

TECHNICAL STATEMENT
W289CV MONTOURSVILLE, PENNSYLVANIA, CH. 289D
MOUNTAIN COMMUNITY TRANSLATORS, LLC
MINOR CHANGE APPLICATION
SEPTEMBER 2021

This Technical Statement is made in support of a minor change application for FM translator station, W289CV currently licensed at Garden View, Pennsylvania, facility ID 20911. W289CV seeks to relocate to an existing tower site and become a “fill-in” translator for WILQ(FM) Williamsport, Pennsylvania, facility ID 52192. W289CV is proposing to change its community of license from Garden View, PA to Montoursville, PA to better reflect its planned coverage area. W289CV seeks to make some minor technical changes to change transmitter sites, increase its ERP, modify its directional pattern and raise its antenna heights. No other changes are being made. The following will show that the new proposed operation of W289CV will meet all of the Commission's technical requirements for an FM translator station.

The new proposed operation of W289CV specifies a maximum Effective Radiated Power (“ERP”) of 0.25 kilowatts (250 watts). It will operate with a directional antenna with a custom Nicom model BKG-1P with dual polarization. The antenna will be mounted on an existing registered tower, FCC no. 1025012. The tower has an overall height of 91.4 meters above the ground. The antenna will be mounted with a Center of Radiation of 76.1 meters above the ground, and 640 meters Above Mean Sea Level. The coordinates of this tower are located at N 41° 13’ 05.0”, W 76° 57’ 26.0”, NAD 83.

Figure 1 is a detailed interference study conducted on channel 289D with these new proposed facilities. It shows that the new operation of W289CV will not cause any

interference to any existing or proposed FM stations on any of the pertinent same channel or adjacent channels to channel 289 with the exception of third adjacent channel station, WILQ Williamsport, Pennsylvania, facility ID 52192, operating on channel 286B and a construction permit for second adjacent channel W291DR Muncy, Pennsylvania, facility ID 146389.

The proposed operation of W289CV on 289D is located within the protected 60 dB μ contour of 3rd adjacent channel of WILQ. Figure 2 shows the predicted F(50-50) field strength of WILQ at the proposed W289CV transmitter site is 106.8 dB μ . Therefore, the respective predicted interfering contour F(50-10) generated by the proposed W289CV on channel 289D is an additional 40 dB μ or 146.8 dB μ . There is also a pending application for WILQ to relocate to this same proposed tower site for W289CV. Obviously that contour would be even much greater than the currently licensed WILQ located 2.78 kilometers from the proposed W289CV site. Thus, only the currently licensed site for WILQ was studied further.

The proposed operation of W289CV on 289D is located within the protected 60 dB μ contour of 2nd adjacent channel of the CP for W291DR Muncy, PA. Figure 3 shows the predicted F(50-50) field strength of W291DR at the proposed W289CV transmitter site is 66.7 dB μ . Therefore, the respective predicted interfering contour F(50-10) generated by the proposed W289CV on channel 289D is an additional 40 dB μ or 106.7 dB μ . Since this signal level is much lower than WILQ at the proposed site, only W291DR protection was studied further.

Figure 4 shows the coverage area for the worse case 100.0 dB μ interference contour F(50-10) and shows that there is no population in the area of interference.

Figure 5 is a Vertical Pattern study for the proposed W289CV. It documents with the proposed Nicom BKG-1P vertical pattern, the 106.7 dB μ interference contour will only extend approximately 400 meters from the base of the tower.

Figure 6 is a satellite map showing the 400 meter area around the proposed tower site.

The applicant, Mountain Community Translators, LLC., respectfully requests a waiver of C.F.R. 74.1204(d) of the Commission's rules based on the fact that there is no population within the area of predicted interference. There are no homes immediately nearby the proposed existing tower site. The transmitter building is uninhabited and does not have indoor plumbing. The area around the tower base is fenced. This is a remote mountain tower communication site with only occasional tower maintenance personnel visiting the sites. The access road to Skyline Drive and tower sites is gated and locked and not open to the general public. Should any unforeseen actual interference be caused, the licensee will immediately cease broadcasting with W289CV until such interference can be eliminated.

Figure 7 is the directional antenna data for the proposed Nicom BKG-1P antenna system proposed to be used.

Figure 8 shows the present and proposed 60 dB μ contours of W289CV. It documents that the two facilities will overlap as required.

The proposed operation of W289CV Montoursville, Pennsylvania will be considered a "Fill-In" operation for WILQ(FM) Williamsport, Pennsylvania. Figure 9 shows that the proposed 54 dB μ contour for the proposed W289CV and WILQ(FM).

Since this is a “Fill-In” translator, the maximum ERP will not exceed the maximum permissible ERP of 250 watts in any azimuth.

The proposed FM translator is located approximately 241 km from the Canadian border. Figure 10 is a predicted contour to showing that the 34 dB μ interfering contour of the proposed translator at no point extends beyond the Canadian border. Therefore, the proposed translator fully complies with the requirement of 47 C.F.R. 74.1235(d) of the Commission’s rules.

It was found that the new proposed operation of W289CV Montoursville, Pennsylvania on channel 289D, will satisfy all of the required commission rules and regulations for an FM translator station.

FIGURE 1 - DETAILED CHANNEL INTERFERENCE STUDY

W289CV Montoursville, PA, Ch. 289D

REFERENCE CH# 289D - 105.7 MHz, Pwr= 0.25 kW DA, HAAT= 377.2 M, COR= 640 M DISPLAY DATES
 41 13 05.00 N. DATA 09-29-21
 76 57 26.00 W. Average Protected F(50-50)= 25.16 km
 Standard Directional SEARCH 09-29-21

