

TECHNICAL STATEMENT OF RYAN WILLOUR OF THE FIRM OF
KESSLER AND GEHMAN ASSOCIATES, INC., CONSULTING ENGINEERS
IN CONNECTION WITH AN APPLICATION FOR MINOR MODIFICATION OF
WUSM-FM FCC FILE NUMBER BLED-19840228AA FOR A FM BROADCAST STATION
CHANNEL 203A ERP 900 W H AND V POLARIZED AT 164.6 M AAT
THE UNIVERSITY OF SOUTHERN MISSISSIPPI
HATTIESBURG, MISSISSIPPI

APPLICATION SUMMARY

The University of Southern Mississippi (“USM”) is the applicant of WUSM-FM FCC file number BLED-19840228AA. Upon approval, the instant application will make the following modifications:

- Move the transmitter site
From: NAD 27 N. Lat. 31-21-02, W. Long. 89-22-12.
To: NAD 27 N. Lat. 31-20-32.3, W. Long. 89-25-05.0.
- Increase the effective antenna height by 82 m above mean sea level.
- Decrease the Maximum horizontal and vertical ERP by 2.1 kW.

No other changes are proposed.

ATTACHED FIGURES

In carrying out the engineering studies, the following attached figures were prepared:

- 1) Proposed engineering specifications Exhibit E1.
- 2) Elevation drawing of the antenna system Exhibit E2.
- 3) Proposed transmitting antenna elevation pattern Exhibit E3.
- 4) USGS topographic map showing the transmitter site Exhibit E4.
- 5) Map showing the proposed 1-mV/m contour Exhibit E5.
- 6) Contour protection studies as per §73.509 and §73.525 Exhibit E6.
- 7) Environmental impact / RFR hazard analysis and methodology Exhibit E7.

AREA AND POPULATION ANALYSIS

The area within the proposed 1 mV/m contour demonstrated in Exhibit E5 was generated by a computer which calculates and plots the distances to the contour. The population served by the proposed 1 mV/m contour was determined by using 2000 census data and a computer program which added the population of all census blocks whose centroids fall within the contour. The area and population which would be served by the proposed 1 mV/m contour are 1661.6 km² and 102,815 persons respectively.

ALLOCATION STUDIES

Non-Commercial and Commercial FM Broadcast Stations

The terrain and distances to contours were calculated and plotted electronically using Probe III v3.70 a product of V-Soft Communications. The contours are based upon more accurate 3 arc second terrain in lieu of the 30 arc second terrain the Commission uses for contour analysis. 3 arc second terrain extraction shall be provided if requested.

- Pursuant 47 C.F.R. §73.509 Regarding Contour Overlap Requirements - Exhibit E6 demonstrates that all contour overlap requirements have been met to all non-commercial FM broadcast stations.
- Pursuant 47 C.F.R. §73.207 Regarding Spacing Requirements - The proposed facility meets all spacing requirements to commercial FM broadcast stations by a large margin and thus an exhibit was not prepared.
- Pursuant 47 C.F.R. §73.213(a) Regarding Grandfathered Short Spaced Stations - There are no grandfathered short spaced stations in the vicinity of the proposed station and thus an exhibit was not prepared.
- Pursuant 47 C.F.R. §73.215 Regarding Contour Protection to Commercial Stations – Contour protection is not employed since all spacing requirements of §73.207 were met by a large margin and thus an exhibit was not prepared.

TV Channel 6 Stations

Exhibit E6D demonstrates the WDSU (FCC File No. BMLCT-20031218ACA and BPCT-20080125ADS) protected contour with respect to the first associated 53.5 dBu interfering contour of the proposed facility. Since the demonstrated contours do not overlap, interference is not predicted to occur to WDSU or any other TV channel 6 facilities from the proposed facility.

ENVIRONMENTAL IMPACT / RFR HAZARD ANALYSIS

An analysis has been made of the human exposure to RFR using the calculation methodology described in OET Bulletin 65, Edition, 97-01. Exhibit E7 is a RFR study demonstrating compliance within 5% of the most restrictive permissible exposure at any location 2 meters above the ground assuming worse case terrain (See Methodology). Exhibit E7 calculations were made using a frequency of 88.4 MHz, which is the lower edge of the proposed channel. To account for ground reflections, a coefficient of 1.6 was included in the calculations.

Pursuant to OET Bulletin 65 concerning multiple-user transmitter sites only those licensees whose transmitters produce power density levels greater than 5.0% of the exposure limit are considered significant contributors to RFR. Since the proposed operation is within 5% of the most permissible exposure at any location 2 meters above the ground, it is not considered a significant contributor to RFR exposure. Thus, contributions to exposure from other RF sources in the vicinity of the proposed facility were not taken into account. This minor modification complies with the FCC limits for human exposure to RF radiation and thus is excluded from further environmental processing.

A chain link fence shall encompass the proposed support structure. The applicant will cooperate with any other users of the tower by reducing the power to the antenna or if necessary completely cutting it off in order to protect maintenance workers on the tower.

BLANKETING CONTOUR

The blanketing 115 dBu contour would extend no more than 0.37 km pursuant to §73.318(a) of the FCC rules. If blanketing interference is caused to other communication facilities or the residents of this area, the applicant will take full responsibility for the elimination of any objectionable interference (including that caused by receiver-induced or other types of intermodulation) to these and other facilities in existence or authorized or to radio receivers in use prior to the grant of this application.

