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CONSULTING ENGINEERS
OXON HILL, MARYLAND

FCC FORM 301, EXHIBIT 25
SECTION 73.213(a) STUDY
APPLICATION FOR
CONSTRUCTION PERMIT
PREPARED FOR
WDOD OF CHATTANOOGA, INC.
STATION WDOD-FM
CHATTANOOGA, TENNESSEE
CH 243C 100 KW-H, 88 KW-V (MAX-DA) 336 METERS

INTRODUCTION

This engineering exhibit was prepared on behalf of WDOD of Chattanooga, Inc., licensee of station WDOD-FM, Chattanooga, Tennessee, in support of an FCC Form 301 minor change application for construction permit. The exhibit demonstrates that WDOD-FM is a grandfathered short-spaced station with respect to stations WMJJ(FM), Birmingham, Alabama, and WMAK(FM), Murfreesboro, Tennessee, that the instant application complies with Section 73.213(a) of the FCC Rules with regard to stations WMJJ(FM) and WMAK(FM), and that, consequently, a grant of the instant application is in the public interest.

WMJJ(FM) BIRMINGHAM, ALABAMA

WMJJ(FM) is licensed (FCC File Number BLH-19870518KB) to operate on channel 243C with effective radiated power (ERP) of 100 kW, circularly polarized, and antenna radiation center height above average terrain (HAAT) of 313 meters, at a site identified by geographic coordinates 33° 26' 38" North Latitude, 86° 52' 47" West Longitude, referenced to the 1927 North American Datum (NAD 27). WMJJ(FM) also has a application for construction permit pending before the FCC (FCC File Number BPH-20000411ACK) requesting operation on channel 243C with ERP of 73 kW, circularly polarized, and antenna radiation center HAAT of 350 meters at the licensed WMJJ(FM) site.

WDOD-FM began operation in 1960 and WMJJ(FM) began operation in 1961, well before the implementation of the minimum distance separation requirements for FM stations currently found in Section 73.207 of the FCC Rules. The distance between the licensed WDOD-FM site and the licensed WMJJ(FM) site is 238.5 kilometers. The minimum distance separation between co-channel Class C stations required by Section 73.207 of the FCC Rules is 290 kilometers. Hence, WDOD-FM and WMJJ(FM) are short spaced by

51.5 kilometers by today's rules. Since WDOD-FM and WMJJ(FM) were authorized prior to November 16, 1964, and have remained continuously short-spaced since that time, WDOD-FM and WMJJ(FM) are considered grandfathered short-spaced stations, and any modification or relocation of WDOD-FM or WMJJ(FM) is governed by Section 73.213(a) of the FCC Rules.

SECTION 73.213(A) STUDIES

WMJJ(FM) Licensed Facility **(BLH-19870518KB)**

Section 73.213(a) of the FCC Rules requires a showing demonstrating that the total area and population subject to interference caused and received by WDOD-FM and the licensed WMJJ(FM) facility will be maintained or decreased by the instant application. Figure 2 of this exhibit is a portion of the Rome, Georgia; Alabama; Tennessee; and North Carolina USGS 1:250,000-scale series maps on which the areas of interference received within the licensed and proposed WDOD-FM predicted 60 dB μ F(50,50) contours are plotted. Similarly, Figure 3 of this exhibit is a portion of the Birmingham, Alabama, and Gadsten, Alabama; Kentucky USGS 1:250,000-scale series maps on which the areas of interference caused by the licensed and proposed WDOD-FM facilities within

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FCC Form 301, Exhibit 25
Station WDOD-FM, Chattanooga, Tennessee

Page 4

the WMJJ(FM) predicted 60 dBμ F(50,50) contour are plotted. Using a computer program that enumerates the population of those census divisions with centroids located within the specified contour or boundary and another computer algorithm that estimates the area within an irregular polygon, the data contained in the following tabulations of the populations and areas within the areas of interference caused or received demonstrate compliance with the requirements of Section 73.213(a) of the FCC Rules. These tabulations are presented in greater detail in Figure 1 of this exhibit.

Licensed WDOD-FM Interference Analysis:

	<u>Area</u> (sq. km)	<u>Population</u> (persons)
Interference Received from <u>Licensed WMJJ(FM) Facility</u>	105.7	2,374
Interference Caused to <u>Licensed WMJJ(FM) Facility</u>	<u>73.2</u>	<u>692</u>
Total	155.9	3,066

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FCC Form 301, Exhibit 25
Station WDOD-FM, Chattanooga, Tennessee

Page 5

Proposed WDOD-FM Interference Analysis:

	<u>Area</u> (sq. km)	<u>Population</u> (persons)
Interference Received from <u>Licensed WMJJ(FM) Facility</u>	73.2	1,347
Interference Caused to <u>Licensed WMJJ(FM) Facility</u>	<u>5.3</u>	<u>65</u>
Total	78.5	1,412

From this data it may be concluded that the proposed WDOD-FM facility meets the first requirement of Section 73.213(a) of the FCC Rules in that the total area and population subject to interference, both caused and received, is decreased.

