

Comprehensive Engineering Exhibit

Minor Modification of BNPFT-20130823ABA

W268CC, Facility ID No. 140101

This exhibit is in support of a minor modification to specify a new transmitter location for W268CC.

Antenna Location

The proposed facility antenna is to be mounted on ASR 1023126, at 86 meters above ground level. Below as **Figure 1** is an overlap and spacing study from which it can be determined that this proposal is within the permitted protected contour of **second** adjacent channel stations W266CN channel 266, Hillsboro.

Concerning W266CN, Section 74.1204(d) states that *“The provisions of this section concerning prohibited overlap will not apply where the area of such overlap lies entirely over water. In addition, an application otherwise precluded by this section will be accepted if it can be demonstrated that no actual interference will occur due to intervening terrain, lack of population or such other factors as may be applicable.”*

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”¹, which allows for the use of U/D Analysis, also known as “signal strength ratio methodology” is to be utilized. In this instant case the facilities of to be protected are second adjacent and are to be afforded protection from signals 40 dB stronger² than they present in the location of the proposed antenna location.

Figure 2 is a map showing the predicted 66 dBu signal contour of W266CN at the proposed translator antenna location utilizing the FCC F50:50 curves. Thus only a signal exceeding 106 dBu (66 + 40) in a habitable area is predicted to cause interference to W266CN from this instant proposal. Utilizing the line of sight equation³ and proposed antenna pattern it has been determined that a 106 dBu signal developed by 250 watts, as proposed, emitted by the proposed antenna mounted 86 meters above ground will not reach habitable space as demonstrated in **Figures 3, 4, and 4a**. With examination of the images in **Figures 4 and 4a** it can be determined that no habitable space is within the confines of the interference contour. 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.

¹ As recently described in FCC 08-242 in connection with BPFT-19981001TA

² See §74.1204(a)(3)

³ $\text{ReachDistMeters} = 106.92 - (20 * (\text{LOG10}[\text{DistMeters}] / 1000)) + [\text{ERP in dBk}]$

Minor Change Status

This modification qualifies as a minor change⁴ as there is contour overlap as shown in **Figure 2** by the proposed site being within the 76 dBu of the permitted facility, with no change in channel.

RF Radiation Statement

The proposed facilities were evaluated in terms of potential radio frequency radiation 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 Scale "FMVMP-3", 3- element vertical polarity antenna mounted 86 meters above ground. As this element type is not modeled in the FM Model program, a worst-case "Ring-Stub" type of antenna element array was used in the program, with an effective radiated power of 0.250 Kilowatts in the vertical plane. At 2 meters above the surface, at 15 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% 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% 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.

