



**STATEMENT OF JOHN E. HIDLE, P.E.  
IN SUPPORT OF AN APPLICATION TO MODIFY A  
LICENSED DTV FACILITY - FILE NUMBER BLCDDT-20090602ABA  
WTVZ-TV - NORFOLK, VIRGINIA  
DTV - CH. 33 - 1000 kW - 375.3 m HAAT**

Prepared for: WTVZ LICENSEE, LLC

I am a Consulting Engineer, an employee in the firm of Carl T. Jones Corporation, with offices located in Springfield, Virginia. My education and experience are a matter of record with the Federal Communications Commission. I am a Licensed Professional Engineer in the Commonwealth of Virginia, No. 7418, and in New York State, No. 63418.

**GENERAL**

This office has been authorized by WTVZ LICENSEE, LLC, licensee of WTVZ-TV, channel 33, facility ID number 40759, licensed to Norfolk, Virginia, to prepare this statement, FCC Form 2100, Schedule A, its technical sections, and the associated exhibits in support of an application for modification of its licensed DTV facility, file number BLCDDT-20090602ABA. The instant application proposes to replace WTVZ-TV's licensed horizontally polarized non-directional antenna with a new RFS model PEP70E-O5-2-1 elliptically polarized non-directional antenna to be shared with three other stations; WTKR, channel 16; WGNT, channel 20 and WHRO-TV, channel 31. In addition to elliptical polarization the instant application seeks a slight reduction in HAAT of 0.3 meters and a slight increase in ERP to 1000 kW. No other modifications are herein proposed.

**DETERMINATION OF THE "LARGEST STATION IN THE MARKET"**

It appears from an analysis of the stations that are licensed to communities that are located in the Norfolk-Portsmouth-Newport News- VA Designated Market Area (DMA) that a larger station is WSKY-TV, channel 13, Manteo, NC with a coverage area of 37,195 square kilometers. The instant application for a substitute non-directional antenna and a slight increase in ERP to 1000 kW, at the slightly reduced HAAT of 375.3 meters, results in a coverage area of 34,351 square kilometers for WTVZ-TV. Clearly WTVZ-TV is entitled, according to Section 73.622(f)(5), to the proposed slight increase in its ERP.

**NON-DIRECTIONAL ANTENNA**

The applicant proposes to utilize a new RFS model PEP70E-O5-2-1 elliptically polarized non-directional transmitting antenna with its center of radiation located at a height above ground of 374.3 meters, and a height above average terrain of 375.3 meters. The antenna manufacturer's vertical plane elevation radiation pattern, illustrating the antenna's radiation characteristics above and below the horizontal plane is shown and tabulated in Exhibit 2.

**PREDICTED COVERAGE CONTOURS**

The predicted coverage contours were calculated in accordance with the method described in Section 73.625(b) of the Rules, utilizing the appropriate F(50,90) propagation curves (47 CFR Section 73.699, Figure 9), proposed Effective Radiated Power, and antenna height above average terrain as determined for each profile radial. The average terrain on the eight cardinal radials from 3 kilometers to 16 kilometers from the site, was determined using the NED Three Second US Terrain Database as permitted in the FCC

**STATEMENT OF JOHN E. HIDLE, P.E.**  
**WTVZ-TV - Norfolk, Virginia**  
**PAGE 3**

Rules. The antenna site elevation and coordinates were determined from FCC antenna registration data. Exhibit 1 shows the predicted Noise Limited (40.60 dBu) contour, and the principal community (48 dBu) contour, which will completely encompass the principal community of license, Norfolk, Virginia.

**ALLOCATION CONSIDERATIONS**

***Post-Transition DTV Considerations***

A new study was performed, using the FCC's software, *tvstudy*, v. 2.2.5, to determine if the instant proposed modification to WTVZ-TV's license is predicted to cause new prohibited interference to post reassignment DTV stations, construction permits, DTV allotments or Class A DTV stations. The study results, shown in Appendix B, indicate that the instant amendment to its application for license modification is predicted to cause no new interference exceeding 0.5% to the populations served by any post reassignment DTV station, construction permit, allotment or Class A DTV stations. (See Appendix B)

***International DTV Considerations***

The WTVZ-TV site is located 692 kilometers from the nearest point on the US/Canadian border and more than 2200 kilometers from the nearest point on the US/Mexican border. Therefore there are no international considerations.

**BLANKETING AND INTERMODULATION INTERFERENCE**

Other broadcast and non-broadcast facilities are either co-located with, or located within 10 km of the proposed WTVZ-TV site. The applicant does recognize its responsibility to remedy complaints of interference that might result from this proposal in accordance with applicable Rules.

**RADIO FREQUENCY IMPACT, SAFETY & STATEMENT OF COMPLIANCE**

The licensee of WTVZ-TV is committed to the protection of station personnel and/or tower contractors working in the vicinity of the WTVZ-TV antenna and will reduce power or cease operation, when necessary, to ensure protection to personnel.

As shown in Appendix A the proposed WTVZ-TV channel 33 post-transition permanent facility proposed herein will operate with a maximum ERP of 1000 kW from an elliptically polarized non-directional transmitting antenna with a centerline height of 374.3 meters above ground level (AGL). Considering the elevation pattern submitted elsewhere in this application, the vertical plane relative field factor is less than 0.1 at all depression angles greater than 7 degrees. The WTVZ-TV permanent facility is predicted to produce a worst-case power density at two meters above ground level, at 173.6 meters from the tower base, of  $3.278 \mu\text{W}/\text{cm}^2$ , which is 0.84% of the FCC guideline value of  $391.33 \mu\text{W}/\text{cm}^2$  for an "uncontrolled" environment, and 0.168% of the FCC's guideline value for "controlled" environments. Therefore, pursuant to Section 1.1307(b)(3) of the FCC Rules, because the proposed facility would not exceed 5% of the uncontrolled and controlled exposure limits, the proposal's power density contribution is considered insignificant.

