

Comprehensive Technical Exhibit
Application for License
K245AE - Cedar Rapids, Iowa
Extreme Grace Media, Inc.
January, 2012

Application for License

The following engineering statement and attached exhibits have been prepared for **Extreme Grace Media, Inc.** ("XGM"), and are in support of their Application for License to cover changes authorized to FM translator station K245AE (formerly K249EL, formerly K246BE) at Williamsburg, Iowa.¹ Under the referenced construction permit, assigned FCC file number BPFT-20111129CIS, XGM was authorized to increase the effective radiated power, as well as change the antenna, frequency, and community of license. The changes authorized under that construction permit have been completed.

The construction permit as issued lists two special conditions or restrictions. XGM is in compliance with both of these special conditions or restrictions. Each will be specifically addressed.

The first special condition or restriction requires XGM to coordinate with other users of the site to ensure workers having access to the facility are not exposed to levels of non-ionizing radiation in excess of the applicable safety standards. XGM certifies that it will coordinate with any other future user. Such coordination will include, but is not necessarily limited to, a reduction in power or cessation of operation as necessary.

The second special condition or restriction pertains to the commencement of operation and the submission of the application for license. Under this condition, XGM is required to have on file the license application for the specified facilities prior to the commencement of program tests.

¹ The Facility ID for K246BE at Williamsburg, Iowa is 152290.

Upon submission of this application, XGM will commence operation pursuant to the provisions of automatic program test authority described in the Commission's Rules.

The specified transmitter power output achieves the authorized effective radiated power. The transmitter has a specified output power of 261 Watts. The transmitter is connected to the transmission line run, which consists of 100 feet of RG-213 coaxial cable. This transmission line length has an attenuation of 2.0 dB per 100 feet of length. Thus, the loss for the transmission line is 2.0 dB, or a decimal efficiency of 0.631.

Systems With Reliability, the manufacturer of the transmitting antenna, specifies a unity power gain in their literature for this particular antenna. The input power to the antenna is 165 Watts, which is the product of the specified TPO and the decimal efficiency of the transmission line. Due to the unity gain of the antenna, the antenna input power is equivalent to the effective radiated power, thus the specified TPO achieves the authorized ERP.

The preceding statement and attached exhibits have been prepared by me, or under my direction, and are true and accurate to the best of my belief and knowledge.



Above signature is digitized copy of actual signature
License Expires November 30, 2013

Jeremy D. Ruck, PE
January 12, 2012