

FOR
FCC
USE
ONLY

FCC 301

APPLICATION FOR CONSTRUCTION PERMIT FOR COMMERCIAL BROADCAST STATION

FOR COMMISSION USE ONLY

FILE NO.

Section I - General Information

1. Legal Name of the Applicant Desert Mountain Broadcasting Licenses LLC		
Mailing Address 2075 Central Ave.		
City Billings	State or Country (if foreign address) MT	ZIP Code 59102
Telephone Number (include area code) 406-248-7777	E-Mail Address (if available) cmaxwell@desertmountainbroadcasting.com	
FCC Registration Number 0028315117	Call Sign KBOZ	Facility ID Number 16775
2. Contact Representative (if other than applicant) Derek Teslik		Firm or Company Name Gray Miller Persh LLP
Mailing Address 2233 Wisconsin Ave., NW Ste. 226		
City Washington	State or Country (if foreign address) DC	ZIP Code 20007
Telephone Number (include area code) 202-559-7489	E-Mail Address (if available) dteslik@graymillerpersh.com	

3. If this application has been submitted without a fee, indicate reason for fee exemption (see 47 C.F.R. Section 1.1114):

Governmental Entity Other _____

4. **Application Purpose.**

- | | |
|--------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| <input type="checkbox"/> New Station | <input type="checkbox"/> Major Modification of construction permit |
| <input type="checkbox"/> New Station with Petition for Rulemaking or Counterproposal to Amend FM Table of Allotments | <input type="checkbox"/> Minor Modification of construction permit |
| <input type="checkbox"/> New Station with Petition for Rulemaking or Counterproposal to Amend FM Table of Allotments using Tribal Priority | <input type="checkbox"/> Major Amendment to pending application |
| <input type="checkbox"/> Major Change in licensed facility | <input type="checkbox"/> Minor Amendment to pending application |
| <input checked="" type="checkbox"/> Minor Change in licensed facility | |

a. File number of original construction permit: _____ N/A

b. Service Type: AM FM TV DTV DTS

c. DTV Type: Pre-Transition Post-Transition Both

d. Community of License:

City Bozeman	State MT
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e. Facility Type: Main Auxiliary

If an amendment, submit as an Exhibit a listing by Section and Question Number of the portions of the pending application that are being revised.

Exhibit No.

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.

Section II - Legal

1. **Certification.** Applicant certifies that it has answered each question in this application based on its review of the application instructions and worksheets. Applicant further certifies that where it has made an affirmative certification below, this certification constitutes its representation that the application satisfies each of the pertinent standards and criteria set forth in the application instructions and worksheets. Yes No

2. **Parties to the Application.**

a. List the applicant, and, if other than a natural person, its officers, directors, stockholders and other entities with attributable interests, non-insulated partners and/or members. If a corporation or partnership holds an attributable interest in the applicant, list separately its officers, directors, stockholders and other entities with attributable interests, non-insulated partners and/or members. Create a separate row for each individual or entity. Attach additional pages if necessary.

- | | | | | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-----------------------------------------------------------|
| <p>(1) Name and address of the applicant and each party to the application holding an attributable interest (if other than individual also show name, address and citizenship of natural person authorized to vote the stock or holding the attributable interest). List the applicant first, officers next, then directors and, thereafter, remaining stockholders and other entities with attributable interests, and partners.</p> | <p>(2) Citizenship.</p> | <p>(3) Positional Interest: Officer, director, general partner, limited partner, LLC member, investor/creditor attributable under the Commission's equity/debt plus standard, etc.</p> | <p>(4) Percentage of votes.</p> | <p>(5) Percentage of total assets (equity plus debt).</p> |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|-----------------------------------------------------------|

(1)	(2)	(3)	(4)	(5)
See Exhibit 1				

b. Applicant certifies that equity and financial interests not set forth above are non-attributable.

Yes No See Explanation in Exhibit No.

N/A

3. **Other Authorizations.** List call signs, locations, and facility identifiers of all other broadcast stations in which applicant or any party to the application has an attributable interest.

Exhibit No.
2 N/A

4. **Multiple Ownership.**

a. Is the applicant or any party to the application the holder of an attributable radio joint sales agreement or an attributable radio or television time brokerage agreement in the same market as the station subject to this application?

Yes No

If "YES," radio applicants must submit as an Exhibit a copy of each such agreement for radio stations.

Exhibit No.

Section II - Legal

- b. Applicant certifies that the proposed facility complies with the Commission's multiple ownership rules.

Yes No

Radio applicants only: If "Yes," submit an Exhibit providing information regarding the market, broadcast station(s), and other information necessary to demonstrate compliance with 47 C.F.R. Section 73.3555(a).

See Explanation in Exhibit No.

All Applicants: If "No," submit as an Exhibit a detailed explanation in support of an exemption from, or waiver of, 47 C.F.R Section 73.3555.

- c. Applicant certifies that the proposed facility:
 - (1) does not present an issue under the Commission's policies relating to media interests of immediate family members;
 - (2) complies with the Commission's policies relating to future ownership interests; and
 - (3) complies with the Commission's restrictions relating to the insulation and non-participation of non-party investors and creditors.

Yes No

See Explanation in Exhibit No.

- d. Does the Applicant claim status as an "eligible entity," that is, an entity that qualifies as a small business under the Small Business Administration's size standards for its industry grouping (as set forth in 13 C.F.R. Section 121.201), and holds:

Yes No

See Explanation in Exhibit No.

- (1) 30 percent or more of the stock or partnership interests and more than 50 percent of the voting power of the corporation or partnership that will own the media outlet; or
- (2) 15 percent or more of the stock or partnership interests and more than 50 percent of the voting power of the corporation or partnership that will own the media outlet, provided that no other person or entity owns or controls more than 25 percent of the outstanding stock or partnership interests; or
- (3) more than 50 percent of the voting power of the corporation that will own the media outlet (if such corporation is a publicly traded company)?

All applicants: If "Yes," submit as an Exhibit a detailed showing demonstrating proof of status as an eligible entity.

