

Frankfort, Kentucky  
Application for New FM Translator  
On Channel 294  
by  
Eastern Kentucky University

Exhibit 12  
Interference Analysis

June 2008

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Declaration

I declare, under penalty of perjury, that I am a technical consultant to broadcasting and other communications systems, that I have over twenty-five years of experience in the engineering of broadcast and other communications systems, that I am familiar with the Federal Communications Commission's Rules found in the Code of Federal Regulations Title 47, that I am a Professional Engineer registered in North Carolina, that I have prepared or supervised the preparation of the attached Exhibit 12, Interference Analysis, for Eastern Kentucky University, and that all of the facts therein, except for facts of which the Federal Communications Commission may take official notice, are true to the best of my knowledge and belief.



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### Narrative

This Exhibit provides details of the allocations for the proposed new translator to serve Frankfort, Kentucky. This application is filed in response to Public Notice DA-08-1151, Dated May 16, 2008. This is the initial long form application for facilities which EKU filed an expression of interest for the in 2003 filing window. This proposal complies fully with the requirements of 47 C.F.R. 74.1204(a).

This application is in compliance with the requirements of Public Notice DA-03-2095, FM Translator Auction No. 83 Non-Mutually Exclusive Applications dated June 30, 2003, Footnote 8. No changes are proposed. Therefore there are no new mutual exclusivities as shown in the allocation table in this exhibit.

Figure 1 shows the proposed 60 dBu F(50,50) coverage area.

### Allocations

This application proposes service to Frankfort, Kentucky, on channel 294. An updated Allocations Table is included in this exhibit with a list of the stations, construction permits, allocations, and applications studied. All are protected by this application. The allocations table was prepared using the NED 3 arcsecond terrain database which is described below.

Figure 2 shows the relationship between the proposed translator and other facilities where the lack of overlap is no more than 16 kilometers (10 miles). Allotments and channel reservations are shown as class maximum facilities.

### Source of Data

Transmitter location, effective radiated power, directional antenna pattern, and elevation data are extracted from the Commission's CDBS. All contours for existing and proposed facilities are calculated using height above average terrain calculated at one degree

horizontal increments. Terrain data for the comparative contours is extracted from the NGDC 30 arcsecond terrain database. The Height Above Average Terrain, ERP, and Distance to Contour for the licensed facilities and for the proposed auxiliary facilities are tabulated in this exhibit.

The contours were also evaluated using terrain extracted from the V-Soft Communications NED 03 terrain database. The NED 03 database is derived from the USGS National Elevation Data 30 meter terrain database. The USGS National Elevation Dataset has been developed by merging the highest-resolution, best-quality elevation data available across the United States into a seamless raster format. NED is the result of the maturation of the USGS effort to provide 1:24,000-scale Digital Elevation Model (DEM) data for the conterminous US and 1:63,360-scale DEM data for Alaska.

All population data is from 2000 U.S. Census SF1 data files. Population is counted by considering the location of the centroid of each census bloc. The data for each block is counted if it falls within the area being counted.

#### Television Channel 6 Protection

There are no television channel 6 stations requiring protection. This application proposes a channel which is not subject to television channel 6 separation requirements.

Table 1: Allocations

Timothy L. Warner, Inc.  
Asheville, North Carolina

Eastern Kentucky University  
Allocation Study

REFERENCE CH# 294D - 106.7 MHz, Pwr= 0.027 kw, HAAT= 49.1 M, COR= 281 M DISPLAY DATES  
38 12 53.0 N. Average Protected F(50-50)= 5.2 km DATA 06-19-08  
84 54 32.0 W. Omni-directional SEARCH 06-19-08

