

Harlan, Kentucky
Application for New FM Translator
On Channel 242
by
Eastern Kentucky University

Exhibit 12
Interference Analysis

June 2008

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Timothy L. Warner, Inc.
Post Office Box 8045
Asheville, North Carolina 28814-8045
(828) 258-1238
twarner@tlwinc.net

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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.



Timothy L. Warner, P.E.
Post Office Box 8045
Asheville, North Carolina 28801
(828) 258-1238
twarner@tlwinc.net
20 June 2008

Narrative

This Exhibit provides details of the allocations for the proposed new translator to serve Harlan, 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 Harlan, Kentucky, on channel 242. 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 of the proposed interference contours is no more than 16 kilometers (10 miles). Figure 2a provides an expanded scale to show the lack of prohibited contour overlap. 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

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Asheville, North Carolina

Eastern Kentucky University
Allocation Study

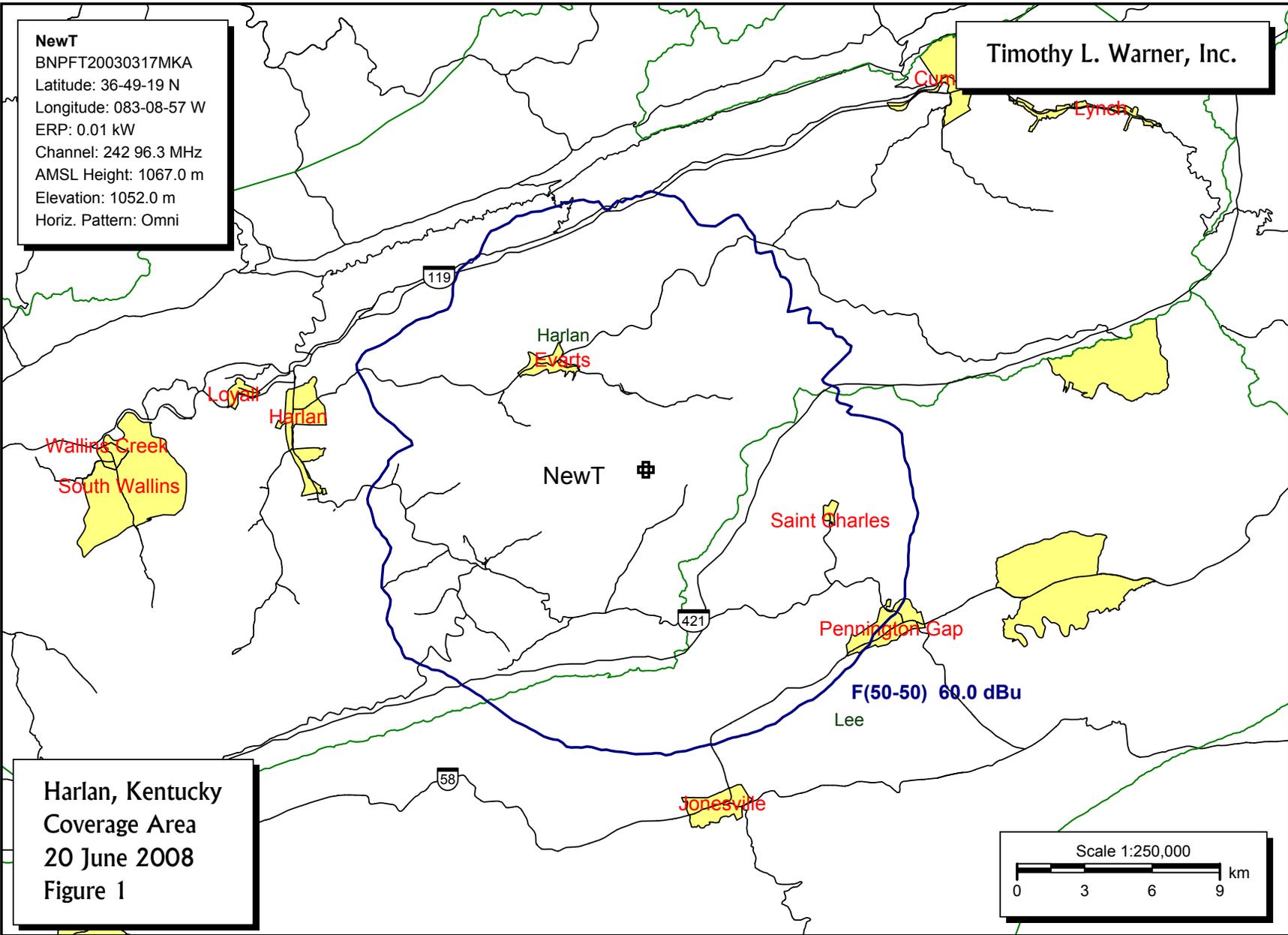
REFERENCE CH# 242D - 96.3 MHz, Pwr= 0.01 kw, HAAT= 459.6 M, COR= 1067 M DISPLAY DATES
36 49 19.0 N. Average Protected F(50-50)= 12.2 km DATA 06-19-08
83 08 57.0 W. Omni-directional SEARCH 06-19-08