- 5. **Character Issues.** Applicant certifies that neither applicant nor any party to the application
 - a. any broadcast application in any proceeding where character issues were left unresolved or were resolved adversely against the applicant or party to the application; or
 - b. any pending broadcast application in which character issues have been raised.

Yes No

See Explanation in Exhibit No.

- 6. **Adverse Findings.** Applicant certifies that, with respect to the applicant and any party to the application, no adverse finding has been made, nor has an adverse final action been taken by any court or administrative body in a civil or criminal proceeding brought under the provisions of any law related to the following: any felony; mass media-related antitrust or unfair competition; fraudulent statements to another governmental unit; or discrimination.

Yes No

See Explanation in Exhibit No.

- 7. **Alien Ownership and Control.** Applicant certifies that it complies with the provisions of Section 310 of the Communications Act of 1934, as amended, relating to interests of aliens and foreign governments.

Yes No

See Explanation in Exhibit No.

- 8. **Program Service Certification.** Applicant certifies that it is cognizant of and will comply with its obligations as a Commission licensee to present a program service responsive to the issues of public concern facing the station's community of license and service area.

Yes No

- 9. **Local Public Notice.** Applicant certifies that it has or will comply with the public notice requirements of 47 C.F.R. Section 73.3580.

Yes No

10. **Auction Authorization.** If the application is being submitted to obtain a construction permit for which the applicant was the winning bidder in an auction, then the applicant certifies, pursuant to 47 C.F.R. Section 73.5005(a), that it has attached an exhibit containing the information required by 47 C.F.R. Sections 1.2107(d), 1.2110(i), 1.2112(a) and 1.2112(b), if applicable.

Yes No N/A

Exhibit No.

An exhibit is required unless this question is inapplicable.

11. **Anti-Drug Abuse Act Certification.** Applicant certifies that neither applicant nor any party to the application is subject to denial of federal benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. Section 862.

Yes No

12. **Equal Employment Opportunity (EEO).** If the applicant proposes to employ five or more full-time employees, applicant certifies that it is filing simultaneously with this application a Model EEO Program Report on FCC Form 396-A.

Yes No N/A

13. **Petition for Rulemaking/Counterproposal to Add New FM Channel to FM Table of Allotments.** If the application is being submitted concurrently with a Petition for Rulemaking or Counterproposal to Amend the FM Table of Allotments (47 C.F.R. Section 73.202) to add a new FM channel allotment, petitioner/counter-proponent certifies that, if the FM channel allotment requested is allotted, petitioner/counter-proponent will apply to participate in the auction of the channel allotment requested and specified in this application.

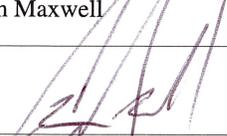
Yes No N/A

14. **Tribal Priority - Threshold Qualifications.** Is the Applicant applying for an FM allotment set forth in a Public Notice announcing a Tribal Threshold Qualifications window? An Applicant answering "Yes" must provide an Exhibit demonstrating that it would have been qualified to add the allotment for which it is applying using the Tribal Priority.

Yes No

Exhibit No.

I certify that the statements in this application are true, complete, and correct to the best of my knowledge and belief, and are made in good faith. I acknowledge that all certifications and attached Exhibits are considered material representations. I hereby waive any claim to the use of any particular frequency as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and request an authorization in accordance with this application. (See Section 304 of the Communications Act of 1934, as amended.)

Typed or Printed Name of Person Signing Cameron Maxwell	Typed or Printed Title of Person Signing President and CEO
Signature 	Date 4/4/2022

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 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 Thomas S. Gorton P.E.	Relationship to Applicant (e.g., Consulting Engineer) Consulting Engineer	
Signature 	Date 3/29/22	
Mailing Address 9500 Greenwood Ave N		
City Seattle	State or Country (if foreign address) WA	ZIP Code 98103-3012
Telephone Number (include area code) (206) 783-9151	E-Mail Address (if available) gorton@hatdaw.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 - A AM 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. Frequency: 1090 kHz
2. Class: A B C D
3. Hours of Operation: Unlimited Limited Daytime Share Time Specified Hours: _____

4. **Daytime Operation:** Yes No

a. Power: 5.0 kW

b. Antenna Location Coordinates: (NAD 27)

45 ° 36 ' 50 " N S Latitude
111 ° 5 ' 5 " E W Longitude

c. **Nondirectional:** Yes No

If "Yes," complete the following items. If additional space is needed, please provide the information requested below in an Exhibit.

Exhibit No.

Theoretical 309.5 mV/m per kW at 1 km

Tower	
Overall height above ground (include obstruction lighting) (meters)	75.9
Antenna structure registration	<u>1044246</u> Number <input type="checkbox"/> Notification filed with FAA <input type="checkbox"/> Not applicable
Height of radiator above base insulator, or above base, if grounded (meters)	73.1
Electrical height of radiator (degrees)	95.7
Top-Loaded/Sectionalized apparent height (degrees)	
A	
B	
C	
D	

TECH BOX - DAYTIME OPERATION

d. Directional:

Yes No

If "Yes," complete the following items. If additional space is needed, please provide the information requested below in an Exhibit.

Exhibit No.

Theoretical _____ mV/m at 1 km
 Standard RMS: _____ mV/m at 1 km

Towers	1	2	3	4
Overall height above ground (include obstruction lighting) (meters)				
Antenna structure registration	<input type="checkbox"/> Number Notification filed with FAA <input type="checkbox"/> Not applicable	<input type="checkbox"/> Number Notification filed with FAA <input type="checkbox"/> Not applicable	<input type="checkbox"/> Number Notification filed with FAA <input type="checkbox"/> Not applicable	<input type="checkbox"/> Number Notification filed with FAA <input type="checkbox"/> Not applicable
Height of radiator above base insulator, or above base, if grounded (meters)				
Electrical height of radiator (degrees)				
Field ratio				
Phase (degrees)				
Spacing (degrees)				
Tower orientation (degrees)				
Tower reference switch				
Top-Loaded/Sectionalized apparent height (degrees)				
A				
B				
C				
D				

Augmented:

Yes No

If "Yes," complete the following:

Augmented RMS: _____ mV/m at 1 km
 Azimuth Span Augmentation radiation (mV/m at 1 km)

TECH BOX - NIGHTTIME OPERATION

5. **Nighttime Operation:**

Yes No

a. Power: 0.032 kW

b. Antenna Location Coordinates: (NAD 27)

45 ° 36 ' 50 " N S Latitude
111 ° 5 ' 5 " E W Longitude

c. **Nondirectional:**

Yes No

If "Yes," complete the following items. If additional space is needed, please provide the information requested below in an Exhibit.