CERTIFICATION

I, Ryan Wilhour, am an associate of Kessler and Gehman Associates, Inc. having offices in Gainesville, Florida and have been working in the field of radio and television broadcast consulting since 1996. I am a graduate of the University of Florida with a Bachelor of Science degree in electrical engineering. The foregoing statement and the report regarding the aforementioned engineering work are true and correct to the best of my knowledge. Executed on March 9, 2009.

KESSLER AND GEHMAN ASSOCIATES, INC.



Ryan Wilhour
Consulting Engineer

ENGINEERING SPECIFICATIONS

A. Transmitter Site (NAD 27)

FCC Tower Reg. Number 1267376

North Latitude 31 ° 20 ' 32.3 "

West Longitude 89 ° 25 ' 05.0 "

Street Address or Location

Se Corner Of I10 And Sr 43
Hattiesburg, MS

B. Proposed Facility
Channel

Number 203A

C. Antenna Height

Height of Site Above Mean Sea Level (AMSL) 99.7 m

Overall Height of Structure Above Ground 161.2 m

(including all appurtenances)

Overall Height of Structure Above Mean Sea Level 260.9 m

(including all appurtenances)

Average Terrain 81.4 m

Effective Height of Antenna Above Ground 146.3 m

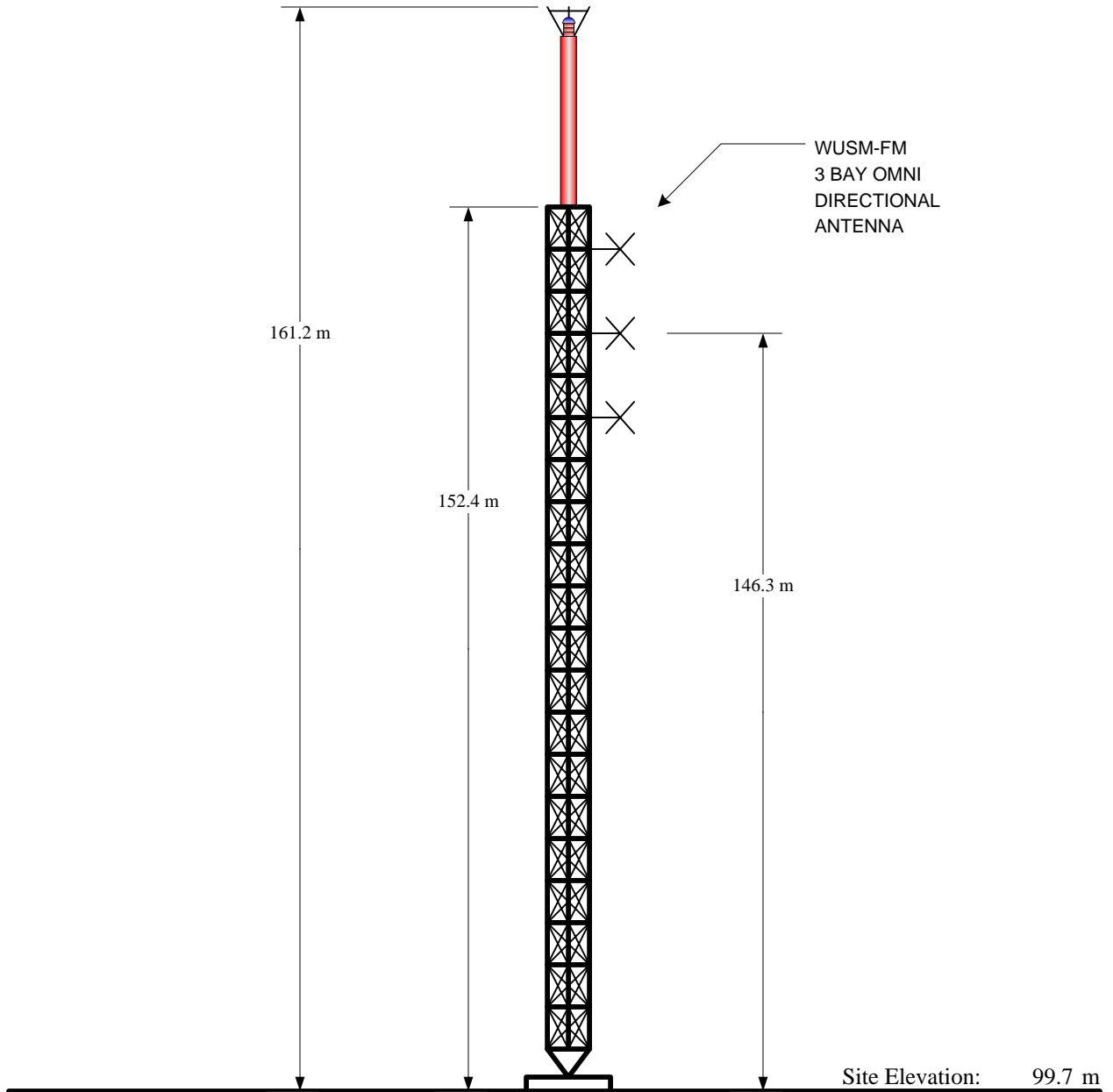
Effective Height of Antenna Above Average Terrain 164.6 m

