

## **Interference Analysis**

Page #2 of this exhibit is a computer generated channel study, showing the contour relationship between the proposed booster and adjacent stations. Page #3 is an explanation of the methods used in preparing the study.

Please note, in the attached channel study, first adjacent translator station K292EO South Ogden, UT, overlaps with the instant application. However, this translator is located within the protected 60 dBu Contour of the KOTB (291C) Main Antenna and significantly interferes with the main KOTB (291C) signal since it is first adjacent. Furthermore, K292EO is also located within the licensed 70 dBu Contour of first adjacent station KOSY FM (293C). In effect, translator K292EO significantly interferes with not one, but two first adjacent full-service FM stations with its current facilities.

The applicant's engineers have examined K292EO to see if a minor modification may be filed to allow the translator to continue operating while not interfering with KOTB or any other full service station. Unfortunately, in the applicant's opinion, this is not technically feasible. It is not possible for K292EO to stay at its current site or move to a different site on its current channel, I.F. channels, or first, second, or third adjacent channels while remaining mutually exclusive to itself.

The applicant has contacted the Licensee of K292EO in hopes of coming to a mutually beneficial agreement with the Translator Licensee to eliminate the interference problem. Therefore, the instant application complies with Section 74.1204 of the Commission's rules.

# FM Channel Spacings Study

## KOTB Ogden Booster Antenna Site Channel Study

REFERENCE CH# 291D - 106.1 MHz, Pwr= 0.53 kw, HAAT=322.2 M, COR= 1596 M DISPLAY DATES  
 41 20 32 N Average Protected F(50-50)= 27.86 km DATA 03-24-04  
 112 00 30 W Ave. F(50-10) 40 dBu= 79.6 54 dBu= 42.2 80 dBu= 8.8 100 dBu= 1.6 SEARCH 03-29-04

CH CITY	CALL	TYPE STATE		AZI. <--	DIST FILE #	LAT. LNG.	Pwr(kw) HAAT(M)	COR(M) INT(km)	PRO(km) LICENSEE	*IN* (Overlap	*OUT* in km)
291C Evanston	KOTB.C	CP WY	HX	121.3 301.3	99.89 BPH20010306ABO	40 52 16 110 59 43	89.000 997	3330 27.5	104.3 Rocky Mountain Radio	-128.85	-31.89*
293C Spanish Fork	KOSYFM	LIC UT	CX	192.1 12.1	77.54 BLH20021125AAT	40 39 34 112 12 05	25.000 1369	2803 0.7	95.8 Mercury Broadcasting	48.46	-19.00*
289C Centerville	KCPX	LIC UT	CX	192.1 12.1	77.54 BLH20021125AAS	40 39 34 112 12 05	25.000 1369	2803 0.7	95.8 Mercury Broadcasting	48.46	-19.00*
291C3 Evanston	KOTB	LIC WY	CN	88.9 268.9	92.12 BLH19970926KD	41 21 11 110 54 28	0.380 551	2635 19.6	34.2 Rocky Mountain Radio	-9.18	38.33
238C1 Ogden	KYFOFM	LIC UT	CN	241.7 61.7	21.69 BLED19981125KD	41 14 59 112 14 11	100.000 234	1509 7.7	66.9 Bible Broadcasting Network	22.0R	-0.3M
292D South Ogden	K292EO	LIC UT	DHN	158.8 338.8	18.14 BLFT19910410TG	41 11 24 111 55 48	0.000 746	2083 35.8	0.0 First National Broadcastin	-5.73*	-17.71
291L1 Logan	KLGU-L	LIC UT		18.2 198.2	46.10 BLL20030522ADB	41 44 11 111 50 06	0.100 -13	1401 5.9	5.6 City of Logan	25.61	34.52
291C0 Rupert	KKMV.A	APP ID	ZCX	310.4 130.4	172.42 BPH20040311ABT	42 20 06 113 36 15	1.232 769	2550 6.4	52.3 Tri-market Radio	45.66	113.72
288D Coalville	K288AT	LIC UT	DHN	140.5 320.5	70.04 BLFT105	40 51 18 111 28 44	0.000 788	2847 1.6	0.0 Summit County Tv Associati	61.41	68.43
288D Randolph-woodruff	K288BU	LIC UT	DHN	66.6 246.6	80.34 BLFT19830202MJ	41 37 31 111 07 23	0.002 292	2363 0.3	6.2 Rich County	76.58	73.79

ERP and HAAT are on direct line to and from reference station.  
 "\*"Affixed to 'IN' or 'Out' values = site inside protected contour.

## **Spacings Study Key for Use**

The computer printout on the preceding page should be self-explanatory for the most part. The parameters of the station being checked, (reference station) are printed in the heading. The 60 dBu protected contour is predicted from the Commission's F(50-50) table, while the 40, 54, 80 and 100 dBu contours are interference contours derived from the Commission's F(50-10) table. Contour distances are in kilometers and are predicted using spline interpolation from data points identical to those published in Report No. RS 76-01 by Gary C. Kalagian. Critical contour distances are determined using the Commission's TVFMINT FORTRAN subroutine. When interference contour distances are less than 16 kilometers the F(50-50) tables are used. If signal contour distances are less than 1.6 km the free-space equation is used.

The column listed "\* IN \*" is the sum of the reference station's 60 dBu protected contour and the data file station's interference contour subtracted from the distance between the stations. (All distances are derived by the method detailed in Sec. 73.208 of the Rules and Regulations as amended in Docket 80-90.) Therefore, the column is a measure of incoming interference. Negative distances in this column indicate the presence of interference. Listed antenna heights are the average heights of eight standard radials as found in the Commission's records unless otherwise noted, in which case the specific antenna heights and the DA power, if applicable, along the straight line azimuths between the reference station and the database station are used and visa versa. The column labeled "\* OUT \*" shows the distance in kilometers of overlap or clearance between the reference station's interference contour and the database station's protected contour. Negative distance figures in this column indicate outgoing overlap interference.

Under the "AZIMUTH" column, the first row of numbers indicate the bearings from True North of the data base stations in relationship with the reference station, while the numbers in the second row indicate the reverse bearings from the database station to the reference station. The columns labeled "INT" and "PRO" hold the distance in kilometers of the appropriate interference contour and the protected contour of a data base station. For I.F. relationships the "IN" and "OUT" columns change their significance. The letter "R" stands for the minimum required distance in kilometers, while the letter "M" in the next column follows the available clear space separation in kilometers. Minimum separation distances when displayed are taken from Sec 73.207 of the rules as amended.

Canadian and Mexican separation distances, U/D ratios and protected contour values are from the US/Mexican Working Agreement and the US/Canada Working Agreement".

The first three letters of the "TYPE" column identify the current FCC status of the stations. The fourth letter will be a "D" if the facility is directional. "Z" indicates a 73.215 directional. An "N" indicates it is a 73.215 station that operates omni. The fifth letter will be an E, H or V depending on the type of antenna polarization. The sixth letter will be a "Y" if the antenna uses beam tilt or an "X" if the commission is not sure, otherwise it will be an "N".