

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

FM Translator Station K272FD
0.215 kW ERP / 102.3 MHz
Del City, Oklahoma

Community Broadcasting, Inc.

September, 2014

APPLICATION FOR LICENSE

The following engineering statement has been prepared for **Community Broadcasting, Inc.** ("CBI"), permittee of FM translator station K272FD at Del City, Oklahoma, and is in support of their application for license.¹ This license application is being submitted to cover initial construction of the facility authorized under FCC File No. BMPFT-20140218ABS.

K272FD is authorized to operate with an effective radiated power of 215 Watts circularly polarized at a center of radiation of 535 meters above mean sea level. This elevation corresponds to 145 meters above ground level at the K272FD site. The antenna utilized by the facility is an Electronics Research, Inc. ("ERI") model LPX-2E. Construction of the facility pursuant to the terms of the underlying construction permit has been completed.

The construction permit as issued by the Commission listed three special conditions or restrictions. Each of these special conditions will be specifically discussed.

The antenna for K272FD utilizes the radiator for AM station KRMP at Oklahoma City, Oklahoma as the supporting structure.² Under the first special condition of the construction permit, CBI is required to provide impedance measurements of the antenna structure following the completion of construction. The required impedance measurements, including the requested tower sketch, are being provided to the Commission by the licensee of KRMP via an application for direct measurement of power.

¹ The Facility ID for K272FD at Del City, Oklahoma is 140428.

² The Facility ID for KRMP at Oklahoma City, Oklahoma is 63794.

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The second special condition on the construction permit pertains to worker protection from exposure to radiofrequency radiation in excess of the applicable safety standards. CBI certifies that it will coordinate with all 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. Such coordination will include, but is not necessarily limited to, a reduction in transmitter power, or cessation of operation.

The third and final special condition on the construction permit pertains to the submission of this license application. Under that condition, CBI is required to have this application on file prior to the submission of program tests. Equipment tests of facility have been undertaken. Program tests of the facility will commence upon the submission of this application to the Commission.

The specified transmitter power output achieves the authorized effective radiated power. The antenna utilized by the facility is, as was previously mentioned, is an ERI LPX-2E. This particular antenna is comprised of two bays spaced one-wavelength apart. ERI specifies the gain of this antenna as 0.997. Thus, the input power to the antenna to achieve the authorized effective radiated power is 215.6 Watts.

Ahead of the antenna is the main run of transmission line, which consists of 516 feet of Andrew HJ12-50 air-dielectric semi-flexible coaxial cable with a nominal diameter of 2 1/4". The insertion loss of this transmission line per data from the manufacturer is 0.91 dB. This insertion loss corresponds to an efficiency of 81.10 percent. The input power to the transmission line to achieve the authorized effective radiated power is 265.9 Watts.

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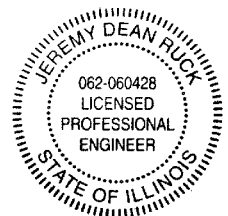
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Before reaching the main run of transmission line, the transmitted signal flows through a ten-foot coaxial jumper constructed from 1/2" nominal diameter super-flexible foam dielectric coax. The efficiency of this jumper is 97.84 percent. The input power to this jumper is therefore 271.8 Watts.

Ahead of this jumper is a Polyphaser lightning protection device. The nominal insertion loss of this particular device is 0.1 dB. This insertion loss corresponds to an efficiency of 97.72 percent. The input power to the Polyphaser to achieve the authorized effective radiated power is 278.1 Watts.

Between the transmitter and the input to the Polyphaser is a second transmission line jumper comprised of six feet of 1/2" nominal diameter super-flexible foam dielectric coax. The specified efficiency for this second jumper is 97.84 percent. The input power to this jumper is 284.3 Watts, which rounds to 284 Watts. The input to this jumper is the output of the transmitter, thus the specified transmitter power output achieves the authorized effective radiated power.

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, 2015

Jeremy D. Ruck, PE
September 29, 2014

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