

TECHNICAL EXHIBIT
APPLICATION FOR DTV CONSTRUCTION PERMIT
IN SUPPORT OF ITS POST-TRANSITION FACILITY
STATION WMC-DT (FACILITY ID 19184)
MEMPHIS, TENNESSEE

MARCH 13, 2008

CH 5 7.3 KW 309 M

TECHNICAL EXHIBIT
APPLICATION FOR DTV CONSTRUCTION PERMIT
IN SUPPORT OF ITS POST-TRANSITION FACILITY
STATION WMC-DT (FACILITY ID 19184)
MEMPHIS, TENNESSEE
CH 5 7.3 KW 309 M

Table of Contents

Technical Narrative

Figure 1	Antenna and Supporting Structure
Figure 2	Typical Antenna Elevation Pattern
Figure 3	Predicted FCC Coverage Contours
Figure 4	OET-69 Interference Analysis

TECHNICAL EXHIBIT
APPLICATION FOR DTV CONSTRUCTION PERMIT
IN SUPPORT OF ITS POST-TRANSITION FACILITY
STATION WMC-DT (FACILITY ID 19184)
MEMPHIS, TENNESSEE
CH 5 7.3 KW 309 M

Technical Narrative {Up To 5-Mile Waiver Request}

This Technical Exhibit supports an application for digital television (DTV) station WMC-DT for its final DTV operation at Memphis, Tennessee. This application requests a construction permit (CP) for a digital television operation on channel 5, using its licensed analog, non-directional antenna.

Proposed Facilities

Station WMC-DT proposes to operate DTV channel 5 from its analog transmitter site, with a non-directional effective radiated power (ERP) of 7.3 kilowatts and antenna height above average terrain (HAAT) of 309 meters. The transmitter site coordinates are (corrected due to tower registration):

35° 10' 09" North Latitude
89° 53' 10" West Longitude

A sketch of antenna and pertinent elevations are included as Figure 1. Figure 2 depicts a typical antenna elevation pattern.

Figure 3 is a map showing the DTV predicted coverage contours as well as the associated analog Grade B and Appendix B allotment coverage contours. A 5-mile buffer has been added to the Appendix B allotment coverage contour. The extent of the proposed 7.3 kW contour has been calculated using the normal FCC prediction method. The predicted 28 dBu contour will not extend beyond the 5-mile buffer at any location.

The proposed 35 dBu contour will encompass all of Memphis. The Memphis city limits were derived from information contained in the 2000 U.S. Census of Population and Housing.

Population Served

The herein proposed WMC-DT facility is predicted to serve 1,601,616 persons, post-transition, based upon the 2000 Census. WMC-DT's associated Appendix B facility is predicted to serve 1,600,027 persons. Therefore, the herein proposed WMC-DT facility would serve more than 100% of WMC-DT's Appendix B population.

Allocation Considerations

Since the proposed WMC-DT ERP exceeds the Commission's *Appendix B* allocated maximum effective radiated power in some azimuthal directions¹, a waiver of the current freeze on filing DTV maximization applications is hereby requested. The proposed facilities would (1) create a contour that does not extend more than 5 miles in any direction beyond the Appendix B contour (as amended on reconsideration); (2) not create more than

¹ See Seventh Report And Order And Eighth Further Notice Of Proposed Rule Making in the Matter of Advanced Television Systems and their Impact Upon the Existing Television Broadcast Service, MB Docket 87-268, Released August 6, 2007; Adopted August 1, 2007.

0.5% new interference to any other station; and (3) would allow WMC-DT to use its analog antenna to avoid a significant reduction in post-transition service from its analog service area.

In support of this waiver request, an allocation study was completed to ensure no prohibited interference would occur. The proposed WMC-DT operation meets the FCC's post-transition interference standards to pertinent Class A and DTV allotments using the procedures outlined in the FCC's OET-69 Bulletin and a 2 kilometer grid cell size. The results of the interference analyses are summarized in Figure 4.

