



**STATEMENT OF JOHN E. HIDLE, P.E.
IN SUPPORT OF AN
APPLICATION TO MODIFY CONSTRUCTION PERMIT
BMPCDT-20020114AAR
WRLH-DT- RICHMOND, VIRGINIA
DT - CH. 26 – 800 kW – 327.7 M HAAT**

Prepared for: WRLH 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 registered Professional Engineer in the Commonwealth of Virginia, Registration No. 7418, and in the State of New York, Registration No. 63418.

GENERAL

This office has been authorized by WRLH Licensee, LLC, licensee of WRLH-TV, channel 35, and permittee of its paired DTV facility WRLH-DT, channel 26, Richmond, Virginia, to prepare this statement, FCC Form 301, Sections III and III-D, and the associated exhibits in support of an application to modify construction permit BMPCDT-20020114AAR for the WRLH-DT facility. It is proposed herein to modify certain parameters to conform with the common antenna structure as constructed.

The currently authorized WRLH-DT transmitting antenna is one of two co-located, serving WRLH-DT and numerous other NTSC and DTV stations in the Richmond DMA, on a tower support structure at 37° 30' 45" N latitude, 77° 36' 05" W longitude, FCC tower database registration number 1018227. The authorized antenna is a Dielectric panel

antenna, model TUD-O5-17/70H-1-B, designed to be used by multiple analog and digital broadcast stations. The authorized antenna utilizes an omnidirectional azimuth pattern.

PROPOSED MODIFICATIONS

It is proposed herein to modify only the authorized antenna height above average terrain (HAAT) to reflect the antenna position as installed on the support structure, and to update the FCC tower registration number.

OMNIDIRECTIONAL ANTENNA

The omnidirectional antenna is a Dielectric panel antenna, model TUD-O5-17/70H-1-B, designed to be used by multiple analog and digital broadcast stations. The tower support structure supports an additional multi-channel panel antenna that is used by a number of additional television station facilities. A Vertical Plan Antenna Sketch is provided in Exhibit 1. The omnidirectional transmitting antenna shall employ an electrical beam tilt of 0.50 degrees below the horizontal plane. The antenna manufacturer's vertical plane radiation pattern, illustrating the proposed antenna's radiation characteristics above and below the horizontal plane, is attached hereto as Exhibit 2, and tabulated in Exhibit 3.

ALLOCATION CONSIDERATIONS

A study was performed using the FCC's processing software "TV-Process" to determine if any level of new interference would be caused to other stations based upon the WRLH-DT facilities proposed herein. Results indicated that WRLH-DT can broadcast its DTV signal on channel 26 utilizing the proposed antenna with 800 kW ERP, at 327.7

meters HAAT, without causing unacceptable interference to the facility of any full service DT or NTSC station, as reflected in the allotment, application, construction permit, or license, nor would unacceptable contour overlap be created, or increased, in the direction of any Class A television station. The licensed principal community of Richmond, Virginia is fully encompassed by the 48 dBu F(50,90) contour of the proposed WRLH-DT facility, as shown in Exhibit 4.

BLANKETING AND INTERMODULATION INTERFERENCE

A number of broadcast and non-broadcast facilities are located within 10 km of the proposed WRLH-DT transmitter/antenna site. The applicant recognizes its responsibility to remedy complaints of interference created by this proposal in accordance with applicable Rules.

ENVIRONMENTAL CONSIDERATIONS

RADIO FREQUENCY IMPACT

Effective October 15, 1997 the FCC adopted new guidelines and procedures for evaluating environmental effects of radio frequency (RF) emissions. The guidelines are generally based on recommendations by the National Council on Radiation Protection and Measurements (NCRP) in NCRP Report No. 86 (1986) and by the American National Standards Institute and the Institute of Electrical and Electronic Engineers, LLC (IEEE) in ANSI/IEEE C95.1-1992 (IEEE C95.1-1991). The guidelines establish a maximum permissible exposure (MPE) level for occupational or "controlled" situations that apply in

cases that affect the general public. The FCC Office of Engineering and Technology's technical bulletin No. 65 entitled, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields" (DA 04-319, February 6, 2004), provides assistance in the determination of whether FCC-regulated transmitting facilities, operations or devices comply with guideline limits for human exposure to radio frequency electromagnetic fields as adopted by the Commission in 1996. Bulletin No. 65 provides the technical data required to evaluate compliance with the FCC's policies and guidelines.

