Consulting Engineers
CTJC
CARL T. JONES CORPORATION

STATEMENT OF JOHN E. HIDLE, P.E.
IN SUPPORT OF AN APPLICATION FOR
A MINOR MODIFICATION TO A
POST REPACK CONSTRUCTION PERMIT
FILE # 0000025692
WDBB - BESSEMER, ALABAMA
DTV - CH. 14 - 675 kW - 668 m HAAT

Prepared for: WDBB-TV, INC.

I am a Consulting Engineer, an employee in the firm of Carl T. Jones Corporation, with offices located in Springfield, Virginia. My education and experience are a matter of record with the Federal Communications Commission. I am a Licensed Professional Engineer in the Commonwealth of Virginia, License No. 7418, and in the State of New York, License No. 63418.

GENERAL

This office has been authorized by WDBB-TV, INC., licensee of WDBB, channel 18, facility ID number 71325, licensed to Bessemer, Alabama, to prepare this statement, FCC Form 2100, Schedule A, its technical sections, and the associated exhibits in support of an application for a minor modification of its post-reassignment construction permit, File # 0000025692, that authorizes WDBB to use channel 14 for its post-reassignment broadcasting. The instant application for modification proposes only to increase WDBB's ERP to 675 kW.

DIRECTIONAL ANTENNA

The applicant will install its authorized antenna, a Dielectric model TFU-24ETT/VP-R CT160 elliptically polarized directional transmitting antenna with its center of radiation located at a height above ground of 599.3 meters, and a height above average terrain of 668 meters. The antenna manufacturer's directional horizontal plane azimuth radiation pattern for the horizontally polarized component is shown and tabulated in exhibit 2. The manufacturer's horizontal plane azimuth pattern for the vertically polarized component is shown and tabulated in exhibit 3. The manufacturer's vertical plane elevation radiation pattern, illustrating the antenna's radiation characteristics above and below the horizontal plane is shown and tabulated in Exhibit 4.

PREDICTED COVERAGE CONTOURS

The predicted coverage contours were calculated in accordance with the method described in Section 73.625(b) of the Rules, utilizing the appropriate F(50,90) propagation curves (47 CFR Section 73.699, Figure 9), proposed Effective Radiated Power, and antenna height above average terrain as determined for each profile radial. The average terrain on the eight cardinal radials from 3 kilometers to 16 kilometers from the site, was determined using the NED Three Second US Terrain Database as permitted in the FCC Rules. The antenna site elevation and coordinates were determined from FCC antenna registration data. Exhibit 1 shows the predicted Noise Limited (38.72 dBu) contour, and the principal community (48 dBu) contour. The 48 dBu contour completely encompasses the principal community of license, Bessemer, Alabama.

ALLOCATION CONSIDERATIONS

Post-Transition DTV Considerations

A study was performed, using the FCC's software, tv_study, v. 2.2.3, to determine if the instant application for modification of construction permit is predicted to cause new prohibited interference to post reassignment DTV stations, construction permits, DTV allotments or Class A DTV stations. The study results indicate that the instant modification application for construction permit is predicted to cause no new interference exceeding 0.5% to the populations served by any post reassignment DTV station, construction permit, allotment or Class A DTV stations. (See Appendix B)

International DTV Considerations

The WDBB site is located more than 1000 kilometers from the nearest points on both the US-Canadian border and US-Mexican border. Therefore no international coordination is required.

BLANKETING AND INTERMODULATION INTERFERENCE

Other broadcast and non-broadcast facilities are either co-located with, or located within 10 km of the proposed WDBB site. The applicant does recognize its responsibility to remedy complaints of interference that might result from this proposal in accordance with applicable Rules.

RADIO FREQUENCY IMPACT

The FCC's guidelines and procedures for evaluating environmental effects of radio frequency (RF) emissions are generally based on recommendations by the National

Council on Radiation Protection and Measurements (NCRP) in NCRP Report No. 86 (1986) and by the American National Standards Institute and the Institute of Electrical and Electronic Engineers, LLC (IEEE) in ANSI/IEEE C95.1-1992 (IEEE C95.1-1991). The guidelines define a maximum permissible exposure (MPE) level for occupational or "controlled" situations, and for "uncontrolled" environments that apply in all other cases that might affect the general public. The FCC Office of Engineering and Technology's technical bulletin No. 65 entitled, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields" (Edition 97-01, August 1997), provides assistance to determine whether FCC-regulated transmitting facilities, operations or devices comply with guidelines for human exposure to radio frequency electromagnetic fields as adopted by the Commission in 1996. OET Bulletin No. 65 contains the technical information necessary to evaluate compliance with the FCC's policies and guidelines.

The Maximum Permitted Exposure (MPE) level for broadcast facilities that operate on a frequency between 30 MHZ and 300 MHZ is 200 microwatts per centimeter squared ($\mu W/cm^2$) for an "uncontrolled" environment, and is 1000 microwatts per centimeter squared ($\mu W/cm^2$) for a "controlled" environment. The MPE level for broadcast facilities that operate on a frequency between 300 MHZ and 1500 MHZ, primarily UHF TV stations, is determined for an "uncontrolled" environment by dividing the operating frequency in MHZ by 1.5, and is similarly determined for a "controlled" environment by dividing the operating frequency in MHZ by 0.3.

The predicted emissions of WDBB must be considered, in addition to predicted emissions from any other proposed or existing stations at the site. For WDBB, which will operate on television Channel 14 (470-476 MHZ), the MPE is 315.33 microwatts per centimeter squared ($\mu W/cm^2$) in an "uncontrolled" environment and 1,576.7 $\mu W/cm^2$ in a "controlled" environment. The proposed WDBB facility will operate with a maximum ERP of 675 kW from an elliptically polarized directional transmitting antenna with a centerline height of 599.3 meters above ground level (AGL). Considering a conservative predicted vertical plane relative field factor of 0.300 the WDBB facility is predicted to produce a power density at two meters above ground level of 11.378 $\mu W/cm^2$, which is 3.61% of the FCC guideline value for an "uncontrolled" environment, and 0.722% of the FCC's guideline value for "controlled" environments. There are no other broadcast facilities located at the WDBB site. Therefore the total estimated percentage of the ANSI value at the proposed site is only that contributed by WDBB: 3.61% of the limit applicable to "uncontrolled" environments, and 0.722% of the limit for "controlled" environments. (See Appendix A)

OCCUPATIONAL SAFETY

The licensee of WDBB is committed to the protection of station personnel and/or tower contractors working in the vicinity of the WDBB antenna, and is committed to reducing power or ceasing operation during times of maintenance of the transmission systems, when necessary, to ensure protection to personnel.

SUMMARY

It is submitted that the instant application for minor modification of its post-reassignment channel 14 construction permit to increase WDBB's ERP to 675 kW, as described herein, complies with the Rules, Regulations and relevant Policies of the Federal Communications Commission. This statement, FCC Form 2100, its technical sections, and the attached exhibits were prepared by me or under my direct supervision and are believed to be true and correct to the best of my knowledge and belief.

DATED: October 13, 2017