

ENGINEERING REPORT

**FM Translator
Construction
Permit Application**

for

K296DS

Facility ID: 29912

as Translator for
KSLS(FM) – Dickenson, ND

October 2022

MUNN-REESE

Broadcast Engineering Consultants
Coldwater, MI 49036

Discussion

This firm has been retained to prepare the required engineering report in support of a Construction Permit Application for an FM Translator K296DS. This translator is currently authorized to operate with an AMSL of 1257 meters and an ERP of 0.074 kW (V) on CH296D. This Translator proposal requests an AMSL of 1257 meters and an ERP of 0.250 kW (H&V) operating on CH239D. The Translator will rebroadcast Class D Primary Station KSLs(FM) – Dickenson, ND; Facility ID No. 174276. This application will also correct the coordinates to match that of the actual location.

The Translator as proposed will continue to be mounted on a tower that does not bear an Antenna Structure Registration Number.

The proposed non fill-in Translator present and proposed service contours and the proposed HAAT calculations are shown in **Exhibit 1.0**.

It has been determined the Translator may be used in the area without interference to any existing FM broadcast station or facility. The present allocation is included in **Exhibit 2.0** and the proposed allocation is included in **Exhibit 2.1** The proposed move in frequency is intended to eliminate overlap of 1st adjacent channel station KHYY(FM) interfering contour with the service contour of the K296DS. The present allocation has 37.1 km of overlap of these contours as showing in **Exhibit 2.0**. The areas of overlap shown in the present allocation will be eliminated with the proposed allocation at CH239D. In addition, no new overlap of any interfering contours with the translator service contour will be created at the proposed channel as shown in **Exhibit 2.0**. It is believed sufficient clearance exists precluding the need for additional contour protection showings.

The applicant would like to note use of the NED 03 second terrain database for terrain-based showings contained here-in.

Exhibit 1.0 K296DS - Present and Proposed

K296DS
 BLFT19880627TD
 Latitude: 42-07-01.92 N
 Longitude: 102-51-59.98 W
 ERP: 0.074 kW
 Channel: 296
 Frequency: 107.1 MHz
 AMSL Height: 1257.0 m
 Elevation: 1217.0 m
 Horiz. Pattern: Directional
 Vert. Pattern: No
 Prop Model: None

K296DS.P
 Proposed
 Latitude: 42-07-01.92 N
 Longitude: 102-52-08.98 W
 ERP: 0.25 kW
 Channel: 239
 Frequency: 95.7 MHz
 AMSL Height: 1257.0 m
 Elevation: 1217.0 m
 Horiz. Pattern: Omni
 Vert. Pattern: No
 Prop Model: None

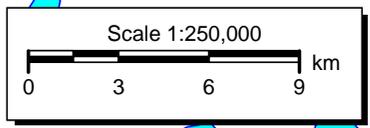
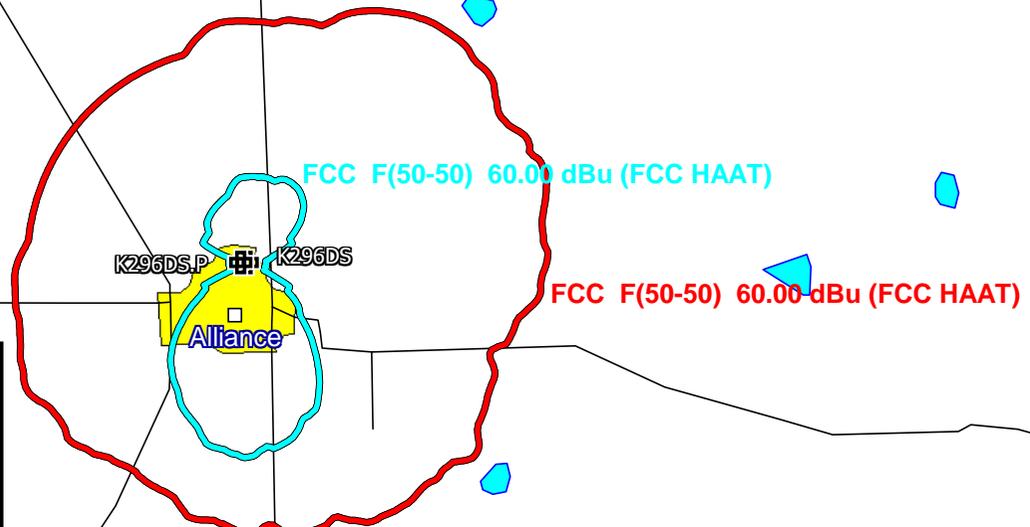
K296DS Prosed - HAAT Table
 N. Lat. = 420701.8 W. Lng. = 1025210.7
 HAAT and Distance to Contour,
 FCC, FM 2-10 Mi, 51 pts Method - NED 03 SEC

