

[Exhibit 12]

## **Non-Interference Compliance**

Regarding FCC File Number: BNPFT-20030317IJY

Channel: 255

### **Description of Exhibit 12 Contents**

This exhibit demonstrates that the proposed facility complies with contour overlap and interference protection provisions in all the applicable rule sections and that this application for a construction permit is in full compliance with 47 CFR 74.1204.

Page 2 of this exhibit is an explanation of the tabulated data, which is included as evidence on page 5 of this exhibit.

Pages 3 and 4 of this exhibit contain an explanation of the method used to demonstrate compliance with contour overlap and interference protection provisions based on 47 CFR 74.1204(d), which states:

*"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 such other factors as may be applicable."*

In addition, page 4 includes a tabulation of the second and third adjacent stations which this application is required to protect and the field strengths of those stations in the vicinity of the proposed translator. The field strengths given were based on contours predicted using FCC contour algorithms and 3 arc second terrain data.

**Let it be noted that should any actual real world interference occur, the applicant certifies that it will promptly suspend operation of this translator in accordance with 47 CFR 74.1203.**

Page 5 of this exhibit is the tabulated data from the interference analysis, which shows all stations that this application had to consider for contour protection. These tabulated values were generated using high resolution 3 arc second terrain data for the best possible accuracy.

Page 6 of this exhibit is a portion of a USGS 1:24,000 scale 7.5 min quadrangle at full scale with the calculated area of interference overlayed. The sheet includes the quadrangle name and measurement scale at the bottom-left corner (note: "Mt" refers to meters). The area of interference was calculated using a free-space calculation (see FCC 98-117, Appendix A, pg. 41 for reference to the equation used).

Page 7 of this exhibit is a high resolution aerial photo of the vicinity surrounding the proposed translator's tower site provided by the U.S. Geological Survey's National Aerial Photography Program. It has been included to provide clarification of the nature of the buildings in the vicinity.

Since the proposed translator is 290.6 km from the Canadian border, 47 CFR 74.1235(d) has been taken into account and this applicant certifies that in no direction does the 34 dBu F(50,10) extend beyond 60 km, and this application is therefore in full compliance with 47 CFR 74.1235(d)(3), which states that "the distance to the 34 dBu interfering contour may not exceed 60 km in any direction," and hence in compliance with 47 CFR 74.1204(h).

## Explanation of Frequency Finder Results

The interference analysis for this application was performed using the "Frequency Finder" module in RadioSoft's Comstudy, version 2.2.

Frequency Finder analyzes data taken directly from the FCC's FM database and looks for prohibited overlap with contours of adjacent stations and prohibited proximity to stations 53 or 54 channels from the proposed station (IF) using 3 arc second terrain data and the FCC's contour algorithms. The results tabulated are the stations returned from that analysis. (Note: Because Comstudy was looking at the FCC's FM database, it took into account the proposed translator when doing the analysis and returned it in the tabulated results. For the sake of simplicity, that record has been deleted from all tabulated results.)

The first several columns of the table are self-explanatory. They give various data on the stations in question. The column labeled "Clr" gives the proposed translator's "clearance" with respect to the tabulated station, either in dB or km. The values listed with no units are given in km and are for stations located on an IF to the proposed site's channel.

**A negative value in the "Clr" column does NOT necessarily represent prohibited contour overlap, as explained below.**

A negative value listed in the "Clr" column would indicate either overlap of interference and protected contours or prohibited proximity to an IF station except in the following situations:

- Since the proposed station's Effective Radiated Power (ERP) is 8 watts, a negative value in km (no units listed in the table) does not represent a violation of the CFR, according to 47 CFR 1204(g), which states that "FM translator stations and booster stations operating with less than 100 watts ERP will be treated as class D stations and will not be subject to intermediate frequency separation requirements."

- A second or third adjacent LP100 station cannot represent a violation of the CFR, as 47 CFR 74.1204(a)(4) requires protection of only co-channel and first adjacent LP100 stations.

- 47 CFR 74.1204(a) requires only the protection of "AUTHORIZED commercial or noncommercial educational FM broadcast stations, FM translators, ..." Any entry with a status listed as "RSV," "USE" or "APP" does not represent an authorized station and therefore is not protected under 47 CFR 74.1204. The one exception is the case of LP100 applications. The note to 47 CFR 74.1204(a)(4) states that "LPFM applications and permits that have not yet been licensed must be considered as operating with the maximum permitted facilities." Therefore, any first adjacent or co-channel LP100 station, no matter the status, is protected.

- Entries highlighted in red are those stations where there is overlap of predicted contours and lack of population has been demonstrated within the area of interference.

