



## ENVIRONMENTAL AND RADIO FREQUENCY SAFETY

The licensee of KMEG is committed to the protection of station personnel and/or tower contractors working in the vicinity of the KMEG 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.

The predicted emissions of KMEG must be considered, in addition to predicted emissions from any other proposed or existing stations at the site. For KMEG, which will operate on television Channel 32 (578-584 MHz), the MPE is 387.33 microwatts per centimeter squared ( $\mu\text{W}/\text{cm}^2$ ) in an “uncontrolled” environment and 1,936.7  $\mu\text{W}/\text{cm}^2$  in a “controlled” environment. The proposed KMEG facility will operate with a maximum ERP of 1000 kW from an elliptically polarized omni-directional transmitting antenna with a centerline height of 598 meters above ground level (AGL). Considering a predicted vertical plane relative field factor of 0.300 the KMEG facility is predicted to produce a power density at two meters above ground level of 17.044  $\mu\text{W}/\text{cm}^2$ , which is 4.40% of the FCC guideline value for an “uncontrolled” environment, and 0.88% of the FCC’s guideline value for “controlled” environments. There are two other full-power DTV stations and two Lo-VHF LPTV stations that are located at the KMEG site. Therefore, the total percentage of the ANSI value at the proposed site, including the cumulative radiation from all authorizations within relevant proximity, is 10.21% of the limit applicable to “uncontrolled” environments, and 2.042% of the limit for “controlled” environments. (See Appendix A)

**SUMMARY OF RADIOFREQUENCY  
RADIATION STUDY**

KMEG, Sioux City, IA  
Channel 32, 1000 kW, 611 m HAAT  
October, 2017

<u>CALL</u>	<u>SERVICE</u>	<u>CHANNEL</u>	<u>FREQUENCY</u>	<u>POLAR- IZATION</u>	<u>ANTENNA HEIGHT</u>	<u>ERP (kW)</u>	<u>VERT. RELATIVE FIELD FACTOR</u>	<u>WORST-CASE PREDICTED POWER DENSITY (<math>\mu\text{W}/\text{cm}^2</math>)</u>	<u>FCC UNCONTROLLED LIMIT (<math>\mu\text{W}/\text{cm}^2</math>)</u>	<u>PERCENT OF UNCONTROLLED LIMIT</u>
KMEG	DT	32	581	H & V	596	1000.000	0.300	17.044	387.33	4.40%
KTIV	DT	14	473	H	595	484.000	0.300	4.139	315.33	1.31%
KPTH	DT	30	569	H & V	596	1000.000	0.300	17.044	379.33	4.49%
K03IS-D	DT	3	63	H	550	0.300	0.300	0.003	200.00	0.00%
K06QG-D	DT	6	85	H	550	0.300	0.300	0.003	200.00	0.00%
<b>TOTAL PERCENTAGE OF FCC GUIDELINE VALUE =</b>										<b>10.21%</b>

\* For television stations a very conservative vertical relative field factor of 0.3 was assumed pursuant to OET Bulletin 65.