CH CITY	CALL	TYPE STATE	ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
289D Garden View	W289CV	LIC	DCN PA	283.4 103.4	4.81 0000131122	41 13 41.00 77 00 47.00	0.028	200	---Reference---		Mountain Community Transla
286B Williamsport	WILQ *	LIC	_CN PA	205.0 25.0	2.78 BLH19890403KA	41 11 43.20 76 58 16.80	9.200 346	5.2 608	68.9	-23.7*	-67.6*
286B Williamsport	WILQ *	APP	_CN PA	0.0 0.0	0.00 0000158534	41 13 05.00 76 57 26.00	6.800 390	4.6 652	64.6	-24.8*	-66.0*
289B Endicott	WBNW-FM	LIC	_CN NY	37.5 218.2	129.63 BMLH20070215ABR	42 08 17.30 75 59 57.70	35.000 174	141.7 543	68.3	-27.1*	0.5
291D Muncy	W291DR/W2 *	CP	DCN PA	185.2 5.2	1.02 0000158655	41 12 32.00 76 57 30.00	0.250 92	0.0 629	2.1	-13.6*	-1.4*
289B York	WQXA-FM	LIC	DCN PA	170.6 350.8	137.17 BMLH20040831ABZ	39 59 56.40 76 41 41.90	25.000 215	133.3 369	67.7	-13.3	9.1
289D Sunbury	W289AI	LIC	_CN PA	157.3 337.4	41.20 BLFT19970611TH	40 52 33.30 76 46 03.80	0.011 91	22.4 293	5.9	7.1	1.1
288D Danville	W288CF	LIC	DCN PA	133.7 313.9	42.98 BLFT20151019AAB	40 57 02.60 76 35 14.00	0.250	10.3 235	8.2	15.2	12.6
290L1 Mifflinville	WRHB-LP	LIC	_CN PA	113.6 294.0	55.96 BLL20170113ABA	41 00 55.30 76 20 49.70	0.100 30	298	22.9		17.2
288A Lewistown	WCHX	LIC	_CN PA	220.2 39.8	80.69 BLH19900504KB	40 39 43.20 77 34 26.90	0.470 249	36.1 585	24.1	21.4	21.8
291A Beaver Springs	WNNNA	LIC	_CN PA	200.6 20.4	61.32 BLH19930211KD	40 42 04.20 77 12 48.90	0.175 400	0.9 666	24.7	38.3	35.8
291B Corning	WNKI	LIC	_CN NY	356.4 176.4	105.05 BLH19801118AH	42 09 43.20 77 02 13.80	40.000 162	6.0 586	65.9	75.9	37.7
290A Philipsburg	WQCK	LIC	ZCN PA	245.6 64.8	112.76 BLH19991020AAD	40 47 34.20 78 10 28.00	0.710 290	51.3 796	31.2	41.0	49.7
288A Tamaqua	WMGH-FM	LIC	_CN PA	121.4 302.0	91.31 BLH19960422KD	40 47 14.30 76 01 57.70	1.400 148	24.1 510	15.5	47.2	47.3
290A Pocono Pines	WPZX	LIC	NCN PA	93.9 274.8	117.63 BLH20140326AEG	41 08 17.30 75 33 33.60	5.000 103	45.9 643	30.3	49.3	52.1
288D Wilkes-Barre	W288BE	LIC	DCN PA	92.1 272.8	91.35 BLFT20190215AAX	41 10 58.20 75 52 08.70	0.010	17.0 662	11.4	51.8	49.8
290D State College	WQCK-FM1	LIC	_CN PA	238.3 57.7	89.22 BLFTB20051004ABX	40 47 36.20 77 51 27.00	0.100	10.2 371	5.6	57.9	52.6
292D Altoona	W292EZ	LIC	_CN PA	243.0 62.4	76.67 BLFT20161201AGL	40 54 08.20 77 46 06.00	0.250	1.1 372	8.8	53.4	64.8
290D Pottsville	W290DP	LIC	DCN PA	131.8 312.3	86.32 BLFT20180821AAL	40 41 55.30 76 11 39.70	0.250	10.1 324	7.0	57.7	56.5
287B Hornell	WKPK	LIC	_CN NY	333.8 153.3	133.37 BLH19880614KB	42 17 32.30 77 40 26.00	43.000 162	5.7 694	64.8	102.2	66.4
286B Ephrata	WIOV-FM	LIC	_CN PA	149.6 330.1	134.06 BLH19980603KD	40 10 30.30 76 09 29.80	25.000 214	5.6 360	63.3	113.1	70.4
287D Elmira	WKPK-FM2	LIC	DVN NY	6.1 186.2	95.51 BLFTB20160107AAM	42 04 23.20 76 50 02.80	0.032	0.0 350	1.6	73.7	93.4
286D Waverly	W286CS	LIC	DCN NY	22.5 202.8	96.28 BLFT20140424AGV	42 01 04.20 76 30 40.70	0.150 -31	0.7 333	5.4	77.1	89.8
291D Scranton	W291AP	LIC	DCN PA	76.6 257.4	103.99 BLFT20060412AAJ	41 25 41.20 75 44 48.60	0.010 371	0.1 707	8.7	80.6	94.2
289A Portage	WLKJ	LIC	_CN PA	237.6 56.5	170.89 BMLD20060201AWR	40 22 59.30 78 39 30.10	3.000 98	61.5 741	14.1	88.6	84.8

