

TECHNICAL EXHIBIT

APPLICATION FOR A CONSTRUCTION PERMIT  
FOR NON-RESERVED CHANNEL  
TRANSLATOR STATION  
K245BD

DEADWOOD, SD  
CH 245D 200 WATTS -118 M

September 14, 2009

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## INTRODUCTION

This technical exhibit has been prepared on behalf of Phasor Physics, Inc., in support of an application for a construction permit for FM translator station K245BD, Deadwood, SD. Please note that in some databases, K245BD is still referred to as K244EA.

This proposal would not be subject to environmental processing in accordance with Section 1.1306. It is believed that this proposal conforms to all applicable rules and regulations of the FCC.

### Proposed Station Data

Output Frequency: 96.9 MHz.

Input Frequency: 100.3 MHz.

Output Channel: 245

ERP: 200 watts

Class: D

### Proposed Antenna Location

The geographic coordinates (NAD 27) of the proposed site are as follows:

North Latitude: 44-22-29 N

West Longitude: 103-43-54 W

### Transmitting Antenna

ANTENNA: Scala CL-FM, single bay, horizontal.

### Required Overlap

The required overlap of the 60 dBu contour of the proposed station with K244EA (K245BD) is shown in Figure 1.

### Interference

Overlap with the pertinent contours of the proposed station and any first, second, third adjacent and IF channel stations, is shown in Table 1.

### Unattended Operation

The proposed station will comply with all rules and requirements regarding unattended operation.

### Multiple Translators

The applicant certifies that it does not have any interest in an FM translator that serves substantially the same area and that rebroadcasts the same signal as the proposed translator.

## Environmental Considerations

The station will operate with an effective radiated power of 200 watts from a single-bay, directional antenna.

The worst-case, predicted power density for the proposed station at two meters above ground level is estimated to be  $100 \mu\text{W}/\text{cm}^2$ , which will occur at a horizontal distance of 4.2 meters from the base of the tower. Since the permitted power density for general population exposure (GPE) in the FM band is  $200 \mu\text{W}/\text{cm}^2$ , the proposed station is in compliance.

Access to the transmitting site is restricted and appropriately marked with warning signs. When it becomes necessary for workers to approach the tower, appropriate measures, such as reduction or shut down of power if necessary, shall be taken to ensure that the human exposure to radio-frequency radiation will not exceed the FCC guidelines.

Callsign	State	City	Freq	Channel	ERP_w	Class	Status	Clr
KPSD-FM	SD	FAITH	97.1	246	100000	C	LIC	17.35 dB
KAML-FM	WY	GILLETTE	97.3	247	100000	C0	LIC	19.26 dB
K258AJ	SD	RAPID CITY	97.5	248	180	D	CP	28.25 dB
KQWY	WY	LUSK	96.3	242	100000	C	CP	31.97 dB
K244EE	WY	NEWCASTLE	96.7	244	75	D	LIC	33.34 dB
KQSK	NE	CHADRON	97.5	248	100000	C1	LIC	34.13 dB
K242BK	SD	RAPID CITY	96.3	242	250	D	LIC	35.78 dB
KFND-LP	SD	RAPID CITY	97.1	246	100	LP100	LIC	38.50 dB

TABLE 1: Pertinent first, second, third adjacent, and IF channel stations spaced with proposed station.

Site: PROPOSED  
 Coordinates: 44-22-29.0 N, 103-43-54.0 W  
 Freq: 96.90000 MHz  
 ERP: 199.97 W

Bearing	ERP W	HAAT	DH	Distance	Lat	Lon
0	108.03	154	230	12.99	44.491569	-103.731667
30	4.8	146	260	5.83	44.420121	-103.694964
60	0.02	100	280	1	44.379205	-103.720801
90	0.03	-9	470	1.08	44.374721	-103.718064
120	0.26	-166	480	1.59	44.367548	-103.714287
150	0.32	-272	230	1.64	44.361916	-103.721325
180	0.32	-373	240	1.64	44.359935	-103.731667
210	0.08	-337	270	1.32	44.36444	-103.73997
240	0.02	-382	270	1	44.370238	-103.742531
270	0.4	-269	420	1.7	44.37472	-103.753059
300	63.16	-134	380	5.01	44.397222	-103.786241
330	192.05	54	230	9.02	44.444937	-103.788461

TABLE 2: HAAT and ERP for proposed station.

