

REPLACEMENT OF MAIN ANTENNA  
FOR  
COLOMA MOJAVE, LLC  
LICENSEE OF KCEL, CH 241A, MOJAVE, CA

NOVEMBER 2010

BY:  
BEEM CO.  
ARCADIA, CA  
(626) 446-3468

## ENGINEERING STATEMENT OF JOEL T. SAXBERG

Coloma Mojave, LLC, licensee of KCEL, CH 241A, Mojave, California has changed its main antenna from a Shively 6812B-3R-HW to a ERI LPX-4C-HW. The Shively model was a three element non-directional, one-half wavelength spaced antenna with a power gain of 0.89. The new ERI model is a non-directional, four element, one-half wavelength spaced antenna with a power gain of 1.307. The transmitter power output has been reduced to produce the licensed ERP of 630 watts.

RADIOFREQUENCY ELECTROMAGNETIC FIELDS – Using the FCC OET FM Model program, the power density levels over a flat plane two meters above ground level are shown to peak at  $0.00077 \text{ mW/cm}^2$  at a distance of 144 meters. This equates to 0.38% of the maximum permissible exposure guideline limit for the general public. This facility would be considered to be categorically excluded from environmental processing due to power density levels being much less than 5% of the MPE guideline limits for both controlled and uncontrolled areas. When necessary for workers to go aloft KCEL will reduce power or terminate transmissions in order to protect those workers from RF levels in excess of FCC guidelines. A graph of the power density computation is attached to this statement.

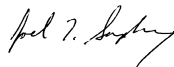
TRANSMISSION SYSTEM – Fifty meters of HJ7-50 air dielectric, Andrew coaxial line with efficiency of 92.6% remains as originally installed. The center of radiation of 39m AGL remains as shown for the original antenna. ERP is 630 watts and antenna input power is  $630/1.307 = 482$  watts. Transmitter output power is  $482/0.926 = 515$  watts to produce the licensed ERP of 630 watts.

## ENGINEERING CERTIFICATION

**JOEL T. SAXBERG** deposes and says:

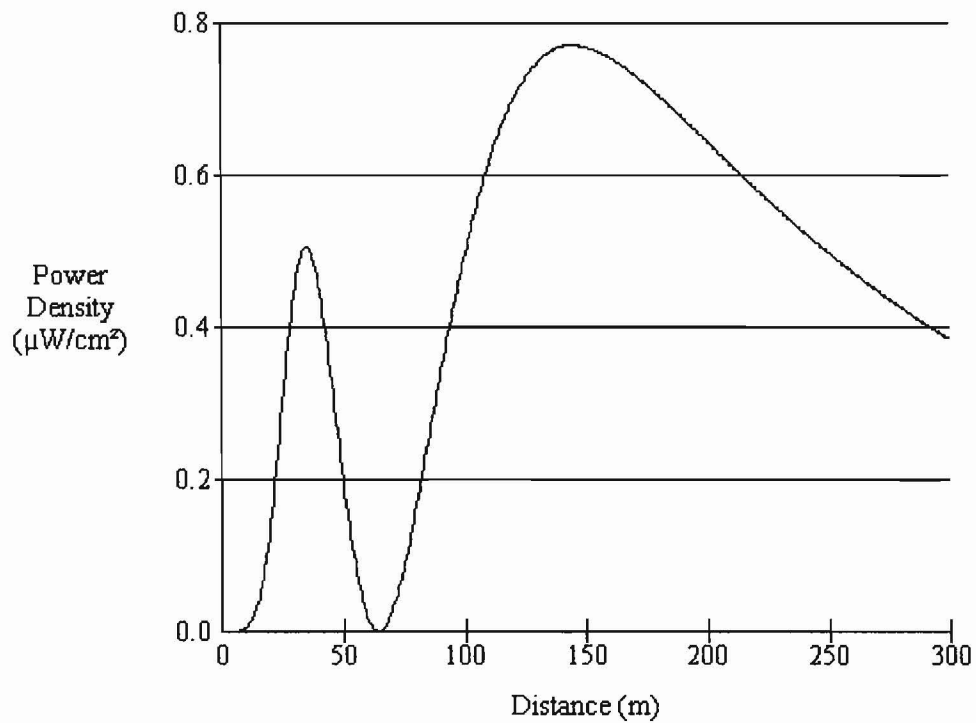
1. That he is President of Broadcast Engineering and Equipment Maintenance Company, "**BEEM CO.**", radio engineering consultants. **BEEM CO.** maintains offices at: 2322 S. Second Avenue, Arcadia, CA 91006. Telephone (626) 446-3468
2. That he was graduated from California State University at Los Angeles, February 1966, with a Bachelor of Science degree in Electronic Engineering.
3. That he has submitted many applications to the Federal Communications Commission for broadcast and auxiliary broadcast construction permits and licenses.
4. That his experience in broadcast engineering is a matter of record and he has spent over forty years working in the field of radio engineering.
5. That the attached report was prepared by him or under his direction and supervision. That he believes the facts stated therein to be both true and accurate. Statements that are based on information supplied by others are also believed to be true and accurate.
6. That he has performed field work on AM and FM broadcast transmitting systems throughout this country and continues to provide technical consulting services on a daily basis to broadcasters.
7. That he declares under penalty of perjury the foregoing is true and correct.

Executed on Nov. 29, 2010



Joel T. Saxberg

## Power Density vs Distance



Office of Engineering and Technology

Distance (m):	<input type="text" value="300"/>	Antenna Type:	<input type="text" value="ERI or JAMPRO JBCP 'Rototiller' (EPA)"/>
Horizontal ERP (W):	<input type="text" value="630"/>	Number of Elements:	<input type="text" value="4"/>
Vertical ERP (W):	<input type="text" value="630"/>	Element Spacing:	<input type="text" value=".5"/>
Antenna Height (m):	<input type="text" value="39"/>		