Turning now to the second showing required by Section 73.213(a) of the FCC Rules that this proposal will not result in increased interference caused to WMJJ(FM), Figure 3 of this exhibit demonstrates that the predicted area of interference caused to the licensed WMJJ(FM) facility by the proposed WDOD-FM facility lies entirely within the predicted area of interference caused to the licensed WMJJ(FM) facility by the licensed WDOD-FM facility. Accordingly, the area of interference caused to the licensed WMJJ(FM) facility

is decreased, and no new area of interference caused to the licensed WMJJ(FM) facility is created by this proposal.

Finally, with respect to the third showing required by Section 73.213(a) of the FCC Rules concerning adequate remaining aural service in loss areas, Figure 2 of this exhibit shows that portions of Jackson, Dekalb, and Cherokee Counties, Alabama, and Chattooga, County, Georgia, are predicted to lose service from WDOD-FM due to interference received from the licensed WMJJ(FM) facility under the instant proposal. Figure 4 of this exhibit is a study showing the number of aural services remaining in the WDOD-FM loss area created under this proposal. Figure 4 shows that the area predicted to lose service from WDOD-FM under the proposal has more than an adequate number of other aural services remaining. Figure 9 of this exhibit is a tabulation of the stations used in this study.

WMJJ(FM) Application for Construction Permit
(BPH-20000411ACK)

The facilities requested in the WMJJ(FM) Application for Construction Permit were studied for WDOD-FM compliance with Section 73.213(a) of the FCC Rules. Figure 6 of this exhibit is a portion of the Rome,

Georgia; Alabama; Tennessee; and North Carolina USGS 1:250,000-scale series maps on which the areas of interference predicted to be received from the WMJJ(FM) proposed facilities within the licensed and proposed WDOD-FM predicted 60 dB μ F(50,50) contours are plotted. Similarly, Figure 7 of this exhibit is a portion of the Birmingham, Alabama; and Gadsten, Alabama; Kentucky USGS 1:250,000-scale series maps on which the areas of interference caused by the licensed and proposed WDOD-FM facilities within the proposed WMJJ(FM) facilities predicted 60 dB μ F(50,50) contour are plotted. Using the computer population enumeration and irregular polygon area programs discussed previously, the data contained in the following tabulations of the populations and areas within the areas of interference caused or received demonstrate compliance with the requirements of Section 73.213(a) of the FCC Rules. These tabulations are presented in greater detail in Figure 5 of this exhibit.

DENNY & ASSOCIATES, P.C.
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OXON HILL, MARYLAND

FCC Form 301, Exhibit 25
Station WDOD-FM, Chattanooga, Tennessee

Page 8

Licensed WDOD-FM Interference Analysis:

	<u>Area</u> (sq. km)	<u>Population</u> (persons)
Interference Received from <u>Proposed WMJJ(FM) Facility</u>	56.4	1,116
Interference Caused to <u>Proposed WMJJ(FM) Facility</u>	<u>47.7</u>	<u>618</u>
Total	104.1	1,734

Proposed WDOD-FM Interference Analysis:

	<u>Area</u> (sq. km)	<u>Population</u> (persons)
Interference Received from <u>Proposed WMJJ(FM) Facility</u>	33.1	663
Interference Caused to <u>Proposed WMJJ(FM) Facility</u>	<u>3.8</u>	<u>114</u>
Total	36.9	777

Thus, the proposed WDOD-FM facility meets the first requirement of Section 73.213(a) of the FCC Rules in that the total area and population subject to interference, both caused and received, is decreased.

The second showing required by Section 73.213(a) of the FCC Rules is that this proposal will not result in increased interference caused to

WMJJ(FM). Figure 7 of this exhibit demonstrates that the predicted area of interference caused to the proposed WMJJ(FM) facility by the proposed WDOD-FM facility lies entirely within the predicted area of interference caused to proposed WMJJ(FM) facility by the licensed WDOD-FM facility. Accordingly, the area of interference caused to the proposed WMJJ(FM) facility is decreased, and no new area of interference caused to the proposed WMJJ(FM) facility is created by this proposal.

