

TECHNICAL EXHIBIT
APPLICATION FOR FM CONSTRUCTION PERMIT
STATION WFMH-FM
FACILITY ID 24578
HACKLEBURG, ALABAMA
CH 238A 6.0 KW (ND) 98 M

Technical Narrative

1. Proposed Operation: It is proposed to relocate WFMH-FM to a new, unregistered tower and operate on channel 238A (95.5 MHz) at Hackleburg, Alabama with a nondirectional antenna maximum ERP of 6.0 kW (H&V) and an HAAT of 98 meters.

2. Compliance with Section 73.315: Figure 1 is a map which demonstrates that the proposed WFMH-FM operation complies with the provisions of Section 73.315 and provides the entire community of Hackleburg, Alabama with a 70-dBu signal. The Hackleburg city limits shown on Figure 1 were obtained from a map contained in the 2010 U.S. Census of Population.

3. Compliance with Sections 73.207 & 73.215: Figure 2 is a separation study based on Section 73.207 for Channel 238A operation from the proposed WFMH-FM site. As shown, the proposed site complies with the minimum distance separation requirements of Section 73.207 for class A operation on channel 238 towards all existing, authorized and proposed stations and allotments, with the exceptions of the licensed operations of WSM-FM on co-channel 238C at Nashville, Tennessee and WAFM on 1st upper adjacent channel 239A (95.7 MHz) at Amory, Mississippi. Section 73.215 processing is requested with respect to both WSM-FM and WAFM. Figure 3 is a map demonstrating compliance with the contour overlap provisions of Section 73.215. It is noted that since WAFM's licensed facilities were authorized under Section 73.215, actual facilities were utilized for WAFM for the Section 73.215 analysis. On the other hand, maximum facilities have been presumed for WSM-FM for the Section 73.215 analysis. Finally, the minimum distance separation requirements of Section 73.215(e) are met with respect to the WSM-FM and WAFM operations.

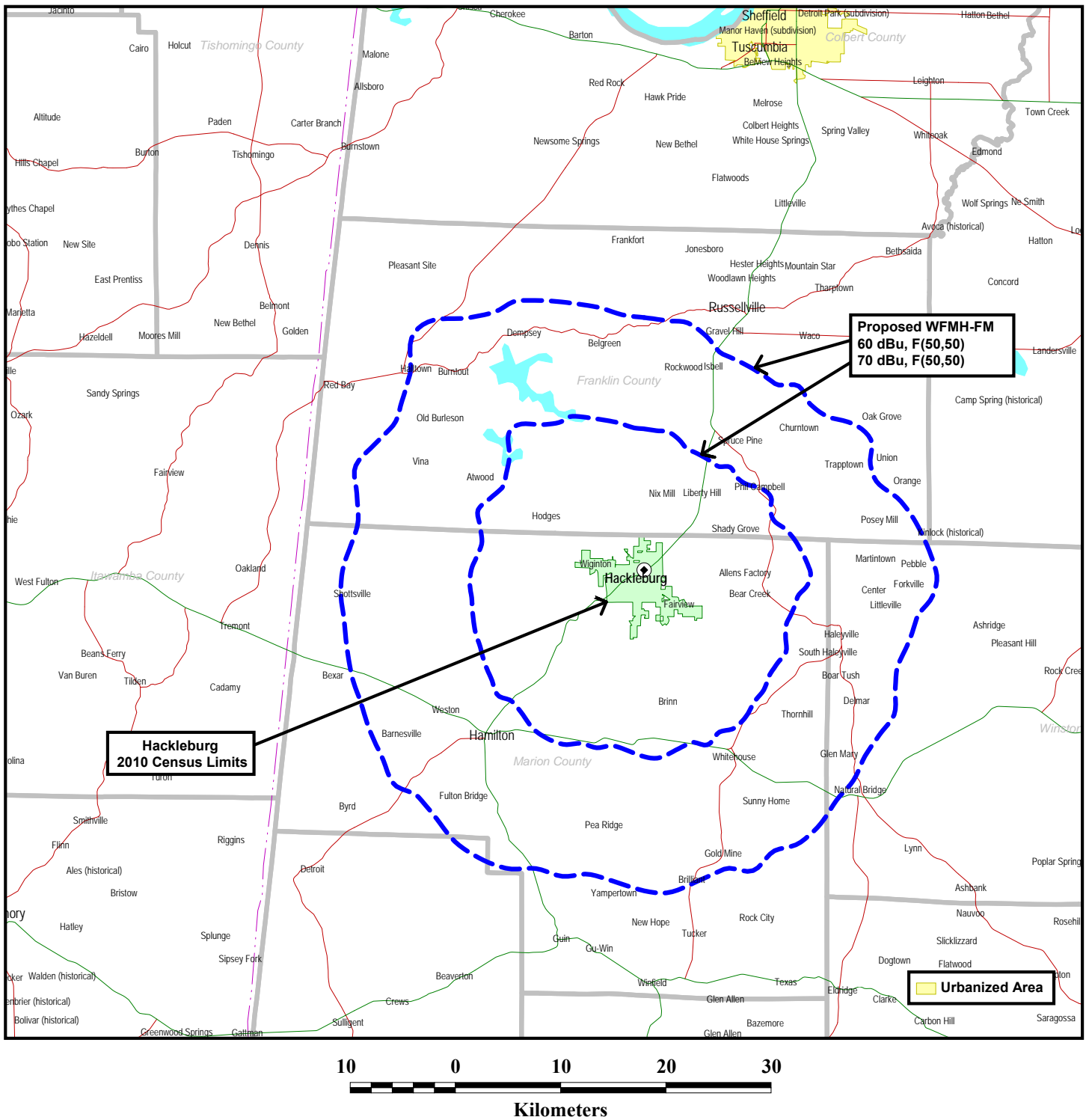
4. Use of NED 1-Second Terrain Data: The NED 1-second terrain database was used to determine the locations of the protected and interfering contours depicted on Figures 1 and 3. Terrain data was derived along 72 equally spaced radials.

