

**ENGINEERING REPORT**  
**MINOR CHANGE APPLICATION**  
For  
**BLH-19881115KC**  
**KJEL(FM) – Lebanon, MO**  
**March 2003**

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

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(Exhibit Numbering is in response to FCC Online Form 301, Section III-B)

# DISCUSSION OF REPORT

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This firm was retained to prepare the required engineering report in support of a minor change application for KJEL (BLH-19881115KC). This license currently authorizes 100.0 kW (H)&(V) ERP at 300 meters HAAT on Channel 279C. The facility serves Lebanon, MO. This application seeks to increase the overall Antenna COR from 620 meters AMSL to 773 meters AMSL to achieve Class C facilities.

The proposed site for the Class C operation will remain unchanged and will continue to meet all the spacing requirements of 47 C.F.R. §73.207 toward other stations in the allocation with the exception of two facilities. A tabulation of the existing and required spacing toward each of the other relevant stations is found in **Exhibit 24.1**. Although station KRLI, Malta Bend, MO on Channel 280C2 has applied under the provisions of 47 CFR §73.215 of the rules, it did not propose protection of KJEL by this method. Instead, the application proposes to protect KJEL by downgrading it to Class C0. The proposal to add Channel 276A at Rolla, MO was also predicated on the downgrading of KJEL to Class C0. A "Show Cause" order<sup>1</sup> has been issued and this application is being filed in response to that order. With the grant of this application, the Rolla rulemaking would become defective.

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 22.1** of this report. This exhibit shows the 3.16 mV/m contour that serves the community of license, and 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 22.1** and the contour used as the basis of the area and population computations shown in **Exhibit 22.2**, are based on the use of a full 360 terrain radials.

The antenna will be mounted on the existing tower that will be modified to increase height to 427.6 meters AGL. FAA Form 7460-1 has been filed. FCC Antenna Structure Registration No. 1003484 will be amended to reflect the change in overall tower height.

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 Online Form 301, Section III-B.

The FM Broadcast facility proposed in this application is within the controlled and uncontrolled limits as set forth in the §1.1310 of the rules. A study demonstrating compliance has been included as **Exhibit 29**. The facility will be properly marked with signs, and entry will be restricted by means of fencing with locked doors and/or gates. Any other means as may be required to protect employees and the general public will be employed.

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<sup>1</sup> Order to Show Cause, DA 02-2225, Adopted: September 4, 2002, Released: September 20, 2002.

## **DISCUSSION OF REPORT** (continued)

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 3.16 mV/m and 1.0 mV/m contours from the proposed facility using an ERP of 100.0 kW at an HAAT of 453.3 meters. These distances have been calculated based on the FCC F(50-50) curves.

Munn-Reese, Inc. - Coldwater MI 49036							
N. Lat. = 37 49 10 W. Lng. = 92 44 51							
HAAT and Distance to Contour - FCC Method - 30 Arc Sec.							
<b><i>KJEL - Lebanon, MO Upgrade to Class C Facilities</i></b>							
<i>Azi.</i>	<i>AV EL</i>	<i>HAAT</i>	<i>ERP kW</i>	<i>dBk</i>	<i>Field</i>	<i>70-F5</i>	<i>60-F5</i>
000	305.0	467.7	100.0000	20.00	1.000	60.13	84.68
045	317.6	455.1	100.0000	20.00	1.000	59.38	83.80
090	325.6	447.1	100.0000	20.00	1.000	58.91	83.22
135	352.2	420.5	100.0000	20.00	1.000	57.40	81.27
180	367.4	405.3	100.0000	20.00	1.000	56.55	80.15
225	309.2	463.5	100.0000	20.00	1.000	59.88	84.40
270	294.7	478.0	100.0000	20.00	1.000	60.77	85.36
315	283.7	489.0	100.0000	20.00	1.000	61.47	86.05
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Additional Radials (Not Considered in Average):							
154	357.9	414.8	100.0000	20.00	1.000	57.08	80.86
Ave El= 319.42 M HAAT= 453.28 M AMSL= 772.7							