Exhibit No.

Theoretical 309.5 mV/m per kW at 1 km

Tower	
Overall height above ground (include obstruction lighting) (meters)	75.9
Antenna structure registration	<u>1044246</u> Number <input type="checkbox"/> Notification filed with FAA <input type="checkbox"/> Not applicable
Height of radiator above base insulator, or above base, if grounded (meters)	73.1
Electrical height of radiator (degrees)	95.7
Top-Loaded/Sectionalized apparent height (degrees)	
A	
B	
C	
D	

TECH BOX - NIGHTTIME OPERATION

d. Directional:

Yes No

If "Yes," complete the following items. If additional space is needed, please provide the information requested below in an Exhibit.

Exhibit No.

Theoretical _____ mV/m at 1 km

Standard RMS: _____ mV/m at 1 km

Towers	1	2	3	4
Overall height above ground (include obstruction lighting) (meters)				
Antenna structure registration	_____ <input type="checkbox"/> Number Notification filed with FAA <input type="checkbox"/> Not applicable	_____ <input type="checkbox"/> Number Notification filed with FAA <input type="checkbox"/> Not applicable	_____ <input type="checkbox"/> Number Notification filed with FAA <input type="checkbox"/> Not applicable	_____ <input type="checkbox"/> Number Notification filed with FAA <input type="checkbox"/> Not applicable
Height of radiator above base insulator, or above base, if grounded (meters)				
Electrical height of radiator (degrees)				
Field ratio				
Phase (degrees)				
Spacing (degrees)				
Tower orientation (degrees)				
Tower reference switch				
Top-Loaded/Sectionalized apparent height (degrees)				
A				
B				
C				
D				

Augmented:

Yes No

If "Yes," complete the following:

Augmented RMS: _____ mV/m at 1 km

Azimuth Span Augmentation radiation

TECH BOX - CRITICAL HOURS OPERATION

6. Critical Hours Operation:

Yes No

a. Power: _____ kW

b. Antenna Location Coordinates: (NAD 27)

_____ ° _____ ' _____ " N S Latitude
 _____ ° _____ ' _____ " E W Longitude

c. Nondirectional:

Yes No

If "Yes," complete the following items. If additional space is needed, please provide the information requested below in an Exhibit.

Exhibit No.

Theoretical _____ mV/m per kW at 1 km

Tower	
Overall height above ground (include obstruction lighting) (meters)	
Antenna structure registration	<p style="text-align: center;">_____ Number</p> <input type="checkbox"/> Notification filed with FAA <input type="checkbox"/> Not applicable
Height of radiator above base insulator, or above base, if grounded (meters)	
Electrical height of radiator (degrees)	
Top-Loaded/Sectionalized apparent height (meters)	
A	
B	
C	
D	

TECH BOX - CRITICAL HOURS OPERATION

d. Directional:

Yes No
 Exhibit No.

if "Yes," complete the following items. If additional space is needed, please provide the information requested below in an Exhibit.

Theoretical _____ mV/m at 1 km

Standard RMS: _____ mV/m at 1 km

Towers	1	2	3	4
Overall height above ground (include obstruction lighting) (meters)				
Antenna structure registration	_____ <input type="checkbox"/> Number Notification filed with FAA <input type="checkbox"/> Not applicable	_____ <input type="checkbox"/> Number Notification filed with FAA <input type="checkbox"/> Not applicable	_____ <input type="checkbox"/> Number Notification filed with FAA <input type="checkbox"/> Not applicable	_____ <input type="checkbox"/> Number Notification filed with FAA <input type="checkbox"/> Not applicable
Height of radiator above base insulator, or above base, if grounded (meters)				
Electrical height of radiator (degrees)				
Field ratio				
Phase (degrees)				
Spacing (degrees)				
Tower orientation (degrees)				
Tower reference switch				
Top-Loaded/Sectionalized apparent height (degrees)				
A				
B				
C				
D				

Augmented:

Yes No

If "Yes," complete the following:

Augmented RMS: _____ mV/m at 1 km

Azimuth Span Augmentation radiation

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

- 7. **Broadcast Facility.** The proposed facility complies with the engineering standards and assignment requirements of 47 C.F.R. Sections 73.24(e), 73.24(g), 73.33, 73.45, 73.150, 73.152, 73.160, 73.182(a)-(i), 73.186, 73.189, 73.1650. **Exhibit Required.**
 Yes No See Explanation in Exhibit No.
Exhibit No. Eng Rpt
- 8. **Community Coverage.** The proposed facility complies with community coverage requirements of 47 C.F.R. Section 73.24(i).
 Yes No See Explanation in Exhibit No.
- 9. **Main Studio Location.** The proposed main studio location complies with requirements of 47 C.F.R. Section 73.1125.
 Yes No See Explanation in Exhibit No.
- 10. **Interference.** The proposed facility complies with all of the following applicable rule sections. Check all those that apply. An exhibit is required for each applicable section.
 - Groundwave.**
 - a. 47 C.F.R. Section 73.37
Exhibit No. Eng Rpt
 - Skywave.**
 - b. 47 C.F.R. Section 73.182.
Exhibit No. Eng Rpt
 - Critical Hours.**
 - c. 47 C.F.R. Section 73.187.
Exhibit No. Eng Rpt
- 11. **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 radio frequency 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.**
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 radio frequency electromagnetic exposure in excess of FCC guidelines.
 Yes No See Explanation in Exhibit No.
- 12. **Community of License Change - Section 307(b).** If the application is being submitted to change the facility's community of license, then the applicant certifies that it has attached an exhibit containing information demonstrating that the proposed community of license change constitutes a preferential arrangement of assignments under Section 307(b) of the Communications Act of 1934, as amended (47 U.S.C. Section 307(b)).
 Yes No N/A
Exhibit No.
An exhibit is required unless this question is not applicable.
- 13. **Dispositive Section 307(b) Preference**
 - a. Was the AM facility that is the subject of this application awarded on the basis of a dispositive Section 307(b) preference?
 Yes No
 - b. If yes to 13(a), applicant certifies that: (i) the community of license proposed in the subject application is the same as that on which the Section 307(b) preference was based, or (ii) as shown in the attached Exhibit, the service area proposed in the subject application is substantially equivalent to the service area on which the Section 307(b) preference was based.
 Yes No N/A
Exhibit No.
 - c. If yes to 13(a) and no to 13(b), applicant certifies that, although in the subject application it proposes to: (i) change the community of license, or (ii) modify service to the area on which the Section 307(b) preference was based, it has for a period of four years of on-air operations: (1) served the community of license, or (2) provided full service to the area on which the Section 307(b) preference was based.
 Yes No
Exhibit No.

