

ENGINEERING EXHIBIT

Application for Construction Permit Digital to Digital Replacement Television Translator Station

prepared for

Gray Television Licensee, LLC

WVIR-TV Charlottesville, VA

New DTDRT Madison, VA

Facility ID 70309

Ch. 30 15 kW Directional

Gray Television Licensee, LLC (“Gray”) is the licensee of television station WVIR-TV, Charlottesville VA, Facility ID 70309. WVIR-TV was reassigned from Channel 32 to Channel 2 in the *Incentive Auction Closing and Channel Reassignment Public Notice* (“CCRPN”, DA 17-317, released April 13, 2017). WVIR-TV transitioned to Channel 2 on March 18, 2020 and WVIR-TV is now licensed (file# 0000109093) to operate on Channel 2 at 10 kW effective radiated power (“ERP”) with a nondirectional antenna at 368 meters height above average terrain (“HAAT”). *Gray* herein seeks authorization to construct a new digital-to-digital replacement translator (“DTDRT”) facility on Channel 30 for WVIR-TV to aid in serving communities in the region of Madison, Greene, Orange, Culpeper, and Louisa Counties to aid in resolving viewer reception problems in those areas.

The proposed WVIR-TV DTDRT facility will employ a new antenna system to be side-mounted on the tower structure associated with FCC Antenna Structure Registration number 1026298. This tower structure is atop Clark Mountain and located 55.5 km from the WVIR-TV Channel 2 site. No change to the overall structure height will result.

The proposed ERP is 15 kW using a “full service” out of channel emission mask. The proposed antenna is a directional Dielectric model TLP-12W/VP-R having elliptical polarization (30 percent vertical power). The maximum horizontally polarized ERP is 15 kW and the maximum vertically polarized ERP is 4.5 kW. A plot of the directional antenna’s azimuthal pattern is supplied in Figure 1. Figure 2 depicts the 51 dB μ coverage contour of the proposed

DTDRT Channel 30 facility, which does not extend beyond the WVIR-TV pre-auction Channel 32 protected service area.

Interference study per OET Bulletin 69¹ shows that the proposal complies with the FCC's interference protection requirements toward all digital television, television translator, LPTV, and Class A stations (existing and post-auction). The results, summarized in Table 1, show that any new interference does not exceed the FCC's interference limits (0.5 percent to full power and Class A stations, and 2.0 percent to secondary stations) to any facility.

DTDRT Eligibility

The WVIR-TV licensed Channel 2 facility (10 kW ERP at 368 meters HAAT) represents an expansion beyond the reassignment facility parameters of 5.47 kW ERP at 368 meters HAAT established in the *CCRPN*. Despite the increased power, since commencing operation on reassignment Channel 2 WVIR-TV has received numerous complaints of reception problems at many locations throughout its former Channel 32 service area. Many viewers that had satisfactory reception of the WVIR-TV's former Channel 32 facility are unable to receive WVIR-TV on Channel 2.

WVIR-TV's reassignment from UHF Channel 32 to low-band VHF Channel 2 resulted from the former² WVIR-TV licensee's winning bid in the incentive auction. In that proceeding, the FCC acknowledged that reception of low band VHF channels "is often difficult due to increased signal interference caused by the higher levels of ambient noise from electronic devices operating on or near the low VHF frequency range."³

¹FCC Office of Engineering and Technology Bulletin number 69, *Longley-Rice Methodology for Evaluating TV Coverage and Interference*, February 6, 2004 ("OET-69"). This analysis employed the FCC's current "TVStudy" software with the default application processing template settings, 1 km cell size, and 1 km terrain increment. Comparisons of various results of this computer program (run on a Mac processor) to the FCC's implementation of TVStudy show excellent correlation.

²The WVIR-TV license was assigned to *Gray* in 2019. See BALCDT-20190304ABA and BALCDT-20190523AAN.

³"*Expanding the Economic and Innovation Opportunities of Spectrum Through Incentive Auctions*", GN Docket 12-268, Report and Order, released June 2, 2014 (R&O), para 369.

Problems with digital low-band VHF reception experienced by other stations have been widely publicized since the digital transition in 2009. It has been established that indoor reception is difficult for digital low band VHF stations such as WVIR-TV due to the longer wavelength signal's inability to readily pass through buildings (the windows are smaller than the wavelength size), the ineffectiveness of many indoor antennas (many of which were designed to emphasize the shorter wavelengths for UHF reception), and high levels of manmade and environmental noise.⁴

Since transitioning to Channel 2 in March 2020, WVIR-TV has received numerous phone calls, emails, and social media contacts regarding reception problems. Appendix A supplies a portion of those emails and social media contacts which involve locations that would be served by the proposed DTDRT facility.

Human Exposure to Radiofrequency Electromagnetic Field (Environmental)

The proposed operation was evaluated for human exposure to RF energy using the procedures outlined in the FCC's OET Bulletin Number 65. Based on OET-65 equation (10), and considering 15 percent antenna relative field in downward elevations (pattern data shows less than 15 percent relative field at angles 15 to 90 degrees below the antenna), the calculated signal density near the tower at two meters above ground level attributable to the proposed facility is $2.2 \mu\text{W}/\text{cm}^2$, which is 0.6 percent of the general population/uncontrolled maximum permitted exposure limit. This is well below the five percent threshold limit described in §1.1307(b) regarding sites with multiple emitters, categorically excluding the applicant from responsibility for taking any corrective action in the areas where the proposal's contribution is less than five percent.

The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs will continue to be posted. With respect to

⁴The FCC stated that "our initial assessment that the low VHF channels are less suitable for DTV service because of high levels of atmospheric and man-made noise" (§50); and "We noted that TV operations on the lower VHF channels 2-6 are subject to a number of technical penalties, including higher ambient noise levels due to leaky power lines, vehicle ignition systems, and other impulse noise sources and interference to and from FM radio service." (§82) *Advanced Television Systems and Their Impact upon the Existing Television Broadcast Service*, Sixth Report and Order, MM Docket 87-268, FCC 97-115, released April 21, 1997.

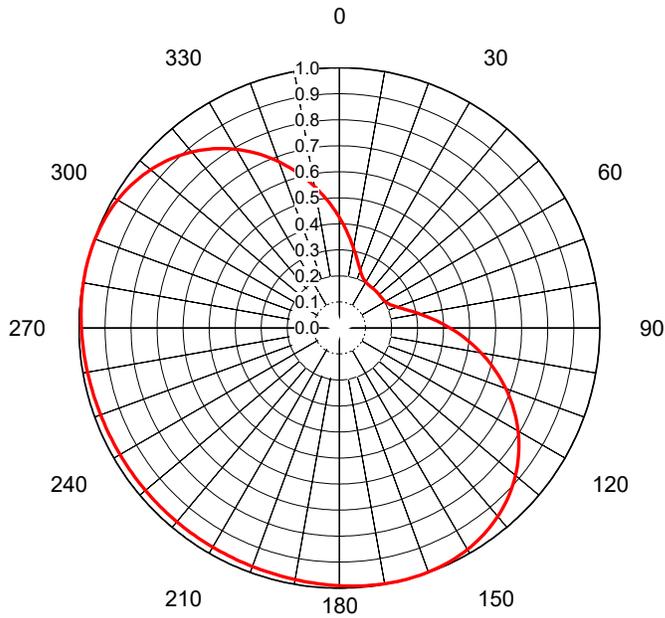
worker safety, the applicant will coordinate exposure procedures with all pertinent stations and will reduce power or cease operation as necessary to protect persons having access to the site, tower, or antenna from RF electromagnetic field exposure in excess of FCC guidelines. This exhibit is limited to the evaluation of exposure to RF electromagnetic field. No increase in structure height is proposed.

