

TERMINAL ROUTES				MISSED APPROACH
FROM	TO	COURSE AND DISTANCE	ALTITUDE	
ZEVOS (IAF)	ZUDOL (NOPT) (FB)	222.98 / 5.00	2700	LPV: DA LNAV/VNAV: DA LNAV: RW31
WINUL (IAF)	ZUDOL (NOPT) (FB)	042.85 / 5.00	2700	
ZUDOL (IF/IAF)	WOBAX (FB)	312.92 / 6.25	2700	CLIMB TO 2700 DIRECT WIMUS AND HOLD.
WOBAX (FAF)	RW31 (MAP) (FO)	312.84 / 4.75		
RW31 (MAP)	1364 MSL	312.84		ADDITIONAL FLIGHT DATA: HOLD NW, RT, 132.63 INBOUND. FAS OBST: 1326 AAO 480048N/0960356W DISTANCE TO THLD FROM 250 HAT: 0.61 NM. CHART VDP AT 1.29 MILES TO RW31* *LNAV ONLY. WAAS CHANNEL # 69311 REFERENCE PATH ID: W31A LTP HAE: 312.1 M
1364 MSL	WIMUS (FO)		2700	

1. PT SIDE OF COURSE OUTBOUND FT WITHIN MILES OF (IAF)
2. HOLD SE ZUDOL, RT, 312.92 INBOUND, 2700 FT. IN LIEU OF PT (IAF)
3. FAC: 312.84 FAF: WOBAX DIST FAF TO MAP: 4.75 THLD: 4.75
4. MIN. ALT: ZUDOL 2700, WOBAX 2700
5. DIST TO THLD FROM OM: MM: IM: 150 HAT: 100 HAT: GS ANT:
6. MIN GS INCPT: 2700 GS ALT AT: WOBAX 2700 OM: MM: IM:
7. GS ANGLE: 3.00 TCH: 55.2 34:1 IS CLEAR
8. MSA FROM:

MAG VAR: 2E
EPOCH YEAR: 2015

MINIMUMS															
TAKEOFF: SEE FAA FORM 8260-15A FOR THIS AIRPORT							ALTERNATE: N A		STANDARD @						
CATEGORY =====>	A			B			C			D			E		
	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA	DH/MDA	VIS	HAT/HAA
LPV DA	1364	1/2	250	1364	1/2	250	1364	1/2	250	1364	1/2	250			
LNAV/VNAV DA	1428	1/2	314	1428	1/2	314	1428	1/2	314	1428	1/2	314			
LNAV MDA	1580	1/2	466	1580	1/2	466	1580	1	466	1580	1	466			
CIRCLING	1580	1	461	1580	1	461	1580	1 1/2	461	1680	2	561			

NOTES:
CHART NOTE: BARO-VNAV AND VDP NA WHEN USING CROOKSON ALTIMETER SETTING.
CHART NOTE: FOR UNCOMPENSATED BARO-VNAV SYSTEMS, LNAV/VNAV NA BELOW -17C (2F) OR ABOVE 54C (130F).
CHART NOTE: DME/DME RNP-0.3 NA.
CHART NOTE: WHEN LOCAL ALTIMETER SETTING NOT RECEIVED, USE CROOKSON ALTIMETER SETTING AND INCREASE (SEE FORM 8260-10)

@ NA WHEN LOCAL WEATHER NOT AVAILABLE.



CITY AND STATE
THIEF RIVER FALLS, MN

ELEVATION: 1119 TDZE: 1114
AIRPORT NAME:
THIEF RIVER FALLS RGNL

FACILITY IDENTIFIER:
RNAV

PROCEDURE NO./AMDT NO./EFFECTIVE DATE:
RNAV (GPS) RWY 31, ORIG-A
13 NOVEMBER 2014

SUP:
AMDT: ORIG
DATED 03/12/2009

US DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION
RNAV - STANDARD
INSTRUMENT APPROACH PROCEDURE - TITLE 14 CFR PART 97.33

Bearings, headings, courses, and radials are magnetic. Elevations and altitudes are in feet, MSL, except HAT, HAA, TCH, and RA. Altitudes are minimum altitudes unless otherwise indicated. Ceilings are in feet above airport elevation. Distances are in nautical miles unless otherwise indicated, except visibilities which are in statute miles or in feet RVR.

NOTES, (CONT.):

ALL DA 82 FEET AND ALL MDA 100 FEET. INCREASE LPV ALL CATS VISIBILITY TO 5/8 MILE, LNAV/VNAV ALL

CATS VISIBILITY TO 7/8 MILE, LNAV CATS C/D VISIBILITY TO 1 1/4 MILE, AND CIRCLING CAT C

VISIBILITY TO 1 5/8 MILE.

CHART NOTE: FOR INOPERATIVE MALSR, INCREASE LNAV CATS C/D VISIBILITY TO 1 3/8 MILE.

CHART NOTE: FOR INOPERATIVE MALSR, WHEN USING CROOKSON ALTIMETER SETTING, INCREASE LPV ALL CATS

VISIBILITY TO 1 1/8 MILE, LNAV/VNAV ALL CATS VISIBILITY TO 1 1/4 MILE, LNAV CATS C/D VISIBILITY TO 1 5/8 MILE.