KBOZ(AM) Form 301
Exhibit 1 – Parties to the Application

Desert Mountain Broadcasting Licenses LLC

Desert Mountain Broadcasting Licenses LLC is a Montana limited liability company. The following are the officers and shareholder of Desert Mountain Broadcasting Licenses LLC.

Name and Address	Citizenship	Positional Interest	% of Votes	% of Total Assets
Desert Mountain Broadcasting Licenses LLC 2075 Central Avenue Billings, MT 59102	Montana Limited Liability Company	Licensee	N/A	N/A
Cameron Maxwell 2075 Central Avenue Billings, MT 59102	U.S.	President and CEO	0	0
Desert Mountain Broadcasting LLC 2075 Central Avenue Billings, MT 59102	Montana Limited Liability Company	Sole Shareholder	100	100

Desert Mountain Broadcasting LLC

Desert Mountain Broadcasting LLC is a Montana limited liability company. The following are the officers and shareholder of Desert Mountain Broadcasting LLC.

Name and Address	Citizenship	Positional Interest	% of Votes	% of Total Assets
Desert Mountain Broadcasting LLC 2075 Central Avenue Billings, MT 59102	Montana Limited Liability Company	N/A	N/A	N/A
Cameron Maxwell 2075 Central Avenue Billings, MT 59102	U.S.	President and CEO, Sole Shareholder	100	100

KBOZ(AM) Form 301
Exhibit 2 – Other Authorizations

Desert Mountain Broadcasting Licenses LLC is the licensee of the following full-power broadcast stations:

KBLG(AM), Billings, Montana (FCC Facility ID 63873)
KPLN(FM), Lockwood, Montana (FCC Facility ID 164108)
KRKX(FM), Billings, Montana (FCC Facility ID 63870)
KRZN(FM), Billings, Montana (FCC Facility ID 78476)
KWMY(FM), Joliet, Montana (FCC Facility ID 164107)
KYYA(AM), Billings, Montana (FCC Facility ID 19216)
KYWL(AM), Bozeman, Montana (FCC Facility ID 161553)
KBOZ(AM), Bozeman, Montana (FCC Facility ID 16775)
KOZB(FM), Livingston, Montana (FCC Facility ID 16777)
KOBBS-FM, Bozeman, Montana (FCC Facility ID 16776)
KBOZ-FM, Bozeman, Montana (FCC Facility ID 55676)
KOBBS(AM), Bozeman, Montana (FCC Facility ID 55677)

STEPHEN S. LOCKWOOD, PE, PMP

THOMAS M. ECKELS, PE
THOMAS S. GORTON, PE

JAMES B. HATFIELD, PE
BENJAMIN F. DAWSON III, PE
ERIK C. SWANSON, PE, PMP
DAVID J. PINION, PE
STEPHEN PUMPLE, M.Eng, MBA, PMP
CONSULTANTS

HATFIELD & DAWSON
CONSULTING ELECTRICAL ENGINEERS
9500 GREENWOOD AVE. N.
SEATTLE, WASHINGTON 98103

TELEPHONE (206) 783-9151
FACSIMILE (206) 789-9834
E-MAIL hatdaw@hatdaw.com

MAURY L. HATFIELD, PE
(1942-2009)
PAUL W. LEONARD, PE
(1925-2011)

MULTIPLE OWNERSHIP SERVICE CONTOUR ANALYSIS

Prepared for
Desert Mountain Broadcasting Licenses, LLC
March 2022

The attached analysis of compliance with the radio multiple ownership rules was prepared in accordance with the Rules and Regulations of the Federal Communications Commission, in connection with a set of minor modification applications for AM stations KYWL, KOBB, and KBOZ, filed by Desert Mountain Broadcasting Licenses, LLC. The licensee will have an attributable interest in the following stations in the Bozeman market, all of which have an area of common overlap:

KYWL	1480 kHz	Bozeman
KOBB	1230 kHz	Bozeman
KBOZ	1090 kHz	Bozeman
KOBB-FM	229C1	Bozeman
KBOZ-FM	260C3	Bozeman
KOZB(FM)	248C1	Livingston

This exhibit addresses the stations in their final configuration (i.e. as proposed).

Unrated Market

These stations operate outside any market rated by Nielsen. Therefore, analysis has been made consistent with the Commission's interim rules for unrated markets. The 70 dBu contours of FM stations were determined from the technical data contained in the most recent edition of the FCC FM Database. The listed antenna height above average terrain was used together with topographic data obtained from the digitized 30 second or 3 second database. The 5 mV/m

daytime contours of AM stations were determined from the technical data contained in the most recent edition of the FCC AM Database. The listed antenna parameter information was used together with a digitized version of the FCC M-3 or Region II ground conductivity database.

The service contours were plotted using correct map projection mathematics. Those stations whose transmitter sites are within the respective principal community service contours of the stations proposed to be commonly owned have only the sites rather than their contours shown. All contours and enclosed transmitter site locations have been labeled. A list of all stations considered is included with this statement.

In counting stations providing service to the “market” defined by each of the discrete clusters formed in unrated markets, stations whose transmitter sites are located in excess of 92 km from the perimeter of the common overlap area have been excluded, as have other stations to be commonly-owned but which are not a part of the discrete cluster being studied.