List of Attachments

Figure 1	Antenna Azimuthal Pattern
Figure 2	Proposed Translator Contour
Table 1	TVStudy Analysis of Proposal
Appendix A	Viewer Complaints Within Proposed Translator Service Area
Form 2100	Saved Version of Engineering Sections from FCC Form at Time of Upload

Chesapeake RF Consultants, LLC

Joseph M. Davis, P.E.	December 17, 2020	
207 Old Dominion Road	Yorktown, VA 23692	703-650-9600



AZIMUTH PATTERN Horizontal Polarization

Proposal No. **20201104jmd**
 Date **4-Nov-20**
 Call Letters **WVIR-TV DTDRT**
 Channel **30**
 Frequency **569 MHz**
 Antenna Type **TLP-12W/VP-R**
 Gain **1.6 (2.05dB)**
 Calculated

Pattern Number **TLP-W-30 Hpol**

Deg	Value																		
0	0.424	36	0.199	72	0.247	108	0.655	144	0.964	180	0.991	216	0.972	252	0.977	288	1.000	324	0.850
1	0.412	37	0.199	73	0.253	109	0.667	145	0.968	181	0.990	217	0.972	253	0.977	289	0.999	325	0.841
2	0.400	38	0.199	74	0.260	110	0.680	146	0.971	182	0.989	218	0.972	254	0.978	290	0.999	326	0.832
3	0.388	39	0.199	75	0.268	111	0.692	147	0.975	183	0.988	219	0.972	255	0.978	291	0.998	327	0.822
4	0.376	40	0.199	76	0.276	112	0.704	148	0.978	184	0.987	220	0.972	256	0.979	292	0.997	328	0.813
5	0.365	41	0.199	77	0.284	113	0.716	149	0.981	185	0.986	221	0.972	257	0.980	293	0.996	329	0.803
6	0.354	42	0.199	78	0.293	114	0.727	150	0.983	186	0.985	222	0.972	258	0.980	294	0.995	330	0.792
7	0.343	43	0.199	79	0.302	115	0.739	151	0.986	187	0.984	223	0.972	259	0.981	295	0.993	331	0.782
8	0.332	44	0.199	80	0.312	116	0.750	152	0.988	188	0.984	224	0.972	260	0.982	296	0.992	332	0.772
9	0.322	45	0.199	81	0.322	117	0.761	153	0.990	189	0.983	225	0.972	261	0.983	297	0.990	333	0.761
10	0.312	46	0.199	82	0.332	118	0.772	154	0.992	190	0.982	226	0.972	262	0.984	298	0.988	334	0.750
11	0.302	47	0.199	83	0.343	119	0.782	155	0.993	191	0.981	227	0.972	263	0.984	299	0.986	335	0.739
12	0.293	48	0.199	84	0.354	120	0.792	156	0.995	192	0.980	228	0.972	264	0.985	300	0.983	336	0.727
13	0.284	49	0.199	85	0.365	121	0.803	157	0.996	193	0.980	229	0.972	265	0.986	301	0.981	337	0.716
14	0.276	50	0.199	86	0.376	122	0.813	158	0.997	194	0.979	230	0.972	266	0.987	302	0.978	338	0.704
15	0.268	51	0.199	87	0.388	123	0.822	159	0.998	195	0.978	231	0.972	267	0.988	303	0.975	339	0.692
16	0.260	52	0.199	88	0.400	124	0.832	160	0.999	196	0.978	232	0.972	268	0.989	304	0.971	340	0.680
17	0.253	53	0.199	89	0.412	125	0.841	161	0.999	197	0.977	233	0.972	269	0.990	305	0.968	341	0.667
18	0.247	54	0.199	90	0.424	126	0.850	162	1.000	198	0.977	234	0.972	270	0.991	306	0.964	342	0.655
19	0.241	55	0.199	91	0.437	127	0.858	163	1.000	199	0.976	235	0.972	271	0.992	307	0.960	343	0.643
20	0.235	56	0.200	92	0.449	128	0.867	164	1.000	200	0.976	236	0.972	272	0.993	308	0.956	344	0.630
21	0.230	57	0.200	93	0.462	129	0.875	165	1.000	201	0.975	237	0.972	273	0.993	309	0.951	345	0.617
22	0.225	58	0.201	94	0.475	130	0.883	166	1.000	202	0.975	238	0.973	274	0.994	310	0.946	346	0.604
23	0.221	59	0.202	95	0.488	131	0.890	167	1.000	203	0.975	239	0.973	275	0.995	311	0.941	347	0.592
24	0.217	60	0.203	96	0.501	132	0.898	168	0.999	204	0.974	240	0.973	276	0.996	312	0.936	348	0.579
25	0.214	61	0.205	97	0.514	133	0.905	169	0.999	205	0.974	241	0.973	277	0.997	313	0.930	349	0.566
26	0.211	62	0.206	98	0.527	134	0.911	170	0.999	206	0.974	242	0.973	278	0.997	314	0.924	350	0.553
27	0.208	63	0.208	99	0.540	135	0.918	171	0.998	207	0.973	243	0.973	279	0.998	315	0.918	351	0.540
28	0.206	64	0.211	100	0.553	136	0.924	172	0.997	208	0.973	244	0.974	280	0.999	316	0.911	352	0.527
29	0.205	65	0.214	101	0.566	137	0.930	173	0.997	209	0.973	245	0.974	281	0.999	317	0.905	353	0.514
30	0.203	66	0.217	102	0.579	138	0.936	174	0.996	210	0.973	246	0.974	282	0.999	318	0.898	354	0.501
31	0.202	67	0.221	103	0.592	139	0.941	175	0.995	211	0.973	247	0.975	283	1.000	319	0.890	355	0.488
32	0.201	68	0.225	104	0.604	140	0.946	176	0.994	212	0.973	248	0.975	284	1.000	320	0.883	356	0.475
33	0.200	69	0.230	105	0.617	141	0.951	177	0.993	213	0.972	249	0.975	285	1.000	321	0.875	357	0.462
34	0.200	70	0.235	106	0.630	142	0.956	178	0.993	214	0.972	250	0.976	286	1.000	322	0.867	358	0.449
35	0.199	71	0.241	107	0.643	143	0.960	179	0.992	215	0.972	251	0.976	287	1.000	323	0.858	359	0.437



