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# EMERGENCY STA FOR A NON- COMMERCIAL FM BROADCAST STATION

**CALL SIGN: WVBY(FM)**  
**FACILITY ID: 71689**  
**FCC FILE NO.: BLED-19840615CB**  
**LOCATION: BECKLEY, WV**

## **Prepared For:**

West Virginia Educational  
Broadcasting Authority  
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## **Prepared By:**

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## **Prepared On:**

February 8, 2019

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## **1.0 PURPOSE OF SPECIAL TEMPORARY AUTHORITY**

West Virginia Educational Broadcasting Authority (“WVEBA”) has a license<sup>1</sup> to operate WVBY(FM) on Channel 219 with an ERP of 10.5 kW. Beginning on or about January 25th, 2019, the WVBY(FM) antenna sustained physical damage from falling ice and will require a complete replacement. WVEBA is in the process of scheduling a new antenna to be fabricated and a tower crew to install the new main antenna. WVEBA has a licensed<sup>2</sup> auxiliary facility on the same tower as the main facility; however, it is licensed to operate with 105 Watts ERP and does not provide acceptable coverage for long term durations. It is herein proposed to temporarily swap a 1000 Watt transmitter for the licensed auxiliary 150 Watt transmitter to produce an ERP of 743 Watts for the duration of the antenna replacement. Upon completion of the repair, the WVBY(FM) ERP will resume operation as licensed.

The request for the instant STA is justified by the need to repair the licensed antenna. Adoption of the instant STA shall serve the public interest by allowing WVBY(FM) to remain on-the-air while the damage antenna is removed, and the new antenna is installed.

## **2.0 PREDICTED COVERAGE CONTOUR**

Appendix A demonstrates the predicted noise limited coverage contours of the proposed STA and licensed facility mentioned in Section 1.0. The contours were generated in accordance with the method described in 47 CFR Section 73.313 utilizing the appropriate F(50,50) propagate curves and 3 arc second USGS terrain. Appendix A clearly illustrates that the proposed STA contour is 100% subsumed by the license. The instant STA facility shall substantially achieve its

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<sup>1</sup> FCC File No.: BLED-19840615CB

<sup>2</sup> FCC File.: BXLED-20070124AFE

goal of providing coverage to the WVBY(FM) community of licensed while the main antenna is being replaced.

### **3.0 ANTENNA STRUCTURE REGISTRATION AND TOWER MODIFICATION**

The structure to which the WVBY(FM) STA antenna is currently mounted has an antenna structure registration (“ASR”) number of 1035131 and is owned by the instant applicant. The operation of the instant STA will not require any modifications to the tower or the assigned ASR.

### **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>3</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

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

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 0.48% 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

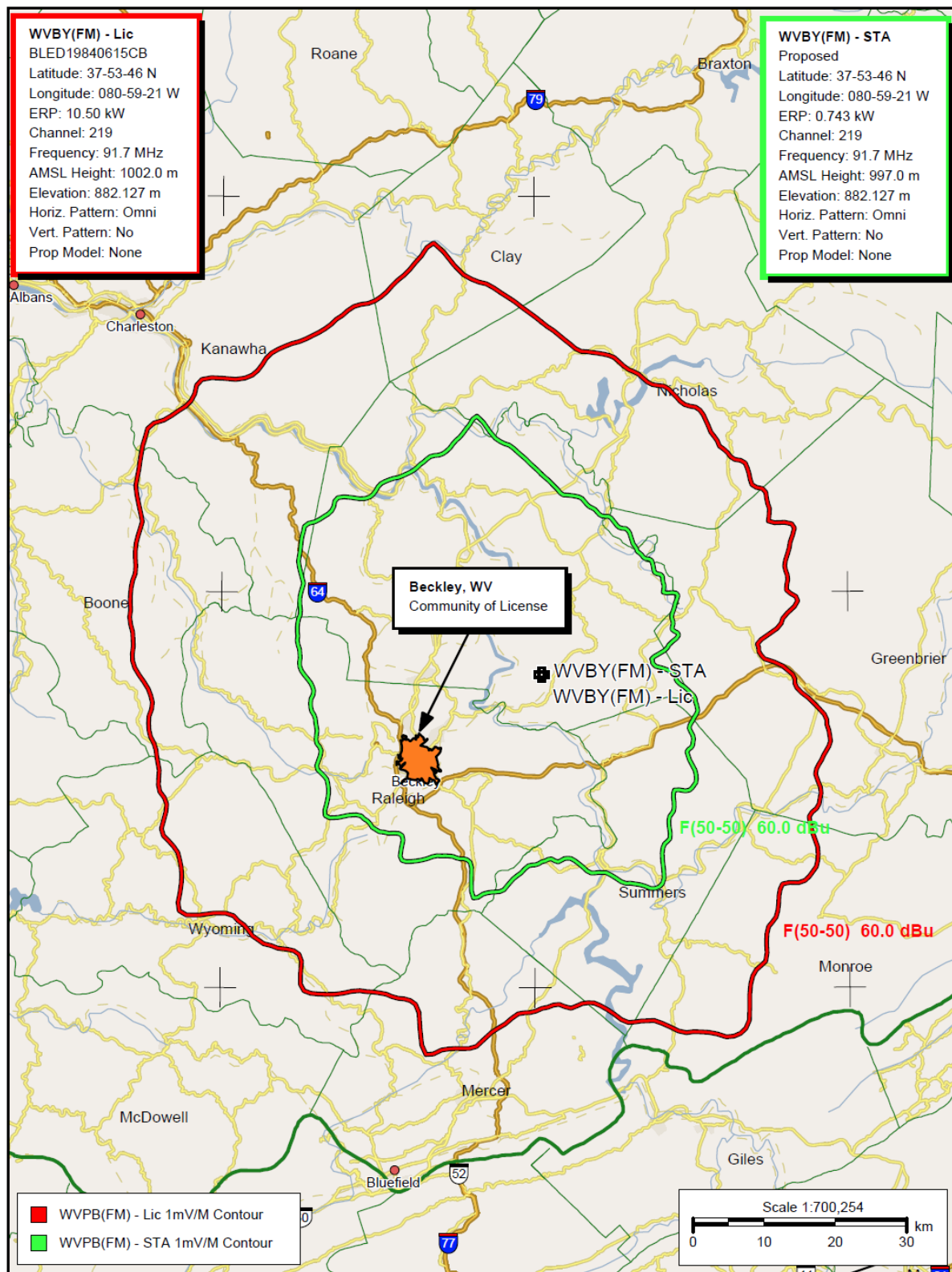
The foregoing statement and the report regarding the aforementioned engineering work are true and correct to the best of my knowledge.

Ryan Wilhour



Consulting Engineer  
February 8, 2019

## Appendix A – Contour Analysis



## Appendix B – Far Field Exposure to RF Emissions