The FCC's Maximum Permitted Exposure (MPE) level for "uncontrolled" environments is 0.2 milliwatts per centimeter squared (mW/cm^2) when applied to broadcast facilities operating between 30 MHz and 300 MHz, and for broadcast facilities operating between 300 MHz and 1500 MHz, primarily UHF TV stations, is derived from the formula, $(\text{frequency}/1500)$. The MPE level for "controlled" environments is 1.0 milliwatts per centimeter squared (mW/cm^2) for operations between 30 MHz and 300 MHz, and for broadcast stations operating between 300 MHz and 1500 MHz is derived from the formula, $(\text{frequency}/300)$.

The contributions of WRLH-DT, channel 26, the other broadcast stations sharing the two panel antennas proposed on the support structure, and the broadcast stations located on a nearby tower (approximately 20 meters distance) must be considered together. For WRLH-DT, which operates on television Channel 26 (545 MHz), the MPE is 0.363 milliwatts per centimeter squared (mW/cm^2) in an "uncontrolled" environment and 1.815 mW/cm^2 in a "controlled" environment.

The WRLH-DT facility will operate with a maximum ERP of 800 kW from a horizontally polarized omnidirectional transmitting antenna with a centerline height of 284.8 meters above ground level (AGL). Considering a very conservative vertical plane relative field factor of 0.3, the WRLH facility produces a predicted power density at two meters above ground level of 0.03024 mW/cm^2 , which is 8.32% of the FCC guideline value for "uncontrolled" environments, and 1.664% of the FCC guideline value for "controlled" environments (for a detailed list of predicted power densities for each station, see Appendix A). The total percentage of the ANSI value at the proposed site, considering the cumulative radiation of all stations at the site, is only 40.82% of the limit for "uncontrolled" environments, and 8.164% of the limit for "controlled" environments.

OCCUPATIONAL SAFETY

The permittee of WRLH-DT is committed to the protection of station personnel and/or tower contractors working in the vicinity of the WRLH-DT antenna. The applicant is committed to entering into an agreement with the other stations that will utilize the proposed antenna to reduce power and/or cease operation during times of service or maintenance of the transmission systems, when necessary, to ensure protection to personnel.

In light of the above, the proposed WRLH-DT facility should be categorically excluded from RF environmental processing under Section 1.1307(b) of the Commission's Rules.

SUMMARY

It is submitted that the proposal described herein complies with the Rules and Regulations of the Federal Communications Commission. This statement, FCC Form 301, and the attached exhibits were prepared by me or under my direct supervision and are believed to be true and correct.