Figure 1
Antenna Azimuthal Pattern
WVIR-TV Charlottesville, VA
New DTDRT Madison, VA
Facility ID 70309
Ch. 30 15 kW Directional

prepared for
Gray Television Licensee, LLC

December, 2020

Figure 2
Proposed Translator Contour
WVIR-TV Charlottesville, VA
New DTDRT Madison, VA
Facility ID 70309
Ch. 30 15 kW Directional

prepared for
Gray Television Licensee, LLC

December, 2020

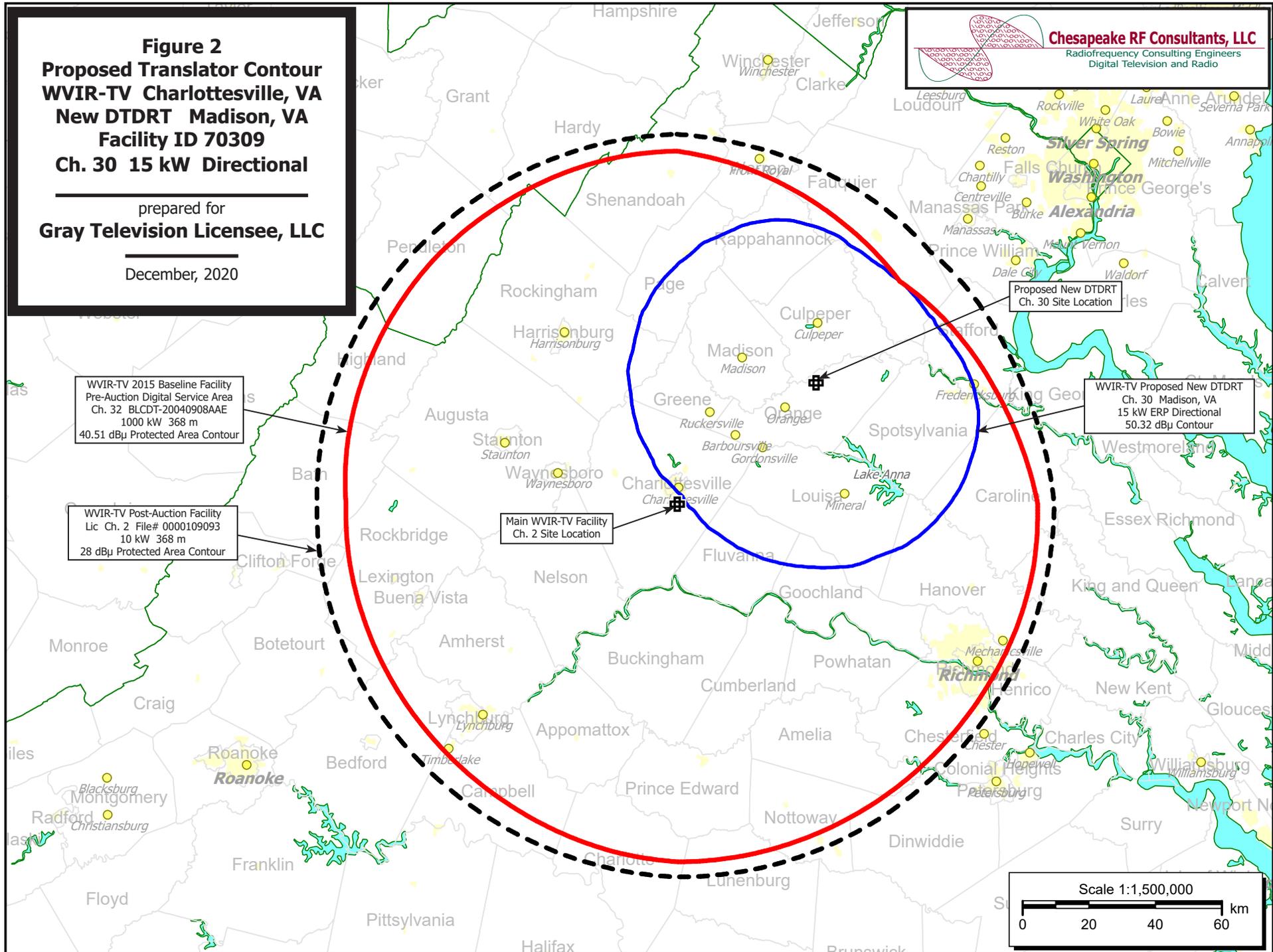


Table 1 WVIR-TV DTDRT TVStudy Analysis of Proposal
(page 1 of 5)



tvstudy v2.2.5 (4uoc83)

Database: localhost, Study: WVIR-TV Prop_DRT TLP-W, Model: Longley-Rice
Start: 2020.12.17 14:11:36

Study created: 2020.12.17 14:11:36

Study build station data: LMS TV 2020-12-15

Proposal: WVIR-TV D30 LD APP Madison, VA
File number: WVIR-TV Prop DRT TLP-W
Facility ID: 70309
Station data: User record
Record ID: 3398
Country: U.S.
Zone: I

Build options:
Protect pre-transition records not on baseline channel

Search options:
Baseline record excluded if station has CP

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	W29FM-D	D29	LD	CP	WYOMING, DE	BLANK0000071866	211.8 km
No	WWPB	D29	DT	LIC	HAGERSTOWN, MD	BLANK0000114259	149.0
No	WMDT	D29	DT	LIC	SALISBURY, MD	BLANK0000125726	198.7
No	WJAC-TV	D29	LD	LIC	JOHNSTOWN, PA	BLCDT20130416AAU	217.8
No	W29EO-D	D29	LD	CP	CROZET, VA	BLANK0000008299	69.2
No	WDAW-LD	D29	LD	CP	Damascus, VA	BLANK0000112251	122.2
Yes	WCVV	D29	DT	LIC	RICHMOND, VA	BLANK0000112380	95.5
No	W29DH-D	D29	LD	LIC	MOOREFIELD, WV	BLDTT20120608ABZ	108.4
Yes	WIAV-CD	D30	DC	LIC	WASHINGTON, DC	BLANK0000119221	106.3
No	WKMR	D30	DT	LIC	MOREHEAD, KY	BLANK0000075044	471.7
No	W30DT-D	D30	LD	CP	SALISBURY, MD	BDCCDTL20120628AAS	205.6
No	W30CR-D	D30	LD	LIC	BISCOE, NC	BLDTT20101029AAJ	374.5
No	WPD-LD	D30	LD	CP	JACKSONVILLE, NC	BLANK0000036627	331.1
No	W30EF-D	D30	LD	LIC	JEFFERSON, NC	BLANK0000107212	370.1
No	WAXN-TV	D30	LD	LIC	KANNAPOLIS, NC	BLANK0000119096	381.7
No	WUNU	D30	DT	LIC	LUMBERTON, NC	BLANK0000114990	401.4
No	W30DN-D	D30	LD	LIC	MANTEO, NC	BLDTL20150311AAK	342.7
No	WHIG-CD	D30	DC	CP	ROCKY MOUNT, NC	BLANK0000028657	268.5
No	WFUT-DT	D30	DT	LIC	NEWARK, NJ	BLANK0000037827	438.1
No	WNJJ-LD	D30	LD	CP	PATERSON, NJ	BLANK0000054813	423.1
No	WYDC	D30	DT	LIC	CORNING, NY	BLANK0000086927	433.0
No	WHIZ-TV	D30	DT	LIC	ZANESVILLE, OH	BLANK0000125049	387.5
No	WPCW	D30	LD	LIC	JEANNETTE, PA	BLANK0000064153	229.3
No	W43CO-D	D30	LD	CP	KINGSTON, PA	BLANK0000054197	379.6
No	KYW-TV	D30	DT	LIC	PHILADELPHIA, PA	BLANK0000129344	306.0
No	WELL-LD	D30	LD	LIC	PHILADELPHIA, PA	BLDTL20100208AAC	306.1
No	WBPA-LD	N30+	TX	LIC	PITTSBURGH, PA	BLANK0000007299	292.7
No	WPTG-CD	D30	DC	LIC	Pittsburgh, PA	BLANK0000129480	291.0
No	W30EI-D	D30z	LD	LIC	SHARON, PA	BLANK0000107600	385.8
No	WCZS-LD	D30	LD	CP	Shippensburg, PA	BLANK0000124449	194.0
No	WCZS-LD	D30	LD	LIC	Shippensburg, PA	BLANK0000121122	210.0
No	WCYB-TV	D30	DT	APP	BRISTOL, VA	BLANK0000127663	417.3
Yes	WSVW-LD	D30	LD	LIC	HARRISONBURG, VA	BLANK0000120244	67.4
Yes	WFWG-LD	D30	LD	LIC	RICHMOND, VA	BLANK0000080886	95.5
Yes	WDBJ	D30	DT	LIC	ROANOKE, VA	BLANK0000094109	226.2
No	W30DU-D	D30	LD	CP	SUTTON, WV	BNPDTL20100514AAO	237.0
No	W30CO-D	D30	LD	LIC	WHEELING, WV	BLDTT20100112AAM	306.5
No	WETA-TV	D31	DT	LIC	WASHINGTON, DC	BLANK0000120146	107.2
No	WETA-TV	D31	LD	CP	WASHINGTON, DC	BDRTEDT20090811ACE	104.3
No	WATM-TV	D31	DT	LIC	ALTOONA, PA	BLANK0000105303	253.7
No	WGAL	D31	LD	APP	LANCASTER, PA	BDRTCDDT20090824ADR	189.0
No	KDKA-TV	D31	LD	APP	PITTSBURGH, PA	BDRTCDDT20090630ADY	216.3
Yes	WUDJ-LD	D31	LD	LIC	CROZET, VA	BLANK0000080576	55.2
No	WHRO-TV	D31	DT	LIC	HAMPTON-NORFOLK, VA	BLANK0000120642	212.9
No	WOAY-TV	D31	DT	LIC	OAK HILL, WV	BLANK0000096583	277.9

