

# ***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 & One-Step Upgrade to Class C3  
(a minor change application)  
FCC File Number: BPH-20030925AXJ  
N R C BROADCASTING, INC.  
K S P N - FM  
FM CHANNEL 276 C3 / 103.1 mHz.  
ASPEN , COLORADO**

**SEPTEMBER 2004**

## **INTRODUCTION and ENGINEERING STATEMENT**

The firm of Klein Broadcast Engineering, L.L.C., has been retained by the applicant, N R C Broadcasting, Inc., the licensee of FM Broadcast Station KSPN(FM) at Aspen, Colorado.

The instant application is being filed as an amendment to a pending FCC Form 301 One Step Upgrade application, FCC File Number BPH-20030925AXJ. The amendment requests a One Step Upgrade of the present KSPN(FM) Channel 276 Class A to Class C3.

This amendment proposes to modify all engineering and technical data found in SECTION III-B, Items #3 through #17. This amendment also requests a change in transmitter site location to the coordinates specified within the application. The site location 47 C.F.R. Section 73.207 reference coordinates for the Class C3 Upgrade of FM Channel 276 Class A to FM Channel 276 Class C3 as follows:

NL:39-13-33 / WL:106-50-00 (NAD-1927)

Exhibit E-2 is a contour map showing that from the proposed 47 CFR Section 73.207 reference site as specified above, using the FCC Standard Contour Prediction Method, the 70dBu f(50,50) contour produced from maximum class C2 facilities from this site encompass the entire principal community of Aspen, Colorado.

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The instant application also specifies an actual antenna location site, the proposed actual antenna location is as the same as the 47 CFR Section 73.207 Class C3 Reference Coordinates specified previously.

The operation proposed is from the existing Class A licensed site of Station KSPN. The proposed facility provides the principal community of Aspen, Colorado, with the required unobstructed coverage of greater than 70dBu as required by 47 CFR Section 73.315.

Exhibit E-3 is a Terrain Profile Plot from the proposed antenna location to the far side of the principal community, Aspen, Colorado. This exhibit demonstrates line of site from the proposed antenna location to the principal community.

Engineering Exhibit E-1 is a complete FCC FM Channel Spacing Study that shows compliance with Section 73.207 of the Commission's rules for the requested Class C3 One Step Upgrade allotment reference site and the proposed transmitter site.

The Terrain Data used in the instant application was generated from the DMA 3 Arc Second Digitized Terrain Datafile. The contours and average elevations shown in the instant application were generated using 360 radials.

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The public interest will be served by a grant of the instant application. This station is located deep in the heart of the Rocky Mountains. Eleven and twelve thousand foot peaks and ridges prevent coverage in this area from many stations that otherwise might provide service to this region if there were flat terrain. The present 3.0kW Class A licensed facility of KSPN serves 29,335 persons (2000 U.S. Census) within its 60 dBu f(50,50) contour and covers an area of 1,907.9 square kilometers. The Class C3 facility proposed for KSPN under Section 73.207 from the specified antenna site will serve 51,497 persons (2000 U.S. Census) within an area of 5,338.0 square kilometers. These increases in population served and land area covered are clearly in the public interest and justify a grant of this instant application.

Engineering 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 transmission facility 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. The antenna proposed herein is an Electronics Research, Inc., model: SHPX-6AC-HW, half wavelength spaced antenna.

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The KSPN facility specified herein as amended:

Antenna Location Coordinates: NL: 39-13-33 / WL: 106-50-00 (NAD1927)

Overall Tower Height Above Ground Level: 17 meters AGL

Height of Radiation Center Above Mean Sea Level: 2878 meters H & V

Height of Radiation Center Above Ground Level: 13 meters H & V

Height of Radiation Center Above Average Terrain: -9 meters H & V

Effective Radiated Power: 25.0 kW H & V

An analysis of the engineering data presented herein as amended 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 and licensee of FM Broadcast Station KSPN(FM), Aspen, Colorado, N R C Broadcasting, Inc., requests the Commission consider and GRANT the facility and One-Step Upgrade requested herein.

Respectfully submitted,

Elliott Kurt Klein, Consulting Broadcast Engineer

For the firm:

KLEIN BROADCAST ENGINEERING, L.L.C.

01 September 2004