

EXHIBIT A

ENGINEERING STATEMENT

This engineering data contained herein have been prepared on behalf of Christian Broadcasting, Inc., licensee of FM translator K283AZ on Channel 283D in Anchorage, Alaska, in support of this application for modification of Construction Permit BPFT-20190306ABY, which authorizes a move of the station to a new transmitter site. The purpose of this application is to reduce the antenna height above ground. No change in transmitter site, antenna pattern or effective radiated power is proposed herein. It is important to note that the translator will rebroadcast the signal of noncommercial FM station KJLP(FM), Channel 205A in Palmer, Alaska.

It is now proposed to mount a one-bay circularly polarized at the 12.2-meter level of the existing 27.6 meter tower. The proposed effective radiated power is still 10 watts. Exhibit B is a map upon which the proposed 60 dBu service contour has been plotted. In Exhibit C, the present and newly proposed K283AZ 60 dBu FCC contours are shown. As can be seen, the two contours continue to overlap.

We include as Exhibit D-1 a contour overlap study K283AZ with the facility proposed herein. As shown, the authorized site is short-spaced to second-adjacent-channel stations KBRJ(FM), Channel 281C1 in Anchorage, Alaska, and KYKA(FM), Channel 285C1 in Meadow Lakes, Alaska. As a result, waiver of the Commission's second-adjacent-channel interference Rules is requested with respect to these two stations. In Exhibit D-2, we plot the proposed site. To that map, we have added the KBRJ(FM) 77.5 dBu service contour and the KYKA(FM) 67.6 dBu service contour, both of which pass very close to the proposed site.

EXHIBIT A

Based on the FCC's 40 dB desired-to-undesired ratio that applies to second-adjacent-channel and third-adjacent-channel situations such as these, the proposed interference contour to KBRJ is the proposed 117.5 dBu contour and that to KYKA is the proposed 107.6 dBu contour.

Assuming a maximum effective radiated power of 10 watts for the proposed K83AZ facility, the distance to the interference contour toward KBRJ is only 30 meters. The interference contour toward KYKA is 92 meters. As shown in Exhibit D-3, there are no dwellings within 92 meters of the proposed site. As a result, a waiver of the FCC's 2<sup>nd</sup>-adjacent-channel spacing Rule with regard to KBRJ(FM) and KYKA(FM) is respectfully requested and believed to be justified.

A contour overlap study with regard to K282AW reveals no prohibited overlap between the station's 60 dBu service contour and 54 dBu interference contour of the facility proposed herein, as shown in Exhibit D-4.

A power density calculation is also provided in Exhibit E.

Since no change in the overall height or location of the existing tower is proposed herein, this application does not require coordination with the Federal Aviation Administration. The FCC issued Antenna Structure Registration Number 1062073 to this tower.

I declare under penalty of perjury that the foregoing statements and the attached exhibits are true and correct to the best of my knowledge and belief.