No non-directional AM stations found within 0.8 km

Table 1 WVIR-TV DTDRT TVStudy Analysis of Proposal
 (page 2 of 5)



No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D30
 Mask: Full Service
 Latitude: 38 18 39.00 N (NAD83)
 Longitude: 78 0 12.30 W
 Height AMSL: 409.6 m
 HAAT: 0.0 m
 Peak ERP: 15.0 kW
 Antenna: DIE TLP-W 225.0 deg
 Elev Pattnr: Generic
 Elec Tilt: 1.00

50.3 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	2.73 kW	297.6 m	47.0 km
45.0	0.594	316.5	39.4
90.0	2.73	294.1	46.8
135.0	12.6	278.7	54.1
180.0	14.7	284.8	55.3
225.0	14.2	248.4	53.0
270.0	14.7	297.0	56.0
315.0	12.6	277.4	54.1

Database HAAT does not agree with computed HAAT
 Database HAAT: 0 m Computed HAAT: 287 m

Distance to Canadian border: 486.6 km

Distance to Mexican border: 2239.6 km

Conditions at FCC monitoring station: Laurel MD
 Bearing: 46.8 degrees Distance: 139.7 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:
 Bearing: 283.6 degrees Distance: 2343.4 km

Study cell size: 1.00 km
 Profile point spacing: 1.00 km

Maximum new IX to full-service and Class A: 0.50%
 Maximum new IX to LPTV: 2.00%

 Interference to BLANK0000112380 LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WCVW	D29	DT	LIC	RICHMOND, VA	BLANK0000112380	
Undesireds:	WVIR-TV	D30	LD	APP	Madison, VA	WVIR-TV Prop DRT TLP-W	95.5 km
	WRIC-TV	D28	DT	LIC	PETERSBURG, VA	BLANK0000107922	0.0
	WWPB	D29	DT	LIC	HAGERSTOWN, MD	BLANK0000114259	239.8
	WMDT	D29	DT	LIC	SALISBURY, MD	BLANK0000125726	196.9
	WUND-TV	D29	DT	CP	EDENTON, NC	BLANK0000025090	211.3
	WXLV-TV	D29	DT	LIC	WINSTON-SALEM, NC	BLCDT20050624ABB	269.6
	Service area		Terrain-limited		IX-free, before	IX-free, after	Percent New IX
	21695.6	1,509,873	21646.1	1,509,681	20971.1	1,493,450	20951.9 1,493,333 0.09 0.01
Undesired				Total IX	Unique IX, before	Unique IX, after	
	WVIR-TV	D30	LD	APP	55.4	810	19.1 117
	WRIC-TV	D28	DT	LIC	96.7	2,648	96.7 2,648
	WWPB	D29	DT	LIC	198.6	5,141	116.9 1,681 111.9 1,539
	WMDT	D29	DT	LIC	85.9	2,031	34.4 438
	WUND-TV	D29	DT	CP	394.8	10,057	314.2 5,567 295.1 5,415
	WXLV-TV	D29	DT	LIC	26.0	1,401	12.1 1,224 12.1 1,224

Table 1 WVIR-TV DTDRT TVStudy Analysis of Proposal
(page 3 of 5)



Interference to BLANK0000119221 LIC scenario 1

Call	Chan	Svc	Status	City, State	File Number	Distance			
Desired: WIAV-CD	D30	DC	LIC	WASHINGTON, DC	BLANK0000119221				
Undesireds: WVIR-TV	D30	LD	APP	Madison, VA	WVIR-TV Prop DRT TLP-W	106.3 km			
KYW-TV	D30	DT	LIC	PHILADELPHIA, PA	BLANK0000129344	199.7			
WDCO-CD	D30	DC	BL	WOODSTOCK, VA	DTVBL57905	53.9			
WETA-TV	D31	DT	LIC	WASHINGTON, DC	BLANK0000120146	1.1			
Service area	Terrain-limited		IX-free, before		IX-free, after		Percent New IX		
8913.8	5,821,843	8796.6	5,798,785	6738.3	4,791,984	6730.3	4,791,827	0.12	0.00
Undesired	Total IX		Unique IX, before		Unique IX, after				
WVIR-TV D30 LD APP	76.0	20,888			8.0	157			
KYW-TV D30 DT LIC	109.6	52,460	32.8	21,413	31.8	21,413			
WDCO-CD D30 DC BL	613.4	222,512	343.0	126,236	330.0	124,180			
WETA-TV D31 DT LIC	1677.5	858,459	1377.2	745,133	1375.2	745,133			

Interference to BLANK0000120244 LIC scenario 1

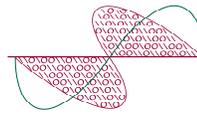
Call	Chan	Svc	Status	City, State	File Number	Distance			
Desired: WSVW-LD	D30	LD	LIC	HARRISONBURG, VA	BLANK0000120244				
Undesireds: WVIR-TV	D30	LD	APP	Madison, VA	WVIR-TV Prop DRT TLP-W	67.4 km			
W29EO-D	D29	LD	CP	CROZET, VA	BLANK0000008299	34.9			
WIAV-CD	D30	DC	LIC	WASHINGTON, DC	BLANK0000119221	158.7			
WCZS-LD	D30	LD	CP	Shippensburg, PA	BLANK0000124449	203.5			
WFWG-LD	D30	LD	LIC	RICHMOND, VA	BLANK0000080886	141.6			
WDBJ	D30	DT	LIC	ROANOKE, VA	BLANK0000094109	180.4			
WUDJ-LD	D31	LD	LIC	CROZET, VA	BLANK0000080576	51.9			
Service area	Terrain-limited		IX-free, before		IX-free, after		Percent New IX		
11468.2	489,345	7309.2	296,735	7151.4	294,092	7092.1	293,729	0.83	0.12
Undesired	Total IX		Unique IX, before		Unique IX, after				
WVIR-TV D30 LD APP	84.5	363			59.4	363			
W29EO-D D29 LD CP	1.0	1,003	0.0	0	0.0	0			
WIAV-CD D30 DC LIC	13.0	0	9.0	0	3.0	0			
WCZS-LD D30 LD CP	4.0	0	1.0	0	1.0	0			
WFWG-LD D30 LD LIC	18.1	1,004	9.1	0	3.0	0			
WDBJ D30 DT LIC	136.7	1,640	124.6	1,639	119.6	1,639			
WUDJ-LD D31 LD LIC	2.0	1,003	0.0	0	0.0	0			

Interference to BLANK0000120244 LIC scenario 2

Call	Chan	Svc	Status	City, State	File Number	Distance			
Desired: WSVW-LD	D30	LD	LIC	HARRISONBURG, VA	BLANK0000120244				
Undesireds: WVIR-TV	D30	LD	APP	Madison, VA	WVIR-TV Prop DRT TLP-W	67.4 km			
W29EO-D	D29	LD	CP	CROZET, VA	BLANK0000008299	34.9			
WIAV-CD	D30	DC	LIC	WASHINGTON, DC	BLANK0000119221	158.7			
WFWG-LD	D30	LD	LIC	RICHMOND, VA	BLANK0000080886	141.6			
WDBJ	D30	DT	LIC	ROANOKE, VA	BLANK0000094109	180.4			
WUDJ-LD	D31	LD	LIC	CROZET, VA	BLANK0000080576	51.9			
Service area	Terrain-limited		IX-free, before		IX-free, after		Percent New IX		
11468.2	489,345	7309.2	296,735	7152.4	294,092	7093.1	293,729	0.83	0.12
Undesired	Total IX		Unique IX, before		Unique IX, after				
WVIR-TV D30 LD APP	84.5	363			59.4	363			
W29EO-D D29 LD CP	1.0	1,003	0.0	0	0.0	0			
WIAV-CD D30 DC LIC	13.0	0	9.0	0	3.0	0			
WFWG-LD D30 LD LIC	18.1	1,004	9.1	0	3.0	0			
WDBJ D30 DT LIC	136.7	1,640	127.6	1,639	122.6	1,639			
WUDJ-LD D31 LD LIC	2.0	1,003	0.0	0	0.0	0			

Interference to BLANK0000080886 LIC scenario 1

Table 1 WVIR-TV DTDRT TVStudy Analysis of Proposal
(page 4 of 5)



Call	Chan	Svc	Status	City, State	File Number	Distance
Desired: WFWG-LD	D30	LD	LIC	RICHMOND, VA	BLANK0000080886	
Undesireds: WVIR-TV	D30	LD	APP	Madison, VA	WVIR-TV Prop DRT TLP-W	95.5 km
WCVW	D29	DT	LIC	RICHMOND, VA	BLANK0000112380	0.0
WIAV-CD	D30	DC	LIC	WASHINGTON, DC	BLANK0000119221	165.0
WCZS-LD	D30	LD	CP	Shippensburg, PA	BLANK0000124449	281.8
WDBJ	D30	DT	LIC	ROANOKE, VA	BLANK0000094109	228.5
Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX		
8105.9 1,151,754	8095.8 1,151,715	7956.5 1,149,785	7503.4 1,138,722	5.69 0.96		
Undesired	Total IX	Unique IX, before	Unique IX, after			
WVIR-TV D30 LD APP	496.6	11,582	453.1 11,063			
WCVW D29 DT LIC	89.7	1,643	62.4 1,269			
WIAV-CD D30 DC LIC	1.0	7	0.0 0			
WDBJ D30 DT LIC	54.6	405	29.3 24			

Interference to BLANK0000094109 LIC scenario 1

Call	Chan	Svc	Status	City, State	File Number	Distance
Desired: WDBJ	D30	DT	LIC	ROANOKE, VA	BLANK0000094109	
Undesireds: WVIR-TV	D30	LD	APP	Madison, VA	WVIR-TV Prop DRT TLP-W	226.2 km
WXLV-TV	D29	DT	LIC	WINSTON-SALEM, NC	BLCDT20050624ABB	150.5
WCHS-TV	D29	DT	LIC	CHARLESTON, WV	BLANK0000059340	204.2
WIAV-CD	D30	DC	LIC	WASHINGTON, DC	BLANK0000119221	331.6
WKMR	D30	DT	LIC	MOREHEAD, KY	BLANK0000075044	305.9
WUNU	D30	DT	LIC	LUMBERTON, NC	BLANK0000114990	284.6
WHIZ-TV	D30	DT	LIC	ZANESVILLE, OH	BLANK0000125049	342.8
WYFF	D30	DT	LIC	GREENVILLE, SC	BLANK0000081030	319.3
WCYB-TV	D30	DT	APP	BRISTOL, VA	BLANK0000127663	192.4
WDCO-CD	D30	DC	BL	WOODSTOCK, VA	DTVBL57905	284.7
WGHP	D31	DT	LIC	HIGH POINT, NC	BLANK0000116302	156.2
WOAY-TV	D31	DT	LIC	OAK HILL, WV	BLANK0000096583	121.9
Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX		
46731.6 1,625,661	40790.2 1,436,130	38771.0 1,381,558	38704.1 1,380,834	0.17 0.05		
Undesired	Total IX	Unique IX, before	Unique IX, after			
WVIR-TV D30 LD APP	77.0	826	66.9 724			
WXLV-TV D29 DT LIC	312.0	15,541	146.9 5,856			
WCHS-TV D29 DT LIC	16.2	138	2.0 29			
WIAV-CD D30 DC LIC	12.1	108	2.0 12			
WKMR D30 DT LIC	103.9	2,292	27.3 105			
WUNU D30 DT LIC	338.9	13,035	98.5 1,818			
WHIZ-TV D30 DT LIC	49.5	3,508	10.1 0			
WYFF D30 DT LIC	408.4	17,431	157.9 6,835			
WCYB-TV D30 DT APP	1171.1	23,810	972.7 14,588			
WDCO-CD D30 DC BL	2.0	0	0.0 0			
WGHP D31 DT LIC	108.7	6,789	8.1 263			
WOAY-TV D31 DT LIC	184.2	7,983	110.3 1,651			

Interference to BLANK0000080576 LIC scenario 1

Call	Chan	Svc	Status	City, State	File Number	Distance
Desired: WUDJ-LD	D31	LD	LIC	CROZET, VA	BLANK0000080576	
Undesireds: WVIR-TV	D30	LD	APP	Madison, VA	WVIR-TV Prop DRT TLP-W	55.2 km
WSVW-LD	D30	LD	LIC	HARRISONBURG, VA	BLANK0000120244	51.9
WETA-TV	D31	DT	LIC	WASHINGTON, DC	BLANK0000120146	162.4
WETA-TV	D31	LD	CP	WASHINGTON, DC	BDRTEDT20090811ACE	156.4
WGHP	D31	DT	LIC	HIGH POINT, NC	BLANK0000116302	270.1
WWBP-LP	N31+	TX	LIC	FREEDOM, PA	BLTTL20040909ABD	337.2
WHRO-TV	D31	DT	LIC	HAMPTON-NORFOLK, VA	BLANK0000120642	218.1
WCAV	D32	DT	LIC	CHARLOTTESVILLE, VA	BLANK0000092578	0.1
Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX		
10112.0 388,659	8339.2 281,697	7961.7 275,558	7956.7 275,537	0.06 0.01		
Undesired	Total IX	Unique IX, before	Unique IX, after			

Table 1 WVIR-TV DTDRT TVStudy Analysis of Proposal
(page 5 of 5)



WVIR-TV D30 LD APP	40.2	697			5.0	21
WSVW-LD D30 LD LIC	1.0	0	0.0	0	0.0	0
WETA-TV D31 DT LIC	270.4	3,820	208.8	2,949	182.6	2,501
WETA-TV D31 LD CP	2.0	0	0.0	0	0.0	0
WGHP D31 DT LIC	21.3	279	2.0	0	2.0	0
WHRO-TV D31 DT LIC	65.7	902	15.2	328	14.2	195
WCAV D32 DT LIC	100.0	2,308	83.9	1,898	83.9	1,898

Interference to proposal scenario 1
7.69% interference received

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WVIR-TV	D30	LD	APP	Madison, VA	WVIR-TV Prop DRT TLP-W	
Undesireds:	WIAV-CD	D30	DC	LIC	WASHINGTON, DC	BLANK0000119221	106.3 km
	WCZS-LD	D30	LD	CP	Shippensburg, PA	BLANK0000124449	194.0
	WSVW-LD	D30	LD	LIC	HARRISONBURG, VA	BLANK0000120244	67.4
	WFWG-LD	D30	LD	LIC	RICHMOND, VA	BLANK0000080886	95.5
	WDBJ	D30	DT	LIC	ROANOKE, VA	BLANK0000094109	226.2
	WUDJ-LD	D31	LD	LIC	CROZET, VA	BLANK0000080576	55.2

Service area	Terrain-limited	IX-free	Percent IX
8168.8	443,523	7779.4	415,942
		7254.9	383,959
			6.74
			7.69

Undesired	Total IX	Unique IX	Prcnt Unique IX
WIAV-CD D30 DC LIC	82.4	19,264	45.2
WCZS-LD D30 LD CP	1.0	90	0.0
WSVW-LD D30 LD LIC	45.2	228	29.1
WFWG-LD D30 LD LIC	421.0	13,830	380.8
WDBJ D30 DT LIC	23.2	106	6.0
WUDJ-LD D31 LD LIC	22.2	4,984	6.1
			13,051
			0
			5
			12,422
			75
			110
			0.58
			0.00
			0.37
			4.89
			0.08
			0.03

Interference to proposal scenario 2
7.69% interference received

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WVIR-TV	D30	LD	APP	Madison, VA	WVIR-TV Prop DRT TLP-W	
Undesireds:	WIAV-CD	D30	DC	LIC	WASHINGTON, DC	BLANK0000119221	106.3 km
	WSVW-LD	D30	LD	LIC	HARRISONBURG, VA	BLANK0000120244	67.4
	WFWG-LD	D30	LD	LIC	RICHMOND, VA	BLANK0000080886	95.5
	WDBJ	D30	DT	LIC	ROANOKE, VA	BLANK0000094109	226.2
	WUDJ-LD	D31	LD	LIC	CROZET, VA	BLANK0000080576	55.2

Service area	Terrain-limited	IX-free	Percent IX
8168.8	443,523	7779.4	415,942
		7254.9	383,959
			6.74
			7.69

Undesired	Total IX	Unique IX	Prcnt Unique IX
WIAV-CD D30 DC LIC	82.4	19,264	45.2
WSVW-LD D30 LD LIC	45.2	228	30.1
WFWG-LD D30 LD LIC	421.0	13,830	380.8
WDBJ D30 DT LIC	23.2	106	6.0
WUDJ-LD D31 LD LIC	22.2	4,984	6.1
			13,051
			95
			75
			12,422
			75
			110
			0.58
			0.39
			4.89
			0.08
			0.03

**Appendix A: Viewer Complaints Within Proposed Translator Service Area
Gray Television Licensee, LLC (WVIR-TV)**

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-----Original Message-----

From: Wally Bunker <[wallybunker@\[REDACTED\]](mailto:wallybunker@[REDACTED])>
Sent: Thursday, December 3, 2020 5:43 PM
To: David Hughes <david.hughes@nbc29.com>
Subject: Re: Antenna

In the town of Culpeper. At least 25 feet off the ground. RCA 3730xr long range VHF low VHF and UHF antenna. Came with extended elements for VHF Low. Think 110" elements at back.

Sent from my iPhone

> On Dec 3, 2020, at 17:35, David Hughes <david.hughes@nbc29.com> wrote:

>

> Remind me where you live. Is this an outdoor antenna and if so, how high off the ground is it? Also how large is the low-VHF element?

>

>

>> On Dec 3, 2020, at 5:21 PM, Wally Bunker <[wallybunker@\[REDACTED\]](mailto:wallybunker@[REDACTED])> wrote:

>>

>> David,

>> Got early Xmas of antenna with VHF-low.

>>

>> Still can't get NBC29.

>>

>> Waste of money

>>

>> Sent from my iPhone

From: Soho-GBA <[beker@\[REDACTED\]](mailto:beker@[REDACTED])>
Sent: Friday, October 16, 2020 1:32 PM
To: Wendi Moore <wendi.moore@nbc29.com>
Subject: From BEKER / No over-air reception

Dear W. Moore,

We used to get WVIR ovr the air at our home in Madison. When you shifted frequency that reception stopped, and we haven't pursued a fix.

We have an small, amplified, in-window antenna that gets CBS19 as well as Ion and all four PBC stations - but no WVIR. We have run and re-run the auto-programming function repeatedly but it never brings up your station.

Any ideas?

Thanks,

George Beker

**Appendix A: Viewer Complaints Within Proposed Translator Service Area
Gray Television Licensee, LLC (WVIR-TV)**

(page 2 of 8)

From: Susie Watson <swkojill@>
Sent: Monday, April 27, 2020 1:35 PM
To: WVIR - Reception Issues <wvir-receptionissues@gray.tv>
Subject:

Cannot receive channel. I have an outside antenna. Live in the Haywood area in Madison Co.