DATED: May 5, 2004

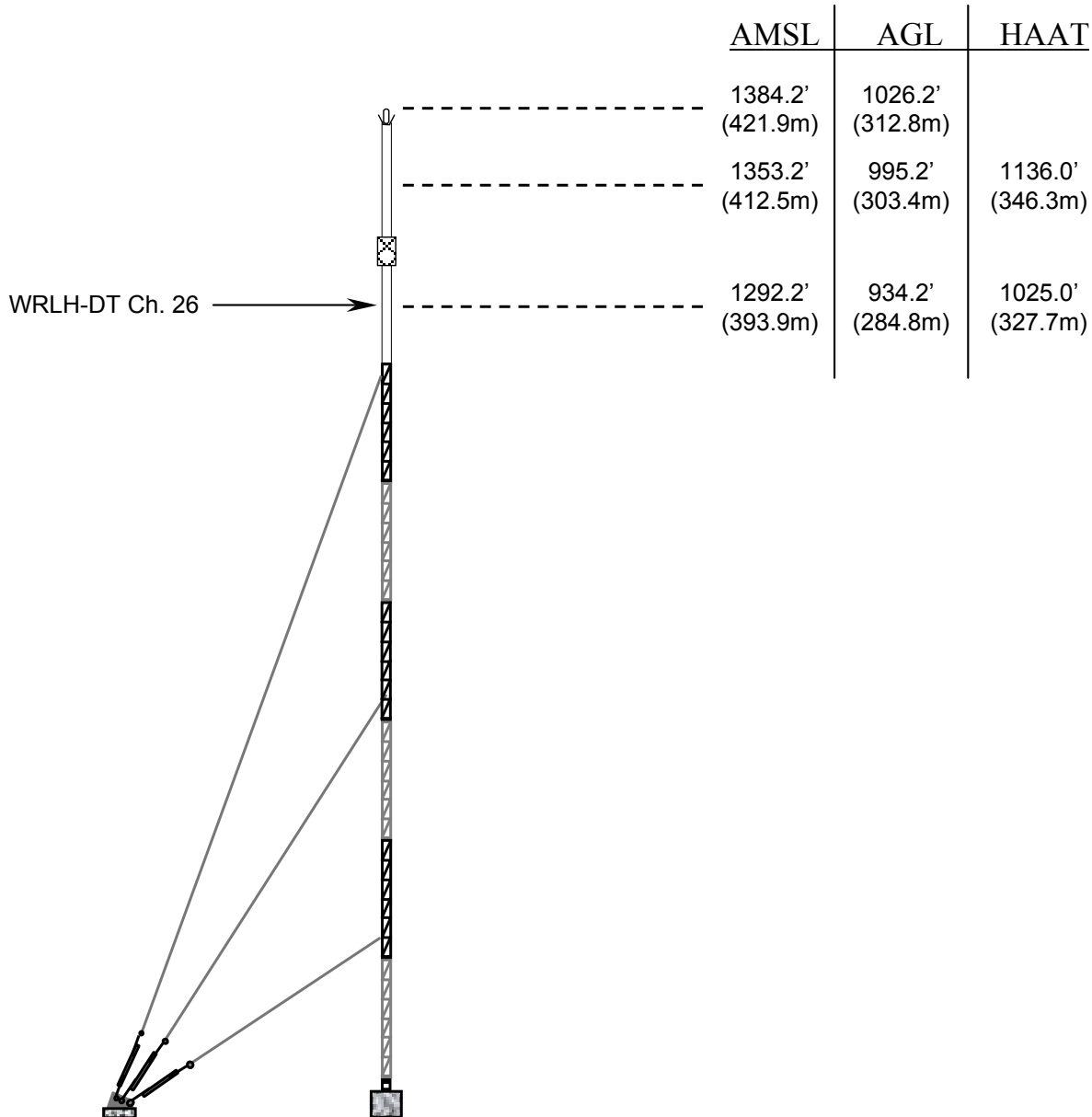

John E. Hidle, P.E.



COORDINATES NAD-27

NORTH LATITUDE: 37° 30' 45"

WEST LONGITUDE: 77° 36' 05"



