

# RADIO FIX AND HOLDING DATA RECORD

NAME: COULT

STATE: WI

COUNTRY: US

ICAO REGION CODE: K5

LATITUDE/LONGITUDE: 443323.85N/0921230.38W

TYPE: INT, DME

AIRSPACE DOCKET:

FIX TYPE OF ACTION: CANCEL

## FIX MAKE-UP FACILITIES:

| FAC | NAME       | IDENT | TYPE   | CLASS | MAG BRG | TRUE BRG | DME   | DIST FROM FAC NM | FAC FEET | MRA  | MAA   |
|-----|------------|-------|--------|-------|---------|----------|-------|------------------|----------|------|-------|
| 1   | GOPHER     | GEP   | VORTAC | H     | 119.00  | 125.00   | 61.00 | 61.00            |          | 9000 | 45000 |
| 2   | EAU CLAIRE | EAU   | VORTAC | L     | 233.01  | 237.01   |       | 37.33            |          | 9000 | 33000 |

## EXPANDED SERVICE VOLUME (ESV):

| FAC IDENT | FAC TYPE | RADIAL/BEARING | DISTANCE | MIN ALTITUDE | MAX ALTITUDE |
|-----------|----------|----------------|----------|--------------|--------------|
| GEP       | VORTAC   | R-119          | 61       | 9000         | 15400        |
| EAU       | VORTAC   | R-233          | 38       | 18000        | 33000        |

HOLDING:

HOLDING TYPE OF ACTION:

## FIX USE:

| USE TYPE | USE TITLE | FAC  | PAT | AIRPORT IDENT | CITY        | STATE   |
|----------|-----------|------|-----|---------------|-------------|---------|
| DP       | COULT     | 1, 2 |     | ANE           | MINNEAPOLIS | MN (US) |
| DP       | COULT     | 1, 2 |     | FCM           | MINNEAPOLIS | MN (US) |
| DP       | COULT     | 1, 2 |     | MSP           | MINNEAPOLIS | MN (US) |
| DP       | COULT     | 1, 2 |     | STP           | ST PAUL     | MN (US) |

REQUIRED CHARTING: DP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 2

DATE OF REVISION: 02/11/2010

## REASON FOR REVISION:

ADDED DIST FROM FAC (NM) TO FAC 1 AND 2.  
UPDATED ESV DATA.  
UPDATED FIX USE.

INITIATED BY:

DATE:

ORGANIZATION:

NAME:

DEVELOPED BY:

DATE: 09/02/2009

OFFICE: AVN-120

NAME: WADE TERRELL (SCOTT CORY)

APPROVED BY:

DATE: 09/24/2026

OFFICE: AJV-A422

NAME: RAKE MCGRAW

SIGNATURE:

*Digitally signed by*

**RAKE MCGRAW**

Jun 17, 2026

DISTRIBUTION:

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

QUALITY  
23  
CHECKED

# RADIO FIX AND HOLDING DATA RECORD

NAME: DELLS VORTAC      STATE: WI      COUNTRY: US      ICAO REGION CODE: K5

LATITUDE/LONGITUDE: 433303.01N/0894549.04W      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<br>NM    FEET | MRA | MAA   |
|-----|-------|-------|--------|-------|---------|----------|-----|-----------------------------|-----|-------|
| 1   | DELLS | DLL   | VORTAC | VH    |         |          |     |                             |     | 45000 |

HOLDING:      HOLDING TYPE OF ACTION: NO CHANGE

## PATTERNS:

| PAT | DIR | IDENT | TYPE   | RAD/CRS/BRG | CRS<br>INBOUND | TURN<br>(L OR R) | LEG TIME | LENGTH<br>DME | HOLDING ALTITUDES<br>MIN    MAX | TEMPLATES<br>MIN    MAX |
|-----|-----|-------|--------|-------------|----------------|------------------|----------|---------------|---------------------------------|-------------------------|
| 1   | N   | DLL   | VORTAC | 007.00      | 187.00         | R                | 1        |               | 3000    6000                    | 4    12                 |
| 2   | N   | DLL   | VORTAC | 360.00      | 180.00         | L                | 1        |               | 4000    17500                   | 8    16                 |
| 3   | E   |       | WP     | 081.00      | 261.00         | R                |          | 4             | 3500    6000                    | 5    13                 |

## CONTROLLING OBSTRUCTIONS:

| PAT | AIRSPEED | OBSTRUCTION       | COORDINATES            | ELEVATION | ACCURACY CODE |
|-----|----------|-------------------|------------------------|-----------|---------------|
| 1   | 200      | TOWER (55-000991) | 433031.96N/0895109.91W | 1461      | 4D            |
| 1   | 310      | AAO               | 432503.00N/0894815.00W | 1703      | 4E            |
| 2   | 265      | TOWER (55-000991) | 433031.96N/0895109.91W | 1461      | 4D            |
| 3   | 200      | AAO               | 432954.00N/0893954.00W | 1368      | 4B            |
| 3   | 310      | AAO               | 432639.00N/0894033.00W | 1706      | 4B            |

## REASON FOR NONSTANDARD HOLDING:

PAT 2 ATC REQUEST

## HOLDING RESTRICTIONS:

HOLDING LIMITED TO ESTABLISHED PATTERN(S)