From: Ken Kastan <knkastan@>
Sent: Saturday, April 25, 2020 2:08 PM
To: WVIR - Reception Issues
Subject: Can't get 29

I live in Gordonsville 22942. Rescanned many times over the last few months and no reception. In door antenna. Rotated antenna on downstairs and upstairs tv too and no reception. Help me please! Thx

Sent from my iPad

From: Mark Beall <marklbeall52@>
Sent: Thursday, March 19, 2020 2:59 PM
To: WVIR - Reception Issues <wvir-receptionissues@gray.tv>
Subject: Help

I rescanned this afternoon-twice. I now cannot receive NBC29. I live 2-3 miles north of Stanardsville. I use an outdoor antenna, a Mohu Sky with a power amplifier. I am using the 30' coaxial cable that came with the antenna to keep the cable length to a minimum so the antenna is only 10' off the ground. I have had some reception issues in the past during windy weather. Mark Beall 434- Thanks

From: Connie Johnson <conniemjohnson1981@yahoo.com>
Sent: Friday, April 24, 2020 8:11 PM
To: WVIR - Reception Issues <wvir-receptionissues@gray.tv>
Subject: Nbc 29 news

Im emailing about my dads service he can no longer get your channel hes located in Greene in Dyke the zip is 22935 you can call him at 434 his name is Harold

[Sent from Yahoo Mail on Android](#)

**Appendix A: Viewer Complaints Within Proposed Translator Service Area
Gray Television Licensee, LLC (WVIR-TV)**

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From: blueridgegirl2002 <[blueridgegirl2002@\[REDACTED\]](mailto:blueridgegirl2002@[REDACTED])>
Sent: Friday, April 24, 2020 8:05 PM
To: WVIR - Reception Issues <wvir-receptionissues@gray.tv>
Subject: Not able to receive NBC29

I have scanned and I can no longer get the local channels via an indoor antenna. CBS and Fox are being received.
I live in Stanardsville.

Thank you,
Jean

Sent from my U.S.Cellular© Smartphone

From: Gwen Lacy <[gwenlacy1@\[REDACTED\]](mailto:gwenlacy1@[REDACTED])>
Sent: Friday, April 24, 2020 8:36 PM
To: WVIR - Reception Issues
Subject: Signal lost

[REDACTED] Lost Mountain Road
Aroda VA 22709

My parents lost their signal and can no longer receive the 29 channels. We have done many scans and still do not receive the signal. They really miss watching the programs that they were getting before. They do not have internet.

Their antenna is inside. We have moved it to different locations and ran another scan. Still no signal. They are 80 years old and it would be good if they could pick up the 29 channels again.

Any assistance would be appreciated.

Thank you.

Gwen Lacy

Sent from my iPhone

Appendix A: Viewer Complaints Within Proposed Translator Service Area Gray Television Licensee, LLC (WVIR-TV)

(page 4 of 8)

From: Daniel Armor <[danarmor@\[REDACTED\]](mailto:danarmor@[REDACTED])>
Sent: Monday, April 13, 2020 1:01 PM
To: Terri Thelin <teresa.thelin@nbc29.com>
Subject: Re: Help

Hi Terri,

Thanks for the reply.

We are asked to stay at home and we cant watch our favorite channel. We have always watched your station for all of our news and prefer NBC in general. I have a rooftop antenna that is approx 30 ft above ground. We have never had a problem with your station until the FCC made you switch to VHF in March.

I'm pretty sure my antenna is both UHF and VHF (see attached) and we have an in-line power booster as well. I know it is pointed in the right direction because I have the exact coordinates and used a compass. I pick up 25-28 stations including the other networks (looks like they are still UHF, not fair) that come from the same tower so I know it is set up right. Each time I scan it picks up NBC but its all broken up and no audio so that is pointless. I have read that other states are having similar problems and are in the process of building new transmitters to deal with this problem. I was hoping that was not the case and you.

Google maps will take you right to us:

[REDACTED] Nethers Rd.
Sperryville, VA 22740

The zip code is pretty broad and includes half the county, but we are right on the southern tip of Rappahannock County (Madison County is right across the road)
The FCC map says we are exactly 41 miles from your tower.

Anything you can do to help would be appreciated.

Dan Armor

On Mon, Apr 13, 2020 at 11:35 AM Terri Thelin <teresa.thelin@nbc29.com> wrote:
Mr. Armor,

We can diagnose your situation best if you would tell us where you live. Please send us your city and zip code and we will try to figure it out.

Also, if you are currently using an antenna, is it inside or outside of your home?

Regards,

Terri @ NBC29

From: Daniel Armor <[danarmor@\[REDACTED\]](mailto:danarmor@[REDACTED])>
Sent: Sunday, April 12, 2020 9:15 AM
To: WVIR - Reception Issues <wvir-receptionissues@gray.tv>
Subject: Help

Appendix A: Viewer Complaints Within Proposed Translator Service Area

Gray Television Licensee, LLC (WVIR-TV)

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Facebook direct messages

3/20/2020 Liz Schwind Shifflett

I have rescanned NBC29 in Gordonsville and now can't get it. Any advice?!?! I feel a little lost and really wanted to watch Lester Holt's special tonight.

4/24/2020 90% of the time, I can't get it. I have three inside antennas on three TVs. 5% of the time, they'll work. I'm in the town of Gordonsville. I 100% get 16, 19, 27, 41.

Facebook direct message

3/22/2020 Candace Dodson

Good afternoon 29, can you please tell me how come we can not get 29 in madison , we have been getting 29 news for 30 years and as of Friday we can no longer get 29 , we have reskin the tv 2 or 3 times a day, HELLO be nice to see 29 , this is the second time I have try to get some kind of answer, thanks

4/24/2020 Good morning, NO we still can not get nbc 29 , and every one around us can not

Facebook direct message

3/21/2020 Sandy Denise We live at [REDACTED] Reva Rd in Reva VA 22735. We just re-scanned and have now lost your channel! What can we do to get it back?

4/24/2020 We can get it, but since the frequency changed, we can't watch it when our lights are on in different rooms of the house or when people are using certain powered items in the house. There is static on the screen at that time and no sound. As soon as the offending light(s) is turned off or power is turned off, the channel works normally again. It has been frustrating

Response to Facebook Post

4/26/2020 Amy Smith No signal in Gordonsville...used to get it just fine with an indoor antenna.

Response to Facebook Post

4/24/2020 Angela Uricek Ruckersville indoor-no longer receive channel

Response to Facebook Post

4/24/2020 Annette Gibson Here in cismont can't get 29 at all any more with indoor antenna

Response to Facebook Post

4/26/2020 Becky Daley I live in Mineral and work in Cville. Would be convenient to see Cville weather again instead of Richmond. We had 29 until you all switched. Using an indoor antenna.

Response to Facebook Post

4/25/2020 Bradley Marks No signal near Town of Orange

Response to Facebook Post

4/26/2020 Carolyn Fletcher Gordonsville. VA, can't get the station now, indoor antenna

Response to Facebook Post

4/26/2020 Carrie Roberts 22923 Barboursville indoor antenna. Haven't been able to get NBC for at least 2 months. We have rescanned but it didn't help.

Appendix A: Viewer Complaints Within Proposed Translator Service Area

Gray Television Licensee, LLC (WVIR-TV)

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Response to Facebook Post

4/24/2020 Chris Morris Long range outdoor antenna in Ruckersville. Can no longer pick up 29 since the rescan.

Response to Facebook Post

4/26/2020 Dale Floyd Miss nbc29 at Lake Anna. We have an indoor antenna.

