

ENGINEERING EXHIBIT
Application for License

prepared for
Eagle Communications, Inc.

KCNB(FM) Chadron, Nebraska
Facility ID 164168
Ch. 234C1 100 kW 144 m

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This material supplies a "hard copy" of the engineering portions of this application as entered February 28, 2008 for filing electronically. Since the FCC's electronic filing system may be accessed by anyone with the applicant's name and password, and electronic data may otherwise be altered in an unauthorized fashion, we cannot be responsible for changes made subsequent to our entry of this data and related attachments.

SECTION III - PREPARER'S CERTIFICATION

I certify that I have prepared Section III (Engineering data) on behalf of the applicant, and that after such preparation, I have examined and found it to be accurate and true to the best of my knowledge and belief.

Name ROBERT J. CLINTON	Relationship to Applicant (e.g., Consulting Engineer) CONSULTANT	
Signature	Date 2/28/2008	
Mailing Address CAVELL, MERTZ & ASSOCIATES, INC. 7839 ASHTON AVENUE		
City MANASSAS	State or Country (if foreign address) VA	Zip Code 20109 - 2883
Telephone Number (include area code) 7033929090	E-Mail Address (if available) BCLINTON@CAVELLMERTZ.COM	

WILLFUL FALSE STATEMENTS ON THIS FORM ARE PUNISHABLE BY FINE AND/OR IMPRISONMENT (U.S. CODE, TITLE 18, SECTION 1001), AND/OR REVOCATION OF ANY STATION LICENSE OR CONSTRUCTION PERMIT (U.S. CODE, TITLE 47, SECTION 312(a)(1)), AND/OR FORFEITURE (U.S. CODE, TITLE 47, SECTION 503).

Section III - Engineering**TECHNICAL SPECIFICATIONS**

Ensure that the specifications below are accurate. Contradicting data found elsewhere in this application will be disregarded. All items must be completed. The response "on file" is not acceptable.

TECH BOX

1.	Channel: 234		
2.	a. Effective Radiated Power: 100 kW(H) 100 kW(V) b. Maximum Effective Radiated Power: kW(H) kW(V) (Beam-Tilt Antenna ONLY) <input checked="" type="checkbox"/> Not Applicable		
3.	Transmitter Power Output: 25.85 kW		
4.	Antenna Data		
	Manufacturer ERI	Model SHPX-8AC	Number of Sections 8
			Spacing Between Sections (wavelength) 1

NOTE: In addition to the information called for in this section, an explanatory exhibit providing full particulars must be submitted for each question for which a "No" response is provided.

CERTIFICATION

All applicants must complete this section.

5.	Main Studio Location. The main studio location complies with 47 C.F.R. Section 73.1125.	<input checked="" type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 6]
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6. Transmitter Power Output. The operating transmitter power output produces the authorized effective radiated power.	<input checked="" type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 7]
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APPLICATIONS FILED TO COVER A CONSTRUCTION PERMIT.

Only applicants filing this application to cover a construction permit must complete the following section.

NOTE: In addition to the information called for in this section, an explanatory exhibit providing full particulars must be submitted for each question for which a "No" response is provided.

7. Constructed Facility . The facility was constructed as authorized in the underlying construction permit or complies with 47 C.F.R. Section 73.1690.	<input checked="" type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 8]
8. Special Operating Conditions. The facility was constructed in compliance with all special operating conditions, terms, and obligations described in the construction permit.	<input checked="" type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 9]
An exhibit may be required. Review the underlying construction permit.	[Exhibit 10]

APPLICATIONS FILED PURSUANT TO 47 C.F.R. SECTIONS 73.1675(c) or 73.1690(c).

Only applicants filing this application pursuant to 47 C.F.R. Sections 73.1675(c) or 73.1690(c) must complete the following section.