The proposal is co-located with AM station WMC. Since there will be no physical changes to the existing tower (i.e., the existing analog antenna will be used) no adverse impact is expected to occur with respect to AM station WMC.

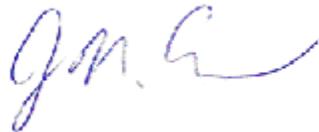
Radiofrequency Electromagnetic Field Exposure

The proposed WMC-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 319 meters above ground level with an ERP of 7.3 kW. A conservative relative field value of 0.25 was assumed for the calculation (see Figure 2 for a typical RCA 6-bay Superturnstile antenna pattern). The calculated power density at a point 2 meters above ground level will not exceed 0.0002 mW/cm². This is less than 5% of the FCC's recommended limit of 0.2 mW/cm² for channel 6 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 WMC-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.

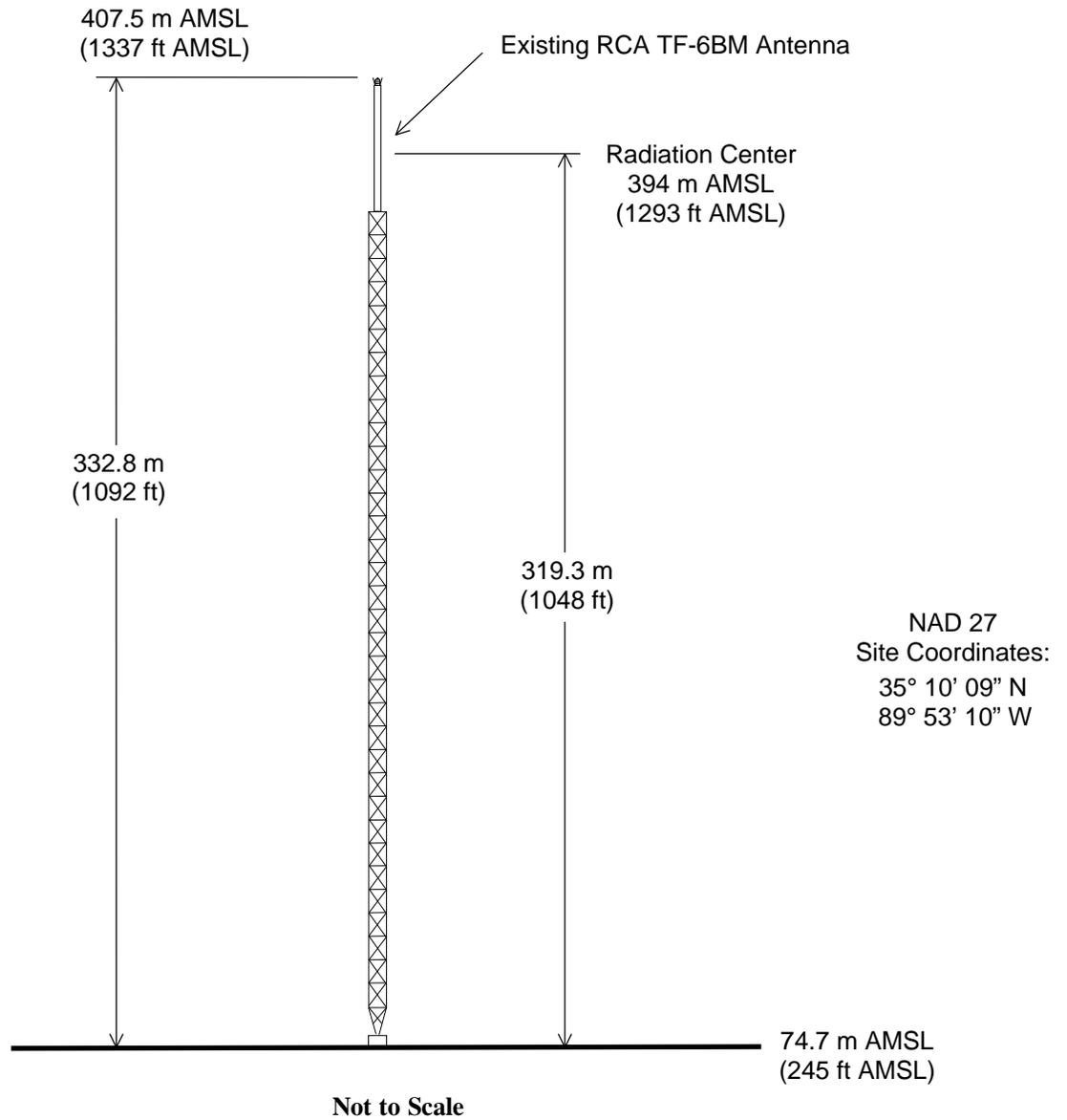


Jonathan N. Edwards
du Treil, Lundin & Rackley, Inc.
201 Fletcher Avenue
Sarasota, Florida 34237
(941) 329-6000
JON@DLR.COM