Analysis

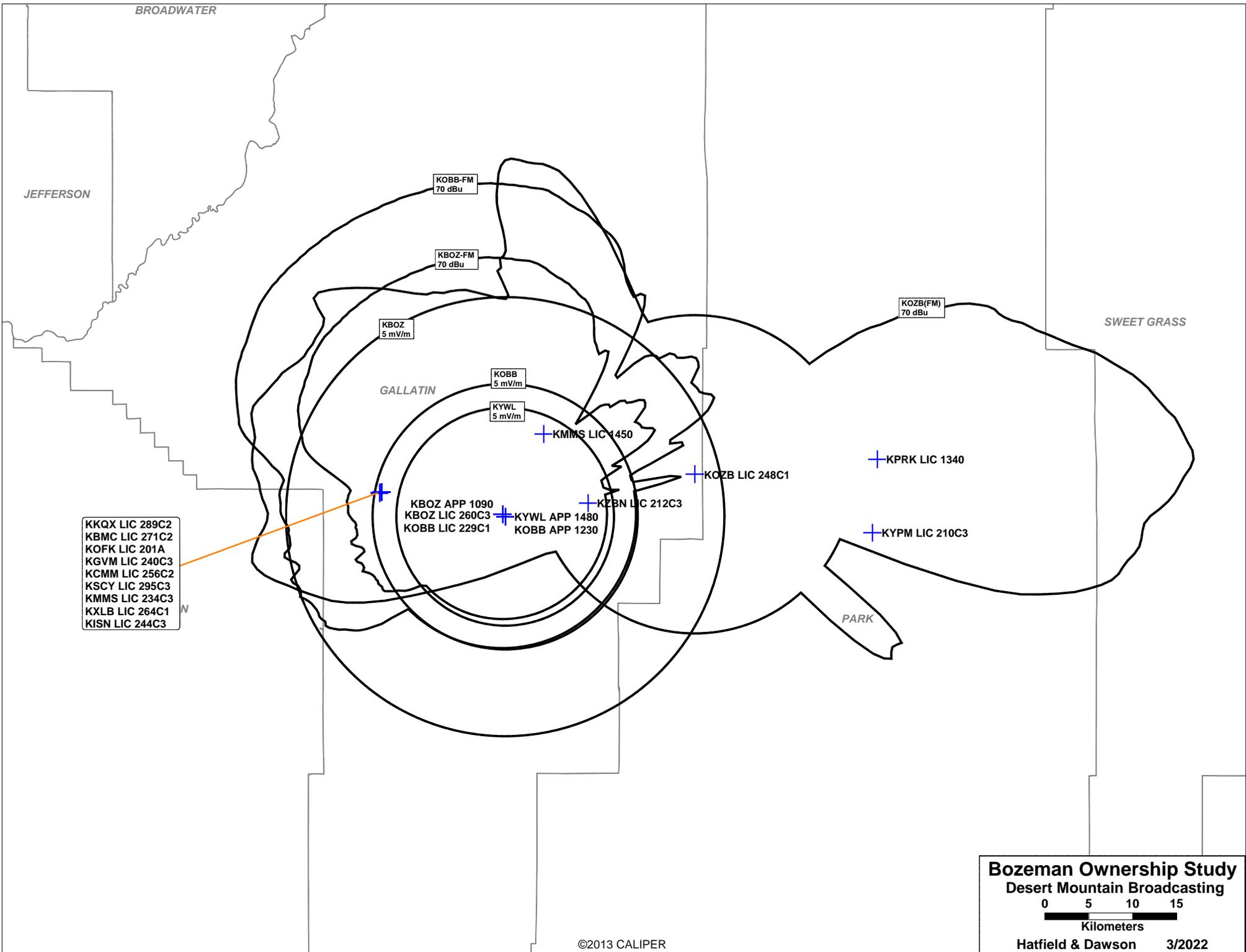
These stations form a single cluster of stations for ownership purposes. This exhibit evidences at least the minimum number of stations necessary to demonstrate compliance with the rules concerning radio multiple ownership in unrated markets. In order to qualify for common ownership of this 3AM/3FM cluster, there must be at least 15 stations in the relevant “market”. This study demonstrates that there are at least 19 stations in the relevant market. (Several additional stations also overlap the Desert Broadcasting cluster, but are omitted from this exhibit for the sake of simplicity since their transmitter sites are located outside the contours of the Desert Broadcasting cluster. A list and mapping of those stations can be provided should the Commission so require.)

March 28, 2022

A handwritten signature in black ink, appearing to read "Erik C. Swanson". The signature is fluid and cursive, with the first name "Erik" and last name "Swanson" clearly distinguishable.

Erik C. Swanson

Hatfield & Dawson Consulting Engineers



STEPHEN S. LOCKWOOD, PE, PMP

THOMAS M. ECKELS, PE
THOMAS S. GORTON, PE

JAMES B. HATFIELD, PE
BENJAMIN F. DAWSON III, PE
ERIK C. SWANSON, PE, PMP
DAVID J. PINION, PE
STEPHEN PUMPLE, M.Eng, MBA, PMP
CONSULTANTS

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E-MAIL hatdaw@hatdaw.com

MAURY L. HATFIELD, PE
(1942-2009)
PAUL W. LEONARD, PE
(1925-2011)

ENGINEERING REPORT

APPLICATION for CONSTRUCTION PERMIT for MODIFIED ANTENNA

KBOZ(AM)

1090 kHz

Bozeman, Montana

Facility ID 16775

5 kW Day 32 Watts Night ND-U

Desert Mountain Broadcasting Licenses, LLC

March 2022

Purpose of Application

This Engineering Report has been prepared in support of an application by Desert Mountain Broadcasting License, LLC (“Desert Mountain”) to modify the antenna system of KBOZ(AM), 1090 kHz, Bozeman, Montana. Desert Mountain proposes to replace the licensed five tower nighttime directional antenna with a non-directional antenna at reduced night power. No tower construction is proposed.