Effective Height of Antenna Above Mean Sea Level 246.0 m

D. Proposed ERP

Polarization	<u>Horizontal</u>	<u>Vertical</u>
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Effective Radiated Power	900 W	900 W
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Overall Height AGL:	161.2 m
Overall Height AMSL:	260.9 m
Radiation Center AGL:	146.3 m
Radiation Center AMSL:	246.0 m
Radiation Center HAAT:	164.6 m
Average Terrain:	81.4 m

NAD 27 Coordinates:	
N. Latitude:	31° 20' 32.3"
W. Longitude:	89° 25' 05.0"
ASR No.:	1267376
FAA Study No.:	2008-ASO-3616-OE

NOTE: NOT TO SCALE

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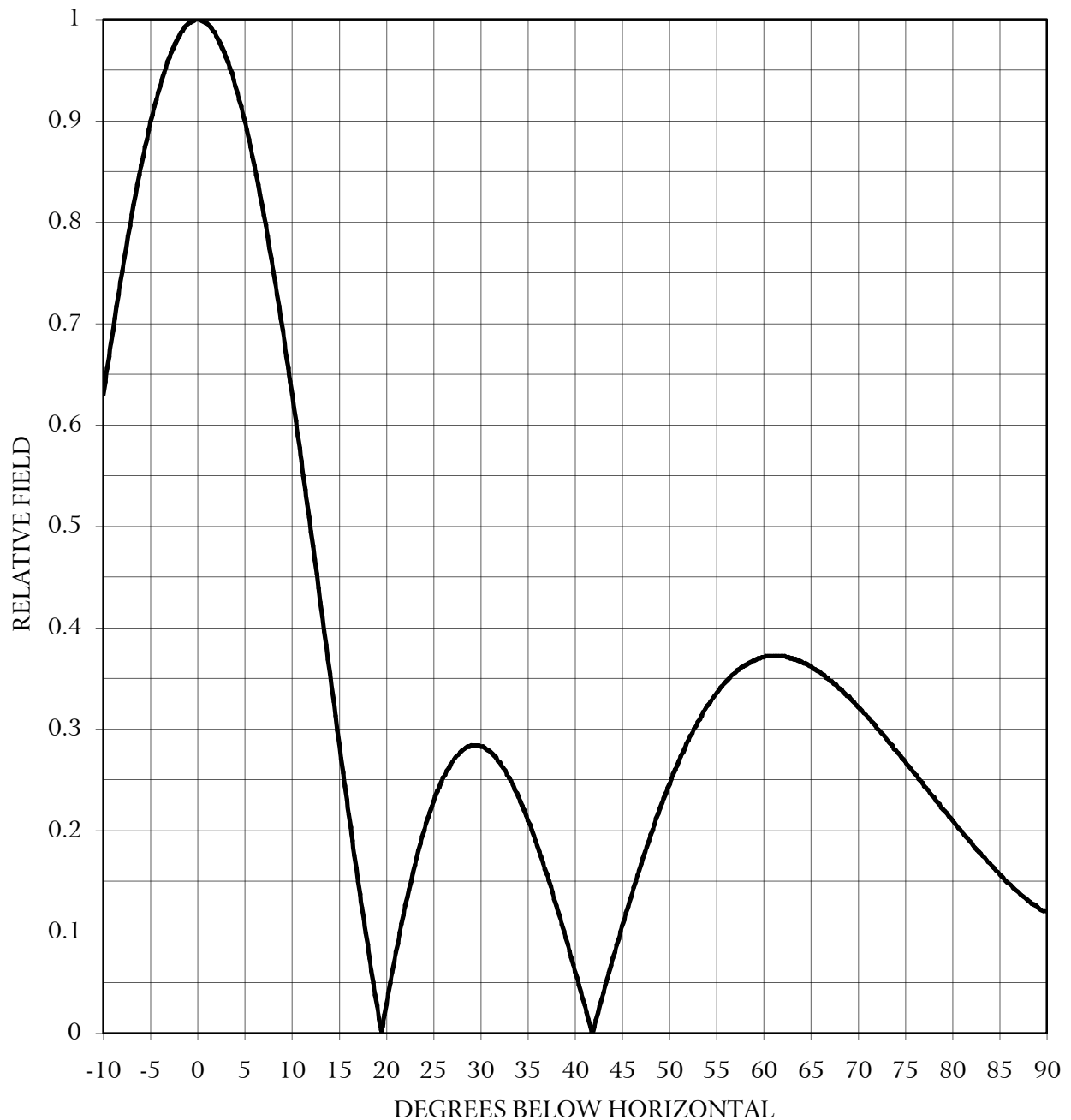
WUSM-FM
Hattiesburg, MS

