

## **Non-Interference Compliance**

Regarding Facility id 144032

Channel 293

### **Description of Exhibit 13 Contents**

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

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

Page 2 of this exhibit is an explanation of the method used to demonstrate compliance with contour overlap and interference provisions based on 47 C.F.R. § 74.1204(d), which states:

*[A]n 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.*

Page 3 contains a tabulation of the vertical radiation pattern of the proposed antenna and the minimum ground clearance of the interfering contour based on this pattern.

Pages 4 through 5 include a tabulation of the vertical radiation pattern for the proposed antenna provided by the antenna manufacturer.

Page 6 of this exhibit contains the tabulated data from the interference analysis, which shows all stations whose protected contours come within 50 km of the 34 dBμ F(50,10) contour of the proposed translator. These tabulated values were calculated using data from the FCC's CDBS files and 30 arc second terrain data. The column labeled "Adj" shows the number of channels difference between the entry and the proposed translator. The column labeled "Dist" shows the distance in km. The column labeled "Overlap" shows the area of contour overlap in square kilometers.

Page 7 of this exhibit is a portion of a USGS 1:24,000 scale 7.5 minute quadrangle at full scale with the calculated area of interference overlaid. 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 the free space equation and 120 radials.

Page 8 of this exhibit is an aerial photo of the vicinity surrounding the proposed translator's tower site.

### Compliance with 47 C.F.R. § 74.1204(d)

All authorized second and third adjacent stations with which the proposed translator has contour overlap are tabulated below. Column four show the station's signal level at the proposed translator's tower site, and column five gives the minimum value within the entire standard interfering contour of the proposed translator (100 dBμ for most classes, 94 for class B, 97 for class B1). The minimum second or third adjacent F(50,50) contour within the proposed translator's standard interfering contour was used to calculate the proposed translator's actual "worst-case" interfering contour.

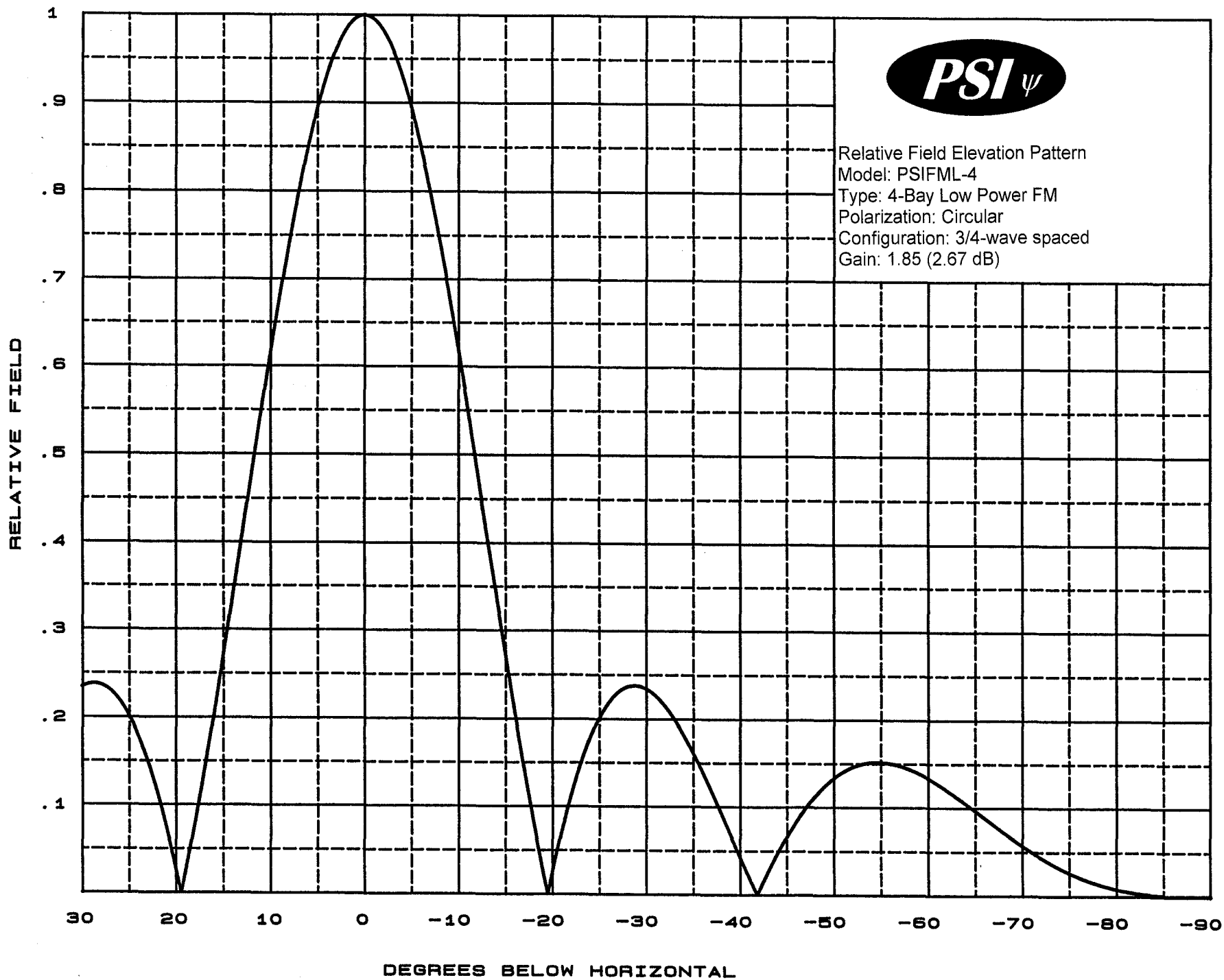
<b>Application_id</b>	<b>File Number</b>	<b>Callsign</b>	<b>Contour at Tower</b>	<b>Min. Contour</b>
77438	BMLH19850405KC	WISX	55.2	55.2
Minimum F(50,50) Contour of Adjacent Station within Proposed Translator's Standard Interfering Contour				<b>55.2</b>

