

**Comprehensive Engineering Exhibit**  
**Minor Change Application**  
**W288ED Facility ID 148345**  
**February 2022**

This application requests a minor change in location, elevation and directional pattern only. No change in channel or community is requested.

The antenna is to be a Nicom BLK-8 horizontally polarized antenna with the polar pattern provided in **Figure 0** mounted on the existing tower, **which is tower number 2 of the WKTR(AM) directional array**, identified by registration number 1017575 at 61 meters above ground. Below as **Figure 1** is an overlap and spacing study, considering the antenna pattern, from which it can be determined that this proposal is 73.1204 compliant.

**Figure 2** is a map demonstrating lack of prohibited contour overlap with the closest protected facility, WOJL, providing clarity as to the lack of prohibited contour overlap with that facility.

This proposal is to serve as a fill-in translator for Station WVCV(AM), Facility ID 54873, Orange, Virginia. The map at **Figure 3** demonstrates that the proposed 60 dBu contour is contained within the 25-mile radius of that facility. Also demonstrated is the required proposed service contour overlap of this proposal with that of the original permitted facility.

### **RF Fields Statement**

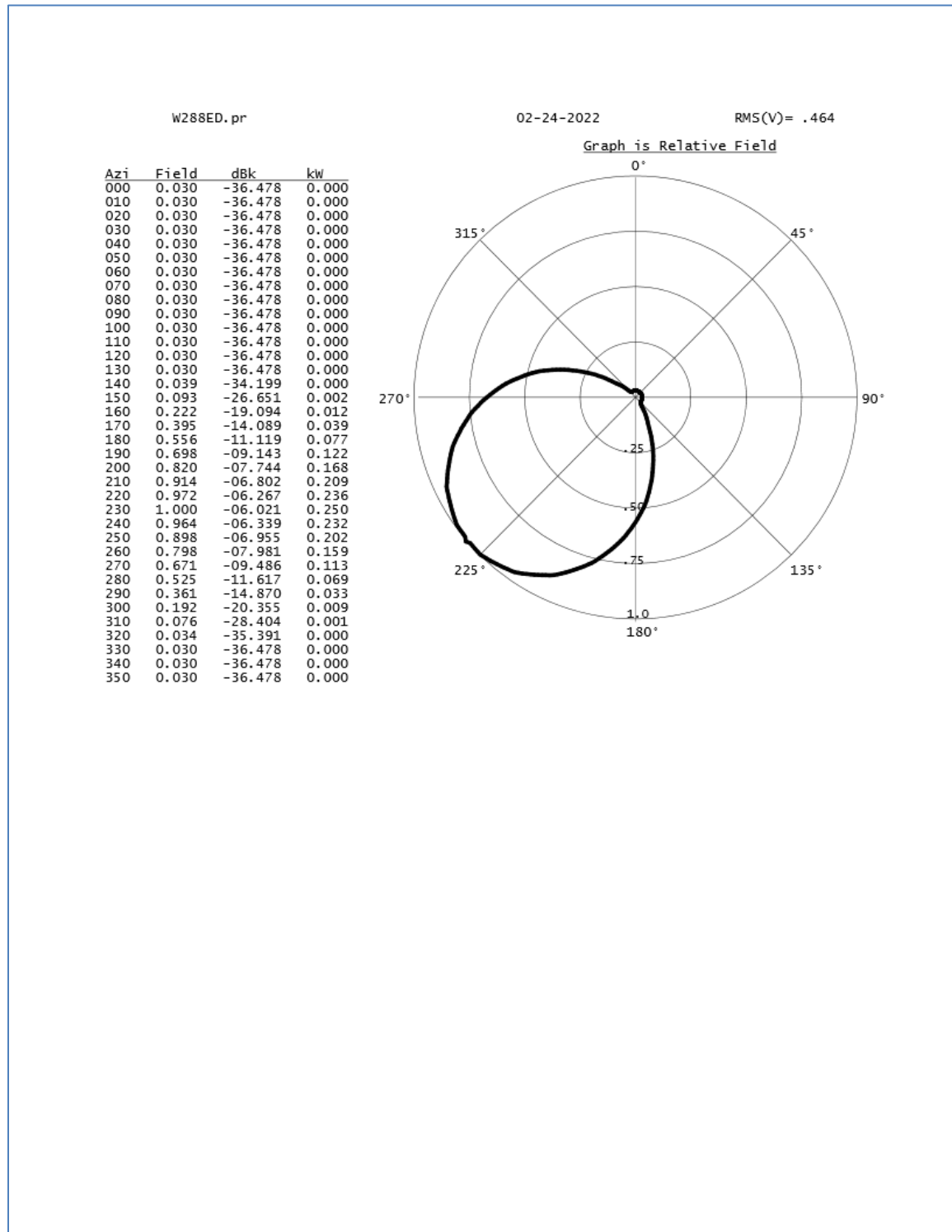
The proposed facilities were evaluated in terms of potential radio frequency field exposure at ground level in accordance with OET Bulletin No. 65, "Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radio frequency Radiation."

