

EXHIBIT #12

INTERFERENCE ANALYSIS

Idaho State Board Of Education

Hailey, ID
BNPFT20030829AUM
ERP = 0.01 kW H & V

July 2007

Page #2 of this exhibit is a computer generated channel study, showing the contour-to-contour relationships between the proposed translator and adjacent stations. Page #3 is an explanation of the methods used in preparing the study. This proposal creates a contour overlap with co-located third-adjacent, class C2 station, KBSS, Sun Valley, Idaho.

Section 74.1204(a) of the Commission's Rules states that "an application for an FM translator station will not be accepted for filing if the proposed operation would involve overlap of predicted field strength contours with any other station, including commercial and noncommercial educational FM stations, FM translators and Class D (secondary) noncommercial educational FM stations." However, Section 74.1204(d) states that "the provisions of this section concerning prohibited overlap will not apply where the area of such overlap lies entirely over water. In addition, *an application otherwise precluded by this section will be accepted if it can be demonstrated that no actual interference will occur due to intervening terrain, lack of population or other such factors as may be applicable.*" (Emphasis added.)

Based on the undesired-to-desired signal ratio method, when contour overlap by a translator is caused to a third adjacent frequency¹, "interference is predicted to occur where the translator's undesired signal exceeds the protected station's desired signal by 40 dB or more."² Since the ERP of KBSS at its null point at 270 degree azimuth is 0.221 kW and the proposed omni-directional translator's ERP is only 0.01 kW, the translator's signal strength will always be at least 13.4 dB **below** the KBSS's signal. Since the translator's signal strength can be up to 40 dB **above** the KBSS signal strength before interference begins, no interference will occur under these conditions.

The reader should note that translator K216CY was operated by the applicant and it is no longer on the air, because it was replaced by the licensee with full service KBSS on the same frequency at the same site. K216CY is no longer in operation and should be removed from the Commission's CDBS database.

¹ *Second Report and Order*, FCC 00-368 at 9 and 39.

² *Memorandum Opinion and Order*, FCC 02-244 at 5 and 6, (In response to application of Living Way Ministries, Inc., File No. BPFT-19981001ITA.

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REFERENCE
 43 38 36.0 N.
 114 23 49.0 W.

CH# 213D - 90.5 MHz, Pwr= 0.01 kW, HAAT=567.5 M, COR= 2639 M
 Average Protected F(50-50)= 13.29 km

DISPLAY DATES
 DATA 07-03-07
 SEARCH 07-03-07

CH CITY	CALL	TYPE STATE	ANT STATE	AZI <--	DIST FILE #	LAT LNG	PWR(kW) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT* in km)
216C2 Sun Valley	KBSS	LIC	DCX ID	0.0 0.0	0.00 BLED20040901ABR	43 38 36.0 114 23 49.0	0.700 570	1.8 2644	43.4 Idaho State Board Of Educa	-16.16*<	-43.65*<
216D Sun Valley	K216CY	LIC	_CN ID	0.0 0.0	0.00 BLFT19941024TC	43 38 36.0 114 23 49.0	0.008 572	0.2 2644	13.4 Boise St. Univ., Id St Bd	-14.55*<	-13.58*<
06-2C Pocatello	KPVI	LI	_HN ID	115.1 296.5	184.85 BLCT2335	42 55 15.0 112 20 44.0	100.000 466	2078	43.4 Oregon Trail Broadcasting	134.5R	50.3M
06Z2C Nampa	KIVI	LI	_HN ID	275.8 94.6	137.72 BLCT20011217AAZ	43 45 21.0 116 05 54.0	56.000 857	2240	43.4 Journal Broadcast Corporat	134.5R	3.2M
212C Boise	KBSU-FM	LIC	_CY ID	275.8 94.6	137.72 BLED20010917AAP	43 45 21.0 116 05 54.0	17.500 827	123.7 2215	84.8 Idaho State Board Of Educa	1.84	34.55
214C Twin Falls	KCIR	LIC	_CY ID	155.8 336.4	159.03 BMLED19920811KA	42 20 07.0 113 36 17.0	20.000 768	127.1 2547	87.2 Faith Communications Corp	15.86	45.64
210C0 Twin Falls	KAWZ	LIC	_VX ID	180.8 0.8	101.51 BLED20060403ANA	42 43 47.0 114 24 52.0	100.000 302	9.6 1475	69.9 Calvary Chapel Of Twin Fal	76.99	31.44
216D Lower Stanley	K216CD	LIC	DHN ID	326.1 145.7	76.97 BLFT19911113TA	44 12 59.0 114 56 08.0	0.184 -332	0.1 1921	1.8 Idaho State Board Of Educa	66.39	74.94

Terrain database is NGDC 30 SEC
 ERP and HAAT are on direct line to and from reference station.
 Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, _= Omni), Polarization (C,H,V,E), Beam tilt(Y,N,X)
 "*"affixed to 'IN' or 'OUT' values = site inside protected contour.
 "<" = Contour Overlap

HOW TO READ THE FM COMPUTER PRINT-OUT

The computer printout 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 predicted from the F(50-50) table except when 10 miles or greater the contours are predicted from the Commission's F(50-10) table. Contour distances are in kilometers and are calculated using the Commission's TVFMINT FORTRAN subroutine (converted to C). 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. For these allocation studies the N.G.D.C. 30 arc-second terrain elevation database was 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 contour overlap. 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 contour overlap.

Under the "AZIMUTH" column, the first row of numbers indicate the True North bearings from the reference station toward the database stations, while the numbers in the second row indicate the reverse bearings from the database stations to the reference station.

The columns labeled "INT" and "PRO" contain 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 with an omni-directional antenna. 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".