

TECHNICAL EXHIBIT
APPLICATION FOR LICENSE

FM TRANSLATOR STATION K240ES
0.099 kW ERP ND / 95.9 MHz
ST. LOUIS, MISSOURI

BOTT COMMUNICATIONS, INC.

NOVEMBER 2018

APPLICATION FOR LICENSE

The following engineering statement has been prepared for **Bott Communications, Inc.** ("BCI"), licensee of FM translator station K240ES at St. Louis, Missouri, and is in support of their application for license.¹ This application is being filed to coverage changes to the facility authorized under FCC File No. BPFT-20170911AAN.

K240ES is authorized under the referenced construction permit to operate on FM channel 240 with a maximum effective radiated power of 99 Watts at a center of radiation of 310 meters above mean sea level, 173 meters above ground level, utilizing a non-directional antenna. The antenna specified, authorized, and utilized for construction, is an Electronics Research, Inc. ("ERI") model LPX-4E-HW-SP. This is a nominally non-directional antenna that allows for operation of either the K240ES translator, or in emergency situations, can serve as the auxiliary antenna for KSIV-FM.² The K240ES translator was constructed in accordance with the terms of the construction permit.

The construction permit as issued by the Commission lists three special conditions or restrictions. BCI is in compliance with each of these special conditions.

The first of the special conditions pertains to *AM Revitalization*. Under this condition, BCI is advised that the translator falls under these provisions, and as such is tied to KSIV for four years of on-air operations, and during that time period may not utilize another primary station. BCI is cognizant of the requirements of this condition, and will abide by the same.

¹ The Facility ID for K240ES at St. Louis, Missouri is 140413.

² The system is an either/or configuration, and does not employ a combiner system.

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The second of the special conditions pertains to radiofrequency radiation safety at the site. Under this condition, BCI 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 applicable safety standards. BCI certifies that it will undertake necessary coordination activities under this condition to prevent exposure to levels of radiofrequency radiation in excess of applicable standards. Coordination activities will include, but are not necessarily limited to, a reduction in transmitter power or cessation of operation.

The second of the special conditions on the construction permit pertains to the submission of this license application. Under this condition, BCI is advised that this application for license must be on file prior to the commencement of program tests. BCI will operate the translator under the provisions of automatic program test authority upon submission of this license application.

The specified transmitter power output achieves the authorized effective radiated power. The authorized effective radiated power for the facility is 99 Watts. Data from the manufacturer of the antenna specifies 1.307 as the numerical power gain for the antenna. The input power to the antenna to achieve the authorized effective radiated power is 75.8 Watts.

Preceding the antenna is a section of transmission line consisting of 85 feet of Andrew/Commscope LDF7-50A. This is a semi-flexible foam-dielectric coaxial cable with a nominal diameter 1 5/8 inches. The efficiency of this transmission line based on manufacturer data is 95.39 percent. The input power to this run of line to achieve the authorized effective radiated power is 79.4 Watts.

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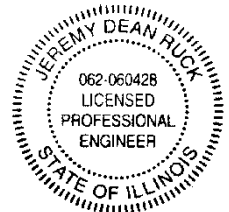
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Ahead of this run of line is main run of transmission line consisting of 690 feet of Andrew/Commscope LDF7-50A. This is the same line as in the previous run, and based on data from the manufacturer, has an efficiency of 71.80 percent. The input power to this main run of line to achieve the authorized effective radiated power is 111 Watts. The input to this section of transmission line is the output of the transmitter, 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.

The preceding statement has been prepared by me, 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, 2019

Jeremy D. Ruck, PE
November 13, 2018

JEREMY RUCK & ASSOCIATES, INC.

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