20091003

EXHIBIT E2

ELEVATION PATTERN

Beam Tilt 0.0 deg
Frequency 88.5MHz

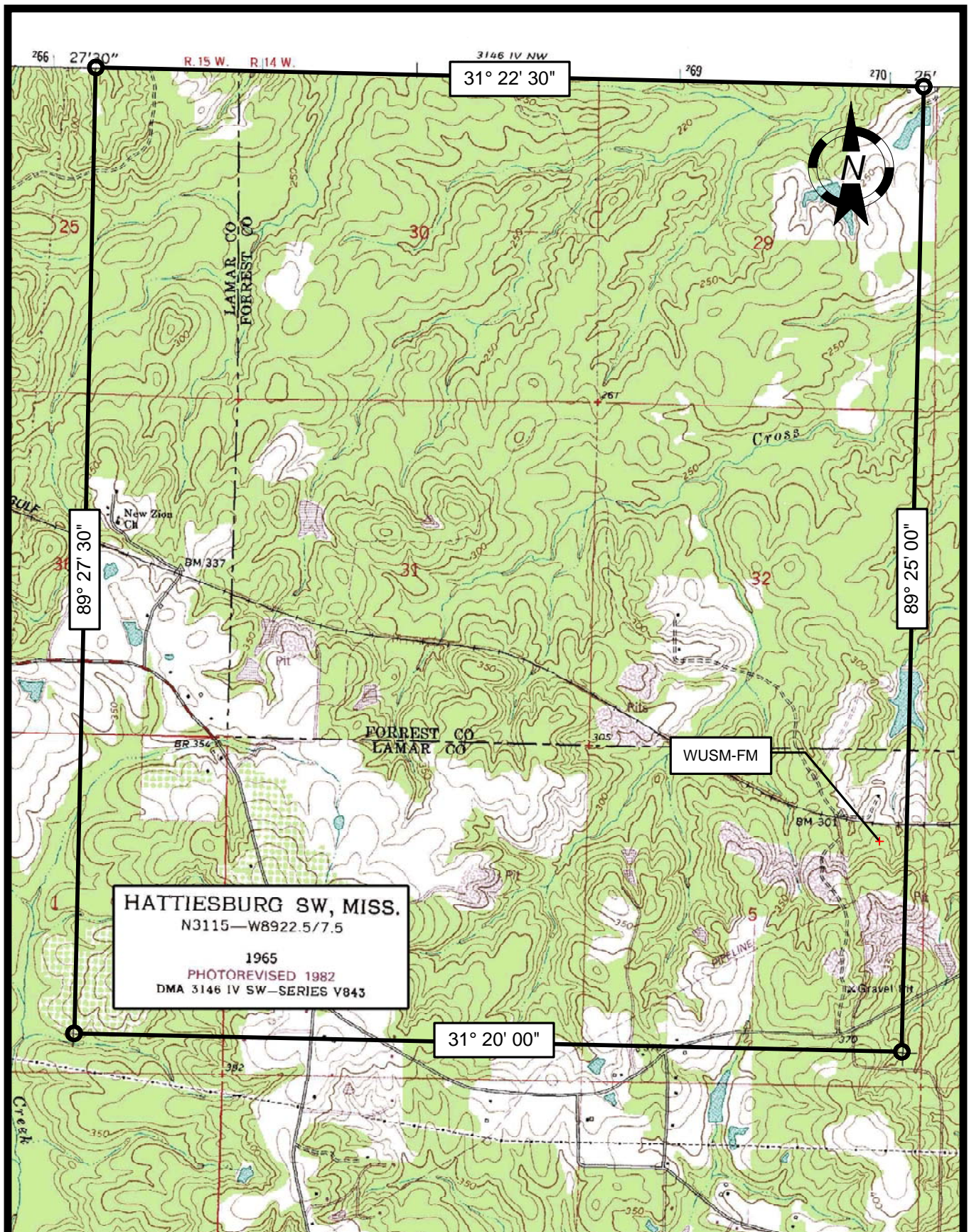


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EXHIBIT E3