											Page # 2	
CH CITY	CALL	TYPE STATE	ANT	AZI <--	DIST FILE #	LAT LNG	PWR(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap	*OUT* in km)	
235B Harrisburg	WRBT	LIC DEN PA		179.6 359.7	100.15 BMLH20020131AAD	40 18 58.30 76 56 59.90	25.000 213	19.5 370	5.9 Ihm Licenses, LLC	14.5R	85.7M	
288B1 Brookville	WMKX	LIC NCN PA		267.2 85.9	177.11 BLH19980611KC	41 07 21.20 79 03 50.10	16.000 126	53.2 595	39.8 Strattan Broadcasting, Inc	97.6	89.7	
290B1 Little Valley	WGWE	LIC _CN NY		307.1 125.9	190.04 BLH20100301ACS	42 13 58.20 78 47 46.10	7.000 191	59.2 722	45.4 Seneca Broadcasting, LLC	104.5	94.2	
292A Mount Union	AL7165	RSV-A PA	___	215.7 35.1	131.39 RM10818	40 15 18.30 77 51 39.99	6.000 100	1.6 430	15.8 western North Carolina Pub	106.6	95.5	
292A Mount Union	WDBF-FM	LIC NCN PA		222.0 41.4	119.70 BLH20060222AAH	40 24 53.30 77 54 12.00	0.120 439	0.8 728	19.9 Southern Belle, LLC	95.7	95.6	
289L1 Marlborough	WEMA-LP	LIC _CN PA		127.2 308.1	159.57 BLL20170202ABM	40 20 33.30 75 27 29.60	0.024 61	179	126.2 County Of Montgomery		99.3	
292D Lehigh Township	W292EQ	LIC DCN PA		113.9 294.8	121.70 BLFT20170112ACF	40 46 04.30 75 38 18.70	0.010	0.1 268	1.8 Beacon Broadcasting Corp.	101.0	118.5	
292A Smethport	WXMT	LIC _CN PA		299.4 118.5	136.18 BMLH20090202ACF	41 48 36.20 78 23 09.00	1.030 240	2.0 803	28.6 Twilight Broadcasting, Inc	107.6	106.4	
289L1 Geneva	WHWS-LP	LIC _CN NY		359.2 179.2	182.12 BLL20030728AAA	42 51 27.20 76 59 19.80	0.100 14	195	140.7 Hobart And William Smith C		110.2	
289B St Catharines	CHREFM	LIC DHN ON		319.2 137.7	278.88	43 05 38.20 79 12 04.20	50.000 143	134.0 300	61.0 118.2		115.1	
289B Catonsville	WJZ-FM	LIC DCN MD		170.5 350.8	213.16 BMLH20121003ABI	39 19 26.40 76 32 54.90	50.000 150	79.9 202	36.3 Audacy License, LLC	116.0	116.4	
289B St. Catharines	R53714	ON	___	318.5 137.0	282.67	43 05 55.19 79 15 45.19	50.000 150	133.8 300	65.0 122.1		118.7	
287A Hawley	WYCY	LIC NCN PA		74.3 255.4	154.11 BLH19930908KB	41 34 45.30 75 10 40.60	2.900 146	2.4 517	25.9 Bold Gold Media Group, L.P	128.6	126.2	
289D Johnstown	WLKJ-FM1	LIC _CN PA		239.6 58.3	192.90 BLFTB20081118AKB	40 19 28.20 78 55 00.00	0.342	25.8 405	7.7 Educational Media Foundati	144.9	126.3	
235A Port Allegany	WHKS	LIC _CN PA		299.4 118.5	136.18 BMLH20020312AAF	41 48 36.20 78 23 09.00	1.150 231	19.5 792	5.9 L-Com Inc.	9.5R	126.7M	
287B Philadelphia	WDAS-FM	LIC _CN PA		131.5 312.6	195.39 BLH19930208KK	40 02 30.40 75 14 22.60	16.500 266	5.9 334	67.6 Ihm Licenses, LLC	170.7	127.1	
289L1 Plymouth	WEMZ-LP	LIC _CN PA		130.6 311.7	185.88 BLL20170206ABJ	40 07 11.30 75 17 53.60	0.024 61	140	148.7 County Of Montgomery		128.4	

Terrain database is NGDC 30 SEC , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM
In & Out distances between contours are shown at closest points. Reference zone= East 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.
« = Station meets FCC minimum distance spacing for its class.

* No actual interference will be caused to either WILQ or W291DR (CP) since the 106.7 DBU interference contour will not cover any population. See the Technical Statement for more details.