Allocation Considerations

Daytime

The currently licensed 5 kW non-directional operation will be moved from the center tower of the five tower array to the southeast tower, with the geographic coordinates modified to agree with the ASR for the southeast tower. No allocation study maps are included in this engineering report, as the change is minimal, and there are no co-channel or adjacent channel stations close enough to warrant study. The closest co-channel station is 692 km from Bozeman, the closest 1st-adjacent channel station is 485 km away.

Nighttime

The proposed 32 Watt nighttime operation of KBOZ will not enter the 25% RSS of any known facility, as demonstrated by the Site to Site RSS calculations included in this report. This exhibit considers all facilities listed in the CDBS for which KBOZ will exceed the 10% RSS threshold. The limiting factor to KBOZ's nighttime operation is protection of Class A station KAAY, Little Rock.

Facilities Proposed

Desert Mountain proposes continued operation of KBOZ on 1090 kHz with a power of 5 kW daytime and 32 Watts nighttime time, using an omni-directional antenna (ND-U). The proposed tower is the southeast (#5) tower of the currently licensed KBOZ array. Common antenna operation with co-owned KOB(AM) and KYWL(AM) is proposed, Form 301 applications for these stations are in preparation at this time and will be filed shortly.

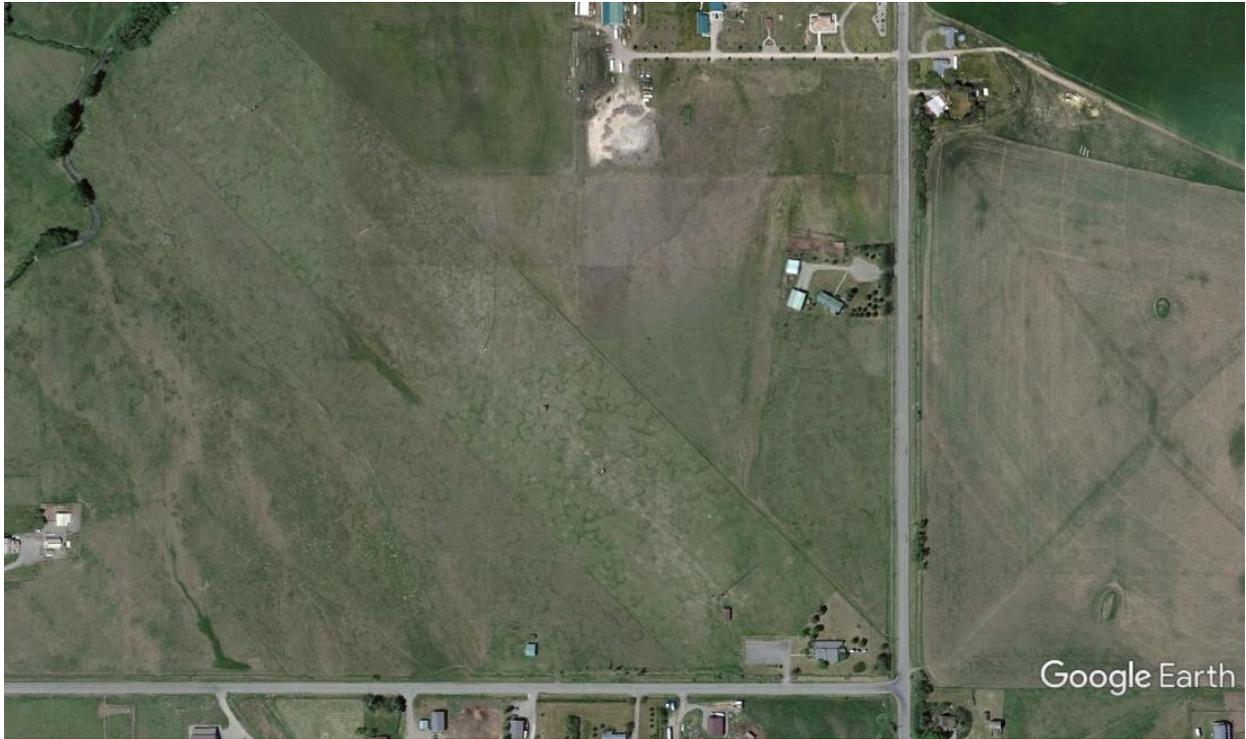
The daytime 5 mV/m contour will continue to cover 100% of Bozeman.

The population within the 1V/m blanketing contour of the 5 kW daytime operation of KBOZ is 15 persons¹, thus satisfying the requirements of §73.24(g).

The ground system consists of 120 copper radials, 125 feet in length and an additional 120 radials, 150 feet in length around the base of each tower.

Antenna tower access is restricted by a fence with a locked gate that is at least 2 meters from the tower base, as required by OET-65. The antenna tower is posted with warning signs, and all station personnel and contractors will be required to follow appropriate safety procedures before any work is commenced on the antenna tower, including reduction in power or discontinuance of operation before any maintenance work is undertaken.

¹Based on 2020 US Census data, block centroid method.



KBOZ Transmitter Site Photograph

Site to Site RSS Calculations

Protected Station: 1090CKRX/ , 1090 kHz - Lethbridge, AB, CA
 Coordinates: 49-31-30 N, 112-46-36 W
 Standard: Canadian (Figure 4) [10%]

Current:

Call	Freq (kHz)	Limit (mV/m)	(%)
KPTR	1090	9.269	100.0
KAAY	1090	5.094	54.9
-----	50%	-----	
XEPRS/A	1090	4.768	45.0
-----	25%	-----	
*KBOZ	1090	2.196	18.9