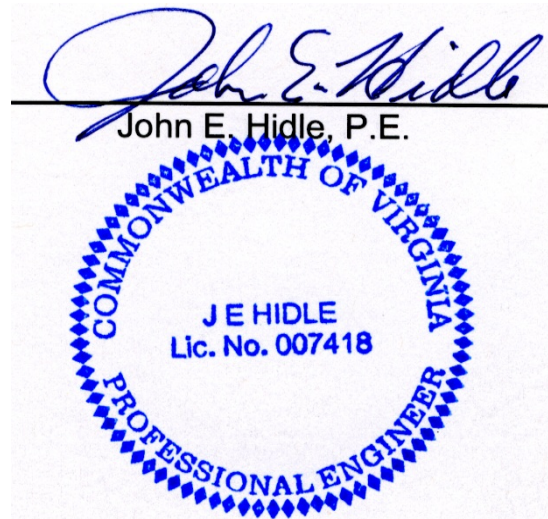
Further, the applicant will continue to cooperate and coordinate with other any other site users and reduce power or cease operation during times of service or maintenance of the transmission systems as necessary to avoid potentially harmful exposure to personnel. In light of the above, the proposed facility should be categorically excluded from RF environmental processing under Section 1.1307(b) of the Commission's Rules.

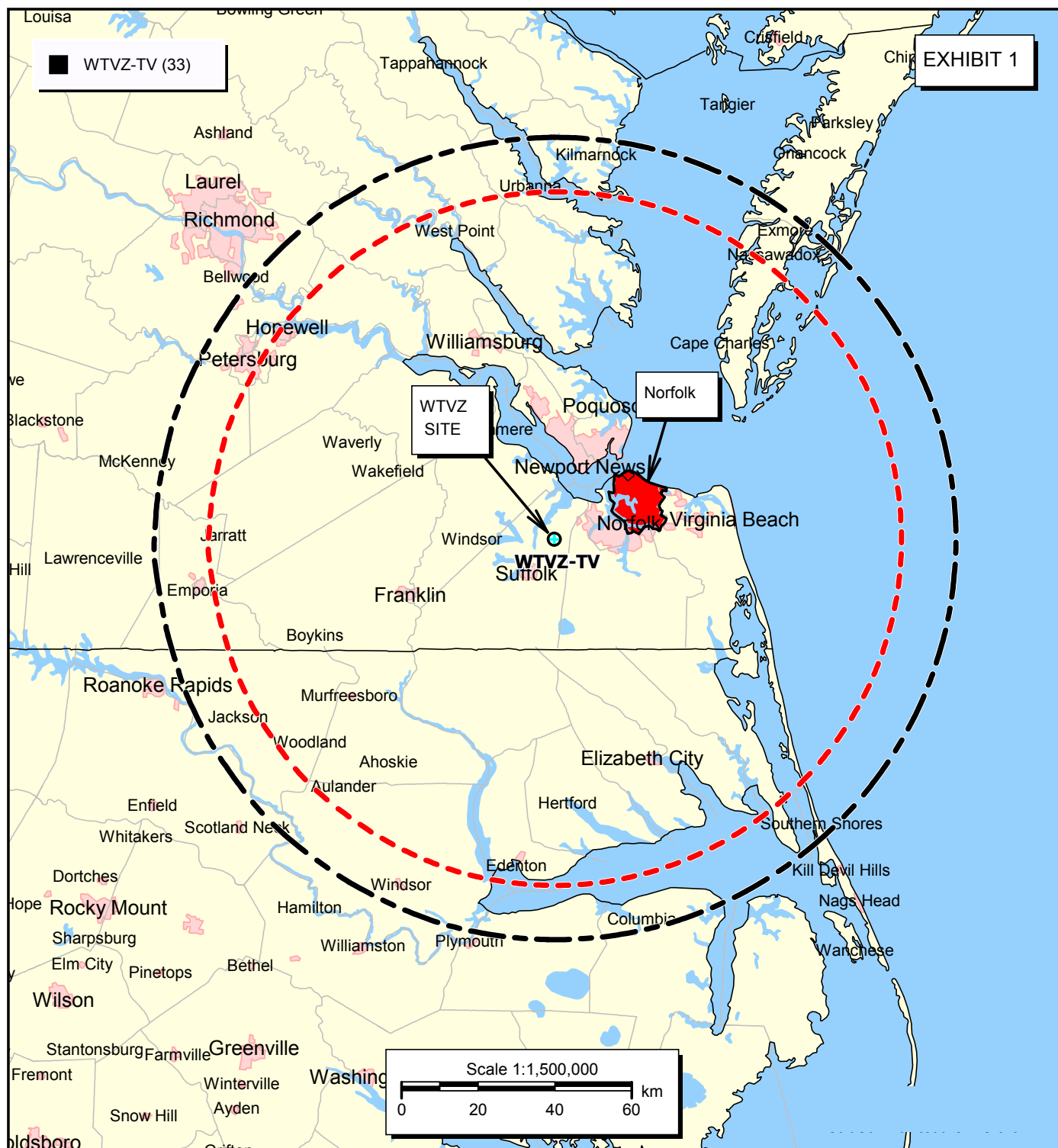
**STATEMENT OF JOHN E. HIDLE, P.E.**  
**WTVZ-TV - Norfolk, Virginia**  
**PAGE 5**

**SUMMARY**

It is submitted that the instant application for modification of a licensed facility to substitute a new elliptically polarized non-directional antenna to be shared with three other stations, to slightly reduce its HAAT to 375.3 meters and to slightly increase its ERP to 1000 kW, as described herein, complies with the Rules, Regulations and relevant Policies of the Federal Communications Commission. This statement, FCC Form 2100, its technical sections, and the attached exhibits were prepared by me or under my direct supervision and are believed to be true and correct to the best of my knowledge and belief.