## PROCEDURES REQUIRING CLIMB-IN-HOLD:

| PAT | PROCEDURE TITLE   | AIRPORT IDENT | CITY      | STATE   |
|-----|-------------------|---------------|-----------|---------|
| 1   | VOR-A             | DLL           | BARABOO   | WI (US) |
| 1   | LOC RWY 1         | DLL           | BARABOO   | WI (US) |
| 3   | RNAV (GPS) RWY 36 | C35           | REEDSBURG | WI (US) |

## REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED.  
ASSIGNED FACILITY MAG VAR: E3 1965.

## FIX USE:

| USE TYPE | USE TITLE                | FAC | PAT | AIRPORT IDENT | CITY               | STATE   |
|----------|--------------------------|-----|-----|---------------|--------------------|---------|
| DP       | SNUPE (RNAV)             |     |     | ANE           | MINNEAPOLIS        | MN (US) |
| DP       | SNUPE (RNAV)             |     |     | FCM           | MINNEAPOLIS        | MN (US) |
| DP       | SNUPE (RNAV)             |     |     | MSP           | MINNEAPOLIS        | MN (US) |
| DP       | SNUPE (RNAV)             |     |     | STP           | ST PAUL            | MN (US) |
| EN ROUTE | J34                      |     |     |               |                    | (US)    |
| EN ROUTE | J538                     |     |     |               |                    | (US)    |
| EN ROUTE | J68                      |     |     |               |                    | (US)    |
| EN ROUTE | V170                     |     |     |               |                    | (US)    |
| EN ROUTE | V228                     |     |     |               |                    | (US)    |
| EN ROUTE | V345                     |     |     |               |                    | (US)    |
| EN ROUTE | V510                     |     |     |               |                    | (US)    |
| EN ROUTE | V82                      |     |     |               |                    | (US)    |
| IAP      | LOC RWY 1                |     | 1   | DLL           | BARABOO            | WI (US) |
| IAP      | VOR-A                    |     | 1   | DLL           | BARABOO            | WI (US) |
| IAP      | RNAV (GPS) RWY 1         |     |     | DLL           | BARABOO            | WI (US) |
| IAP      | ILS OR LOC/DME RWY 27    |     | 2   | VOK           | CAMP DOUGLAS       | WI (US) |
| IAP      | VOR RWY 18               |     |     | FLD           | FOND DU LAC        | WI (US) |
| IAP      | RNAV (GPS) RWY 33        |     |     | 63C           | FRIENDSHIP (ADAMS) | WI (US) |
| IAP      | LOC RWY 27               |     |     | LNR           | LONE ROCK          | WI (US) |
| IAP      | RNAV (GPS) RWY 27        |     |     | LNR           | LONE ROCK          | WI (US) |
| IAP      | RNAV (GPS) RWY 9         |     |     | LNR           | LONE ROCK          | WI (US) |
| IAP      | ILS OR LOC RWY 18        |     |     | MSN           | MADISON            | WI (US) |
| IAP      | ILS OR LOC RWY 21        |     |     | MSN           | MADISON            | WI (US) |
| IAP      | ILS OR LOC/DME RWY 36    |     |     | MSN           | MADISON            | WI (US) |
| IAP      | ILS RWY 18 (SA CAT I-II) |     |     | MSN           | MADISON            | WI (US) |
| IAP      | ILS RWY 36 (CAT II-III)  |     |     | MSN           | MADISON            | WI (US) |
| IAP      | ILS RWY 36 (SA CAT I)    |     |     | MSN           | MADISON            | WI (US) |
| IAP      | RNAV (GPS) RWY 18        |     |     | MSN           | MADISON            | WI (US) |
| IAP      | LOC/DME RWY 10           |     |     | C29           | MIDDLETON          | WI (US) |
| IAP      | VOR RWY 28               |     |     | C29           | MIDDLETON          | WI (US) |
| IAP      | RNAV (GPS) RWY 36        |     |     | DAF           | NECEDAH            | WI (US) |
| IAP      | RNAV (GPS) RWY 32        |     |     | 82C           | NEW LISBON         | WI (US) |
| IAP      | RNAV (GPS) RWY 18        |     |     | 91C           | PRAIRIE DU SAC     | WI (US) |
| IAP      | RNAV (GPS) RWY 36        |     |     | 91C           | PRAIRIE DU SAC     | WI (US) |
| IAP      | RNAV (GPS) RWY 18        |     | 3   | C35           | REEDSBURG          | WI (US) |

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|     |                   |   |     |                 |         |
|-----|-------------------|---|-----|-----------------|---------|
| IAP | RNAV (GPS) RWY 36 | 3 | C35 | REEDSBURG       | WI (US) |
| IAP | RNAV (GPS)-A      |   | 93C | RICHLAND CENTER | WI (US) |

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

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** 26

**DATE OF REVISION:** 10/29/2026

**REASON FOR REVISION:**

1. PROCEDURES REQUIRING CLIMB-IN-HOLD: ADDED PAT 1 VOR-A AT DLL.
2. FIX USE: REMOVED DP COULT AT KANE, KFCM, KMSP AND KSTP.
3. FIX USE: REMOVED DP MEADOW LAKE AND MINNEAPOLIS AT KMSP.
4. FIX USE: ADDED DP SNUPE (RNAV) AT KANE, KFCM, KMSP AND KSTP.