## Compliance with 47 CFR 74.1204(d)

The proposed translator's Maximum Effective Radiated Power (ERP) is 0.008kW at 52 meters above ground level. According to 47 CFR, 74.1204(a), the desired to undesired ratio between 2nd/3rd adjacent stations is 40dB, making the proposed translator's interfering contour 99.5dBu F(50,10). (See the next page for more discussion on the determination of the signal strength of the proposed translator's area of interference.)

Using a free-space calculation (equation referenced in FCC 98-117, Appendix A, pg. 41), the proposed translator's F(50,10) interference contour was calculated and the maximum horizontal plane was plotted on the pertinent portion of a USGS quadrangle (page 6 of this exhibit). However, the field strength of the proposed translator's antenna varies with angle of depression from horizontal. The antenna relative fields are tabulated below at 5 degree increments, starting at 5 degrees below horizontal. Antenna relative field strength data was provided and certified by the manufacturer of the proposed antenna. Using a free space calculation that neglects any loss due to reflection (equation referenced in FCC 98-117, Appendix A, pg. 41), the vertical ground clearance of the proposed application's F(50,10) interference contour at each angle has been tabulated. As shown below, the area of interference clears the ground by 7.8 meters at the lowest point. The applicant has taken into account USGS quadrangles and relevant aerial photography in stating that no structures, except possibly tower support structures, puncture the proposed area of interference. Hence, in accordance with 47 CFR 74.1204(d) and the clarification provided by the FCC in the decision Re: Living Way Ministries (FCC 02-244), there is a lack of population within the proposed area of interference and therefore this application is in full compliance with 47 CFR 74.1204.

**Antenna Manufacturer:** SWR

**Maximum ERP:** 8 watts

**Antenna Model Number:** 3FM1-0.5

**CORAGL:** 52 m

**F(50,10) Contour:** 99.5 dBu

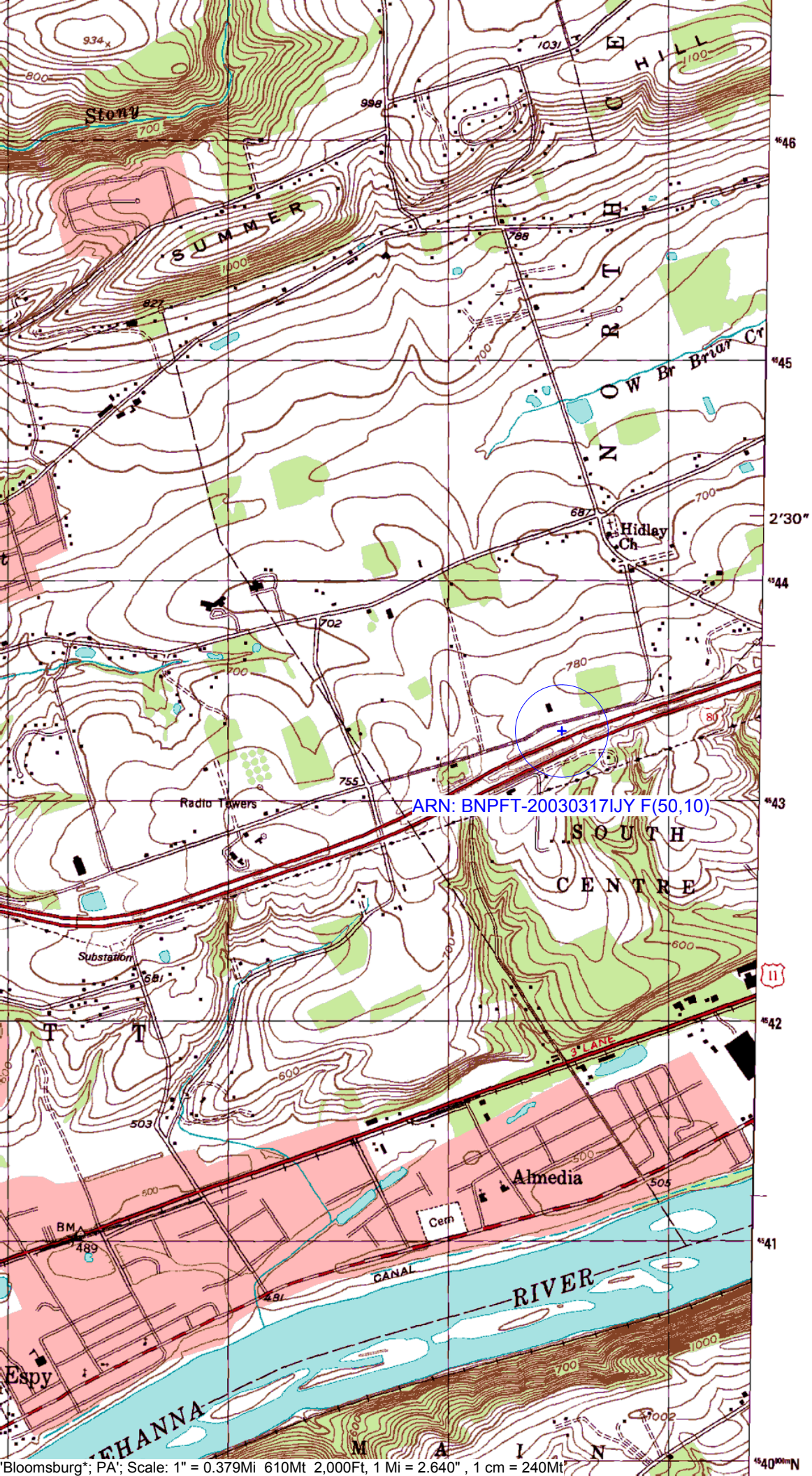
Depression Angle (from COR)	Antenna Relative Field	ERP (watts)	Distance to F(50,10) Interfering Contour from Antenna (m)	Horizontal Distance of F(50,10) Interfering Contour from Tower (m)	Vert. Clearance of F(50,10) Interfering Contour above TGL (m)
5	0.972	7.56	204.3	203.5	34.2
10	0.891	6.35	187.3	184.4	19.5
15	0.767	4.71	161.2	155.7	10.3
20	0.615	3.03	129.2	121.5	7.8
25	0.452	1.63	95.0	86.1	11.9
30	0.293	0.69	61.6	53.3	21.2
35	0.151	0.18	31.7	26.0	33.8
40	0.035	0.01	7.4	5.6	47.3
45	0.052	0.02	10.9	7.7	44.3
50	0.109	0.10	22.9	14.7	34.5
55	0.141	0.16	29.6	17.0	27.7
60	0.151	0.18	31.7	15.9	24.5
65	0.146	0.17	30.7	13.0	24.2
70	0.131	0.14	27.5	9.4	26.1
75	0.11	0.10	23.1	6.0	29.7
80	0.085	0.06	17.9	3.1	34.4
85	0.059	0.03	12.4	1.1	39.6
90	0.033	0.01	6.9	0.0	45.1

