

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

**FM Translator Station K227CI
0.099 kW ERP / 93.3 MHz
Ardmore, Oklahoma**

Community Broadcasting, Inc.

November, 2016

APPLICATION FOR LICENSE

The following engineering statement has been prepared for **Community Broadcasting, Inc.** ("CBI"), permittee of FM translator station K227CI at Ardmore, Oklahoma, and is in support of their application for license.¹ This application is being filed to cover construction of the facility, which was authorized under the construction permit assigned FCC File No. BNPFT-20130820ABS.

K227CI is authorized under the above referenced construction permit to operate on FM channel 227 with a maximum effective radiated power of 99 Watts at a center of radiation of 318 meters above mean sea level, 57 meters above ground, utilizing a non-directional antenna. The facility was constructed according to the terms of the construction permit.

The construction permit, as issued by the Commission, lists two special conditions or restrictions. CBI is in compliance with each of these conditions. This engineering statement discusses these two special conditions, and compliance with each.

The first special condition pertains to radiofrequency radiation safety at the site. Under this condition, CBI must coordinate with other users of the site to ensure that workers and other persons having access to the site are not exposed to levels of radiofrequency radiation in excess of the applicable safety standards. CBI certifies that it will undertake such coordination, and that related activities will include, but are not necessarily limited to, a reduction in transmitter power or cessation of operation.

¹ The Facility ID for K227CI at Ardmore, Oklahoma is 139218.

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The second special condition requires this license application to be on file prior to the commencement of program tests. Upon submission of this application for license, CBI will commence program test operations of the facility.

The specified transmitter power output achieves the authorized effective radiated power. The authorized effective radiated power for K227CI is 99 Watts. The antenna authorized for use by the facility is a Shively Labs model 6812B-2. This antenna has a manufacturer specified power gain of 0.99. The input power to the antenna to achieve the authorized effective radiated power is 100 Watts.

Preceding the antenna is a superflexible jumper, which has a length of six feet. At the frequency of operation, the efficiency of this jumper is 97.93 percent. The input power to the jumper to achieve the authorized effective radiated power is 102.1 Watts.

Ahead of this tower-top jumper is the main run of transmission line, which consists of 190 feet of RFS LCF78-50JA. This is a semi-flexible foam dielectric coaxial cable with a nominal diameter of 7/8 inches. The insertion loss of this length of line is 0.6482 dB, which is based on interpolation between the 88 and 100 MHz per unit value. The insertion loss value for the line run corresponds to an efficiency of 86.14 percent. The input power to the transmission line to achieve the authorized effective radiated power is 118.5 Watts.

Preceding the main run of transmission line is a Polyphaser lightning protection device. The nominal insertion loss of this device is 0.1 dB. This insertion loss corresponds to an efficiency of

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97.72 percent. The input power to the Polyphaser to achieve the authorized effective radiated power is 121.3 Watts.

Between the transmitter and the Polyphaser is a second jumper identical to the one previously discussed. This jumper, six feet in length, similarly has an efficiency of 97.93 percent. The input power to this jumper to achieve the authorized effective radiated power is 123.9 Watts. This value rounds to 124 Watts. Since the input to this jumper is at the output of the transmitter, the specified transmitter power output achieves the authorized effective radiated power.

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

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
November 18, 2016

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