

# ***KLEIN BROADCAST ENGINEERING, L.L.C.***

**dedicated to improving the science and technology of radio & television communications**

**FCC FORM 301 APPLICATION  
for  
FM BROADCAST STATION CONSTRUCTION PERMIT**

**NRC BROADCASTING, INC.  
K T U N (FM)  
(FCC FACILITY ID# 44012)  
FM CHANNEL 269 C1 / 101.7 mHz.  
EAGLE , COLORADO**

**SEPTEMBER 2006**

## **INTRODUCTION and ENGINEERING STATEMENT**

The firm of Klein Broadcast Engineering, L.L.C., has been retained by the applicant, NRC Broadcasting, Inc., to prepare this FCC Form 301 application.

The application specifies maximum Class C1 facilities with 10.50 kW E.R.P. in both the Horizontal and Vertical Planes at 696 meters HAAT. The applicant proposes the use of an EPA Type 3 antenna. The antenna specified is an Electronics Research, Inc.(ERI) , SHPX-4AC-HW. The antenna is described as a four (4) bay, 0.5 lambda spaced, center fed, FM antenna array. The antenna specified uses no beam tilt and uses no null fill.

The proposed Class C1 facility is specified as follows:

Geographic Coordinate Site Location: NL: 39-46-32 / WL: 106-51-48  
(NAD-1927)

Ground Elevation at Proposed Site AMSL:	3148 meters
Overall Antenna Support Structure Height above Ground Level:	34 meters
Height of Radiation Center Above Mean Sea Level:	3178 meters
Height of Radiation Center Above Ground Level:	30 meters
Height of Radiation Center Above Average Terrain:	696 meters
Effective Radiated Power H&V:	10.5kW

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If there were any radials with calculated negative elevations were treated as if they had an elevation of 30 meters for the purposes of contour calculations, within this application, as specified in 47 C.F.R. 73.313.

Exhibit E-1 is an FM Channel Spacing Study under 47 CFR Section 73.207. This exhibit was prepared using the proposed coordinates specified. This exhibit shows the proposed C1 facility on FM Channel 269 is "clear", under 47 C.F.R. Section 73.207, to all known stations, vacant and proposed Allotments.

Exhibit E-2 is a contour map showing the proposed 60dBu f(50,50) and 70dBu f(50,50) service contours. The proposed 70dBu contour completely encompasses the Principal Community of Eagle, Colorado. The City Limit Boundaries for Eagle, Colorado, are shown on the map and were produced from the 2000 U.S. Census Data.

Exhibit E-10RHS is a complete and comprehensive RF Radiation Hazard Study/Evaluation of the facility proposed in the instant application. Based on the calculations and findings contained therein, the proposed new main class C1 transmission facility proposed for the proposed facility for KTUN FM Broadcast Station at Eagle, Colorado, complies with all of the requirements of the FCC O.S.T. Bulletin, Guidelines for Human Exposure to Non-Ionizing Radio Frequency Radiation, as amended to date.

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An analysis of the engineering and other data presented herein demonstrates compliance of the proposed facility with all of the applicable Rules and Regulations of the Federal Communications Commission as amended to date. Therefore, the applicant requests the Commission consider and GRANT the application for the facility specified herein for a new FM Broadcast Station Construction Permit at Eagle, Colorado on FM Channel 269 C1.

Respectfully submitted,

Elliott Kurt Klein, Consulting Broadcast Engineer

For the firm:

KLEIN BROADCAST ENGINEERING, L.L.C.

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