



**Kessler and Gehman Associates**  
Consultants • Broadcast • Wireless

**MINOR MODIFICATION TO A  
CONSTRUCTION PERMITTED  
TELEVISION BROADCAST  
STATION**

**CALL SIGN: WMAB-TV**  
**FACILITY ID: 43192**  
**FCC FILE NO.: 0000026611**  
**LOCATION: MISSISSIPPI STATE, MS**

**Prepared For:**

Mississippi Authority for  
Educational TV  
3825 Ridgewood Road  
Jackson, MS 39211

**Prepared By:**

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December 10, 2020

## **1.0 MINOR MODIFICATION APPLICATION**

Mississippi Authority for Educational TV is the licensee of a television broadcast station having call sign WMAB-TV facility ID 43192. It is herein proposed to decrease the ERP from 8.9 kW to 7.6kW and change the antenna from a Dielectric THV-7A8-R SM to a Jampro JSM-7/8 SHTO-R. No other changes are proposed.

Pursuant to 47 CFR § 73.3572 the instant application is considered a minor modification since:

- No change in frequency is proposed
- No change in community of licensed is proposed

## **2.0 ALLOCATION ANALYSIS**

Allocation studies were not prepared for the instant application since

- the transmitter site remains the same,
- the effective antenna height remains the same,
- and the ERP is being reduced.

The reduced ERP will not cause new interference to incumbent stations relative to the underlying construction permit.

## **3.0 § 73.625 PREDICTED CONTOURS**

Appendix A illustrates the § 73.625 predicted F(50,90) 36.0 dB $\mu$ V/m noise limited protected contour and the 43.0 dB $\mu$ V/m principal community coverage contour.

As illustrated the 43 dB $\mu$ V/m contour completely subsumes the principal community of license as required and the coverage loss is *de minimis*.

The Appendix A predicted coverage contours were generated using V-Soft Probe-5<sup>1</sup> software in accordance with § 73.625(b) methodology using F(50,90) propagation curves. The average terrain was extracted from three arc second terrain along eight equally spaced cardinal radials from 3 kilometers to 16 kilometers from the site and beginning from true north.

#### **4.0 RADIO FREQUENCY RADIATION COMPLIANCE**

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:

Terrain<sup>2</sup> 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.

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<sup>1</sup> Version 5.17

<sup>2</sup> Terrain extraction is based upon a 3 arc second point spacing terrain database.

The resulting RFR study in Appendix B demonstrates that the peak exposure is 0.0088% of the most restrictive permissible exposure threshold. 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. The instant application is compliant with the FCC limits for human exposure to RF radiation and is excluded from further environmental processing since no changes are proposed to the tower structure in order to accommodate the proposed antenna.

A chain link fence encloses the support structure and 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 to protect maintenance workers on the tower.

## **5.0 CERTIFICATION**

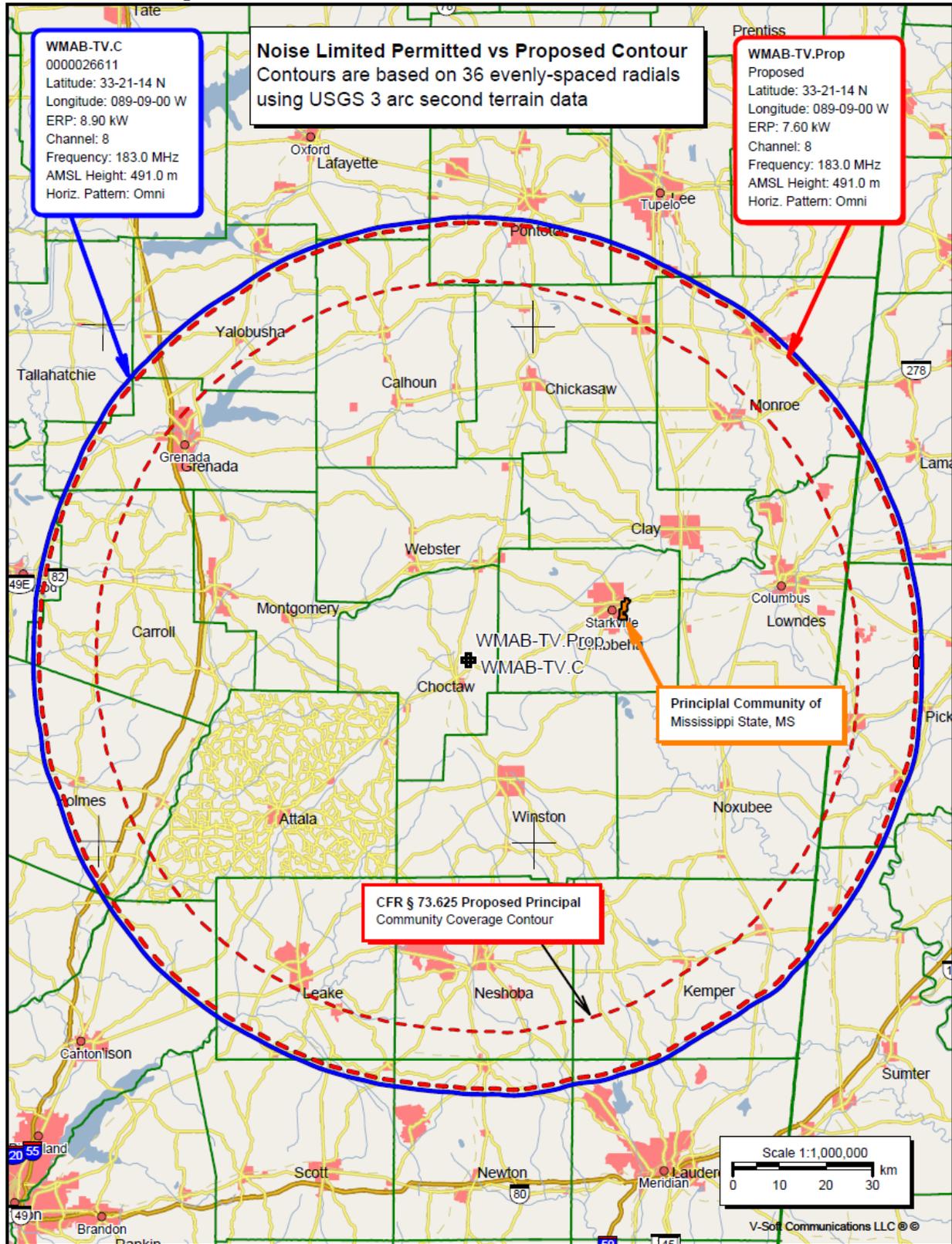
The foregoing statement and the report regarding the aforementioned engineering work are true and correct to the best of my knowledge. Executed on December 10, 2020

Ryan Wilhour



Consulting Engineer

APPENDIX A – § 73.625 Predicted Contours



APPENDIX B – Far Field Exposure to RF Emissions