WILQ

BLH19890403KA

Latitude: 41-11-43.20 N

Longitude: 076-58-16.80 W

ERP: 9.20 kW

Channel: 286

Frequency: 105.1 MHz

AMSL Height: 608.0 m

Elevation: 573.0 m

Horiz. Pattern: Omni

Vert. Pattern: No

Prop Model: None

W289CV

0000131122

Latitude: 41-13-05 N

Longitude: 076-57-26 W

ERP: 0.25 kW

Channel: 289

Frequency: 105.7 MHz

AMSL Height: 640.0 m

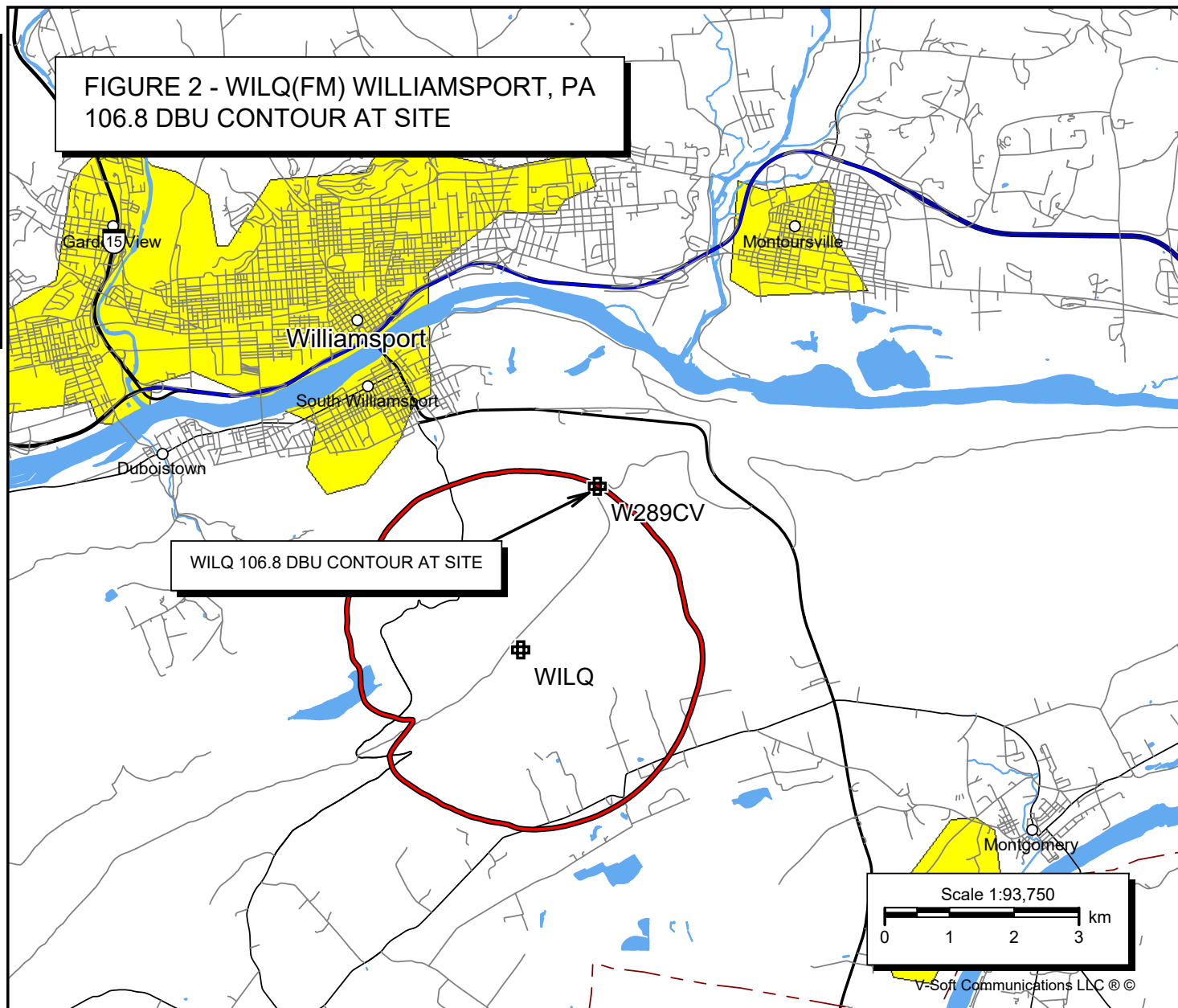
Elevation: 528.662 m

Horiz. Pattern: Directional

Vert. Pattern: No

Prop Model: None

**FIGURE 2 - WILQ(FM) WILLIAMSPORT, PA
106.8 DBU CONTOUR AT SITE**



WILQ 106.8 DBU CONTOUR AT SITE

W289CV

WILQ

Scale 1:93,750

0 1 2 3 km

V-Soft Communications LLC ©

W289CV

0000131122

Latitude: 41-13-05 N

Longitude: 076-57-26 W

ERP: 0.25 kW

Channel: 289

Frequency: 105.7 MHz

AMSL Height: 640.0 m

Elevation: 528.662 m

Horiz. Pattern: Directional

Vert. Pattern: No

Prop Model: None

**FIGURE 3 - W291DR MUNCY, PA
66.7 DBU CONTOUR AT SITE**

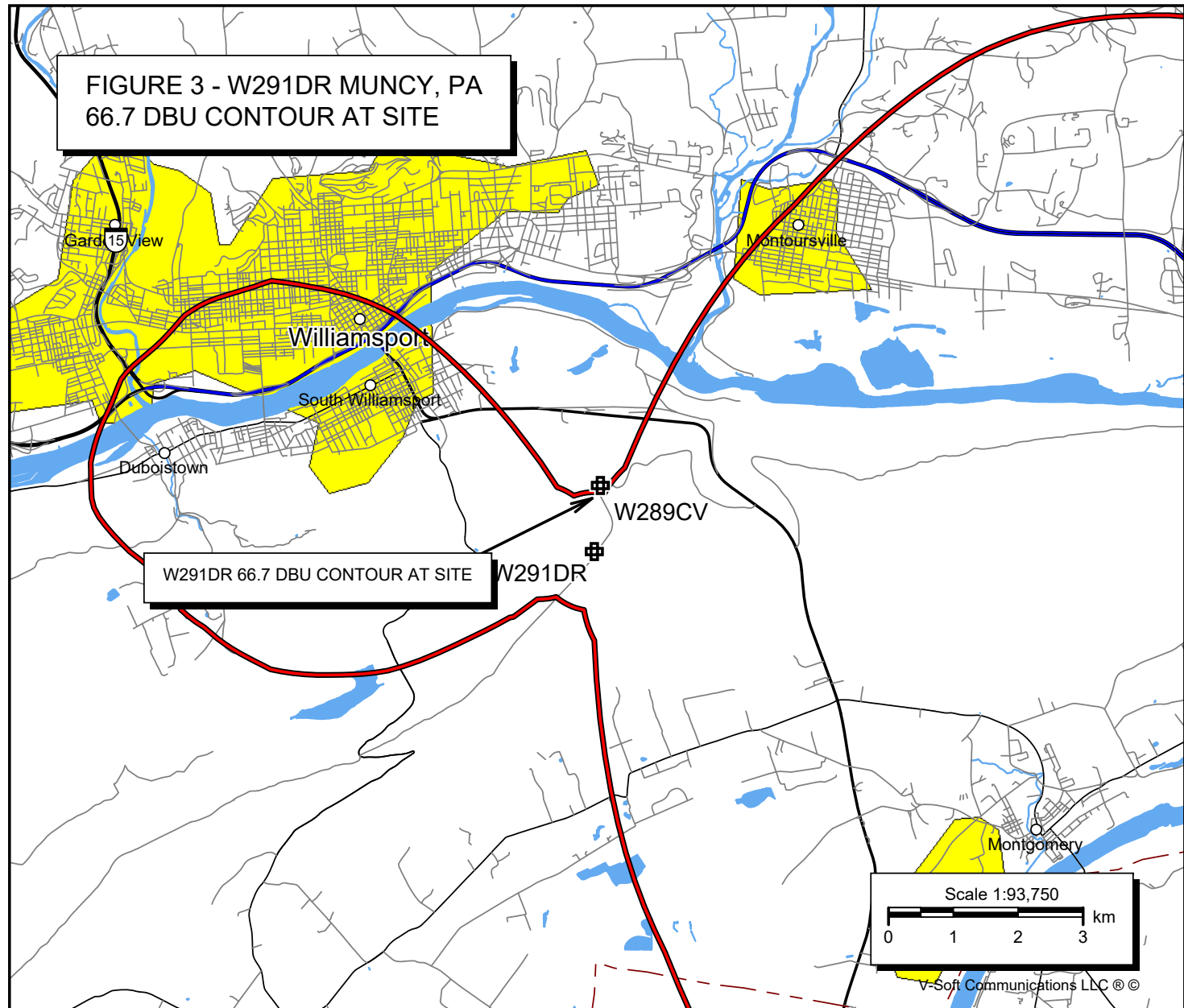


FIGURE 4 - PREDICTED 100 DBU CONTOUR
W289CV Montoursville, PA, Ch. 289D

Coverage Study - NGDC 30 SEC
09-29-2021

W289CV CH289 D , 0.25 kW, 377.2m HAAT, 640.0m COR AMSL
Interference Contour = 100 dBu.
Population = 0

