

TECHNICAL EXHIBIT
APPLICATION FOR DTV CONSTRUCTION PERMIT
STATION WWBT(DT) (FACILITY ID 30833)
RICHMOND, VIRGINIA

JULY 22, 2009

CH 12 26 KW 242 M

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Technical Narrative

This Technical Exhibit supports an application for digital television (DTV) station WWBT(DT), on channel 12 at Richmond, Virginia. Station WWBT(DT) is authorized (license application pending) to operate with a non-directional effective radiated power (ERP) of 6 kilowatts (kW) and an antenna height above average terrain (HAAT) of 242 meters.¹

Proposed Facilities

This application proposes to increase ERP only. Station WWBT(DT) proposes to operate DTV channel 12, with a non-directional antenna ERP of 26 kilowatts and antenna HAAT of 242 meters. The transmitter site coordinates remain:

37° 30' 23" North Latitude
77° 30' 12" West Longitude

A sketch of antenna and pertinent elevations are included as Figure 1. The antenna structure registration number is 1015246. Figure 2 is a map showing the DTV predicted coverage contours. The predicted 43 dBu contour will encompass all of Richmond. The Richmond city limits were derived from information contained in the 2000 U.S. Census of Population and Housing.

Allocation Considerations

The proposed WWBT(DT) operation meets the FCC's 0.5% post-transition interference standards to pertinent Class A and DTV facilities using the procedures outlined in the FCC's OET-69 Bulletin and a **non-standard 1 kilometer cell size and 0.2 kilometer**

¹ See BMPCDT-20080620AHY and BLCDT-20090622ACP

terrain distance increment to all stations except WWPX (Martinsburg, WV) and WVEC (Lynchburg, VA). The calculated interference to each is tabulated below:

Station	Baseline	Predicted Interference Caused (2000 Census)
WWPX (BLCDDT-20021108AAX)	2,454,713	171,672 (6.994%)
WWPX (DTVPLN-DTVP0413)	2,454,713	171,672 (6.994%)
WWPX (BPCDDT-20090513ACL, as amended)	2,987,565	118,008 (3.95%)
WVEC (BPCDDT-20080305AFC)	1,996,781	67,086 (3.36%)
WVEC (DTVPLN-DTVP0484)	1,936,576	92,082 (4.755%)

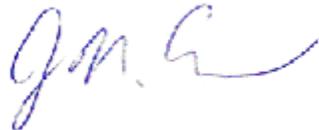
For consent on the excessive interference tabulated above, see interference agreements attached elsewhere to this application.

Radiofrequency Electromagnetic Field Exposure

The proposed WWBT(DT) facilities were evaluated in terms of potential radio frequency (RF) energy exposure at ground level to workers and the general public. The radiation center for the proposed DTV antenna is located 230.6 meters above ground level with an ERP of 26 kW. A conservative relative field value of 0.3 was assumed for the calculation (see Figure 3). The calculated power density at a point 2 meters above ground level will not exceed 0.0015 mW/cm². This is less than 5% of the FCC's recommended limit of 0.2 mW/cm² for Channel 12 for an "uncontrolled" environment.

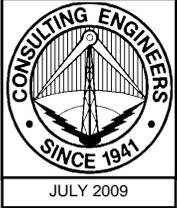
Access to the transmitting site will be restricted and appropriately marked with warning signs. In the event that workers or other authorized personnel enter restricted areas or climb the tower, appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a longer period of time, wearing "accepted" RFR protective clothing and/or RFR exposure monitors or scheduling work when the station is at reduced power or shut down. The proposed WWBT(DT) operation appears to be otherwise categorically excluded from environmental processing.

It is noted that this statement only addresses the potential for radiofrequency electromagnetic field exposure. All other aspects of the environmental processing analysis will be or already have been provided to the FCC by the tower owner.