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*
242D Harlan	651902	APP C	KY	0.0	0.00	36 49 19.0	0.010	43.3	12.3	-55.54*	-55.54*
1067 Eastern Kentucky University											
243C1 Williamson	WXCC	LIC ZCX	WV	45.6	110.39	37 30 48.0	75.000	108.0	73.7	-7.89<	22.32
226.1 BLH20071205ABF 339 759 East Kentucky Radio Network											
241C3 Barbourville	WKKQ	LIC NCN	KY	274.4	67.02	36 51 55.0	25.000	58.2	37.3	-2.09<	14.25
93.9 BLH19920903KC 99 458 Barbourville Community Bro											
245C Bristol	WXBQ-FM	LIC DCN	VA	115.3	100.34	36 25 59.0	75.000	14.2	97.0	73.46	3.16
295.9 BLH19950914KB 683 1308 Bristol Broadcasting Company											
240C2 Colonial Heights	WRZK	LIC ZCX	TN	123.0	60.00	36 31 36.0	7.400	4.9	53.7	42.54	6.12
303.4 BLH20031125ALT 382 841 Murray Communications											
242A Seymour	WJBZ-FM	LIC CN	TN	206.9	109.95	35 56 17.0	2.900	79.6	26.5	17.76	38.28
26.6 BLH19950320KB 146 451 Seymour Communications											
242D Mill Point	977425	APP C	TN	112.1	78.13	36 33 18.0	0.010	26.6	7.9	39.10	25.74
292.6 BNPFT20030826APG 653 Way-fm Media Group, Inc.											
242D Mill Point	632398	APP C	TN	112.1	78.15	36 33 18.0	0.010	26.5	7.9	39.18	25.78
292.6 BNPFT20030311AIT 653 Way-fm Media Group, Inc.											
244D Hazard	w244BW	LIC C	KY	2.7	38.85	37 10 18.0	0.010	0.2	7.4	26.39	31.22
182.7 BLFT20050304ABR 623 Philip H. Hayes											
245D Barbourville	w245AS	LIC C	KY	273.8	64.50	36 51 30.0	0.055	0.5	4.8	52.90	59.45
93.4 BLFT20050509AAV 388 Eastern Kentucky University											
242C3 Stanford	WXKY-FM	LIC C	KY	297.6	171.55	37 31 27.0	4.900	99.1	38.1	59.79	87.65
116.6 BMLLED20040907ABM 223 542 Educational Media Foundation											
242A Morehead	WIVY	LIC NCX	KY	351.5	151.99	38 10 33.0	2.150	76.5	25.4	63.93	86.66
171.3 BLH20070911AAL 158 453 Gateway Radio Works, Inc.											
244A Annville	WANV	LIC NCX	KY	299.9	90.43	37 13 24.0	1.850	2.2	25.4	75.80	64.85
119.3 BLH20060823AAC 152 506 F.t.g. Broadcasting, Inc.											
243C3 Biltmore Forest	WOXL-FM	LIC ZCX	NC	162.6	143.25	35 35 23.0	1.850	62.3	41.0	68.44	83.22
342.9 BLH20020220AAL 357 1105 Saga Communications Of Nor											

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), Beamtlt(Y,N,X)
"*"affixed to 'IN' or 'OUT' values = site inside protected contour.
"<" = Contour overlap

NewT
BNPFT20030317MKA
Latitude: 36-49-19 N
Longitude: 083-08-57 W
ERP: 0.01 kW
Channel: 242 96.3 MHz
AMSL Height: 1067.0 m
Elevation: 1052.0 m
Horiz. Pattern: Omni