VERTICAL PLAN ANTENNA SKETCH

WRLH-DT - RICHMOND, VIRGINIA

800 kW ERP - 327.7 m HAAT

MAY, 2004

CARL T. JONES

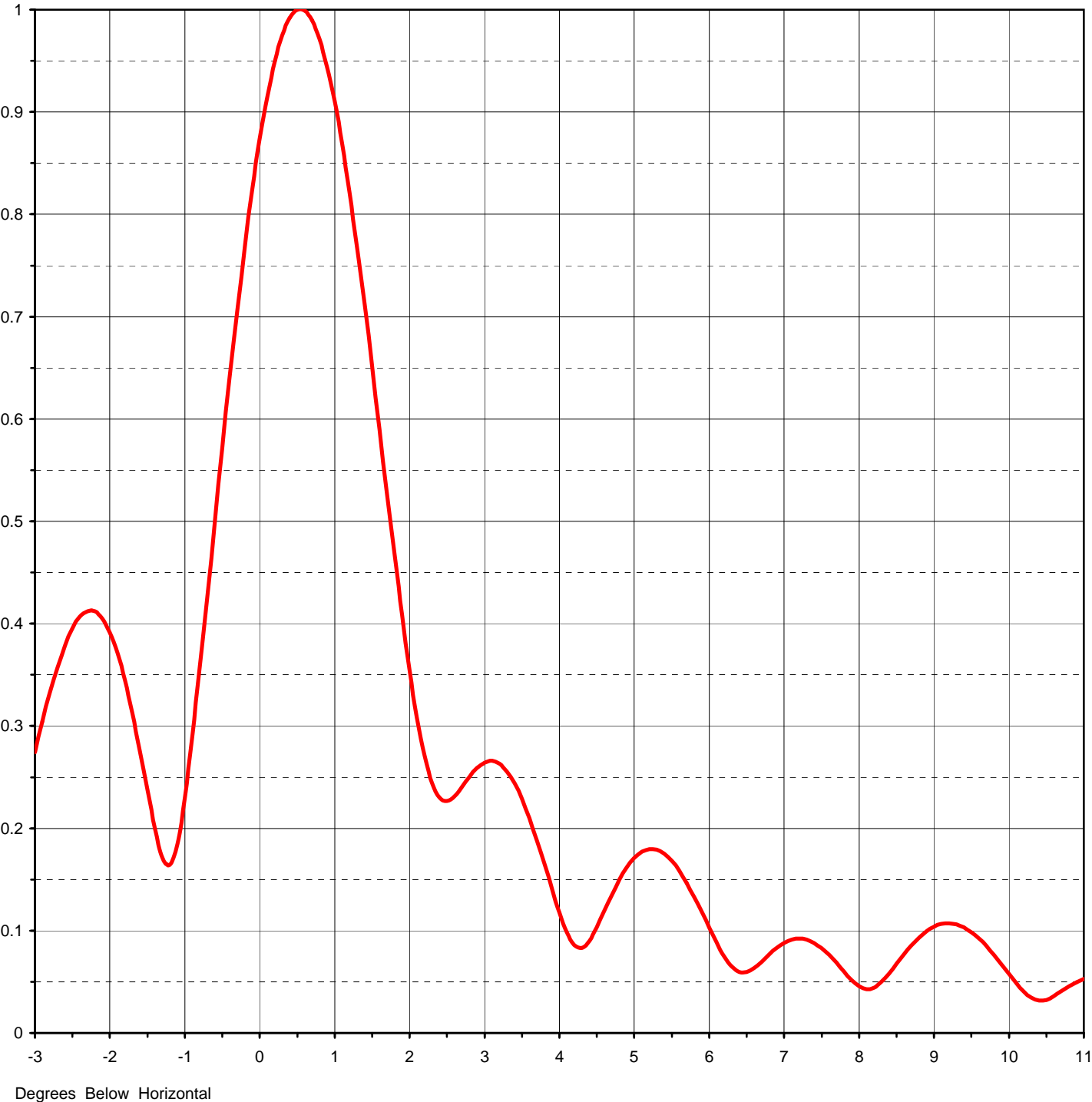
CORPORATION

NOTE : NOT DRAWN TO SCALE

Proposal Number	DCA-9505		
Date	31-Jul-01		
Call Letters	WRLH-DT	Channel	26
Location	Richmond, VA		
Customer			
Antenna Type	TUD-O5-14/70H-1-B		