The proposed antenna system is a Nicom BLK-8 mounted 61 meters above ground. The FCC provided FM Model RF Fields web application has been set to calculate values for an array of "Ring-and-Stub or Other" elements operated with an effective radiated power of 0.25 kilowatts in the Horizontal plane. At 2 meters above the surface at 34 meters from the base of the tower, this proposal will contribute worst case, 0.7 microwatts per square centimeter, or <0.1 percent of the allowable ANSI limit for controlled exposure, and <0.1 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 0 Antenna Pattern**



**Figure 1 Contour and Spacing Study**

W288ED at 61 m AGL on 1017575 BLK8 at 230T											
Ihm Licenses, LLC											
REFERENCE CH# 288D - 105.5 MHz, Pwr= 0.25 kW DA, HAAT= 21.3 M, COR= 256 M DISPLAY DATES											
38 15 57.00 N. Average Protected F(50-50)= 7.09 km DATA 02-21-22											
78 24 52.00 W. Standard Directional SEARCH 02-24-22											
CH	CALL	TYPE	ANT	AZI	DIST	LAT	PWR(kw)	INT(km)	PRO(km)	*IN*	*OUT*
CITY		STATE		<--	FILE #	LNG	HAAT(M)	COR(M)	LICENSEE	(Overlap in km)	
288A	WOJL	LIC_CN		127.3	43.67	38 01 37.50	6.000	81.0	23.9	-39.3%	13.0
Louisia		VA		307.6	BLH20060710ACL	78 01 04.00	99	221	Piedmont Communications, I		
288D	W288ED	CP_DHN		180.7	26.10	38 01 50.30	0.250		---Reference---		
Charlottesville		VA		0.7	0000169568	78 25 05.50	88	286	Ihm Licenses, LLC		
288D	W288ED	CP_DCN		191.3	24.60	38 02 54.50	0.250		---Reference---		
Charlottesville		VA		11.3	BNPFT20130821ABF	78 28 11.00	88	251	Ihm Licenses, LLC		
289A	WMXH-FM	LIC_CN		332.9	41.74	38 35 59.40	0.150	42.5	27.3	-2.3%	12.6
Luray		VA		152.8	BMLE20190424AAE	78 38 00.10	601	952	Positive Alternative Radio		
291A	WCNR	LIC_CN		190.4	31.72	37 59 06.50	0.600	1.6	30.0	19.3	0.9
Keswick		VA		10.3	BMLH20170407AAB	78 28 47.00	312	479	Tidewater Communications,		
285D	W285EF	LIC_CN		194.0	26.97	38 01 49.50	0.046	0.5	6.8	15.6	19.4
Charlottesville		VA		14.0	BLFT20051003CDY	78 29 21.00	53	219	Monticello Media LLC		
287A	WEQF-FM	LIC_NCN		193.5	78.30	37 34 50.50	6.000	47.8	31.2	19.7	31.7
Dillwyn		VA		13.3	BMLE20151203AOE	78 37 17.00	100	274	Calvary Chapel of Lynchbur		
288A	WINC-FM	LIC_CN		21.9	102.18	39 07 03.40	3.000	79.0	26.1	21.5	71.0
Berryville		VA		202.2	BMLH20080530AHL	77 58 20.00	91	296	Metro Radio, Inc.		
286A	WVRE	LIC_ZCN		295.9	47.81	38 27 08.40	6.000	2.2	21.1	42.1	26.4
Bridgewater		VA		115.5	BLH20041112ADU	78 54 31.10	100	548	Tidewater Communications,		
