

# ***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 C U V (FM)  
(FCC FACILITY ID# 37028)  
FM CHANNEL 272 A / 102.3 mHz.  
GREENWOOD VILLAGE , 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 instant application requests a minor change to the main transmission facility of FM Broadcast Station KCUV(FM) at Greenwood Village, Colorado.

The minor change application specifies Class A facilities with 6.0 kW E.R.P. in both the Horizontal and Vertical Planes. The applicant proposed the use of a directional antenna. The manufacturer and model as specified is an Electronics Research, Inc.(ERI) , SHPX-2AE-DA-HW-SP. The antenna is described as a two (2) bay, half wave length spaced, end fed directional, antenna system. The antenna specified uses no beam tilt and uses no null fill.

The proposed Class A facility is specified as follows:

Geographic Coordinate Site Location:	NL: 39-40-02 / WL: 104-59-07
(NAD-1927)	
Overall Tower Height above Ground Level:	152 meters
Height of Radiation Center Above Mean Sea Level:	1766 meters
Height of Radiation Center Above Ground Level:	148 meters
Height of Radiation Center Above Average Terrain:	100 meters
Site Elevation AMSL:	1618 meters
Effective Radiated Power H&V:	6.0kW

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An FAA Notification of Proposed Construction (FAA Form 7460-1) is being prepared and filed with the Federal Aviation Administration. The notification specifies the facilities applied for herein. Upon a determination of No Hazard to Air Navigation, the applicant will file with the Commission for an Antenna Structure Registration Number and amend this instant application upon grant of an ASR number by the Commission.

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 as specified in 47 C.F.R. 73.313.

The applicant requests processing under 47 C.F.R. Section 73.215 Contour Protection with respect to Station KSMT(FM) at Breckenridge, Colorado.

Exhibit E-1 is an FM Channel Spacing Study under 47 CFR Section 73.207 & 73.215. This exhibit was prepared using the site coordinates specified previously. This exhibit shows station KXDC at Estes Park, Colorado as “short”, under 47 C.F.R. Section 73.207. This station, FCC Facility ID# 76780, is presently operating as a class C3 on channel 271. However, some time ago KXDC filed a “One Step” down grade application, FCC File Number: BPH-20060809AIK. This application specified operation on FM Channel 271 Class A at a different location from the existing class C3 KXDC licensed facility. The facility proposed in this instant application fully protects the proposed KXDC class A facility as specified in BPH-20060809AIK as filed with the Commission, under 47 C.F.R. Section 73.207.

The applicant, NRC Broadcasting, Inc., respectfully requests the Commission condition the grant of this instant application for station KCUV on the grant of BPH-20060809AIK for station KXDC at Estes Park, Colorado.

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The facility specified in this instant application for the operation of Station KCUV(FM) is clear to all known stations, vacant and proposed allotments, with the following exception as captioned above and Station KSMT, Breckenridge, Colorado. This station is afforded contour protection under 47 C.F.R. Section 73.215. Station KSMT, FCC Facility ID# 87841, is licensed to operate with 6.0kW E.R.P. at -64 meters HAAT, see BLH-20050915ADB. Exhibit E-3 was calculated and plotted using the facility as specified in the valid FCC FM Broadcast Station License for KSMT(FM). Station KSMT will be afforded protection of the facility specified and not a maximum class A facility because station KSMT is already licensed and authorized under the provisions of 47 C.F.R. Section 73.215 contour protection.

Exhibit E-2 is a contour map showing the proposed 60dBu f(50,50) and 70dBu f(50,50) contours. The proposed 70dBu contour encompasses 94.34% the Principal Community of Greenwood Village, Colorado. The City Limit Boundaries for Greenwood Village, Colorado, are shown on the map and were produced from the 2000 U.S. Census Data.

Exhibit E-3 is a contour map showing the proposed interfering and protected contours for the main transmission facility of Station KCUV and the interfering and protected contours of Station KSMT, Greenwood Village, Colorado. The KSMT facility contours were calculated and plotted from the licensed facility specified in FCC FM Broadcast Station License, BLH-20050915ADB, 6.0kW E.R.P. at -64 meters HAAT. Station KSMT is afforded protection only to the facility as specified because the grant of the KSMT Station License is a 47 C.F.R. Section 73.215 contour protection grant.

Exhibit E-4 is a polar azimuth plot of the proposed directional antenna pattern as proposed herein for station KCUV.

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Exhibit E-5 is a tabulation of the proposed directional antenna pattern for station KCUV.

Exhibit E-10RHS is a complete and comprehensive RF Radiation Hazard Study/Evaluation of the facility proposed in this instant application. Based on the calculations and findings contained therein, the proposed new main class A transmission facility proposed for the KCUV FM Broadcast Station at Greenwood Village, 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.

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 instant application for the facility specified herein for Station KCUV, Greenwood Village, Colorado.

Respectfully submitted,

Elliott Kurt Klein, Consulting Broadcast Engineer

For the firm:

KLEIN BROADCAST ENGINEERING, L.L.C.

08 SEPTEMBER 2006