5. RFR Compliance: The proposed WFMH-FM facilities were evaluated in terms of potential radio frequency (RF) energy exposure at ground level to workers and the general public based on the FCC's FM Model software. It is proposed to side-mount a SWR model FM3-4, 4-bay, one wavelength spaced nondirectional antenna at the 55.1 meter level on the tower. The total ERP is 12 kW (horizontal plus vertical polarization). Figure 4 depicts the output of the FCC's FM Model program. As indicated, a maximum power density of 18.96

$\mu\text{W}/\text{cm}^2$ will occur at a point located 20.6 meters from the tower. This is only 9.5% of the FCC's recommended limit of $200 \mu\text{W}/\text{cm}^2$ for FM frequencies for an uncontrolled environment. Thus, as WFMH-FM is the only broadcast station on the tower or in the immediate area, it is believed that the proposed WFMH-FM operation is in full compliance with the FCC's requirements with regard to radio frequency radiation exposure.

Access to the transmitting site will be restricted and appropriately marked with RFR warning signs. Furthermore, a protocol will be in effect in the event that workers or other authorized personnel enter the restricted area or climb the tower to ensure that 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.

Figure 1



COMPLIANCE WITH SECTION 73.315

STATION WFMH-FM
HACKLEBURG, ALABAMA
CH 238A (95.5 MHZ) 6 KW 98 M

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

FM Study LMS

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



Station Channel: 238 **Station Coordinates:** 034-16-52.9 087-49-30.5 (NAD83)

