

MINOR CHANGE APPLICATION
WILLIAMSBURG'S RADIO STATION INC.
NEW FM TRANSLATOR STATION
CH 228D - 93.5 MHz - 0.1 KW
WILLIAMSBURG, VIRGINIA
December 2017

EXHIBIT B

Interference Study for New FM Translator
Using Proposed Site as Reference

The proposed new FM translator on Channel 228D, operating with an effective radiated power of 0.1 kilowatt, will not cause interference to any existing, applied for, or proposed facility. As noted on Exhibit B1, the proposed new translator is within the predicted 54 dBu contour of third adjacent channel stations WVSP, Channel 231B, Yorktown, Virginia and WVBW, Channel 225B, Suffolk, Virginia. Due to the relationship between the proposed new translator and WVSP and WVBW, a 40 db ratio of the protected and interfering contours applies. The proposed NEW Translator will utilize a Shively 6812B-6-HW antenna.

The WVSP contour at the new translator's antenna site is in excess of 70.1 dBu (50/50). The corresponding interfering contour for the new translator is 110.1 dBu (50/10) (Exhibit B2). As shown in the tabulation of desired to undesired contours (Exhibit B3), the new translator's interfering contour (110.1 dBu, FCC 50/10) will not reach ground level. Since the new translator's antenna will be mounted 57.9 meters (190 feet) above ground and there are no structures of comparable height in the vicinity of the proposed new translator antenna, this contour never reaches any potentially occupied space. As such, WVSP will not receive interference from the proposed translator.

The WVBW contour at the new translator's antenna site is in excess of 57.3 dBu (50/50). The corresponding interfering contour for the new translator is 114.7 dBu (50/10) (Exhibit B4). As shown in the tabulation of desired to undesired contours (Exhibit B5), the new translator's interfering contour (114.7 dBu, FCC 50/10) will not reach ground level. Since the new translator's antenna will be mounted 57.9 meters (190 feet) above ground and there are no structures of comparable height in the vicinity of the proposed new translator antenna, this contour never reaches any potentially occupied space. As such, WVBW will not receive interference from the proposed translator.

Based on the foregoing, it is believed that the proposed new FM translator is in compliance with §74.1204(d) of the Commission's rules. If a waiver of the rule is needed to address WVSP and/or WVBW, one is respectfully requested.

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EXHIBIT B1

Clearance Study for New Translator
Using Proposed Site as Reference

REFERENCE		CH# 228D - 93.5 MHz, Pwr= 0.1 kW, HAAT= 0.0 M, COR= 126 M							DISPLAY DATES		
37 16 53.9 N.		Average Protected F(50-50)= 5.6 km							DATA 11-28-17		
76 47 48.7 W.		Omni-directional							SEARCH 12-06-17		
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*
228D Williamsburg	1762610!	APP VA	C	0.0 0.0	0.00 BNPFT20170727AGV	37 16 53.9 76 47 48.7	0.200	42.9 126	12.5 Williamsburg's Radio Stati	-53.4	-48.4
231B Yorktown	WVSP-FM	LIC VA	ZCN	109.7 289.8	23.86 BLH19960430KB	37 12 33.0 76 32 35.0	40.000 162	4.1 166	53.0 Mhr License Llc	8.8	-30.5*
229C1 Chesapeake	WNOB	LIC VA	CX	146.2 326.6	97.84 BLH20031015ADL	36 32 55.0 76 11 16.0	100.000 295	104.7 297	72.0 Commonwealth Radio, L.l.c.	-18.2*	9.2
228C3 Blackstone	WBBC-FM	LIC VA	CN	257.2 76.5	111.35 BLH19971210KE	37 03 14.0 78 01 15.0	17.500 120	110.5 230	40.3 Denbar Communications, Inc	-10.6	32.0
225B Suffolk	WVBW	LIC VA	CN	141.3 321.5	57.66 BMLH19880519KD	36 52 35.0 76 23 28.0	50.000 148	6.0 150	65.1 Mhr License Llc	40.3	-8.8*
227D Portsmouth	W227BR	LIC VA	C	138.8 319.1	69.47 BLFT20140206ACM	36 48 37.0 76 16 58.0	0.250 144	23.4 145	15.6 Educational Media Foundati	34.7	37.3
227B Fredericksburg	WFLS-FM	LIC VA	CN	334.0 153.6	127.76 BLH19880809LD	38 18 46.0 77 26 20.0	50.000 150	80.7 200	67.4 Alpha Media Licensee Llc	36.3	37.8
226A Ettrick	WWLB	LIC VA	C	269.4 88.9	68.08 BLH20000918AAA	37 16 21.0 77 33 59.0	5.200 106	2.9 164	30.7 Alpha Media Licensee Llc	53.7	36.7
228B Millsboro	WZBH	LIC DE	ZCX	43.1 224.1	190.60 BLH20160425AAP	38 31 24.0 75 17 55.0	50.000 150	137.7 160	65.1 Adams Radio Of Delmarva Pe	42.0	73.8
229L1 Richmond	WCFC-LP	LIC VA		298.1 117.7	65.67 BLL20080317AEW	37 33 29.0 77 27 15.0	0.072 35			46.0	43.6