Minimum F(50,10) Clearance above TGL **7.8 m**

The F(50,50) signal strength of all relevant second and third adjacent stations have been examined, and are tabulated below. Column three shows the station's signal level at the proposed translator's tower site, and column four gives the minimum value within the entire proposed translator's standard F(50,10) contour (100 dBu for most classes, 94 dBu for class B's, 97 dBu for class B1's). For signal levels too great to determine, 999 was entered. The minimum F(50,50) contour within the proposed translator's standard F(50,10) contour was used to calculate the proposed translator's interference contour, thereby assuring a minimum undesired-to-desired ratio of 40dB for all relevant adjacent stations, as required in 47 CFR, 74.1204(a).

FCC File Number	Call Sign	F(50,50) Contour at Tower	Min. F(50,50) Contour
BLH19880128KE	WKRZ	59.7dBu	59.5dBu
Minimum F(50,50) Protected Contour of Adjacent Station Within Proposed Translator's standard F(50,10) Contour:			<b>59.5dBu</b>

Callsign	State	City	Channel	ERP_w	Licensee	ARN	Class	Status	Distance_km	Clr	Facility_id
WKRZ	PA	WILKES-BARRE	253	8700	ENTERCOM WILKES-BARRE SCRANTON, LLC	BLH19880128KE	B	LIC	51.13	-5.97 dB	34379
NEW	PA	HAZELTON	255	10	FOUR RIVERS COMMUNITY BROADCASTING CORPORATION	BNPFT20030317BDT	D	APP	36.73	1.22 dB	141464
NEW	PA	SCRANTON	255	10	FAMILY LIFE MINISTRIES, INC.	BNPFT20030317AQD	D	APP	69.25	10.00 dB	144931
WZXR	PA	SOUTH WILLIAMSPORT	257	410	SOUTH WILLIAMSPORT SABRECOM, INC.	BLH19950113KA	A	LIC	51.71	11.53 dB	61180
	PA	FREELAND	253	0		RM10697	B	APP	51.13	17.91 dB	0
	PA	WILKES-BARRE	253	0		RM10697	B	APP	51.13	17.91 dB	0
WKRZ	PA	WILKES-BARRE	253	0	ENTERCOM WILKES-BARRE SCRANTON, LLC		B	USE	51.13	17.91 dB	34379
WZXR	PA	SOUTH WILLIAMSPORT	257	0	SOUTH WILLIAMSPORT SABRECOM, INC.		A	USE	51.71	18.96 dB	61180
WQLV	PA	MILLERSBURG	255	780	HEPCO COMMUNICATIONS, INC.	BLH19920306KA	A	LIC	85.14	18.94 dB	26975
WWBE	PA	MIFFLINBURG	252	1400	B-98 BROADCASTING, INC	BLH19950915KD	A	LIC	53.9	18.35 dB	40424
	PA	SOUTH WILLIAMSPORT	257	0		RMDD-98B	A	APP	51.71	18.96 dB	0
NEW	PA	HOMETOWN	202	175	PENSACOLA CHRISTIAN COLLEGE, INC.	BNPED19991203AAS	A	APP	30.73	20.7	121972
WAAL	NY	BINGHAMTON	256	7100	CITADEL BROADCASTING COMPANY	BLH6186	B	LIC	119.49	22.78 dB	7920
WUSL	PA	PHILADELPHIA	255	27000	AMFM RADIO LICENSES, L.L.C.	BPH19980316IE	B	CP	146.47	23.96 dB	20349