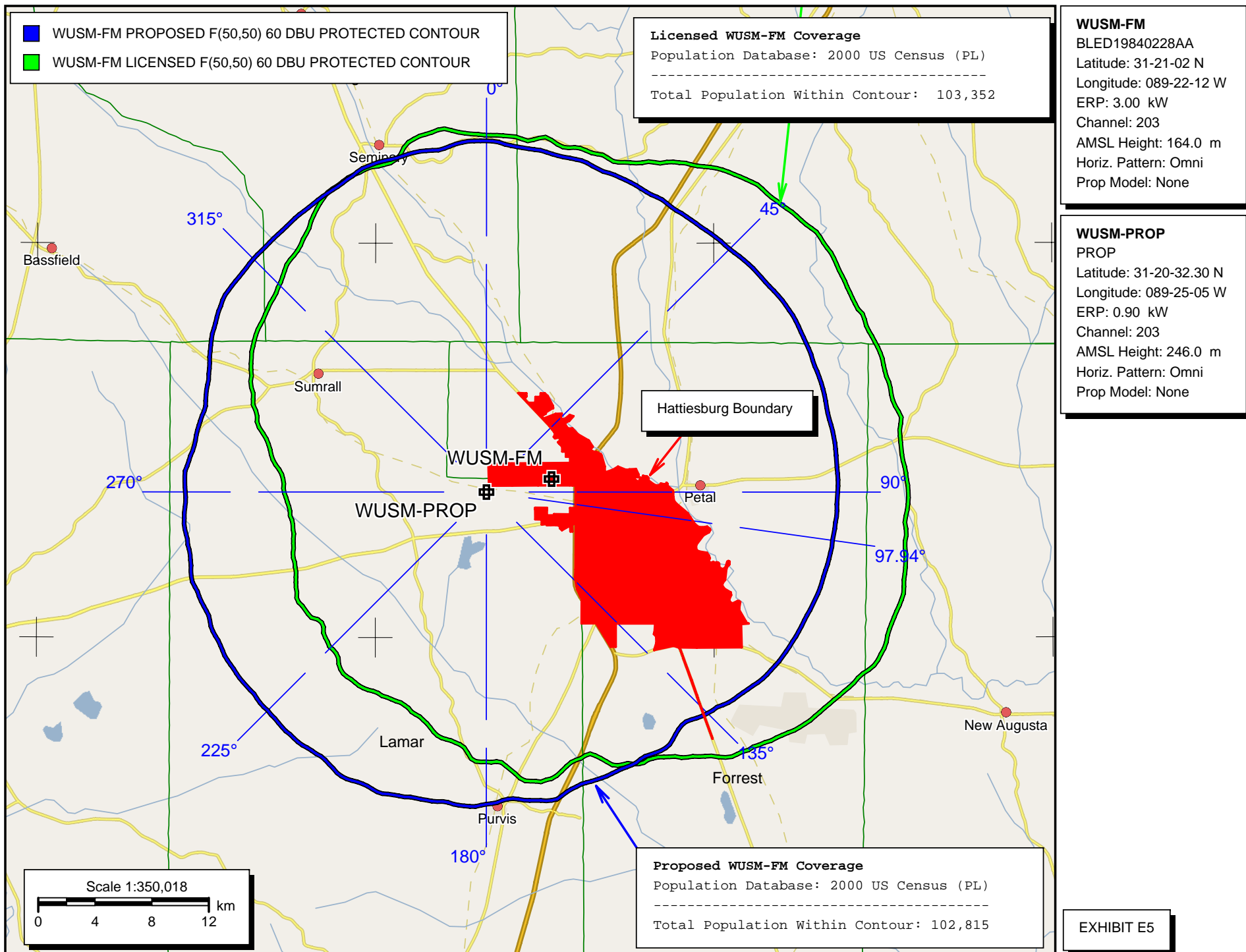
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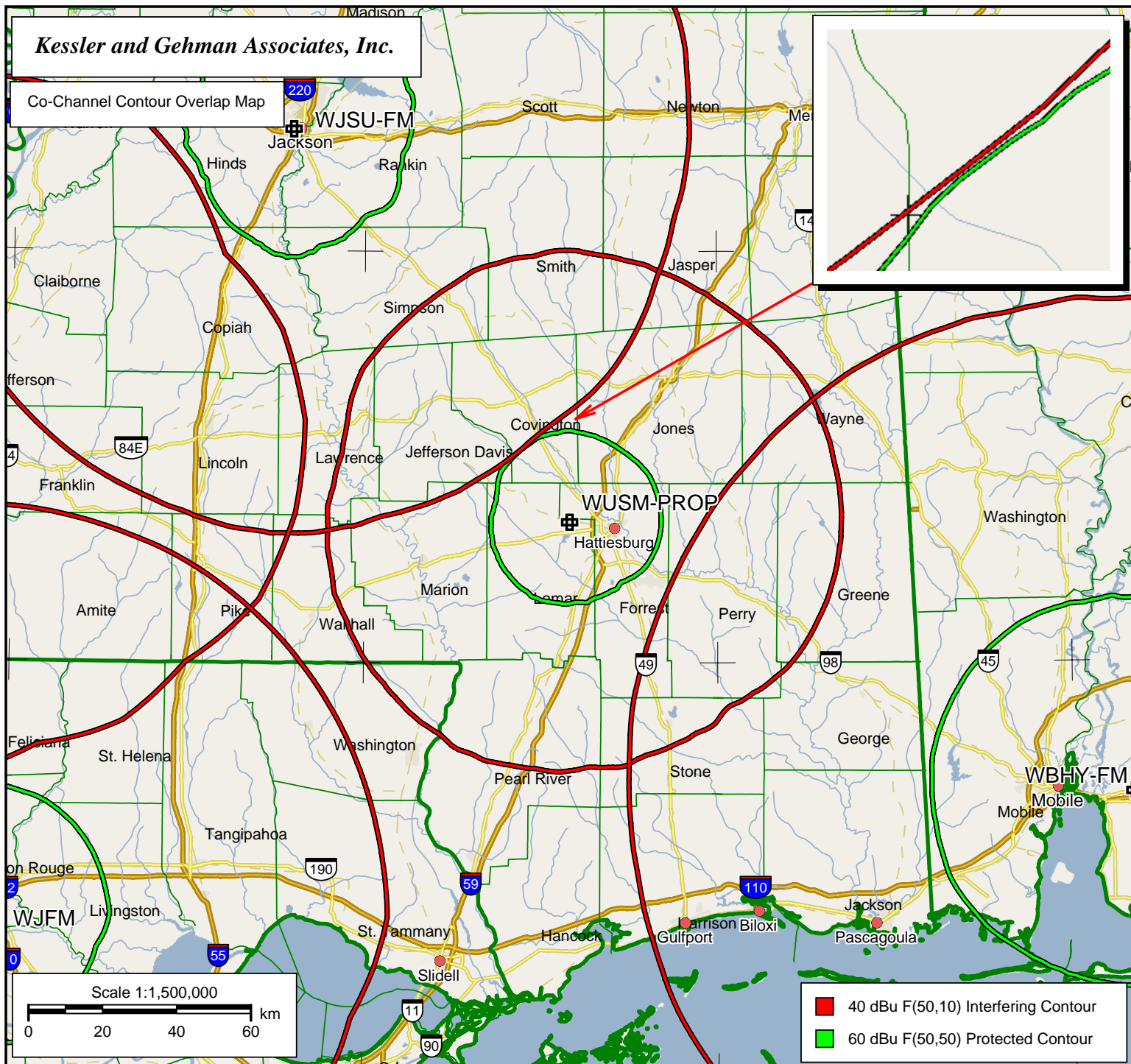
20091003

EXHIBIT E4



Kessler and Gehman Associates, Inc.