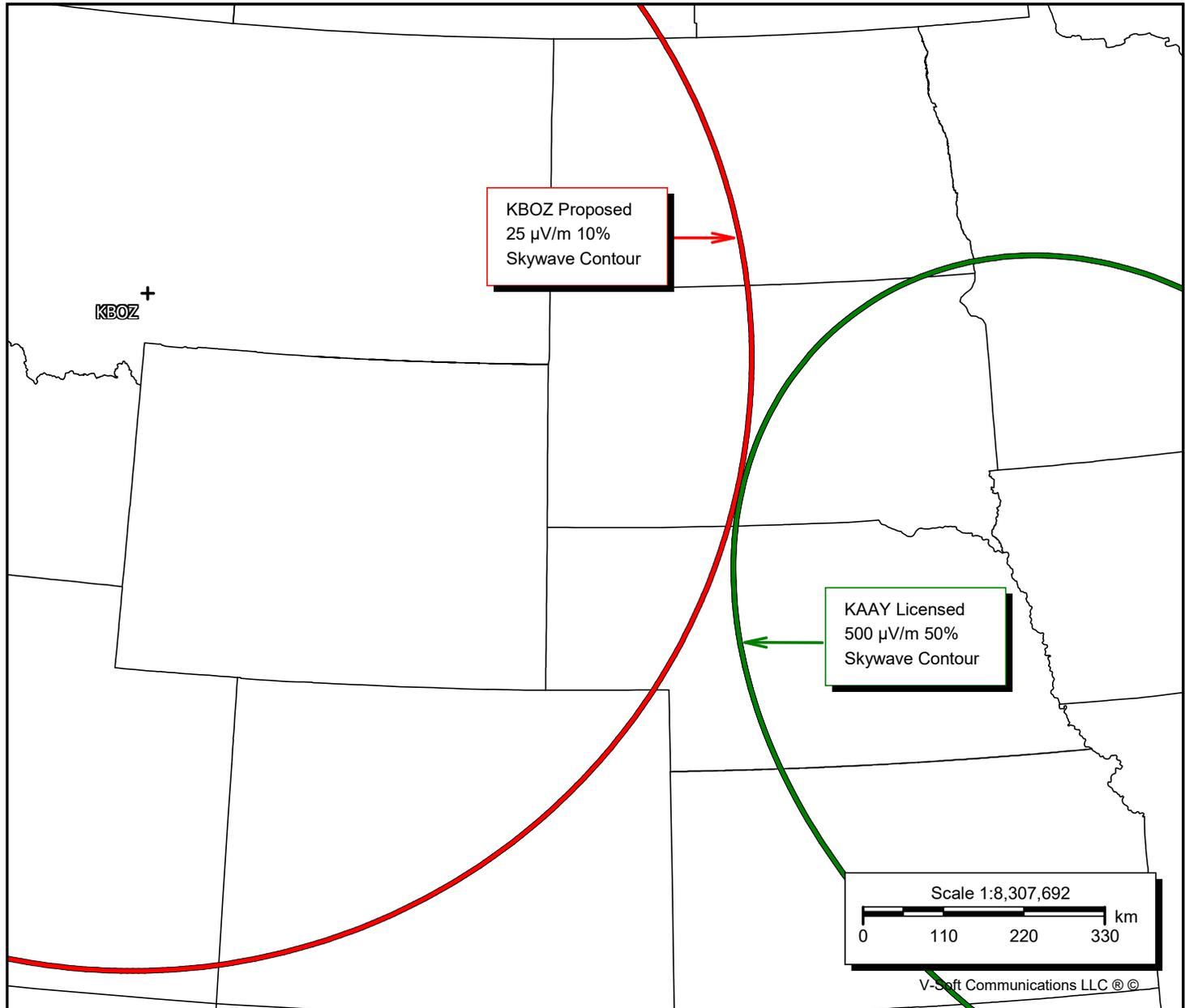
Proposed:

Call	Freq (kHz)	Limit (mV/m)	(%)
KPTR	1090	9.269	100.0
KAAY	1090	5.094	54.9
-----	50%	-----	
XEPRS/A	1090	4.768	45.0
-----	25%	-----	
*KBOZ-PRO	1090	1.309	11.2

KBOZ

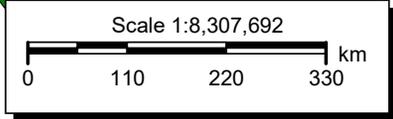
Freq: 1090 kHz
Class: B
Latitude: 45-36-50 N
Longitude: 111-05-05 W
Power: 0.032 kW
RMS: 309.504 mV/m @1km
Towers: 1
Augs: 0

Skywave Protection of
Class A Station KAAY
Little Rock AR



KBOZ Proposed
25 μ V/m 10%
Skywave Contour

KAAY Licensed
500 μ V/m 50%
Skywave Contour



V-Soft Communications LLC ©

Critical Hours Study

Call: KBOZ
 Freq: 1090 kHz
 BOZEMAN, MT, US
 Hours: D
 Lat: 45-36-50 N
 Lng: 111-05-05 W
 Power: 5.0 kW
 Theo RMS: 309.50 mV/m @ 1km @ 1kW

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Swtch	TL Swtch	A (deg)	B (deg)	C (deg)	D (deg)
1	1.000	0.0	0.0	0.0	95.7	0	0	0.0	0.0	0.0	0.0

Interpolation factors for 1090 kHz:

K(500) = 0.000
 K(1000) = 0.850
 K(1600) = 0.150

Call: WBAL
 Freq: 1090 kHz
 BALTIMORE, MD, US
 Hours: D
 Lat: 39-22-33 N
 Lng: 076-46-21 W
 Power: 50.0 kW
 Theo RMS: 408.77 mV/m @ 1km @ 1kW

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Swtch	TL Swtch	A (deg)	B (deg)	C (deg)	D (deg)
1	1.000	0.0	0.0	0.0	200.0	0	0	0.0	0.0	0.0	0.0

Permissible radiation calculated using FCC 73.190 curves.
 Calculations performed using distance to the class A station's 0.1 mV/m contour.

