

TECHNICAL EXHIBIT  
APPLICATION FOR CONSTRUCTION PERMIT  
RADIO STATION WTPR-FM  
MCKINNON, TENNESSEE

August 23, 2004

CH 269A    1.8 KW    185 M

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Technical Statement

This Technical Exhibit was prepared on behalf of radio station WTPR-FM, McKinnon, Tennessee in support of an application for construction permit to change channel and increase its effective radiated power. WTPR-FM is licensed for operation on Channel 268A (101.5 MHz) with a nominal non-directional effective radiated power (ERP) of 0.79 kW and an antenna height above average terrain (HAAT) of 185 m.\* By means of this application, it is proposed to migrate WTPR-FM to Channel 269A, which will allow it to operate as a full 6-kW/100-m equivalent Class A facility. The instant minor change application was prepared in accordance with the requirements of Section 73.203(b) concerning “one-step” applications to change channel.

Proposed Facilities

The proposed facility will operate on Channel 269A with a nominal non-directional ERP of 1.8 kW and an antenna HAAT of 185 m. The proposed facility meets the maximum Class A facilities requirement outlined in Section 73.211 of the FCC Rules.

The proposed facility is not located in a Canadian or Mexican treaty border zone. The proposed WTPR-FM facility is well removed, by over 400 km, from

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\*See FCC File No. BLH-19890227KD.

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the closest FCC Monitoring Station and radio astronomy quiet zones. Therefore, there is no concern for potential interference from the WTPR-FM facility to these facilities.

The closest AM station is located more than 30 km from the proposed transmitter site. Therefore, the WTPR-FM proposed facility is not subject to the AM pattern protection procedures outlined in Section 73.1692 of the FCC Rules.

#### Environmental Considerations

With respect to radio frequency (RF) exposure issues, the proposed facility meets the requirements of Section 1.1306(b)(3) concerning human exposure to RF energy.

A worst-case analysis of the RF exposure situation was conducted using the procedures outlined in FCC OET Bulletin No. 65. The following facilities were considered in the RF exposure evaluation:

<b>Call Sign</b>	<b>Channel</b>	<b>Total ERP (kW)</b>	<b>Antenna Radiation Center Height Above Ground (m)</b>	<b>Type of Transmitting antenna</b>	<b>Comment</b>
WTPR-FM	269	3.6	118	isotropic	worst-case

A detailed analysis of the maximum RF exposure level from the WTPR-FM facilities was conducted at 2-m above ground level assuming an isotropic radiation pattern. The following table summarizes the results of the RF exposure analysis:

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Call Sign	Channel	Total ERP <sup>†</sup> (kW)	Antenna Radiation Center Height Above Ground (m)	Relative Field Factor	FCC Limit <sup>‡</sup> (uW/cm <sup>2</sup> )	Percentage of Limit <sup>§</sup>
WTPR-FM	269	3.6	118	1.0	200	4.3

As indicated, the RF exposure at 2-m above ground level will not exceed 4.3% of the FCC limit for uncontrolled environments. Therefore, the proposal complies with the FCC limits for human exposure to RF radiation at all locations on the ground in the vicinity of the proposed facility.\*\*

The base of the tower shall be restricted from access. The applicant shall reduce power or cease operation as necessary to protect persons having access to the tower from RF energy in excess of the FCC guidelines.

#### Predicted Coverage Contours

The predicted coverage contours were calculated in accordance with Section 73.313 of the FCC Rules. The average terrain elevations from 3 to 16 km from the proposed site were computed using the U.S.G.S. 3-second linearly interpolated terrain database.

The distances to the conventional FCC predicted coverage contours were determined using the average elevations of 3-16-km radials spaced every 45-degrees of azimuth. The antenna radiation center HAAT in each radial direction and the ERP were used in conjunction with the propagation prediction curves of Section 73.333 to

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<sup>†</sup> In the case of FM stations, the total horizontally and vertically polarized ERP.

<sup>‡</sup> for uncontrolled environments

<sup>§</sup> Calculations were made at 2-m AGL according to the procedures outlined in FCC OET Bulletin No. 65.

\*\* See Sections 1.1307 and 1.1310 of the FCC Rules.

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determine the distances to contours. Figure 1 is a map showing the predicted coverage contours.

As indicated in Figure 1, the proposed predicted 70 dBu contour encompasses the community of McKinnon in compliance with Section 73.315 of the FCC Rules.