Co-Channel Contour Overlap Map



WUSM-PROP

PROP

Latitude: 31-20-32.30 N

Longitude: 089-25-05 W

ERP: 0.90 kW

Channel: 203

WJSM-FM

BLD19940627KA

ERP: 24.50 kW

Channel: 203

WBHY-FM

BLD19920401KB

ERP: 33.00 kW

Channel: 203

NEW.C

BNPED20071022BRI

ERP: 100.00 kW

Channel: 203

WJFM

BLD19970306KB

ERP: 25.50 kW

Channel: 203

Exhibit E6A

Kessler and Gehman Associates, Inc.

1st Adjacent Channel Contour Overlap Map

- 54 dBu F(50,10) Interfering Contour
- 60 dBu F(50,50) Protected Contour



WUSM-PROP

PROP

Latitude: 31-20-32.30 N

Longitude: 089-25-05 W

ERP: 0.90 kW

Channel: 203

1224518.A

BNPED20071018ADJ

ERP: 5.00 kW

Channel: 204

1213478.A

BNPED20071022BAN

ERP: 100.00 kW

Channel: 204

1212590.A

BNPED20071017ACK

ERP: 6.00 kW

Channel: 204

1210486.A

BNPED20071012ACS

ERP: 1.80 kW

Channel: 204

1209861.A

BNPED20071019APC

ERP: 1.40 kW

Channel: 204

1215209.A

BNPED20071022AJA

ERP: 0.60 kW

Channel: 204

WRBH

BLED20020530ACL

ERP: 51.00 kW

Channel: 202

1212985.A

BNPED20071022BCQ

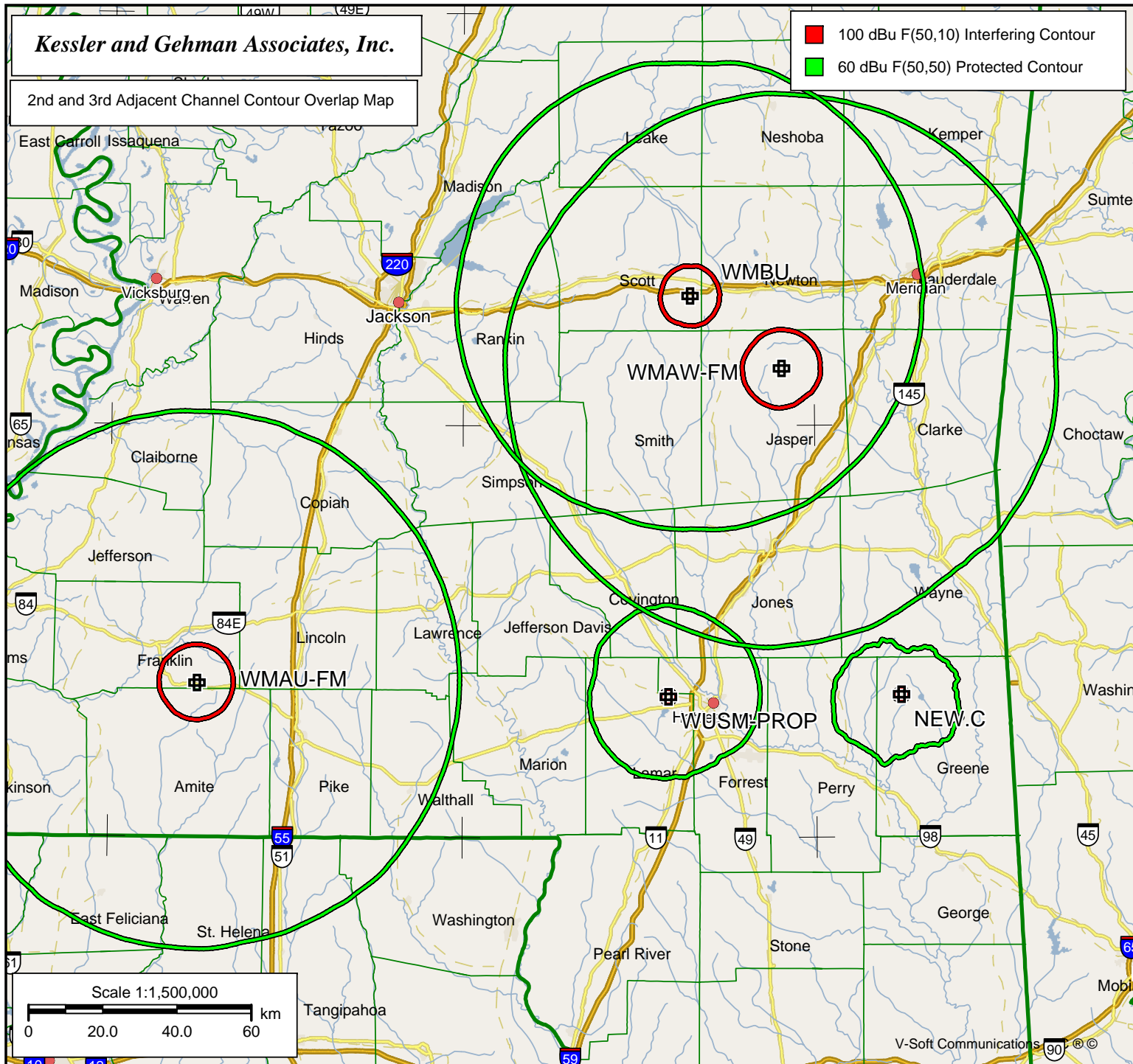
ERP: 0.70 kW

Channel: 204

Kessler and Gehman Associates, Inc.