CH CITY	CALL	TYPE ANT STATE	AZI. <--	DIST FILE #	LAT. LNG.	Pwr(kw) HAAT(M)	INT(km) COR(M)	PRO(km) LICENSEE	*IN* (Overlap in km)	*OUT*
294D Frankfort	636422	APP C KY	0.0 0.0	0.00 BNPFT20030314AKW	38 12 53.0 84 54 32.0	0.027	18.9 281	5.7 Eastern Kentucky University	-24.66*	-24.66*
294A Williamstown One Step Application	WNKR	RSV KY	28.0 208.2	59.71	38 41 19.0 84 35 07.0	6.000 100	86.5 351	28.1 Grant County Broadcasters,	-33.79*<	8.08
294A Williamstown One Step Application	WNKR	CP CX KY	28.0 208.2	59.71 BPH20050831ACN	38 41 19.0 84 35 07.0	1.800 185	80.8 432	27.9 Grant County Broadcasters,	-28.14*<	8.30
295B St. Matthews reallot from Louisville, KY.	RADD	ADD KY	282.6 102.0	82.09	38 22 19.0 85 49 33.0	50.000 150	83.4 338	69.5 Cxr Holdings, LLC	-5.59*<	4.04
295B St. Matthews	WVEZ	LIC CX KY	282.6 102.0	82.09 BLH20070706AAP	38 22 19.0 85 49 33.0	24.500 204	79.9 391	67.3 Cox Radio, Inc.	-2.07<	6.19
294A Berea	WLFX	LIC ZC KY	132.5 312.9	90.79 BLH20010508AAK	37 39 40.0 84 08 55.0	3.300 138	83.4 413	28.3 wallingford Communications	1.49	42.80
292A Versailles	WCDA	LIC CN KY	117.3 297.5	40.44 BLH19990115KB	38 02 51.0 84 29 57.0	3.700 128	2.7 416	29.7 L.m. Communications, Inc	32.60	10.41
293A Williamstown	WNKR	LIC CN KY	22.6 202.8	56.23 BLH19920428KA	38 40 54.0 84 39 33.0	1.400 145	37.4 387	24.9 Grant County Broadcasters,	11.18	20.54
294B Hillsboro	RDEL	DEL OH	46.5 227.3	154.87	39 09 58.0 83 36 25.0	50.000 150	136.4 462	63.7 Citicasters Licenses, Inc.	12.49	62.91
296A Wilmore	WLAI	APP ZCX KY	131.5 311.7	42.62 BPED20080429ABU	37 57 37.0 84 32 42.0	3.600 128	2.6 412	28.0 Educational Media Foundation	34.21	14.26
296A Danville	WLAI	CP CX KY	164.2 344.3	52.34 BPED20050726AIZ	37 45 40.0 84 44 46.0	4.400 118	2.8 379	29.9 Educational Media Foundation	43.83	22.10
294B Hillsboro	WSRW-FM	LIC CN OH	46.5 227.3	154.87 BLH19850911KA	39 09 58.0 83 36 25.0	50.000 75	124.2 388	49.5 Cc Licenses, LLC	24.64	77.06
296A Wilmore	AL8353	RSV KY	142.2 322.4	54.51 RM11315	37 49 36.0 84 31 42.0	6.000 100	2.5 364	25.2	45.93	28.92
296A Danville	WLAI	LIC NC KY	168.4 348.4	61.23 BMLED20050131AQF	37 40 28.0 84 46 06.0	4.900 48	1.9 325	19.0 Educational Media Foundati	54.28	41.90

Terrain database is NED 03 SEC Distance + R = 73.215 or FCC spacings in KM, Distance + M = Margin in KM  
Contour distances are on direct line to and from reference station. Reference Zone = 2. with 3rd Adj Channels.  
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtillt(Y,N,X)  
"\*"affixed to 'IN' or 'OUT' values = site inside protected contour.  
"<" = Contour overlap

**NewT**  
BNPFT20030314AKW  
Latitude: 38-12-53 N  
Longitude: 084-54-32 W  
ERP: 0.027 kW  
Channel: 294 106.7 MHz  
AMSL Height: 281.0 m  
Elevation: 263.0 m  
Horiz. Pattern: Omni

Timothy L. Warner, Inc.