KEVIN T. FISHER

October 24, 2019

**CONTOUR POPULATION**  
**2015 U.S. CENSUS DATA**  
**74,543 (27,718 HOUSEHOLDS)**



**PROPOSED K283AZ**  
**60 DBU SERVICE CONTOUR**

+

**Proposed Site**

Scale 1:150,000



**EXHIBIT B**  
**PREDICTED SERVICE CONTOUR**  
**PROPOSED FM TRANSLATOR K283AZ**  
**CHANNEL 283D - ANCHORAGE, ALASKA**



Anchorage

LICENSED K283AZ  
60 DBU SERVICE CONTOUR

K283AZ

Proposed Site

PROPOSED K283AZ  
60 DBU SERVICE CONTOUR

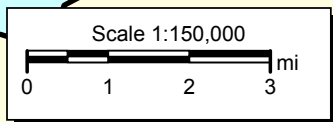


EXHIBIT C  
CONTOUR COMPARISON  
PROPOSED FM TRANSLATOR K283AZ  
CHANNEL 283D - ANCHORAGE, ALASKA

PROPOSED K283AZ											
CHANNEL 283D - ANCHORAGE, ALASKA											
REFERENCE		CH# 283D - 104.5		MHz, Pwr= 0.01 kW DA,		HAAT= 0.0 M,		COR= 542 M		DISPLAY DATES	
61 04 02.0 N.				Average Protected F(50-50)= 3.15 km						DATA 02-28-19	
149 44 36.1 W.				Standard Directional						SEARCH 03-04-19	
CH CITY	CALL	TYPE STATE	ANT	AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
285C1 Meadow Lakes	KYKA	LIC _CX AK		22.5 202.7	32.69 BLED20141117AJH	61 20 17.0 149 30 33.3	19.000 270	7.7 602	74.7 Educational Media Foundati	24.1	-42.0*
281C1 Anchorage	KBRJ	LIC _CN AK		305.8 125.6	10.08 BLH19851230KC	61 07 12.0 149 53 43.0	55.000 19	5.6 127	49.8 Alpha Media Licensee LI c	-8.4*	-40.0*
283D <del>K283AZ</del> Anchorage		LIC DC_ AK		42.1 222.2	4.55 BLFT20050929AAM	61 05 51.0 149 41 12.0	0.010	12.3 723	1.6 Alaska Educational Radio S	-8.5*	-3.2*
282D Eagle River	K282AW	LIC DV_ AK		22.3 202.5	32.48 BLFT20110125ABE	61 20 12.0 149 30 45.0	0.140	10.2 601	6.0 Mcc Radio, LI c	21.4	24.7

Terrain database is USGS 03 SEC , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM  
 Contour distances are on direct line to and from reference station. Reference zone= , Co to 3rd adjacent.  
 All separation margins (if shown) include rounding. Call signs with strikeout need not be protected.  
 Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)  
 "\*"affixed to 'IN' or 'OUT' values = site inside restricted contour.

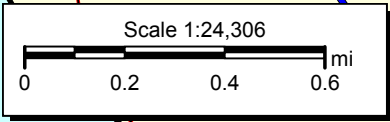


KBRJ(FM) 77.5 DBU  
FCC CONTOUR

KYKA(FM) 67.6 DBU  
FCC CONTOUR

Proposed Site

**EXHIBIT D-2**  
**2ND-ADJACENT-CHANNEL WAIVER**  
**TO KYKA(FM) AND KBRJ(FM)**  
**PROPOSED FM TRANSLATOR K283AZ**  
**CHANNEL 283D - ANCHORAGE, ALASKA**





**EXHIBIT D-3**  
92-METER INTERFERENCE ARC

Legend







K282AW 60 DBU  
FCC CONTOUR

Knik

K282AW

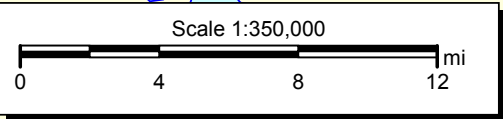
PROPOSED K283AZ  
54 DBU INTERFERENCE  
CONTOUR

Anchorage

K283AZ

Proposed Site

Hope



**EXHIBIT D-4**  
**PROTECTION OF TRANSLATOR K282AW**  
**PROPOSED FM TRANSLATOR K283AZ**  
**CHANNEL 283D - ANCHORAGE, ALASKA**



EXHIBIT E

POWER DENSITY CALCULATION  
PROPOSED FM TRANSLATOR K823AZ  
CHANNEL 283D – ANCHORAGE, ALASKA

Employing the methods set forth in *OET Bulletin No. 65* and considering a main-lobe effective radiated power of 10 watts (H,V), an antenna radiation center 12.2 meters above ground level, and assuming a vertical relative field value of 40 percent at the steeper elevation angles for the proposed Jampro 1-bay antenna, maximum power density two meters above ground of  $0.0010 \text{ mW/cm}^2$  is calculated to near the base of the tower. Since this value is only 0.5 percent of the  $0.20 \text{ mW/cm}^2$  reference for uncontrolled environments (areas with public access) surrounding a facility operating in the FM band, a grant of this proposal may be considered a minor environmental action with respect to public exposure to non-ionizing electromagnetic radiation.

Further, the station owner will take whatever precautionary steps are necessary, such as reducing power or leaving the air temporarily, to ensure that workers operating in the vicinity of the antenna are not exposed to excessive non-ionizing electromagnetic radiation.