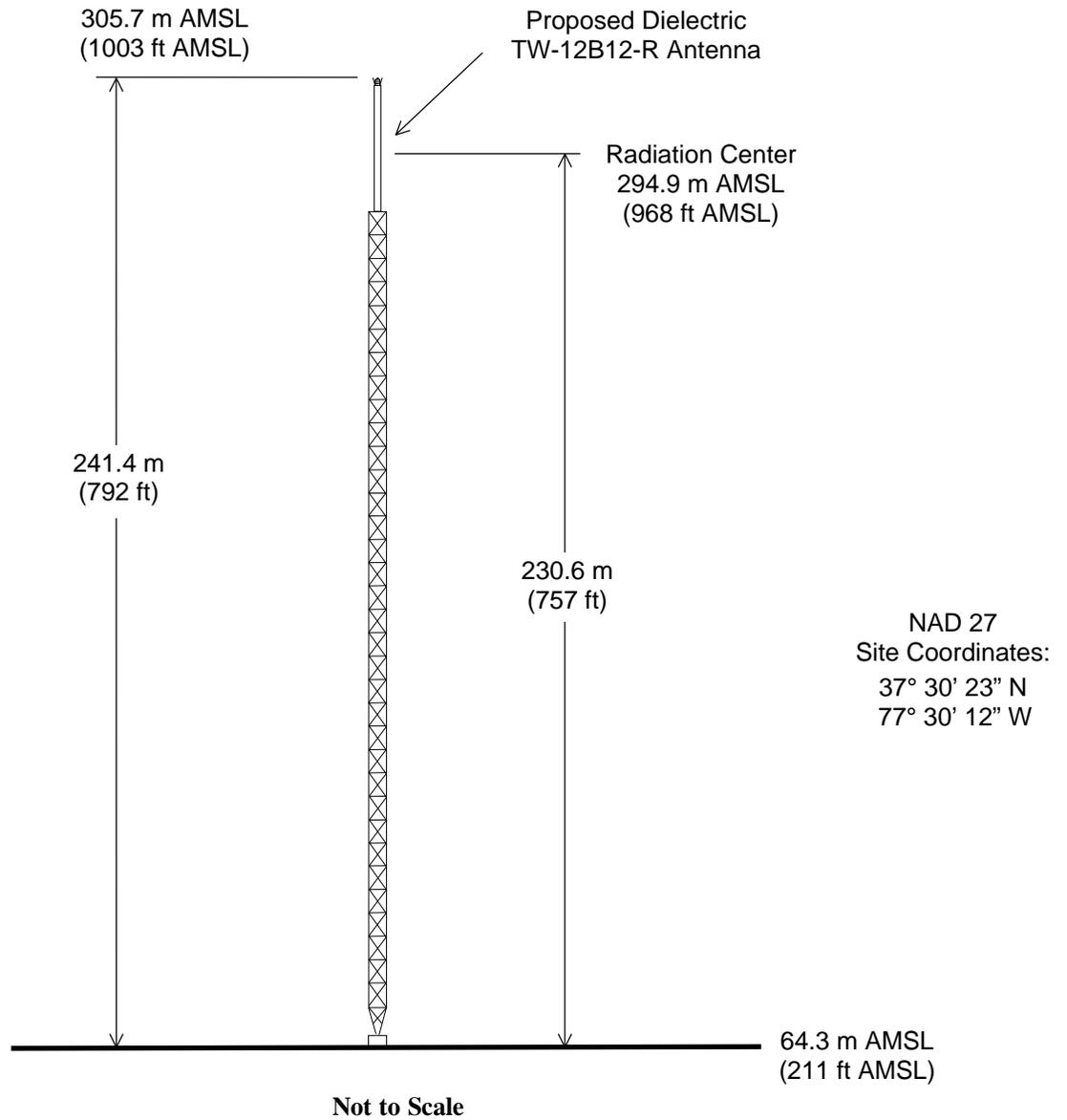


Jonathan N. Edwards
du Treil, Lundin & Rackley, Inc.
201 Fletcher Avenue
Sarasota, Florida 34237
(941) 329-6000
JON@DLR.COM

