

TECHNICAL REPORT

This technical report has been developed in support of an application for a minor modification to the FM translator K285CE, FCC. file no. BLFT-20000118AFB. This non fill-in translator is to rebroadcast the primary signal for KEMC 219C1 at Billings, MT, and is to be relocated to a new tower site and change of channel from 285 to 288.

The data for all terrain utilized in this report and application exhibits were obtained from the V-Soft PROBE computer program, which utilizes the V-Soft 30 second terrain database. The proposed service (50,50) contours were calculated utilizing the same program, which is based on the Commission's own F5050 program and data points, and produces contours congruent with Section 73.333 propagation curves.

Allocation exhibits are provided as required by FCC form 349 as follows:

- E-1 Interference Overlap Study
- E-2 HAAT Calculation of K285CE
- E-3 K285CE DA Pattern
- E-4 K285CE 60 dBu Plot

K285CE is to be relocated at an existing tower at coordinates:

44-37-20 N 107-06-57 W NAD27.

The existing SCALA CA2-FM/CP antenna will be placed at a COR AGL of 10 meters.

As a non fill-in translator, and employing a directional antenna, following CFR

Charles M. Anderson Associates

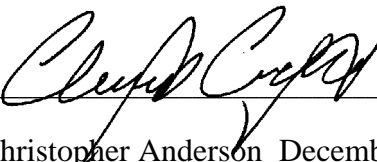
Broadcast Consultants
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Bowling Green, KY 42103

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74.1235(b)(2), the maximum ERP for this translator is to be 0.010 kW. Using the Commission's FMMODEL program at a height of 2 meters above ground level, the maximum RF was calculated to be $2.22 \mu\text{W}/\text{cm}^2$ at a distance of 8 meters from the tower, which is well below the 5% of $200 \mu\text{W}/\text{cm}^2$ contribution required for detailed analysis.

V. Conclusion:

It is concluded that the proposed modification of K285CE is in full compliance with Commission rules and policies.



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REFERENCE		CH# 288D - 105.5 MHz, Pwr= 0.01 kW, HAAT=354.5M, COR= 2352 M						DISPLAY DATES			
44 37 20.0 N.		Average Protected F(50-50)= 11.0 km						DATA 12-01-06			
107 06 57.0 W.								SEARCH 12-04-06			

CH	CALL	TYPE	AZI.	DIST	LAT.	Pwr(kW)	INT(km)	PRO(km)	*IN*	*OUT*	
CITY		STATE	<--	FILE #	LNG.	HAAT(M)	COR(M)	LICENSEE	(Overlap	in km)	

288C	RADD	ADD	246.9	145.17	44 05 55.0	100.000	207.6	97.8	-63.92	42.61	
Meeteetse		WY	65.7		108 47 03.0	755	2409	Sand Hill Media Corp & Gro			
288C	RADD	ADD	246.9	145.17	44 05 55.0	100.000	207.6	97.8	-63.92	42.61	
Meeteetse		WY	65.7		108 47 03.0	755	2409	Millcreek B/casting Et Al			
288C	RADD	ADD	250.4	147.28	44 09 56.0	100.000	204.2	95.7	-58.58	46.91	
Meeteetse		WY	69.2		108 51 04.0	702	2428	Millcreek B/casting Et Al.			
285D	K285CE	LIC DC	329.3	0.22	44 37 26.0	0.000	0.0	0.8	-2.10*	-0.57*	
Sheridan		WY	149.3	BLFT20000118AFB	107 07 02.0	6	2347	Randall D. Rocks			
286C2	KGCL	CP NCX	189.5	52.23	44 09 31.0	12.000	2.0	19.5	48.66	32.70	
Ten Sleep		WY	9.4	BMPH20060712AGA	107 13 27.0	32	2850	Legend Communications Of W			
287D	AP1583	APP C	132.0	45.29	44 20 58.0	0.250	10.1	7.1	34.38	36.67	
Buffalo		WY	312.3	BNPFT20030313ATY	106 41 34.0	-61	1449	Lovcom, Inc.			
288C2	KHAD	CP CX	162.5	218.86	42 44 30.0	3.400	143.7	63.5	74.19	153.26	
Mills		WY	343.0	BNPH20050103AAK	106 18 29.0	810	2481	White Park Broadcasting, I			
291C1	NEW	CP CX	107.8	138.67	44 13 50.0	100.000	5.8	50.6	126.66	87.96	
Moorcroft		WY	288.9	BMPH20060117ABX	105 27 45.0	99	1542	Family Voice Communication			
287L1	KFGR-LP	LIC	277.0	130.05	44 45 09.0	0.100	12.5	8.9	116.15	119.49	
Powell		WY	95.8	BLL20030806ACA	108 44 46.0	75	1362	Trinity Bible Church			
290C1	KPBR	LIC CX	315.8	162.35	45 39 31.0	100.000	4.3	40.2	157.38	122.10	
Joliet		MT	134.8	BLH20060712AEX	108 34 14.0	54	1251	Connoisseur Media, Llc			
288D	K288FE	CP C	320.9	164.26	45 45 36.4	0.023	33.1	10.0	130.27	147.83	
Billings		MT	140.0	BNPFT20030828ATN	108 26 59.0	191	1290	Radio Assist Ministry, Inc			
286A	KQBL	LIC CX	320.9	164.96	45 45 54.0	6.000	2.2	21.9	161.87	143.03	
Billings		MT	140.0	BMLH20060712AFZ	108 27 20.0	57	1152	New Northwest Broadcasters			

Terrain database is NGDC 30 SEC
ERP and HAAT on direct-line with reference station.
***affixed to 'IN' or 'Out' values = site inside protected contour.

