

Minor Change Application

W292EG, Facility ID No: 142726

May 2016

This exhibit is for minor change application for translator permit for W292EG Facility ID No. 142726. It specifies changes of power, antenna location, antenna elevation, antenna model, and primary station. It is proposed that this facility will share the directional antenna of co-owned translator station W254CN¹.

Antenna Location

The proposed shared antenna is to be mounted on an existing tower identified by registration number 1033663 at 247 meters above ground. Below as **Figure 1** is an overlap and spacing study from which it can be determined that this proposal is within the protected contour of, **second** adjacent channel station WATQ and **third** adjacent channel station WCFW.

73.1204 Compliance

We will demonstrate that a lack of population and/or other factors allow this proposal to be compliant with 74.1204. The process commonly called “Living Way”, allows for the use of D/U Analysis, also known as “signal strength ratio methodology” to be utilized to demonstrate compliance. In this instant case the facility to be protected is on a second or third adjacent channel and is to be afforded protection from signals 40 dB stronger than the protected facility presents near the proposed translator antenna location.

Concerning WATQ; In **Figure 2** a map showing the predicted 62.7 dBu signal contour of the protected facility exceeds 0.5 km beyond the proposed translator antenna location is given. This proposal can only cause predicted interference to the protected facility by having a signal exceeding 102.7 dBu (62.7 dBu + 40 dB) in a habitable/populated area. Utilizing the line of sight equation shown in **Figure 3** it has been determined that a 102.7 dBu signal developed by 43 watts, as proposed will reach within 2 meters of ground level. With examination of the image in **Figure 4** it can be determined that no habitable space extends above this area. Thus the provisions of the rules section concerning prohibited overlap will not apply as it has been demonstrated that no actual interference will occur due to a lack of population and other factors as applied in this instant proposal.

Concerning WCFW; In **Figure 2** a map showing the predicted 76.5 dBu signal contour of the protected facility exceeds 0.5 km beyond the proposed translator antenna location is given. By providing protection to the lower value WATQ signal the higher value WCFW signal will also be protected from interference in habitable and populated areas. Thus the provisions of the rules section

¹ Please see: BMPFT - 20160422AAM

concerning prohibited overlap will not apply as it has been demonstrated that no actual interference will occur due to a lack of population and other factors as applied in this instant proposal.

Fill-in and Minor Change Status

This proposal is to serve as a fill-in translator for station WMEQ, Facility ID 52474, Menomonie, Wisconsin. The map of **Figure 5** demonstrates that the proposed 60 dBu contour is contained within the 2 mV/M contour and 25 mile radius of that facility, it can also be seen that this proposal has contour overlap with the existing W292EG facility.

RF Fields Statement

The proposed facilities were evaluated in terms of potential radio frequency fields exposure at ground level in accordance with OET Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radio frequency Radiation."

The proposed antenna system is a Scala FMV-MP a one (1) element, vertical polarity antenna, mounted 247 meters above ground. As this element type is not modeled in any current RF Fields calculation computer program, for purposes of this analysis the FM Model RF Fields program has been set to calculate values for an array of "worst case" type of antenna element(s) "Ring Stub", operated with an effective radiated power of 0.043 Kilowatts in the Vertical plane. At 2 meters above the surface, at 56.4 meters from the base of the tower, this proposal will contribute worst case, 0.1 microwatts per square centimeter, or 0.01 percent of the allowable ANSI limit for controlled exposure, and 0.05 percent of the allowable limit for uncontrolled exposure This figure is less than 5.0% of the applicable FCC exposure limit at all locations extending out from the base of the tower. Section 1.1307(b)(3) excludes applications when the calculated level is predicted to be less than 5.0% of the applicable exposure limit. It is therefore believed that this proposal is in compliance with OET Bulletin Number 65 as required by the Federal Communications Commission.

Further, the applicant will see that signs are posted in the vicinity of the tower, warning of potential radio frequency hazards at the site. The site itself is restricted from public access. The applicant will cooperate with other users of the tower to reduce power of the facility, or discontinue operation, as necessary to limit human exposure to levels less than specified by the Federal Communications Commission should anyone be required to climb the tower for maintenance or inspection.

