

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

FM Translator Station K253BE
0.250 kW ERP / 98.5 MHz
Iowa City, Iowa

KZIA, Inc.

March, 2016

APPLICATION FOR LICENSE

The following engineering statement has been prepared for **KZIA, Inc.** ("KZIA"), permittee of FM translator station K253BE at Iowa City, Iowa, and is in support of their application for license to cover construction of that facility.¹ This application seeks to cover the construction authorized under FCC File No. BMPFT-20160128AOB.

K253BE is authorized to operate with a maximum effective radiated power of 250 Watts at a center of radiation of 321 meters above mean sea level, 86 meters above ground, utilizing a non-directional antenna. The antenna proposed and utilized by the facility is a 2-bay Electronics Research, Inc. ("ERI") model 100A-2F antenna. 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. Forsyth is in compliance with these special conditions.

The first of the special condition pertains to radiofrequency radiation safety at the site. Under this condition, KZIA 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. KZIA 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 K253BE at Iowa City, Iowa is 152186.

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, KZIA will commence program test operation of the facility.

The third and final special condition pertains to the primary station for the translator. KZIA proposed in the original application that the HD Channel 2 of the primary station, KZIA(FM), is to be broadcast. The applicant proposes no changes to the primary station, and will broadcast the KZIA(FM) HD-2 stream.

The specified transmitter power output achieves the authorized effective radiated power. The antenna utilized by the facility is an ERI 100A-2F. Data from the manufacturer indicates that the power gain of this antenna is -0.4576 dB, which corresponds to an efficiency of 90.00 percent. The input power to the antenna to achieve the authorized effective radiated power is 277.8 Watts.

Ahead of the antenna is the run of transmission line, which consists of 285 feet of Andrew LDF7-50A coaxial cable. This particular style of transmission line has a nominal diameter of 1 5/8 inches, and is a foam-dielectric coaxial cable. Data from the manufacturer indicates an efficiency of 86.90 percent. The input power to the main run of transmission line to achieve the authorized effective radiated power is 319.7 Watts.

Between the input to the main transmission line run, and the output of the transmitter, is a jumper six feet in length. This jumper is comprised of Andrew FSJ4-50B, which is "superflexible" foam dielectric coaxial cable with a nominal diameter of 1/2 inch. The specified efficiency of this

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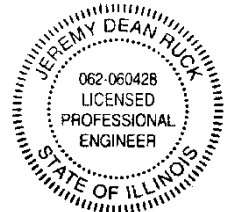
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jumper is 97.88 percent based on manufacturer data. The input power to the jumper to achieve the authorized effective radiated power is 326.6 Watts. This value rounds to 327 Watts. The input to the jumper is, however, the output of the transmitter. The specified transmitter power output therefore achieves the authorized effective radiated power.

As previously stated, the facility utilizes a non-directional antenna. The antenna utilized 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
March 7, 2016

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