

***COMPREHENSIVE TECHNICAL EXHIBIT
APPLICATION FOR LICENSE***

**FM Translator Station K278BR
0.250 kW ERP / 103.5 MHz
Grand Island, Nebraska**

Community Broadcasting, Inc.

March, 2017

APPLICATION FOR LICENSE

The following engineering statement has been prepared for **Community Broadcasting, Inc.** ("CBI"), licensee of FM translator station K278BR at Grand Island, Nebraska, and is in support of their application for license to cover construction authorized under FCC File No. BPFT-20170217AAG.¹ This construction permit relocated the facility a short distance to another tower within the city of Grand Island.

The specified construction permit authorized K278BR to operate with a maximum effective radiated power of 250 Watts at a center of radiation of 624 meters above mean sea level, 52 meters above ground, utilizing a non-directional antenna. The construction of the facility pursuant to the terms of the construction permit has been completed.

The construction permit as issued by the Commission lists two special conditions or restrictions. CBI is in compliance with both of these conditions. Each condition will be specifically discussed in this engineering statement.

The first of the special conditions pertains to radiofrequency radiation safety at the site. Under this condition, CBI is required to coordinate with other users of the site to ensure that workers and other personnel are not exposed to levels of radiofrequency radiation in excess of the applicable safety standards. CBI certifies that it will undertake necessary coordination activities under this condition, which may include, but are not necessarily limited to, a reduction in transmitter power or cessation of operation.

¹ The Facility ID for K278BR at Grand Island, Nebraska is 140366.

The second special condition requires that this application for license be on file prior to the commencement of program tests. CBI will commence operation of these technical facilities upon the submission of this license application. Limited equipment tests were performed prior to the actual submission of the license application of March 28, 2017.

The specified transmitter power output achieves the authorized effective radiated power. The authorized and utilized antenna for the facility is a Shively Labs 6812-3 non-directional style antenna with three lambda spaced sections. The manufacturer has specified a power gain of 1.56 for this particular antenna. The input power to the antenna to achieve the authorized effective radiated power is 160.3 Watts.

Between the antenna and the transmitter is the run of transmission line, which consists of 205 feet of Andrew/Commscope LDF4-50 semi-flexible coaxial cable with a nominal diameter of one-half inch. Data from the manufacturer indicates that the efficiency of this run of transmission line is 72.26 percent. The input power to the transmission line to achieve the authorized effective radiated power is 221.8 Watts.

This power value rounds to 222 Watts. The input to the transmission line is the output of the transmitter for the facility. Thus, the specified transmitter power output achieves the authorized effective radiated power.

The facility utilizes a non-directional antenna. This antenna has been installed in accordance with the instructions of the manufacturer.

JEREMY RUCK & ASSOCIATES, INC.

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The preceding statement has been prepared by me, or under my direction, and is true and accurate to the best of my belief and knowledge.



Above signature is digitized copy of actual signature
License Expires November 30, 2017

Jeremy D. Ruck, PE
March 28, 2017

JEREMY RUCK & ASSOCIATES, INC.

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