

## Exhibit 12

### Interference Analysis Overlap Requirements

According to CFR 47 §74.1204(a), translators are required to protect all existing FM stations from interference due to overlap of the protected contours of the existing stations with the interfering contours of the new translators.

#### US Stations

In the attached tabular printout, only AP292, WZFS, and WCKG have outgoing contour overlaps from the proposed translator, so no interference to other stations is anticipated. Incoming overlap is not prohibited.

AP292 is the current application, and need not be protected.

WZFS, and WCKG are second adjacent to the proposed translator, and, according to §74.1204(d),

**"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 ... lack of population ... ."**

The F(50,50) signals from WZFS, and WCKG at the proposed site are 81.9 and 62.7 dBu respectively. The most difficult of these to protect is the smallest, 62.7 dBu. A 40 dB ratio of undesired to desired signal strength gives an allowable interfering F(50,10) field strength of 102.7 dBu. Utilizing the specified 4 bay half wave spaced antenna at 36 meters from the ground, the maximum signal strength on the ground is only 101.31 dBu, which is below the 102.7 dBu given above, and the interfering contour reaches down to 5.32 m AGL (see attached spreadsheet). There are no habitable buildings in the area which reach up to intersect the contour. Hence §74.1204(d) applies, and the predicted area of interference is acceptable to the Commission.

No other entries are sufficiently close to the proposed translator to require analysis.

## Exhibit 12

CSN International

REFERENCE	CH# 292D	- 106.3 MHz, Pwr= 0.025 kW, HAAT=62.6 M, COR= 240 M	DISPLAY DATES
42 15 36 N		Average Protected F(50-50)= 5.78 km	DATA 08-21-03
87 51 48 W	Ave. F(50-10) 40 dBu= 19.1	54 dBu= 8.1 80 dBu= 1.8 100 dBu= .4	SEARCH 08-25-03

CH	CALL	TYPE	AZI.	DIST	LAT.	Pwr (kW)	COR (M)	PRO (km)	*IN*	*OUT*
CITY	STATE		<--	FILE #	LNG.	HAAT (M)	INT (km)	LICENSEE	(Overlap	in km)
292D	AP292	APP C	0.0	0.00	42 15 36	0.008	240	3.3	-14.60*	-15.99*
Lake Bluff	IL		180.0	BNPFT20030312AIK	87 51 48	38	12.7	Csn International		
294B	WZFS	LIC C	215.8	16.82	42 08 14	50.000	347	64.5	6.48	-48.36*
Des Plaines	IL		35.8	BLH19990818KA	87 58 57	146	0.7	Salem Media Of Illinois, L		
290B	WCKG	LIC CX	156.0	46.34	41 52 44	4.100	661	65.9	37.45	-20.23*
Elmwood Park	IL		336.0	BMLH200111101AAC	87 38 08	479	0.7	Infinity Holdings Corporat		
292A	WYCA.A	APP ZCX	160.8	80.09	41 34 44	3.584	309	28.3	-8.45	36.60
Lansing	IL		340.8	BPH20020917ABC	87 32 47	131	15.1	Dontron, Inc.		
292A	WYCA	LIC CN	160.8	80.10	41 34 44	2.000	309	24.9	0.08	40.06
Lansing	IL		340.8	BLH19860430KC	87 32 46	131	15.1	Dontron, Inc.		
292A	WYCH	LIC CX	255.7	81.96	42 04 28	3.800	380	28.8	-6.79	40.49
Genoa	IL		75.7	BLH20021203ACD	88 49 24	132	12.7	Dontron, Inc.		
291B	WMILFM	LIC CN	358.0	91.98	43 05 15	13.000	507	66.6	9.76	17.38
Waukesha	WI		178.0	BLH19940516KA	87 54 13	312	8.0	Clear Channel Broadcasting		

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"\*\*Affixed to 'IN' or 'Out' values = site inside protected contour.

ERP and HAAT are on direct line to and from reference station.

## Exhibit 12

### *Freespace Interference Study based on Vertical Radiation Pattern ERI Series 100 4-bay 1/2-wave spaced antenna*

Depression Angle from Antenna	Antenna Relative Field	ERP Watts	ERP dBk	Distance to Ground from Antenna (m)	Free Space Signal (dBu)	2.5 dB Loss for Reflection	Signal Strength at Ground (dBu)	Circular Distance From Tower (m)	Distance to Contour using Free Space (m)	Height of Contour above Ground (m)
90	0.001	0.000	-76.02	36.00	59.77	2.5	57.27	0.00	0.19	35.81
85	0.002	0.000	-70.00	36.14	65.76	2.5	63.26	3.15	0.39	35.62
80	0.010	0.003	-56.02	36.56	79.64	2.5	77.14	6.35	1.93	34.10
75	0.021	0.011	-49.58	37.27	85.92	2.5	83.42	9.65	4.05	32.09
70	0.043	0.046	-43.35	38.31	91.90	2.5	89.40	13.10	8.29	28.21
65	0.073	0.133	-38.75	39.72	96.19	2.5	93.69	16.79	14.07	23.25
60	0.110	0.303	-35.19	41.57	99.35	2.5	96.85	20.78	21.20	17.64
55	0.150	0.563	-32.50	43.95	101.56	2.5	99.06	25.21	28.91	12.32
50	0.185	0.856	-30.68	46.99	102.80	2.5	100.30	30.21	35.66	8.69
45	0.200	1.000	-30.00	50.91	102.78	2.5	100.28	36.00	38.55	8.74
40	0.182	0.828	-30.82	56.01	101.14	2.5	98.64	42.90	35.08	13.45
35	0.115	0.331	-34.81	62.76	96.16	2.5	93.66	51.41	22.17	23.29
30	0.001	0.000	-76.02	72.00	53.75	2.5	51.25	62.35	0.19	35.90
25	0.177	0.783	-31.06	85.18	97.25	2.5	94.75	77.20	34.11	21.58
20	0.393	3.861	-24.13	105.26	102.34	2.5	99.84	98.91	75.75	10.09
15	0.615	9.456	-20.24	139.09	103.81	2.5	101.31	134.35	118.53	5.32
10	0.815	16.606	-17.80	207.32	102.79	2.5	100.29	204.17	157.08	8.72
5	0.952	22.658	-16.45	413.05	98.15	2.5	95.65	411.48	183.49	20.01

Distance to Ground Level assumes flat ground or a site where the site level is above average terrain in all azimuths.

Maximum ERP	25 watts	Max dBu at Ground Level	101.31	Lowest Height of Contour	5.32
Radiation Center AG	36 m				
Radiation Center AG	118 ft.				
Maximum ERP	-16.02 dBk				
Protected dBu	62.7 dBu				
Interfering dBu	102.7 dBu				
Free Space Distance	257.02 m				