Response to Facebook Post

4/24/2020 Elizabeth Petofi New 85 mile indoor antenna. In Barboursville, Orange County, very near Greene Ruckersville county line. Signal went from being the only one I could get to impossible to receive, no matter which way I turn the antenna. 19.1 and 19.4 come in where I used to receive 29.

Response to Facebook Post

4/24/2020 Erin Batten Indoor antenna in Earlysville.

Response to Facebook Post

4/24/2020 Fran Herndon Orange I have been unable to pick up since the 5th of December with indoor digital with a 50 mile range. I know of one in Gordonsville and 2 in Unionville no longer to get you either. I can get 19 and 27.

Response to Facebook Post

4/24/2020 Hayley Danel Graham Town of Stanardsville – Indoo

Response to Facebook Post

4/26/2020 Heather Ward No signal in madison 22709 . Indoor antenna

Response to Facebook Post

4/26/2020 Hicks Kathy We are in Oakland area of Louisa and use outdoor antenna for local channels but have not been able to get 29 since your change!

Response to Facebook Post

4/24/2020 James Potter 60 mile antenna Madison va no can't pick it up any more and passes me off

Response to Facebook Post

4/26/2020 Jamie Shalon I'm in Stanardsville and can't get it anymore with an indoor antenna.

Response to Facebook Post

4/26/2020 Jennifer Cushman Have not been able to see you since the switch. We have an outdoor antenna, we live 8 miles west of Louisa.

Response to Facebook Post

4/25/2020 John Jenkins I lost all three 29 channels in Greene co middle river area. I have a lot of friends in Madison co they all lost theirs to .change it back so we can watch 29 news

Response to Facebook Post

4/24/2020 Johnny Wright My parents in louisa can't get your station no longer

Response to Facebook Post

4/26/2020 Judy Hughett Can't get in the Town of Gordonsville Either

Appendix A: Viewer Complaints Within Proposed Translator Service Area

Gray Television Licensee, LLC (WVIR-TV)

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Response to Facebook Post

4/24/2020 Judy Leake We use an outdoor antenna. 29 News great until you change frequency now we cannot get the channel not at all. Regardless of how we turn the antenna we cannot get you guys anymore we definitely miss it. WE live in Madison County in the Leon area,sure hope yall can fix this!THANKS! MY HUSBAND SAID ANTENNA IS 70 MILE . WE HAVE RESCANNED MANY MANY TIMES.

Response to Facebook Post

4/25/2020 Larry Leathers Goes in out all the time now outside digital antenna new one Wolfstown Madison county va

Response to Facebook Post

4/26/2020 Marcie Mullins-Rice It has literally sucked! Freezes and just won't come in as strong as it used to. Lake Anna

Response to Facebook Post

4/26/2020 Martha Fishback Breeden Madison no sig since Jan.

Response to Facebook Post

4/26/2020 Mary White See later alligator!! CBS 19 new go to channel! Cant pick up 29 anymore.im in barbourville! eheart corner!!

Response to Facebook Post

4/24/2020 Nellie Taylor Dean Gilbert Station, indoor not receiving my husband love NBC 29 he not happy now no 29 news

Response to Facebook Post

4/24/2020 Rebecca Ann Garrison Gilbert station, indoor, no longer receiving.

Response to Facebook Post

4/26/2020 Sasha Moran Reinhold No signal in Gordonsville. Large indoor antenna with amplifiers. No problem getting signal before. Get RIC channels loud and clear!

Response to Facebook Post

4/26/2020 Sharon Baker-Evans Louisa, VA with an indoor antenna and we miss our shows!!

Response to Facebook Post

4/26/2020 Shawn-Brandi Gehman In Stanardsville, never had an issue using an indoor HD antenna till now. Even after a few rescans.

Response to Facebook Post

4/24/2020 Shelly Verling We're in Rapidan/Orange county. Have outdoor antenna. No longer can get you.

Response to Facebook Post

4/26/2020 Sherri Darby Got it for A bit after the can over but now it in and out . Out side antenna in Louisa

Response to Facebook Post

4/24/2020 Steve Becton I live in the Town of Louisa no longer get channel 29. I have stopped trying.

Appendix A: Viewer Complaints Within Proposed Translator Service Area

Gray Television Licensee, LLC (WVIR-TV)

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Response to Facebook Post

4/26/2020 Sue Smith Can't receive you anymore just NW of Gordonsville, very sad about this

Response to Facebook Post

4/26/2020 Tammy Manuel Not getting signal in Orange commenting for my mother she used to get it perfect, outdoor antenna

Response to Facebook Post

4/24/2020 Trish Robey Gordonsville, indoor antenna, can no longer get 29

Response to Facebook Post

4/24/2020 Wanda West We're in Barboursville/Orange county, haven't been to get channel 29 in months, I rescan every week, my local news channel is 19.1, 19.4, 27.1

Response to Facebook Post

4/24/2020 William Spencer Poor signal strength to the north / west corner of Orange County. Not reliable now.

Channel and Facility Information

Section	Question	Response
Proposed Community of License	Facility ID	70309
	State	Virginia
	City	Madison
	DRT Channel	30
	Designated Market Area	CHARLOTTESVILLE

Antenna Location Data

Section	Question	Response
Antenna Structure Registration	Do you have an FCC Antenna Structure Registration (ASR) Number?	Yes
	ASR Number	1026298
Coordinates (NAD83)	Latitude	38° 18' 39.0" N+
	Longitude	078° 00' 12.3" W-
	Structure Type	LTOWER-Lattice Tower
	Overall Structure Height	117.3 meters
	Support Structure Height	110.9 meters
	Ground Elevation (AMSL)	326.7 meters
Antenna Data	Height of Radiation Center Above Ground Level	82.9 meters
	Height of Radiation Center Above Mean Sea Level	409.6 meters
	Effective Radiated Power	15 kW

**Antenna
Technical Data**

Section	Question	Response
Antenna Type	Antenna Type	Directional Custom
	Do you have an Antenna ID?	No
	Antenna ID	
Antenna Manufacturer and Model	Manufacturer:	Dielectric
	Model	TLP-12W/VP-R
	Rotation	225 degrees
	Electrical Beam Tilt	1.0
	Mechanical Beam Tilt	Not Applicable
	toward azimuth	
	Polarization	Elliptical
Elevation Radiation Pattern	Does the proposed antenna propose elevation radiation patterns that vary with azimuth for reasons other than the use of mechanical beam tilt?	No
	Uploaded file for elevation antenna (or radiation) pattern data	
	Out-of-Channel Emission Mask:	Full Service

Directional Antenna Relative Field Values (Pre-rotated Pattern)

Degree	Value	Degree	Value	Degree	Value	Degree	Value
0	0.972	90	0.918	180	0.199	270	0.918
10	0.972	100	0.841	190	0.199	280	0.968
20	0.974	110	0.739	200	0.214	290	0.993
30	0.978	120	0.617	210	0.268	300	1.000
40	0.986	130	0.488	220	0.365	310	0.995
50	0.995	140	0.365	230	0.488	320	0.986
60	1.000	150	0.268	240	0.617	330	0.978
70	0.993	160	0.214	250	0.739	340	0.974
80	0.968	170	0.199	260	0.841	350	0.972

Additional Azimuths

Degree	V _A
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