

KMWE-LD AMENDMENT TO MINOR MOD TO STATION LICENSE CH 17 15 kW DA
FCC FILE NUMBER 0000203353
SAINT CLOUD, MINNESOTA
ENGINEERING NARRATIVE AND RF RADIATION ENVIRONMENTAL ANALYSIS
MAY 19, 2023

KMWE-LD is a licensed LPTV facility on CH 17 and authorized for LPTV DTV operation under file number 0000163947 on November 3, 2021.

The pending application has been delayed for a number of months due to an ownership change for the building and top mounted tower. On May 17th an internal ownership change was made by FCC staff to ASR 1218256. That ASR has been updated to reflect corrected structure data as specified in FAA No Hazard Determination file number 2022-AGL-23018-OE.

This application specifies the same ERP, antenna data and latitude and longitude as currently on file. The RC AMSL is increased by 1 meter. No other changes are proposed. Updated RFR calculations are proposed and a rooftop, worst case, OET-65 analysis is attached demonstrating that the RF power density 1.8 meters above the roof is well below the public exposure guideline.

The proposed antenna system employs an Alive Telecom model ATC C1R UHF, 10 slot antenna, elliptically polarized system with 1.25 degrees of electrical beam tilt. The maximum relative field in the elevation pattern across the depression angle range of 15 to 90 degrees is less than 0.15 with a radiation center 128.2 meters above ground. Utilizing formula 10 OF OET Bulletin No. 65, Edition 97-01, a value F of 0.15 has been used to calculate the power density 2 meters above ground. The maximum power density is 0.92 uw/cm squared calculated for an ERP of 15,000 watts H. polarization and 4,500 watts V. polarization. This value is 0.28% of the Public Exposure MPE per section 1.1310. Based on this analysis it is believed that the proposed facility is in compliance with OET-65 Guidelines.

The applicant will reduce power or cease transmission as required to meet FCC OET-65 Guidelines.

The proposed structure is an existing site with access and power.

Attached is a copy of the TVStudy report and interference analysis for CH 17 based on the proposed 15 kW ERP and DA antenna described above with an orientation of 275 degrees. The .xml elevation pattern file has been previously uploaded in the application and is unchanged. As can be seen at the conclusion there is no impermissible ISIX and only 2.7% received interference.

It is believed that the proposed facility provides full protection to other television facilities.

REPORT

Study created: 2023.05.18 12:56:30

Study build station data: LMS TV 2023-05-14

Proposal: KMWE-LD D17 LD CP SAINT CLOUD, MN

File number: BLANK0000158970

Facility ID: 184637

Station data: User record

Record ID: 1252

Country: U.S.