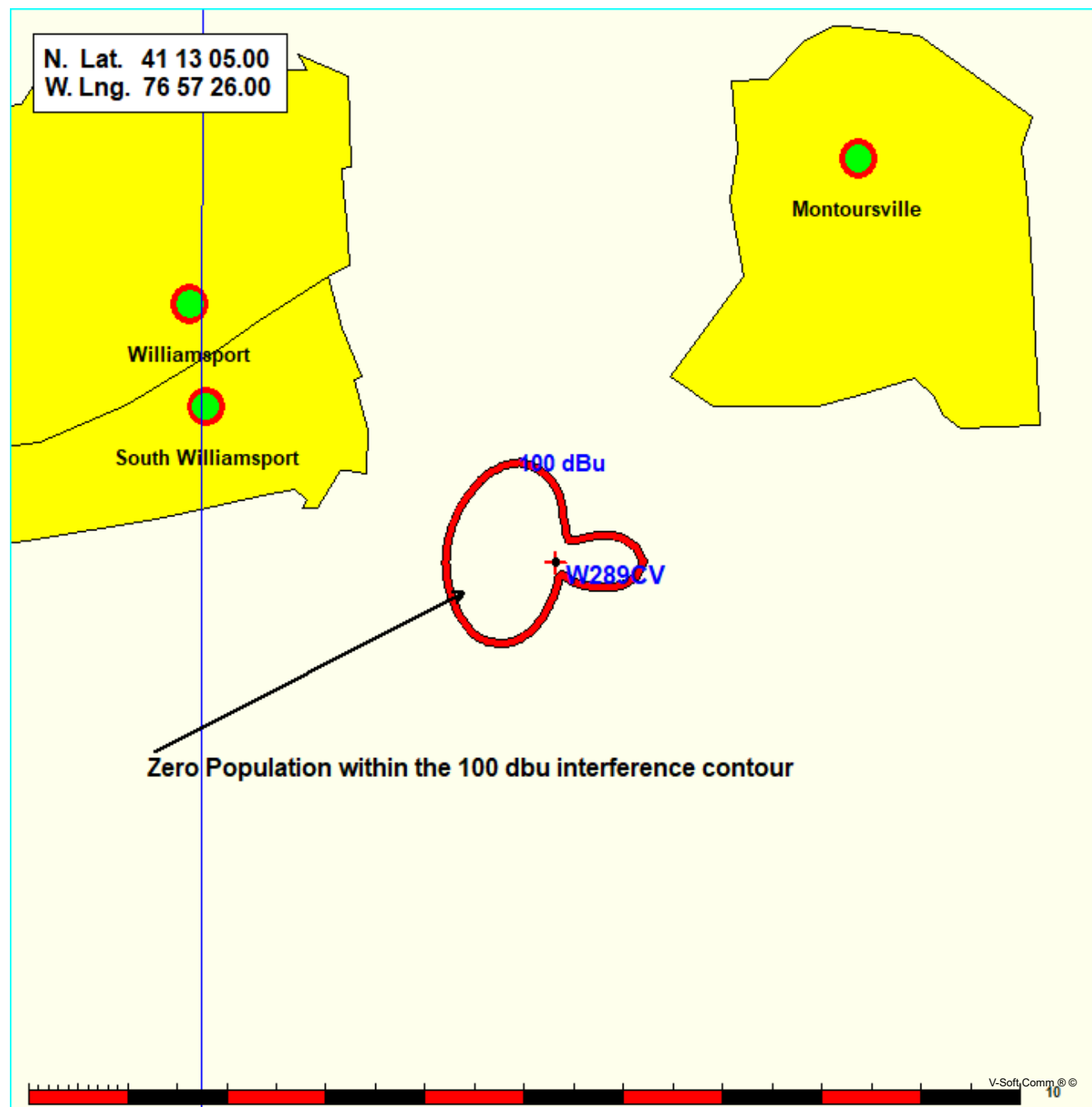


FIGURE 5 - VERTICAL PATTERN STUDY

W289CV Montoursville, PA, Showing Protection to W291DR, Channel: 291
 Geographic Coordinates: N. 41 13 05.00 W. 76 57 26.00
 74.1204(d) Study - Using NGDC 30 SEC Terrain Database
 Translator or LPFM Maximum Licensed ERP = 0.25 kW, Channel: 289
 Translator or LPFM Antenna Height AG = 76.1 meters
 W289CV Antenna Azimuth Model = Vertical Model Name = Nicom BKG-1P

Protected Station's Contour = 66.71905 dBu
 Translator's or LPFM's full Interference contour 106.71905

Review Azimuth = 0 Degrees True
 Horizontal Relative Field at Review Azimuth = 0.660
 Translator/LPFM ERP on the horizontal at Review Azimuth = 0.109 kW
 Distance between stations = 1.0 km
 Protected Station= W291DR, .25 kW, 629.1 M meters COR AMSL

