
IAP	ILS OR LOC RWY 30R	1		KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (GPS) Z RWY 30R			KMSP	MINNEAPOLIS	MN (US)
IAP	RNAV (RNP) Y RWY 30R			KMSP	MINNEAPOLIS	MN (US)

REQUIRED CHARTING: MILITARY IAP, IAP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 5

DATE OF REVISION: 01/05/2017

REASON FOR REVISION:

1. UPDATED FIX USE: DELETED ILS V RWY 30R KMSP; UPDATED PROCEDURE NAME FOR ILS Z OR LOC RWY 30R TO ILS OR LOC RWY 30R.
2. ADDED RADAR TO FIX TYPE AND DELETED INT FROM FIX TYPE.
3. DELETED FAC 2 FROM FIX MAKEUP AND DELETED FAC 2 FROM FIX USE.
4. UPDATED DME COORDINATES IN REMARKS.

DEVELOPED BY:

DATE: 08/18/2016

OFFICE: AJV-5421

NAME: JAMES ROGERS

APPROVED BY:

DATE:

OFFICE: AJV-5420

NAME: TONY LAWSON

SIGNATURE:

DISTRIBUTION:

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

QUALITY
22
CHECKED