Finally, with respect to the third showing required by Section 73.213(a) of the FCC Rules concerning adequate remaining aural service in loss areas, Figure 6 of this exhibit shows that portions of Jackson, Dekalb, and Cherokee Counties, Alabama, and Chattooga County, Georgia, are predicted to lose service from WDOD-FM due to interference received from the proposed WMJJ(FM) facility under the instant proposal. Figure 8 of this exhibit is a study showing the number of aural services remaining in the WDOD-FM loss area created under this proposal. Figure 8 shows that the area predicted to lose service from WDOD-FM under the proposal has more than an adequate number of other aural services remaining. Figure 9 of this exhibit is a tabulation of the stations used in this study.

WMAK(FM), MURFREESBORO, TENNESSEE

WMAK(FM) is licensed (FCC File Number BLH-19970512KB) to operate on channel 242C1 with maximum ERP of 52 kW, circularly polarized, and antenna radiation center HAAT of 392 meters, at a site identified by geographic coordinates 36° 15' 50" North Latitude, 86° 47' 38" West Longitude (NAD 27). WMAK(FM) also is authorized (FCC File Number BPH-20001012AAX) operation on channel 242C1 with maximum ERP of 38.5 kW, circularly polarized, and antenna radiation center HAAT of 432 meters, at a site identified by geographic coordinates 36° 15' 50" North Latitude, 86° 47' 39" West Longitude (NAD 27). The authorized WMAK(FM) site location differs from the licensed WMAK(FM) site location by one second of longitude.

WDOD-FM began operation in 1960 and WMAK(FM) began operation in 1963, well before the implementation of the minimum distance separation requirements for FM stations currently found in Section 73.207 of the FCC Rules. The WMAK(FM) (formerly WRMX(FM)) channel 242 FM Class C allotment at Murfreesboro, Tennessee, was downgraded to FM Class C1 as a

result of Mass Media Docket 80-90.¹ The distance between the licensed WDOD-FM site and the licensed WMAK(FM) site is 181.1 kilometers. The minimum distance separation between adjacent channel Class C and C1 stations required by Section 73.207 of the FCC Rules is 209 kilometers. Hence, WDOD-FM and WMAK(FM) are short spaced by 27.9 kilometers by today's rules. Since WDOD-FM and WMAK(FM) were authorized prior to November 16, 1964, and have remained continuously short-spaced since that time, WDOD-FM and WMAK(FM) are considered grandfathered short-spaced stations, and any modification or relocation of WDOD-FM or WMAK(FM) is governed by Section 73.213(a) of the FCC Rules.

Figure 10 of this engineering exhibit is a portion of Southern Mississippi Valley and Central Mississippi Valley State USGS 1:2,000,000-scale series maps on which the predicted 1 mV/m (60 dBμ) protected F(50,50) contours and the 0.5 mV/m (54 dBμ) interfering F(50,10) contours are plotted for the licensed and authorized WMAK(FM) facilities and the licensed and proposed

¹ Report and Order, *Modification of FM Broadcast Station Rules to Increase the Availability of Commercial FM Broadcast Assignments*, BC Docket 80-90, 48 FR 29486 (1983); Memorandum and Order, *Modification of FM Broadcast Station Rules to Increase the Availability of Commercial FM Broadcast Assignments*, BC Docket 80-90, 49 FR 10260 (1984)

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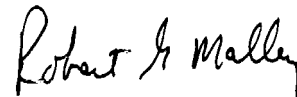
FCC Form 301, Exhibit 25
Station WDOD-FM, Chattanooga, Tennessee

Page 12

WDOD-FM facilities. Figure 10 demonstrates that the licensed and proposed WDOD-FM interfering 54 dB μ contours do not overlap the licensed and authorized WMAK(FM) protected 60 dB μ contours and that the licensed and authorized WMAK(FM) interfering 54 dB μ contours do not overlap the licensed and proposed WDOD-FM protected 60 dB μ contours. Thus, there is no area of interference caused or received between the licensed WDOD-FM and licensed and authorized WMAK(FM) facilities and no area of interference caused or received is created by the proposed WDOD-FM and the licensed and authorized WMAK(FM) facilities. The instant application complies with Section 73.213(a) with respect to the grandfathered short-spaced WMAK(FM) facilities.

CERTIFICATION

I declare under penalty of perjury that the foregoing is true and correct to the best of my knowledge. Executed on February 8, 2002.



