

Engineering Statement  
Proposed Modification of W240BE

This modification proposes to move the transmitter location to an existing tower located south of St. Marys, West Virginia. St. Marys is across the Ohio River from Newport, Ohio, hence the translator would serve essentially the same community. A city of license change is not proposed. This site became available recently when a tenant on this tower (a paging company) removed its antenna. The primary use of this tower is for FM broadcast station WRRR-FM, St. Marys, WV.

This site has several advantages. First, there is line-of-sight coverage of most of Newport, Ohio. Second, no tower construction would be required, only the installation of antenna and feedline on an existing tower. Third, the translator equipment can be mounted inside the WRRR-FM transmitter building. Tests have been run at this site, and there is no problem receiving primary station WMRT.

The following tables demonstrate that the proposed modification will not result in interference to any other facility. Table I lists the distance from this new site to pertinent co-channel and adjacent channel stations. Table II lists the coverage contours and interfering contours for W240BE as proposed at this new site.

The closest station is WVVP-LP at Marietta, Ohio, on 96.1, Ch. 241. It is, as Table I demonstrates, 21.88 kilometers away at a bearing of 281 degrees (101 degrees return bearing). Table III is a table of the distances to the protected 60 dbu contour of WVVP-LP. Table IV is an expanded table, showing the distances to the 60 dbu contour of WVVP-LP over an arc of 91 degrees to 111 degrees, toward the new site proposed for W240BE. Section 74.1204 apparently requires that the 54 dbu contour of W240BE not overlap this protected 60 dbu contour. Table V, again an arc of 271 to 291 degrees, demonstrates that the 54 dbu 50/10 contour will extend no more than 9 km. towards WVVP-LP. This leaves a margin of about 7 kilometers between the protected and interfering contours of the two facilities.

Environmental: This is an existing tower, with a variety of antennas already installed. There has been a tower at this location for over 20 years. The additional 14 watts (H+V) at 21 meters AG (70 feet AG), will have no significant impact on RF exposure at this site. Normal practice of the site owner is to cease transmissions when work is required on the tower.

Table I  
Spacing for W240BE  
39 Degrees, 22' 49" North, 81 Degrees, 11'36" West

95.3 MHz.	No nearby stations	
95.5 MHz.	WHOK, Lancaster, Ohio (B)	131.64 Km.
	Burnsville, WV (A- Prop. Alloc.)	74.34 Km.
95.7 MHz.	WVKF, Shadyside, Ohio (A)	84.54 Km.
95.9 MHz.	WJKW, Athens, Ohio (A)	77.38 Km.
	WDKL, Grafton, WV (A)	100.8 Km.
96.1 MHz.	WVVP-LP, Marietta, OH.(D)	21.88 Km.
	WKWS, Charleston, WV (B)	119.12 Km.
96.3	WOTR, Lost Creek, WV (A)	79.13 Km
96.5	WRKP, Moundsville, WV (A)	64.02 Km.

No stations within 50 km. on the IF beat frequencies of 106.5 or 106.7.