Class: A **Buffer Distance:** 20 km

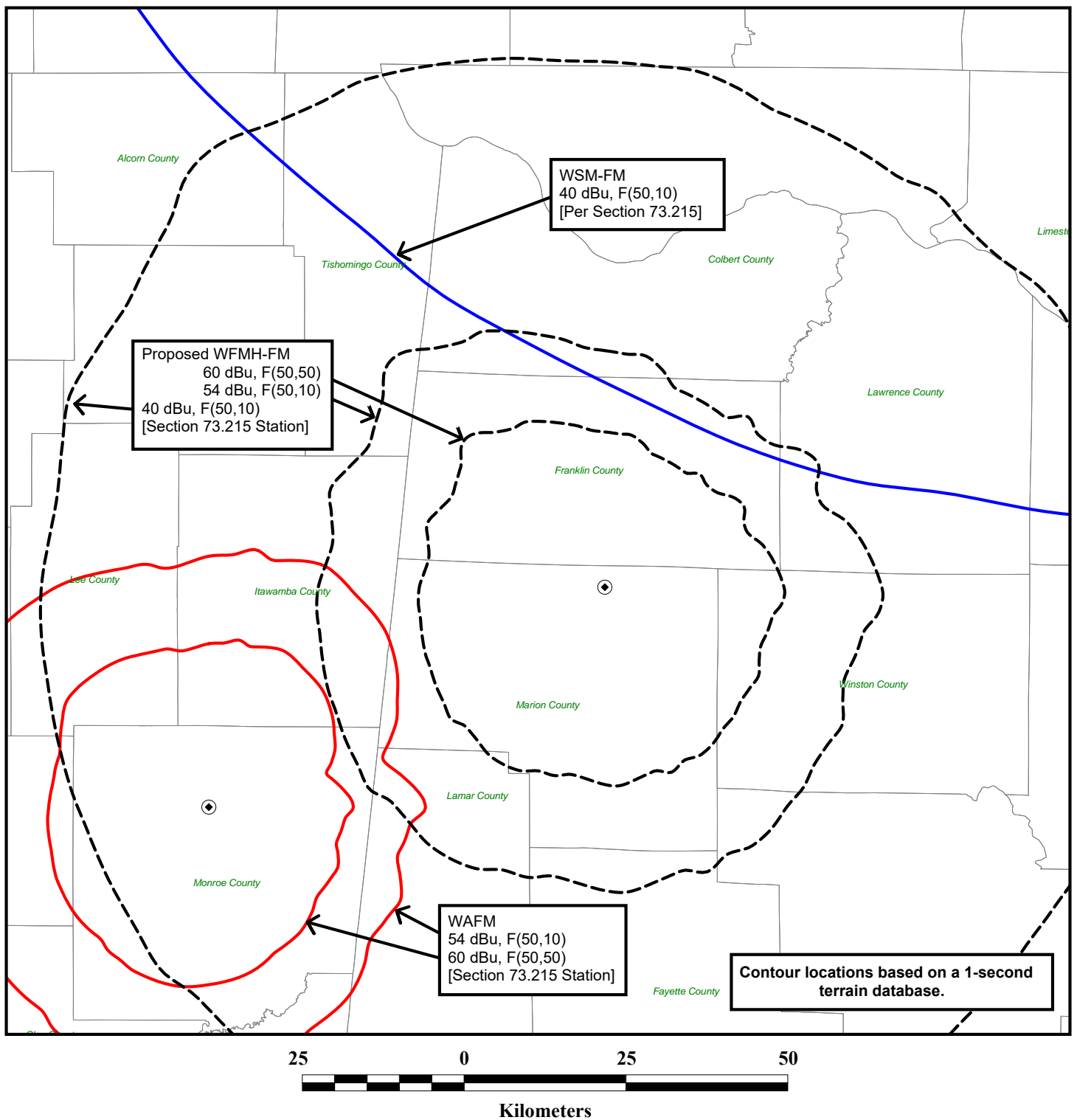
Comment: Proposed WFMH-FM

Callsign	Status	Channel	Service	Freq.	City		State	Co.	Rec Type	Latitude	Dist. (km)	Sep. (km)	Spacing (km)	
Facility ID	ARN			Class	DA	Ant ID	ERP (kW)	HAAT (m)	73.215	Longitude	Bear. (deg)	73.215 (km)	Comment	
WADI	L2C	237	FM	95.3	CORINTH			MS	US	C	034-55-47.3	89.75	72	17.75
31412	BLH-20030619AAL			A	NDIR		2.6	144		N	088-24-37.2	323.56	49	CLEAR
WFMH-FM	AMD	238	FM	95.5	HACKLEBURG			AL	US	C	034-18-38.4	10.8	115	-104.2
24578	BLH-20050527BDC			A	DRL	66977	4.1	122		Y	087-56-13.1	287.63	92	SHORT /1
WSM-FM	L2C	238	FM	95.5	NASHVILLE			TN	US	C	036-08-27.2	224.04	226	-1.96
74065	BLH-20111011AKK			C	NDIR		100	374.8		N	086-51-56	22.59	203	SHORT /2
WAFM	MOD	239	FM	95.7	AMORY			MS	US	C	033-58-33.4	70.18	72	-1.82
62222	0000116965			A	NDIR	100703 n	6	83		Y	088-29-29.2	241.21	49	SHORT /2

/1 Licensed WFMH-FM operation.

