

# RADIO FIX AND HOLDING DATA RECORD

NAME: FRYRE

STATE: SD

COUNTRY: US

ICAO REGION CODE: K3

LATITUDE/LONGITUDE: 434107.97N/0970719.24W

TYPE: WP, 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 | FEET | MRA  | MAA   |
|-----|-------------|-------|--------|-------|---------|----------|-------|------------------|------|------|-------|
| 1   | SIoux FALLS | FSD   | VORTAC | VH    | 269.40  | 278.40   | 15.00 | 15.00            |      | 3700 | 17500 |

HOLDING:

HOLDING TYPE OF ACTION: MODIFY

## 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   | W   | FSD   | VORTAC | 269.40      | 089.40      | R             |                 | 8   | 5000                  | 17500 | 8             | 17  |
| 2   | W   | FSD   | VORTAC | 269.40      | 089.40      | R             | 1               |     | 5000                  | 17500 | 6             | 17  |

## CONTROLLING OBSTRUCTIONS:

| PAT | AIRSPEED | OBSTRUCTION       | COORDINATES            | ELEVATION | ACCURACY CODE |
|-----|----------|-------------------|------------------------|-----------|---------------|
| 1   | 200      | TOWER (46-000195) | 434346.00N/0970514.90W | 2681      | 4D            |
| 2   | 230      | TOWER (46-000147) | 433756.00N/0972225.00W | 3051      | 5D            |

## HOLDING RESTRICTIONS:

HOLDING LIMITED TO ESTABLISHED PATTERN(S).

## REMARKS:

PRECIPITOUS TERRAIN EVALUATION COMPLETED.

## FIX USE:

| USE TYPE | USE TITLE                 | FAC | PAT | AIRPORT IDENT | CITY        | STATE   |
|----------|---------------------------|-----|-----|---------------|-------------|---------|
| EN ROUTE | V120                      | 1   |     |               |             | (US)    |
| IAP      | RNAV (GPS) RWY 33         |     |     | KMDS          | MADISON     | SD (US) |
| IAP      | HI - ILS OR LOC RWY 21    | 1   | 1   | KFSD          | SIoux FALLS | SD (US) |
| IAP      | HI - ILS Z OR LOC Z RWY 3 | 1   | 1   | KFSD          | SIoux FALLS | SD (US) |
| IAP      | HI - TACAN RWY 15         | 1   | 1   | KFSD          | SIoux FALLS | SD (US) |
| IAP      | RADAR-1                   |     | 2   | KFSD          | SIoux FALLS | SD (US) |
| IAP      | RNAV (GPS) RWY 15         |     |     | KFSD          | SIoux FALLS | SD (US) |
| IAP      | VOR OR TACAN RWY 15       | 1   | 2   | KFSD          | SIoux FALLS | SD (US) |
| IAP      | VOR/DME OR TACAN RWY 33   | 1   | 2   | KFSD          | SIoux FALLS | SD (US) |

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

COMPULSORY REPORTING POINT: NO

RECORD REVISION NUMBER: 9

DATE OF REVISION: 10/02/2025

## REASON FOR REVISION:

1. PATTERNS: UPDATED HOLDING PATTERN 2 MAX HOLDING ALTITUDES FROM "14000" TO "17500" AND MIN/MAX TEMPLATES FROM "8/11" TO 6/17".
2. FIX USE: ADDED KFSD RADAR-1.

INITIATED BY:

DATE:

ORGANIZATION:

NAME:

OFFICE OF PRIMARY RESPONSIBILITY:

AJV-A433

NAME: TODD RUSSELL

APPROVED BY:

DATE: 08/28/2025

OFFICE: AJV-A433

NAME: ROBERT HAMILTON

SIGNATURE:

*Digitally signed by*  
**ROBERT G HAMILTON**  
Sep 12, 2025



# RADIO FIX AND HOLDING DATA RECORD

**NAME:** SIOUX FALLS VORTAC      **STATE:** SD      **COUNTRY:** US      **ICAO REGION CODE:** K3

**LATITUDE/LONGITUDE:** 433858.17N/0964652.05W      **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   | SIOUX FALLS | FSD   | VORTAC | VH    |         |          |     |                  |      |     | 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  | FSD   | VORTAC | 327.00      | 147.00      | L             | 1        |            | 3400                  | 17500 | 4             | 16  |

**CONTROLLING OBSTRUCTIONS:**

| PAT | AIRSPEED | OBSTRUCTION       | COORDINATES            | ELEVATION | ACCURACY CODE |
|-----|----------|-------------------|------------------------|-----------|---------------|
| 1   | 200      | TOWER (46-000442) | 434449.00N/0965320.00W | 2270      | 3D            |
| 1   | 310      | TOWER (46-000442) | 434449.00N/0965320.00W | 2270      | 3D            |

**REASON FOR NONSTANDARD HOLDING:**

PAT 1 ATC REQUEST

**HOLDING RESTRICTIONS:**

HOLDING LIMITED TO ESTABLISHED PATTERN.