Figure 1. Overlap and Spacing Study

W292EG Diplex with W254CN Capstar TX, LLC											
REFERENCE 44 48 00.1 N. 91 27 56.4 W.		CH# 292D - 106.3 MHz, Pwr= 0.13 kW, HAAT= 0.0 M, COR= 517 M Average Protected F(50-50)= 6.01 km Omni-directional						DISPLAY DATES DATA 05-25-16 SEARCH 05-26-16			
CH CITY	CALL	TYPE ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT (M)	INT(km) COR (M)	PRO(km) LICENSEE	*IN* (Overlap)	*OUT* (in km)	
292D	W292EG	LIC _C_	305.2	22.50	44 54 59.1	0.034	38.3	11.5	-33.2*	-44.5*	
	Eau Claire	WI	125.1	BLFT20160413ADU	91 41 55.4		491	Capstar TX, LLC			
289C3	WCFW	LIC _CN	60.5	16.25	44 52 18.0	25.000	4.3	40.6	-4.6*	-25.1*	
	Chippewa Falls	WI	240.7	BLH19970228KA	91 17 11.0	93	383	Bushland Radio Specialties			
292C3	WJCC	LIC ZCN	168.7	107.57	43 51 02.0	18.000	108.4	38.5	-17.5*	15.4	
	La Crosse	WI	348.9	BLH19940311KA	91 12 08.0	118	369	Mississippi Valley Broad			
294C2	WATQ	LIC _CN	334.1	47.57	45 11 04.0	35.000	6.1	53.5	24.5	-6.7*	
	Chetek	WI	153.9	BLH19970602KI	91 43 52.0	178	510	Capstar TX, LLC			
292A	WEVR-FM	LIC NCN	276.4	94.19	44 53 19.0	6.000	81.3	24.1	-4.9	13.6	
	River Falls	WI	95.6	BLH19981112KK	92 39 02.0	100	393	Hanten Broadcasting Compan			
292A	WPLT	LIC ZCX	337.6	105.27	45 40 28.0	3.400	82.3	27.6	5.9	22.8	
	Sarona	WI	157.3	BLH20080922AAO	91 58 52.0	134	520	Zoe Communications, Inc.			
293C1	WYTE	LIC _CX	97.2	128.91	44 38 39.0	100.000	98.7	67.1	13.5	36.8	
	Marshfield	WI	278.3	BMLH20131104ABU	89 51 12.0	244	596	Nrg License Sub, LLC			
290C3	KWNG	LIC NCN	251.1	88.75	44 32 14.0	12.000	4.0	40.0	66.1	47.9	
	Red Wing	MN	70.4	BLH19930217KA	92 31 21.0	100	381	Q Media Group LLC			

Terrain database is NGDC 30 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= , 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.

