KMWE-LD AMENDMENT TO MINOR MOD TO STATION LICENSE CH 17 15 kW DA
SAINT CLOUD, MINNESOTA
ENGINEERING NARRATIVE AND RF RADIATION ENVIRONMENTAL ANALYSIS
MARCH 16, 2022

KMWE-LD is a licensed LPTV facility on CH 17 and authorized for LPTV DTV operation under file number 0000163947. The site proposed herein is a site selected to maximize the efficient use of CH 17. The site is known as the First National Bank Building of St. Paul and located in St. Paul, Minnesota which was completed in 1931. Using Google Earth professional the ground elevation is 760' (231.7 meters) AMSL. Based on historical records and data provided by the building the main roof of the structure is 400' (122 meters) AGL. A self-supporting tower designed to support a sign is located on the main roof and has a height of 100' (30.5 meters) bringing the total structure height with appurtenances to 500' (152.5 meters) AGL and 1260' (384.2 meters) AMSL. No FAA study data was found on the FAA OEAAA web site and the structure is not registered.

A grant of this application is believed to represent a significant public interest benefit in terms of population served. Population in the licensed 51 dBu F(50,90) contour is 102,938 persons, 2010 census data, while population in the proposed 51 dBu F(50,90) contour is 2,560,892 persons as seen on Figure 1 attached. The proposed site is located 46.8 kilometers from the licensed site and there is 51 dBu contour overlap as depicted on Figure 1 attached.

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 127 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 0.94 uw/cm squared calculated for an ERP of 15,000 watts H. polarization and 4,500 watts V. polarization. This value is 0.29% 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 file has been uploaded in the application. As can be seen at the conclusion there is no impermissible ISIX and only 2.65% received interference.

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

REPORT

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Study created: 2022.03.14 18:22:10

Study build station data: LMS TV 2022-03-14

    Proposal: KMWE-LD D17 LD CP SAINT CLOUD, MN
 File number: BLANK0000158970
 Facility ID: 184637
Station data: User record
   Record ID: 1081
     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	49.3
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	433.1
No	KDIT-LD	D17	LD	LIC	FORT DODGE, IA	BLANK0000176977	226.9
No	KDIT-CD	D17-	DC	LIC	MARSHALLTOWN, IA	BLANK0000164388	347.9
No	KDIT-CD	D17-	DC	CP	MARSHALLTOWN, IA	BLANK0000170923	349.0
No	K47OQ-D	D17	LD	LIC	ALEXANDRIA, MN	BLANK0000063269	214.0
No	K17OV-D	D17	LD	LIC	DULUTH, MN	BLANK0000158635	222.6
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	K17LT-D	D17	LD	CP	FARGO, ND	BNPDTL20100902AAZ	352.3
No	KYNE-TV	D17	DT	LIC	OMAHA, NE	BLANK0000123806	469.1
No	KDSD-TV	D17	DT	LIC	ABERDEEN, SD	BLEDT20110816AAM	364.0
No	K17PB-D	D17	LD	CP	BRERESFORD, SD	BLANK0000157103	362.3
No	K17NF-D	D17+	LD	LIC	BROOKINGS, SD	BLANK0000059096	298.5
No	K17NF-D	D17+	LD	CP	BROOKINGS, SD	BLANK0000067617	298.5
No	NEW	D17	LD	CP	SIOUX FALLS, SD	BNPDTL20090825AWE	351.8
Yes	WEAU	D17	DT	LIC	EAU CLAIRE, WI	BLANK0000120880	170.9
No	WGBD-LD	D17	LD	LIC	GREEN BAY, WI	BLANK0000068358	407.4
No	W02CF	D17z	LD	CP	MINOCQUA, WI	BLANK0000071851	278.5
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	BLANK0000052068	15.1
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	109.4

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 47.80 N (NAD83)
  Longitude:  93  5 28.50 W
Height AMSL: 358.7 m
       HAAT: 0.0 m
   Peak ERP: 15.0 kW
    Antenna: ATC C1R 275 DEG 275.0 deg
Elev Pattrn: 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	87.2 m	43.0 km
45.0	2.13	69.3	31.1
90.0	0.190	70.5	19.1
135.0	0.513	120.2	29.7
180.0	11.7	69.4	39.5
225.0	14.0	138.1	47.8
270.0	12.2	91.9	42.9
315.0	13.1	71.2	40.3

Database HAAT does not agree with computed HAAT
Database HAAT: 0 m Computed HAAT: 90 m

Distance to Canadian border: 363.4 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 2.65% interference from scenario 1
No IX check failures found.