E-2 K285CE HAAT Calculation

N. Lat. = 44 37 20 W. Lng. = 107 06 57
HAAT and Distance to Contour - FCC Method - NGDC 30 SEC

K285CE, Randall D. Rocks, BLFT20000118AFB

Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
000	1407.0	945.0	0.0041	-23.84	0.642	11.66
030	1403.5	948.5	0.0090	-20.45	0.949	15.94
060	1342.2	1009.8	0.0090	-20.45	0.949	16.31
090	1503.3	848.7	0.0041	-23.84	0.642	11.35
120	2001.8	350.2	0.0001	-38.71	0.116	2.34
150	2353.0	-1.0	0.0000	-49.24	0.035	0.77
180	2620.6	-268.6	0.0001	-39.70	0.104	1.61
210	2540.0	-188.0	0.0006	-32.32	0.242	1.56
240	2526.5	-174.5	0.0006	-32.32	0.242	1.56
270	2426.2	-74.2	0.0001	-39.70	0.104	1.61
300	2248.4	103.6	0.0000	-49.24	0.035	0.77
330	1597.7	754.3	0.0001	-38.71	0.116	2.48

Ave El= 1997.54 M HAAT= 354.46 M AMSL= 2352 M

E-3 K285CE SCALA CA2-FM/CP Pattern

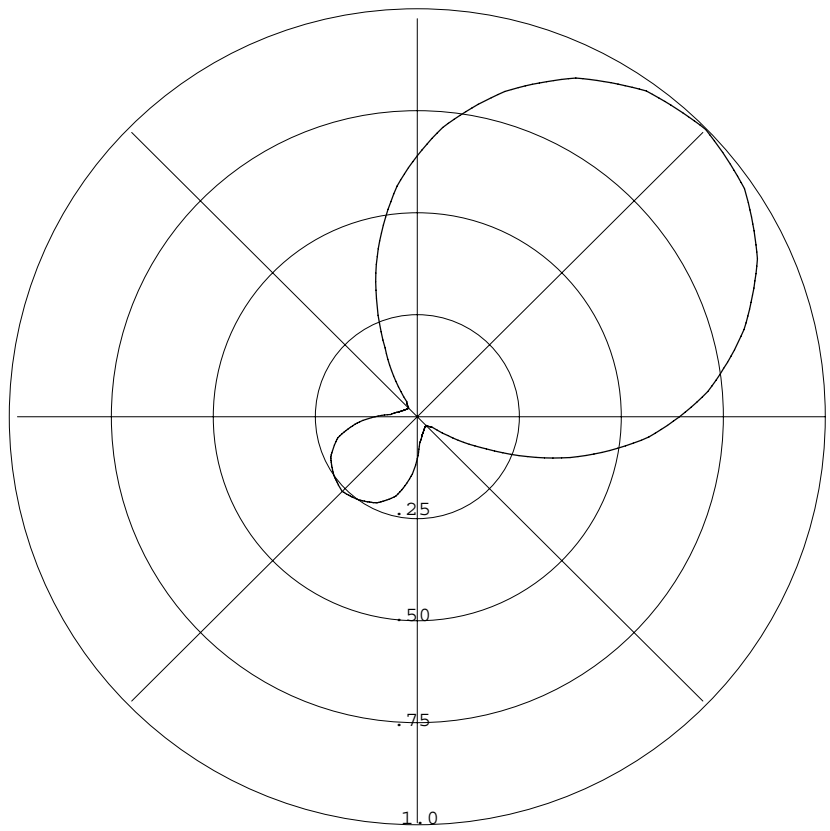
12-03-2006

RMS (V) = .484

Bearing Field % Voltage

Graph is Percent Relative Field Voltage

000	=	0.643
010	=	0.772
020	=	0.875
030	=	0.950
040	=	0.990
050	=	0.990
060	=	0.950
070	=	0.875
080	=	0.772
090	=	0.643
100	=	0.479
110	=	0.288
120	=	0.116
130	=	0.038
140	=	0.031
150	=	0.035
160	=	0.042
170	=	0.056
180	=	0.104
190	=	0.172
200	=	0.218
210	=	0.242
220	=	0.255
230	=	0.255
240	=	0.242
250	=	0.218
260	=	0.172
270	=	0.104
280	=	0.056
290	=	0.042
300	=	0.035
310	=	0.031
320	=	0.038
330	=	0.116
340	=	0.288
350	=	0.479



K285CE

BLFT20000118AFB
Latitude: 44-37-26 N
Longitude: 107-07-02 W
ERP: 0.01 kW
Channel: 285
Frequency: 104.9 MHz
RCAMSL Height: 2347.0 m
Site Elevation: 2341.0 m
Horiz. Pattern: Directional
Vert. Pattern: No
Prop Model: None

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60 dBu F(50-50) Contours

K285CE
K285CE NEW