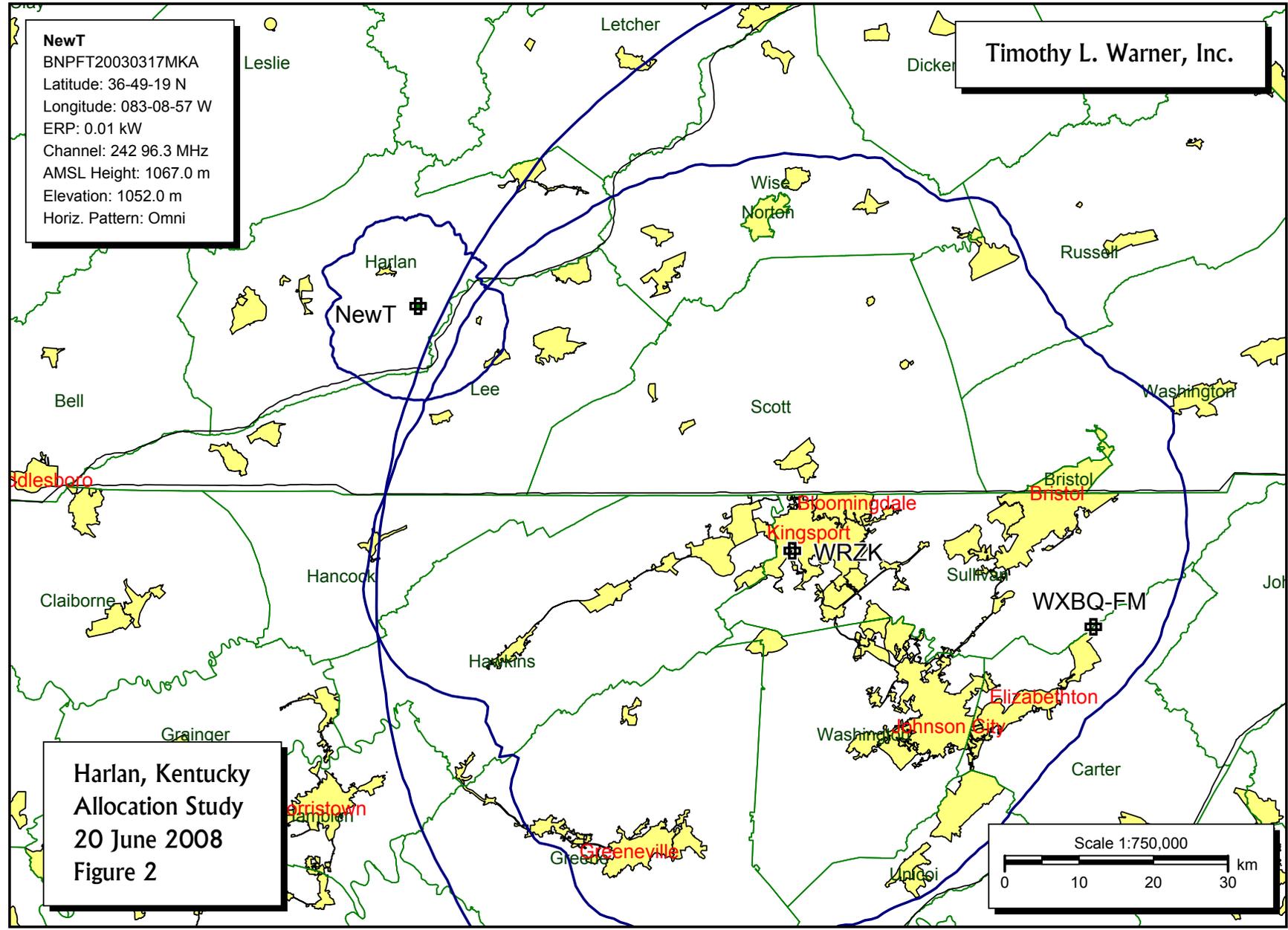
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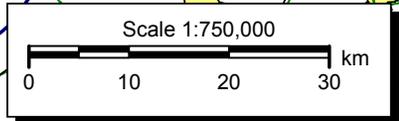
**Harlan, Kentucky
Coverage Area
20 June 2008
Figure 1**

NewT
BNPFT20030317MKA
Latitude: 36-49-19 N
Longitude: 083-08-57 W
ERP: 0.01 kW
Channel: 242.96.3 MHz
AMSL Height: 1067.0 m
Elevation: 1052.0 m
Horiz. Pattern: Omni

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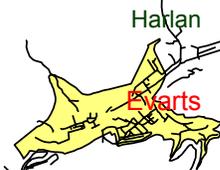


**Harlan, Kentucky
Allocation Study
20 June 2008
Figure 2**



NewT
BNPFT20030317MKA
Latitude: 36-49-19 N
Longitude: 083-08-57 W
ERP: 0.01 kW
Channel: 242.96.3 MHz
AMSL Height: 1067.0 m
Elevation: 1052.0 m
Horiz. Pattern: Omni

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WXBQ-FM F(50,50) 60.0 dBu

F(50-10) 100.0 dBu

NewT

WKKQ F(50,50) 60.0 dBu



**Harlan, Kentucky
Allocation Study Detail
20 June 2008
Figure 2a**