Terrain database is FCC 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. Call signs with exclamation marks need not be protected.

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.

Reference station has protected zone issue: AM tower



New Tx - Williamsburg, VA - BNPFT20170801AIU
Latitude: 37-16-53.90 N - Longitude: 076-47-48.70 W
Channel: 228 - Frequency: 93.5 MHz
ERP: 0.10 kW - AMSL Height: 126.0 m

WVSP-FM - Yorktown, VA - BLH19960430KB
Latitude: 37-12-33 N - Longitude: 076-32-35 W
Channel: 231 - Frequency: 94.1 MHz
ERP: 40.00 kW - AMSL Height: 166.0 m

GRAHAM BROCK, INC.
BROADCAST TECHNICAL CONSULTANTS

New Tx

EXHIBIT B2
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 New TX 110.3 dBu (50/10)
 WVSP-FM 70.3 dBu (50/10)

Scale 1:24,000
0 0.33 0.67 1.0 km

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EXHIBIT B3

1762610 Williamsburg, VA, Showing Protection to WVSP-FM
 74.1204(d) Study - Using FCC 30 SEC Terrain Database
 Translator or LPFM Maximum Licensed ERP = 0.1
 Translator or LPFM Antenna Height AG = 110 Meters
 1762610 Antenna Model = Shively 6812B-6-HW

Protected Station's Contour = 70.1 dBu
 Translator's or LPFM's full Interference contour 110.1

Review Azimuth = 0 Degrees True
 Relative Field on the horizon at Review Azimuth = 1.000
 Translator/LPFM ERP on the horizon at Review Azimuth = 0.1 kW
 Distance between stations = 23.9 km
 Protected Station= WVSP-FM, 40 kW, 166 M Meters COR AMSL

Depression Angle From Horizon(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	1.0	0.1000	219.2805	219.2805	110.000
05.00	0.892	1.0	0.0796	195.5982	194.8539	092.952
10.00	0.612	1.0	0.0375	134.1997	132.1609	086.696
15.00	0.268	1.0	0.0072	058.7672	056.7647	094.790
20.00	0.021	1.0	0.0000	004.6049	004.3272	108.425
25.00	0.183	1.0	0.0033	040.1283	036.3686	093.041
30.00	0.209	1.0	0.0044	045.8296	039.6896	087.085
35.00	0.141	1.0	0.0020	030.9186	025.3270	092.266
40.00	0.039	1.0	0.0002	008.5519	006.5512	104.503
45.00	0.048	1.0	0.0002	010.5255	007.4426	102.557
50.00	0.097	1.0	0.0009	021.2702	013.6722	093.706
55.00	0.108	1.0	0.0012	023.6823	013.5836	090.601
60.00	0.092	1.0	0.0008	020.1738	010.0869	092.529
65.00	0.066	1.0	0.0004	014.4725	006.1163	096.883
70.00	0.04	1.0	0.0002	008.7712	002.9999	101.758
75.00	0.021	1.0	0.0000	004.6049	001.1918	105.552
80.00	0.008	1.0	0.0000	001.7542	000.3046	108.272
85.00	0.002	1.0	0.0000	000.4386	000.0382	109.563
90.00	0.001	1.0	0.0000	000.2193	000.0000	109.781