288A	WKDE-FM	LIC_CN		210.3	142.04	37 09 37.50	6.000	77.7	21.5	52.6	80.2
Altavista		VA		29.8	BMLH19970305KB	79 13 27.00	100	313	D.J. Broadcasting, Inc		
285A	WVRX	LIC_CN		359.3	83.68	39 01 06.40	4.100	2.8	29.7	79.3	54.0
Strasburg		VA		179.3	BLH20060124AFU	78 25 34.00	66	409	Point FM Ministries, Inc.		
288A	WRAR-FM	LIC_CN		105.9	154.00	37 52 27.50	6.000	88.5	29.7	63.3	116.8
Tappahannock		VA		286.9	BLH19910812KA	76 43 35.80	100	119	Real Media, Inc.		
290B	WMAL-FM	LIC_DEN		56.5	123.71	38 52 28.40	28.000	4.9	58.7	116.8	64.9
Woodbridge		VA		237.2	BLH19851021KC	77 13 22.90	198	287	Radio License Holdings LLC		
286B	WAVA-FM	LIC_CN		57.6	131.42	38 53 30.40	33.000	5.4	61.2	124.1	70.1
Arlington		VA		238.4	BLH20070426ACO	77 07 53.90	184	250	Salem Communications Holdi		
289A	WKJS	LIC_CN		136.1	115.36	37 30 52.50	2.300	42.0	27.8	71.2	84.4
Richmond		VA		316.7	BLH19981023KA	77 30 26.90	162	218	Radio One Licenses, LLC		
291B	WRQE	LIC_CN		344.1	152.13	39 34 52.10	5.400	4.6	77.6	145.9	74.5
Cumberland		MD		163.8	BMLH20160201AMU	78 53 58.00	430	917	Fm Radio Licenses, LLC		
287B	WFRB-FM	LIC_CN		343.4	164.64	39 41 00.70	13.500	81.2	68.8	81.9	93.4
Frostburg		MD		163.0	BMLH20160201ANF	78 57 54.10	292	966	Fm Radio Licenses, LLC		
290A	WLNI	LIC_CN		213.9	112.12	37 25 37.50	6.000	2.4	23.7	97.9	87.4
Lynchburg		VA		33.5	BLH19931206KC	79 07 25.00	81	305	James River Media, LLC		
291D	W291CL	LIC_CN		132.3	107.04	37 36 52.50	0.250	1.1	17.5	103.9	89.5
Richmond		VA		312.8	BLFT20160804ACW	77 30 55.00		244	Radio By Grace, Inc.		
286D	W286DJ	LIC_DCN		132.3	107.06	37 36 51.50	0.250	1.0	15.9	104.0	91.1
Richmond		VA		312.9	BLFT20190517AAZ	77 30 55.00		238	Audacy License, LLC		
288B1	WKQV	LIC_CN		273.8	195.06	38 21 35.30	3.500	94.9	41.4	94.6	131.5
Cowen		WV		92.4	BLH20070731CPU	80 38 50.30	269	961	Summit Media Broadcasting,		
288A	WHLQ	LIC_CN		163.7	175.08	36 45 10.50	6.000	70.5	16.8	97.6	134.9
Lawrenceville		VA		344.0	BLH19910925KA	77 51 47.90	47	130	Hosanna Christian Media, I		
286D	W286CX	LIC_CN		213.4	112.30	37 25 14.90	0.240	1.1	10.4	99.4	100.9
Lynchburg		VA		33.0	BLFT20151218ATQ	79 06 54.90		289	Brent Epperson		
287L1	WQCN-LP	LIC_CN		135.6	117.47	37 30 25.50	0.100			107.4	108.7
Richmond		VA		316.2	BL20170214AAN	77 28 57.90	27	78	Faith & Love Fellowship Ch		
285C2	WSTV	LIC_ZCN		233.7	165.85	37 22 23.50	14.500	5.4	51.3	148.1	113.5
Roanoke		VA		52.8	BLH20040723ADP	79 55 39.10	282	699	Ihm Licenses, LLC		