TAA

	FROM	TO	ALT
1.	223/30 CW 043/30 (NOPT)	223/10 CW 043/10	3200
2.	223/10 CW 043/10	ZUDOL (IF/IAF) (FB)	2700
3.	043/30 CW 133/30	WINUL (IAF) (FB)	2700
4.	133/30 CW 223/30	ZEVOS (IAF) (FB)	2700

QUALITY
6
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RNAV STANDARD INSTRUMENT APPROACH PROCEDURE
FLIGHT STANDARDS SERVICE - FAR PART 97.33

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FAS DATA BLOCK INFORMATIONDATA FIELDDATA

OPERATION TYPE	0
SBAS SERVICE PROVIDER IDENTIFIER	0
AIRPORT IDENTIFIER	KTVF
RUNWAY	RW31
APPROACH PERFORMANCE DESIGNATOR	0
ROUTE INDICATOR	
REFERENCE PATH DATA SELECTOR	0
REFERENCE PATH IDENTIFIER (APPROACH ID)	W31A
LTP/FTP LATITUDE	480330.2250N
LTP/FTP LONGITUDE	0961028.1580W
LTP/FTP ELLIPSOIDAL HEIGHT	+03121
FPAP LATITUDE	480432.9400N
FPAP LONGITUDE	0961202.4700W
THRESHOLD CROSSING HEIGHT (TCH)	00055.2
TCH UNITS SELECTOR (METERS OR FEET USED)	F
GLIDEPATH ANGLE (GPA)	03.00
COURSE WIDTH AT THRESHOLD	106.75
LENGTH OFFSET	0768
HORIZONTAL ALERT LIMIT (HAL)	40.0
VERTICAL ALERT LIMIT (VAL)	50.0

CRC REMAINDER

5DDFECDE

ADDITIONAL PATH POINT RECORD INFORMATION

ICAO CODE	K3
LTP ORTHOMETRIC HEIGHT	+03393
FPAP ORTHOMETRIC HEIGHT	+03393

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[illegible][illegible]

SEGMENT	1	2	3	4	5	6	7	8	9	0	1	2	3
SUSAP KTVFK3FR31	AWINUL	010WINULK3EA0E	A	IF						18000		A JS	
SUSAP KTVFK3FR31	AWINUL	020ZUDOLK3EA0EE	B	010TF			04290050		+ 02700			A JS	
SUSAP KTVFK3FR31	AZEVOS	010ZEVOSK3EA0E	A	IF						18000		A JS	
SUSAP KTVFK3FR31	AZEVOS	020ZUDOLK3EA0EE	B	010TF			22300050		+ 02700			A JS	
SUSAP KTVFK3FR31	AZUDOL	010ZUDOLK3EA0EE	AR	HF			31290040		+ 02700		18000	A JS	
SUSAP KTVFK3FR31	R	010ZUDOLK3EA0E	I	IF					+ 02700		18000	A JS	
SUSAP KTVFK3FR31	R	020WOBAXK3EA1E	F	051TF			31290063		+ 02700			A JS	
SUSAP KTVFK3FR31	R	020WOBAXK3EA2WALPV			ALNAV/VNAV	ALNAV						JS	
SUSAP KTVFK3FR31	R	030RW31 K3PG0GY	M	031TF			31280048		01168		-300	A JS	
SUSAP KTVFK3FR31	R	040	0	M	CA		3128		+ 01364			A JS	
SUSAP KTVFK3FR31	R	050WIMUSK3EA0EY		DF					+ 02700			A JS	
SUSAP KTVFK3FR31	R	060WIMUSK3EA0EE	R	HM			13260040		+ 02700			A JS	

[illegible][illegible]

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FAA FORM 8260 - 10 / April 2006 (Computer Generated)

U.S. DEPARTMENT OF TRANSPORTATION - FEDERAL AVIATION ADMINISTRATION
RNAV (GPS) STANDARD INSTRUMENT APPROACH PROCEDURE
FLIGHT STANDARDS SERVICES - FAR PART 97.33

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ARINC SUMMARY - 424-18 - RNAV (GPS)

ROUTES	TRANSITION	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
	WINUL	WINUL	010	IAF	IF		FB					
	WINUL	ZUDOL	020		TF		FB	1.0	042.9 (044.9T)	005.0	AA 02700	
	ZEVS	ZEVS	010	IAF	IF		FB					
	ZEVS	ZUDOL	020		TF		FB	1.0	223.0 (225.0T)	005.0	AA 02700	
	ZUDOL	ZUDOL	010	IAF	HF	R	FO		312.9 (314.9T)	004.0	AA 02700	
		ZUDOL	010	FACF	IF		FB				AA 02700	
		WOBAX	020	FAF	TF		FB	0.5	312.9 (314.9T)	006.3	AA 02700	
		RW31	030	MAP	TF		FO	0.3	312.8 (314.8T)	004.8	AT 01168	

MISSED APPROACH	FIX	SEQ	USE	PATH	TURN	FO/FB	RNP	MAG(TRUE)	DISTANCE	ALTITUDE	SPEED
		040		CA		FB		312.8 (314.8T)		AA 01364	
	WIMUS	050		DF		FO				AA 02700	
	WIMUS	060		HM	R	FO		132.6 (134.6T)	004.0	AA 02700	

POINT DATA	WAYPOINT	LAT IN SECS	LONG IN SECS	LAT IN MINS	LONG IN MINS
	WIMUS	N481159.35	W0962316.53	N4811.989	W09623.276
	WINUL	N475212.62	W0960406.17	N4752.210	W09604.103
	WOBAX	N480009.64	W0960527.13	N4800.161	W09605.452
	ZEVS	N475917.22	W0955336.17	N4759.287	W09553.603
	ZUDOL	N475545.04	W0955851.53	N4755.751	W09558.859
	RW31	N480330.23	W0961028.16	N4803.504	W09610.469

RUNWAY DATA	RWY	THRESHOLD ELEVATION	TCH
	RW31	01113	55

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CITY AND STATE THIEF RIVER FALLS, MN	ELEVATION: 1119	TDZE: 1114	FACILITY IDENTIFIER:	PROCEDURE NO. / AMDT NO. / EFFECTIVE DATE:	SUP:
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					DATED: 03/12/2009