ELEVATION PATTERN

RMS Gain at Main Lobe	26.70 (14.27 dB)	Beam Tilt	0.50 deg
RMS Gain at Horizontal	20.40 (13.10 dB)	Frequency	545.00 MHz
Calculated / Measured	Calculated	Drawing #	14U267050-545B



Proposal Number **DCA-9505**

Date **31-Jul-01**

Call Letters **WRLH-DT** Channel **26**

Location **Richmond, VA**

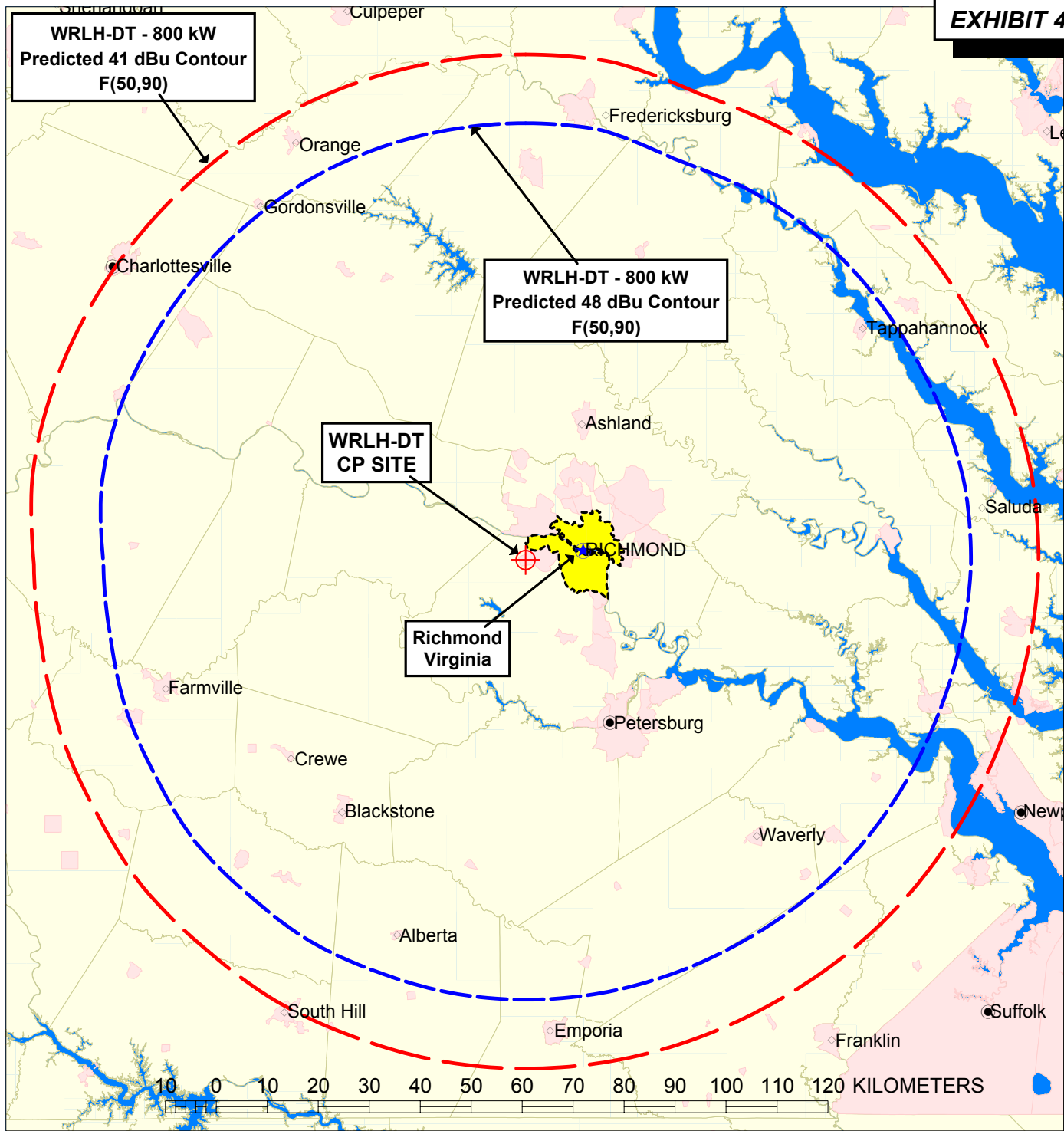
Customer

Antenna Type **TUD-O5-14/70H-1-B**

TABULATION OF ELEVATION PATTERN

Elevation Pattern Drawing #: **14U267050-545B-90**

Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field	Angle	Field
-10.0	0.090	2.4	0.230	10.6	0.032	30.5	0.043	51.0	0.028	71.5	0.109
-9.5	0.059	2.6	0.231	10.8	0.041	31.0	0.023	51.5	0.023	72.0	0.115
-9.0	0.037	2.8	0.250	11.0	0.050	31.5	0.020	52.0	0.015	72.5	0.119
-8.5	0.059	3.0	0.264	11.5	0.053	32.0	0.023	52.5	0.011	73.0	0.119
-8.0	0.056	3.2	0.263	12.0	0.031	32.5	0.021	53.0	0.014	73.5	0.117
-7.5	0.045	3.4	0.244	12.5	0.043	33.0	0.013	53.5	0.017	74.0	0.113
-7.0	0.098	3.6	0.210	13.0	0.072	33.5	0.009	54.0	0.017	74.5	0.108
-6.5	0.148	3.8	0.165	13.5	0.075	34.0	0.016	54.5	0.014	75.0	0.101
-6.0	0.147	4.0	0.118	14.0	0.050	34.5	0.022	55.0	0.012	75.5	0.094
-5.5	0.094	4.2	0.086	14.5	0.024	35.0	0.021	55.5	0.017	76.0	0.085
-5.0	0.054	4.4	0.090	15.0	0.035	35.5	0.015	56.0	0.026	76.5	0.077
-4.5	0.079	4.6	0.119	15.5	0.038	36.0	0.009	56.5	0.034	77.0	0.069
-4.0	0.066	4.8	0.150	16.0	0.023	36.5	0.013	57.0	0.038	77.5	0.060
-3.5	0.119	5.0	0.171	16.5	0.034	37.0	0.016	57.5	0.038	78.0	0.053
-3.0	0.274	5.2	0.180	17.0	0.057	37.5	0.014	58.0	0.034	78.5	0.046
-2.8	0.333	5.4	0.175	17.5	0.061	38.0	0.009	58.5	0.027	79.0	0.040