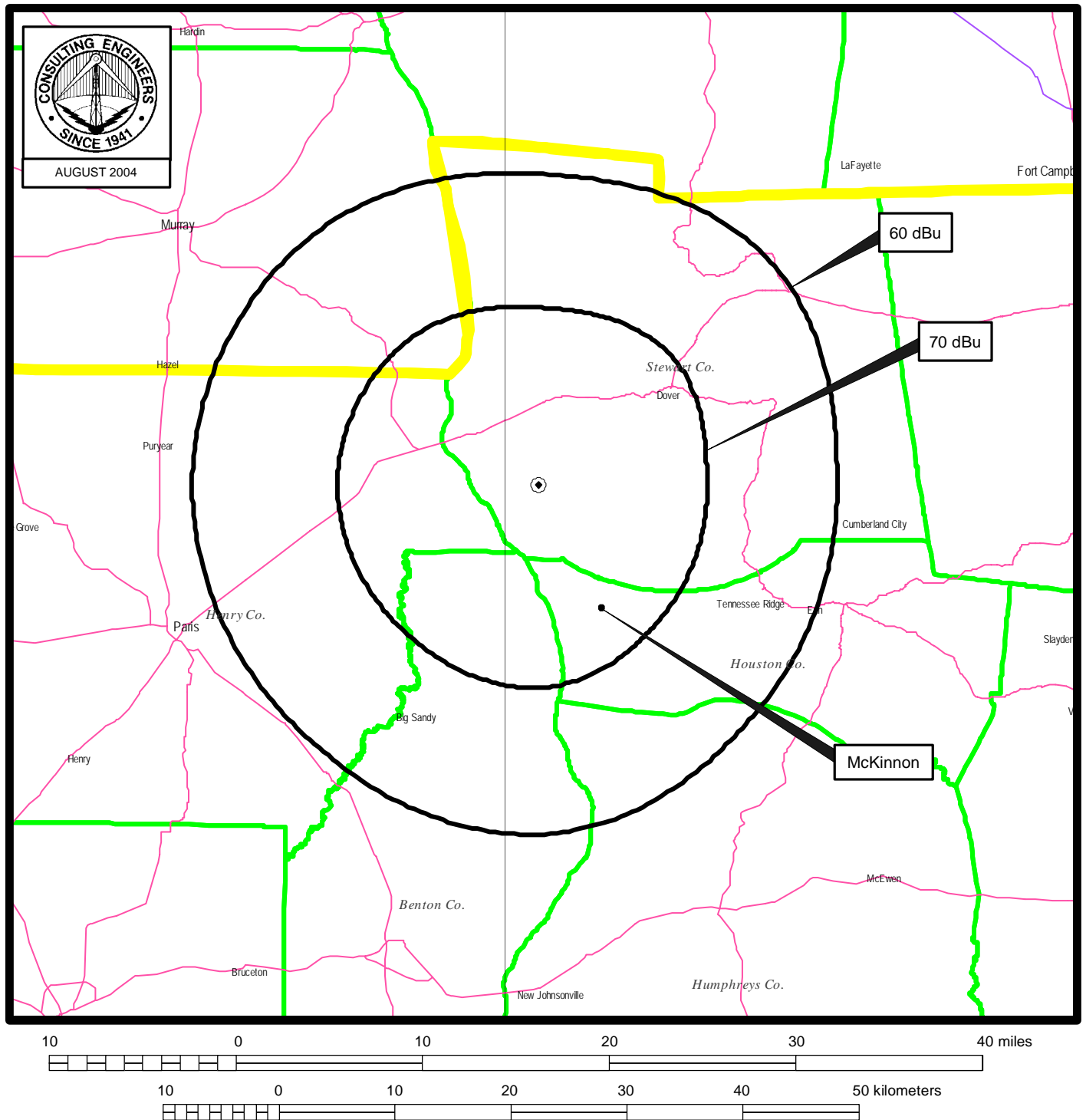
#### Allocation Considerations

As outlined in Figure 2, the proposed facility meets the separation requirements of Section 73.207 of the FCC Rules with respect to all pertinent allotments and assignments with the exception of WCMT-FM, Martin, Tennessee (Channel 269A). WCMT-FM has migrated to Channel 267C2 and is not an allocation concern for the proposed facility. See Allocation Study at Figure 2.

Louis Robert du Treil, Jr.

du Treil, Lundin & Rackley, Inc.  
201 Fletcher Ave.  
Sarasota, Florida 34237

August 23, 2004



## PREDICTED COVERAGE CONTOURS

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

Figure 2

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Allocation Study

Job Title: WTPR-FM  
Channel: 269 A

Separation Buffer: 25 km  
Coordinates: 36-24-39 87-58-06

Call Id	City St	Status	File Num	Channel Freq	ERP HAAT	DA Id	Latitude Longitude	73 215	Bear	Dist. (km)	Req. (km)
990402	PARIS		BPED	215 A	0.250	N	36-14-32	N	233.6	31.56	10.0
93121	TN APP	C	19990402MC	90.9	100		088-15-05			21.56	Clear
990506	PARIS		BPED	215 A	5.000	N	36-18-11	N	249.5	34.10	10.0
93341	TN APP	C	19990506MF	90.9	51		088-19-27			24.10	Clear
WCMT-F	SOUTH	FULTO	BPB	267 C3	22.000	N	36-29-00	Y	275.5	88.63	42.0
67053	TN CP	C	20021213AAU	101.3	94		088-57-10			46.63	Clear
<i>(Migrated from Channel 269A. See below.)</i>											
WTPR-F	MCKINNON		BLH	268 A	0.790	N	36-24-39	N	90.0	0.00	72.0
12496	TN LIC	C	19890227KD	101.5	185		087-58-06			-72.00	Short
<i>(Applicant's licensed facility.)</i>											
WCMT-F	MARTIN		BLH	269 A	6.000	N	36-21-45	N	266.4	79.21	115.0
67053	TN LIC	C	19890919KA	101.7	100		088-50-57			-35.79	Short
<i>(WCMT-FM has migrated to Channel 267C3. See Application for License, BLH-20040728AGR.)</i>											
WKOM	COLUMBIA		BLH	269 A	4.100	N	35-37-05	N	136.4	121.26	115.0
41996	TN LIC	C	19970910KF	101.7	118		087-02-33			6.26	Close
WORM-F	SAVANNAH		BLH	269 A	3.000	N	35-14-24	N	190.8	132.23	115.0
24101	TN LIC	C	3332	101.7	53		088-14-29			17.23	Clear
WQXQ	CENTRAL	CIT	BLH	270 C1	100.000	N	37-35-03	N	33.3	156.58	133.0
46945	KY LIC	C	19930826KA	101.9	204		086-59-29			23.58	Clear
	MAYFIELD		RM	271 C2	0.000		36-40-36		302.5	55.35	55.0
0	KY ADD	C	bg-113	102.1			088-29-29			0.35	Close