DATED: July 6, 2020





## PREDICTED COVERAGE CONTOURS

WTVZ-TV AP - Norfolk, VA  
DTV Channel 33 - 1000 kW ERP - 375.3 M HAAT  
JULY, 2020

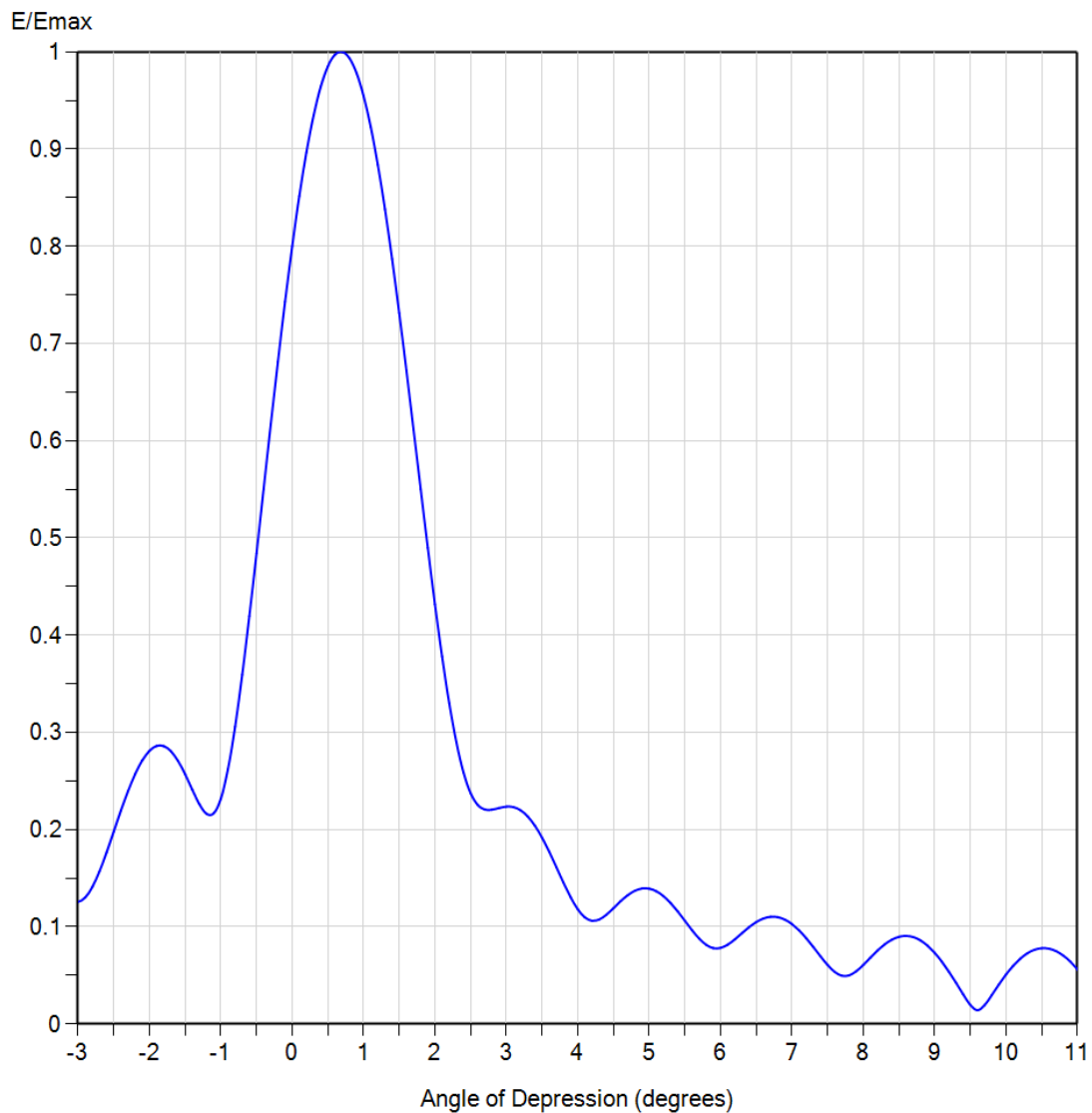
Predicted Noise Limited 40.6 dBu  
F(50,90) Coverage Contour



