

## **ENGINEERING EXHIBIT**

### **Incentive Auction Channel Reassignment**

#### **Application for Digital Television Station Construction Permit**

prepared for

#### **Gray Television Licensee, LLC**

WCAV(DT) Charlottesville, VA

Facility ID 363

Ch. 32 210 kW 329 m

*Gray Television Licensee, LLC (“Gray”)* is the licensee of digital television station WCAV(DT), Channel 19, Facility ID 363, Charlottesville, VA. *Gray* herein proposes construction of the WCAV post-auction facility on Channel 32. Reassignment of WCAV from Channel 19 to Channel 32 was specified in the *Incentive Auction Closing and Channel Reassignment Public Notice (“CCRPN”*, DA 17-317, released April 13, 2017).

The proposed Channel 32 operation will employ a new antenna system to be top-mounted on the WCAV tower in lieu of the existing Channel 19 antenna. The overall structure elevation is less than 61 meters above ground and passes the FCC’s TOWAIR program for the transmitter location, thus FCC antenna structure registration is not necessary. No change to the overall structure height will result.

*Gray* proposes to operate WCAV with an effective radiated power (“ERP”) of 210 kW at 329 meters antenna height above average terrain (“HAAT”). The proposed antenna is an elliptically polarized Dielectric model TFU-22ETT/VP-R C170 (30 percent vertical polarization). The maximum horizontally polarized ERP is 210 kW and the maximum vertically polarized ERP is 63 kW. The vertically polarized component will not exceed the horizontally polarized component at any azimuth. The directional antenna’s azimuthal patterns are depicted in Figures 1 and 1A for horizontal and vertical polarization, respectively. The antenna’s elevation pattern is depicted in Figure 2.

A map is supplied as Figure 3 which depicts the standard predicted coverage contours. This map includes the location of Charlottesville, WCAV's principal community. As demonstrated thereon, the proposed facility complies with §73.625(a)(1) as the entire principal community will be encompassed by the 48 dBμ contour.

The proposed noise limited service contour ("NLSC") extends beyond that of the *CCRPN* parameters of 207 kW ERP and 326 meters HAAT. The proposal complies with §73.3700(b)(ii) as described in the following.

The *CCRPN* facility specifies the directional antenna pattern corresponding to the WCAV's licensed Channel 19. The antenna manufacturer cannot provide the exact pattern on the new channel due to the change in frequency and corresponding mechanical limitations of antenna construction. The directional pattern proposed herein replicates the reassignment pattern as closely as possible. The proposal results in a slightly larger coverage contour in some directions in order to achieve the *CCRPN* coverage contour. Therefore, due to the difference in directional pattern, WCAV qualifies under §73.3700(b)(ii)(A) for a contour extension due to the loss of coverage area that would otherwise result.

Interference study per FCC OET Bulletin 69<sup>1</sup> shows that the proposal complies with the 0.5 percent limit of new interference caused to pertinent nearby post-auction full service and Class A television stations and reassignments as required by §73.616. The interference study output report is provided as Table 1. This satisfies §73.3700(b)(ii)(C) for the proposed NLSC extension.

The amount of NLSC extension does not exceed one percent in any direction. Figure 4 supplies a coverage contour comparison of the proposed WCAV facility to the reassignment facility's contour and a one percent extension distance of the reassignment facility's contour.

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<sup>1</sup>FCC 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, 2 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.

Here, the contour level is adjusted with the dipole factor to match FCC application processing. Table 1's results also demonstrate that the proposed contour is within the baseline contour plus one percent. Therefore the proposed contour extension complies with §73.3700(b)(ii)(B).

The proposed WCAV facility's terrain-limited population provides a 101.1 percent match of the *CCRPN* baseline facility, as detailed in the following table. The OET Bulletin 69 report summary in Table 1 also concludes that the proposed service area population is more than 95 percent of the baseline population.

**Terrain Limited Population - Match of Reassignment**

Population Summary (2010 Census) OET Bulletin 69: TVStudy	Reassignment Parameters	Proposed
Within Noise Limited Contour	949,732	958,555
Not affected by terrain losses	725,550	733,735
Match of Reassignment	---	<b>101.13%</b>

The nearest FCC monitoring station is 195 km distant at Laurel, MD. This exceeds by a large margin the threshold minimum distance specified in §73.1030(c)(3) that would suggest consideration of the monitoring station. The site is not located within the areas requiring coordination with "quiet" zones specified in §73.1030(a) and (b). The site location is beyond the border areas requiring international coordination. There are no authorized AM stations within 3 kilometers of the site.

### **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 the antenna relative field (see Figure 2) in downward elevations, the graph in Figure 5 depicts calculated power density levels attributable to the proposed WCAV at locations near the site at a height of two meters above ground level. The maximum calculated RF electromagnetic field attributable to the proposed facility is 1.8 percent of the general population / uncontrolled MPE limit at any location two meters above ground level, which occurs within 20 meters of the tower's base. This is 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.

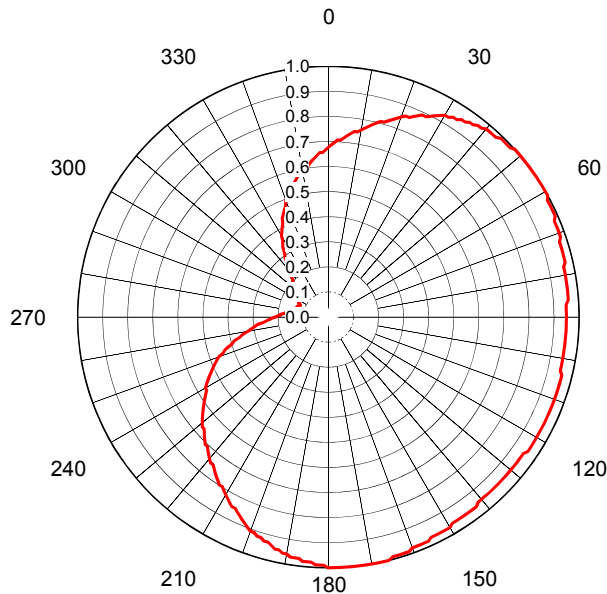
The general public will not be exposed to RF levels attributable to the proposal in excess of the FCC's guidelines. RF exposure warning signs will continue to be posted. With respect to worker safety, the applicant will coordinate exposure procedures with all pertinent stations and will reduce power 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, 1A	Antenna Azimuthal Pattern
Figure 2	Antenna Elevation Pattern
Figure 3	Proposed Coverage Contours
Figure 4	Proposed Contour Expansion
Figure 5	Calculated RF Electromagnetic Field
Table 1	OET Bulletin 69 Interference Study
Form 2100	Saved Version of Engineering Sections from FCC Form at Time of Upload

**Chesapeake RF Consultants, LLC**

Joseph M. Davis, P.E.	June 15, 2017	
207 Old Dominion Road	Yorktown, VA 23692	703-650-9600



## AZIMUTH PATTERN Horizontal Polarization

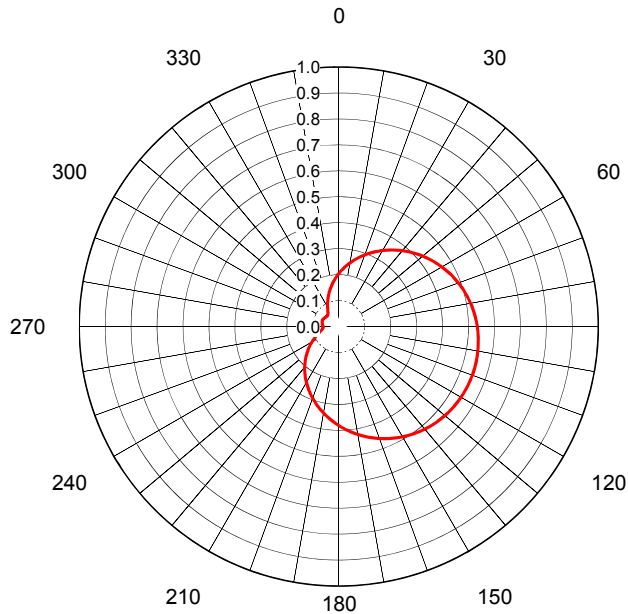
Proposal No. **C-70427**  
 Date **12-Mar-17**  
 Call Letters **WCAV**  
 Channel **32**  
 Frequency **581 MHz**  
 Antenna Type **TFU-20ETT/VP-R C170**  
 Gain **1.66 (2.2dB)**  
**Calculated**