**INITIATED BY:**

**DATE:**

**ORGANIZATION:**

**NAME:**

**OFFICE OF PRIMARY RESPONSIBILITY:**

AJV-A431

**NAME:** EMMANUEL GONZALES

**APPROVED BY:**

**DATE:** 09/24/2026

**OFFICE:** AJV-A422

**NAME:** RAKE MCGRAW

**SIGNATURE:**

*Digitally signed by*

**RAKE MCGRAW**

Jun 17, 2026



# RADIO FIX AND HOLDING DATA RECORD

NAME: FARMINGTON VORTAC      STATE: MN      COUNTRY: US      ICAO REGION CODE: K3

LATITUDE/LONGITUDE: 443751.43N/0931055.39W      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<br>NM FEET | MRA | MAA   |
|-----|------------|-------|--------|-------|---------|----------|-----|--------------------------|-----|-------|
| 1   | FARMINGTON | FGT   | VORTAC | VH    |         |          |     |                          |     | 45000 |

HOLDING:      HOLDING TYPE OF ACTION: NO CHANGE

## PATTERNS:

| PAT | DIR | IDENT | TYPE   | RAD/CRS/BRG | CRS<br>INBOUND | TURN<br>(L OR R) | LEG LENGTH<br>TIME DME | HOLDING ALTITUDES<br>MIN MAX | TEMPLATES<br>MIN MAX |
|-----|-----|-------|--------|-------------|----------------|------------------|------------------------|------------------------------|----------------------|
| 1   | S   | FGT   | VORTAC | 178.03      | 358.03         | R                | 1                      | 3000 14000                   | 4 10                 |
| 2   | E   | FGT   | VORTAC | 085.00      | 265.00         | L                | 1                      | 2800 14000                   | 4 10                 |
| 3   | S   | WP    | 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      | 2C            |
| 2   | 200      | TOWER (27-001333) | 443417.00N/0930441.00W | 1360      | 5D            |
| 3   | 200      | TOWER (27-000313) | 442835.00N/0931107.00W | 1474      | 2C            |

## REASON FOR NONSTANDARD HOLDING:

PAT 2 ATC REQUEST

## HOLDING RESTRICTIONS:

HOLDING LIMITED TO ESTABLISHED PATTERNS.

## REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED  
ASSIGNED FACILITY MAGVAR: 6E (1965)

## FIX USE:

| USE TYPE | USE TITLE                  | FAC | PAT | AIRPORT IDENT | CITY          | STATE   |
|----------|----------------------------|-----|-----|---------------|---------------|---------|
| EN ROUTE | V13                        |     |     |               |               | (US)    |
| EN ROUTE | V161                       |     |     |               |               | (US)    |
| EN ROUTE | V171                       |     |     |               |               | (US)    |
| EN ROUTE | V26                        |     |     |               |               | (US)    |
| EN ROUTE | V82                        |     |     |               |               | (US)    |
| IAP      | COPTER ILS OR LOC RWY 10R  |     |     | FCM           | MINNEAPOLIS   | MN (US) |
| IAP      | ILS OR LOC RWY 10R         |     |     | FCM           | MINNEAPOLIS   | MN (US) |
| IAP      | RNAV (GPS) RWY 10L         |     |     | FCM           | MINNEAPOLIS   | MN (US) |
| IAP      | RNAV (GPS) RWY 28L         |     |     | FCM           | MINNEAPOLIS   | MN (US) |
| IAP      | RNAV (GPS) RWY 28R         |     |     | FCM           | MINNEAPOLIS   | MN (US) |
| IAP      | ILS OR LOC RWY 30          |     | 2   | LVN           | MINNEAPOLIS   | MN (US) |
| IAP      | RNAV (GPS) RWY 30          |     |     | LVN           | MINNEAPOLIS   | MN (US) |
| IAP      | VOR RWY 12                 |     | 2   | LVN           | MINNEAPOLIS   | MN (US) |
| IAP      | ILS OR LOC RWY 12R         |     | 1   | MSP           | MINNEAPOLIS   | MN (US) |
| IAP      | ILS RWY 12R (CAT II - III) |     | 1   | MSP           | MINNEAPOLIS   | MN (US) |
| IAP      | ILS RWY 12R (SA CAT I)     |     | 1   | MSP           | MINNEAPOLIS   | MN (US) |
| IAP      | LOC RWY 17                 |     | 1   | MSP           | MINNEAPOLIS   | MN (US) |
| IAP      | LOC RWY 22                 |     | 1   | MSP           | MINNEAPOLIS   | MN (US) |
| IAP      | RNAV (GPS) RWY 22          |     | 3   | MSP           | MINNEAPOLIS   | MN (US) |
| IAP      | RNAV (GPS) Z RWY 12R       |     | 3   | MSP           | MINNEAPOLIS   | MN (US) |
| IAP      | RNAV (RNP) Y RWY 12R       |     | 3   | MSP           | MINNEAPOLIS   | MN (US) |
| IAP      | ILS OR LOC RWY 30          |     |     | OWA           | OWATONNA      | MN (US) |
| IAP      | ILS OR LOC RWY 9           |     | 2   | RGK           | RED WING      | MN (US) |
| IAP      | LOC RWY 34                 |     |     | SGS           | SOUTH ST PAUL | MN (US) |
| IAP      | RNAV (GPS) RWY 34          |     |     | SGS           | SOUTH ST PAUL | MN (US) |
| IAP      | ILS OR LOC RWY 14          |     |     | STP           | ST PAUL       | MN (US) |
| IAP      | ILS OR LOC RWY 32          |     |     | STP           | ST PAUL       | MN (US) |
| STAR     | AGUDE                      |     |     | CFE           | BUFFALO       | MN (US) |
| STAR     | AGUDE                      |     |     | FBL           | FARIBAULT     | MN (US) |
| STAR     | AGUDE                      |     |     | Gyl           | GLENCOE       | MN (US) |
| STAR     | AGUDE                      |     |     | MGG           | MAPLE LAKE    | MN (US) |
| STAR     | AGUDE                      |     |     | ANE           | MINNEAPOLIS   | MN (US) |
| STAR     | AGUDE                      |     |     | FCM           | MINNEAPOLIS   | MN (US) |
| STAR     | AGUDE                      |     |     | LVN           | MINNEAPOLIS   | MN (US) |
| STAR     | AGUDE                      |     |     | MIC           | MINNEAPOLIS   | MN (US) |
| STAR     | KASPR                      |     |     | MSP           | MINNEAPOLIS   | MN (US) |
| STAR     | AGUDE                      |     |     | SGS           | SOUTH ST PAUL | MN (US) |
| STAR     | AGUDE                      |     |     | 21D           | ST PAUL       | MN (US) |
| STAR     | AGUDE                      |     |     | STP           | ST PAUL       | MN (US) |
| STAR     | AGUDE                      |     |     | RNH           | NEW RICHMOND  | WI (US) |
| STAR     | AGUDE                      |     |     | OEO           | OSCEOLA       | WI (US) |

