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RF HAZARD STATEMENT APPLICATION FOR CONSTRUCTION PERMIT K06LA, HEALY, ALASKA CHANNEL 12, 0.36 KW (MAX-DA)

This Radio Frequency (RF) Hazard Statement was prepared in regard to a proposed digital companion station for K06LA, Healy, Alaska. This statement concerns an evaluation of compliance with Section 1.1307(b) of the FCC Rules^{*} regarding human exposure to radio frequency (RF) energy.[†]

The proposed K06LA Channel-12 facility will operate with the following specifications:

Center Frequency (MHz)	Maximum Effective Radiated Power (kW)	Radiation Center Height Above Ground (m)	Transmitting Antenna
207	0.36 kW	14	Kathrein-Scala model 840 10293 (Single Yagi)

As indicated above the maximum effective radiated power (ERP) is 0.36 kW, which is for a horizontally-polarized transmitting antenna.

The FCC Rules outline the maximum permissible exposure (MPE) limits applicable to the above facility. Specifically, according to Section 73.1310 of the FCC Rules, the MPE limits for 207 MHz are as follows:

http://www.fcc.gov/Bureaus/Engineering Technology/Documents/bulletins/oet56/oet56e4.pdf

^{*} See Rules of the United States Federal Communications Commission (FCC), generally at Title 47 of the Code of Federal Regulations (Telecommunication).

[†] See FCC Office of Engineering and Technology Bulletin No. 56 for background information on nonionizing RF energy of the type discussed here. Internet web reference:

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Frequency	MPE for Occupational/Controlled (O/C)	MPE for General Population/Uncontrolled	
(MHz)	Exposure (µW/cm ²)	(GP/U) Exposure (µW/cm ²)	
207	1,000	200	

The subject facility was evaluated for RF exposure at 2-m above ground level using the procedures outlined in the FCC OET Bulletin No. 65, *Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields*[‡] with the following results:

Radial Distance from Base of Tower Structure (m)	Angle from Horizontal (deg)	Antenna Downward Relative Field Factor	Distance From Transmitting Antenna (m)	Calculated Power Density (µW/cm ²)	Percent of GP/U MPE (%)
0	90.0	0.043	12.00	0.15	0.08
1	71.6	0.024	12.04	0.05	0.02
2	56.3	0.075	12.17	0.46	0.23
3	45.0	0.129	12.37	1.31	0.65
4	36.9	0.189	12.65	2.68	1.34
5	31.0	0.269	13.00	5.15	2.57
6	26.6	0.333	13.42	7.41	3.70
7	23.2	0.383	13.89	9.14	4.57
8	20.6	0.454	14.42	11.92	5.96
9	18.4	0.506	15.00	13.68	6.84
10	16.7	0.555	15.62	15.18	7.59
20	8.5	0.824	23.32	15.01	7.50
30	5.7	0.907	32.31	9.47	4.74
40	4.3	0.941	41.76	6.10	3.05
50	3.4	0.959	51.42	4.18	2.09
75	2.3	0.979	75.95	2.00	1.00
100	1.7	0.986	100.72	1.15	0.58

[‡] Federal Communications Commission, Office of Engineering and Technology, OET Bulletin No. 65, Edition 97-01, August, 1997.

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As indicated above the transmitting antenna relative field factor was employed in the calculations. This factor was based on the transmitting antenna vertical plane relative field elevation pattern. The manufacturer's radiation pattern for the proposed transmitting antenna is included as an exhibit with the instant application.

The above calculations were conservatively based on the maximum main beam ERP even though it will employ a directional antenna. The calculations indicate that the overall maximum RF field level at 2-m above ground level will not exceed $15.2 \,\mu$ W/cm² or 7.6% of the MPE for GP/U environments.[§] Because this is to be a multiuse broadcast site the RF energy from other broadcast facilities is considered.

The tower is to support the antennas of stations K07ND and K10QW-D, both at Healy, Alaska. RF exposure calculations contained in the application for K10QW-D under FCC File No. BDCCDTV-20111122CKQ indicate that the total combined RF energy exposure from both K07ND and K10QW-D will not exceed 46.1% of the MPE for GP/U environments at the site. Considering the additional maximum 7.6% contribution from the proposed K06LA Channel-12 digital facility indicates that the total RF exposure will not exceed 53.7% of the MPE for GP/U environments. Therefore the proposal meets the FCC limits for RF exposure for GP/U environments and it is categorically excluded from environmental processing.

In the event that it is necessary to access the tower, the licensee shall reduce power or cease the operation of the facility as necessary to protect persons from RF energy in excess of the FCC guidelines.

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[§] This is 1.5% of the MPE for O/C environments.