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	K16BQ-D	D16+	LD	LIC	BRAINERD, MN	BLANK0000152329	174.2 km
No	K16BQ-D	N16+	TX	LIC	BRAINERD, MN	BLTT19880608IT	174.2
No	K16MA-D	D16	LD	LIC	FROST, MN	BLANK0000062831	165.3
No	K46FY-D	D16	LD	LIC	REDWOOD FALLS, MN	BLANK0000063425	154.5
Yes	KPXM-TV	D16	DT	LIC	ST. CLOUD, MN	BLANK0000054906	49.4
No	K16CG-D	D16	LD	LIC	ST. JAMES, MN	BLDTL20120625AAQ	151.5
No	K17MH-D	D17	LD	LIC	CEDAR FALLS, IA	BLANK0000177243	247.5
No	KWQC-TV	D17	DT	LIC	DAVENPORT, IA	BLANK0000097891	433.0
No	KDIT-CD	D17-	DC	LIC	Des Moines, IA	BLANK0000199021	349.0
No	KDIT-LD	D17	LD	LIC	FORT DODGE, IA	BLANK0000176977	226.9
No	K47OQ-D	D17	LD	LIC	ALEXANDRIA, MN	BLANK0000063269	214.0
No	K17OV-D	D17	LD	LIC	DULUTH, MN	BLANK0000197132	217.7
No	K17MX-D	D17	LD	LIC	FROST, MN	BLANK0000062750	165.3
No	K17MY-D	D17	LD	LIC	JACKSON, MN	BLANK0000064443	212.6
No	K17BV-D	D17	LD	LIC	REDWOOD FALLS, MN	BLDTT20120604AAY	154.5
No	K17MW-D	D17	LD	LIC	ST. JAMES, MN	BLANK0000064441	151.5
No	K17FE-D	D17+	LD	LIC	WADENA, MN	BLANK0000152352	222.0
No	K17FE-D	N17+	TX	LIC	WADENA, MN	BLTT20021223AAH	222.0
No	K17FA-D	D17	LD	LIC	WILLMAR, MN	BLDTT20100122ABO	155.2
No	KYNE-TV	D17	DT	LIC	OMAHA, NE	BLANK0000123806	469.1
No	KDSD-TV	D17	DT	LIC	ABERDEEN, SD	BLEDT20110816AAM	364.0
No	K17NF-D	D17+	LD	LIC	BROOKINGS, SD	BLANK0000059096	298.5
No	K17NF-D	D17+	LD	CP	BROOKINGS, SD	BLANK0000067617	298.5
No	W17ET-D	D17	LD	CP	SIOUX FALLS, SD	BLANK0000201121	347.6
No	W17ET-D	D17	LD	LIC	SIOUX FALLS, SD	BLANK0000213621	347.6
Yes	WEAU	D17	DT	LIC	EAU CLAIRE, WI	BLANK0000120880	170.9
No	WGBD-LD	D17	LD	LIC	GREEN BAY, WI	BLANK0000068358	407.4
No	KYIN	D18	DT	LIC	MASON CITY, IA	BLEDT20090612AHJ	166.3
No	KQDS-TV	D18	DT	LIC	DULUTH, MN	BLANK0000120640	218.7
No	K18GF-D	D18	LD	LIC	LITTLE FALLS, MN	BLDTL20120523ADD	150.7
Yes	KHVM-LD	D18	LD	CP	MINNEAPOLIS, MN	BLANK0000197038	15.1
Yes	KHVM-LD	D18	LD	APP	MINNEAPOLIS, MN	BLANK0000202614	44.7
No	K18IR-D	D18	LD	LIC	OLIVIA, MN	BLDTT20120213ABO	142.0
No	K18NE-D	D18	LD	LIC	ST. JAMES, MN	BLANK0000088224	151.5
No	WBDL-LD	D18	LD	LIC	ELK MOUND, WI	BLANK0000168884	129.1
No	KKTW-LD	N19-	TX	LIC	Minneapolis, MN	BLTTL19870921IE	109.5

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D17

Mask: Full Service

Latitude: 44 56 47.00 N (NAD83)

Longitude: 93 5 28.50 W

Height AMSL: 359.5 m

HAAT: 0.0 m

Peak ERP: 15.0 kW

Antenna: ATC C1R 275 DEG 275.0 deg

Elev Pattern: ATC 10 SLOT BCE 1.25 DEG

Elec Tilt: 1.25

49.0 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	14.0 kW	88.2 m	43.1 km
45.0	2.13	70.3	31.3
90.0	0.190	72.0	19.3
135.0	0.513	121.2	29.8
180.0	11.7	70.2	39.6
225.0	14.0	139.8	47.9
270.0	12.2	92.6	43.0
315.0	13.1	71.9	40.4

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m Computed HAAT: 91 m
Distance to Canadian border: 363.5 km
Distance to Mexican border: 1837.1 km
Conditions at FCC monitoring station: Grand Island NE
Bearing: 226.0 degrees Distance: 623.2 km
Proposal is not within the West Virginia quiet zone area
Conditions at Table Mountain receiving zone:
Bearing: 246.0 degrees Distance: 1125.8 km
No land mobile station failures found
Proposal is not within the Offshore Radio Service protected area
Study cell size: 0.50 km
Profile point spacing: 0.10 km
Maximum new IX to full-service and Class A: 0.50%
Maximum new IX to LPTV: 2.00%
---- Below is IX received by proposal BLANK0000158970 ----
Proposal receives 2.68% interference from scenario 1
**MX with BLANK0000202614 APP scenario 2, 2.68% interference received