ISIX

tvstudy v2.2.5 (4uoc83)
Database: 127.0.0.1, Study: BLANK0000158970 #1415, Model: Longley-Rice
Start: 2022.03.14 18:22:10

Study created: 2022.03.14 18:22:10

Study build station data: LMS TV 2022-03-14

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Yes	KPXM-TV	D16	DT	LIC	ST. CLOUD, MN	BLANK0000054906	49.3
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    Antenna: ATC C1R 275 DEG 275.0 deg
Elev Pattrn: ATC 10 SLOT BCE  1.25 DEG
  Elec Tilt: 1.25
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135.0	0.513	120.2	29.7
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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	49.3 km
	KDSM-TV	D16	DT	LIC	DES MOINES, IA	BLCDT20110609ABE	390.2
	WJFW-TV	D16	DT	LIC	RHINELANDER, WI	BLCDT20070222AOP	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	22971.1	3,493,062	0.04	0.32

Undesired	Total IX		Unique IX, before		Unique IX, after	
KMWE-LD D17 LD CP	9.4	11,186			9.4	11,186
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	BLCDT20070222AOP	177.0
	KWQC-TV	D17	DT	LIC	DAVENPORT, IA	BLANK0000097891	348.7
	KDIT-CD	D17-	DC	LIC	MARSHALLTOWN, IA	BLANK0000164388	364.9
	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	46202.6	953,522	0.10	0.22

Undesired	Total IX		Unique IX, before		Unique IX, after	
KMWE-LD D17 LD CP	44.5	2,139			44.5	2,139

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 BLANK0000052068 CP scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KHVM-LD	D18	LD	CP	MINNEAPOLIS, MN	BLANK0000052068	
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	
3490.2	2,334,275	3471.7	2,328,009	3422.0	2,307,946	3385.2	2,270,477	1.07	1.62

Undesired		Total IX		Unique IX, before		Unique IX, after	
KMWE-LD D17 LD CP	45.2	48,701				36.8	37,469
KYIN D18 DT LIC	4.2	2,631	3.2	422		2.0	422
KQDS-TV D18 DT LIC	24.1	14,763	22.4	12,554		15.9	3,531
WBDL-LD D18 LD LIC	0.5	0	0.2	0		0.2	0
KKTW-LD D19 LD LIC	22.8	4,878	22.1	4,878		22.1	4,878

Interference to BLANK0000052068 CP scenario 2

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	KHVM-LD	D18	LD	CP	MINNEAPOLIS, MN	BLANK0000052068	
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	
3490.2	2,334,275	3471.7	2,328,009	3444.1	2,312,824	3407.3	2,275,355	1.07	1.62