QUALITY  
23  
CHECKED

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

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** 32

**DATE OF REVISION:** 10/29/2026

**REASON FOR REVISION:**

1. FIX USE: REMOVED DP ORSKY, ROCHESTER, AND SCHEP FROM KANE, KFCM, KMSP AND KSTP.
2. FIX USE: REMOVED DP COULT, MEADOW LAKE, WLSTN, MINNEAPOLIS AND ZMBRO FROM KMSP.
3. REQUIRED CHARTING: REMOVE DP.

**INITIATED BY:**

**DATE:**

**ORGANIZATION:**

**NAME:**

**OFFICE OF PRIMARY RESPONSIBILITY:**

AJV-A431

**NAME:** EMMANUEL GONZALES

**APPROVED BY:**

**DATE:** 09/24/2026

**OFFICE:** AJV-A422

**NAME:** RAKE MCGRAW

**SIGNATURE:**

*Digitally signed by*

**RAKE MCGRAW**

Jun 17, 2026

QUALITY  
23  
CHECKED

# RADIO FIX AND HOLDING DATA RECORD

NAME: FLYING CLOUD VOR/DME STATE: MN COUNTRY: US ICAO REGION CODE: K3  
 LATITUDE/LONGITUDE: 444931.26N/0932633.68W 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 | MRA | MAA   |
|-----|--------------|-------|---------|-------|---------|----------|-----|------------------|-----|-------|
| 1   | FLYING CLOUD | FCM   | VOR/DME | L     |         |          |     |                  |     | 17500 |

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   | W   | FCM   | VOR/DME | 265.00      | 085.00      | R             | 1        |            | 2600                  | 12000 | 4             | 9   |

## CONTROLLING OBSTRUCTIONS:

| PAT | AIRSPEED | OBSTRUCTION       | COORDINATES            | ELEVATION | ACCURACY CODE |
|-----|----------|-------------------|------------------------|-----------|---------------|
| 1   | 200      | AAO               | 444512.00N/0932354.00W | 1260      | 4B            |
| 1   | 310      | TOWER (27-001132) | 444641.60N/0934449.00W | 1450      | 4D            |

## HOLDING RESTRICTIONS:

HOLDING LIMITED TO ESTABLISHED PATTERN(S)

## PROCEDURES REQUIRING CLIMB-IN-HOLD:

| PAT | PROCEDURE TITLE                     | AIRPORT IDENT | CITY        | STATE   |
|-----|-------------------------------------|---------------|-------------|---------|
| 1   | ILS OR LOC RWY 10R                  | FCM           | MINNEAPOLIS | MN (US) |
| 1   | ILS RWY 12R (CAT II - III) (ALT MA) | MSP           | MINNEAPOLIS | MN (US) |
| 1   | COPTER ILS OR LOC RWY 10R           | FCM           | MINNEAPOLIS | MN (US) |
| 1   | ILS OR LOC RWY 12R (ALT MA)         | MSP           | MINNEAPOLIS | MN (US) |
| 1   | VOR RWY 10R                         | FCM           | MINNEAPOLIS | MN (US) |
| 1   | ILS RWY 12R (SA CAT I) (ALT MA)     | MSP           | MINNEAPOLIS | MN (US) |

## REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED.  
 ASSIGNED FACILITY MAG VAR: E1/2010.

## FIX USE:

| USE TYPE | USE TITLE                           | FAC | PAT | AIRPORT IDENT | CITY          | STATE   |
|----------|-------------------------------------|-----|-----|---------------|---------------|---------|
| EN ROUTE | V412                                |     |     |               |               | (US)    |
| IAP      | VOR-A                               |     |     | CFE           | BUFFALO       | MN (US) |
| IAP      | COPTER ILS OR LOC RWY 10R           |     | 1   | FCM           | MINNEAPOLIS   | MN (US) |
| IAP      | ILS OR LOC RWY 10R                  |     | 1   | FCM           | MINNEAPOLIS   | MN (US) |
| IAP      | VOR RWY 10R                         |     | 1   | FCM           | MINNEAPOLIS   | MN (US) |
| IAP      | VOR/DME RWY 36                      |     | 1   | FCM           | MINNEAPOLIS   | MN (US) |
| IAP      | VOR RWY 12                          |     |     | LVN           | MINNEAPOLIS   | MN (US) |
| IAP      | ILS OR LOC RWY 12R                  |     | 1   | MSP           | MINNEAPOLIS   | MN (US) |
| IAP      | ILS OR LOC RWY 12R (ALT MA)         |     | 1   | MSP           | MINNEAPOLIS   | MN (US) |
| IAP      | ILS RWY 12R (CAT II - III) (ALT MA) |     | 1   | MSP           | MINNEAPOLIS   | MN (US) |
| IAP      | ILS RWY 12R (SA CAT I) (ALT MA)     |     | 1   | MSP           | MINNEAPOLIS   | MN (US) |
| IAP      | LOC RWY 17                          |     |     | MSP           | MINNEAPOLIS   | MN (US) |
| IAP      | ILS OR LOC RWY 14                   |     |     | STP           | ST PAUL       | MN (US) |
| STAR     | AGUDE                               |     |     | CFE           | BUFFALO       | MN (US) |
| STAR     | AGUDE                               |     |     | FBL           | FARIBAULT     | MN (US) |
| STAR     | AGUDE                               |     |     | Gyl           | GLENCOE       | MN (US) |
| STAR     | AGUDE                               |     |     | MGG           | MAPLE LAKE    | MN (US) |
| STAR     | AGUDE                               |     |     | ANE           | MINNEAPOLIS   | MN (US) |
| STAR     | AGUDE                               |     |     | FCM           | MINNEAPOLIS   | MN (US) |
| STAR     | AGUDE                               |     |     | LVN           | MINNEAPOLIS   | MN (US) |
| STAR     | AGUDE                               |     |     | MIC           | MINNEAPOLIS   | MN (US) |
| STAR     | KASPR                               |     |     | MSP           | MINNEAPOLIS   | MN (US) |
| STAR     | AGUDE                               |     |     | SGS           | SOUTH ST PAUL | MN (US) |
| STAR     | AGUDE                               |     |     | 21D           | ST PAUL       | MN (US) |
| STAR     | AGUDE                               |     |     | STP           | ST PAUL       | MN (US) |
| STAR     | AGUDE                               |     |     | RNH           | NEW RICHMOND  | WI (US) |
| STAR     | AGUDE                               |     |     | OEO           | OSCEOLA       | WI (US) |

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 25

DATE OF REVISION: 10/29/2026

REASON FOR REVISION:



1. CONTROLLING OBSTRUCTIONS: PAT 1 TOWER ELEVATION CHANGED FROM 1449 TO 1450.
2. FIX USE: REMOVED DP COULT, KBREW AND ROCHESTER FROM KANE, KFCM, KMSP AND KSTP.
3. FIX USE: REMOVED DP SCHEP, SMERF (RNAV) AND ZMBRO FROM KMSP.
4. REQUIRED CHARTING: REMOVED DP.

|                                          |                         |                         |                                |
|------------------------------------------|-------------------------|-------------------------|--------------------------------|
| <b>INITIATED BY:</b>                     | <b>DATE:</b>            | <b>ORGANIZATION:</b>    | <b>NAME:</b>                   |
| <b>OFFICE OF PRIMARY RESPONSIBILITY:</b> |                         | AJV-A431                | <b>NAME:</b> EMMANUEL GONZALES |
| <b>APPROVED BY:</b>                      | <b>DATE:</b> 09/24/2026 | <b>OFFICE:</b> AJV-A422 | <b>NAME:</b> RAKE MCGRAW       |
| <b>SIGNATURE:</b>                        |                         |                         |                                |
| <i>Digitally signed by</i>               |                         |                         |                                |
| <b>RAKE MCGRAW</b>                       |                         |                         |                                |
| Jun 17, 2026                             |                         |                         |                                |

QUALITY  
23  
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<br>NM FEET | MRA | MAA   |
|-----|--------|-------|--------|-------|---------|----------|-----|--------------------------|-----|-------|
| 1   | GOPHER | GEP   | VORTAC | VH    |         |          |     |                          |     | 45000 |

HOLDING:      HOLDING TYPE OF ACTION: NO CHANGE

## PATTERNS:

| PAT | DIR | IDENT | TYPE   | RAD/CRS/BRG | CRS<br>INBOUND | TURN<br>(L OR R) | LEG LENGTH<br>TIME DME | HOLDING ALTITUDES<br>MIN MAX | TEMPLATES<br>MIN MAX |
|-----|-----|-------|--------|-------------|----------------|------------------|------------------------|------------------------------|----------------------|
| 1   | NW  | GEP   | VORTAC | 297.00      | 117.00         | L                | 1                      | 3000 14000                   | 4 10                 |
| 2   | W   | GEP   | VORTAC | 264.00      | 084.00         | R                | 1                      | 2700 14000                   | 4 12                 |
| 3   | NW  |       | WP     | 297.00      | 117.00         | L                | 4                      | 3000 14000                   | 5 11                 |
| 4   | N   |       | WP     | 346.00      | 166.00         | L                | 4                      | 3100 14000                   | 5 11                 |
| 5   | W   |       | WP     | 265.00      | 085.00         | R                | 4                      | 2700 14000                   | 5 13                 |