-2.6	0.379	5.6	0.159	18.0	0.043	38.5	0.013	59.0	0.018	79.5	0.034
-2.4	0.407	5.8	0.133	18.5	0.022	39.0	0.021	59.5	0.013	80.0	0.029
-2.2	0.412	6.0	0.103	19.0	0.028	39.5	0.025	60.0	0.014	80.5	0.025
-2.0	0.391	6.2	0.075	19.5	0.032	40.0	0.023	60.5	0.017	81.0	0.022
-1.8	0.345	6.4	0.060	20.0	0.022	40.5	0.015	61.0	0.017	81.5	0.019
-1.6	0.276	6.6	0.063	20.5	0.030	41.0	0.009	61.5	0.015	82.0	0.018
-1.4	0.200	6.8	0.077	21.0	0.054	41.5	0.012	62.0	0.013	82.5	0.016
-1.2	0.164	7.0	0.088	21.5	0.063	42.0	0.016	62.5	0.017	83.0	0.016
-1.0	0.230	7.2	0.092	22.0	0.052	42.5	0.015	63.0	0.028	83.5	0.015
-0.8	0.357	7.4	0.088	22.5	0.028	43.0	0.010	63.5	0.041	84.0	0.015
-0.6	0.500	7.6	0.076	23.0	0.019	43.5	0.011	64.0	0.054	84.5	0.015
-0.4	0.641	7.8	0.060	23.5	0.024	44.0	0.019	64.5	0.065	85.0	0.015
-0.2	0.769	8.0	0.046	24.0	0.018	44.5	0.026	65.0	0.071	85.5	0.014
0.0	0.873	8.2	0.044	24.5	0.027	45.0	0.027	65.5	0.073	86.0	0.014
0.2	0.949	8.4	0.058	25.0	0.057	45.5	0.022	66.0	0.069	86.5	0.014
0.4	0.992	8.6	0.077	25.5	0.079	46.0	0.014	66.5	0.062	87.0	0.014
0.6	0.999	8.8	0.093	26.0	0.080	46.5	0.009	67.0	0.050	87.5	0.013
0.8	0.971	9.0	0.104	26.5	0.058	47.0	0.013	67.5	0.037	88.0	0.013
1.0	0.910	9.2	0.107	27.0	0.027	47.5	0.016	68.0	0.027	88.5	0.013
1.2	0.821	9.4	0.103	27.5	0.048	48.0	0.015	68.5	0.027	89.0	0.013
1.4	0.711	9.6	0.092	28.0	0.086	48.5	0.011	69.0	0.040	89.5	0.012
1.6	0.590	9.8	0.085	28.5	0.108	49.0	0.010	69.5	0.056	90.0	0.012
1.8	0.467	10.0	0.067	29.0	0.109	49.5	0.018	70.0	0.072		
2.0	0.355	10.2	0.049	29.5	0.095	50.0	0.026	70.5	0.087		
2.2	0.271	10.4	0.034	30.0	0.069	50.5	0.030	71.0	0.099		