/2 It is proposed to utilize Section 73.215 with respect to these short-spacings. See Technical Narrative and Figure 3

Figure 3



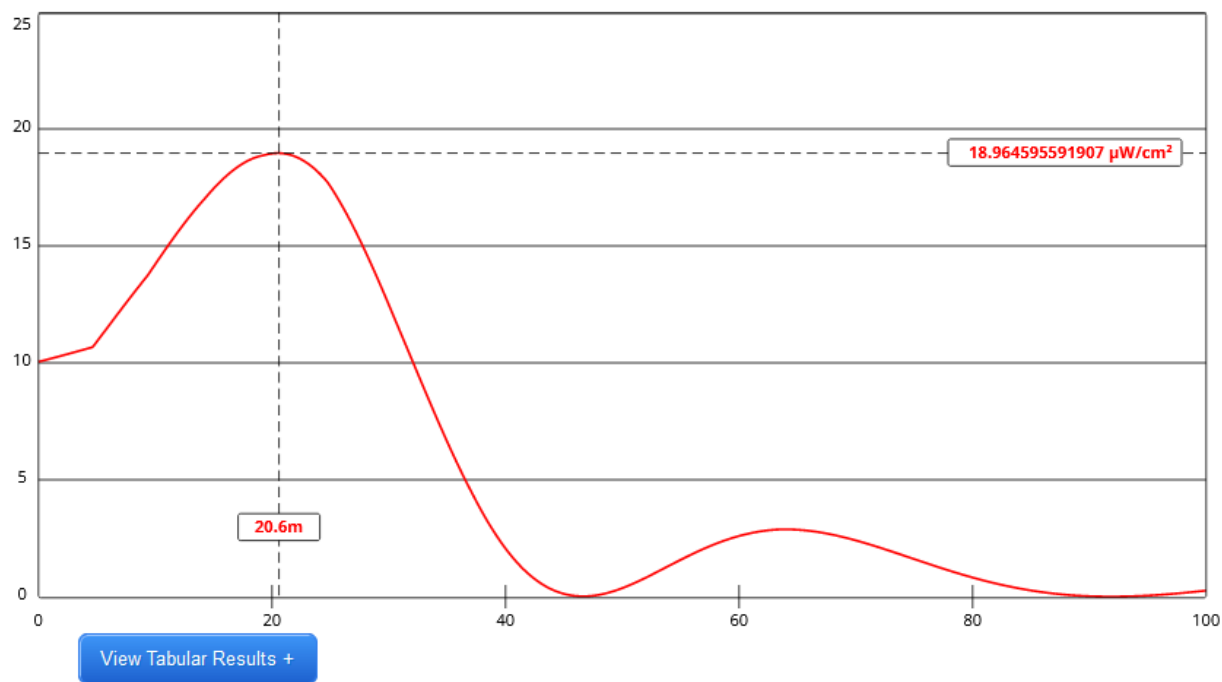
SECTION 73.215 COMPLIANCE

STATION WFMH-FM
HACKLEBURG, ALABAMA
CH 238A (95.5 MHz) 6 KW 98 M

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

Figure 4

Output of FCC's FM Model Program:



Channel Selection	Channel 238 (95.5 MHz) ▾		
Antenna Type +	EPA Type 2: Opposed V Dipole ▾		
Height (m)	<input type="text" value="55.1"/>	Distance (m)	<input type="text" value="100"/>
ERP-H (W)	<input type="text" value="6000"/>	ERP-V (W)	<input type="text" value="6000"/>
Num of Elements	<input type="text" value="4"/>	Element Spacing (?)	<input type="text" value="1"/>
Num of Points	<input type="text" value="500"/>	<input type="button" value="Apply"/>	