

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

FM Translator Station K242CW
0.130 kW ERP / 96.3 MHz
Oxnard, California

High Desert Broadcasting LLC

May, 2017

APPLICATION FOR LICENSE

The following engineering statement has been prepared for **High Desert Broadcasting LLC** (“High Desert”), permittee of FM translator station K242CW at Oxnard, California, and is in support of their application for license to cover the initial construction of that facility.¹ This application is being filed to cover the construction authorized under the most recent construction permit, which is assigned FCC File No. BMPFT-20170420AAC.

K242CW is authorized to operate with a maximum effective radiated power of 130 Watts at a center of radiation of 33 meters above mean sea level, 14 meters above ground, utilizing a directional antenna. The construction of the facility pursuant to the terms of the construction permit has been completed. All construction activities were completed on Saturday May 13, 2017.

The construction permit as issued by the Commission lists three special conditions or restrictions. High Desert is in compliance with each of these conditions. Each condition will be specifically discussed in this engineering statement.

The first of the special conditions pertains to the translator facility in relation to the *Revitalization of the AM Radio Service*. Under this condition, High Desert is advised of the requirement of maintaining its primary station as KKZZ.² High Desert is cognizant of this requirement, and will abide by the details of this special condition.

¹ The Facility ID for K242CW at Oxnard, California is 156020.

² The primary station for K242CW is KKZZ at Port Hueneme, California, which has a facility ID of 25091.

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The second of the special conditions pertains to radiofrequency radiation safety at the site. Under this condition, High Desert 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. High Desert 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.

The third special condition requires this application for license to be on file prior to the commencement of program tests. High Desert will commence operation following the submission of this license application. In advance of the submission of this application, High Desert performed limited equipment tests on May 13 and 14, 2017 following the installation of the transmitting antenna and associated equipment.

The specified transmitter power output achieves the authorized effective radiated power. The authorized and utilized antenna for the facility is a Kathrein/Scala CA5-FM/CP/RM directional Yagi style antenna. The manufacturer has specified 3.98 as the power gain of this antenna. The input power to the antenna to achieve the authorized effective radiated power is 32.7 Watts.

Between the transmitter and the antenna is the RF system, which consists of a total of 150 feet of Andrew/Commscope LDF4-50A semi-flexible coaxial cable with a nominal diameter of 1/2", plus a bandpass filter. Based on data from the manufacturer, the insertion loss of the transmission line is 1.00 dB, while the measured insertion loss of the filter is 0.9754 dB. The aggregate insertion loss of the RF system is 1.9754 dB, which corresponds to an efficiency of 63.45 percent.

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The required transmitter power output to achieve the authorized effective radiated power is 51 Watts. This is the specified transmitter power output, which demonstrates that this value achieves the authorized effective radiated power.

The facility utilizes a directional antenna. This antenna has been installed in accordance with the instructions of the manufacturer. Additionally, the antenna has been oriented at the authorized azimuth.

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 14, 2017

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