PREDICTED COVERAGE CONTOURS
WRLH-DT - RICHMOND, VIRGINIA
PROPOSED MODIFICATION OF CONSTRUCTION PERMIT
CHANNEL 26 - 800.0 kW - 327.7 m HAAT

48 dBu - Principal Community Contour

41 dBu - Noise Limited Contour

**SUMMARY OF RADIOFREQUENCY
RADIATION STUDY**

WRLH-DT, RICHMOND, VIRGINIA
CHANNEL 26, 800 kW ERP, 327.7 m HAAT
MAY, 2004

<u>CALL</u>	<u>SERVICE</u>	<u>CHANNEL</u>	<u>FREQUENCY</u>	<u>POLARIZATION</u>	<u>ANTENNA HEIGHT ** mAGL</u>	<u>ERP (kW)</u>	<u>VERT. RELATIVE FIELD FACTOR</u>	<u>PREDICTED POWER DENSITY (mW/cm²)</u>	<u>FCC UNCONTROLLED LIMIT (mW/cm²)</u>	<u>PERCENT OF UNCONTROLLED LIMIT</u>
WRLH-DT	DT	26	545	H	282	800.000	0.300	0.03024	0.363	8.32%
WRIC-TV	TV	8	183	H	276	269.000	0.300	0.00531	0.200	2.65%
WRIC-DT	DT	22	521	H	283	450.000	0.300	0.01689	0.347	4.86%
WCVE-TV	TV	23	527	H	301	2300.000	0.300	0.03817	0.351	10.86%
WCVE-DT	DT	42	641	H	301	160.000	0.300	0.00531	0.427	1.24%
WCVW(TV)	TV	57	731	H	248	1000.000	0.300	0.02444	0.487	5.02%
WCVW-DT	DT	44	653	H	266	270.000	0.300	0.01147	0.435	2.63%
WCUL	FM	255	98.9	H & V	120	2.250	1.000	0.01044	0.200	5.22%
TOTAL PERCENTAGE OF ANSI VALUE=										40.82%

*** The antenna heights indicated above are 2 meters less than the actual antenna heights so that the predicted power densities consider the 2 meter human height allowance.*