9. Changing transmitter power output. Is this application being filed to authorize a change in transmitter power output caused by the replacement of omnidirectional antenna with another omnidirectional antenna or an alteration of the transmission line system? See 47 C.F.R. Sections 73.1690(c)(1) and (c)(10).	<input type="radio"/> Yes <input type="radio"/> No
10. Increasing effective radiated power. Is this application being filed to authorize an increase in ERP for a station operating in the nonreserved band (Channels 221-300)? See 47 C.F.R. Sections 73.1690(c)(4), (c)(5) and (c)(7). If "Yes" to the above, the applicant certifies the following:	<input type="radio"/> Yes <input type="radio"/> No
a. Spacing Requirements. The increase in ERP was authorized pursuant to MM Docket 88-375 (Class A stations) OR the facility complies with the spacing requirements of 47 C.F.R. Section 73.207.	<input type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 11]
b. International Coordination. The transmitter site is greater than 320 km from the Canadian or Mexican borders OR coordination for the station's international class is complete.	<input type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 12]
c. Interference. The requirements of 47 C.F.R. Section 73.1030 regarding notification to radio astronomy installations, radio receiving installations and FCC monitoring stations have either been satisfied OR are not applicable.	<input type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 13]
Exhibit required. If the proposed facility must be notified to the entities set forth in 47 C.F.R. Section 73.1030, the applicant must provide a copy of the written approval for the ERP increase from the affected entity.	[Exhibit 14]
d. Multiple Ownership Showing. The increase in ERP will not require the consideration of a multiple ownership showing pursuant to 47 C.F.R. Section 73.3555.	<input type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 15]

	<p>e. Environmental Protection Act. The proposed facility is excluded from environmental processing under 47 C.F.R. Section 1.1306 (i.e., the facility will not have a significant environmental impact and complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments). Unless the applicant can determine compliance through the use of the RF worksheets in Appendix A, an Exhibit is required.</p>	<input type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 16]
	<p>By checking "Yes" above, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.</p>	
11.	<p>Increasing vertically polarized effective radiated power. Is this application being filed pursuant to 47 C.F.R. Section 73.1690(c)(4) to authorize an increase in the vertically polarized ERP for a station operating in the reserved band (Channels 200-220)?</p> <p>If "Yes" to the above, the applicant certifies the following:</p>	<input type="radio"/> Yes <input type="radio"/> No
	<p>a. TV Channel 6 Protection Requirements. The facility complies with the spacing requirements of 47 C.F.R. Section 73.525(a)(1).</p>	<input type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 17]
	<p>b. Environmental Protection Act. The proposed facility is excluded from environmental processing under 47 C.F.R. Section 1.1 306 (i.e., the facility will not have a significant environmental impact and complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and u ncontrolled environments). Unless the applicant can determine compliance through the use o f the RF worksheets in Appendix A, an Exhibit is required.</p>	<input type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 18]
	<p>By checking "Yes" above, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.</p>	
12.	<p>Decreasing effective radiated power (non-reserved channel). Is this application being filed pursuant to 47 C.F.R. Section 73.1690(c)(8) to authorize a decrease in the ERP for a station operating in the nonreserved band (Channels 221-300)?</p> <p>If "Yes" to the above, the applicant certifies the following:</p>	<input type="radio"/> Yes <input type="radio"/> No
	<p>a. Community Coverage . The proposed facility complies with the community coverage requirements of 47 C.F.R. Section 73.315 where the distance to the 3.16 mV/m contour is predicted using the standard prediction method in 47 C.F.R. Section 73.313.</p>	<input type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 19]
	<p>b. Auxiliary Facilities. The authorized or pending auxiliary facilities for this station comply with 47 C.F.R. Section 73.1675(a).</p>	<input type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 20]
	<p>c. Multiple Ownership Showing. The decrease in ERP is not requested or required to establish compliance with 47 C.F.R. Section 73.3555.</p>	<input type="radio"/> Yes <input type="radio"/> No See Explanation in [Exhibit 21]
13.	<p>Decreasing effective radiated power (reserved channel). Is this application being filed</p>	<input type="radio"/> Yes <input type="radio"/> No

