



Kessler and Gehman Associates
Consultants • Broadcast • Wireless

APPLICATION FOR A NEW TELEVISION AUXILIARY BROADCAST STATION

CALL SIGN: WNTV-TV
FACILITY ID: 61010
LOCATION: GREENVILLE, SC

Prepared For:

South Carolina Educational
Television Commission
1041 George Rogers Boulevard
Columbia, SC 29201

Prepared By:

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November 23, 2022

1.0 BACKGROUND AND DISCUSSION

Kessler and Gehman Associates, Inc. has been retained by South Carolina Educational TV Commission, licensee of full-power television broadcast station WNTV-TV to prepare a new broadcast auxiliary facility for emergency, maintenance, and test operations. It is proposed to utilize a previously licensed¹ recently decommissioned transmitter plant with a reduced ERP as a new auxiliary facility.

2.0 ALLOCATION ANALYSIS

Appendix A demonstrates two 36 dB μ V/m F(50,90) contours generated from TVStudy v2.2.5 for the currently licensed² facility and proposed auxiliary facility. The contours were imported into ArcGIS v10.7 and were analyzed for overlap of which none were found. The proposed auxiliary contour is 100% subsumed within the licensed contour as required by 47 C.F.R Section 73.1675. The broadcast auxiliary facility shall provide Section 73.625 43 dB μ V/m F(50,90) principal community coverage to the entire Greenville, SC incorporated boundaries.

3.0 RFR COMPLIANCE AND ENVIRONMENTAL PROCESSING

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:

¹ FCC File No.: 0000040864

² FCC File No.: 0000202826

Terrain³ 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.

The resulting RFR study in Appendix B demonstrates that the peak exposure is 0.96% 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 considered. 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.

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

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.

The proposed antenna shall be side mounted to an existing support structure and thus will make no change in overall height, marking specifications, or lighting and thus is categorically excluded from environmental processing.

4.0 CERTIFICATION

The foregoing statement and the report regarding the aforementioned engineering work are true and correct to the best of my knowledge.

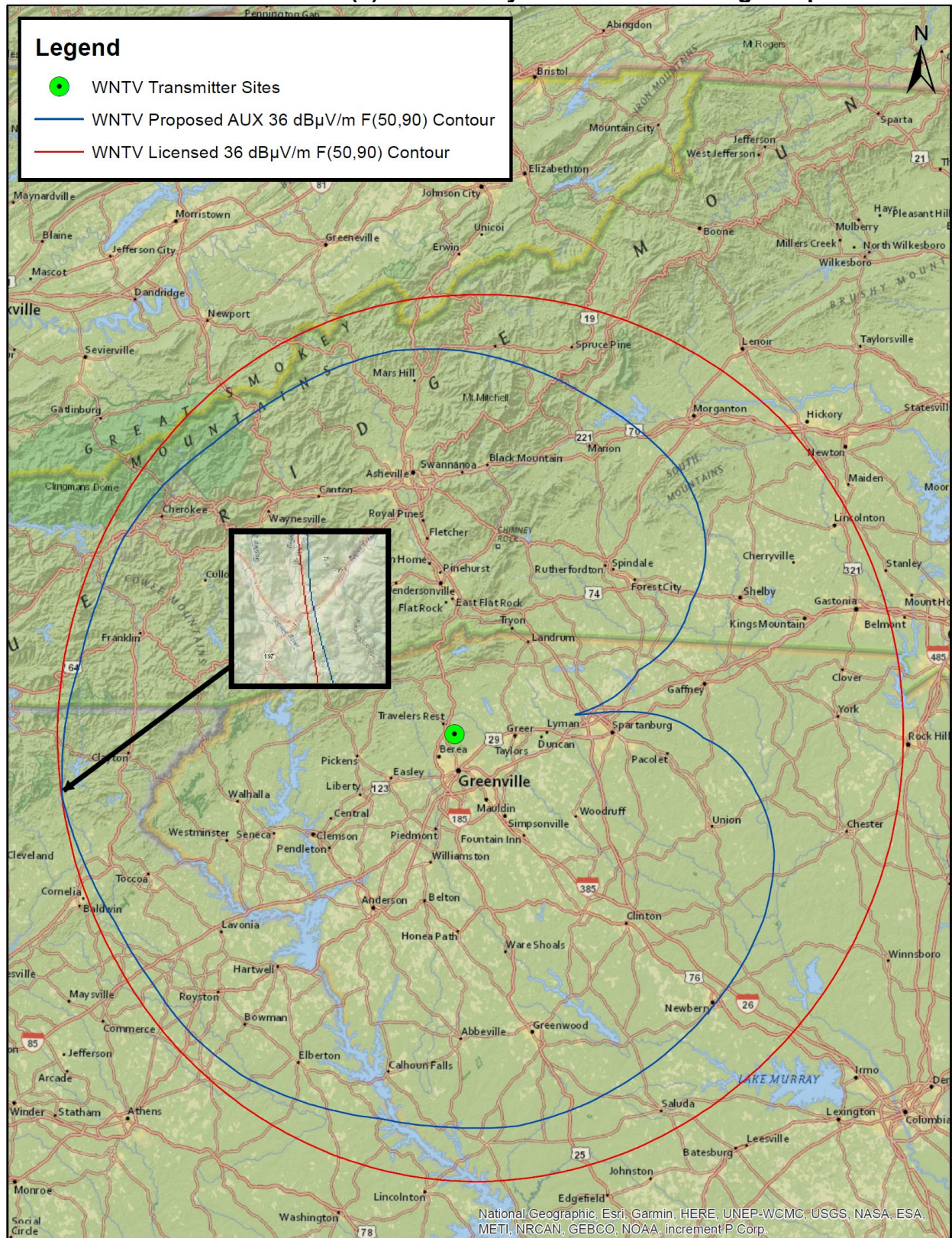
Ryan Wilhour



Consulting Engineer

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APPENDIX A – Section 73.625(a) Community of License Coverage Map



APPENDIX B – Far Field Exposure to RF Emissions