2nd and 3rd Adjacent Channel Contour Overlap Map

- 100 dBu F(50,10) Interfering Contour
- 60 dBu F(50,50) Protected Contour



WUSM-PROP

PROP

Latitude: 31-20-32.30 N

Longitude: 089-25-05 W

ERP: 0.90 kW

Channel: 203

WMAW-FM

BLD19831114AM

ERP: 100.00 kW

Channel: 201

NEW.C

BNPED20071022AIB

ERP: 1.80 kW

Channel: 205

WMBU

BMLED20080527AAI

ERP: 100.00 kW

Channel: 206

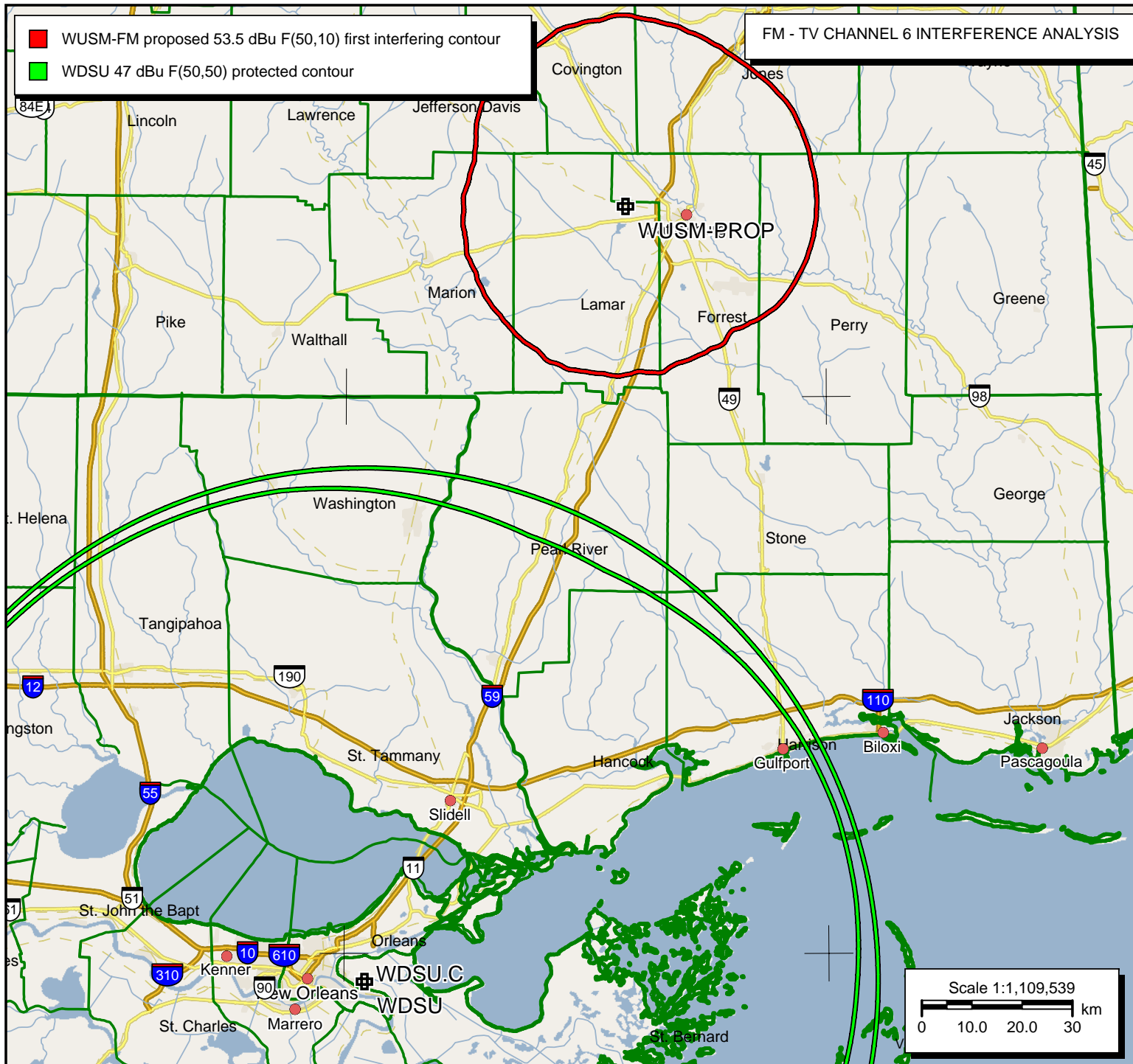
WMAU-FM

BLD20010301ABG

ERP: 100.00 kW

Channel: 205

Exhibit E6C



WUSM-PROP
PROP

Latitude: 31-20-32.30 N
Longitude: 089-25-05 W
ERP: 0.90 kW
Channel: 203

WDSU.C

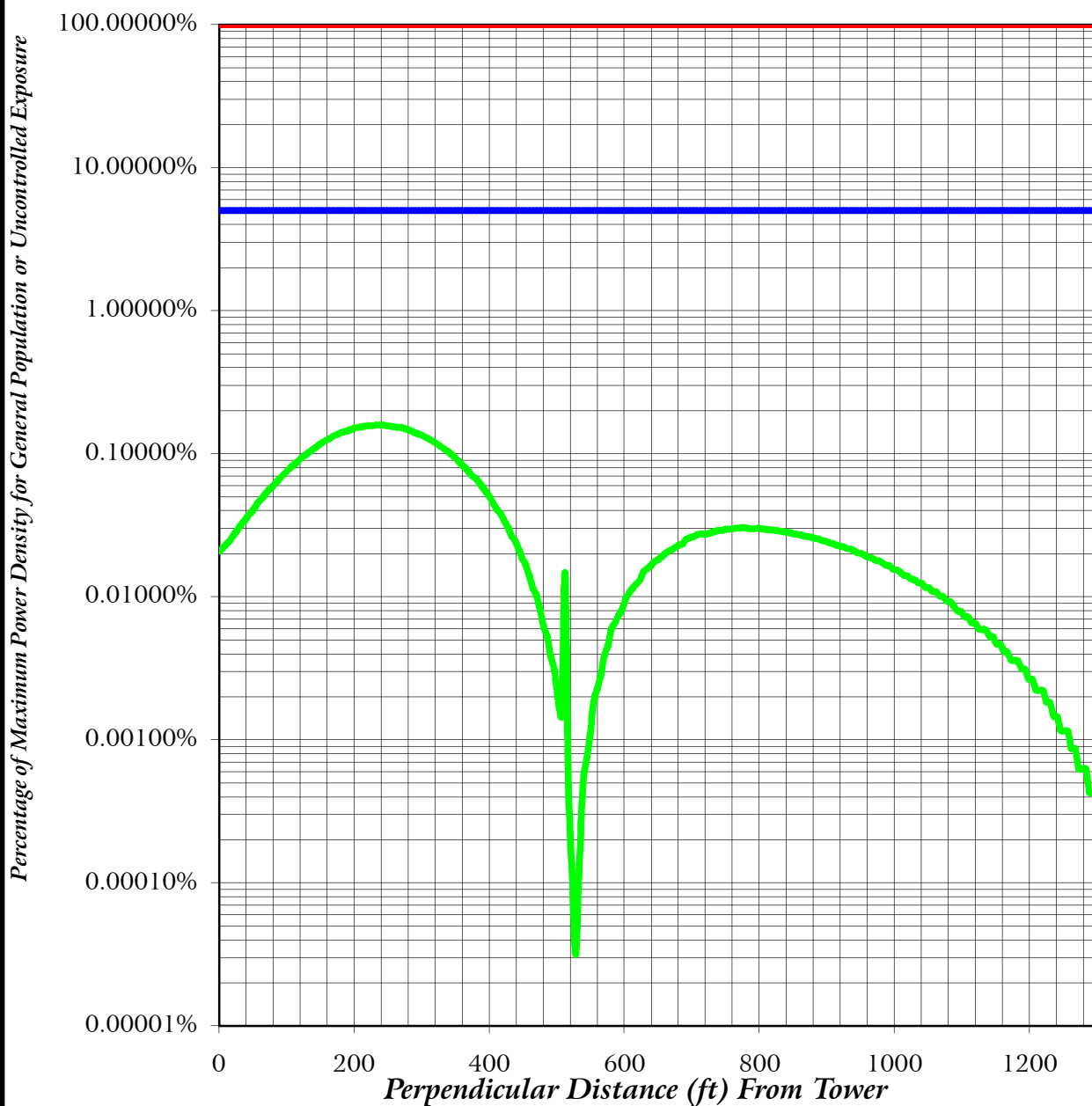
BPCT20080125ADS
ERP: 95.60 kW
Channel: 06Z

WDSU

BMLCT20031218ACA
ERP: 100.00 kW
Channel: 06Z

Exhibit E6D

FAR FIELD EXPOSURE TO RF EMISSIONS



- Maximum Allowable General Population or Uncontrolled Exposure
- 5 % of Maximum General Population or Uncontrolled Exposure
- Percentage of Maximum General Population or Uncontrolled Exposure

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EXHIBIT E7



METHODOLOGY AND EXPLANATION OF
ENVIRONMENTAL IMPACT / RADIO FREQUENCY RADIATION
HAZARD ANALYSIS

A theoretical analysis has been conducted of the human exposure to radio frequency radiation ("RFR") using the calculation methodology described in *OET Bulletin 65, Edition 97-01*. The RFR analysis is conducted pursuant to the following methodology:

Terrain¹ extraction is compiled from the proposed tower site to radial lengths of 0.25 miles in 0.001 mile increments for 360 radials. The power density is calculated for each terrain point at 6 feet above ground level using the elevation and azimuth pattern of the proposed broadcast antenna. The power density calculations are conducted using the lower edge of the proposed channel frequency. To account for ground reflections, a coefficient of 1.6 was included in the calculation.

The resulting cylindrical polar analysis is then summarized into a coordinate plane graph using the following methodology:

Starting from the origin the maximum calculated RFR value is determined among the 360 degree radials for each 0.001 mile increment, the value is then converted into a percentage of the maximum allowable general population or uncontrolled exposure and plotted as a function of perpendicular distance from the tower.

¹ Terrain extraction is based upon a 3 arc second point spacing terrain database.