March 13, 2008



Registration No. 1048813



ANTENNA AND SUPPORTING STRUCTURE

STATION WMC-DT

MEMPHIS, TENNESSEE

CH 5 7.3 KW 309 M

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

Figure 2

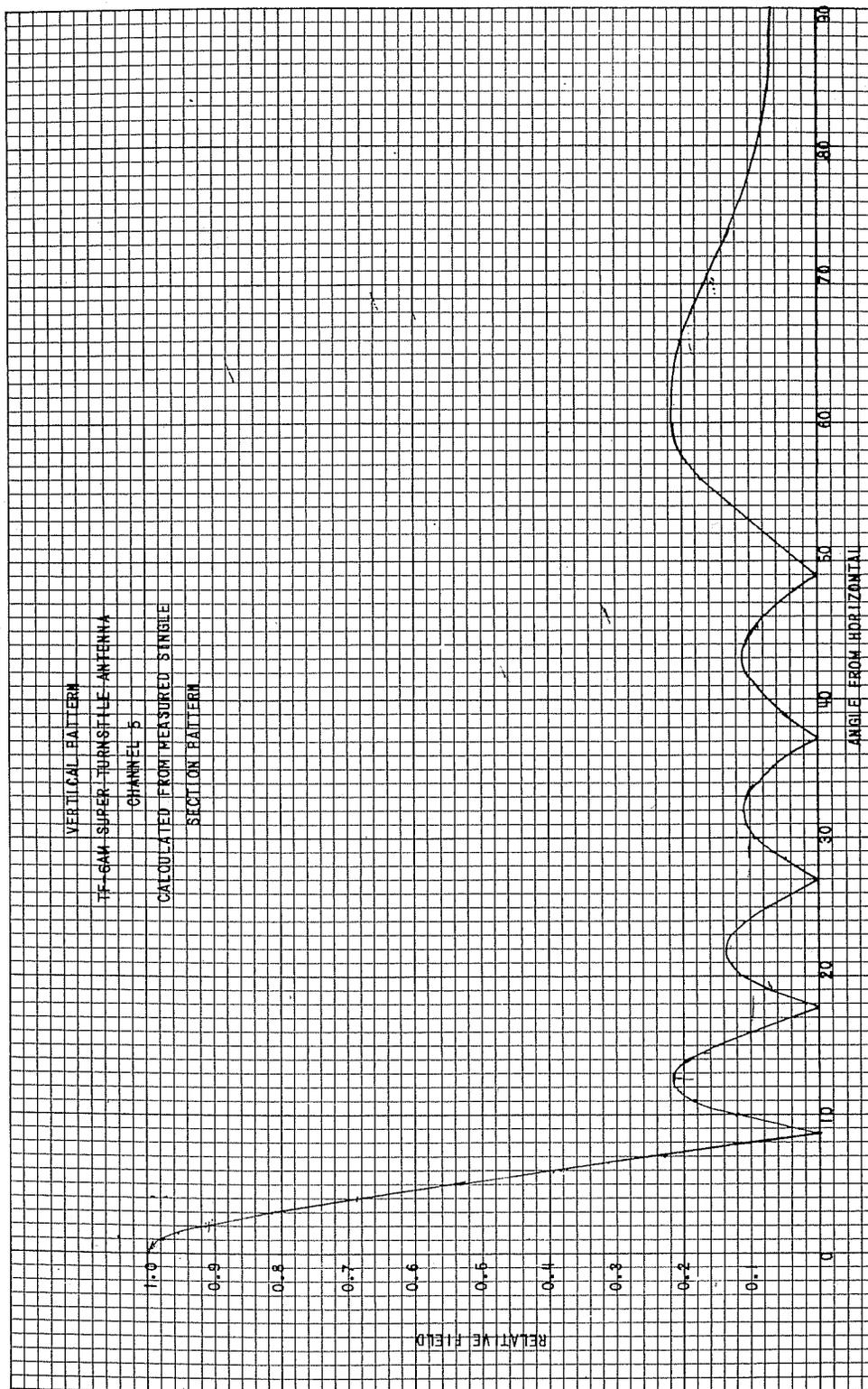
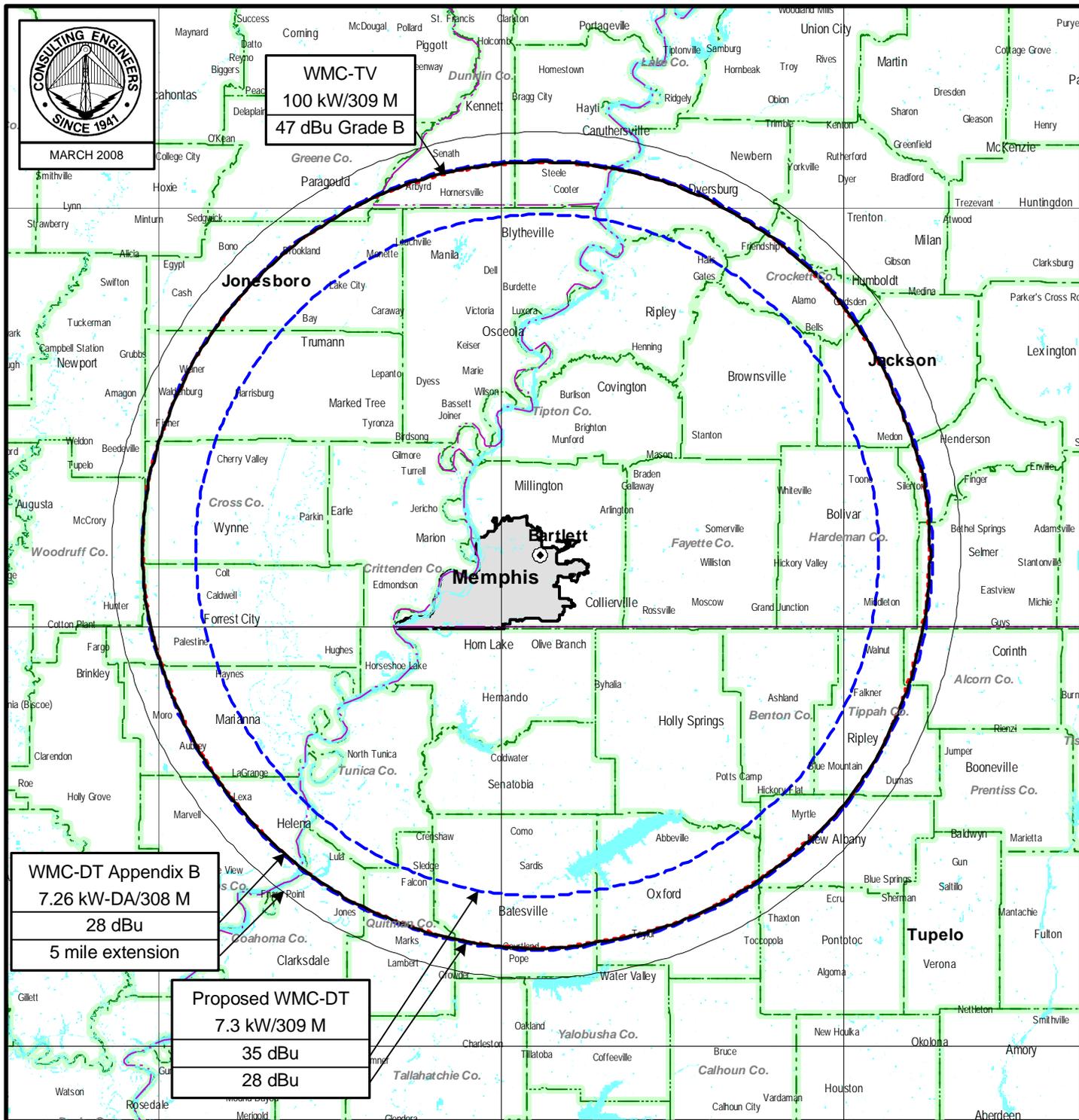