Table II  
Projected Contours for W240BE

N. Lat. = 39 22 49    W. Lng. = 81 11 36  
HAAT and Distance to Contour - FCC Method - 30 Arc Sec.

W240BE, Proposed Modification

Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5	54-F1	34-F1
000	260.7	95.3	0.0070	-21.55	1.000	5.21	7.30	24.44
010	264.0	92.0	0.0070	-21.55	1.000	5.12	7.17	23.98
020	250.7	105.3	0.0070	-21.55	1.000	5.49	7.69	25.77
030	258.9	97.1	0.0070	-21.55	1.000	5.27	7.37	24.69
040	246.0	110.0	0.0070	-21.55	1.000	5.62	7.86	26.36
050	280.7	75.3	0.0070	-21.55	1.000	4.60	6.47	21.56
060	235.9	120.1	0.0070	-21.55	1.000	5.86	8.21	27.51
070	248.0	108.0	0.0070	-21.55	1.000	5.57	7.79	26.11
080	263.3	92.7	0.0070	-21.55	1.000	5.14	7.20	24.07
090	276.7	79.3	0.0070	-21.55	1.000	4.73	6.64	22.15
100	254.0	102.0	0.0070	-21.55	1.000	5.40	7.56	25.34
110	287.9	68.1	0.0070	-21.55	1.000	4.38	6.16	20.49
120	297.3	58.7	0.0070	-21.55	1.000	4.09	5.76	19.06
130	294.8	61.2	0.0070	-21.55	1.000	4.17	5.87	19.46
140	284.9	71.1	0.0070	-21.55	1.000	4.47	6.29	20.95
150	297.7	58.3	0.0070	-21.55	1.000	4.08	5.74	19.01
160	294.4	61.6	0.0070	-21.55	1.000	4.19	5.88	19.53
170	290.2	65.8	0.0070	-21.55	1.000	4.31	6.06	20.15
180	288.5	67.5	0.0070	-21.55	1.000	4.36	6.13	20.40
190	288.7	67.3	0.0070	-21.55	1.000	4.36	6.12	20.37
200	296.1	59.9	0.0070	-21.55	1.000	4.13	5.81	19.27
210	285.0	71.0	0.0070	-21.55	1.000	4.47	6.28	20.92
220	279.8	76.2	0.0070	-21.55	1.000	4.63	6.51	21.70
230	270.8	85.2	0.0070	-21.55	1.000	4.91	6.89	23.01
240	263.2	92.8	0.0070	-21.55	1.000	5.14	7.20	24.09
250	242.1	113.9	0.0070	-21.55	1.000	5.72	7.99	26.82
260	228.1	127.9	0.0070	-21.55	1.000	6.02	8.46	28.32
270	232.9	123.1	0.0070	-21.55	1.000	5.92	8.31	27.82
280	235.8	120.2	0.0070	-21.55	1.000	5.86	8.21	27.52
290	246.9	109.1	0.0070	-21.55	1.000	5.59	7.83	26.24
300	252.9	103.1	0.0070	-21.55	1.000	5.43	7.60	25.48
310	265.4	90.6	0.0070	-21.55	1.000	5.07	7.11	23.78
320	268.2	87.8	0.0070	-21.55	1.000	4.99	6.99	23.38
330	275.5	80.5	0.0070	-21.55	1.000	4.77	6.69	22.33
340	263.3	92.7	0.0070	-21.55	1.000	5.14	7.20	24.07
350	265.9	90.1	0.0070	-21.55	1.000	5.06	7.09	23.71

Ave El= 267.64 M    HAAT= 88.36 M    AMSL= 356 M

Table III  
Protected (60 dbu) Contour of WVVP-LP, Marietta, Ohio

N. Lat. = 39 25 07    W. Lng. = 81 26 33  
HAAT and Distance to Contour - FCC Method - 30 Arc Sec.

WVVP-L, Fellowship Baptist Church , BLL20020814AAA						
Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	245.1	15.9	0.0930	-10.32	1.000	5.53
010	243.9	17.1	0.0930	-10.32	1.000	5.53
020	240.3	20.7	0.0930	-10.32	1.000	5.53
030	246.9	14.1	0.0930	-10.32	1.000	5.53
040	249.3	11.7	0.0930	-10.32	1.000	5.53
050	252.2	8.8	0.0930	-10.32	1.000	5.53
060	250.4	10.6	0.0930	-10.32	1.000	5.53
070	239.1	21.9	0.0930	-10.32	1.000	5.53
080	256.7	4.3	0.0930	-10.32	1.000	5.53
090	251.9	9.1	0.0930	-10.32	1.000	5.53
100	246.7	14.3	0.0930	-10.32	1.000	5.53
110	229.8	31.2	0.0930	-10.32	1.000	5.63
120	224.4	36.6	0.0930	-10.32	1.000	6.07
130	226.5	34.5	0.0930	-10.32	1.000	5.90
140	218.6	42.4	0.0930	-10.32	1.000	6.52
150	217.4	43.6	0.0930	-10.32	1.000	6.62
160	241.3	19.7	0.0930	-10.32	1.000	5.53
170	248.5	12.5	0.0930	-10.32	1.000	5.53
180	244.0	17.0	0.0930	-10.32	1.000	5.53
190	237.3	23.7	0.0930	-10.32	1.000	5.53
200	242.4	18.6	0.0930	-10.32	1.000	5.53
210	239.7	21.3	0.0930	-10.32	1.000	5.53
220	206.1	54.9	0.0930	-10.32	1.000	7.47
230	204.9	56.1	0.0930	-10.32	1.000	7.56
240	240.3	20.7	0.0930	-10.32	1.000	5.53
250	249.8	11.2	0.0930	-10.32	1.000	5.53
260	243.6	17.4	0.0930	-10.32	1.000	5.53
270	247.3	13.7	0.0930	-10.32	1.000	5.53
280	252.3	8.7	0.0930	-10.32	1.000	5.53
290	247.1	13.9	0.0930	-10.32	1.000	5.53
300	254.9	6.1	0.0930	-10.32	1.000	5.53
310	248.7	12.3	0.0930	-10.32	1.000	5.53
320	234.1	26.9	0.0930	-10.32	1.000	5.53
330	214.9	46.1	0.0930	-10.32	1.000	6.81
340	220.9	40.1	0.0930	-10.32	1.000	6.34
350	242.0	19.0	0.0930	-10.32	1.000	5.53