Predicted Principal Community 48 dBu  
F(50,90) Coverage Contour



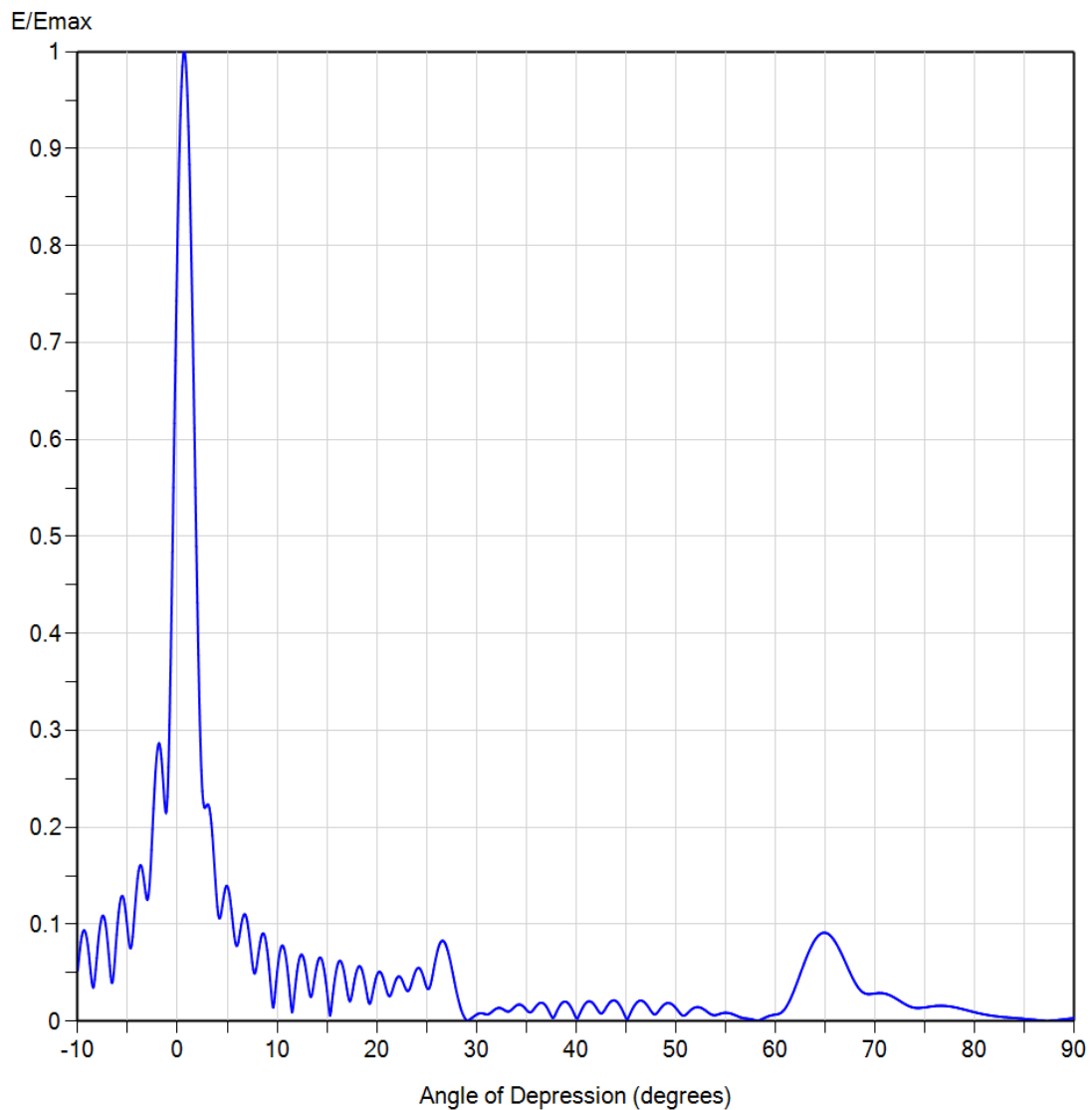
## Elevation Pattern



Model:	PEP70E	Frequency:	587.00 MHz
Polarization:	<u>Horizontal</u>	Directivity (Main Lobe):	31.9 (15.04 dBd)
Location:	Norfolk	Directivity (At Horizon):	20.5 (13.11 dBd)
Customer:	ATC	Beam Tilt:	0.70 degrees
Date:	December 13, 2018	Azimuth Angle:	0 degrees



## Elevation Pattern



Model:	PEP70E	Frequency:	587.00 MHz
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Location:	Norfolk	Directivity (At Horizon):	20.5 (13.11 dBd)
Customer:	ATC	Beam Tilt:	0.70 degrees
Date:	December 13, 2018	Azimuth Angle:	0 degrees





Model: **PEP70E**  
Location: **Norfolk**  
Customer: **ATC**  
Date: **December 13, 2018**

Polarization: **Horizontal**  
Frequency (MHz): **587.00**  
Directivity (Main Lobe): **31.9 (15.04 dB)**  
Directivity (At Horizon): **20.5 (13.11 dB)**  
Beam Tilt: **0.75 degrees**

### TABULATED ELEVATION PATTERN

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.052	2.4	0.259	10.6	0.077	30.5	0.008	51.0	0.007	71.5	0.027
-9.5	0.092	2.6	0.225	10.8	0.070	31.0	0.007	51.5	0.011	72.0	0.024
-9.0	0.078	2.8	0.220	11.0	0.056	31.5	0.009	52.0	0.014	72.5	0.021
-8.5	0.035	3.0	0.224	11.5	0.009	32.0	0.013	52.5	0.014	73.0	0.018
-8.0	0.077	3.2	0.220	12.0	0.052	32.5	0.013	53.0	0.011	73.5	0.015
-7.5	0.109	3.4	0.204	12.5	0.068	33.0	0.010	53.5	0.007	74.0	0.014
-7.0	0.081	3.6	0.177	13.0	0.045	33.5	0.012	54.0	0.006	74.5	0.014
-6.5	0.041	3.8	0.145	13.5	0.028	34.0	0.016	54.5	0.008	75.0	0.014
-6.0	0.102	4.0	0.118	14.0	0.058	34.5	0.017	55.0	0.009	75.5	0.015
-5.5	0.129	4.2	0.106	14.5	0.063	35.0	0.012	55.5	0.008	76.0	0.016
-5.0	0.094	4.4	0.112	15.0	0.031	35.5	0.010	56.0	0.006	76.5	0.016
-4.5	0.087	4.6	0.126	15.5	0.019	36.0	0.016	56.5	0.004	77.0	0.016
-4.0	0.147	4.8	0.137	16.0	0.056	36.5	0.019	57.0	0.003	77.5	0.015
-3.5	0.155	5.0	0.139	16.5	0.060	37.0	0.015	57.5	0.002	78.0	0.014
-3.0	0.125	5.2	0.132	17.0	0.033	37.5	0.006	58.0	0.001	78.5	0.013
-2.8	0.141	5.4	0.116	17.5	0.027	38.0	0.009	58.5	0.001	79.0	0.012
-2.6	0.177	5.6	0.097	18.0	0.053	38.5	0.018	59.0	0.004	79.5	0.011
-2.4	0.219	5.8	0.081	18.5	0.053	39.0	0.020	59.5	0.006	80.0	0.009
-2.2	0.257	6.0	0.078	19.0	0.029	39.5	0.014	60.0	0.007	80.5	0.008
-2.0	0.281	6.2	0.087	19.5	0.024	40.0	0.003	60.5	0.008	81.0	0.007
-1.8	0.286	6.4	0.100	20.0	0.047	40.5	0.011	61.0	0.014	81.5	0.006
-1.6	0.271	6.6	0.108	20.5	0.048	41.0	0.019	61.5	0.023	82.0	0.005
-1.4	0.241	6.8	0.110	21.0	0.031	41.5	0.020	62.0	0.035	82.5	0.005
-1.2	0.216	7.0	0.103	21.5	0.030	42.0	0.014	62.5	0.049	83.0	0.004
-1.0	0.232	7.2	0.088	22.0	0.044	42.5	0.008	63.0	0.063	83.5	0.004
-0.8	0.306	7.4	0.070	22.5	0.043	43.0	0.014	63.5	0.075	84.0	0.003
-0.6	0.420	7.6	0.054	23.0	0.032	43.5	0.020	64.0	0.084	84.5	0.003
-0.4	0.550	7.8	0.050	23.5	0.039	44.0	0.021	64.5	0.090	85.0	0.002
-0.2	0.681	8.0	0.061	24.0	0.054	44.5	0.014	65.0	0.091	85.5	0.002
0.0	0.800	8.2	0.075	24.5	0.051	45.0	0.003	65.5	0.088	86.0	0.001
0.2	0.897	8.4	0.087	25.0	0.035	45.5	0.009	66.0	0.082	86.5	0.001
0.4	0.964	8.6	0.091	25.5	0.042	46.0	0.018	66.5	0.072	87.0	0.000
0.6	0.997	8.8	0.086	26.0	0.069	46.5	0.021	67.0	0.061	87.5	0.000
0.8	0.994	9.0	0.073	26.5	0.083	47.0	0.018	67.5	0.050	88.0	0.001
1.0	0.955	9.2	0.054	27.0	0.077	47.5	0.011	68.0	0.040	88.5	0.001
1.2	0.884	9.4	0.030	27.5	0.056	48.0	0.007	68.5	0.032	89.0	0.002
1.4	0.787	9.6	0.014	28.0	0.030	48.5	0.014	69.0	0.029	89.5	0.003
1.6	0.672	9.8	0.030	28.5	0.011	49.0	0.018	69.5	0.028	90.0	
1.8	0.550	10.0	0.051	29.0	0.001	49.5	0.018	70.0	0.029		
2.0	0.432	10.2	0.067	29.5	0.003	50.0	0.014	70.5	0.029		
2.2	0.330	10.4	0.076	30.0	0.007	50.5	0.007	71.0	0.028		