Robert G. Mallery

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WDOD-FM and Licensed WMJJ(FM), Birmingham, Alabama, Facility
Section 73.213(a) Interference Analysis

<u>Facilities Studied</u>	<u>Interference Received from WMJJ(FM)¹</u>		<u>Interference Caused To WMJJ(FM)</u>		<u>Total WDOD-FM Interference (Received Plus Caused)</u>	
	<u>Area</u> (Sq. Km.)	1990 US Census <u>Population</u> (Persons)	<u>Area</u> (Sq. Km.)	1990 US Census <u>Population</u> (Persons)	<u>Area</u> (Sq. Km.)	1990 US Census <u>Population</u> (Persons)
Licensed WDOD-FM ²	105.7	2,374	50.2	692	155.9	3,066
Proposed WDOD-FM ³	73.2	1,347	5.3	65	78.5	1,412

¹ Licensed WMJJ(FM) facilities: 100 kW (H&V), 313 meters HAAT, 33° 26' 38" North Latitude, 86° 52' 47" West Longitude (referenced to 1927 North American Datum (NAD 27)).

² Licensed WDOD-FM facilities: 100kW-H, 88 kW-V (Max-DA), 329 meters HAAT, 35° 09' 39" North Latitude, 85° 19' 11" West Longitude (NAD 27).

³ Proposed WDOD-FM facilities: 100kW-H, 88 kW-V (Max-DA), 336 meters HAAT, 35° 09' 41" North Latitude, 85° 19' 05" West Longitude (NAD 27).