⁴ See §74.1233

w268CC @ ASR 1023126										
Citicasters Licenses, L.p.										
CH# 268D - 101.5 MHz, Pwr= 0.25 kw, HAAT= 72.5 M, COR= 403 M										
Average Protected F(50-50)= 11.06 km										
omni-directional										
DISPLAY DATES										
SEARCH 08-14-14										
SEARCH 08-14-14										
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" (overlap in km)
268D w268CC Hillsboro		CP _C_ OH	342.7 162.7	5.75 BNPFT20130823ABW	39 12 56.0 83 37 37.0	0.250 73	40.2 387	11.7 Citicasters Licenses, L.p.	-46.2*	-46.0*
268B WKBW Gallipolis		LIC _CN OH	108.1 289.0	126.13 BLH19870923KB	38 48 19.0 82 13 36.0	50.000 150	137.6 360	64.9 Fifth Avenue Broadcasting	-24.2*	1.2
268A WCLI-FM Enon		LIC ZCX OH	333.6 153.3	89.13 BLH20110223ABS	39 53 02.0 84 04 17.0	6.000 100	89.1 376	30.1 Alpha Media Licensee LLC	-11.0*	21.2
266D w266CN Hillsboro		CP _C_ OH	353.1 173.1	4.00 BNPFT20130830ACL	39 12 06.8 83 36 45.3	0.038 54	0.4 366	6.4 world Evangelistic Enterpr	-8.0*	-3.5*
270B WKRC Cincinnati		LIC _C_ OH	266.2 85.6	77.56 BLH19991004ABU	39 06 59.0 84 30 07.0	16.000 264	6.0 483	69.0 Cincinnati FCC License Sub	59.8	7.1
267A WAGX Manchester		LIC _CN OH	185.2 5.2	63.00 BLH19921027KA	38 36 03.0 83 40 22.0	3.000 91	32.4 328	21.8 Jewell Schaeffer Broadcast	18.2	22.9
268L1 1592306 Covington		APP _ KY	259.3 78.7	79.21 BNPL20131112AWI	39 01 48.2 84 30 21.2	0.012 84	293	49.6 24-7 Broadcasting, Inc.		33.6
268L1 1583546 Covington		APP _ KY	266.8 86.2	81.47 BNPL20131112AMA	39 07 19.0 84 32 52.0	0.008 100	309	49.2 South Cincinnati Community		34.6
265A WXIZ waverly Accepted by canada on 940413		LIC _CN OH	83.2 263.6	53.44 BLH5076	39 13 17.0 82 59 33.0	0.920 152	1.5 393	17.2 Crystal Communications Cor	37.5	35.1
268D WCLI-FM1 Moraine		LIC DV_ OH	320.2 139.9	80.91 BLFTB20120217AAF	39 43 26.0 84 12 43.0	0.440	24.6 239	7.3 Alpha Media Licensee LLC	45.2	35.7
268D WXBW-FM1 Huntington		LIC DV_ WV	132.6 313.3	123.93 BLFTB20061116ADN	38 24 25.0 82 33 40.0	3.500	74.5 278	23.8 Fifth Avenue Broadcasting	36.0	54.1
270D w270CG Chillicothe		CP _C_ OH	66.3 246.7	54.11 BNPFT20130328ANS	39 21 35.0 83 01 54.0	0.013 91	0.3 331	5.5 Spirit communications, Inc	40.2	47.5
268C3 WVLK-FM Richmond		LIC NCN KY	203.8 23.4	155.99 BLH19970224KA	37 52 45.0 84 19 33.0	9.000 165	100.2 426	36.8 Cumulus Licensing LLC	44.4	80.1
266A WIZF Erlanger		LIC _CX KY	265.6 85.0	82.41 BLH20060721AAQ	39 06 18.0 84 33 25.0	2.500 155	2.8 379	32.6 Blue Chip Broadcasting Lic	67.8	48.7
268B WKKG Columbus		LIC _CN IN	271.4 89.9	202.47 BLH19890619KA	39 11 12.0 85 57 00.0	50.000 150	139.6 354	66.8 white River Broadcasting C	51.0	78.4
266A WOSA Grove City		LIC ZCX OH	33.1 213.4	86.18 BMLED20100716ABW	39 48 52.0 83 03 22.0	6.000 100	2.3 333	24.3 The Ohio State university	70.9	60.7
215B WGUC Cincinnati		LIC _CX OH	266.9 86.3	77.24 BLEDD20101221ABF	39 07 29.9 84 29 56.2	18.500 209	0.0 419	0.0 Cincinnati Public Radio, I	14.5R	62.7M
269B1 WNKO New Albany		LIC ZC_ OH	37.0 217.6	136.71 BLH20110330AAG	40 08 38.0 82 38 20.0	22.000 107	58.8 448	43.8 Runnymede, Inc.	65.0	69.7
267B1 WFMG Richmond		LIC NCX IN	303.3 122.5	135.65 BLH20060613ACE	39 49 41.0 84 55 57.0	20.500 83	52.6 397	38.5 Rodgers Broadcasting Corpo	71.3	76.5
266D w266BG Dayton		LIC DV_ OH	319.1 138.7	83.77 BLFT20140404ABJ	39 44 02.0 84 14 53.0	0.099	0.2 538	9.9 Bradlee J Beer	72.4	72.8

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)
"X"affixed to 'IN' or 'OUT' values = site inside protected contour.
< = Contour overlap