ISIX

tvstudy v2.2.5 (4uoc83)
Database: 127.0.0.1, Study: BLANK0000158970 #1761, Model: Longley-Rice
Start: 2023.05.18 12:56:30
Study created: 2023.05.18 12:56:30
Study build station data: LMS TV 2023-05-14
Proposal: KMWE-LD D17 LD CP SAINT CLOUD, MN
File number: BLANK0000158970
Facility ID: 184637
Station data: User record
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No	K16MA-D	D16	LD	LIC	FROST, MN	BLANK0000062831	165.3
No	K46FY-D	D16	LD	LIC	REDWOOD FALLS, MN	BLANK0000063425	154.5
Yes	KPXM-TV	D16	DT	LIC	ST. CLOUD, MN	BLANK0000054906	49.4
No	K16CG-D	D16	LD	LIC	ST. JAMES, MN	BLDTL20120625AAQ	151.5
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No	K17FE-D	N17+	TX	LIC	WADENA, MN	BLTT20021223AAH	222.0
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No	KDSD-TV	D17	DT	LIC	ABERDEEN, SD	BL EDT20110816AAM	364.0
No	K17NF-D	D17+	LD	LIC	BROOKINGS, SD	BLANK0000059096	298.5
No	K17NF-D	D17+	LD	CP	BROOKINGS, SD	BLANK0000067617	298.5
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No	KYIN	D18	DT	LIC	MASON CITY, IA	BL EDT20090612AHJ	166.3
No	KQDS-TV	D18	DT	LIC	DULUTH, MN	BLANK0000120640	218.7
No	K18GF-D	D18	LD	LIC	LITTLE FALLS, MN	BLDTL20120523ADD	150.7
Yes	KHVM-LD	D18	LD	CP	MINNEAPOLIS, MN	BLANK0000197038	15.1
Yes	KHVM-LD	D18	LD	APP	MINNEAPOLIS, MN	BLANK0000202614	44.7
No	K18IR-D	D18	LD	LIC	OLIVIA, MN	BLDTT20120213ABO	142.0
No	K18NE-D	D18	LD	LIC	ST. JAMES, MN	BLANK0000088224	151.5
No	WBDL-LD	D18	LD	LIC	ELK MOUND, WI	BLANK0000168884	129.1
No	KKTW-LD	N19-	TX	LIC	Minneapolis, MN	BLTTL19870921IE	109.5

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D17

Mask: Full Service

Latitude: 44 56 47.00 N (NAD83)

Longitude: 93 5 28.50 W

Height AMSL: 359.5 m

HAAT: 0.0 m

Peak ERP: 15.0 kW

Antenna: ATC C1R 275 DEG 275.0 deg

Elev Pattn: ATC 10 SLOT BCE 1.25 DEG

Elec Tilt: 1.25

49.0 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	14.0 kW	88.2 m	43.1 km
45.0	2.13	70.3	31.3
90.0	0.190	72.0	19.3
135.0	0.513	121.2	29.8
180.0	11.7	70.2	39.6
225.0	14.0	139.8	47.9
270.0	12.2	92.6	43.0
315.0	13.1	71.9	40.4

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Distance to Canadian border: 363.5 km

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Conditions at FCC monitoring station: Grand Island NE

Bearing: 226.0 degrees Distance: 623.2 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:

Bearing: 246.0 degrees Distance: 1125.8 km

No land mobile station failures found

Proposal is not within the Offshore Radio Service protected area

Study cell size: 0.50 km

Profile point spacing: 0.10 km

Maximum new IX to full-service and Class A: 0.50%

Maximum new IX to LPTV: 2.00%

Interference to BLANK0000054906 LIC scenario 1

Call	Chan	Svc	Status	City, State	File Number	Distance
Desired: KPXM-TV	D16	DT	LIC	ST. CLOUD, MN	BLANK0000054906	
Undesireds: KMWE-LD	D17	LD	CP	SAINT CLOUD, MN	BLANK0000158970	49.4 km
KDSM-TV	D16	DT	LIC	DES MOINES, IA	BLANK0000212160	390.2
WJFW-TV	D16	DT	LIC	RHINELANDER, WI	BLCDDT20070222AOP	328.0
Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
23059.0	3,506,796	22983.1	3,504,248	22980.6	3,504,248	22969.2 3,493,108
Undesired	Total IX		Unique IX, before		Unique IX, after	
KMWE-LD D17 LD CP	11.4	11,140			11.4 11,140	
KDSM-TV D16 DT LIC	1.5	0	1.5	0	1.5 0	
WJFW-TV D16 DT LIC	1.0	0	1.0	0	1.0 0	

