

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

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FM Translator Station K245BR  
0.250 kW ERP / 96.9 MHz  
Pocatello, Idaho

Carl Watkins

May, 2016

## **APPLICATION FOR LICENSE**

The following engineering statement has been prepared for **Carl Watkins** ("Watkins"), permittee of new FM translator station K245BR at Pocatello, Idaho, and is in support of his application for license to cover initial construction of that facility.<sup>1</sup> The file number of the construction permit for which this application for license is being filed is BMPFT-20160406ABT.

K245BR is authorized to operate with a maximum effective radiated power of 250 Watts at a center of radiation of 1786 meters above mean sea level, 8 meters above ground, utilizing a directional 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 four special conditions. The method of compliance with each of these conditions will be specifically discussed.

The first special condition pertains to the expiration of the construction permit on May 10, 2016. The applicant is cognizant of the expiration date of the construction permit, and upon submission of this license application will commence operations under program test authority. It is respectfully submitted that no notification of resumption of operation should be filed by Watkins, as this license application seeks to cover the initial construction of the facility. No silent STA or suspension of operations has been previously filed, and the translator is not currently licensed.

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<sup>1</sup> The Facility ID for K245BR at Pocatello, Idaho is 147583.

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The second special condition requires measurements of radiofrequency radiation within the transmitter site area. Appropriate fencing and signs are in place at the site. The fencing prevents causal access to areas that are problematic in terms of the Commission's standard. Appropriate signage is also installed at the site.

The third condition pertains to coordination with other entities and site users. Under this condition, Watkins is required to coordinate with other users to ensure that workers and other personnel are not exposed to levels of radiofrequency radiation in excess of the applicable safety standards. Coordination activities will include, but are not necessarily limited to, a reduction in transmitter power or cessation of operation.

The fourth and final special condition pertains to program test operations. Under this condition, Watkins is advised of the necessity of having this application for license on file prior to the commencement of program tests. As was previously stated, K245BR will commence program tests upon the submission of this application.

The specified transmitter power output achieves the authorized effective radiated power. The power gain of the antenna utilized, a Kathrein-Scala CA2-CP, is 1.0 dBd. This value corresponds to a numerical gain of 1.259. The input power to the antenna to achieve the authorized effective radiated power is 198.6 Watts.

Ahead of the antenna is the run of transmission line, which consists of 50 feet of Andrew/Commscope LDF4-50A. This is a semi-flexible foam-dielectric coaxial cable with a

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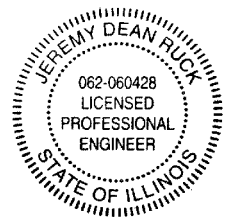
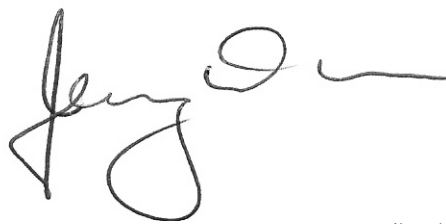
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nominal diameter of 7/8 inches. Data from the manufacturer indicates that the insertion loss of this run of transmission line is 0.36 dB. This value corresponds to an efficiency of 92.04 percent. The input power to the transmission line to achieve the authorized effective radiated power is 215.7 Watts.

The input to the transmission line is, however, the output of the transmitter. The value of 215.7 Watts would round to 216 Watts. As is indicated, the specified transmitter power output achieves the authorized effective radiated power.

K245BR utilizes a directional antenna. This antenna has been 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  
May 6, 2016

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