**WTVZ-TV**  
**Channel 33- Norfolk, Virginia**  
**ERP = ##### WATTS**

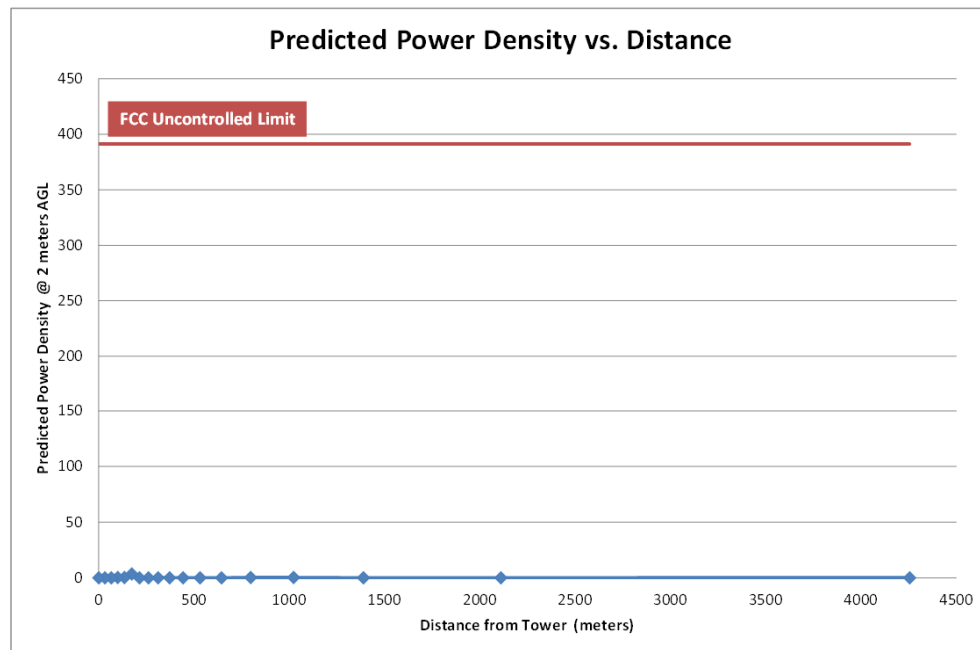
**APPENDIX A**

**Maximum ERP** 1000 kW

Polarization ----- 2 Circular  
 Antenna Height Above Ground - 374.3 meters 1228.0 feet  
 FCC Uncontrolled RFR Limit ---- 391.33  $\mu\text{W}/\text{cm}^2$

Maximum Computed Power Density 3.278  $\mu\text{W}/\text{cm}^2$   
 0.84% of limit

Angle Below Horizontal (degrees)	<Point X> Horiz Distance from tower to 2 m AGL (meters)	Slant Distance from antenna to Point X (meters)	Vertical Pattern (REL. FIELD)	WTVZ-TV ERP (kW)	WTVZ-TV Calculated Power Density $\mu\text{W}/\text{cm}^2$	Percent Limit	Limit Exceeded?
0.7			1.000	1000.0000			
5	4255.4	4271.7	0.129	16.6410	0.061	0.02%	No
10	2111.4	2144.0	0.051	2.6010	0.038	0.01%	No
15	1389.4	1438.5	0.031	0.9610	0.031	0.01%	No
20	1022.9	1088.5	0.047	2.2090	0.125	0.03%	No
25	798.4	880.9	0.035	1.2250	0.105	0.03%	No
30	644.8	744.6	0.007	0.0490	0.006	0.00%	No
35	531.7	649.1	0.012	0.1440	0.023	0.01%	No
40	443.7	579.2	0.003	0.0090	0.002	0.00%	No
45	372.3	526.5	0.003	0.0090	0.002	0.00%	No
50	312.4	486.0	0.014	0.1960	0.055	0.01%	No
55	260.7	454.5	0.009	0.0810	0.026	0.01%	No
60	214.9	429.9	0.007	0.0490	0.018	0.00%	No
65	173.6	410.8	0.091	8.2810	3.278	0.84%	No
70	135.5	396.2	0.029	0.8410	0.358	0.09%	No
75	99.8	385.4	0.014	0.1960	0.088	0.02%	No
80	65.6	378.0	0.009	0.0810	0.038	0.01%	No
85	32.6	373.7	0.002	0.0040	0.002	0.00%	No
90	0.0	372.3	0.000	0.0000	0.000	0.00%	No





## WTVZ-TV - NORFOLK, VIRGINIA

### Appendix B - Longley-Rice Interference Analysis

### JULY 2020

tvstudy v2.2.5 (4uoc83)

Database: localhost, Study: WTVZ 33 APP 1000K 374C OMNI, Model: Longley-Rice

Start: 2020.07.01 14:50:53

Study created: 2020.07.01 14:50:53

Study build station data: LMS TV 2020-07-01

Proposal: WTVZ-TV D33 DT APP NORFOLK, VA

File number: WTVZ 33 APP 1000K 374C OMNI

Facility ID: 40759

Station data: User record

Record ID: 90

Country: U.S.

Zone: I

Search options:

Non-U.S. records included

Baseline record excluded if station has CP

Stations potentially affected by proposal:

IX	Call	Chan	Svc	Status	City, State	File Number	Distance
No	WBOC-TV	D32	DT	LIC	SALISBURY, MD	BLANK0000079962	203.1 km
No	WRPX-TV	D32	DT	LIC	ROCKY MOUNT, NC	BLANK0000081831	182.8
No	WCAV	D32	DT	LIC	CHARLOTTESVILLE, VA	BLANK0000092578	218.1
Yes	WPXV-TV	D32	DT	LIC	NORFOLK, VA	BLANK0000113419	3.2
Yes	WHUT-TV	D33	DT	APP	WASHINGTON, DC	BLANK0000035679	243.3
Yes	WHUT-TV	D33	DT	LIC	WASHINGTON, DC	BLANK0000035679	243.3
No	WTNG-CD	D33	DC	LIC	LUMBERTON-PEMBROKE, NC	BLANK0000081109	331.9
Yes	WUNL-TV	D33	DT	CP	WINSTON-SALEM, NC	BLANK0000034443	348.5
No	WPSG	D33	DT	CP	PHILADELPHIA, PA	BLANK0000034323	375.8
No	WRC-TV	D34	DT	LIC	WASHINGTON, DC	BLANK0000079826	242.2
Yes	WITN-TV	D34	DT	LIC	WASHINGTON, NC	BLANK0000091433	179.2

No non-directional AM stations found within 0.8 km

No directional AM stations found within 3.2 km

Record parameters as studied:

Channel: D33

Latitude: 36 48 31.80 N (NAD83)

Longitude: 76 30 11.30 W

Height AMSL: 374.3 m

HAAT: 375.3 m

Peak ERP: 1000 kW

Antenna: Omnidirectional

Elev Pattn: Generic

Elec Tilt: 0.70

40.6 dBu contour:

Azimuth	ERP	HAAT	Distance
0.0 deg	1000 kW	371.8 m	104.5 km
45.0	1000	369.7	104.3
90.0	1000	370.2	104.4
135.0	1000	369.6	104.3

Carl T. Jones Corporation

7901 Yarnwood Court, Springfield, Virginia 22153-2827 (703) 569-7704 Fax: (703) 569-6417

**Appendix B - Interference Analysis**  
**WTVZ-TV - Norfolk, Virginia**  
**Channel 33 - 1000 kW - Page 2**

180.0	1000	367.6	104.1
225.0	1000	367.7	104.1
270.0	1000	366.8	104.1
315.0	1000	362.8	103.7

Database HAAT does not agree with computed HAAT  
Database HAAT: 375 m    Computed HAAT: 368 m

ERP exceeds maximum  
ERP: 1000 kW    ERP maximum: 989 kW

Distance to Canadian border: 692.0 km

Distance to Mexican border: 2273.7 km

Conditions at FCC monitoring station: Laurel MD  
Bearing: 354.0 degrees    Distance: 263.4 km

Proposal is not within the West Virginia quiet zone area

Conditions at Table Mountain receiving zone:  
Bearing: 287.3 degrees    Distance: 2515.4 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%

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Interference to BLANK0000113419 LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WPXV-TV	D32	DT	LIC	NORFOLK, VA	BLANK0000113419	
Undesireds:	WTVZ-TV	D33	DT	BL	NORFOLK, VA	DTVBL40759	3.3 km
	WTVZ-TV	D33	DT	APP	NORFOLK, VA	WTVZ 33 APP 1000K 374C	3.2
	WHRO-TV	D31	DT	CP	HAMPTON-NORFOLK, VA	BLANK0000081777	3.2
	WBOC-TV	D32	DT	LIC	SALISBURY, MD	BLANK0000079962	201.2
	WRPX-TV	D32	DT	LIC	ROCKY MOUNT, NC	BLANK0000081831	185.9
	WCAV	D32	DT	LIC	CHARLOTTESVILLE, VA	BLANK0000092578	220.1
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
27162.9		1,919,794		26094.7		1,893,128	0.00    0.01
Undesired		Total IX		Unique IX, before		Unique IX, after	
WTVZ-TV D33 DT BL		311.4		13,615		127.8	7,495
WTVZ-TV D33 DT APP		295.4		13,419		127.8	7,595
WHRO-TV D31 DT CP		131.7		2,501		12.0	134
WBOC-TV D32 DT LIC		258.4		3,326		242.5	3,307
WRPX-TV D32 DT LIC		343.0		4,819		299.2	3,986
WCAV D32 DT LIC		243.1		8,870		199.3	5,901