Figure 2. Contour Map

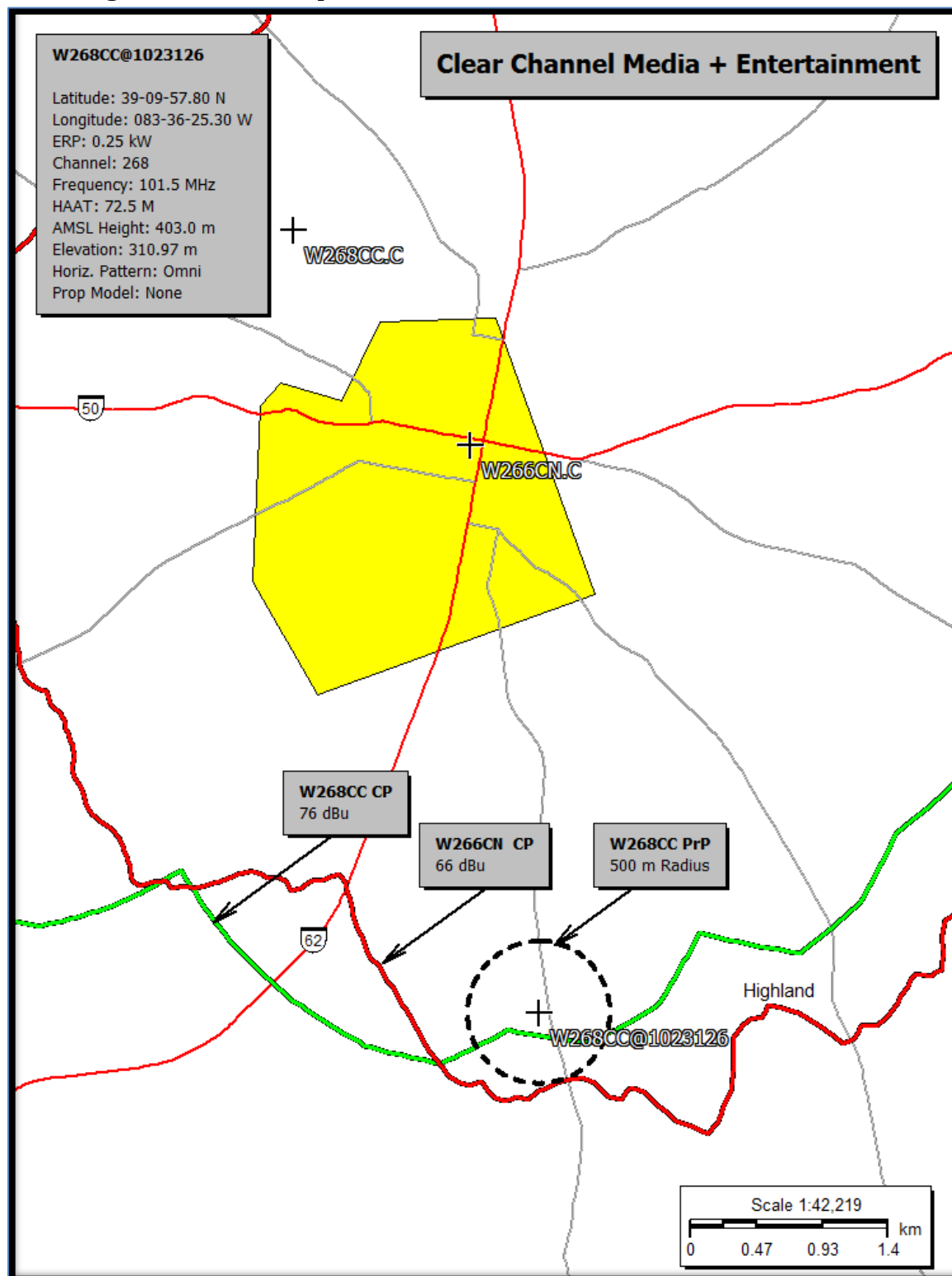


Figure 3. Distance to Signal Contour

Proposed Antenna: Scala FM/MF-3 Proposed Power: 0.25 kW Antenna Height AGL: 86 meters Interference Contour: 106 dBu f(50:10) Artificial Rcv Antenna Height: 2 meters Distance (Free Space) Equation: $= (10^{\frac{106.92 - [\text{desired dBu}] + [\text{ERP in dBk}]}{20}}) * 1000$ 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	from 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	0.250	-6.02	555.87 m	infinite	---	infinite	---
-5°	0.921	0.212	-6.74	511.95 m	963.79 m	100.50 dBu	986.74 m	100.30 dBu
-10°	0.708	0.125	-9.02	393.78 m	483.74 m	104.21 dBu	495.25 m	104.01 dBu
-15°	0.418	0.044	-13.61	232.07 m	324.55 m	103.09 dBu	332.28 m	102.88 dBu
-20°	0.126	0.004	-24.02	69.98 m	245.60 m	95.10 dBu	251.45 m	94.89 dBu
-25°	0.100	0.003	-25.99	55.81 m	198.76 m	94.97 dBu	203.49 m	94.76 dBu
-30°	0.224	0.012	-19.04	124.24 m	168.00 m	103.38 dBu	172.00 m	103.17 dBu
-35°	0.242	0.015	-18.33	134.74 m	146.45 m	105.28 dBu	149.94 m	105.07 dBu
-40°	0.186	0.009	-20.65	103.17 m	130.68 m	103.95 dBu	133.79 m	103.74 dBu
-45°	0.093	0.002	-26.67	51.58 m	118.79 m	98.75 dBu	121.62 m	98.55 dBu
-50°	0.001	0.000	-66.02	0.56 m	109.65 m	60.10 dBu	112.27 m	59.89 dBu
-55°	0.069	0.001	-29.22	38.47 m	102.55 m	97.48 dBu	104.99 m	97.28 dBu
-60°	0.108	0.003	-25.36	59.98 m	96.99 m	101.82 dBu	99.30 m	101.62 dBu
-65°	0.118	0.003	-24.56	65.76 m	92.68 m	103.02 dBu	94.89 m	102.81 dBu
-70°	0.107	0.003	-25.42	59.53 m	89.39 m	102.47 dBu	91.52 m	102.26 dBu
-75°	0.082	0.002	-27.71	45.75 m	86.96 m	100.42 dBu	89.03 m	100.22 dBu
-80°	0.050	0.001	-32.04	27.79 m	85.30 m	96.26 dBu	87.33 m	96.06 dBu
-85°	0.015	0.000	-42.50	8.34 m	84.32 m	85.90 dBu	86.33 m	85.70 dBu
-90°	0.020	0.000	-39.96	11.17 m	84.00 m	88.48 dBu	86.00 m	88.27 dBu

Figure 4. Aerial View.



Figure 4a. Road View.