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.677	36	0.960	72	0.970	108	0.960	144	0.960	180	1.000	216	0.768	252	0.434	288	0.131
1	0.687	37	0.960	73	0.970	109	0.960	145	0.960	181	0.990	217	0.758	253	0.424	289	0.131
2	0.697	38	0.970	74	0.970	110	0.960	146	0.960	182	0.990	218	0.747	254	0.404	290	0.121
3	0.707	39	0.970	75	0.970	111	0.960	147	0.960	183	0.990	219	0.747	255	0.394	291	0.121
4	0.707	40	0.980	76	0.970	112	0.960	148	0.960	184	0.980	220	0.737	256	0.384	292	0.121
5	0.717	41	0.980	77	0.970	113	0.960	149	0.960	185	0.980	221	0.727	257	0.364	293	0.121
6	0.727	42	0.980	78	0.960	114	0.960	150	0.970	186	0.980	222	0.717	258	0.354	294	0.121
7	0.737	43	0.980	79	0.960	115	0.960	151	0.970	187	0.970	223	0.707	259	0.343	295	0.131
8	0.747	44	0.990	80	0.960	116	0.960	152	0.970	188	0.970	224	0.707	260	0.323	296	0.131
9	0.747	45	0.990	81	0.960	117	0.960	153	0.970	189	0.970	225	0.697	261	0.313	297	0.131
10	0.758	46	0.990	82	0.960	118	0.960	154	0.970	190	0.960	226	0.687	262	0.303	298	0.131
11	0.768	47	0.990	83	0.960	119	0.960	155	0.970	191	0.960	227	0.677	263	0.293	299	0.131
12	0.778	48	1.000	84	0.960	120	0.960	156	0.980	192	0.949	228	0.667	264	0.283	300	0.131
13	0.788	49	1.000	85	0.960	121	0.960	157	0.980	193	0.949	229	0.667	265	0.263	301	0.131
14	0.798	50	1.000	86	0.960	122	0.960	158	0.980	194	0.939	230	0.657	266	0.253	302	0.131
15	0.808	51	1.000	87	0.949	123	0.960	159	0.980	195	0.929	231	0.646	267	0.242	303	0.141
16	0.808	52	1.000	88	0.949	124	0.960	160	0.980	196	0.929	232	0.636	268	0.232	304	0.141
17	0.818	53	1.000	89	0.949	125	0.949	161	0.990	197	0.919	233	0.626	269	0.222	305	0.141
18	0.828	54	1.000	90	0.949	126	0.949	162	0.990	198	0.919	234	0.616	270	0.212	306	0.141
19	0.838	55	1.000	91	0.949	127	0.949	163	0.990	199	0.909	235	0.606	271	0.202	307	0.152
20	0.848	56	1.000	92	0.949	128	0.949	164	0.990	200	0.909	236	0.596	272	0.192	308	0.152
21	0.859	57	1.000	93	0.949	129	0.949	165	0.990	201	0.899	237	0.586	273	0.192	309	0.152
22	0.859	58	1.000	94	0.949	130	0.949	166	1.000	202	0.889	238	0.576	274	0.182	310	0.162
23	0.869	59	1.000	95	0.949	131	0.949	167	1.000	203	0.879	239	0.566	275	0.172	311	0.162
24	0.879	60	1.000	96	0.949	132	0.949	168	1.000	204	0.869	240	0.566	276	0.172	312	0.172
25	0.889	61	1.000	97	0.949	133	0.949	169	1.000	205	0.859	241	0.556	277	0.162	313	0.182
26	0.889	62	0.990	98	0.949	134	0.949	170	1.000	206	0.848	242	0.545	278	0.162	314	0.192
27	0.899	63	0.990	99	0.949	135	0.949	171	1.000	207	0.848	243	0.535	279	0.152	315	0.202
28	0.909	64	0.990	100	0.949	136	0.949	172	1.000	208	0.838	244	0.525	280	0.141	316	0.202
29	0.919	65	0.990	101	0.949	137	0.949	173	1.000	209	0.828	245	0.515	281	0.141	317	0.212
30	0.929	66	0.990	102	0.949	138	0.949	174	1.000	210	0.818	246	0.505	282	0.141	318	0.222
31	0.929	67	0.980	103	0.949	139	0.949	175	1.000	211	0.808	247	0.495	283	0.141	319	0.232
32	0.939	68	0.980	104	0.960	140	0.949	176	1.000	212	0.798	248	0.485	284	0.141	320	0.242
33	0.939	69	0.980	105	0.960	141	0.949	177	1.000	213	0.798	249	0.475	285	0.131	321	0.253
34	0.949	70	0.980	106	0.960	142	0.960	178	1.000	214	0.788	250	0.465	286	0.131	322	0.263
35	0.949	71	0.980	107	0.960	143	0.960	179	1.000	215	0.778	251	0.444	287	0.131	323	0.273

**Figure 1**  
**Antenna Azimuthal Pattern**  
**Horizontal Polarization**  
**WCAV(DT) Charlottesville, VA**  
**Facility ID 363**  
**Ch. 32 210 kW 329 m**

prepared for  
**Gray Television Licensee, LLC**

June, 2017



## AZIMUTH PATTERN Vertical Polarization

Proposal No. **C-70427**  
 Date **12-Mar-17**  
 Call Letters **WCAV**  
 Channel **32**  
 Frequency **581 MHz**  
 Antenna Type **TFU-20ETT/VP-R C170**  
 Gain **2.53 (4.03dB)**  
**Calculated**

Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value	Deg	Value
0	0.204	36	0.364	72	0.497	108	0.548	144	0.507	180	0.381	216	0.222	252	0.080	288	0.067
1	0.208	37	0.369	73	0.499	109	0.548	145	0.504	181	0.377	217	0.217	253	0.077	289	0.067
2	0.213	38	0.373	74	0.502	110	0.548	146	0.502	182	0.373	218	0.213	254	0.075	290	0.067
3	0.217	39	0.377	75	0.504	111	0.548	147	0.499	183	0.369	219	0.208	255	0.073	291	0.067
4	0.222	40	0.381	76	0.507	112	0.548	148	0.497	184	0.364	220	0.204	256	0.071	292	0.067
5	0.226	41	0.386	77	0.509	113	0.548	149	0.494	185	0.360	221	0.199	257	0.069	293	0.067
6	0.231	42	0.390	78	0.512	114	0.548	150	0.491	186	0.356	222	0.195	258	0.067	294	0.067
7	0.235	43	0.394	79	0.514	115	0.547	151	0.488	187	0.351	223	0.190	259	0.066	295	0.066
8	0.240	44	0.398	80	0.516	116	0.547	152	0.485	188	0.347	224	0.186	260	0.065	296	0.066
9	0.244	45	0.402	81	0.518	117	0.546	153	0.482	189	0.343	225	0.181	261	0.064	297	0.066
10	0.249	46	0.406	82	0.520	118	0.546	154	0.479	190	0.338	226	0.177	262	0.063	298	0.065
11	0.253	47	0.410	83	0.522	119	0.545	155	0.476	191	0.334	227	0.173	263	0.062	299	0.065
12	0.258	48	0.414	84	0.524	120	0.545	156	0.473	192	0.329	228	0.168	264	0.061	300	0.064
13	0.262	49	0.418	85	0.526	121	0.544	157	0.469	193	0.325	229	0.164	265	0.061	301	0.064
14	0.267	50	0.422	86	0.528	122	0.543	158	0.466	194	0.321	230	0.160	266	0.060	302	0.064
15	0.271	51	0.426	87	0.529	123	0.542	159	0.463	195	0.316	231	0.155	267	0.060	303	0.063
16	0.276	52	0.430	88	0.531	124	0.541	160	0.459	196	0.312	232	0.151	268	0.060	304	0.063
17	0.280	53	0.434	89	0.532	125	0.540	161	0.456	197	0.307	233	0.147	269	0.060	305	0.062
18	0.285	54	0.438	90	0.534	126	0.539	162	0.452	198	0.303	234	0.143	270	0.060	306	0.062
19	0.289	55	0.441	91	0.535	127	0.538	163	0.449	199	0.298	235	0.139	271	0.061	307	0.061
20	0.294	56	0.445	92	0.537	128	0.537	164	0.445	200	0.294	236	0.135	272	0.061	308	0.061
21	0.298	57	0.449	93	0.538	129	0.535	165	0.441	201	0.289	237	0.131	273	0.061	309	0.061
22	0.303	58	0.452	94	0.539	130	0.534	166	0.438	202	0.285	238	0.127	274	0.062	310	0.060
23	0.307	59	0.456	95	0.540	131	0.532	167	0.434	203	0.280	239	0.123	275	0.062	311	0.060
24	0.312	60	0.459	96	0.541	132	0.531	168	0.430	204	0.276	240	0.119	276	0.063	312	0.060
25	0.316	61	0.463	97	0.542	133	0.529	169	0.426	205	0.271	241	0.115	277	0.063	313	0.060
26	0.321	62	0.466	98	0.543	134	0.528	170	0.422	206	0.267	242	0.111	278	0.064	314	0.060
27	0.325	63	0.469	99	0.544	135	0.526	171	0.418	207	0.262	243	0.108	279	0.064	315	0.061
28	0.329	64	0.473	100	0.545	136	0.524	172	0.414	208	0.258	244	0.104	280	0.064	316	0.061
29	0.334	65	0.476	101	0.545	137	0.522	173	0.410	209	0.253	245	0.101	281	0.065	317	0.062
30	0.338	66	0.479	102	0.546	138	0.520	174	0.406	210	0.249	246	0.097	282	0.065	318	0.063
31	0.343	67	0.482	103	0.546	139	0.518	175	0.402	211	0.244	247	0.094	283	0.066	319	0.064
32	0.347	68	0.485	104	0.547	140	0.516	176	0.398	212	0.240	248	0.091	284	0.066	320	0.065
33	0.351	69	0.488	105	0.547	141	0.514	177	0.394	213	0.235	249	0.088	285	0.066	321	0.066
34	0.356	70	0.491	106	0.548	142	0.512	178	0.390	214	0.231	250	0.085	286	0.067	322	0.067
35	0.360	71	0.494	107	0.548	143	0.509	179	0.386	215	0.226	251	0.082	287	0.067	323	0.069

**Figure 1A**  
**Antenna Azimuthal Pattern**  
**Vertical Polarization**  
**WCAV(DT) Charlottesville, VA**  
**Facility ID 363**  
**Ch. 32 210 kW 329 m**

prepared for  
**Gray Television Licensee, LLC**

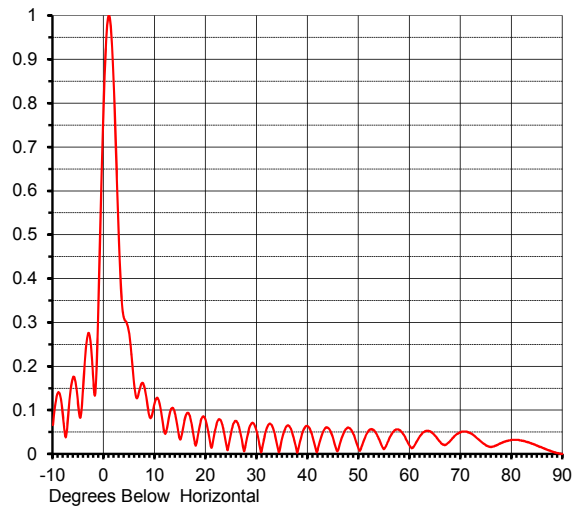
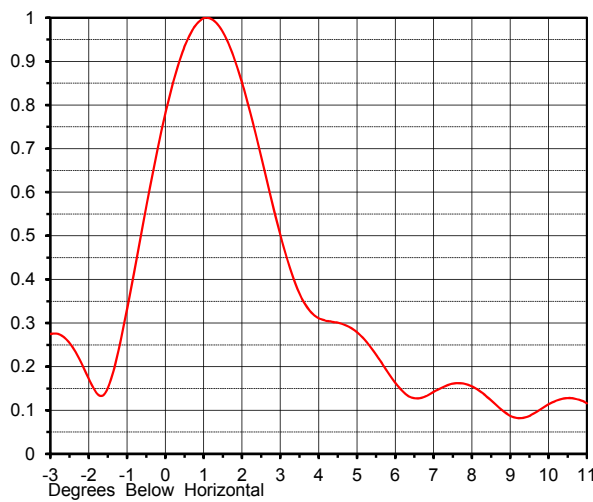
June, 2017

## ELEVATION PATTERN

Proposal No. **C-70427**  
 Date **12-Mar-17**  
 Call Letters **WCAV**  
 Channel **32**  
 Frequency **581 MHz**  
 Antenna Type **TFU-20ETT/VP-R C170**

RMS Directivity at Main Lobe **18.8 ( 12.74 dB )**  
 RMS Directivity at Horizontal **11.5 ( 10.61 dB )**  
**Calculated**

Beam Tilt **1.00 deg**  
 Drawing Number **20E188100**



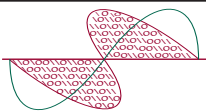
Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.066	10.0	0.118	30.0	0.050	50.0	0.010	70.0	0.050
-9.0	0.140	11.0	0.111	31.0	0.010	51.0	0.031	71.0	0.051
-8.0	0.083	12.0	0.046	32.0	0.060	52.0	0.054	72.0	0.047
-7.0	0.089	13.0	0.096	33.0	0.064	53.0	0.053	73.0	0.038
-6.0	0.176	14.0	0.090	34.0	0.020	54.0	0.033	74.0	0.028
-5.0	0.107	15.0	0.033	35.0	0.037	55.0	0.012	75.0	0.019
-4.0	0.165	16.0	0.085	36.0	0.065	56.0	0.036	76.0	0.016
-3.0	0.276	17.0	0.080	37.0	0.046	57.0	0.054	77.0	0.020
-2.0	0.155	18.0	0.019	38.0	0.005	58.0	0.054	78.0	0.025
-1.0	0.377	19.0	0.075	39.0	0.050	59.0	0.040	79.0	0.029
0.0	0.817	20.0	0.076	40.0	0.063	60.0	0.018	80.0	0.032
1.0	1.000	21.0	0.016	41.0	0.037	61.0	0.021	81.0	0.032
2.0	0.821	22.0	0.064	42.0	0.012	62.0	0.041	82.0	0.030
3.0	0.470	23.0	0.075	43.0	0.051	63.0	0.052	83.0	0.027
4.0	0.308	24.0	0.020	44.0	0.059	64.0	0.051	84.0	0.023
5.0	0.271	25.0	0.051	45.0	0.034	65.0	0.041	85.0	0.019
6.0	0.152	26.0	0.075	46.0	0.011	66.0	0.027	86.0	0.014
7.0	0.147	27.0	0.035	47.0	0.047	67.0	0.021	87.0	0.009
8.0	0.150	28.0	0.033	48.0	0.060	68.0	0.031	88.0	0.005
9.0	0.084	29.0	0.070	49.0	0.044	69.0	0.043	89.0	0.002
								90.0	0.000

**Figure 2**  
**Antenna Elevation Pattern**  
**WCAV(DT) Charlottesville, VA**  
**Facility ID 363**  
**Ch. 32 210 kW 329 m**

prepared for  
**Gray Television Licensee, LLC**

June, 2017





**Chesapeake RF Consultants, LLC**  
Radiofrequency Consulting Engineers  
Digital Television and Radio

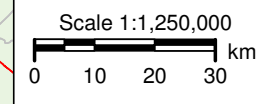
**Figure 3**  
**Proposed Coverage Contours**  
**WCAV(DT) Charlottesville, VA**  
**Facility ID 363**  
**Ch. 32 210 kW 329 m**

prepared for  
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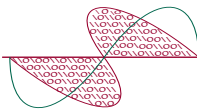
June, 2017

Proposed WCAV
48 dBμ
(Principal Community)
41 dBμ
(Noise Limited Service Contour)

Proposed Digital Coverage	Area (sq. km)	Population (2010 Census)
Within Noise Limited Service Contour	20,965.1	973,431
OET Bulletin 69: TVStudy		
Within noise limited contour	20,944.5	958,555
Not affected by terrain losses	17,856.2	733,735
Lost to all interference	295.0	5,265
Net Interference-Free Service	17,561.2	728,470





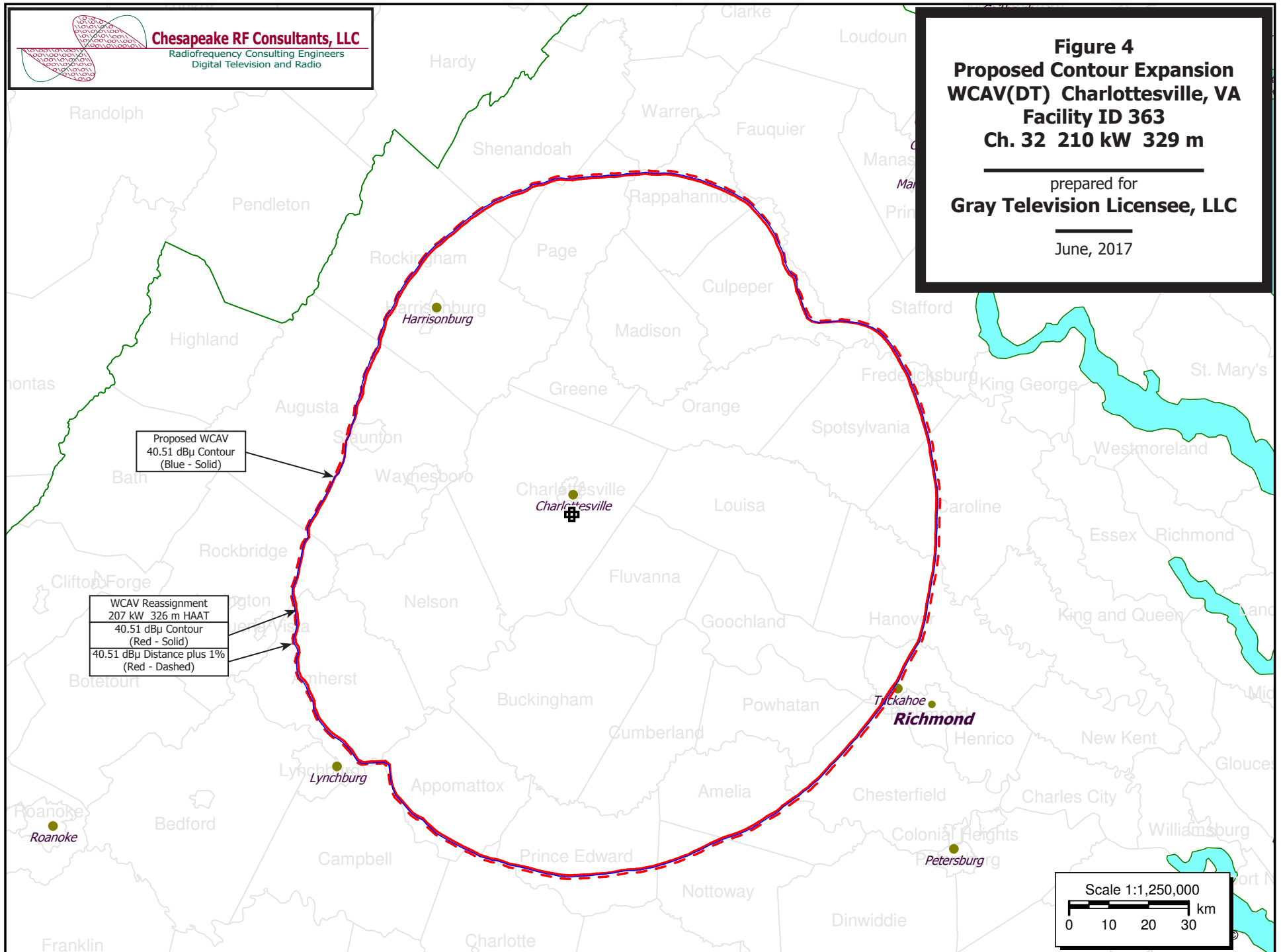


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Radiofrequency Consulting Engineers  
Digital Television and Radio

**Figure 4**  
**Proposed Contour Expansion**  
**WCAV(DT) Charlottesville, VA**  
**Facility ID 363**  
**Ch. 32 210 kW 329 m**

prepared for  
**Gray Television Licensee, LLC**

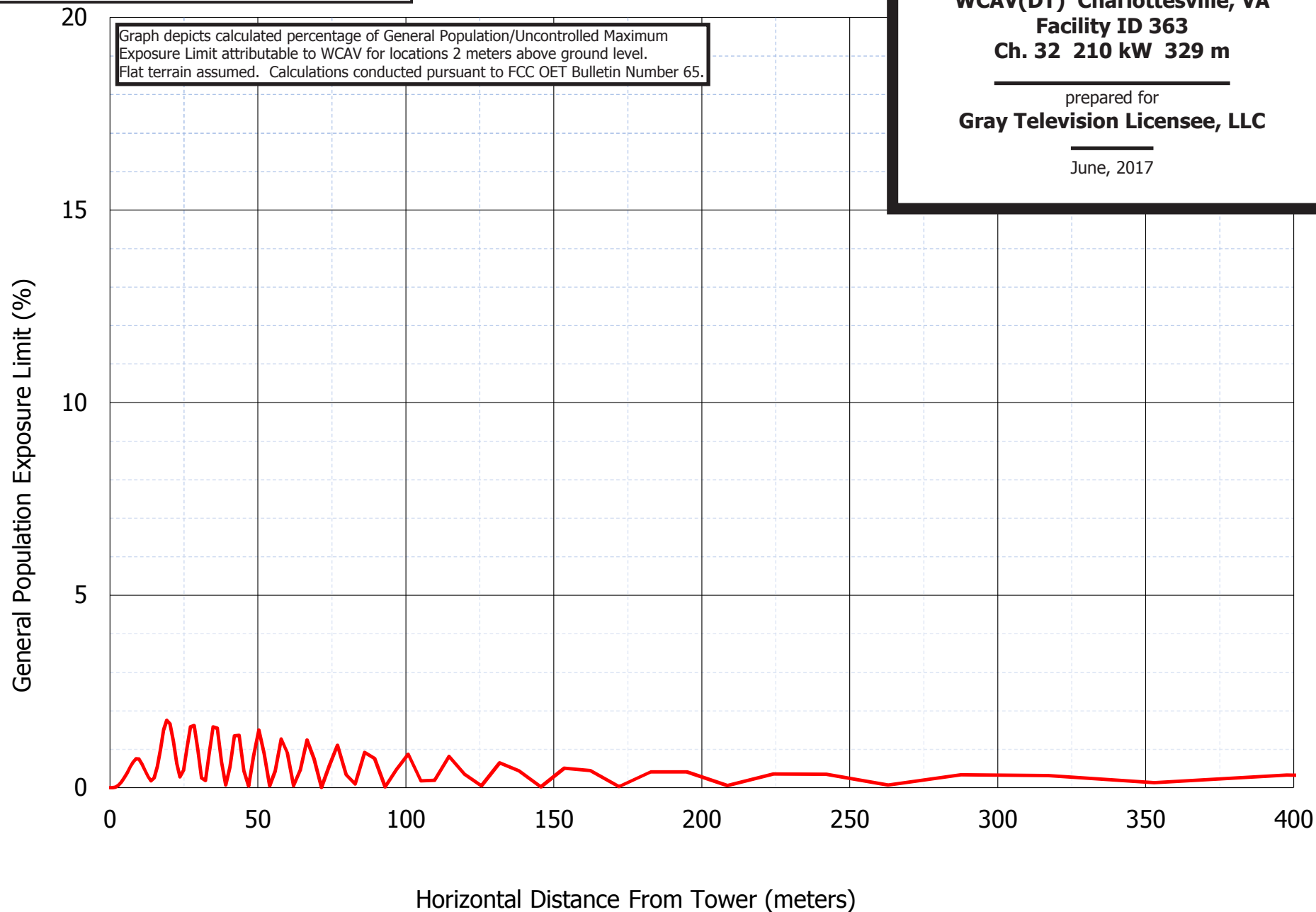
June, 2017



**Figure 5**  
**Calculated RF Electromagnetic Field**  
**WCAV(DT) Charlottesville, VA**  
**Facility ID 363**  
**Ch. 32 210 kW 329 m**

prepared for  
**Gray Television Licensee, LLC**

June, 2017



**Table 1 WCAV(DT) OET Bulletin 69 Interference Study**  
(page 1 of 10)



tvstudy v2.2.2

Database: localhost, Study: WCAV 210KW\_PROP, Model: Longley-Rice  
Start: 2017.06.15 17:33:57

Study created: 2017.06.15 17:33:49

Study build station data: LMS TV 2017-06-14 LMSTV

Proposal: WCAV D32 DT APP CHARLOTTESVILLE, VA  
File number: WCAV 210KW PROP  
Facility ID: 363  
Station data: User record  
Record ID: 386  
Country: U.S.

Stations potentially affected:

Call	Chan	Svc	Status	City, State	File Number	Distance
WMPT	D31	DT	BL	ANNAPOLIS, MD	DTVBL65942	198.8 km
WHRO-TV	D31	DT	BL	HAMPTON-NORFOLK, VA	DTVBL25932	218.1
WOAY-TV	D31	DT	BL	OAK HILL, WV	DTVBL66804	233.9
WBOC-TV	D32	DT	BL	SALISBURY, MD	DTVBL71218	254.4
WAXN-TV	D32	DT	BL	KANNAPOLIS, NC	DTVBL12793	362.9
WRPX-TV	D32	DT	BL	ROCKY MOUNT, NC	DTVBL20590	210.7
WOUB-TV	D32	DT	BL	ATHENS, OH	DTVBL50147	351.1
WMVH-CD	D32	DC	BL	CHARLEROI, PA	DTVBL68394	267.3
WHP-TV	D32	DT	BL	HARRISBURG, PA	DTVBL72313	296.9
WKHU-CD	D32	DC	BL	KITTANNING, PA	DTVBL68401	324.5
WKPT-TV	D32	DT	BL	KINGSPORT, TN	DTVBL27504	366.8
WPXV-TV	D32	DT	BL	NORFOLK, VA	DTVBL67077	218.1
WHUT-TV	D33	DT	LIC	WASHINGTON, DC	BLEDT20071018AIJ	162.5
WHUT-TV	D33	DT	CP	WASHINGTON, DC	BPEDT20120627AAD	162.5
WUNL-TV	D33	DT	BL	WINSTON-SALEM, NC	DTVBL69360	245.0
WTVZ-TV	D33	DT	LIC	NORFOLK, VA	BLCDT20090602ABA	218.1

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D32  
Latitude: 37 59 4.20 N (NAD83)  
Longitude: 78 28 51.10 W  
Height AMSL: 495.0 m  
HAAT: 329.0 m  
Peak ERP: 210 kW  
Antenna: TFU-20ETT 20170312 0.0 deg

40.5 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	96.2 kW	350.2 m	84.0 km
45.0	206	262.7	79.7
90.0	189	379.3	91.4
135.0	189	365.4	90.3
180.0	210	359.2	90.6
225.0	102	315.6	80.8
270.0	9.44	274.8	64.3
315.0	8.57	325.0	66.9

Proposal service area is within baseline plus 1.0%  
Proposal service area population is more than 95.0% of baseline

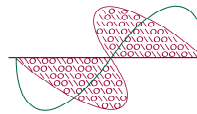
Distance to Canadian border: 508.5 km

Distance to Mexican border: 2184.9 km

Conditions at FCC monitoring station: Laurel MD  
Bearing: 47.2 degrees Distance: 195.0 km  
ERP: 208 kW Field strength: 16.0 dBu, 0.0 mV/m

Proposal is not within the West Virginia quiet zone area

**Table 1 WCAV(DT) OET Bulletin 69 Interference Study**  
(page 2 of 10)



**Chesapeake RF Consultants, LLC**  
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Conditions at Table Mountain receiving zone:  
Bearing: 284.4 degrees Distance: 2311.7 km

Study cell size: 2.00 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 DTVBL65942 BL, scenario 1  
Proposal causes no interference.

-----  
Interference to DTVBL65942 BL, scenario 2  
Proposal causes no interference.

-----  
Interference to DTVBL25932 BL, scenario 1  
Proposal causes no interference.

-----  
Interference to DTVBL66804 BL, scenario 1  
Proposal causes no interference.

-----  
Interference to DTVBL66804 BL, scenario 2  
Proposal causes no interference.

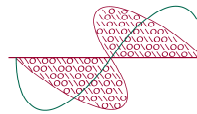
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Interference to DTVBL71218 BL, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WBOC-TV	D32	DT	BL	SALISBURY, MD	DTVBL71218	
Undesireds:	WCAV	D32	DT	BL	CHARLOTTESVILLE, VA	DTVBL363	254.4 km
	WCAV	D32	DT	APP	CHARLOTTESVILLE, VA	WCAV 210KW PROP	254.4
	WMPT	D31	DT	BL	ANNAPOLIS, MD	DTVBL65942	100.8
	WTFX-TV	D31	DT	BL	PHILADELPHIA, PA	DTVBL51568	174.2
	WRPX-TV	D32	DT	BL	ROCKY MOUNT, NC	DTVBL20590	349.3
	WLIW	D32	DT	BL	GARDEN CITY, NY	DTVBL38336	315.6
	WHP-TV	D32	DT	BL	HARRISBURG, PA	DTVBL72313	230.0
	WPXV-TV	D32	DT	BL	NORFOLK, VA	DTVBL67077	203.1
	WHUT-TV	D33	DT	LIC	WASHINGTON, DC	BL EDT20071018AIJ	134.0
	WPSG	D33	DT	APP	PHILADELPHIA, PA	BLANK0000024876	174.4
-----							
	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
	22174.9	782,818	22174.9	782,818	21832.0	777,620	0.00 0.00
Undesired			Total IX		Unique IX, before		Unique IX, after
WCAV D32 DT BL		4.0		5	0.0	0	
WCAV D32 DT APP		4.0		5		0.0	0
WMPT D31 DT BL		171.9		1,076	171.9	1,076	
WHP-TV D32 DT BL		4.0		150	0.0	0	
WPXV-TV D32 DT BL		171.1		4,122	163.1	3,967	

-----  
Interference to DTVBL71218 BL, scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WBOC-TV	D32	DT	BL	SALISBURY, MD	DTVBL71218	
Undesireds:	WCAV	D32	DT	BL	CHARLOTTESVILLE, VA	DTVBL363	254.4 km
	WCAV	D32	DT	APP	CHARLOTTESVILLE, VA	WCAV 210KW PROP	254.4
	WMPT	D31	DT	BL	ANNAPOLIS, MD	DTVBL65942	100.8
	WTFX-TV	D31	DT	BL	PHILADELPHIA, PA	DTVBL51568	174.2
	WRPX-TV	D32	DT	BL	ROCKY MOUNT, NC	DTVBL20590	349.3
	WLIW	D32	DT	BL	GARDEN CITY, NY	DTVBL38336	315.6
	WHP-TV	D32	DT	BL	HARRISBURG, PA	DTVBL72313	230.0
	WPXV-TV	D32	DT	BL	NORFOLK, VA	DTVBL67077	203.1
	WHUT-TV	D33	DT	CP	WASHINGTON, DC	BP EDT20120627AAD	134.0

**Table 1 WCAV(DT) OET Bulletin 69 Interference Study**  
(page 3 of 10)



WPSG	D33	DT	APP	PHILADELPHIA, PA		BLANK0000024876		174.4	
Service area		Terrain-limited		IX-free, before		IX-free, after		Percent	New IX
22174.9	782,818	22174.9	782,818	21832.0	777,620	21832.0	777,620	0.00	0.00
Undesired			Total IX	Unique IX, before		Unique IX, after			
WCAV	D32	DT	BL	4.0	5	0.0	0		
WCAV	D32	DT	APP	4.0	5	0.0		0	
WMPT	D31	DT	BL	171.9	1,076	171.9	1,076		
WHP-TV	D32	DT	BL	4.0	150	0.0	0		
WPXV-TV	D32	DT	BL	171.1	4,122	163.1	3,967		

-----  
Interference to DTVBL71218 BL, scenario 3

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WBOC-TV	D32	DT	BL	SALISBURY, MD	DTVBL71218	
Undesireds:	WCAV	D32	DT	BL	CHARLOTTESVILLE, VA	DTVBL363	254.4 km
	WCAV	D32	DT	APP	CHARLOTTESVILLE, VA	WCAV 210KW PROP	254.4
	WMPT	D31	DT	BL	ANNAPOLIS, MD	DTVBL65942	100.8
	WTFX-TV	D31	DT	BL	PHILADELPHIA, PA	DTVBL51568	174.2
	WRPX-TV	D32	DT	BL	ROCKY MOUNT, NC	DTVBL20590	349.3
	WLIW	D32	DT	BL	GARDEN CITY, NY	DTVBL38336	315.6
	WHP-TV	D32	DT	BL	HARRISBURG, PA	DTVBL72313	230.0
	WPXV-TV	D32	DT	BL	NORFOLK, VA	DTVBL67077	203.1
	WHUT-TV	D33	DT	LIC	WASHINGTON, DC	BLEDT20071018AIJ	134.0
	WPSG	D33	DT	BL	PHILADELPHIA, PA	DTVBL12499	174.4

Service area				Terrain-limited			IX-free, before	IX-free, after	Percent New IX
22174.9	782,818	22174.9	782,818	21832.0	777,620	21832.0	777,620	0.00	0.00
Undesired				Total IX	Unique IX, before		Unique IX, after		
WCAV D32 DT BL	4.0			5	0.0	0			
WCAV D32 DT APP	4.0			5			0.0	0	
WMPT D31 DT BL	171.9			1,076	171.9	1,076	171.9	1,076	
WHP-TV D32 DT BL	4.0			150	0.0	0	0.0	0	
WPXV-TV D32 DT BL	171.1			4,122	163.1	3,967	163.1	3,967	

-----  
Interference to DTVBL71218 BL, scenario 4

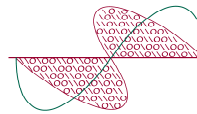
Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WBOC-TV	D32	DT	BL	SALISBURY, MD	DTVBL71218	
Undesireds:	WCAV	D32	DT	BL	CHARLOTTESVILLE, VA	DTVBL363	254.4 km
	WCAV	D32	DT	APP	CHARLOTTESVILLE, VA	WCAV 210KW PROP	254.4
	WMPT	D31	DT	BL	ANNAPOLIS, MD	DTVBL65942	100.8
	WTFX-TV	D31	DT	BL	PHILADELPHIA, PA	DTVBL51568	174.2
	WRPX-TV	D32	DT	BL	ROCKY MOUNT, NC	DTVBL20590	349.3
	WLIW	D32	DT	BL	GARDEN CITY, NY	DTVBL38336	315.6
	WHP-TV	D32	DT	BL	HARRISBURG, PA	DTVBL72313	230.0
	WPXV-TV	D32	DT	BL	NORFOLK, VA	DTVBL67077	203.1
	WHUT-TV	D33	DT	CP	WASHINGTON, DC	BPEDT20120627AAD	134.0
	WPSG	D33	DT	BL	PHILADELPHIA, PA	DTVBL12499	174.4

Service area				Terrain-limited			IX-free, before	IX-free, after	Percent New IX
22174.9	782,818	22174.9	782,818	21832.0	777,620	21832.0	777,620	0.00	0.00
Undesired				Total IX	Unique IX, before		Unique IX, after		
WCAV D32 DT BL	4.0			5	0.0	0			
WCAV D32 DT APP	4.0			5			0.0	0	
WMPT D31 DT BL	171.9			1,076	171.9	1,076	171.9	1,076	
WHP-TV D32 DT BL	4.0			150	0.0	0	0.0	0	
WPXV-TV D32 DT BL	171.1			4,122	163.1	3,967	163.1	3,967	

-----  
Interference to DTVBL12793 BL, scenario 1  
Proposal causes no interference.

-----  
Interference to DTVBL20590 BL, scenario 1

**Table 1 WCAV(DT) OET Bulletin 69 Interference Study**  
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Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WRPX-TV	D32	DT	BL	ROCKY MOUNT, NC	DTVBL20590	
Undesireds:	WCAV	D32	DT	BL	CHARLOTTESVILLE, VA	DTVBL363	210.7 km
	WCAV	D32	DT	APP	CHARLOTTESVILLE, VA	WCAV 210KW PROP	210.7
	WGHP	D31	DT	BL	HIGH POINT, NC	DTVBL72106	151.9
	WHRO-TV	D31	DT	BL	HAMPTON-NORFOLK, VA	DTVBL25932	170.1
	WBOC-TV	D32	DT	BL	SALISBURY, MD	DTVBL71218	349.3
	WAXN-TV	D32	DT	BL	KANNAPOLIS, NC	DTVBL12793	247.3
	WMBF-TV	D32	DT	LIC	MYRTLE BEACH, SC	BLCDT20091105AAP	275.7
	WKPT-TV	D32	DT	BL	KINGSPORT, TN	DTVBL27504	355.5
	WPXV-TV	D32	DT	BL	NORFOLK, VA	DTVBL67077	170.0
	WLPS-CD	D33	DC	BL	LUMBERTON-PEMBROKE, NC	DTVBL167158	176.7
	WTVZ-TV	D33	DT	LIC	NORFOLK, VA	BLCDT20090602ABA	170.1

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
23122.5 2,218,968	23070.4 2,217,851	22520.6 2,207,906	22508.7 2,207,935	0.05 -0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WCAV D32 DT BL 242.6	4,631	190.9 3,320	
WCAV D32 DT APP 250.6	4,546		202.9 3,291
WGHP D31 DT BL 40.1	1,795	40.1 1,795	40.1 1,795
WPXV-TV D32 DT BL 318.7	4,830	267.0 3,519	271.0 3,575

Interference to DTVBL50147 BL, scenario 1  
Proposal causes no interference.

Interference to DTVBL50147 BL, scenario 2  
Proposal causes no interference.

Interference to DTVBL50147 BL, scenario 3  
Proposal causes no interference.

Interference to DTVBL50147 BL, scenario 4  
Proposal causes no interference.

Interference to DTVBL68394 BL, scenario 1  
Proposal causes no interference.

Interference to DTVBL68394 BL, scenario 2  
Proposal causes no interference.

Interference to DTVBL68394 BL, scenario 3  
Proposal causes no interference.

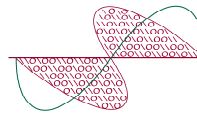
Interference to DTVBL68394 BL, scenario 4  
Proposal causes no interference.

Interference to DTVBL72313 BL, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WHP-TV	D32	DT	BL	HARRISBURG, PA	DTVBL72313	
Undesireds:	WCAV	D32	DT	BL	CHARLOTTESVILLE, VA	DTVBL363	296.9 km
	WCAV	D32	DT	APP	CHARLOTTESVILLE, VA	WCAV 210KW PROP	296.9
	WMPT	D31	DT	BL	ANNAPOLIS, MD	DTVBL65942	150.1
	WATM-TV	D31	DT	BL	ALTOONA, PA	DTVBL20287	135.5
	WTFX-TV	D31	DT	BL	PHILADELPHIA, PA	DTVBL51568	142.5
	WBOC-TV	D32	DT	BL	SALISBURY, MD	DTVBL71218	230.0
	WNLO	D32	DT	LIC	BUFFALO, NY	BLCDT20070320AAV	343.6
	WLIW	D32	DT	BL	GARDEN CITY, NY	DTVBL38336	292.7
	WTKO-CD	D32	DC	BL	ONEIDA, NY	DTVBL34341	318.4
	WMVH-CD	D32	DC	BL	CHARLEROI, PA	DTVBL68394	258.0
	WKHU-CD	D32	DC	BL	KITTANNING, PA	DTVBL68401	230.4



**Table 1 WCAV(DT) OET Bulletin 69 Interference Study**  
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**Chesapeake RF Consultants, LLC**  
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Digital Television and Radio

WPXV-TV	D32	DT	BL	NORFOLK, VA	DTVBL67077	394.4
WHUT-TV	D33	DT	LIC	WASHINGTON, DC	BLEDT20071018AIJ	156.1
WPSG	D33	DT	APP	PHILADELPHIA, PA	BLANK0000024876	142.1
WQPX-TV	D33	DT	BL	SCRANTON, PA	DTVBL64690	154.6

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
27883.3 3,045,798	24582.2 2,773,510	23562.4 2,666,084	23562.4 2,666,084	0.00 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WCAV D32 DT BL	43.8 9,396	11.9 2,653	
WCAV D32 DT APP	47.7 9,480		11.9 2,653
WMPT D31 DT BL	55.5 15,848	11.9 2,175	11.9 2,175
WATM-TV D31 DT BL	43.9 1,151	43.9 1,151	43.9 1,151
WTFX-TV D31 DT BL	112.8 15,879	20.1 2,456	20.1 2,456
WBOC-TV D32 DT BL	855.8 92,306	695.6 61,484	691.6 61,400
WNLO D32 DT LIC	11.9 149	11.9 149	11.9 149
WPSG D33 DT APP	133.1 14,851	24.2 1,659	24.2 1,659
WQPX-TV D33 DT BL	7.9 242	7.9 242	7.9 242

-----  
Interference to DTVBL72313 BL, scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WHP-TV	D32	DT	BL	HARRISBURG, PA	DTVBL72313	
Undesireds:	WCAV	D32	DT	BL	CHARLOTTESVILLE, VA	DTVBL363	296.9 km
	WCAV	D32	DT	APP	CHARLOTTESVILLE, VA	WCAV 210KW PROP	296.9
	WMPT	D31	DT	BL	ANNAPOLIS, MD	DTVBL65942	150.1
	WATM-TV	D31	DT	BL	ALTOONA, PA	DTVBL20287	135.5
	WTFX-TV	D31	DT	BL	PHILADELPHIA, PA	DTVBL51568	142.5
	WBOC-TV	D32	DT	BL	SALISBURY, MD	DTVBL71218	230.0
	WNLO	D32	DT	LIC	BUFFALO, NY	BLCDT20070320AAV	343.6
	WLIW	D32	DT	BL	GARDEN CITY, NY	DTVBL38336	292.7
	WTKO-CD	D32	DC	BL	ONEIDA, NY	DTVBL34341	318.4
	WMVH-CD	D32	DC	BL	CHARLEROI, PA	DTVBL68394	258.0
	WKHU-CD	D32	DC	BL	KITTANNING, PA	DTVBL68401	230.4
	WPXV-TV	D32	DT	BL	NORFOLK, VA	DTVBL67077	394.4
	WHUT-TV	D33	DT	CP	WASHINGTON, DC	BPEDT20120627AAD	156.1
	WPSG	D33	DT	APP	PHILADELPHIA, PA	BLANK0000024876	142.1
	WQPX-TV	D33	DT	BL	SCRANTON, PA	DTVBL64690	154.6

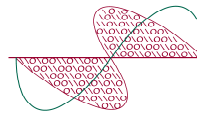
Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
27883.3 3,045,798	24582.2 2,773,510	23562.4 2,666,084	23562.4 2,666,084	0.00 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WCAV D32 DT BL	43.8 9,396	11.9 2,653	
WCAV D32 DT APP	47.7 9,480		11.9 2,653
WMPT D31 DT BL	55.5 15,848	11.9 2,175	11.9 2,175
WATM-TV D31 DT BL	43.9 1,151	43.9 1,151	43.9 1,151
WTFX-TV D31 DT BL	112.8 15,879	20.1 2,456	20.1 2,456
WBOC-TV D32 DT BL	855.8 92,306	667.8 58,204	663.9 58,120
WNLO D32 DT LIC	11.9 149	11.9 149	11.9 149
WHUT-TV D33 DT CP	35.7 4,135	0.0 0	0.0 0
WPSG D33 DT APP	133.1 14,851	24.2 1,659	24.2 1,659
WQPX-TV D33 DT BL	7.9 242	7.9 242	7.9 242

-----  
Interference to DTVBL72313 BL, scenario 3

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WHP-TV	D32	DT	BL	HARRISBURG, PA	DTVBL72313	
Undesireds:	WCAV	D32	DT	BL	CHARLOTTESVILLE, VA	DTVBL363	296.9 km
	WCAV	D32	DT	APP	CHARLOTTESVILLE, VA	WCAV 210KW PROP	296.9
	WMPT	D31	DT	BL	ANNAPOLIS, MD	DTVBL65942	150.1
	WATM-TV	D31	DT	BL	ALTOONA, PA	DTVBL20287	135.5
	WTFX-TV	D31	DT	BL	PHILADELPHIA, PA	DTVBL51568	142.5
	WBOC-TV	D32	DT	BL	SALISBURY, MD	DTVBL71218	230.0
	WNLO	D32	DT	LIC	BUFFALO, NY	BLCDT20070320AAV	343.6
	WLIW	D32	DT	BL	GARDEN CITY, NY	DTVBL38336	292.7
	WTKO-CD	D32	DC	BL	ONEIDA, NY	DTVBL34341	318.4
	WMVH-CD	D32	DC	BL	CHARLEROI, PA	DTVBL68394	258.0
	WKHU-CD	D32	DC	BL	KITTANNING, PA	DTVBL68401	230.4

**Table 1 WCAV(DT) OET Bulletin 69 Interference Study**  
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WPXV-TV	D32	DT	BL	NORFOLK, VA	DTVBL67077	394.4
WHUT-TV	D33	DT	LIC	WASHINGTON, DC	BLEDT20071018AIJ	156.1
WPSG	D33	DT	BL	PHILADELPHIA, PA	DTVBL12499	142.7
WQPX-TV	D33	DT	BL	SCRANTON, PA	DTVBL64690	154.6

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
27883.3 3,045,798	24582.2 2,773,510	23562.4 2,665,445	23562.4 2,665,445	0.00 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WCAV D32 DT BL	43.8 9,396	11.9 2,653	
WCAV D32 DT APP	47.7 9,480		11.9 2,653
WMPT D31 DT BL	55.5 15,848	11.9 2,175	11.9 2,175
WATM-TV D31 DT BL	43.9 1,151	43.9 1,151	43.9 1,151
WTFX-TV D31 DT BL	112.8 15,879	20.1 2,267	20.1 2,267
WBOC-TV D32 DT BL	855.8 92,306	703.6 59,777	699.7 59,693
WNLO D32 DT LIC	11.9 149	11.9 149	11.9 149
WPSG D33 DT BL	129.1 17,679	24.2 2,298	24.2 2,298
WQPX-TV D33 DT BL	7.9 242	7.9 242	7.9 242

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Interference to DTVBL72313 BL, scenario 4

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WHP-TV	D32	DT	BL	HARRISBURG, PA	DTVBL72313	
Undesireds:	WCAV	D32	DT	BL	CHARLOTTESVILLE, VA	DTVBL363	296.9 km
	WCAV	D32	DT	APP	CHARLOTTESVILLE, VA	WCAV 210KW PROP	296.9
	WMPT	D31	DT	BL	ANNAPOLIS, MD	DTVBL65942	150.1
	WATM-TV	D31	DT	BL	ALTOONA, PA	DTVBL20287	135.5
	WTFX-TV	D31	DT	BL	PHILADELPHIA, PA	DTVBL51568	142.5
	WBOC-TV	D32	DT	BL	SALISBURY, MD	DTVBL71218	230.0
	WNLO	D32	DT	LIC	BUFFALO, NY	BLCDT20070320AAV	343.6
	WLIW	D32	DT	BL	GARDEN CITY, NY	DTVBL38336	292.7
	WTKO-CD	D32	DC	BL	ONEIDA, NY	DTVBL34341	318.4
	WMVH-CD	D32	DC	BL	CHARLEROI, PA	DTVBL68394	258.0
	WKHU-CD	D32	DC	BL	KITTANNING, PA	DTVBL68401	230.4
	WPXV-TV	D32	DT	BL	NORFOLK, VA	DTVBL67077	394.4
	WHUT-TV	D33	DT	CP	WASHINGTON, DC	BPEDT20120627AAD	156.1
	WPSG	D33	DT	BL	PHILADELPHIA, PA	DTVBL12499	142.7
	WQPX-TV	D33	DT	BL	SCRANTON, PA	DTVBL64690	154.6

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
27883.3 3,045,798	24582.2 2,773,510	23562.4 2,665,445	23562.4 2,665,445	0.00 0.00

Undesired	Total IX	Unique IX, before	Unique IX, after
WCAV D32 DT BL	43.8 9,396	11.9 2,653	
WCAV D32 DT APP	47.7 9,480		11.9 2,653
WMPT D31 DT BL	55.5 15,848	11.9 2,175	11.9 2,175
WATM-TV D31 DT BL	43.9 1,151	43.9 1,151	43.9 1,151
WTFX-TV D31 DT BL	112.8 15,879	20.1 2,267	20.1 2,267
WBOC-TV D32 DT BL	855.8 92,306	675.9 56,497	671.9 56,413
WNLO D32 DT LIC	11.9 149	11.9 149	11.9 149
WHUT-TV D33 DT CP	35.7 4,135	0.0 0	0.0 0
WPSG D33 DT BL	129.1 17,679	24.2 2,298	24.2 2,298
WQPX-TV D33 DT BL	7.9 242	7.9 242	7.9 242

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Interference to DTVBL68401 BL, scenario 1  
Proposal causes no interference.

