Kessler and Gehman Associates
Consultants • Broadcast • Wireless

APPLICATION FOR SPECIAL TEMPORARY AUTHORITY OF A TRANSITIONING INCENTIVE AUCTION TELEVISION BROADCAST STATION

CALL SIGN: WITV-TV
FACILITY ID: 61005
LOCATION: CHARLESTON, SC

Prepared For:

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

Prepared By:

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1.0 PROPOSED SPECIAL TEMPORARY AUTHORITY

Kessler and Gehman Associates, Inc. has been authorized by South Carolina Educational Television Commission licensee of WITV-TV to prepare an engineering Special Temporary Authority (STA) application to operate its pre-repack channel through an interim antenna located on a lower section of the tower using a reduced ERP to help facilitate construction of its mandated post transition construction permitted[1] facility at the top of the tower.

The grant of this STA is in the public interest since it will allow WITV-TV to broadcast on its pre transition channel using an interim antenna while the construction permitted antenna is installed and proofed.

2.0 PREDICTED COVERAGE CONTOUR

Appendix A demonstrates the predicted noise limited coverage contours of the proposed STA facility and its associated main licensed facility. The contours were generated in accordance with the method described in 47 CFR Section 73.625 utilizing the appropriate F(50,90) propagate curves.

Appendix A clearly illustrates that the proposed STA contour is 100% subsumed by the licensed contour. The instant STA facility shall substantially achieve its goal of providing comparable coverage to its viewers while the main post transition antenna is being installed.

[1] FCC File Number: 0000034488

3.0 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[2] 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 0.06% 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

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

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.

4.0 CERTIFICATION

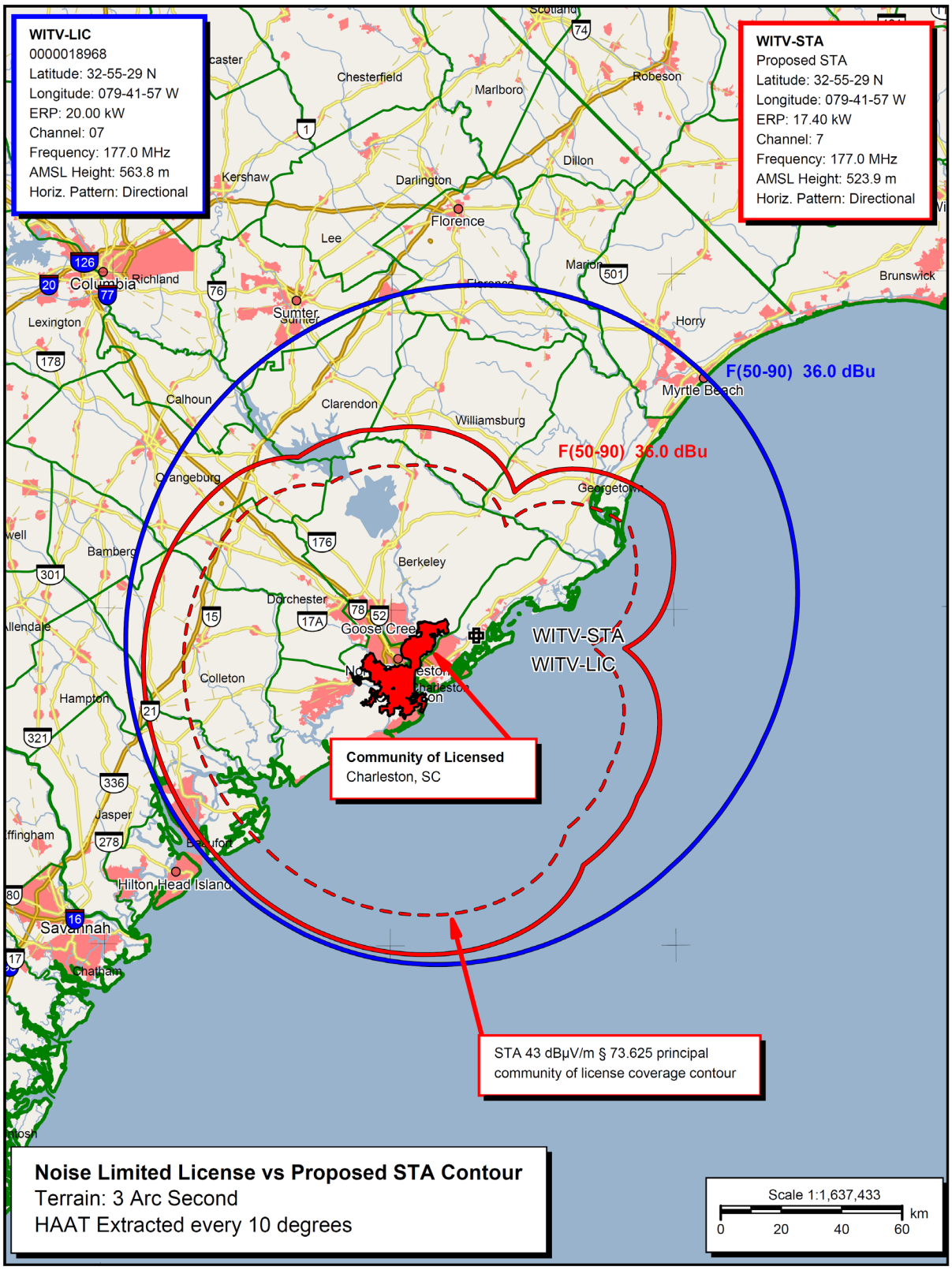
I, Ryan Wilhour, am an engineering associate of Kessler and Gehman Associates, Inc. having offices in Gainesville, Florida and have been working in the field of radio and television broadcast consulting since 1996. The foregoing statement and the report regarding the aforementioned engineering work are true and correct to the best of my knowledge.

Ryan Wilhour



Consulting Engineer
June 12, 2020

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



APPENDIX B – Far Field Exposure to RF Emissions