<p>pursuant to 47 C.F.R. Section 73.1690(c)(8) to authorize a decrease in the ERP for a station operating in the reserved band (Channels 200-220)?</p> <p>If "Yes" to the above, the applicant certifies the following:</p>	
<p>a. Community Coverage . The proposed facility complies with the community coverage requirements of 47 C.F.R. Section 73.1690(c)(8)(i) where the distance to the 1 mV/m contour is predicted using the standard prediction method in 47 C.F.R. Section 73.313.</p>	<p><input type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 22]</p>
<p>b. Auxiliary Facilities. The authorized or pending auxiliary facilities for this station comply with 47 C.F.R. Section 73.1675(a).</p>	<p><input type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 23]</p>
<p>14. Replacing a directional antenna. Is this application being filed pursuant to 47 C.F.R. Section 73.1690(c)(2) to replace a directional antenna with another directional antenna?</p> <p>If "Yes" to the above, the applicant certifies the following:</p>	<p><input type="radio"/> Yes <input type="radio"/> No</p>
<p>a. Measurement of Directional Antenna. The composite measured pattern and measurement procedures comply with 47 C.F.R. Section 73.1690(c)(2). Exhibit required.</p>	<p><input type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 24]</p> <p>[Exhibit 25]</p>
<p>b. Installation of Directional Antenna. The installation of the directional antenna complies with 47 C.F.R. Section 73.1690(c)(2). Exhibit required.</p>	<p><input type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 26]</p> <p>[Exhibit 27]</p>
<p>15. Deleting contour protection status. Is this application being filed pursuant to 47 C.F.R. Section 73.1690(c)(6) to delete contour protection status (47 C.F.R. Section 73.215) for a station operating in the nonreserved band (Channels 221-300)?</p>	<p><input type="radio"/> Yes <input type="radio"/> No</p>
<p>If "Yes" to the above, the applicant certifies that the facility complies with the spacing requirements of 47 C.F.R. Section 73.207.</p>	<p><input type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 28]</p>
<p>16. Use a formerly licensed main facility as an auxiliary facility. Is this application being filed pursuant to 47 C.F.R. Section 73.1675(c)(1) to request authorization to use a formerly licensed main facility as an auxiliary facility and/or change the ERP of the proposed auxiliary facility?</p> <p>If "Yes" to the above, the applicant certifies the following:</p>	<p><input type="radio"/> Yes <input type="radio"/> No</p>
<p>a. Auxiliary antenna service area. The proposed auxiliary facility complies with 47 C.F.R. Section 73.1675(a).</p>	<p><input type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 29]</p>
<p>b. Environmental Protection Act. The proposed facility is excluded from environmental processing under 47 C.F.R. Section 1.1306 (i.e., the facility will not have a significant environmental impact and complies with the maximum permissible radiofrequency electromagnetic exposure limits for controlled and uncontrolled environments). Unless the applicant can determine compliance through the use of the RF worksheets in Appendix A, an Exhibit is required.</p>	<p><input type="radio"/> Yes <input type="radio"/> No</p> <p>See Explanation in [Exhibit 30]</p>

By checking "Yes" above, the applicant also certifies that it, in coordination with other users of the site, will reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic exposure in excess of FCC guidelines.	
17. Change the license status. Is this application being filed pursuant to 47 C.F.R. Section 73.1690(c)(9) to change the license status from commercial to noncommercial or from noncommercial to commercial?	<input type="radio"/> Yes <input type="radio"/> No
If "Yes" to the above, submit an exhibit providing full particulars. For applications changing license status from commercial to noncommercial, include Section II of FCC Form 340 as an exhibit to this application.	[Exhibit 31]
PREPARERS CERIFICATION ON PAGE 3 MUST BE COMPLETED AND SIGNED.	

Exhibits**Exhibit 7****Description:** EXHIBIT 7 - TRANSMITTER POWER OUTPUT

PLEASE SEE EXHIBIT 10 - STATEMENT A FOR TRANSMITTER POWER DISCUSSION.