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Interference to DTVBL68401 BL, scenario 2  
Proposal causes no interference.

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Interference to DTVBL68401 BL, scenario 3  
Proposal causes no interference.

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Interference to DTVBL68401 BL, scenario 4  
Proposal causes no interference.

**Table 1 WCAV(DT) OET Bulletin 69 Interference Study**  
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Interference to DTVBL27504 BL, scenario 1  
Proposal causes no interference.

Interference to DTVBL27504 BL, scenario 2  
Proposal causes no interference.

Interference to DTVBL67077 BL, scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WPXV-TV	D32	DT	BL	NORFOLK, VA	DTVBL67077	
Undesireds:	WCAV	D32	DT	BL	CHARLOTTESVILLE, VA	DTVBL363	218.1 km
	WCAV	D32	DT	APP	CHARLOTTESVILLE, VA	WCAV 210KW PROP	218.1
	WHRO-TV	D31	DT	BL	HAMPTON-NORFOLK, VA	DTVBL25932	0.0
	WBOC-TV	D32	DT	BL	SALISBURY, MD	DTVBL71218	203.1
	WRPX-TV	D32	DT	BL	ROCKY MOUNT, NC	DTVBL20590	170.0
	WHP-TV	D32	DT	BL	HARRISBURG, PA	DTVBL72313	394.4
	WTVZ-TV	D33	DT	LIC	NORFOLK, VA	BLCDT20090602ABA	0.0
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
27784.9 1,905,128		27777.0 1,905,128		27068.3 1,893,761		27064.3 1,893,721	0.01 0.00
Undesired		Total IX		Unique IX, before		Unique IX, after	
WCAV D32 DT BL		127.5	4,823	111.6	4,524		
WCAV D32 DT APP		131.5	4,863			115.6	4,564
WHRO-TV D31 DT BL		19.9	82	8.0	60	8.0	60
WBOC-TV D32 DT BL		421.6	4,915	405.7	4,616	405.7	4,616
WRPX-TV D32 DT BL		143.5	1,846	127.6	1,644	127.6	1,644
WTVZ-TV D33 DT LIC		39.9	224	12.0	0	12.0	0

Interference to DTVBL67077 BL, scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WPXV-TV	D32	DT	BL	NORFOLK, VA	DTVBL67077	
Undesireds:	WCAV	D32	DT	BL	CHARLOTTESVILLE, VA	DTVBL363	218.1 km
	WCAV	D32	DT	APP	CHARLOTTESVILLE, VA	WCAV 210KW PROP	218.1
	WHRO-TV	D31	DT	BL	HAMPTON-NORFOLK, VA	DTVBL25932	0.0
	WBOC-TV	D32	DT	BL	SALISBURY, MD	DTVBL71218	203.1
	WRPX-TV	D32	DT	BL	ROCKY MOUNT, NC	DTVBL20590	170.0
	WHP-TV	D32	DT	BL	HARRISBURG, PA	DTVBL72313	394.4
	WTVZ-TV	D33	DT	LIC	NORFOLK, VA	BLCDT20090602ABA	0.0
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
27784.9 1,905,128		27777.0 1,905,128		27068.3 1,893,761		27064.3 1,893,721	0.01 0.00
Undesired		Total IX		Unique IX, before		Unique IX, after	
WCAV D32 DT BL		127.5	4,823	111.6	4,524		
WCAV D32 DT APP		131.5	4,863			115.6	4,564
WHRO-TV D31 DT BL		19.9	82	8.0	60	8.0	60
WBOC-TV D32 DT BL		421.6	4,915	405.7	4,616	405.7	4,616
WRPX-TV D32 DT BL		143.5	1,846	127.6	1,644	127.6	1,644
WTVZ-TV D33 DT LIC		39.9	224	12.0	0	12.0	0

Interference to BLEDT20071018AIJ LIC, scenario 1  
Proposal causes no interference.

Interference to BLEDT20071018AIJ LIC, scenario 2  
Proposal causes no interference.

Interference to BLEDT20071018AIJ LIC, scenario 3  
Proposal causes no interference.

Interference to BLEDT20071018AIJ LIC, scenario 4  
Proposal causes no interference.

**Table 1 WCAV(DT) OET Bulletin 69 Interference Study**  
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Interference to BPEDT20120627AAD CP, scenario 1

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WHUT-TV	D33	DT	CP	WASHINGTON, DC	BPEDT20120627AAD	
Undesireds:	WCAV	D32	DT	BL	CHARLOTTESVILLE, VA	DTVBL363	162.5 km
	WCAV	D32	DT	APP	CHARLOTTESVILLE, VA	WCAV 210KW PROP	162.5
	WBOC-TV	D32	DT	BL	SALISBURY, MD	DTVBL71218	134.0
	WHP-TV	D32	DT	BL	HARRISBURG, PA	DTVBL72313	156.1
	WFMJ-TV	D33	DT	CP	YOUNGSTOWN, OH	BLANK0000024782	384.5
	WPSG	D33	DT	APP	PHILADELPHIA, PA	BLANK0000024876	198.9
	WQPX-TV	D33	DT	BL	SCRANTON, PA	DTVBL64690	299.1
	WTVZ-TV	D33	DT	LIC	NORFOLK, VA	BLCDT20090602ABA	243.3
	WRC-TV	D34	DT	BL	WASHINGTON, DC	DTVBL47904	1.1
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	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
	26344.4 8,298,094	25340.7 8,242,676		24440.6 8,152,376		24440.6 8,152,376	0.00 0.00
Undesired			Total IX	Unique IX, before		Unique IX, after	
WCAV D32 DT BL	4.0		51	0.0 0			
WCAV D32 DT APP	4.0		51			0.0 0	
WBOC-TV D32 DT BL	56.3		2,371	4.0 1		4.0 1	
WPSG D33 DT APP	658.0		75,493	489.8 67,770		489.8 67,770	
WTVZ-TV D33 DT LIC	378.4		22,270	222.2 14,557		222.2 14,557	
WRC-TV D34 DT BL	23.9		304	15.9 249		15.9 249	

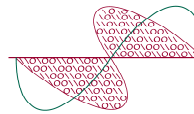
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Interference to BPEDT20120627AAD CP, scenario 2

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WHUT-TV	D33	DT	CP	WASHINGTON, DC	BPEDT20120627AAD	
Undesireds:	WCAV	D32	DT	BL	CHARLOTTESVILLE, VA	DTVBL363	162.5 km
	WCAV	D32	DT	APP	CHARLOTTESVILLE, VA	WCAV 210KW PROP	162.5
	WBOC-TV	D32	DT	BL	SALISBURY, MD	DTVBL71218	134.0
	WHP-TV	D32	DT	BL	HARRISBURG, PA	DTVBL72313	156.1
	WFMJ-TV	D33	DT	CP	YOUNGSTOWN, OH	BLANK0000024782	384.5
	WPSG	D33	DT	BL	PHILADELPHIA, PA	DTVBL12499	199.3
	WQPX-TV	D33	DT	BL	SCRANTON, PA	DTVBL64690	299.1
	WTVZ-TV	D33	DT	LIC	NORFOLK, VA	BLCDT20090602ABA	243.3
	WRC-TV	D34	DT	BL	WASHINGTON, DC	DTVBL47904	1.1
-----							
	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
	26344.4 8,298,094	25340.7 8,242,676		24468.6 8,166,065		24468.6 8,166,065	0.00 0.00
Undesired			Total IX	Unique IX, before		Unique IX, after	
WCAV D32 DT BL	4.0		51	0.0 0			
WCAV D32 DT APP	4.0		51			0.0 0	
WBOC-TV D32 DT BL	56.3		2,371	4.0 1		4.0 1	
WPSG D33 DT BL	622.1		61,020	461.8 54,081		461.8 54,081	
WTVZ-TV D33 DT LIC	378.4		22,270	230.0 15,352		230.0 15,352	
WRC-TV D34 DT BL	23.9		304	15.9 238		15.9 238	

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Interference to BPEDT20120627AAD CP, scenario 3

	Call	Chan	Svc	Status	City, State	File Number	Distance
Desired:	WHUT-TV	D33	DT	CP	WASHINGTON, DC	BPEDT20120627AAD	
Undesireds:	WCAV	D32	DT	BL	CHARLOTTESVILLE, VA	DTVBL363	162.5 km
	WCAV	D32	DT	APP	CHARLOTTESVILLE, VA	WCAV 210KW PROP	162.5
	WBOC-TV	D32	DT	BL	SALISBURY, MD	DTVBL71218	134.0
	WHP-TV	D32	DT	BL	HARRISBURG, PA	DTVBL72313	156.1
	WFMJ-TV	D33	DT	BL	YOUNGSTOWN, OH	DTVBL72062	384.5
	WPSG	D33	DT	APP	PHILADELPHIA, PA	BLANK0000024876	198.9
	WQPX-TV	D33	DT	BL	SCRANTON, PA	DTVBL64690	299.1
	WTVZ-TV	D33	DT	LIC	NORFOLK, VA	BLCDT20090602ABA	243.3
	WRC-TV	D34	DT	BL	WASHINGTON, DC	DTVBL47904	1.1
-----							
	Service area	Terrain-limited		IX-free, before		IX-free, after	Percent New IX
	26344.4 8,298,094	25340.7 8,242,676		24440.6 8,152,376		24440.6 8,152,376	0.00 0.00

