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**Engineering Statement  
Engineering STA for KOAM-TV  
Channel 7 at Pittsburg, KS  
January 2022**

**Engineering STA**

This Engineering Statement has been prepared on behalf of QueenB Television of Kansas/Missouri, LLC ("QueenB"), licensee of digital television station KOAM-TV at Pittsburg, Kansas. KOAM-TV holds a construction permit for a maximization facility. QueenB is preparing to install the new top-mounted KOAM-TV antenna, and will need to operate the station via a temporary side-mount antenna during the construction process.

**Facilities Proposed**

The proposed engineering STA operation will be at the licensed KOAM-TV tower site, with an effective radiated power of 20 kilowatts (H pol). Operation is proposed with a vertical stack of two (2) Dielectric model THB-C2-2H/4UD-1-S panel antennas, which will be mounted on an existing tower with FCC Antenna Structure Registration Number is 1032005.

**RF Exposure Calculations**

OET Bulletin 65 Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields (Edition 97-01) states in part that:

When performing an evaluation for compliance with the FCC's RF guidelines all significant contributors to the ambient RF environment should be considered. . . For purposes of such consideration, significance can be taken to mean any transmitter producing more than 5% of the applicable exposure limit (in terms of power density or the square of the electric or magnetic field strength) at accessible locations.

As will be demonstrated below, the proposed operation will produce less than 5% of the applicable exposure limit for both controlled and uncontrolled environments. Thus, the proposed facility is

categorically excluded from the requirement of further study. Therefore, pursuant to §1.1307(b)(3) of the Commission's Rules no calculations are required for the other FM and TV facilities in the vicinity, and precise calculations are made only with regard to the levels from this proposal.

The power density calculations shown below were made using the techniques outlined in OET Bulletin No. 65. "Ground level" calculations in this report have been made at a reference height of 2 meters above ground to provide a worst-case estimate of exposure for persons standing on the ground in the vicinity of the tower. The equation shown below was used to calculate the ground level power density figures from each antenna.

$$S(\mu W / cm^2) = \frac{33.40981 \times AdjERP(Watts)}{D^2}$$

Where: *AdjERP(Watts)* is the maximum lobe effective radiated power times the element pattern factor times the array pattern factor.

*D* is the distance in meters from the center of radiation to the calculation point.

Power density levels produced by the proposed facility were calculated for an elevation of 2 meters above ground (290 meters below the antenna radiation center), and a worst-case assumption that the antenna will radiate 100% power straight down. Under this worst-case assumption, the highest calculated power density from the proposed antenna alone occurs at the base of the antenna support structure. At this point the power density is calculated to be 7.9  $\mu W/cm^2$ , which is 4% of 200  $\mu W/cm^2$  (the FCC maximum for uncontrolled environments at the Channel 7 frequency).

These calculations show that the maximum calculated power density produced at two meters above ground level by the proposed operation alone is less than 5% of the applicable FCC exposure limit at all locations between 1 and 500 meters from the base of the antenna support structure. Section 1.1307 of the Commission's Rules exempts applications for new facilities or modifications to existing facilities from the requirement of preparing an environmental assessment when the calculated emissions from the applicants proposed facility are predicted to be less than 5% of the applicable FCC exposure limit. Therefore, the proposed facility is in compliance with Section 1.1301 *et seq* and no further analysis of RF exposure at this site is required in this application.

Pursuant to OET Bulletin No. 65, all station personnel and contractors are required to follow appropriate safety procedures before any work is commenced on the antenna tower, including

reduction in power or discontinuance of operation before any maintenance work is undertaken. The permittee/licensee in coordination with other users of the site must reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency exposure in excess of FCC guidelines.