

**MINOR CHANGE APPLICATION**  
**ME3 COMMUNICATIONS COMPANY, LLC**  
**KXOK-LP DT LPTV STATION**  
**CH 31 - 572-578 MHZ - 3.7 KW**  
**ENID, OKLAHOMA**  
**June 2009**

**EXHIBIT B**

**Radio Frequency Assessment**

Since the proposed KXOK-LP-DT Channel 31 facility is to be co-located with an FM translator and an existing and proposed LPTV station atop a building, a study has been made to determine whether this proposal is in compliance with 47 C.F.R. §1.1307 of the Commission's rules and with OET Bulletin #65, dated August 1997 ("Bulletin"), regarding human exposure to radio frequency radiation in the vicinity of broadcast towers. This study considers all nearby contributing stations which are located above the roof of the building, specifically KXOK-LP and FM station KKRD<sup>1</sup>, and utilizes the appropriate formulas contained in the OET Bulletin.<sup>2</sup>

The location of the existing/proposed KXOK-LP-DT Channel 31 antenna system is a building located at 114 East Broadway in Enid, Oklahoma. The building is 240 feet tall, with a tower section and several smaller poles extending 57 feet above the roof. The tower has a top mounted light, bringing the overall height of the structure above ground to 300 feet. Access to the roof, which is above the fifteenth floor, is only possible through a secured ladder, and a locked access door on the floor below the roof. There are also RF warning signs located at the

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- 1) FM translator K288FX and LPFM station KEIF-LP, based on the coordinates in their respective authorizations are located at the proposed location of KXOK-LP-DT. However, the center of radiation of these two facilities indicates the antenna systems are mounted below the roof line of the building. As such, they were not considered in this instant review.
  - 2) The contribution of the FM facility was calculated using the FMModel program. A single bay EPA dipole antenna was used for calculation purposes.

doorway. Only persons familiar with working in RF environments are allowed access to the roof. As such, calculations of exposure levels on the roof will be based on controlled environments. The uncontrolled exposure calculations will be made on the closest occupied floor, located 20 feet below the building roof.<sup>3</sup>

The proposed KXOK-LP-DT antenna system will be mounted with its center of radiation 6.1 meters (20.0 feet) above the building roof and will operate with an effective radiated power of 3.7 kilowatts in the horizontal plane. As denoted in OET Bulletin #65, Supplement A, page 31, the typical UHF antenna system has a downward radiated field of 0.1. As such, the calculations of the KXOK-LP-DT antenna are based on a power of 0.037 kilowatt (37 watts). At 2.0 meters above the roof, the height of an average person, the proposed KXOK-LP-DT antenna system will contribute  $0.0294 \text{ mw/cm}^2$ . Based on exposure limitations for a controlled environment, 1.5% of the allowable ANSI limit is reached at 2.0 meters above the roof. The proposed KXOK-LP-DT antenna will be mounted 12.2 meters (40.0 feet) above the nearest occupied floor. The KXOK-LP-DT antenna will contribute  $0.0048 \text{ mw/cm}^2$  on the occupied floor which is a contribution of 1.2% of the uncontrolled limit on the occupied floor.

The authorized KXOK-LP Channel 32N low power television antenna system is mounted with its center of radiation 4.6 meters (15.0 feet) above the building roof and operates with an effective radiated power of 12.5 kilowatts in the horizontal plane. As denoted in OET Bulletin #65, Supplement A, Page 31, the typical UHF antenna system has a downward radiation field of 0.1. As such, the KXOK-LP antenna system radio frequency radiation calculations were made

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3) The distance to the floor below the roof was determined by the local engineer for the applicant.

based on an effective radiated power of 0.125 kilowatt. At 2.0 meters above the roof, the height of an average person, the KXOK-LP antenna system will contribute  $0.3830 \text{ mw/cm}^2$ . Based on exposure limitations for a controlled environment, 19.9% of the allowable ANSI limit is reached at 2.0 meters above the roof. The KXOK-LP antenna is mounted 10.7 meters (35.0 feet) above the nearest occupied floor. Applying the same downward power adjustment, the KXOK-LP antenna contributes  $0.0342 \text{ mw/cm}^2$  on the occupied floor. The system will contribute 8.9% of the uncontrolled limit on the occupied floor.

The KKRd antenna system is mounted with a center of radiation of 14.6 meters (48.0 feet) above the roof and operates with an effective radiated power of 0.410 kilowatt in the horizontal and vertical planes (circularly polarized). At 2.0 meters above the roof, the height of an average person, the KKRd antenna system contributes  $0.1036 \text{ mw/cm}^2$ .<sup>4</sup> Based on exposure limitations for a controlled environment, 10.4% of the allowable limit is reached at 2.0 meters above the roof. The KKRd antenna is mounted 20.7 meters (68.0 feet) above the nearest occupied floor of the building. At this height, the antenna system contributes  $0.0471 \text{ mw/cm}^2$ .<sup>5</sup> Based on exposure limitations for a the uncontrolled environment, 23.6% of the allowable limit is reached on the nearest occupied floor.

Combining the contributions of Channel 31, KXOK-LP, and KKRd, a total of 31.8% of the controlled limit is reached at 2.0 meters above the roof and 33.7% of the uncontrolled limit on the highest occupied floor of the building. Since these levels for controlled and uncontrolled

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- 4) This level of field occurs at 4.0 meters out from the base of the tower and is considered worst case.
  - 5) This level of field occurs at 5.0 meters out from the base of the tower and is considered worst case.

environments is well below the 100% limit defined by the Commission, the proposed KXOK-LP-DT facility is believed to be in compliance with the radio frequency radiation exposure limits as required by the Federal Communications Commission. Further, ME3 will ensure warning signs are posted in the vicinity of the tower warning of potential radiofrequency radiation hazards at the site. In addition, ME3 will reduce the power of the proposed facility or cease operation in cooperation and coordination with other tower users, as necessary, to protect persons having access to the site, tower or antenna from radio frequency radiation in excess of FCC guidelines.