Depression Angle From Degree(Deg)	Vertical Relative Field	Horizontal Relative Field	ERP (kw)	Dist to IX Contour Along Dep. Angle(m)	Dist to IX Contour From Tower Base(m)	Height IX Above Ground (m)
00.00	1.0	0.66	0.1650	415.7091	415.7091	076.100
05.00	0.99	0.66	0.1617	411.5520	409.9859	040.231
10.00	0.978	0.66	0.1577	406.3556	400.1822	005.537
15.00	0.958	0.66	0.1513	398.0414	384.4785	-026.921
20.00	0.915	0.66	0.1381	380.3738	357.4344	-053.995
25.00	0.865	0.66	0.1235	359.5883	325.8977	-075.869
30.00	0.808	0.66	0.1076	335.6851	290.7118	-091.743
35.00	0.745	0.66	0.0916	309.7032	253.6940	-101.538
40.00	0.675	0.66	0.0752	280.6036	214.9548	-104.269
45.00	0.595	0.66	0.0584	247.3469	174.9007	-098.801
50.00	0.51	0.66	0.0429	212.0116	136.2784	-086.310
55.00	0.43	0.66	0.0305	178.7549	102.5296	-070.327
60.00	0.345	0.66	0.0196	143.4196	071.7098	-048.105
65.00	0.265	0.66	0.0116	110.1629	046.5569	-023.741
70.00	0.19	0.66	0.0060	078.9847	027.0144	001.879
75.00	0.125	0.66	0.0026	051.9636	013.4492	025.907
80.00	0.075	0.66	0.0009	031.1782	005.4140	045.395
85.00	0.055	0.66	0.0005	022.8640	001.9927	053.323
90.00	0.05	0.66	0.0004	020.7855	000.0000	055.315

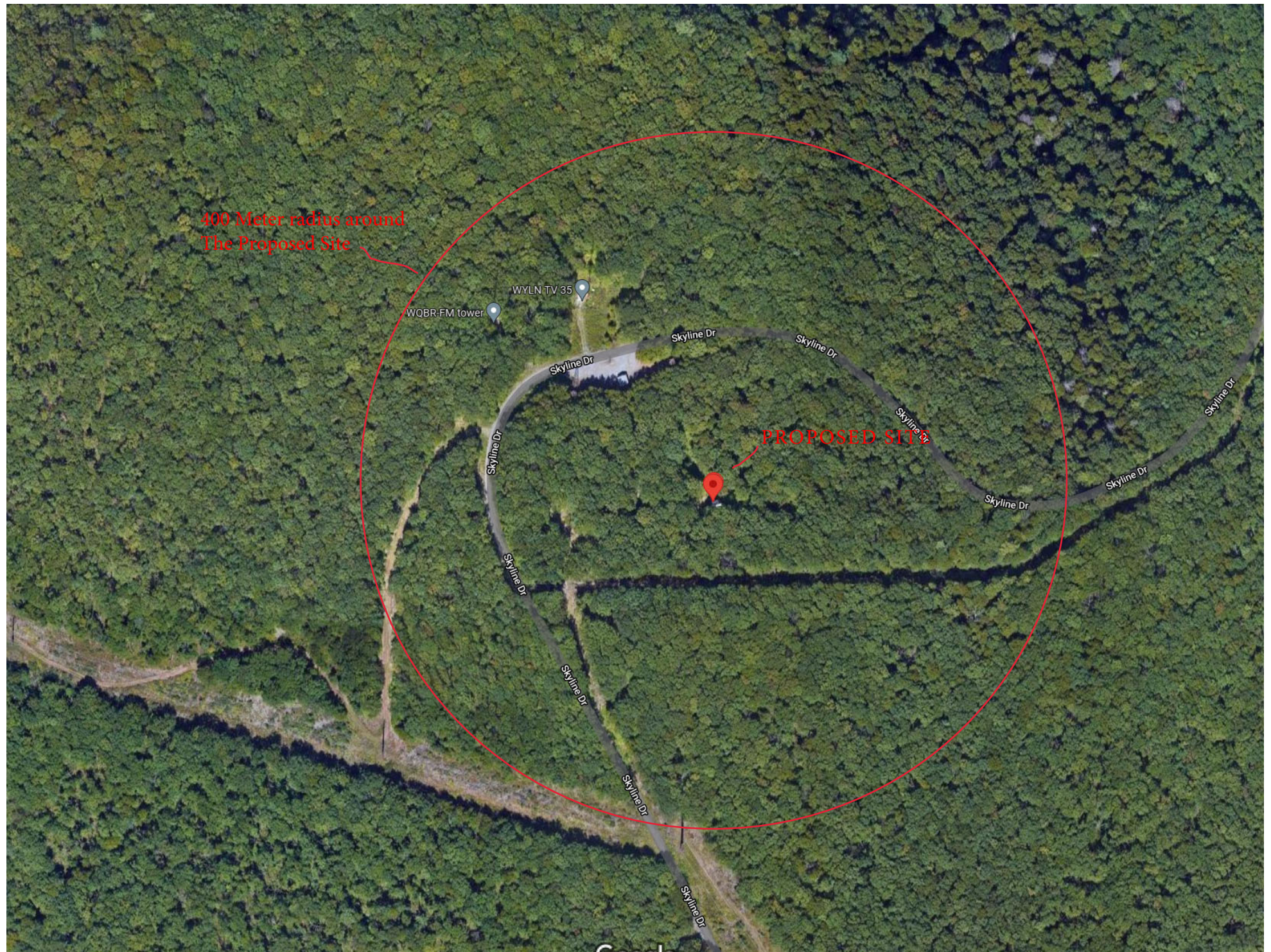


FIGURE 7 - DIRECTIONAL ANTENNA DATA

w289cv Montoursville, PA, CH. 289D

09-29-2021

RMS(V)= .722

Graph is Relative Field

Azi	Field	dBk	kw
000	0.660	-09.630	0.109
010	0.390	-14.199	0.038
020	0.260	-17.721	0.017
030	0.225	-18.977	0.013
040	0.240	-18.416	0.014
050	0.320	-15.918	0.026
060	0.470	-12.579	0.055
070	0.630	-10.034	0.099
080	0.735	-08.695	0.135
090	0.795	-08.013	0.158
100	0.735	-08.695	0.135
110	0.630	-10.034	0.099
120	0.470	-12.579	0.055
130	0.320	-15.918	0.026
140	0.225	-18.977	0.013
150	0.135	-23.414	0.005
160	0.125	-24.082	0.004
170	0.135	-23.414	0.005
180	0.240	-18.416	0.014
190	0.390	-14.199	0.038
200	0.660	-09.630	0.109
210	0.840	-07.535	0.176
220	0.945	-06.512	0.223
230	0.990	-06.108	0.245
240	1.000	-06.021	0.250
250	1.000	-06.021	0.250
260	1.000	-06.021	0.250
270	1.000	-06.021	0.250
280	1.000	-06.021	0.250
290	1.000	-06.021	0.250
300	1.000	-06.021	0.250
310	1.000	-06.021	0.250
320	1.000	-06.021	0.250
330	0.990	-06.108	0.245
340	0.945	-06.512	0.223
350	0.840	-07.535	0.176

Nicom BKG-1P Custom
Oriented at 280
degrees

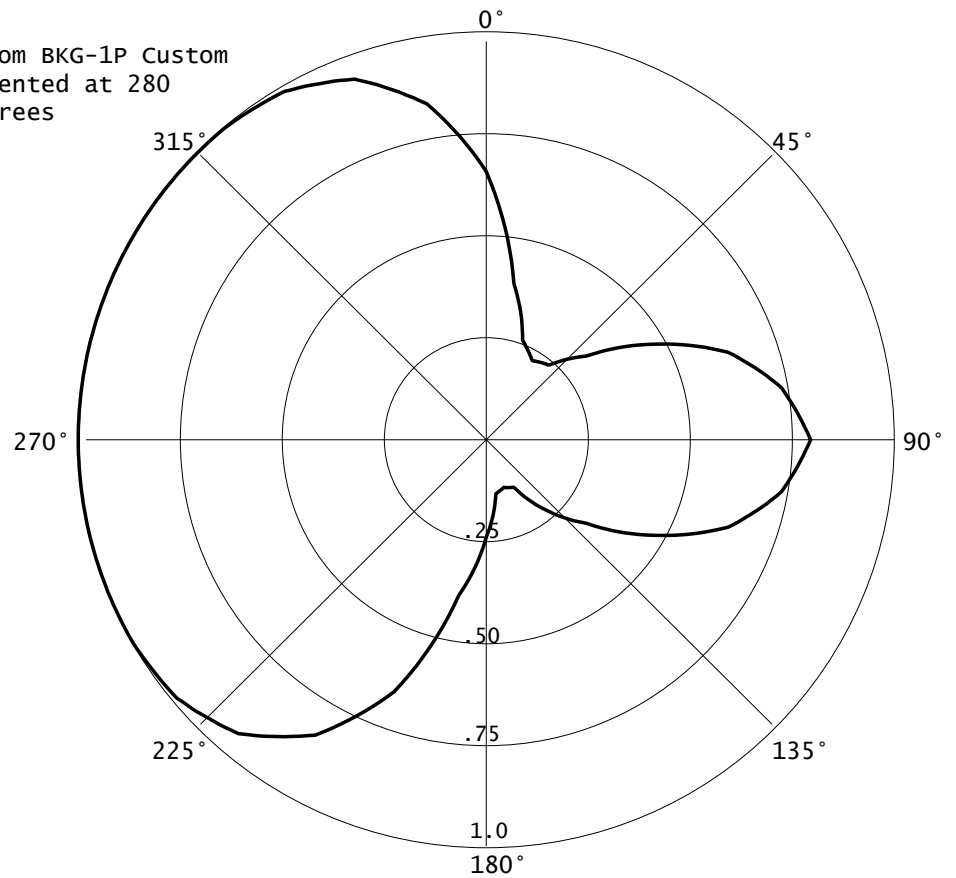
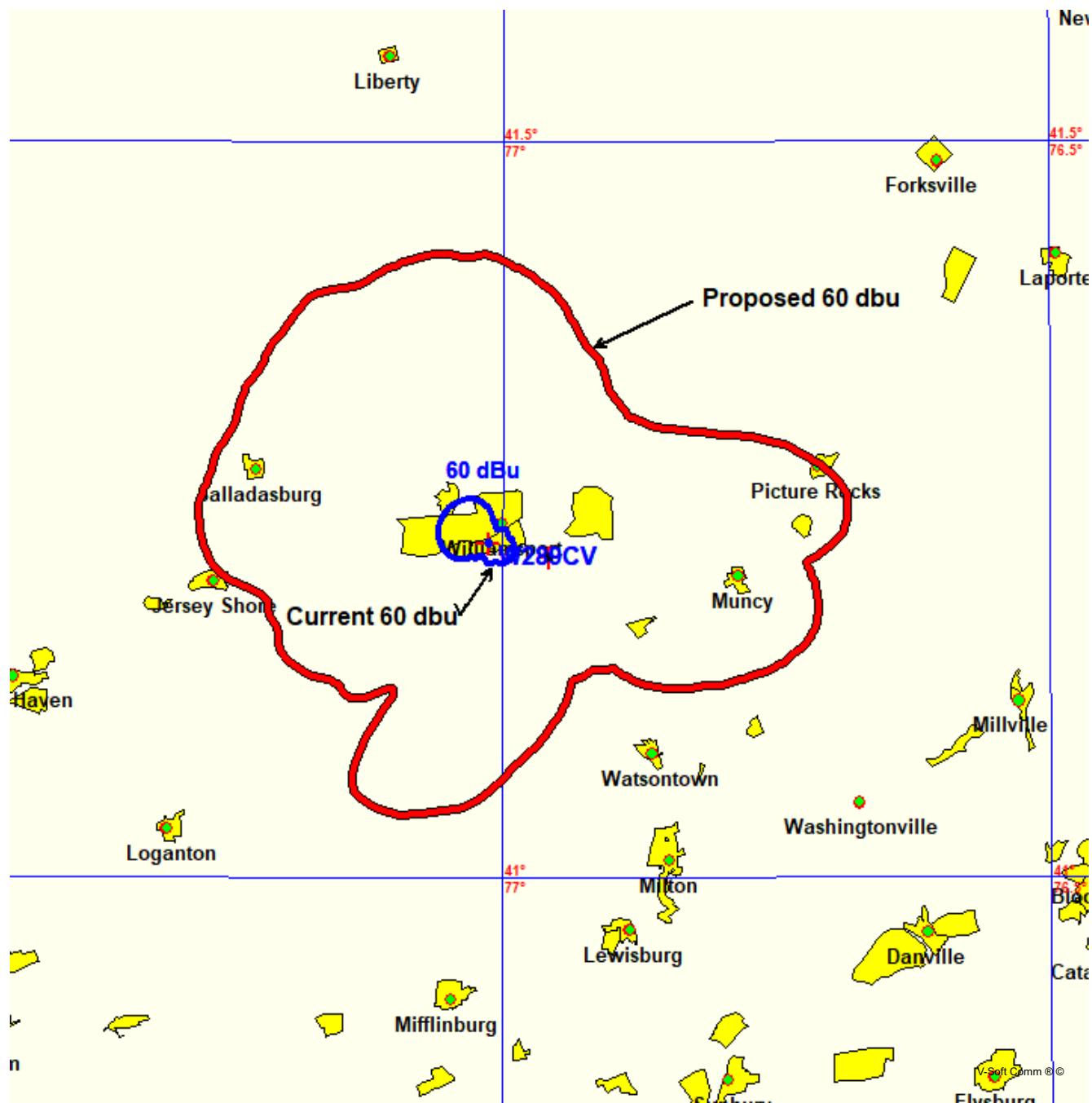