Figure 3



PREDICTED COVERAGE CONTOURS

STATION WMC-DT
 MEMPHIS, TENNESSEE
 CH 5 7.3 kW 309

du Treil, Lundin & Rackley, Inc Sarasota, Florida

Analysis of Interference to Affected Station 1

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
05	WTVF	NASHVILLE TN	BLCT	-860702KI

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
05	WCYBTV	BRISTOL VA	419.3	LIC	BLCT	-790811KK
05	WMC	MEMPHIS TN	305.1	APP	USERRECORD-01	

Total scenarios = 1

Result key: 1
 Scenario 1 Affected station 1
 Before Analysis

Results for: 5A TN NASHVILLE BLCT 860702KI LIC
 HAAT 425.0 m, ATV ERP 10.3 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	2106741	40807.8
not affected by terrain losses	2092946	39692.2
lost to NTSC IX	0	0.0
lost to additional IX by ATV	5106	475.8
lost to ATV IX only	5106	475.8
lost to all IX	5106	475.8

Potential Interfering Stations Included in above Scenario 1

5A TN MEMPHIS BLCDT 20020501AAP LIC

After Analysis

Results for: 5A TN NASHVILLE BLCT 860702KI LIC
 HAAT 425.0 m, ATV ERP 10.3 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	2106741	40807.8
not affected by terrain losses	2092946	39692.2
lost to NTSC IX	0	0.0
lost to additional IX by ATV	5054	487.8
lost to ATV IX only	5054	487.8
lost to all IX	5054	487.8

Potential Interfering Stations Included in above Scenario 1

5A TN MEMPHIS USERRECORD01 APP

Percent new IX = -0.0025%
 Worst case new IX 0.0025% Scenario 1
 #####

Analysis of Interference to Affected Station 2

Analysis of current record

Channel	Call	City/State	Application	Ref. No.
05	WMC	MEMPHIS TN	USERRECORD-01	

Stations Potentially Affecting This Station

Chan	Call	City/State	Dist(km)	Status	Application	Ref. No.
05	WTVF	NASHVILLE TN	305.1	LIC	BLCT	-860702KI

Total scenarios = 1

Result key: 2
Scenario 1 Affected station 2
Before Analysis

Results for: 5A TN MEMPHIS USERRECORD01 APP
HAAT 308.0 m, ATV ERP 7.3 kW

	POPULATION	AREA (sq km)
within Noise Limited Contour	1618046	34344.1
not affected by terrain losses	1615117	34164.1
lost to NTSC IX	0	0.0
lost to additional IX by ATV	13501	748.3
lost to ATV IX only	13501	748.3
lost to all IX	13501	748.3

Potential Interfering Stations Included in above Scenario 1

5A TN NASHVILLE BLCT 860702KI LIC

#####