## 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            |
| 2   | 310      | TOWER (27-000032) | 451043.00N/0932100.00W | 1530      | 4D            |
| 3   | 200      | TOWER (27-000032) | 451043.00N/0932100.00W | 1530      | 4D            |
| 3   | 265      | TOWER (27-000032) | 451043.00N/0932100.00W | 1530      | 4D            |
| 4   | 200      | TOWER (27-000032) | 451043.00N/0932100.00W | 1530      | 4D            |
| 4   | 310      | TOWER (27-000990) | 452011.92N/0932331.17W | 2048      | 1A            |
| 5   | 200      | TOWER (27-000032) | 451043.00N/0932100.00W | 1530      | 4D            |
| 5   | 310      | TOWER (27-000499) | 450344.83N/0930822.61W | 2438      | 1D            |

## REASON FOR NONSTANDARD HOLDING:

PAT 1 ATC REQUEST  
PAT 3 ATC REQUEST  
PAT 4 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  
PAT 5 310KT CONTROLLING OBSTACLE 1604 FT MSL PRIMARY EQUIVALENT.

## FIX USE:

| USE TYPE    | USE TITLE                 | FAC | PAT | AIRPORT IDENT | CITY        | STATE   |
|-------------|---------------------------|-----|-----|---------------|-------------|---------|
| SPECIAL IAP | COPTER RNAV (GPS) 18      |     | 4   | 25MY          | MINNEAPOLIS | MN (US) |
| SPECIAL IAP | COPTER RNAV (GPS) 18      |     | 4   | MY65          | MINNEAPOLIS | MN (US) |
| SPECIAL IAP | COPTER RNAV (GPS) 12      |     | 4   | 7MN1          | ST PAUL     | MN (US) |
| DP          | MINNEAPOLIS               |     |     | MSP           | MINNEAPOLIS | MN (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    | T330                      |     |     |               |             | (US)    |
| EN ROUTE    | T383                      |     |     |               |             | (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)    |
| EN ROUTE    | V510                      |     |     |               |             | (US)    |
| EN ROUTE    | V78                       |     |     |               |             | (US)    |
| EN ROUTE    | V82                       |     |     |               |             | (US)    |
| EN ROUTE    | V97                       |     |     |               |             | (US)    |
| IAP         | VOR-A                     |     |     | CFE           | BUFFALO     | MN (US) |
| IAP         | RNAV (GPS) RWY 34         |     |     | CBG           | CAMBRIDGE   | MN (US) |
| IAP         | ILS OR LOC RWY 27         |     | 2   | ANE           | MINNEAPOLIS | MN (US) |
| IAP         | RNAV (GPS) RWY 27         |     | 5   | ANE           | MINNEAPOLIS | MN (US) |
| IAP         | RNAV (GPS) RWY 18         |     |     | ANE           | MINNEAPOLIS | MN (US) |
| IAP         | COPTER ILS OR LOC RWY 10R |     |     | FCM           | MINNEAPOLIS | MN (US) |
| IAP         | ILS OR LOC RWY 10R        |     |     | FCM           | MINNEAPOLIS | MN (US) |
| IAP         | RNAV (GPS) RWY 10L        |     |     | FCM           | MINNEAPOLIS | MN (US) |