Interference to BLANK0000120880 LIC scenario 1

Call	Chan	Svc	Status	City, State	File Number	Distance
Desired: WEAU	D17	DT	LIC	EAU CLAIRE, WI	BLANK0000120880	
Undesireds: KMWE-LD	D17	LD	CP	SAINT CLOUD, MN	BLANK0000158970	170.9 km
WJFW-TV	D16	DT	LIC	RHINELANDER, WI	BLCDDT20070222AOP	177.0
KWQC-TV	D17	DT	LIC	DAVENPORT, IA	BLANK0000097891	348.7
WBME-CD	D17	DC	LIC	MILWAUKEE, WI	BLANK0000086894	297.8
Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
47513.0	1,007,568	46631.0	957,587	46247.1	955,661	46201.9 953,376
Undesired	Total IX		Unique IX, before		Unique IX, after	
KMWE-LD D17 LD CP	45.2	2,285			45.2 2,285	
WJFW-TV D16 DT LIC	342.6	602	342.6	602	342.6 602	
KWQC-TV D17 DT LIC	39.9	1,288	37.2	1,233	37.2 1,233	
WBME-CD D17 DC LIC	4.2	91	1.5	36	1.5 36	

Interference to BLANK0000197038 CP scenario 1

Call	Chan	Svc	Status	City, State	File Number	Distance
Desired: KHVM-LD	D18	LD	CP	MINNEAPOLIS, MN	BLANK0000197038	
Undesireds: KMWE-LD	D17	LD	CP	SAINT CLOUD, MN	BLANK0000158970	15.1 km
KYIN	D18	DT	LIC	MASON CITY, IA	BLEDT20090612AHJ	180.9
KQDS-TV	D18	DT	LIC	DULUTH, MN	BLANK0000120640	208.5
WBDL-LD	D18	LD	LIC	ELK MOUND, WI	BLANK0000168884	137.9

KKTW-LD	D19	LD	LIC	Minneapolis, MN	BLANK0000156376	22.9	
Service area			Terrain-limited	IX-free, before	IX-free, after	Percent New IX	
2840.2	2,080,495	2823.8	2,076,000	2787.7	2,068,577	2767.1	2,043,337
Undesired			Total IX	Unique IX, before	Unique IX, after		
KMWE-LD D17 LD CP	22.4		25,785		20.6	25,240	
KYIN D18 DT LIC	2.0		0	1.2	0	1.2	0
KQDS-TV D18 DT LIC	12.7		2,545	11.7	2,545	10.0	2,000
WBDL-LD D18 LD LIC	0.5		0	0.2	0	0.2	0
KKTW-LD D19 LD LIC	22.1		4,878	21.8	4,878	21.8	4,878

Interference to BLANK0000197038 CP scenario 2

Call	Chan	Svc	Status	City, State	File Number	Distance	
Desired: KHVM-LD	D18	LD	CP	MINNEAPOLIS, MN	BLANK0000197038		
Undesireds: KMWE-LD	D17	LD	CP	SAINT CLOUD, MN	BLANK0000158970	15.1 km	
KYIN	D18	DT	LIC	MASON CITY, IA	BLEDT20090612AHJ	180.9	
KQDS-TV	D18	DT	LIC	DULUTH, MN	BLANK0000120640	208.5	
WBDL-LD	D18	LD	LIC	ELK MOUND, WI	BLANK0000168884	137.9	
Service area			Terrain-limited	IX-free, before	IX-free, after	Percent New IX	
2840.2	2,080,495	2823.8	2,076,000	2809.6	2,073,455	2789.0	2,048,215
Undesired			Total IX	Unique IX, before	Unique IX, after		
KMWE-LD D17 LD CP	22.4		25,785		20.6	25,240	
KYIN D18 DT LIC	2.0		0	1.2	0	1.2	0
KQDS-TV D18 DT LIC	12.7		2,545	11.9	2,545	10.2	2,000
WBDL-LD D18 LD LIC	0.5		0	0.2	0	0.2	0