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Interference to BLANK0000035679 APP scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WHUT-TV	D33	DT	APP	WASHINGTON, DC	BLANK0000035679	
Undesireds:	WTVZ-TV	D33	DT	BL	NORFOLK, VA	DTVBL40759	243.3 km
	WTVZ-TV	D33	DT	APP	NORFOLK, VA	WTVZ 33 APP 1000K 374C	243.3
	WBOC-TV	D32	DT	LIC	SALISBURY, MD	BLANK0000079962	134.0
	WPSG	D33	DT	CP	PHILADELPHIA, PA	BLANK0000034323	198.9
	WRC-TV	D34	DT	LIC	WASHINGTON, DC	BLANK0000079826	1.2
Service area		Terrain-limited		IX-free, before		IX-free, after	Percent New IX
20575.6		7,841,337		19352.5		7,718,886	0.06    0.00

**Appendix B - Interference Analysis**  
**WTVZ-TV - Norfolk, Virginia**  
**Channel 33 - 1000 kW - Page 3**

Undesired		Total IX	Unique IX, before	Unique IX, after
WTVZ-TV D33 DT BL	202.7	19,567	130.8	8,104
WTVZ-TV D33 DT APP	214.6	19,871		142.7
WBOC-TV D32 DT LIC	8.1	442	0.0	0
WPSG D33 DT CP	486.4	79,965	410.6	68,435
WRC-TV D34 DT LIC	103.9	4,627	79.9	4,261

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Interference to BLEDT20071018AIJ LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WHUT-TV	D33	DT	LIC	WASHINGTON, DC	BLEDT20071018AIJ	
Undesireds:	WTVZ-TV	D33	DT	BL	NORFOLK, VA	DTVBL40759	243.3 km
	WTVZ-TV	D33	DT	APP	NORFOLK, VA	WTVZ 33 APP 1000K 374C	243.3
	WBOC-TV	D32	DT	LIC	SALISBURY, MD	BLANK0000079962	134.0
	WPSG	D33	DT	CP	PHILADELPHIA, PA	BLANK0000034323	198.9
	WRC-TV	D34	DT	LIC	WASHINGTON, DC	BLANK0000079826	1.2

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
17873.1 7,649,763	17590.4 7,617,337	16930.9 7,524,704	16930.9 7,524,704	0.00 0.00

Undesired		Total IX	Unique IX, before	Unique IX, after
WTVZ-TV D33 DT BL	147.9	21,741	84.1	3,583
WTVZ-TV D33 DT APP	147.9	21,741		84.1
WBOC-TV D32 DT LIC	4.0	442	0.0	0
WPSG D33 DT CP	419.2	67,832	315.5	44,161
WRC-TV D34 DT LIC	212.0	27,351	152.1	21,069

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Interference to BLANK0000034443 CP scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WUNL-TV	D33	DT	CP	WINSTON-SALEM, NC	BLANK0000034443	
Undesireds:	WTVZ-TV	D33	DT	BL	NORFOLK, VA	DTVBL40759	348.5 km
	WTVZ-TV	D33	DT	APP	NORFOLK, VA	WTVZ 33 APP 1000K 374C	348.5
	WAXN-TV	D32	DT	LIC	KANNAPOLIS, NC	BLANK0000081193	127.9
	WHUT-TV	D33	DT	APP	WASHINGTON, DC	BLANK0000035679	407.1
	WTNG-CD	D33	DC	LIC	LUMBERTON-PEMBROKE, NC	BLANK0000081109	218.4
	WRLK-TV	D33	DT	LIC	COLUMBIA, SC	BLANK0000111852	256.0
	WSLS-TV	D34	DT	LIC	ROANOKE, VA	BLANK0000081215	93.9

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
39160.2 3,061,508	35990.8 2,839,278	34242.9 2,771,811	34238.9 2,771,779	0.01 0.00

Undesired		Total IX	Unique IX, before	Unique IX, after
WTVZ-TV D33 DT BL	80.0	1,017	39.9	476
WTVZ-TV D33 DT APP	84.0	1,049		43.9
WAXN-TV D32 DT LIC	32.3	3,372	8.1	1,135
WTNG-CD D33 DC LIC	28.2	703	4.0	148
WRLK-TV D33 DT LIC	297.9	25,944	249.5	23,152
WSLS-TV D34 DT LIC	1398.0	39,764	1365.9	39,481

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Interference to BLANK0000091433 LIC scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WITN-TV	D34	DT	LIC	WASHINGTON, NC	BLANK0000091433	
Undesireds:	WTVZ-TV	D33	DT	BL	NORFOLK, VA	DTVBL40759	179.2 km
	WTVZ-TV	D33	DT	APP	NORFOLK, VA	WTVZ 33 APP 1000K 374C	179.2
	WG WG	D34	DT	LIC	CHARLESTON, SC	BLCDT20060630ADJ	344.4
	WN SC-TV	D34	DT	LIC	ROCK HILL, SC	BLANK0000105822	334.8
	WSLS-TV	D34	DT	LIC	ROANOKE, VA	BLANK0000081215	320.2

Service area	Terrain-limited	IX-free, before	IX-free, after	Percent New IX
45864.1 1,861,458	45799.9 1,836,905	45482.9 1,771,852	45482.9 1,771,852	0.00 0.00

**Appendix B - Interference Analysis**  
**WTVZ-TV - Norfolk, Virginia**  
**Channel 33 - 1000 kW - Page 4**

Undesired		Total IX	Unique IX, before	Unique IX, after
WTVZ-TV D33 DT BL	32.0	155	32.0	155
WTVZ-TV D33 DT APP	32.0	155		32.0 155
WGWG D34 DT LIC	16.0	527	8.0	28 8.0 28
WNSC-TV D34 DT LIC	8.1	499	0.0	0 0.0 0
WSLS-TV D34 DT LIC	277.0	64,870	268.9	64,371 268.9 64,371

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Interference to proposal scenario 1

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WTVZ-TV	D33	DT	APP	NORFOLK, VA	WTVZ 33 APP 1000K 374C	
Undesireds:	WPXV-TV	D32	DT	LIC	NORFOLK, VA	BLANK0000113419	3.2 km
	WHUT-TV	D33	DT	APP	WASHINGTON, DC	BLANK0000035679	243.3
	WUNL-TV	D33	DT	CP	WINSTON-SALEM, NC	BLANK0000034443	348.5
	WITN-TV	D34	DT	LIC	WASHINGTON, NC	BLANK0000091433	179.2