Class A Azimuth (deg)	Reference Azimuth (deg)	Distance to 0.1 mV (km) / (mi)	Max Vert Angle (deg)	Max Rad Below Ang (mV/m@1km)	Permiss Radiation (mV/m@1km)	Margin (mV/m@1km)
357.14	88.00	2795.1 / 1736.8	0.0	692.07	4579.8	3887.8
335.84	89.00	2742.9 / 1704.4	0.0	692.07	4379.2	3687.1
317.87	90.00	2706.5 / 1681.8	0.0	692.07	4234.6	3542.5
303.65	91.00	2697.4 / 1676.1	0.0	692.07	4209.6	3517.5
289.50	92.00	2696.2 / 1675.4	0.0	692.07	4214.8	3522.7
274.50	93.00	2711.1 / 1684.6	0.0	692.07	4280.7	3588.7
255.82	94.00	2746.9 / 1706.8	0.0	692.07	4425.6	3733.6
228.37	95.00	2815.9 / 1749.7	0.0	692.07	4692.3	4000.2
168.83	96.00	3054.8 / 1898.2	0.0	692.07	5685.4	4993.4
165.28	97.00	3136.4 / 1948.9	0.0	692.07	6033.6	5341.6
164.08	98.00	3197.3 / 1986.7	0.0	692.07	6286.3	5594.2

Clipped at 0.13 mV/m

Class A Azimuth (deg)	Reference Azimuth (deg)	Distance to 0.1 mV (km) / (mi)	K(1000) Value (mV/m@1km)	K(1600) Value (mV/m@1km)	Permiss Radiation (mV/m@1km)
357.14	88.00	2795.1 / 1736.8	5054.98	1887.37	4579.8
335.84	89.00	2742.9 / 1704.4	4835.22	1794.95	4379.2
317.87	90.00	2706.5 / 1681.8	4676.04	1732.88	4234.6
303.65	91.00	2697.4 / 1676.1	4648.47	1722.83	4209.6
289.50	92.00	2696.2 / 1675.4	4654.13	1725.27	4214.8
274.50	93.00	2711.1 / 1684.6	4726.93	1752.25	4280.7
255.82	94.00	2746.9 / 1706.8	4886.61	1813.50	4425.6
228.37	95.00	2815.9 / 1749.7	5178.86	1934.96	4692.3
168.83	96.00	3054.8 / 1898.2	6275.30	2342.93	5685.4
165.28	97.00	3136.4 / 1948.9	6662.89	2467.77	6033.6
164.08	98.00	3197.3 / 1986.7	6942.89	2565.68	6286.3

0.13 mV/m

Clipped at

Call: KAAV
 Freq: 1090 kHz
 LITTLE ROCK, AR, US
 Hours: D
 Lat: 34-36-00 N
 Lng: 092-13-30 W
 Power: 50.0 kW
 Theo RMS: 411.99 mV/m @ 1km @ 1kW

#	Field Ratio	Phase (deg)	Spacing (deg)	Orient (deg)	Height (deg)	Ref Swtch	TL Swtch	A (deg)	B (deg)	C (deg)	D (deg)
1	1.000	0.0	0.0	0.0	199.0	0	0	0.0	0.0	0.0	0.0

Permissible radiation calculated using FCC 73.190 curves.
 Calculations performed using distance to the class A station's 0.1 mV/m contour.

Class A Azimuth (deg)	Reference Azimuth (deg)	Distance to 0.1 mV (km) / (mi)	Max Vert Angle (deg)	Max Rad Below Ang (mV/m@1km)	Permiss Radiation (mV/m@1km)	Margin (mV/m@1km)
9.53	114.00	1878.1 / 1167.0	3.0	692.07	1918.5	1226.4
357.35	115.00	1832.2 / 1138.5	3.3	692.07	1809.6	1117.5
348.06	116.00	1803.5 / 1120.6	3.5	692.07	1749.1	1057.0
340.05	117.00	1784.3 / 1108.7	3.6	692.07	1714.7	1022.6
332.73	118.00	1771.9 / 1101.0	3.7	692.07	1698.5	1006.5
325.76	119.00	1765.3 / 1096.9	3.7	692.07	1697.8	1005.7
318.89	120.00	1764.3 / 1096.3	3.7	692.07	1712.2	1020.1
311.83	121.00	1770.0 / 1099.8	3.7	692.07	1744.7	1052.6
304.73	122.00	1768.4 / 1098.9	3.7	692.07	1758.9	1066.9
297.71	123.00	1771.6 / 1100.8	3.7	692.07	1786.5	1094.4
290.57	124.00	1779.5 / 1105.8	3.6	692.07	1828.0	1135.9
282.26	125.00	1799.5 / 1118.2	3.5	692.07	1904.2	1212.1
271.53	126.00	1834.6 / 1140.0	3.3	692.07	2025.7	1333.6
246.75	127.00	1932.5 / 1200.8	2.7	692.07	2344.2	1652.1

Class A Azimuth (deg)	Reference Azimuth (deg)	Distance to 0.1 mV (km) / (mi)	K(1000) Value (mV/m@1km)	K(1600) Value (mV/m@1km)	Permiss Radiation (mV/m@1km)
9.53	114.00	1878.1 / 1167.0	2117.81	788.82	1918.5
357.35	115.00	1832.2 / 1138.5	1998.67	737.88	1809.6
348.06	116.00	1803.5 / 1120.6	1932.54	709.70	1749.1
340.05	117.00	1784.3 / 1108.7	1894.87	693.65	1714.7
332.73	118.00	1771.9 / 1101.0	1877.25	685.82	1698.5
325.76	119.00	1765.3 / 1096.9	1876.56	684.56	1697.8
318.89	120.00	1764.3 / 1096.3	1892.66	689.49	1712.2
311.83	121.00	1770.0 / 1099.8	1928.73	701.70	1744.7
304.73	122.00	1768.4 / 1098.9	1944.69	706.39	1758.9
297.71	123.00	1771.6 / 1100.8	1975.29	716.41	1786.5
290.57	124.00	1779.5 / 1105.8	2021.38	732.16	1828.0
282.26	125.00	1799.5 / 1118.2	2105.63	762.54	1904.2
271.53	126.00	1834.6 / 1140.0	2239.68	813.23	2025.7
246.75	127.00	1932.5 / 1200.8	2589.64	953.20	2344.2

Statement of Engineer

This Engineering Report, relative to a change in facilities for KBOZ(AM) has been prepared by the undersigned. All representations contained herein are true to the best of my knowledge. I am an experienced radio engineer whose qualifications are a matter of record with the Federal Communications Commission. I am an engineer in the firm of Hatfield and Dawson Consulting Engineers and am Registered as a Professional Engineer in the States of Washington and Oregon.

Signed this 29th day of March, 2022



Thomas S. Gorton, P.E.