New Tx - Williamsburg, VA - BNPFT20170801AIU
Latitude: 37-16-53.90 N - Longitude: 076-47-48.70 W
Channel: 228 - Frequency: 93.5 MHz
ERP: 0.10 kW - AMSL Height: 126.0 m

WVBW - Suffolk, VA - BMLH19880519KD
Latitude: 36-52-35 N - Longitude: 076-23-28 W
Channel: 225 - Frequency: 92.9 MHz
ERP: 50.00 kW - AMSL Height: 150.0 m

GRAHAM BROCK, INC.
BROADCAST TECHNICAL CONSULTANTS

New Tx

EXHIBIT B4
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■ New TX 97.3 dBu (50/10)
■ WVBW 57.3 dBu (50/50)

Scale 1:24,000
0 0.33 0.67 1.0 km

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EXHIBIT B5

1762610 Williamsburg , VA, Showing Protection to WVBW
 74.1204(d) Study - Using FCC 30 SEC Terrain Database
 Translator or LPFM Maximum Licensed ERP = 0.1
 Translator or LPFM Antenna Height AG = 110 Meters
 1762610 Antenna Model = Shively - 6812B-6-HW

Protected Station's Contour = 57.3 dBu
 Translator's or LPFM's full Interference contour 97.3

Review Azimuth = 0 Degrees True
 Relative Field on the horizon at Review Azimuth = 1.000
 Translator/LPFM ERP on the horizon at Review Azimuth = 0.1 kW
 Distance between stations = 57.7 km
 Protected Station= WVBW, 50 kW, 150 M Meters COR AMSL

Depression Angle From Horizon(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	1.0	0.1000	957.1941	957.1941	110.000
05.00	0.892	1.0	0.0796	853.8171	850.5681	035.585
10.00	0.612	1.0	0.0375	585.8028	576.9031	008.276
15.00	0.268	1.0	0.0072	256.5280	247.7870	043.606
20.00	0.021	1.0	0.0000	020.1011	018.8888	103.125
25.00	0.183	1.0	0.0033	175.1665	158.7548	035.971
30.00	0.209	1.0	0.0044	200.0536	173.2515	009.973
35.00	0.141	1.0	0.0020	134.9644	110.5563	032.588
40.00	0.039	1.0	0.0002	037.3306	028.5969	086.004
45.00	0.048	1.0	0.0002	045.9453	032.4882	077.512
50.00	0.097	1.0	0.0009	092.8478	059.6814	038.874
55.00	0.108	1.0	0.0012	103.3770	059.2946	025.319
60.00	0.092	1.0	0.0008	088.0619	044.0309	033.736
65.00	0.066	1.0	0.0004	063.1748	026.6988	052.744
70.00	0.04	1.0	0.0002	038.2878	013.0952	074.021
75.00	0.021	1.0	0.0000	020.1011	005.2025	090.584
80.00	0.008	1.0	0.0000	007.6576	001.3297	102.459
85.00	0.002	1.0	0.0000	001.9144	000.1668	108.093
90.00	0.001	1.0	0.0000	000.9572	000.0000	109.043

X-Field™ By V-Soft Communications@LLC

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EXHIBIT B6

N. Lat. = 37° 16' 53.9" - Protected and Interfering Contour Data
W. Lng. = 76° 47' 48.7" - New FM Translator, Williamsburg, Virginia