**Table 1 WCAV(DT) OET Bulletin 69 Interference Study**  
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Undesired		Total IX	Unique IX, before	Unique IX, after
WCAV D32 DT BL	4.0	51	0.0	0
WCAV D32 DT APP	4.0	51		0.0 0
WBOC-TV D32 DT BL	56.3	2,371	4.0	1 4.0 1
WPSG D33 DT APP	658.0	75,493	489.8	67,770 489.8 67,770
WTVZ-TV D33 DT LIC	378.4	22,270	222.2	14,557 222.2 14,557
WRC-TV D34 DT BL	23.9	304	15.9	249 15.9 249

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Interference to BPEDT20120627AAD CP, scenario 4

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WHUT-TV	D33	DT	CP	WASHINGTON, DC	BPEDT20120627AAD	
Undesireds:	WCAV	D32	DT	BL	CHARLOTTESVILLE, VA	DTVBL363	162.5 km
	WCAV	D32	DT	APP	CHARLOTTESVILLE, VA	WCAV 210KW PROP	162.5
	WBOC-TV	D32	DT	BL	SALISBURY, MD	DTVBL71218	134.0
	WHP-TV	D32	DT	BL	HARRISBURG, PA	DTVBL72313	156.1
	WFMJ-TV	D33	DT	BL	YOUNGSTOWN, OH	DTVBL72062	384.5
	WPSG	D33	DT	BL	PHILADELPHIA, PA	DTVBL12499	199.3
	WQPX-TV	D33	DT	BL	SCRANTON, PA	DTVBL64690	299.1
	WTVZ-TV	D33	DT	LIC	NORFOLK, VA	BLCDT20090602ABA	243.3
	WRC-TV	D34	DT	BL	WASHINGTON, DC	DTVBL47904	1.1

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
26344.4 8,298,094	25340.7 8,242,676	24468.6 8,166,065	24468.6 8,166,065	0.00 0.00

Undesired		Total IX	Unique IX, before	Unique IX, after
WCAV D32 DT BL	4.0	51	0.0	0
WCAV D32 DT APP	4.0	51		0.0 0
WBOC-TV D32 DT BL	56.3	2,371	4.0	1 4.0 1
WPSG D33 DT BL	622.1	61,020	461.8	54,081 461.8 54,081
WTVZ-TV D33 DT LIC	378.4	22,270	230.0	15,352 230.0 15,352
WRC-TV D34 DT BL	23.9	304	15.9	238 15.9 238

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Interference to DTVBL69360 BL, scenario 1  
Proposal causes no interference.

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Interference to DTVBL69360 BL, scenario 2  
Proposal causes no interference.

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Interference to BLCDT20090602ABA LIC, scenario 1  
Proposal causes no interference.

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Interference to BLCDT20090602ABA LIC, scenario 2  
Proposal causes no interference.

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Interference to BLCDT20090602ABA LIC, scenario 3  
Proposal causes no interference.

-----  
Interference to BLCDT20090602ABA LIC, scenario 4  
Proposal causes no interference.

-----  
Interference to proposal, scenario 1  
0.72% interference

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WCAV	D32	DT	APP	CHARLOTTESVILLE, VA	WCAV 210KW PROP	
Undesireds:	WBOC-TV	D32	DT	BL	SALISBURY, MD	DTVBL71218	254.4 km
	WAXN-TV	D32	DT	BL	KANNAPOLIS, NC	DTVBL12793	362.9
	WRPX-TV	D32	DT	BL	ROCKY MOUNT, NC	DTVBL20590	210.7
	WOUB-TV	D32	DT	BL	ATHENS, OH	DTVBL50147	351.1
	WMVH-CD	D32	DC	BL	CHARLEROI, PA	DTVBL68394	267.3
	WHP-TV	D32	DT	BL	HARRISBURG, PA	DTVBL72313	296.9
	WKHU-CD	D32	DC	BL	KITTANNING, PA	DTVBL68401	324.5

**Table 1 WCAV(DT) OET Bulletin 69 Interference Study**  
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WKPT-TV	D32	DT	BL	KINGSPORT, TN	DTVBL27504	366.8
WPXV-TV	D32	DT	BL	NORFOLK, VA	DTVBL67077	218.1
WHUT-TV	D33	DT	LIC	WASHINGTON, DC	BLEDT20071018AIJ	162.5

Service area	Terrain-limited	IX-free	Percent IX
20944.5 958,555	17856.2 733,735	17561.2 728,470	1.65 0.72

Undesired	Total IX	Unique IX	Prcnt Unique IX
WBOC-TV D32 DT BL	20.1 110	8.0 31	0.05 0.00
WRPX-TV D32 DT BL	175.1 3,011	147.2 2,676	0.82 0.36
WHP-TV D32 DT BL	12.1 43	0.0 0	0.00 0.00
WPXV-TV D32 DT BL	135.6 2,558	95.7 2,120	0.54 0.29

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Interference to proposal, scenario 2  
0.72% interference

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WCAV	D32	DT	APP	CHARLOTTESVILLE, VA	WCAV 210KW PROP	
Undesireds:	WBOC-TV	D32	DT	BL	SALISBURY, MD	DTVBL71218	254.4 km
	WAXN-TV	D32	DT	BL	KANNAPOLIS, NC	DTVBL12793	362.9
	WRPX-TV	D32	DT	BL	ROCKY MOUNT, NC	DTVBL20590	210.7
	WOUB-TV	D32	DT	BL	ATHENS, OH	DTVBL50147	351.1
	WMVH-CD	D32	DC	BL	CHARLEROI, PA	DTVBL68394	267.3
	WHP-TV	D32	DT	BL	HARRISBURG, PA	DTVBL72313	296.9
	WKHU-CD	D32	DC	BL	KITTANNING, PA	DTVBL68401	324.5
	WKPT-TV	D32	DT	BL	KINGSPORT, TN	DTVBL27504	366.8
	WPXV-TV	D32	DT	BL	NORFOLK, VA	DTVBL67077	218.1
	WHUT-TV	D33	DT	CP	WASHINGTON, DC	BPEDT20120627AAD	162.5

Service area	Terrain-limited	IX-free	Percent IX
20944.5 958,555	17856.2 733,735	17561.2 728,470	1.65 0.72

Undesired	Total IX	Unique IX	Prcnt Unique IX
WBOC-TV D32 DT BL	20.1 110	8.0 31	0.05 0.00
WRPX-TV D32 DT BL	175.1 3,011	147.2 2,676	0.82 0.36
WHP-TV D32 DT BL	12.1 43	0.0 0	0.00 0.00
WPXV-TV D32 DT BL	135.6 2,558	95.7 2,120	0.54 0.29



Channel and Facility Information

Section	Question	Response
Proposed Community of License	Facility ID	363
	State	Virginia
	City	CHARLOTTESVILLE
	DTV Channel	32
Facility Type	Facility Type	Commercial
	Station Type	Main
Zone	Zone	1

Antenna Location Data

Section	Question	Response
Antenna Structure Registration	Do you have an FCC Antenna Structure Registration (ASR) Number?	No
	ASR Number	
Coordinates (NAD83)	Latitude	37° 59' 04.2" N+
	Longitude	078° 28' 51.1" W-
	Structure Type	GTOWER-Guyed Structure Used for Communication Purposes
	Overall Structure Height	57.9 meters
	Support Structure Height	45.4 meters
	Ground Elevation (AMSL)	443.5 meters
Antenna Data	Height of Radiation Center Above Ground Level	51.5 meters
	Height of Radiation Center Above Average Terrain	329.0 meters
	Height of Radiation Center Above Mean Sea Level	495.0 meters
	Effective Radiated Power	210 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:	DIE
	Model	TFU-20ETT/VP-R C170
	Rotation	0 degrees
	Electrical Beam Tilt	1
	Mechanical Beam Tilt	Not Applicable
	toward azimuth	
	Polarization	Elliptical
DTV and DTS: Elevation 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	

Directional Antenna Relative Field Values (Pre-rotated Pattern)

Degree	V <sub>A</sub> (Authorized Value)	Degree	V <sub>A</sub> (Authorized Value)	Degree	V <sub>A</sub> (Authorized Value)	Degree	V <sub>A</sub> (Authorized Value)
0	0.677	90	0.949	180	1.000	270	0.212
10	0.758	100	0.949	190	0.960	280	0.141
20	0.848	110	0.960	200	0.909	290	0.121
30	0.929	120	0.960	210	0.818	300	0.131
40	0.980	130	0.949	220	0.737	310	0.162
50	1.000	140	0.949	230	0.657	320	0.242
60	1.000	150	0.970	240	0.566	330	0.374
70	0.980	160	0.980	250	0.465	340	0.495
80	0.960	170	1.000	260	0.323	350	0.596

Additional Azimuths

Degree	V <sub>A</sub>
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Construction  
Permit  
Certifications

Section	Question	Response
Post-Incentive Auction Expedited Processing	It will operate on the DTV channel for this station as established in the post-incentive auction channel reassignment public notice.	Yes
	It will operate post-incentive auction facilities that do not expand the noise-limited service contour in any direction beyond that established by the post-incentive auction channel reassignment public notice.	No
	It will operate post-incentive auction facilities that match or reduce by no more than five percent with respect to predicted population from those defined in the post-incentive auction channel reassignment public notice.	Yes
	The antenna structure to be used by this facility has been registered by the Commission and will not require re-registration to support the proposed antenna, OR the FAA has previously determined that the proposed structure will not adversely affect safety in air navigation and this structure qualifies for later registration under the Commission's phased registration plan, OR the proposed installation on this structure does not require notification to the FAA pursuant to 47 C.F.R. Section 17.7.	Yes
Environmental Effect	Would a Commission grant of Authorization for this location be an action which may have a significant environmental effect? (See Section 1.1306 of 47 C.F.R.)	No
Broadcast Facility	The proposed facility complies with the applicable engineering standards and assignment requirements of 47 C. F.R. Sections 73.616, 73.622(i), 73.623(e), 73.625, 73.1030, and 73.1125.	Yes