

# **ENGINEERING REPORT**

**Requesting a Minor Construction  
Permit for FM Station**

**KCIE(FM) – Dulce, NM  
File No. BLED-19901001KA  
Channel 213 (90.5 MHz)**

**September, 2007**

COPYRIGHT 2007

**MUNN-REESE, INC.**  
Broadcast Engineering Consultants  
Coldwater, MI 49036

# **TABLE OF CONTENTS**

---

Discussion of Report

## **Main Studio Location**

- Exhibit 13.1 - Copy of Topographic Map showing Existing Site
- Exhibit 13.2 - Vertical Plan of Antenna System and Support Tower
- Exhibit 13.3 - Tabulation of Operating Conditions
- Exhibit 13.4 - Present and Proposed Contour Study

## **Interference Requirements**

### **Contour Overlap Requirements**

- Exhibit 16.1 - Tabulation of Non-Commercial Allocation
- Exhibit 16.2 - Contour Protection Studies Toward KSFR.A – Sante Fe, NM

- |  |        |
|--|--------|
| <b>Spacing Requirements</b>                    | (none) |
| <b>Grandfathered Short-Spaced Requirements</b> | (none) |
| <b>Contour Protection Requirements</b>         | (none) |

### **TV Channel 6 Protection Requirements**

- Exhibit 19.1 - Channel 6 Study towards KREZ-TV, Durango, CO

## **RF Radiation Study Requirement**

- Exhibit 22.1 - RF Compliance Study

(Exhibit Numbering is in response to FCC Online Form 340, Section VII)

## **DISCUSSION OF REPORT**

---

This firm was retained to prepare the required engineering report in support of a minor construction permit application for Non-Commercial FM station KCIE(FM) Dulce, NM, File No. BLED-19901001KA. KCIE(FM) operates on Channel 213A, 90.5 MHz with 0.1 kW at 468 meters HAAT utilizing a directional antenna. This minor change application requests 10.0 kW at 465 meters HAAT utilizing a non-directional antenna from the same site location at a slightly different height. The facility will still serve Dulce, NM.

The proposed site for the Class C1 operation meets all the contour protection requirements towards other stations in the allocation. A tabulation of the proposed protections to each of the other relevant stations is found in **Exhibit 16.1**. There is one (1) other facility, KSFR.A, Sante Fe, NM which is deemed close enough to require further §73.509 study. An FMCommander™ map of the relevant protected and interference contours towards KSFR.A has been supplied as **Exhibit 16.2**. It is believed there is sufficient clearance to preclude the need for further study with respect to the other protected stations shown in the allocation study.

The transmitter site is not located within 320 km of the common border between the United States and Canada or Mexico, therefore international concurrence need not be sought. The transmitter site proposed in this application is within the affected radius of one Channel 6 television station, KREZ-TV, Durango, CO. The additional studies dictated by §73.525 under such conditions are included as **Exhibit 19.1** of this report. Full protection is provided to the Channel 6 facilities under the current Rules as contour overlap results in an interference population of less than 3,000 persons.

The proposed service contours have been calculated in accordance with the Rules, and the data obtained has been tabulated and plotted in this report. The plotted contours are found as **Exhibit 13.4** of this report. This exhibit shows the overall service that is provided by the 1.0 mV/m contour of the facility. The tabulation of the distances to the respective contours shown in this discussion is based on the use of the standard eight cardinal bearings, which were also used for the computation of the HAAT. However, the plotted contours shown in **Exhibit 13.4** are based on the use of a full 360 terrain radials and the NGDC 30 Second Terrain Database.

The antenna will be mounted on the existing tower which does not require Antenna Structure Registration. A copy of USGS topographic mapping showing the tower site has been included in **Exhibit 13.1**. A vertical antenna plan depicting the placement of the antenna on the tower has been included in **Exhibit 13.2**. The overall tower height will be modified as a result of this proposal, however the resulting tower height will still not require Antenna Structure Registration.

## DISCUSSION OF REPORT (continued)

The remainder of the information in this report and exhibit numbering is responsive to the Rules of the Commission, and provides the data for FCC Form 340.

The FM Broadcast facility proposed in this application will not produce human exposure to radiofrequency radiation in excess of the applicable safety standards specified in §1.1310 of the Commission's rules. **Exhibit 22.1** provides the details of the study that was made to demonstrate compliance. The facility is properly marked with signs, and entry is restricted by means of fencing with locked doors and/or gates. Any other means which may be required to protect employees and the general public will be employed.

***In the event work would be required in proximity to the antenna such that the person or persons working in the area would be potentially exposed to fields in excess of the guidelines set forth in OET Bulletin No. 65 (Edition 97-01), the transmitter power will be reduced or the station will cease operation during the critical period.***

**DISTANCES TO CONTOURS:** The table below shows the distances to the 1.0 mV/m contour from the proposed facility using an ERP of 10.0 kW at an HAAT of 465 meters. These distances have been calculated based on the FCC F(50-50) curves.

N. Lat. = 365900.0 W. Lng. = 1065812.0						
HAAT and Distance to Contour - FCC Method - NGDC 30 SEC						
Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	2410.7	343.3	10.0000	10.00	1.000	52.92
045	2356.8	397.2	10.0000	10.00	1.000	56.10
090	2342.8	411.2	10.0000	10.00	1.000	56.88
135	2224.0	530.0	10.0000	10.00	1.000	64.16
180	2242.5	511.5	10.0000	10.00	1.000	62.94
225	2224.3	529.7	10.0000	10.00	1.000	64.14
270	2226.7	527.3	10.0000	10.00	1.000	63.98
315	2281.8	472.3	10.0000	10.00	1.000	60.41
Ave El= 2288.69 M HAAT= 465.31 M AMSL= 2754 M						