Interference to BLANK0000202614 APP scenario 1

Call	Chan	Svc	Status	City, State	File Number	Distance	
Desired: KHVM-LD	D18	LD	APP	MINNEAPOLIS, MN	BLANK0000202614		
Undesireds: KMWE-LD	D17	LD	CP	SAINT CLOUD, MN	BLANK0000158970	44.7 km	
KYIN	D18	DT	LIC	MASON CITY, IA	BLEDT20090612AHJ	185.6	
KQDS-TV	D18	DT	LIC	DULUTH, MN	BLANK0000120640	231.9	
KKTW-LD	D19	LD	LIC	Minneapolis, MN	BLANK0000156376	16.1	
Service area			Terrain-limited	IX-free, before	IX-free, after	Percent New IX	
1883.6	1,487,971	1863.2	1,484,308	1857.5	1,480,631	1850.3	1,470,958
Undesired			Total IX	Unique IX, before	Unique IX, after		
KMWE-LD D17 LD CP	10.4		12,763		7.2	9,673	
KYIN D18 DT LIC	3.5		2,678	1.0	483	1.0	483
KQDS-TV D18 DT LIC	4.7		3,194	2.2	999	1.0	2

Interference to proposal scenario 1

2.68% interference received

Call	Chan	Svc	Status	City, State	File Number	Distance	
Desired: KMWE-LD	D17	LD	CP	SAINT CLOUD, MN	BLANK0000158970		
Undesireds: KPXM-TV	D16	DT	LIC	ST. CLOUD, MN	BLANK0000054906	49.4 km	
K17FE-D	D17+	LD	LIC	WADENA, MN	BLANK0000152352	222.0	
K17NF-D	D17+	LD	LIC	BROOKINGS, SD	BLANK0000059096	298.5	
WEAU	D17	DT	LIC	EAU CLAIRE, WI	BLANK0000120880	170.9	
KHVM-LD	D18	LD	CP	MINNEAPOLIS, MN	BLANK0000197038	15.1	
Service area			Terrain-limited	IX-free	Percent IX		
4455.6	2,620,629	4445.1	2,619,619	4194.5	2,549,518	5.64	2.68
Undesired			Total IX	Unique IX	Prcnt Unique IX		
KPXM-TV D16 DT LIC	69.5		21,524	47.2	19,518	1.06	0.75
WEAU D17 DT LIC	203.4		50,583	181.1	48,577	4.08	1.85

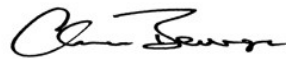
Interference to proposal scenario 2

**MX: 2.68% interference received

Call	Chan	Svc	Status	City, State	File Number	Distance	
Desired: KMWE-LD	D17	LD	CP	SAINT CLOUD, MN	BLANK0000158970		
Undesireds: KPXM-TV	D16	DT	LIC	ST. CLOUD, MN	BLANK0000054906	49.4 km	
K17FE-D	D17+	LD	LIC	WADENA, MN	BLANK0000152352	222.0	
K17NF-D	D17+	LD	LIC	BROOKINGS, SD	BLANK0000059096	298.5	
WEAU	D17	DT	LIC	EAU CLAIRE, WI	BLANK0000120880	170.9	
KHVM-LD	D18	LD	APP	MINNEAPOLIS, MN	BLANK0000202614	44.7	
Service area			Terrain-limited	IX-free	Percent IX		
4455.6	2,620,629	4445.1	2,619,619	4193.8	2,549,480	5.66	2.68
Undesired			Total IX	Unique IX	Prcnt Unique IX		
KPXM-TV D16 DT LIC	69.5		21,524	47.0	19,470	1.06	0.74
WEAU D17 DT LIC	203.4		50,583	174.7	47,954	3.93	1.83
KHVM-LD D18 LD APP	9.2		709	0.7	38	0.02	0.00

CONCLUSION

Based on the information supplied herein, and accompanying application for construction permit, it is believed that the proposed facilities meet all applicable FCC requirements for construction permit. The foregoing was prepared on behalf of SagamoreHill of Minneapolis, LLC by Clarence M. Beverage of Communications Technologies, Medford, New Jersey, whose qualifications are a matter of record with the Federal Communications Commission. The undersigned certifies, under penalty of perjury, that the statements herein are true and correct of his own knowledge, except such statements made on information and belief, and as to these statements he believes them to be true and correct.



Clarence M. Beverage
for Communications Technologies
Medford, New Jersey
May 19, 2023