QUALITY  
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|      |                        |   |     |               |         |
|------|------------------------|---|-----|---------------|---------|
| IAP  | RNAV (GPS) RWY 10R     |   | FCM | MINNEAPOLIS   | MN (US) |
| IAP  | VOR RWY 10R            |   | FCM | MINNEAPOLIS   | MN (US) |
| IAP  | ILS OR LOC RWY 30      |   | LVN | MINNEAPOLIS   | MN (US) |
| IAP  | RNAV (GPS) RWY 14      | 4 | MIC | MINNEAPOLIS   | MN (US) |
| IAP  | ILS OR LOC RWY 12L     |   | MSP | MINNEAPOLIS   | MN (US) |
| IAP  | ILS OR LOC RWY 30R     | 1 | MSP | MINNEAPOLIS   | MN (US) |
| IAP  | ILS RWY 12L (CAT II)   |   | MSP | MINNEAPOLIS   | MN (US) |
| IAP  | ILS RWY 12L (CAT III)  |   | MSP | MINNEAPOLIS   | MN (US) |
| IAP  | ILS RWY 12L (SA CAT I) |   | MSP | MINNEAPOLIS   | MN (US) |
| IAP  | LOC RWY 17             |   | MSP | MINNEAPOLIS   | MN (US) |
| IAP  | LOC RWY 22             |   | MSP | MINNEAPOLIS   | MN (US) |
| IAP  | LOC RWY 4              | 1 | MSP | MINNEAPOLIS   | MN (US) |
| IAP  | RNAV (GPS) RWY 4       | 3 | MSP | MINNEAPOLIS   | MN (US) |
| IAP  | RNAV (GPS) Z RWY 30R   | 3 | MSP | MINNEAPOLIS   | MN (US) |
| IAP  | RNAV (GPS) Z RWY 35    | 3 | MSP | MINNEAPOLIS   | MN (US) |
| IAP  | RNAV (RNP) Y RWY 30R   | 3 | MSP | MINNEAPOLIS   | MN (US) |
| IAP  | ILS OR LOC RWY 9       |   | RGK | RED WING      | MN (US) |
| IAP  | LOC RWY 34             |   | SGS | SOUTH ST PAUL | MN (US) |
| IAP  | ILS OR LOC RWY 31      |   | STC | ST CLOUD      | MN (US) |
| IAP  | VOR RWY 31             |   | STC | ST CLOUD      | MN (US) |
| IAP  | ILS OR LOC RWY 14      |   | STP | ST PAUL       | MN (US) |
| IAP  | ILS OR LOC RWY 32      |   | STP | ST PAUL       | MN (US) |
| IAP  | RNAV (GPS) RWY 14      |   | STP | ST PAUL       | MN (US) |
| STAR | AGUDE                  |   | CFE | BUFFALO       | MN (US) |
| STAR | AGUDE                  |   | FBL | FARIBAULT     | MN (US) |
| STAR | AGUDE                  |   | GYL | GLENCOE       | MN (US) |
| STAR | AGUDE                  |   | MGG | MAPLE LAKE    | MN (US) |
| STAR | AGUDE                  |   | ANE | MINNEAPOLIS   | MN (US) |
| STAR | ENCEE (RNAV)           |   | ANE | MINNEAPOLIS   | MN (US) |
| STAR | GOPHER                 |   | ANE | MINNEAPOLIS   | MN (US) |
| STAR | TWOLF                  |   | ANE | MINNEAPOLIS   | MN (US) |
| STAR | AGUDE                  |   | FCM | MINNEAPOLIS   | MN (US) |
| STAR | ENCEE (RNAV)           |   | FCM | MINNEAPOLIS   | MN (US) |
| STAR | GOPHER                 |   | FCM | MINNEAPOLIS   | MN (US) |
| STAR | TWOLF                  |   | FCM | MINNEAPOLIS   | MN (US) |
| STAR | AGUDE                  |   | LVN | MINNEAPOLIS   | MN (US) |
| STAR | ENCEE (RNAV)           |   | LVN | MINNEAPOLIS   | MN (US) |
| STAR | GOPHER                 |   | LVN | MINNEAPOLIS   | MN (US) |
| STAR | TWOLF                  |   | LVN | MINNEAPOLIS   | MN (US) |
| STAR | AGUDE                  |   | MIC | MINNEAPOLIS   | MN (US) |
| STAR | ENCEE (RNAV)           |   | MIC | MINNEAPOLIS   | MN (US) |
| STAR | GOPHER                 |   | MIC | MINNEAPOLIS   | MN (US) |
| STAR | TWOLF                  |   | MIC | MINNEAPOLIS   | MN (US) |
| STAR | BAINY (RNAV)           |   | MSP | MINNEAPOLIS   | MN (US) |
| STAR | GOPHER                 |   | MSP | MINNEAPOLIS   | MN (US) |
| STAR | AGUDE                  |   | SGS | SOUTH ST PAUL | MN (US) |
| STAR | AGUDE                  |   | 21D | ST PAUL       | MN (US) |
| STAR | AGUDE                  |   | STP | ST PAUL       | MN (US) |
| STAR | ENCEE (RNAV)           |   | STP | ST PAUL       | MN (US) |
| STAR | GOPHER                 |   | STP | ST PAUL       | MN (US) |
| STAR | TWOLF                  |   | STP | ST PAUL       | MN (US) |
| STAR | AGUDE                  |   | RNH | NEW RICHMOND  | WI (US) |
| STAR | TWOLF                  |   | RNH | NEW RICHMOND  | WI (US) |
| STAR | AGUDE                  |   | OEO | OSCEOLA       | WI (US) |
| STAR | TWOLF                  |   | OEO | OSCEOLA       | WI (US) |

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

**COMPULSORY REPORTING POINT:** NO

**RECORD REVISION NUMBER:** 36

**DATE OF REVISION:** 10/29/2026

**REASON FOR REVISION:**

1. FIX USE: REMOVED DP COULT, KBREW AND WLSTN AT KANE, KFCM, KMSP AND KSTP.
2. FIX USE: REMOVED DP LEINY (RNAV) AT KMSP.
3. FIX USE: ADDED DP MINNEAPOLIS AT KMSP.

**INITIATED BY:**

**DATE:**

**ORGANIZATION:**

**NAME:**

**OFFICE OF PRIMARY RESPONSIBILITY:**

AJV-A431

**NAME:** EMMANUEL GONZALES

**APPROVED BY:**

**DATE:** 09/24/2026

**OFFICE:** AJV-A422

**NAME:** RAKE MCGRAW

**SIGNATURE:**

*Digitally signed by*

**RAKE MCGRAW**

Jun 17, 2026

QUALITY  
23  
CHECKED

# RADIO FIX AND HOLDING DATA RECORD

NAME: LMFY

STATE: WI

COUNTRY: US

ICAO REGION CODE: K5

LATITUDE/LONGITUDE: 442214.63N/0915101.69W

TYPE: INT, DME

AIRSPACE DOCKET:

FIX TYPE OF ACTION: CANCEL

## FIX MAKE-UP FACILITIES:

| FAC | NAME       | IDENT | TYPE   | CLASS | MAG BRG | TRUE BRG | DME   | DIST FROM FAC<br>NM FEET | MRA  | MAA   |
|-----|------------|-------|--------|-------|---------|----------|-------|--------------------------|------|-------|
| 1   | GOPHER     | GEP   | VORTAC | H     | 119.00  | 125.00   | 80.00 | 80.00                    | 9000 | 45000 |
| 2   | EAU CLAIRE | EAU   | VORTAC | L     | 202.88  | 206.88   |       | 35.41                    | 9000 | 33000 |

## EXPANDED SERVICE VOLUME (ESV):

| FAC IDENT | FAC TYPE | RADIAL/BEARING | DISTANCE | MIN ALTITUDE | MAX ALTITUDE |
|-----------|----------|----------------|----------|--------------|--------------|
| GEP       | VORTAC   | R-119          | 80       | 9000         | 15400        |
| EAU       | VORTAC   | R-203          | 36       | 18000        | 33000        |

HOLDING:

HOLDING TYPE OF ACTION:

## FIX USE:

| USE TYPE | USE TITLE | FAC  | PAT | AIRPORT IDENT | CITY        | STATE   |
|----------|-----------|------|-----|---------------|-------------|---------|
| DP       | COULT     | 1, 2 |     | ANE           | MINNEAPOLIS | MN (US) |
| DP       | COULT     | 1, 2 |     | FCM           | MINNEAPOLIS | MN (US) |
| DP       | COULT     | 1, 2 |     | MSP           | MINNEAPOLIS | MN (US) |
| DP       | COULT     | 1, 2 |     | STP           | ST PAUL     | MN (US) |

REQUIRED CHARTING: DP

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 2

DATE OF REVISION: 02/11/2010

## REASON FOR REVISION:

ADDED DIST FROM FAC (NM) TO FAC 1 AND 2.  
UPDATED ESV DATA.  
UPDATED FIX USE.

INITIATED BY:

DATE:

ORGANIZATION:

NAME:

DEVELOPED BY:

DATE: 09/02/2009

OFFICE: AVN-120

NAME: WADE TERRELL (SCOTT CORY)

APPROVED BY:

DATE: 09/24/2026

OFFICE: AJV-A422

NAME: RAKE MCGRAW

SIGNATURE:

*Digitally signed by*

**RAKE MCGRAW**

Jun 17, 2026

DISTRIBUTION:

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

QUALITY  
23  
CHECKED

# RADIO FIX AND HOLDING DATA RECORD

NAME: TAXEE

STATE: WI

COUNTRY: US

ICAO REGION CODE: K5

LATITUDE/LONGITUDE: 444209.29N/0922933.56W

TYPE: WP, INT, DME

AIRSPACE DOCKET:

FIX TYPE OF ACTION: CANCEL

## FIX MAKE-UP FACILITIES:

| FAC | NAME       | IDENT | TYPE   | CLASS | MAG BRG | TRUE BRG | DME   | DIST FROM FAC<br>NM FEET | MRA  | MAA   |
|-----|------------|-------|--------|-------|---------|----------|-------|--------------------------|------|-------|
| 1   | GOPHER     | GEP   | VORTAC | VH    | 119.00  | 125.00   | 46.00 | 46.00                    | 3500 | 45000 |
| 2   | EAU CLAIRE | EAU   | VORTAC | L     | 251.24  | 255.24   |       | 44.88                    | 3500 | 33000 |

## EXPANDED SERVICE VOLUME (ESV):

| FAC IDENT | FAC TYPE | RADIAL/BEARING | DISTANCE | MIN ALTITUDE | MAX ALTITUDE |
|-----------|----------|----------------|----------|--------------|--------------|
| GEP       | VORTAC   | R-119          | 46       | 3000         | 15400        |
| EAU       | VORTAC   | R-251          | 45       | 3500         | 45000        |

HOLDING:

HOLDING TYPE OF ACTION:

## REMARKS:

GOPHER (FAC 1) USED TO ESTABLISH FIX COORDINATES.

## FIX USE:

| USE TYPE | USE TITLE | FAC  | PAT | AIRPORT IDENT | CITY        | STATE   |
|----------|-----------|------|-----|---------------|-------------|---------|
| DP       | COULT     | 1, 2 |     | ANE           | MINNEAPOLIS | MN (US) |
| DP       | COULT     | 1, 2 |     | FCM           | MINNEAPOLIS | MN (US) |
| DP       | COULT     | 1, 2 |     | MSP           | MINNEAPOLIS | MN (US) |
| DP       | COULT     | 1, 2 |     | STP           | ST PAUL     | MN (US) |

REQUIRED CHARTING: DP, CONTROLLER, EN ROUTE LOW, EN ROUTE HIGH

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 4

DATE OF REVISION: 11/10/2016

## REASON FOR REVISION:

1. ADDED WP TO FIX TYPE.
2. CHANGED MIN ALT FOR GEP ESV R-119 FROM 3500 TO 3000 AS PER APPROVED ESV.
3. ADDED REMARK INDICATING FAC 1 USED TO DERIVE COORDINATES.
4. ADDED CONTROLLER, EN ROUTE LOW AND EN ROUTE HIGH TO REQUIRED CHARTING FOR NAVIGATIONAL PURPOSES.

INITIATED BY:

DATE:

ORGANIZATION:

NAME:

DEVELOPED BY:

DATE: 07/08/2016

OFFICE: AJV-5421

NAME: DANIEL OLSON

APPROVED BY:

DATE: 09/24/2026

OFFICE: AJV-A422

NAME: RAKE MCGRAW

SIGNATURE:

*Digitally signed by*

DISTRIBUTION:

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

**RAKE MCGRAW**

Jun 17, 2026

QUALITY  
23  
CHECKED