Attachment 7**Exhibit 10****Description:** EXHIBIT 10 - STATEMENT A

EXHIBIT 10 - STATEMENT A - SPECIAL OPERATING CONDITIONS

Attachment 10

Description
EXHIBIT 10 - STATEMENT A

Exhibit 7 - Table I
ANTENNA / LINE SYSTEM GAINS AND LOSSES
prepared for
Eagle Communications, Inc.
KCNB(FM) Chadron, Nebraska
Facility ID 164168
Ch. 234C1 100 kW 144 m

Construction Permit File Number: BMPH-20071115ADX

Authorized Effective Radiated Power: 100 kW

Antenna System

ERI SHPX-8AC Power Gain: 4.4872 6.52 dB

Antenna Input Power: 22.286 kW

Line and Other Losses

Transmission Line

Andrew HJ8-50B (3 1/8 inch)

Length 385 ft Efficiency: 86.20 percent

Other losses: none

Required Transmitter Power Output 25.85 kW

Exhibit 10 - Statement A
SPECIAL OPERATING CONDITIONS
prepared for
Eagle Communications, Inc.
KCNB(FM) Chadron, Nebraska
Facility ID 164168
Ch. 234C1 100 kW 144 m

Eagle Communications, Inc. (“*Eagle*”) has completed construction of the KCNB(FM) facility authorized in its construction permit (“CP,” file number BMPH-20071115ADX). Upon review of the instant application by Commission Staff, *Eagle* requests issuance of a license to cover the construction. This statement and associated exhibits are provided to comply with the various special operating conditions on the CP.

In compliance with **Condition 2** of the CP, an ERI model SHP-8AC 8-bay full-wavelength spaced (EPA type 3) antenna was installed with a center of radiation as specified in the CP¹. As required, *Eagle* will coordinate access with other site users and will either reduce power or cease operation to protect persons having access to areas at the site or on the tower from excessive radio frequency electromagnetic fields. Further, as it relates to RF exposure levels, access to the tower is controlled by the use of a locked gate, RF exposure warning signs are posted around the perimeter and a secured perimeter fence installed to limit access, thus complying with **Condition 1**.

A map is supplied as **Exhibit 10 - Figure 1**, which depicts the KCNB 60 dB μ (protected) and 70 dB μ (principal community) contour and the boundaries of Chadron, the station’s principal community. As demonstrated thereon, the facility as constructed complies with §73.315(a), as the entire principal community is encompassed by the principal community contour.

The antenna’s input power, calculated from the gain specified by the manufacturer is 22.29 kW to achieve the authorized ERP of 100 kW. The transmission line consists of 147.8 meters of Andrew type HJ8-50B line (coaxial, 3-1/8" nominal diameter). This line has an efficiency of 86.2 percent at the KCNB operating frequency. Considering the transmission line loss, a transmitter power output of 25.85kW is required to achieve 100.0 kW ERP.

¹ The antenna was installed with a center of radiation of 134.1 meters above ground. The CP specifies 133 meters. This complies with Section 73.1690(c)(1) of the Rules with regard to antenna radiation center.

EXHIBIT 10 - FIGURE 1 COVERAGE CONTOURS

prepared February 2008 for
Eagle Communications, Inc.
KCNB(FM) Chadron, Nebraska
Facility ID 164168

Ch. 234C1 100 kW 144 m

Cavell, Mertz & Associates, Inc.
Manassas, Virginia

Shannon

Fall River

Bennett

0° T

45° T

315° T

Chadron

FCC Contours
60 dBu
70 dBu

Chadron

Dawes

270° T

90° T

Cherry

Sheridan

Sioux

225° T

Box Butte

135° T

Alliance

180° T

Grant

Proposed Coverage within 60 dBu contour:
Land Area (sq km) 10,246
Population (2000 Census) 20,711

Scale 1:1,000,000
0 10 20 30 km