Figure 2

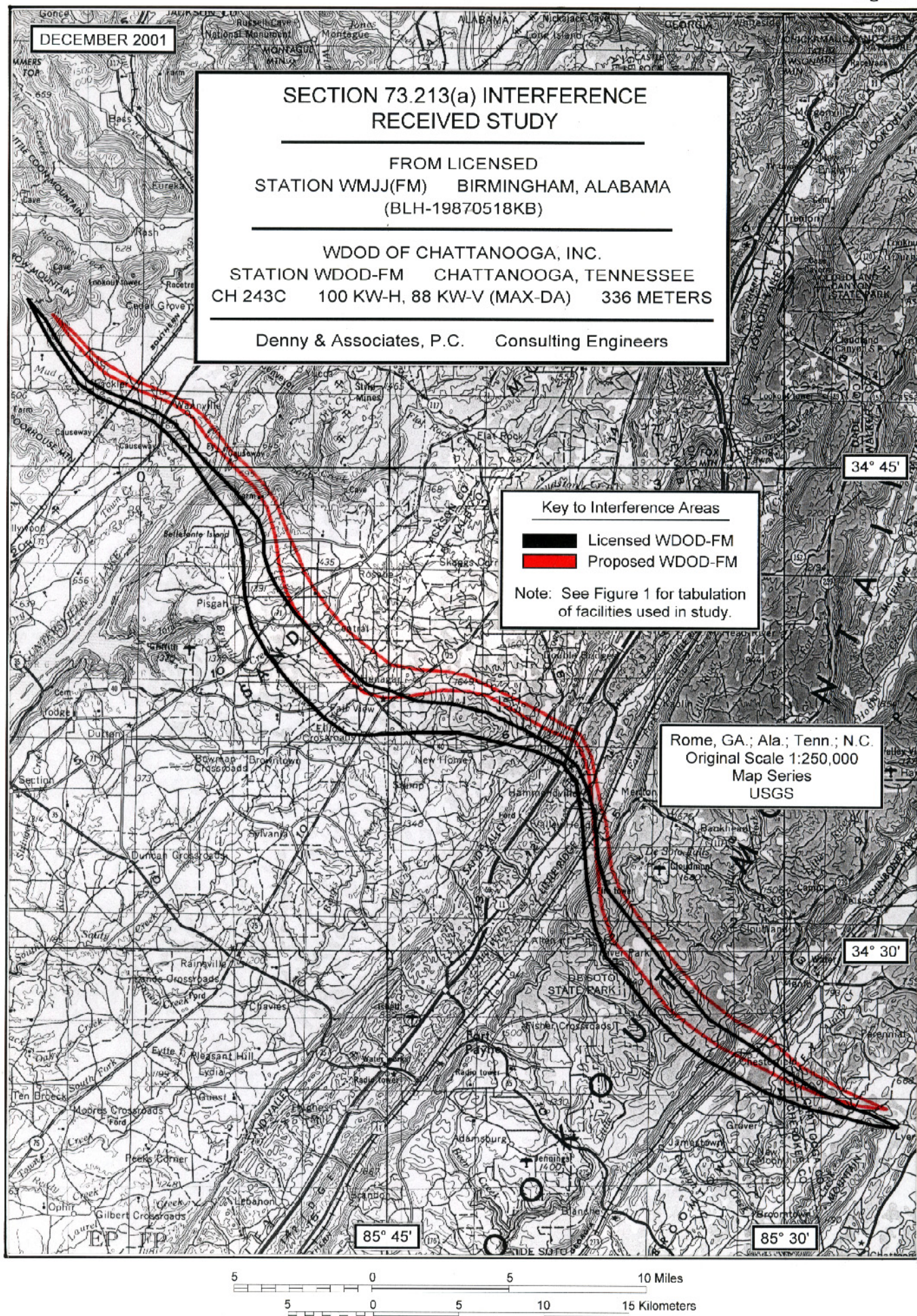


Figure 3

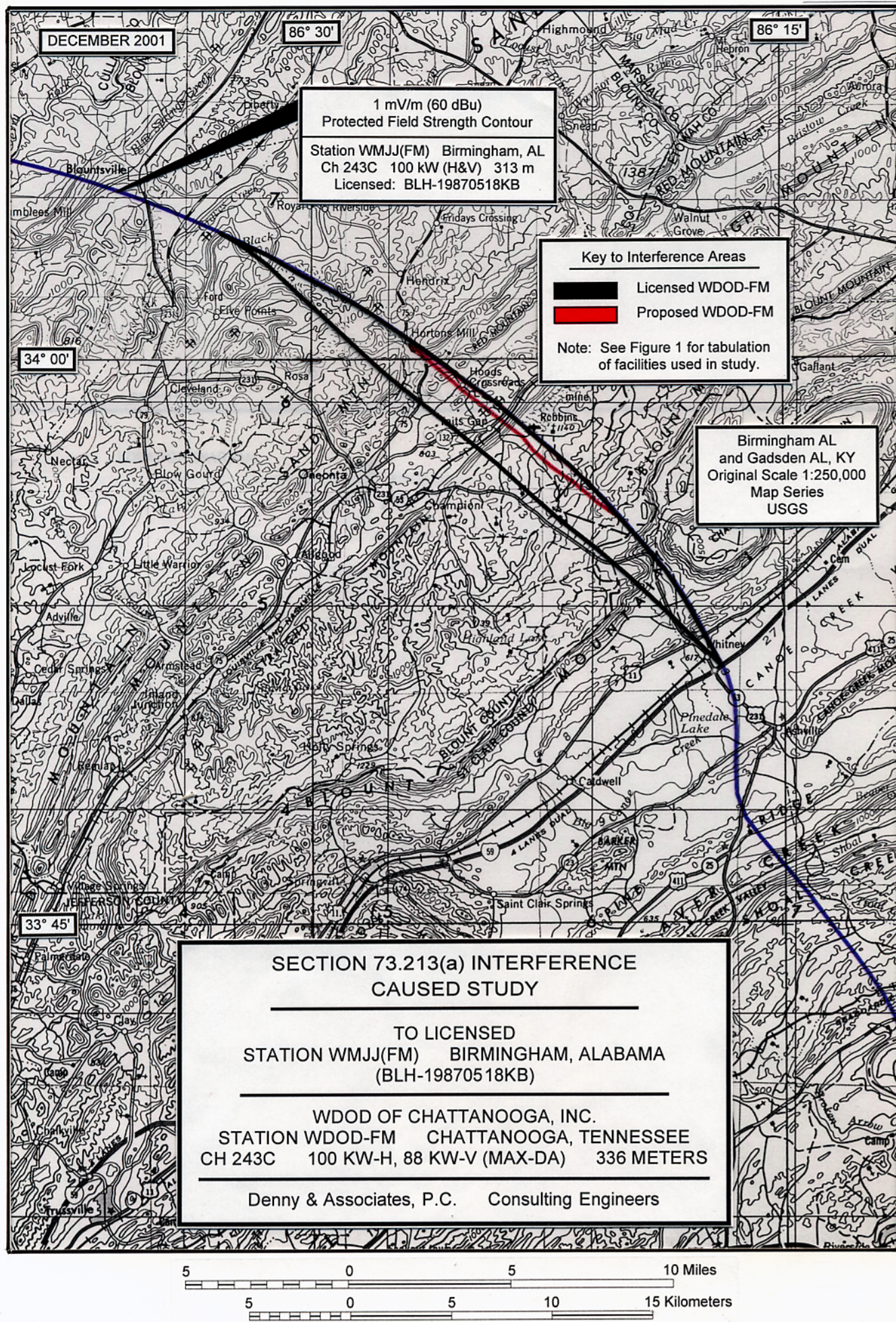


Figure 4