Figure 2. Contour Map

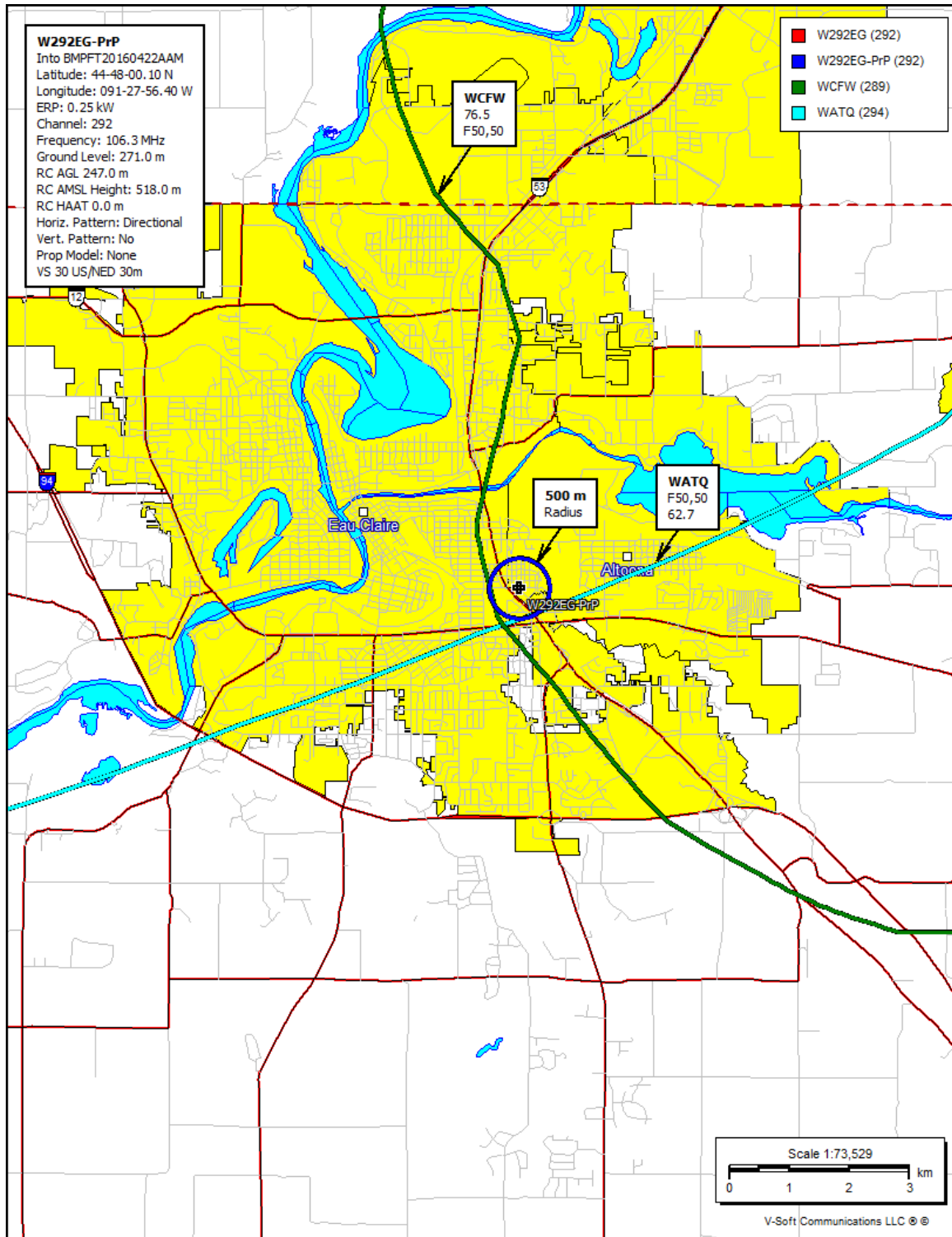


Figure 3. Signal Level Near Ground

Proposed Antenna: Scala CL-FM V Pol Proposed Power: 0.043 kW Antenna Height AGL: 247 meters Interference Contour: 102.7 dBu f(50:10) Artificial Rcv Antenna Height: 2 meters Distance (Free Space) Equation: $= (10^{((106.92 - [\text{desired dBu}] + [\text{ERP in dBk}]) / 20)) * 1000}$ Field Strength (dBu) Equation: $= 106.92 - (20 * (\text{LOG10}[\text{DistMeters} / 1000])) + [\text{ERP in dBk}]$								
Depression				Distance				
Angle	Antenna			from Ant.	Distance	Field Strength	Distance	Field Strength
Below	Relative	ERP	ERP	to Interf	rom Ant. to	in dBu @	from Ant.	in dBu @
Horizon	Field	in kW	in dBk	Contour	Artificial Plane	Artificial Plane	to Ground Level	Ground Level
0°	1.000	0.043	-13.67	337.08 m	infinite	---	infinite	---
-5°	0.980	0.041	-13.84	330.34 m	2811.06 m	84.10 dBu	2834.01 m	84.03 dBu
-10°	0.950	0.039	-14.11	320.23 m	1410.90 m	89.82 dBu	1422.42 m	89.75 dBu
-15°	0.895	0.034	-14.63	301.69 m	946.61 m	92.77 dBu	954.33 m	92.70 dBu
-20°	0.820	0.029	-15.39	276.41 m	716.33 m	94.43 dBu	722.18 m	94.36 dBu
-25°	0.735	0.023	-16.34	247.75 m	579.72 m	95.32 dBu	584.45 m	95.25 dBu
-30°	0.645	0.018	-17.47	217.42 m	490.00 m	95.64 dBu	494.00 m	95.57 dBu
-35°	0.562	0.014	-18.67	189.44 m	427.14 m	95.64 dBu	430.63 m	95.57 dBu
-40°	0.470	0.009	-20.22	158.43 m	381.15 m	95.07 dBu	384.26 m	95.00 dBu
-45°	0.360	0.006	-22.54	121.35 m	346.48 m	93.59 dBu	349.31 m	93.52 dBu
-50°	0.250	0.003	-25.71	84.27 m	319.82 m	91.12 dBu	322.44 m	91.04 dBu
-55°	0.155	0.001	-29.86	52.25 m	299.09 m	87.55 dBu	301.53 m	87.47 dBu
-60°	0.085	0.000	-35.08	28.65 m	282.90 m	82.81 dBu	285.21 m	82.74 dBu
-65°	0.045	0.000	-40.60	15.17 m	270.33 m	77.68 dBu	272.53 m	77.61 dBu
-70°	0.020	0.000	-47.64	6.74 m	260.72 m	70.95 dBu	262.85 m	70.88 dBu
-75°	0.010	0.000	-53.67	3.37 m	253.64 m	65.17 dBu	255.71 m	65.10 dBu
-80°	0.010	0.000	-53.67	3.37 m	248.78 m	65.34 dBu	250.81 m	65.27 dBu
-85°	0.010	0.000	-53.67	3.37 m	245.94 m	65.44 dBu	247.94 m	65.37 dBu
-90°	0.010	0.000	-53.67	3.37 m	245.00 m	65.47 dBu	247.00 m	65.40 dBu

Figure 4. Image of Proposed Area



Figure 5. Fill-in and Minor Change Distance Map

