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**Engineering Statement
Application for Digital Flash Cut for KTKB-LP
Channel 26 at Tamuning, Guam
December 2009**

This Engineering Statement has been prepared in connection with an application for digital flash cut for LPTV station KTKB-LP on Channel 26 at Tamuning, Guam. KTKB-LP already holds a digital companion channel permit for KTKB-LD on Channel 25 (see BDCCDTL-20061030AGB), but has elected to instead pursue a digital flash cut. Commission staff has advised that the companion channel permit can remain active until grant of the digital flash cut permit. It is therefore respectfully requested that the companion channel permit remain active until grant of the digital flash cut permit.

I. Allocation Study

Study has been made of all cochannel and adjacent-channel facilities in the vicinity of the proposed operation to demonstrate that the proposed operation will not cause interference to any existing or authorized facilities. The results of this study indicate that the proposed facility is predicted to cause zero additional interference to any of the listed stations.

List of Stations Considered (N= Requested Channel)

	Channel	Station	Interference
N-15	dna	none	
N-14	dna	none	
N-8	18	New LD Agana 20090825BZI New LD Dedeo 20090825BKB	0% 0%
N-7	19	none	
N-4	22	KEQI-LP (license) KEQI-LP (digital flash cut CP)	0% 0%
N-3	23	none	
N-2	24	New LD Tamuning 20090902ACX	0%
N-1	25	none	
N	26	none	
N+1	27	none	
N+2	28	K28HS	0%
N+3	29	none	
N+4	30	K30HB	0%
N+7	33	none	
N+8	34	New LD Dedeo 20090825BIX New LD Agana 20090825BZJ	0% 0%

Based on the foregoing allocation and interference study, it is believed that the proposed facility can operate without risk of interference to other stations.

II. NIER Study

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.

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

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 (40 meters below the antenna radiation center). The worst case power density levels occur at depression angles between 45 and 90 degrees below the horizontal. The calculations in this report assume a worst-case relative field value of 0.260 at these angles, based on the manufacturer's vertical plane pattern for the horizontally-polarized Andrew ALP8M2-HSP-26 antenna proposed in this application. This relative field value yields a worst-case adjusted average effective radiated power of 94.6 Watts at depression angles between 45 and 90 degrees below the horizontal. Assuming this power and the shortest distance between the antenna radiation center and 2 meters above ground level (i.e. straight down), 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 2.0 $\mu\text{W}/\text{cm}^2$, which is 0.6% of 363 $\mu\text{W}/\text{cm}^2$ (the FCC maximum for uncontrolled environments at the Channel 26 frequency).

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 radiation in excess of FCC guidelines.

December 21, 2009

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