Azi.	AV EL	HAAT	ERP kW	dBk	60-F5
000	1216.8	40.2	0.2500	-6.02	8.19
030	1200.3	56.7	0.2500	-6.02	9.91
060	1197.8	59.2	0.2500	-6.02	10.11
090	1196.8	60.2	0.2500	-6.02	10.19
120	1201.5	55.5	0.2500	-6.02	9.80
150	1200.6	56.4	0.2500	-6.02	9.88
180	1209.1	47.9	0.2500	-6.02	9.04
210	1219.4	37.6	0.2500	-6.02	7.89
240	1215.9	41.1	0.2500	-6.02	8.29
270	1227.2	29.8	0.2500	-6.02	7.09
300	1245.2	11.8	0.2500	-6.02	7.09
330	1239.0	18.0	0.2500	-6.02	7.09

Ave El= 1214.13 M HAAT= 42.87 M AMSL= 1257.0

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■ K296DS (296)
 ■ K296DS.P (239)



Present Allocation
International Church Of The F

REFERENCE CH# 296D - 107.1 MHz, Pwr= 0.074 kW DA, HAAT= 43.4 M, COR= 1257 M DISPLAY DATES
 42 07 01.80 N. DATA 09-30-22
 102 52 01.70 W. Average Protected F(50-50)= 6.24 km SEARCH 09-30-22
 Standard Directional

CH CITY	CALL	TYPE STATE	ANT	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
297C0	KHYY	CP NCN	NE	249.1 68.4	85.11 0000100427	41 50 22.80 103 49 37.00	100.000 339	121.6 1630	81.9 Nebraska	-37.1*	2.0 Rural Radio Assoc
297C0	KHYY	APP_CN	NE	249.1 68.4	85.11 0000199935	41 50 22.80 103 49 37.00	100.000 339	121.6 1630	81.9 Nebraska	-37.1*	2.0 Rural Radio Assoc
296D	K296DS	LIC DHN	NE	0.0 0.0	0.00 BLFT19880627TD	42 07 01.80 102 52 01.70	0.074 42	1257	---Reference--- International Church of Th		
299C2	KBPY	LIC_CN	NE	11.7 191.8	70.67 BLH20160608HTA	42 44 21.90 102 41 28.60	50.000 142	5.9 1320	51.9 Chadrad	61.6	18.6 Communications, In
295C3	KHYY	LIC NCN	NE	248.2 67.6	74.82 BLH20080725ADA	41 51 49.90 103 42 21.80	25.000 28	47.0 1270	28.7 Nebraska	27.2	44.9 Rural Radio Assoc
296C	KFCO	LIC NHN	CO	201.2 20.4	260.98 BMLH20141014ACE	39 55 21.90 103 58 19.80	97.000 624	200.1 2109	93.3 Max Radio Of	55.2	149.1 Denver LLC
295C3	KHYY	STA_CN	NE	235.8 55.2	81.68 0000197333	41 42 04.00 103 40 51.00	0.005 170	10.3 1478	7.1 Nebraska	69.5	72.0 Rural Radio Assoc
296C	KSLT	LIC_CN	SD	342.6 162.0	258.02 0000122489	44 19 41.90 103 50 04.70	100.000 579	186.1 2290	82.7 University Of	69.6	168.3 Northwestern
294C1	AL6539	RSV-A	NE	137.9 318.7	146.39 RM11246*	41 08 01.97 101 41 43.62	100.000 299	9.9 1314	71.3 From CDBS	133.4	75.0
293C1	KMCX-FM	LIC_CN	NE	137.9 318.7	146.39 BLH19820520AC	41 08 01.90 101 41 43.60	100.000 96	5.6 1121	49.6 Ihm Licenses,	137.6	96.7 LLC

Terrain database is NED 03 SEC , R= 73.215 qualifying spacings or FCC minimum spacings in KM, M= Margin in KM
 Contour distances are on direct line to and from reference station. Reference zone= West Zone, Co to 3rd adjacent.
 All separation margins (if shown) include rounding.
 Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)
 "*"affixed to 'IN' or 'OUT' values = site inside restricted contour.

Exhibit 2.1 Proposed Allocation

International Church Of The F

REFERENCE
42 07 01.80 N.
102 52 10.70 W.

CH# 239D - 95.7 MHz, Pwr= 0.25 kw, HAAT= 43.0 M, COR= 1257 M
Average Protected F(50-50)= 8.51 km
Omni-directional

DISPLAY DATES
DATA 10-04-22
SEARCH 10-10-22

CH CITY	CALL	TYPE STATE	ANT	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
238C1 Gordon	KSDZ	LIC _CN NE		33.1 213.6	90.73 BLH19951013KC	42 47 55.90 102 15 41.50	60.000 95	70.4 1218	44.3 Dj Broadcasting, Inc.	10.4	32.5
240A Bayard	NEW	CP _CN NE		224.3 44.0	53.83 0000159090	41 46 10.90 103 19 22.70	0.250 -4	10.1 1184	7.1 Flood Communications West,	35.4	35.0
238C3 Pine Bluffs	KYWY	LIC NCN WY		234.0 53.2	129.78 BMLH20190306AAL	41 25 28.90 104 07 46.80	9.200 160	56.8 1765	38.2 E Media Usa LLC	64.7	80.0
239D Sidney	K239BE	LIC _CN NE		184.5 4.4	109.95 BLFT20190201AAF	41 07 52.20 102 58 21.40	0.250	23.8 1305	7.1 Flood Communications West,	77.4	73.6

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Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)