FIGURE 8 - PRESENT AND PROPOSED 60 DBU CONTOURS
W289CV Montoursville, PA, Ch. 289D

Coverage Study - NGDC 30 SEC
09-29-2021



WILQ

BLH19890403KA

Latitude: 41-11-43.20 N

Longitude: 076-58-16.80 W

ERP: 9.20 kW

Channel: 286

Frequency: 105.1 MHz

AMSL Height: 608.0 m

Elevation: 573.0 m

Horiz. Pattern: Omni

Vert. Pattern: No

Prop Model: None

W289CV

0000131122

Latitude: 41-13-05 N

Longitude: 076-57-26 W

ERP: 0.25 kW

Channel: 289

Frequency: 105.7 MHz

AMSL Height: 640.0 m

Elevation: 528.662 m

Horiz. Pattern: Directional

Vert. Pattern: No

Prop Model: None

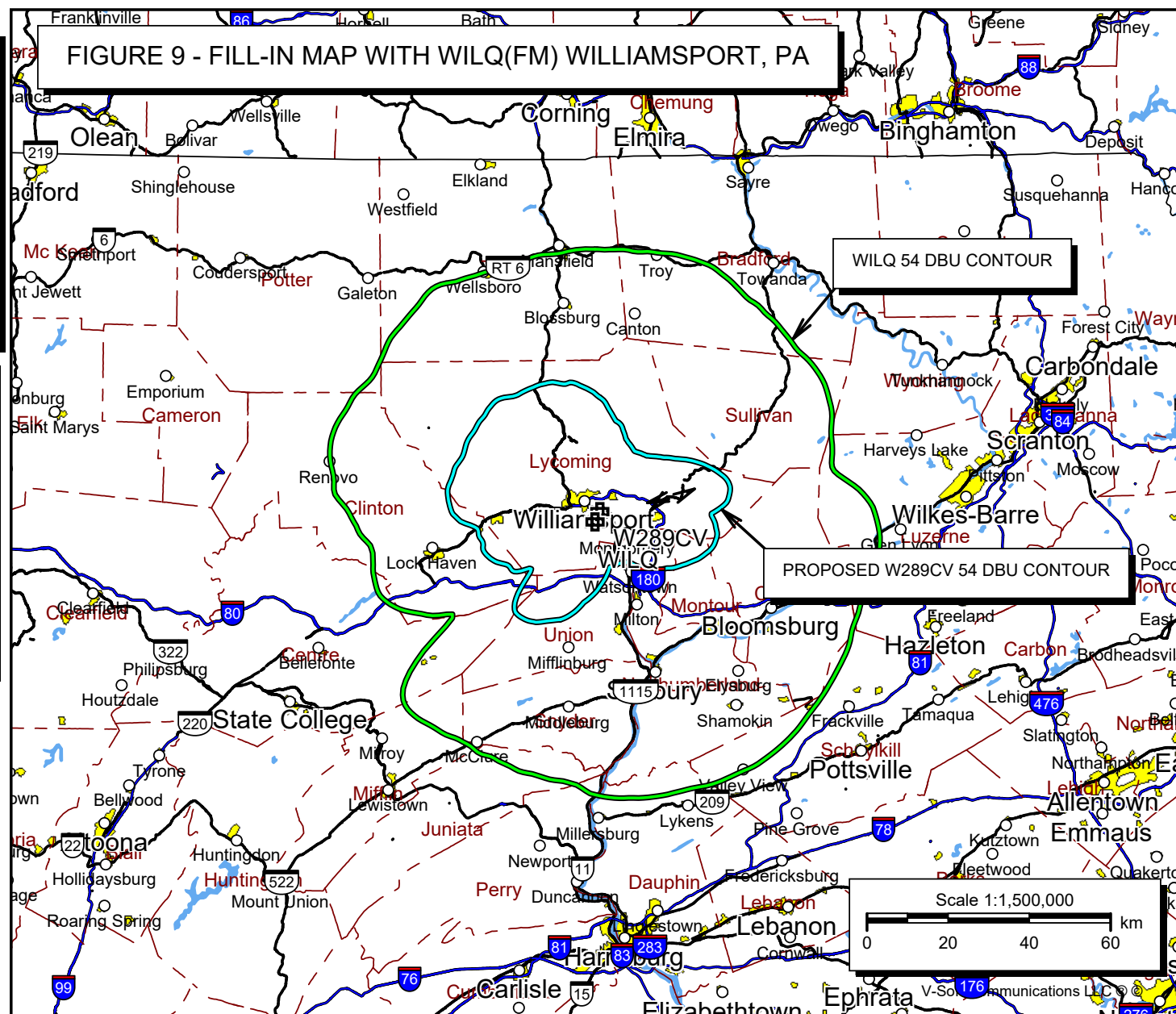
FIGURE 9 - FILL-IN MAP WITH WILQ(FM) WILLIAMSPORT, PA

FIGURE 10 - PREDICTED 34 DBU INTERFERENCE CONTOUR
W289CV Montoursville, PA, Ch. 289D

Coverage Study - NGDC 30 SEC
09-29-2021

W289CV CH289 D , 0.25 kW, 377.2m HAAT, 640.0m COR AMSL
Service Contour = 34 dBu.