July 22, 2009



Registration No. 1015246

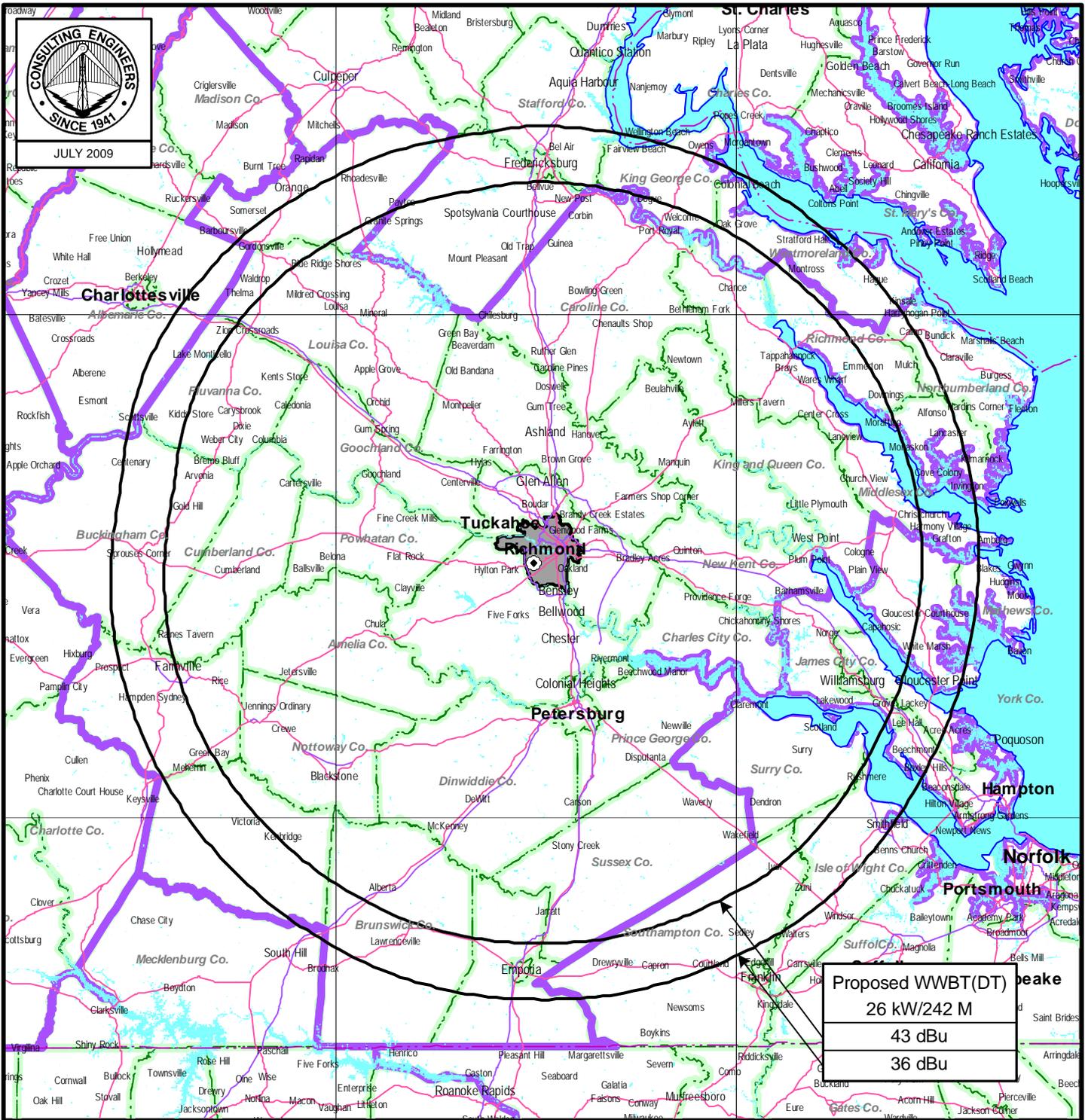


ANTENNA AND SUPPORTING STRUCTURE

STATION WWBT(DT)
RICHMOND, VIRGINIA
CH 12 26 KW 242 M

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

Figure 2



PREDICTED COVERAGE CONTOURS

STATION WWBT(DT)