Distance to Contour,
FCC, FM 2-10 Mi, 51 pts Method - FCC 30 SEC

Azi.	AV EL	HAAT	ERP kW	dBk	Field	110.1-F1	97.3-F1	90-F1	60-F5	54-F1	40-F1
000	20.7	105.3	0.1000	-10.00	1.000	0.22	0.96	1.64	10.57	14.85	35.91
010	22.1	103.9	0.1000	-10.00	1.000	0.22	0.96	1.63	10.51	14.75	35.67
020	17.9	108.1	0.1000	-10.00	1.000	0.22	0.96	1.65	10.71	15.24	36.42
030	17.6	108.4	0.1000	-10.00	1.000	0.22	0.96	1.65	10.72	15.27	36.47
040	14.2	111.8	0.1000	-10.00	1.000	0.22	0.96	1.67	10.87	15.58	37.02
050	11.5	114.5	0.1000	-10.00	1.000	0.22	0.96	1.68	10.99	15.83	37.46
060	10.7	115.3	0.1000	-10.00	1.000	0.22	0.96	1.68	11.03	15.90	37.57
070	9.1	116.9	0.1000	-10.00	1.000	0.22	0.96	1.68	11.10	16.03	37.81
080	11.3	114.7	0.1000	-10.00	1.000	0.22	0.96	1.68	11.00	15.85	37.49
090	12.7	113.3	0.1000	-10.00	1.000	0.22	0.96	1.67	10.94	15.72	37.27
100	12.2	113.8	0.1000	-10.00	1.000	0.22	0.96	1.67	10.96	15.76	37.34
110	12.4	113.6	0.1000	-10.00	1.000	0.22	0.96	1.67	10.96	15.75	37.32
120	8.9	117.1	0.1000	-10.00	1.000	0.22	0.96	1.69	11.11	16.06	37.85
130	4.1	121.9	0.1000	-10.00	1.000	0.22	0.96	1.70	11.32	16.45	38.51
140	2.0	124.0	0.1000	-10.00	1.000	0.22	0.96	1.70	11.40	16.62	38.79
150	1.9	124.1	0.1000	-10.00	1.000	0.22	0.96	1.71	11.41	16.63	38.80
160	1.5	124.5	0.1000	-10.00	1.000	0.22	0.96	1.71	11.43	16.66	38.86
170	4.1	121.9	0.1000	-10.00	1.000	0.22	0.96	1.70	11.32	16.45	38.51
180	6.0	120.0	0.1000	-10.00	1.000	0.22	0.96	1.69	11.24	16.30	38.26
190	8.5	117.5	0.1000	-10.00	1.000	0.22	0.96	1.69	11.13	16.09	37.91
200	6.2	119.8	0.1000	-10.00	1.000	0.22	0.96	1.69	11.23	16.29	38.23
210	7.7	118.3	0.1000	-10.00	1.000	0.22	0.96	1.69	11.16	16.16	38.02
220	7.3	118.7	0.1000	-10.00	1.000	0.22	0.96	1.69	11.18	16.19	38.08
230	5.7	120.3	0.1000	-10.00	1.000	0.22	0.96	1.69	11.25	16.32	38.30
240	1.7	124.3	0.1000	-10.00	1.000	0.22	0.96	1.71	11.42	16.65	38.83
250	1.8	124.2	0.1000	-10.00	1.000	0.22	0.96	1.71	11.41	16.63	38.81
260	0.4	125.6	0.1000	-10.00	1.000	0.22	0.96	1.71	11.47	16.75	38.99
270	0.4	125.6	0.1000	-10.00	1.000	0.22	0.96	1.71	11.47	16.75	39.00
280	0.4	125.6	0.1000	-10.00	1.000	0.22	0.96	1.71	11.47	16.75	38.99
290	3.3	122.7	0.1000	-10.00	1.000	0.22	0.96	1.70	11.35	16.52	38.62
300	12.4	113.6	0.1000	-10.00	1.000	0.22	0.96	1.67	10.96	15.75	37.32
310	14.1	111.9	0.1000	-10.00	1.000	0.22	0.96	1.67	10.88	15.59	37.03
320	13.1	112.9	0.1000	-10.00	1.000	0.22	0.96	1.67	10.93	15.69	37.21
330	17.9	108.1	0.1000	-10.00	1.000	0.22	0.96	1.65	10.71	15.24	36.41
340	19.5	106.5	0.1000	-10.00	1.000	0.22	0.96	1.65	10.63	15.09	36.14
350	19.2	106.8	0.1000	-10.00	1.000	0.22	0.96	1.65	10.65	15.12	36.19

AMSL= 126.0