Ave El= 238.87 M    HAAT= 22.13 M    AMSL= 261 M

**Table IV**  
**WVVP-LP Protected Contour (expanded)**

N. Lat. = 39 25 07    W. Lng. = 81 26 33  
 HAAT and Distance to Contour - FCC Method - 30 Arc Sec.

WVVP-L, Fellowship Baptist Church , BLL20020814AAA						
Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
091	249.1	11.9	0.0930	-10.32	1.000	5.53
092	250.2	10.8	0.0930	-10.32	1.000	5.53
093	251.4	9.6	0.0930	-10.32	1.000	5.53
094	252.6	8.4	0.0930	-10.32	1.000	5.53
095	254.1	6.9	0.0930	-10.32	1.000	5.53
096	253.0	8.0	0.0930	-10.32	1.000	5.53
097	251.4	9.6	0.0930	-10.32	1.000	5.53
098	249.8	11.2	0.0930	-10.32	1.000	5.53
099	247.5	13.5	0.0930	-10.32	1.000	5.53
100	246.7	14.3	0.0930	-10.32	1.000	5.53
101	246.4	14.6	0.0930	-10.32	1.000	5.53
102	245.2	15.8	0.0930	-10.32	1.000	5.53
103	242.6	18.4	0.0930	-10.32	1.000	5.53
104	238.3	22.7	0.0930	-10.32	1.000	5.53
105	234.5	26.5	0.0930	-10.32	1.000	5.53
106	232.2	28.8	0.0930	-10.32	1.000	5.53
107	231.5	29.5	0.0930	-10.32	1.000	5.53
108	231.1	29.9	0.0930	-10.32	1.000	5.53
109	230.2	30.8	0.0930	-10.32	1.000	5.60
110	229.8	31.2	0.0930	-10.32	1.000	5.63
111	229.8	31.2	0.0930	-10.32	1.000	5.63

Ave El= 242.75 M    HAAT= 18.25 M    AMSL= 261 M

Table V  
Proposed W240BE Towards WVVP-LP (Expanded)

N. Lat. = 39 22 49    W. Lng. = 81 11 36  
HAAT and Distance to Contour - FCC Method - 30 Arc Sec.

W240BE, Proposed Modification						
Azi.	AV EL	HAAT	ERP kW	dBk	Field	54-F1
271	232.4	123.6	0.0070	-21.55	1.000	8.32
272	230.7	125.3	0.0070	-21.55	1.000	8.38
273	228.4	127.6	0.0070	-21.55	1.000	8.45
274	227.3	128.7	0.0070	-21.55	1.000	8.49
275	227.2	128.8	0.0070	-21.55	1.000	8.49
276	227.9	128.1	0.0070	-21.55	1.000	8.47
277	229.5	126.5	0.0070	-21.55	1.000	8.42
278	231.8	124.2	0.0070	-21.55	1.000	8.34
279	233.8	122.2	0.0070	-21.55	1.000	8.28
280	235.8	120.2	0.0070	-21.55	1.000	8.21
281	237.2	118.8	0.0070	-21.55	1.000	8.17
282	237.0	119.0	0.0070	-21.55	1.000	8.17
283	236.8	119.2	0.0070	-21.55	1.000	8.18
284	236.5	119.5	0.0070	-21.55	1.000	8.19
285	237.1	118.9	0.0070	-21.55	1.000	8.17
286	237.9	118.1	0.0070	-21.55	1.000	8.14
287	239.5	116.5	0.0070	-21.55	1.000	8.09
288	241.6	114.4	0.0070	-21.55	1.000	8.01
289	244.1	111.9	0.0070	-21.55	1.000	7.93
290	246.9	109.1	0.0070	-21.55	1.000	7.83
291	249.3	106.7	0.0070	-21.55	1.000	7.74

Ave El= 235.65 M    HAAT= 120.35 M    AMSL= 356 M