W256AB	PA	POTTSVILLE	256	100	TEMPLE UNIV OF COMMONWEALTH SYSTEM	BLFT19950823TB	D	LIC	42.63	23.77 dB	65179
WUSR	PA	SCRANTON	258	300	UNIVERSITY OF SCRANTON	BLED19930303KB	A	LIC	71.19	23.98 dB	69198
WUSL	PA	PHILADELPHIA	255	32000	AMFM RADIO LICENSES, L.L.C.	BLH19980922KD	B	LIC	146.47	24.91 dB	20349
WUSL	PA	PHILADELPHIA	255	18000	AMFM RADIO LICENSES, L.L.C.	BLH7679	B	LIC	146.94	24.91 dB	20349
890828MR	PA	MILLERSBURG	255	0	DOUGLAS W. GEORGE		A	USE	75.64	25.18 dB	17456
WRGN	PA	SWEET VALLEY	201	500	GOSPEL MEDIA INSTITUTE, INC.	BLED19890518KA	A	LIC	36.77	26.8	24681
WAWZ	NJ	ZAREPHATH	256	37000	PILLAR OF FIRE	BMLH19890919KC	B	LIC	160.14	27.36 dB	52601
WYCR	PA	YORK-HANOVER	253	10500	RADIO HANOVER, INC.	BLH4102	B	LIC	138.84	27.67 dB	54608
WAWZ	NJ	ZAREPHATH	256	28000	PILLAR OF FIRE	BMPH20001221ABZ	B	CP MOD	160.19	27.97 dB	52601
WJBR-FM	DE	WILMINGTON	258	50000	NM LICENSING, LLC	BLH19910528KG	B	LIC	151.88	28.39 dB	14374
WAWZ	NJ	ZAREPHATH	256	17800	PILLAR OF FIRE	BXPH20020613AAM	B	CP	160.19	30.30 dB	52601
WHKF	PA	HARRISBURG	257	1350	CLEAR CHANNEL BROADCASTING LICENSES, INC.	BMLH20001011AAI	A	LIC	101.92	33.75 dB	23464
W202BD	PA	HAZLETON	202	4	PENSACOLA CHRISTIAN COLLEGE, INC.	BLFT19971209TJ	D	LIC	34.71	34.7	78874
NEW	PA	GETTYSBURG	255	38	FOUR RIVERS COMMUNITY BROADCASTING CORPORATION	BNPFT20030317BER	D	APP	150.11	35.74 dB	141649
	PA	SOUTH WILLIAMSPORT	257	0		RMDD-98B	A	APP	45.01	35.19 dB	0
WGLU	PA	EBENSBURG	256	50000	DAME BROADCASTING, LLC	BMLH19960724KA	B	LIC	213.29	35.09 dB	64845
NEW	PA	SCOTLAND	255	10	TEMPLE UNIVERSITY OF THE COMMONWEALTH SYSTEM OF HIGHER ED.	BNPFT20030313AQH	D	APP	150.64	35.35 dB	143237
WUSL	PA	PHILADELPHIA	255	0	AMFM RADIO LICENSES, L.L.C.		B	USE	146.94	36.71 dB	20349
WOWY	PA	PLEASANT GAP	254	2200	FOREVER BROADCASTING, LLC	BLH20011126AAD	A	LIC	116.26	36.53 dB	30445
NEW	NY	PORT JERVIS	255	10	SUSAN CLINTON	BNPFT20030314BXZ	D	APP	137.58	36.33 dB	147347







Search TerraServer



## Terra-Map Server

View: Aerial Photo



1 meter resolution



Longitude: -76.38569

Latitude: 41.03283

Width: 600

Height: 400

Grid Width: 1

Projection: GEO

Grid Color: ffffffff

Border Width: 0

Border Color: ffffffff

Font Size: 8

Font Color: ffffffff

Landmarks:

--- None ---



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7 km NE of Bloomsburg, Pennsylvania, United States April 08, 1999



Image courtesy of the U.S. Geological Survey

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