Service area	Terrain-limited	IX-free	Percent IX
34088.6 2,156,534	34072.7 2,156,346	33820.6 2,152,596	0.74 0.17

Undesired	Total IX	Unique IX	Prcnt Unique IX
WPXV-TV D32 DT LIC	8.0 294	8.0 294	0.02 0.01
WHUT-TV D33 DT APP	71.7 2,154	67.6 2,154	0.20 0.10
WUNL-TV D33 DT CP	4.0 0	0.0 0	0.00 0.00
WITN-TV D34 DT LIC	172.4 1,302	172.4 1,302	0.51 0.06

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Interference to proposal scenario 2

Desired:	Call	Chan	Svc	Status	City, State	File Number	Distance
	WTVZ-TV	D33	DT	APP	NORFOLK, VA	WTVZ 33 APP 1000K 374C	
Undesireds:	WPXV-TV	D32	DT	LIC	NORFOLK, VA	BLANK0000113419	3.2 km
	WHUT-TV	D33	DT	LIC	WASHINGTON, DC	BLEDT20071018AIJ	243.3
	WUNL-TV	D33	DT	CP	WINSTON-SALEM, NC	BLANK0000034443	348.5
	WITN-TV	D34	DT	LIC	WASHINGTON, NC	BLANK0000091433	179.2

Service area	Terrain-limited	IX-free	Percent IX
34088.6 2,156,534	34072.7 2,156,346	33864.4 2,154,340	0.61 0.09

Undesired	Total IX	Unique IX	Prcnt Unique IX
WPXV-TV D32 DT LIC	8.0 294	8.0 294	0.02 0.01
WHUT-TV D33 DT LIC	23.9 410	23.9 410	0.07 0.02
WUNL-TV D33 DT CP	4.0 0	4.0 0	0.01 0.00
WITN-TV D34 DT LIC	172.4 1,302	172.4 1,302	0.51 0.06



## **RADIO FREQUENCY IMPACT, SAFETY & STATEMENT OF COMPLIANCE**

The licensee of WTVZ-TV is committed to the protection of station personnel and/or tower contractors working in the vicinity of the WTVZ-TV antenna and will reduce power or cease operation, when necessary, to ensure protection to personnel.

As shown in Appendix A the proposed WTVZ-TV channel 33 post-transition permanent facility proposed herein will operate with a maximum ERP of 1000 kW from an elliptically polarized non-directional transmitting antenna with a centerline height of 374.3 meters above ground level (AGL). Considering the elevation pattern submitted elsewhere in this application, the vertical plane relative field factor is less than 0.1 at all depression angles greater than 7 degrees. The WTVZ-TV permanent facility is predicted to produce a worst-case power density at two meters above ground level, at 173.6 meters from the tower base, of  $3.278 \mu\text{W}/\text{cm}^2$ , which is 0.84% of the FCC guideline value of  $391.33 \mu\text{W}/\text{cm}^2$  for an "uncontrolled" environment, and 0.168% of the FCC's guideline value for "controlled" environments. Therefore, pursuant to Section 1.1307(b)(3) of the FCC Rules, because the proposed facility would not exceed 5% of the uncontrolled and controlled exposure limits, the proposal's power density contribution is considered insignificant.

Further, the applicant will continue to cooperate and coordinate with other any other site users and reduce power or cease operation during times of service or maintenance of the transmission systems as necessary to avoid potentially harmful exposure to personnel. In light of the above, the proposed facility should be categorically excluded from RF environmental processing under Section 1.1307(b) of the Commission's Rules.

**WTVZ-TV**  
**Channel 33- Norfolk, Virginia**  
**ERP = ##### WATTS**

**APPENDIX A**

**Maximum ERP** 1000 kW

Polarization ----- 2 Circular  
 Antenna Height Above Ground - 374.3 meters 1228.0 feet  
 FCC Uncontrolled RFR Limit ---- 391.33  $\mu\text{W}/\text{cm}^2$

Maximum Computed Power Density 3.278  $\mu\text{W}/\text{cm}^2$   
 0.84% of limit

Angle Below Horizontal (degrees)	<Point X> Horiz Distance from tower to 2 m AGL (meters)	Slant Distance from antenna to Point X (meters)	Vertical Pattern (REL. FIELD)	WTVZ-TV ERP (kW)	WTVZ-TV Calculated Power Density $\mu\text{W}/\text{cm}^2$	Percent Limit	Limit Exceeded?
0.7			1.000	1000.0000			
5	4255.4	4271.7	0.129	16.6410	0.061	0.02%	No
10	2111.4	2144.0	0.051	2.6010	0.038	0.01%	No
15	1389.4	1438.5	0.031	0.9610	0.031	0.01%	No
20	1022.9	1088.5	0.047	2.2090	0.125	0.03%	No
25	798.4	880.9	0.035	1.2250	0.105	0.03%	No
30	644.8	744.6	0.007	0.0490	0.006	0.00%	No
35	531.7	649.1	0.012	0.1440	0.023	0.01%	No
40	443.7	579.2	0.003	0.0090	0.002	0.00%	No
45	372.3	526.5	0.003	0.0090	0.002	0.00%	No
50	312.4	486.0	0.014	0.1960	0.055	0.01%	No
55	260.7	454.5	0.009	0.0810	0.026	0.01%	No
60	214.9	429.9	0.007	0.0490	0.018	0.00%	No
65	173.6	410.8	0.091	8.2810	3.278	0.84%	No
70	135.5	396.2	0.029	0.8410	0.358	0.09%	No
75	99.8	385.4	0.014	0.1960	0.088	0.02%	No
80	65.6	378.0	0.009	0.0810	0.038	0.01%	No
85	32.6	373.7	0.002	0.0040	0.002	0.00%	No
90	0.0	372.3	0.000	0.0000	0.000	0.00%	No