RICHMOND, VIRGINIA

CH 12 26 kW 242 M

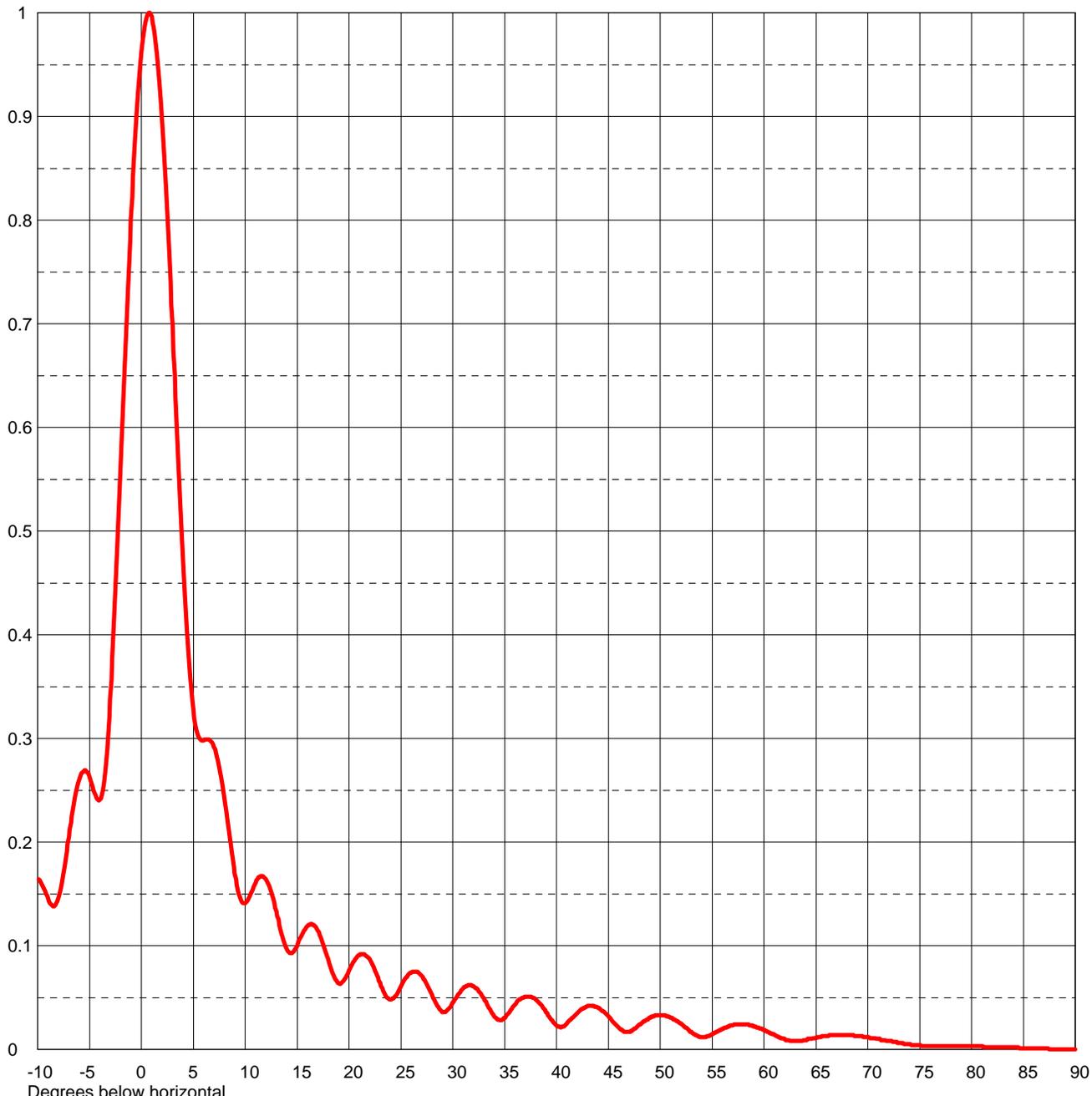
du Treil, Lundin & Rackley, Inc Sarasota, Florida



Date **19 Jun 2008**
 Call Letters **WWBT(DT)** Channel **12**
 Location **Richmond, VA**
 Customer
 Antenna Type **TW-12B12-R**

ELEVATION PATTERN

RMS Gain at Main Lobe	12.0 (10.79 dB)	Beam Tilt	0.75 Degrees
RMS Gain at Horizontal	11.1 (10.45 dB)	Frequency	207.00 MHz
Calculated / Measured	Calculated	Drawing #	25W120075-90



Remarks: