

TECHNICAL EXHIBIT
APPLICATION FOR CONSTRUCTION PERMIT
TELEVISION STATION WTVI-DT
CHARLOTTE, NORTH CAROLINA

September 12, 2002

CHANNEL 11 3.3 KW 363 M

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Technical Statement

This Technical Exhibit was prepared on behalf of digital television broadcast station WTVI-DT, Charlotte, North Carolina, in support of an application for construction permit. WTVI-DT is authorized and operating on Channel 11 with a nominal non-directional effective radiated power (ERP) of 2.2 kW and antenna height above average terrain of 363 m. An application for license for the WTVI-DT facility is pending before the Commission. (See FCC File No. BLEDT-20020408AAI). The purpose of this application is to increase the WTVI-DT nominal non-directional ERP to 3.3 kW. There are no other changes proposed in the WTVI-DT transmitting facility or supporting structure. The proposed WTVI-DT transmission facility complies with the FCC's *de minimis* interference requirements. *

Proposed Facilities

The proposed facility will employ the existing non-directional transmitting antenna now used by WTVI-DT. This antenna is an Andrew, model ATW2V1-HSOC-11 side-mounted on the existing WTVI tower structure. The antenna is

* See FCC *Public Notice*, "Commission Details Application Filing Procedures Digital Television (DTV)", Released: October 16, 1997; and, FCC *Public Notice*, "Additional Application Processing Guidelines for Digital Television (DTV)", Released: August 10, 1998.

mounted with a center of radiation at 348 m above ground level and 566 m above mean sea level.

The proposed facility provides minimum 43 dBu, f(50,90), coverage of Charlotte in compliance with Section 73.625(a)(1) of the FCC Rules, as adopted by the FCC in MM Docket No. 00-39. Figure 1 is a tabulation of the calculated distances to the predicted coverage contours. Figure 2 herein is a map depicting the predicted coverage contours of the proposed facility.

Tower Registration

The proposed antenna structure has been registered with the FCC. The FCC antenna structure registration number is 1005065. There will be no change in the overall height of the antenna structure as a result of the instant proposal.

Allocation Considerations

The proposed WTVI-DT Channel 11 facility meets the requirements of Section 73.623 of the FCC Rules concerning predicted interference to other existing U.S. NTSC facilities and U.S. DTV allotments and assignments. Longley-Rice interference analyses were conducted pursuant to the requirements of the FCC Rules; OET Bulletin No. 69; and published FCC guidelines for preparation of such interference analyses. The Longley-Rice interference analyses were conducted using the software developed by du Treil, Lundin & Rackley, Inc. based on the FCC published software routines.[†] Stations selected for analysis were determined pursuant to the distance requirements outlined in the FCC DTV Processing Guidelines Public Notice. The results of the interference analyses for the proposed WTVI-DT facility are summarized herein at

[†] The duTreil, Lundin & Rackley, Inc. DTV interference analysis program is a precise implementation of the procedures outlined by the FCC in the Sixth Report and Order; subsequent Memorandum Opinion and Order; and FCC OET Bulletin No. 69. A nominal grid size resolution of 2 km was employed.

Figure 3. As indicated therein, the proposed facility will meet the 2%/10% criterion outlined in the FCC Rules and published guidelines with respect to all considered stations.[‡]

With respect to Class A TV station protection, the proposal has been evaluated according to the requirements of Section 73.623(c)(5) of the FCC Rules. The analysis reveals no potentially affected Class A TV stations.

Environmental Considerations

With respect to the potential for human exposure to radio frequency (RF) radiation, calculations prepared in accordance with FCC Bulletin OET-65 (Edition 97-01) indicate that the proposal will not result in human exposure to RF radiation at ground level in excess of FCC standards. Power density calculations were conducted at 2-m above ground[§] based on the following conservative assumptions, with the following results:

Call Sign	Channel	Peak Visual ERP or Average ERP (kW)	Aural ERP (kW)	Relative Field Factor**	FCC Limit ^{††} (mW/cm ²)	Percentage of Limit
WTVI-DT	11	3.3	--	1.00	0.200	0.46%

As indicated above, the total exposure to RF radiation at 2-m above ground level will not exceed 0.46% of the FCC limit for general population / uncontrolled exposure.

Therefore, the proposal complies with the FCC limits for human exposure to RF radiation and it is categorically excluded from environmental processing. The applicant, in coordination with other users of the transmission facility, shall reduce power or cease

[‡] Interference analysis results reflect the net change in interference to a given station considering the interference predicted to occur from all other stations (i.e. "masking") including the allotment facility for WTVI-DT. This properly reflects the net interference change for determining compliance with the FCC DTV2%/10% *de minimis* standard.

[§] The antenna radiation center height above ground is 348 m.

^{**} This is a conservative estimate of the relative field factor in the downward direction.

operation as necessary to protect persons having access to the WTVI-DT tower or antenna from radio frequency radiation in excess of the FCC guidelines.

Louis Robert du Treil, Jr.

September 12, 2002

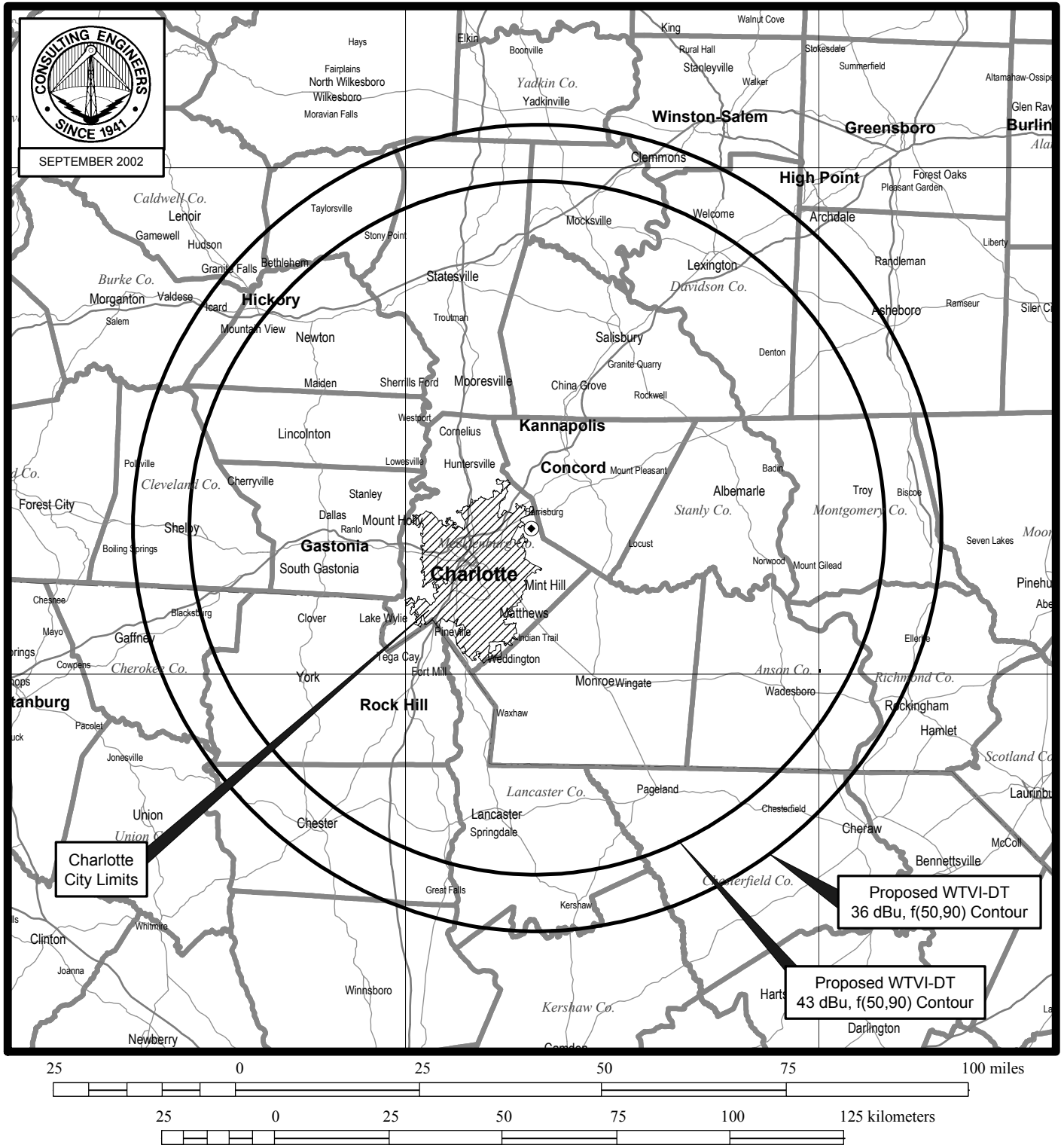
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Tabulation of Average Elevations and
Distances to Predicted Coverage Contours

Azimuth (deg.T)	3-16 km Average Terrain (m)	Antenna HAAT (m)	ERP (kW)	43 dBu f(50,90) Contour (km)	36 dBu f(50,90) Contour (km)
0	200	366	3.3	76.2	88.7
45	187	379	3.3	77.1	89.6
90	179	387	3.3	77.6	90.1
135	199	367	3.3	76.3	88.7
180	204	362	3.3	76.0	88.4
225	219	347	3.3	74.9	87.3
270	216	350	3.3	75.1	87.5
315	219	347	3.3	74.8	87.3

Note: The 3-16-km average terrain is 203 m based on the eight conventional radials (0°, 45°, 90°, etc.). The U.S.G.S. linearly interpolated 3-second terrain database was employed in determining the average terrain elevations. The overall antenna radiation center height above average terrain is 363 m based on the eight conventional radials.

Figure 2



PREDICTED COVERAGE CONTOURS

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du Treil, Lundin & Rackley, Inc. Sarasota, Florida

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Summary of Allocation Analysis

Stations Potentially Affected by Proposed Station							
Facility Number	Channel	Call	City State	Distance (km)	Status	Application Prefix	Application Reference Number
1	10	WIS	COLUMBIA SC	129.3	APP	BPCT	20000501AEZ
2	10	WIS	COLUMBIA SC	129.3	LIC	BLCT	19991130ABC
3	10	WSLS-TV	ROANOKE VA	218.3	LIC	BLCT	19990813LD
4	11	WXIA-TV	ATLANTA GA	373.9	LIC	BMLCT	19960208KF
5	11	WTOC-TV	SAVANNAH GA	364.4	LIC	BLCT	2311
6	11	WTVD	DURHAM NC	200.3	LIC	BLCT	20010709ACP
7	11	WJHL-TV	JOHNSON CITY TN	181.8	LIC	BLCT	2111
8	11	WVPT-DT	STAUNTON VA	342.7	CP	BPEDT	20000309AAP
9	11	WVPT-DT	STAUNTON VA	342.7	PLN	DTVPLN	DTVP0091

Stations Potentially Affected by Proposed Station							
Facility Number	Channel	Call	City State	Distance (km)	Status	Application Prefix	Application Reference Number
10	11	WVAH-TV	CHARLESTON WV	365	LIC	BLCT	19880421KF
11	12	WXII	WINSTON-SALEM NC	124.4	LIC	BLCT	2283

Summary of Interference Analysis for Worst-Case Scenarios							
Facility Number	Interference Population Before Analysis	Interference Population After Analysis	Baseline Population	Net Change in Interference	Percent of Baseline	Permissible Percent of Baseline	Result
1	299988	299988	1641550	0	0.0	2.0	pass
2	233241	233241	1509458	0	0.0	2.0	pass
3	--	--	--	*	0.0	--	pass
4	--	--	--	*	0.0	--	pass
5	--	--	--	*	0.0	--	pass
6	261509	310016	2435331	48507	1.992	2.0	pass
7	66627	72576	1784479	5949	0.3	2.0	pass
8	86707	86707	260215	0	0.0	2.0	pass
9	49387	49387	260215	0	0.0	2.0	pass
10	--	--	--	*	0.0	--	pass
11	250612	269781	2672581	19169	0.7	2.0	pass

*Proposal causes no interference.