**PROCEDURES REQUIRING CLIMB-IN-HOLD:**

| PAT | PROCEDURE TITLE  | AIRPORT IDENT | CITY        | STATE   |
|-----|------------------|---------------|-------------|---------|
| 1   | TAKEOFF MINIMUMS | KFSD          | SIOUX FALLS | SD (US) |
| 1   | RADAR-1          | KFSD          | SIOUX FALLS | SD (US) |

**REMARKS:**

CHART PAT 1 EN ROUTE LOW.  
PRECIPITOUS TERRAIN EVALUATION COMPLETED.  
ASSIGNED FACILITY MAG VAR: 9E 1965

**FIX USE:**

| USE TYPE | USE TITLE               | FAC | PAT | AIRPORT IDENT | CITY        | STATE   |
|----------|-------------------------|-----|-----|---------------|-------------|---------|
| DP       | MINNEAPOLIS             |     |     | KMSP          | MINNEAPOLIS | MN (US) |
| DP       | OMAHA                   |     |     | KOMA          | OMAHA       | NE (US) |
| DP       | TAKEOFF MINIMUMS        |     | 1   | KFSD          | SIOUX FALLS | SD (US) |
| EN ROUTE | J114                    |     |     |               |             | (US)    |
| EN ROUTE | J16                     |     |     |               |             | (US)    |
| EN ROUTE | J45                     |     |     |               |             | (US)    |
| EN ROUTE | J82                     |     |     |               |             | (US)    |
| EN ROUTE | Q19                     |     |     |               |             | (US)    |
| EN ROUTE | T348                    |     |     |               |             | (US)    |
| EN ROUTE | T407                    |     |     |               |             | (US)    |
| EN ROUTE | V120                    |     |     |               |             | (US)    |
| EN ROUTE | V148                    |     |     |               |             | (US)    |
| EN ROUTE | V170                    |     |     |               |             | (US)    |
| EN ROUTE | V80                     |     |     |               |             | (US)    |
| IAP      | ILS OR LOC RWY 12       |     |     | KMML          | MARSHALL    | MN (US) |
| IAP      | VOR RWY 12              |     |     | KMML          | MARSHALL    | MN (US) |
| IAP      | RNAV (GPS) RWY 18       |     |     | KPQN          | PIPESTONE   | MN (US) |
| IAP      | ILS OR LOC RWY 12       |     |     | KBKX          | BROOKINGS   | SD (US) |
| IAP      | RNAV (GPS) RWY 30       |     |     | KBKX          | BROOKINGS   | SD (US) |
| IAP      | RNAV (GPS) RWY 33       |     |     | KMDS          | MADISON     | SD (US) |
| IAP      | HI-ILS OR LOC RWY 21    |     |     | KFSD          | SIOUX FALLS | SD (US) |
| IAP      | HI-ILS Z OR LOC Z RWY 3 |     |     | KFSD          | SIOUX FALLS | SD (US) |
| IAP      | HI-TACAN RWY 15         |     |     | KFSD          | SIOUX FALLS | SD (US) |
| IAP      | ILS OR LOC RWY 21       |     | 1   | KFSD          | SIOUX FALLS | SD (US) |
| IAP      | ILS OR LOC RWY 3        |     | 1   | KFSD          | SIOUX FALLS | SD (US) |
| IAP      | RADAR-1                 |     | 1   | KFSD          | SIOUX FALLS | SD (US) |
| IAP      | RNAV (GPS) RWY 27       |     |     | KFSD          | SIOUX FALLS | SD (US) |
| IAP      | RNAV (GPS) RWY 9        |     |     | KFSD          | SIOUX FALLS | SD (US) |
| IAP      | VOR OR TACAN RWY 15     |     | 1   | KFSD          | SIOUX FALLS | SD (US) |
| IAP      | VOR/DME OR TACAN RWY 33 |     | 1   | KFSD          | SIOUX FALLS | SD (US) |
| STAR     | ENCEE (RNAV)            |     |     | KANE          | MINNEAPOLIS | MN (US) |
| STAR     | ENCEE (RNAV)            |     |     | KFCM          | MINNEAPOLIS | MN (US) |
| STAR     | ENCEE (RNAV)            |     |     | KLVN          | MINNEAPOLIS | MN (US) |
| STAR     | ENCEE (RNAV)            |     |     | KMIC          | MINNEAPOLIS | MN (US) |
| STAR     | ENCEE (RNAV)            |     |     | KSTP          | ST PAUL     | MN (US) |



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

**COMPULSORY REPORTING POINT:** NO

RECORD REVISION NUMBER: 31

DATE OF REVISION: 10/02/2025

## REASON FOR REVISION:

1. REASON FOR NONSTANDARD HOLDING: UPDATED FORMAT FROM "PAT 1 AT REQUEST" TO "PAT 1 ATC REQUEST".
2. FIX USE: ADDED KFSD RADAR-1.

INITIATED BY:

DATE:

ORGANIZATION:

NAME:

OFFICE OF PRIMARY RESPONSIBILITY:

AJV-A433

NAME: TODD RUSSELL

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