

TECHNICAL SUMMARY
FIRST PRIORITY WINDOW
APPLICATION FOR CONSTRUCTION PERMIT
TV STATION KGEB
TULSA, OKLAHOMA
CHANNEL 12 75 KW (ND) 182 m

1. This is a first priority window application for construction permit for KGEB at Tulsa, Oklahoma (facility ID 24485). Station KGEB received a waiver of the 90-day filing deadline based on a demonstration that it was “unable to construct” on its reassigned channel 14.¹ Therefore, KGEB is permitted to file for an alternate channel in the first priority window. As such, KGEB proposes to operate on VHF channel 12 from its current transmitter site location with a nondirectional antenna maximum effective radiated power (ERP) of 75 kW, an antenna radiation height above mean sea level of 395 meters and an antenna height above average terrain (HAAT) of 182 meters. There will be no change in the overall structure height of the existing building/antenna (ASRN 1013337).
2. As demonstrated in the attached *TVStudy* analysis exhibit, the proposal complies with the FCC’s interference protection requirements based on a cell size of 2.0 km and profile resolution of 1.0 points/km.
3. In addition, the proposal complies with the city coverage requirements as demonstrated in the Predicted Coverage Contours exhibit.
4. RFR Compliance: The proposed facilities were evaluated in terms of potential radiofrequency radiation exposure in accordance with OST Bulletin No. 65, “Evaluating Compliance With FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation”. This Bulletin provides assistance in determining whether FCC-regulated transmitting facilities, operations or devices comply with limits for human exposure to radiofrequency (RF) electromagnetic fields adopted by the Commission in 1996.

Public access to the building rooftop where KGEB operates is restricted and appropriately marked with warning signs. Thus, the area in the vicinity of the transmitter site is defined as

¹ See letter from Barbara A. Kreisman, Chief, Video Division, Media Bureau dated June 28, 2017 re: Request for Waiver of Initial Construction Permit Filing Window Deadline, KGEB, Tulsa, Oklahoma, Facility ID 24485, LMS File No. 0000024881.

a “controlled” environment. As shown on the attached vertical plane relative field pattern, the maximum vertical relative field for depression angles towards the tower base (-60° to -90° elevation) is less than 0.08. Therefore, using a “greater than expected” vertical relative field value of 0.08, a total ERP of 97.5 kW (75 kW-horizontal polarization, 22.5 kW-vertical polarization), and an antenna center of radiation height above the building rooftop of 10 meters, the calculated power density at two meters above the rooftop is 0.326 milliwatt per square centimeter (mW/cm^2), or 32.6 percent of the Commission's recommended limit for a “controlled” environment ($1 \text{ mW}/\text{cm}^2$ for TV channel 12). Furthermore, measurements will be made to demonstrate compliance on the building rooftop as well as the floor below the building rooftop.

In addition, a protocol will be in place to ensure that appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure. Such measures include reducing the average exposure by spreading out the work over a longer period of time, wearing “accepted” RFR protective clothing and/or RFR exposure monitors or scheduling work when the stations are at reduced power or shut down.