Undesired		Total IX		Unique IX, before		Unique IX, after	
KMWE-LD D17 LD CP	45.2	48,701				36.8	37,469
KYIN D18 DT LIC	4.2	2,631	3.2	422		2.0	422
KQDS-TV D18 DT LIC	24.1	14,763	22.9	12,554		16.4	3,531

```
WBDL-LD D18 LD LIC         0.5           0       0.2           0       0.2           0

-------------------------------------------------------------------------------------------------
Interference to proposal scenario 1
2.65% interference received

             Call      Chan  Svc Status  City, State              File Number            Distance
Desired:     KMWE-LD   D17   LD  CP      SAINT CLOUD, MN          BLANK0000158970

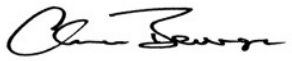
Undesireds:  KPXM-TV   D16   DT  LIC     ST. CLOUD, MN            BLANK0000054906         49.3 km
             K17FE-D   D17+  LD  LIC     WADENA, MN               BLANK0000152352        222.0
             K17NF-D   D17+  LD  LIC     BROOKINGS, SD            BLANK0000059096        298.5
             WEAU      D17   DT  LIC     EAU CLAIRE, WI           BLANK0000120880        170.9
             KHVM-LD   D18   LD  CP      MINNEAPOLIS, MN          BLANK0000052068         15.1

        Service area       Terrain-limited              IX-free        Percent IX
  4433.7   2,618,109    4423.0   2,617,174    4174.6   2,547,859     5.62     2.65

Undesired                          Total IX            Unique IX   Prcnt Unique IX
KPXM-TV D16 DT LIC          71.5      22,335      48.2      20,323     1.09     0.78
WEAU D17 DT LIC            200.2      48,992     176.9      46,980     4.00     1.80
KHVM-LD D18 LD CP            0.2           0       0.0           0     0.00     0.00
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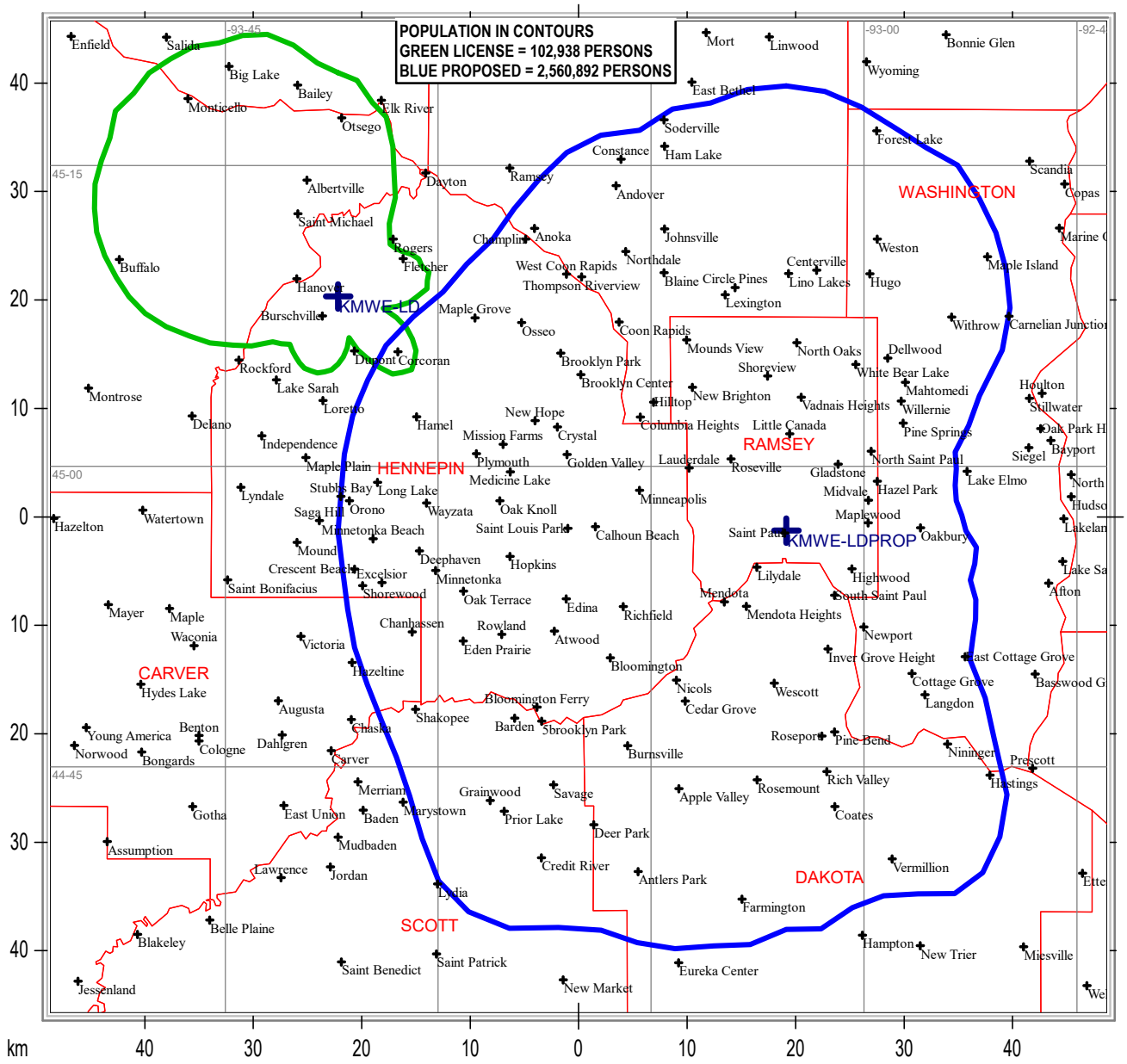
Based on the information supplied herein, and accompanying application for construction permit, it is believed that the proposed facilities meet all applicable FCC requirements for construction permit.

The foregoing was prepared on behalf of SagamoreHill of Minneapolis, LLC by Clarence M. Beverage of Communications Technologies, Inc., 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, Inc.
Medford, New Jersey
March 16, 2022

KMWE-LD MINOR MOD TO LICENSED FACILITY15 kW DA @ 358.7 M AMSL



Communications Technologies, Inc. Medford, New Jersey

County Borders Lat/Lon Grid