



**STATEMENT OF JOHN E. HIDLE, P.E.
IN SUPPORT OF AN APPLICATION FOR
CONSTRUCTION PERMIT
KTGM - TAMUNING, GUAM, US
DTV - CH. 14 - 12.5 kW - 187.5 m HAAT**

Prepared for: SORENSEN TELEVISION SYSTEMS, 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 SORENSEN TELEVISION SYSTEMS, INC., licensee of KTGM, channel 14, licensed to Tamuning, Guam, US, to prepare this statement, FCC Form 301, Sections III and III-D, and the associated exhibits in support of an application for construction permit to correct the geographic coordinates of its tower support structure and to relocate the licensed KTGM antenna to a slightly lower position on the tower.

PREDICTED COVERAGE CONTOURS

The predicted coverage contours will not have changed to any discernable extent, and continue to extend far beyond the coastline of Guam in all directions. The 48 dBu contour completely encompasses not only the principal community of license, Tamuning, Guam, but the entire island as well.

ALLOCATION CONSIDERATIONS

DTV Allocation Considerations

Public Notice DA 13-618 imposes limitations on the acceptance and processing of modification applications if the proposed modification(s) would increase the station's noise-limited contour in one or more directions beyond the distances that result from the station's current authorization. In the instant proposal the licensee seeks to correct the geographic coordinates based on improved survey accuracy. The physical location of the tower support structure has not changed, and the proposal will not result in the increase in the distance to the station's noise-limited contour in any direction. Nor will there be any change in the status quo of any other allocation considerations toward any other facilities.

BLANKETING AND INTERMODULATION INTERFERENCE

There are other television broadcast facilities co-located with KTGM. There are three FM radio facilities co-located on the KTGM tower. There are other broadcast and non-broadcast facilities located within 10 km of KTGM's 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

Effective October 15, 1997 the FCC adopted new guidelines and procedures for evaluating environmental effects of radio frequency (RF) emissions. The guidelines 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

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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 that apply in cases that 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 0.2 milliwatts per centimeter squared (mW/cm^2) for an "uncontrolled" environment, and is 1.0 milliwatts per centimeter squared (mW/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 1500, and is similarly determined for a "controlled" environment by dividing the operating frequency in MHz by 300.

The predicted emissions of KTGM operating on channel 14 must be considered, in addition to predicted emissions from any other proposed or existing stations at the site. For KTGM, which operates on television Channel 14 (470-476 MHz), the MPE is 0.315

milliwatts per centimeter squared (mW/cm^2) in an “uncontrolled” environment and $1.575 \text{ mW}/\text{cm}^2$ in a “controlled” environment. The proposed KTGM facility operates with a maximum ERP of 12.5 kW from a horizontally polarized non-directional transmitting antenna with a centerline height of 30.5 meters above ground level (AGL). Considering a very conservative vertical plane relative field factor of 0.300, the KTGM facility is predicted to produce a power density at two meters above ground level of $0.04626 \text{ mW}/\text{cm}^2$, which is 14.67% of the FCC guideline value for an “uncontrolled” environment, and 2.934% of the FCC’s guideline value for “controlled” environments. There are no other full-service TV stations, however there are three FM radio stations, one analog LPTV station and one digital LPTV station construction permit authorized that are located within the relevant proximity of 315 meters. The total percentage of the ANSI value at the site, including the cumulative radiation from all digital DTV construction permits and stations within the relevant proximity is 51.23% of the limit applicable to “uncontrolled” environments, and 10.25% of the limit for “controlled” environments. (See Appendix A)

Access to the transmitting site, located atop Mount Barrigada, is restricted and is appropriately marked with RFR warning signs. Access to the broadcast transmission facilities is limited to station and maintenance personnel. The entire site is therefore considered to be an occupational RFR environment. A site protocol is in effect to ensure that appropriate measures will be taken to assure worker safety with respect to radio frequency radiation exposure.

OCCUPATIONAL SAFETY

The licensee of KTGM is committed to the protection of station personnel and/or tower contractors working in the vicinity of the KTGM 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 construction permit to correct the geographic coordinates of KTGM's antenna site, as described herein, complies with the Rules, Regulations and relevant Policies of the Federal Communications Commission. This statement, FCC Form 301, Sections III and III-D, 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: August 18, 2014



John E. Hidle, P.E.



**SUMMARY OF RADIOFREQUENCY
RADIATION STUDY**
KTGM, TAMUNING, GUAM
CHANNEL 14, 12.5 kW ERP, 187.5 m HAAT
AUGUST, 2014

<u>CALL</u>	<u>SERVICE</u>	<u>CHANNEL</u>	<u>FREQUENCY</u>	<u>POLARIZATION</u>	<u>ANTENNA HEIGHT ** mAGL</u>	<u>ERP (kW)</u>	<u>VERT. RELATIVE FIELD FACTOR</u>	<u>PREDICTED POWER DENSITY (mW/cm²)</u>	<u>FCC UNCONTROLLED LIMIT (mW/cm²)</u>	<u>PERCENT OF UNCONTROLLED LIMIT</u>
KTGM	DT	14	473	H	28.5	12.500	0.300	0.04626	0.315	14.67%
KEQI-LP(LIC)	TV	22	521	H	22.4	0.970	0.300	0.00291	0.347	0.84%
KEQI-LP(CP)	DT	22	521	H	22.4	1.950	0.300	0.01168	0.347	3.36%
KZGZ	FM	248	97.5	H & V	38	38.000	0.125	0.02748	0.200	13.74%
KPXP	FM	258	99.5	H & V	38	17.500	0.125	0.01265	0.200	6.33%
KGUM-FM	FM	286	105.1	H & V	38	34.000	0.125	0.02458	0.200	12.29%

TOTAL PERCENTAGE OF ANSI VALUE= 51.23%

*** The antenna heights indicated above are 2 meters less than the actual antenna heights*

so that the predicted power densities consider the 2 meter human height allowance.

This evaluation includes facilities collocated at the site, and facilities located within 315 meters.