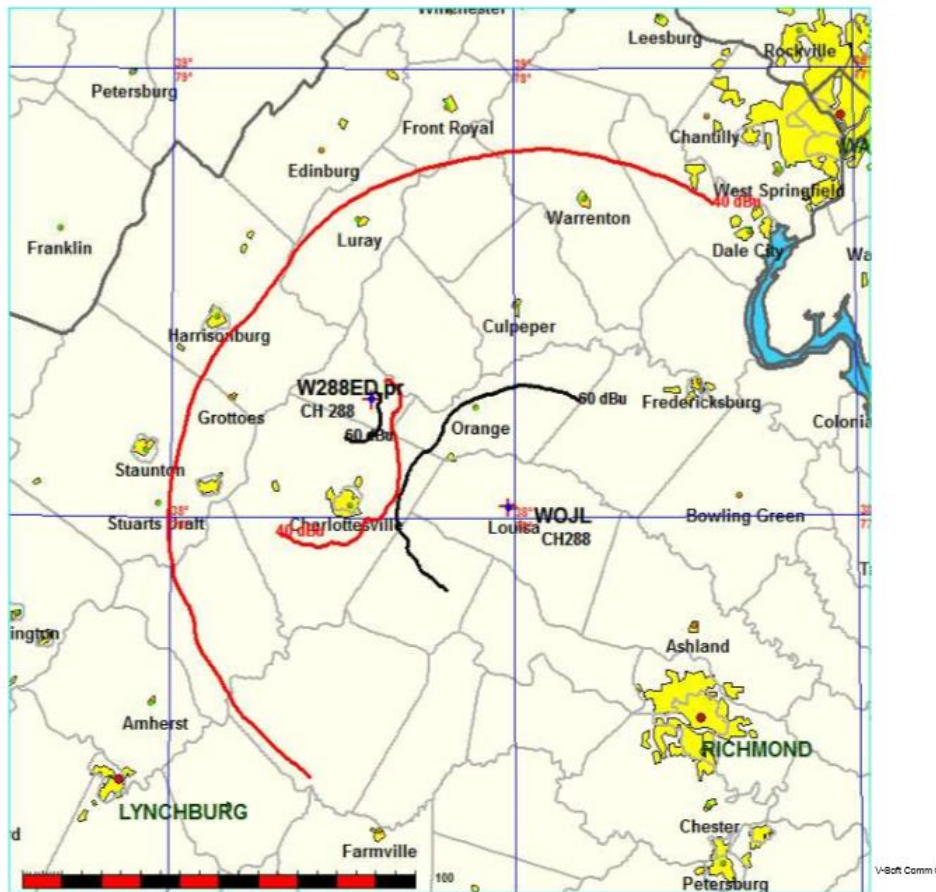
**Figure 2. Map of NO Prohibited Contour Overlap with WOJL**

W288ED at 61 m AGL on 1017575 BLK8 at 230T  
Ihm Licenses, LLC

FMCommander Single Allocation Study - 02-24-2022 - USGS 03 SEC  
W288ED.pr's Overlaps (In= -39.32 km, Out= 13.03 km)

W288ED.pr CH 288 D DA  
Lat= 38 15 57.00, Lng= 78 24 52.00  
0.25 kW 21.3 m HAAT, 256 m COR  
Prot.= 60 dBu, Intef.= 40 dBu

WOJL CH 288 A BLH20060710ACL  
Lat= 38 01 37.50, Lng= 78 01 04.00  
6.0 kW 99 m HAAT, 221 m COR  
Prot.= 60 dBu, Intef.= 40 dBu



**Figure 3. Required Contour Overlap Map**