FCC 02-244 at Section II.A.5 states that "when demonstrating that 'no actual interference will occur due to . . . other factors,' pursuant to Section 74.1204(d), an applicant may use the undesired-to-desired signal ratio method." The undesired-to-desired ratio for second and third adjacent stations required by § 74.1204(a) is 40 dB. Since the minimum protected contour strength within the proposed translator's standard interference contour is **55.2 dBμ**, this makes the proposed translator's worst-case interfering contour **95.2 dBμ**. By the free-space equation, this contour is calculated to extend a maximum of **298.6 m** from the transmit antenna.

The maximum horizontal plane of the interfering contour was calculated for 120 radials and plotted on the pertinent portion of a USGS quadrangle (page 7 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 on the following page 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, the vertical ground clearance of the proposed translator's interference contour has been tabulated. As shown on the following page, the area of interference clears the tower ground level (TGL) by **6.8 m** 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 area of interference. Hence, in accordance with 47 C.F.R. § 74.1204(d) and the clarification provided by the FCC in the decision *Re: Living Way Ministries* (FCC 02-244), a lack of population has been demonstrated within the area of interference and this application is therefore in full compliance with 47 C.F.R. § 74.1204.

<b>Antenna Manufacturer:</b>	<b>PSI</b>
<b>Antenna Model:</b>	<b>FML-4 (.75)</b>
<b>CORAGL:</b>	<b>44 m</b>
<b>Maximum ERP:</b>	<b>0.006 kW</b>
<b>Interfering Contour:</b>	<b>95.2 dBμ</b>
<b>Max Int. Contour Distance:</b>	<b>298.6 m</b>
<b>Min Ground Clearance:</b>	<b>6.8 m</b>

Depression Angle Below Horizontal	Antenna Relative Field	ERP (watts)	Distance to Interfering Contour from Antenna (m)	Horizontal Distance of Interfering Contour from Tower (m)	Vertical Clearance of Interfering Contour above TGL (m)
5	.894	4.8	266.9	265.9	20.7
10	.617	2.3	184.2	181.4	12.0
15	.272	0.4	81.2	78.4	23.0
20	.027	0.0	8.1	7.6	41.2
25	.201	0.2	60.0	54.4	18.6
30	.234	0.3	69.9	60.5	9.1
35	.161	0.2	48.1	39.4	16.4
40	.043	0.0	12.8	9.8	35.7
45	.086	0.0	25.7	18.2	25.8
50	.133	0.1	39.7	25.5	13.6
55	.152	0.1	45.4	26.0	6.8
60	.133	0.1	39.7	19.9	9.6
65	.097	0.1	29.0	12.2	17.8
70	.057	0.0	17.0	5.8	28.0
75	.027	0.0	8.1	2.1	36.2
80	.008	0.0	2.4	0.4	41.6
85	.001	0.0	0.3	0.0	43.7
90	.001	0.0	0.3	0.0	43.7
Minimum Clearance above TGL:					<b>6.8 m</b>





**Propagation Systems Inc.**  
 Elevation Pattern Tabulation  
 Antenna: PSIFML-4 Special  
 Bay spacing: 3/4 wave

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
-90.0	0.001	-60.828	-50.0	0.133	-17.511	-10.0	0.617	-4.190
-89.0	0.001	-60.828	-49.0	0.124	-18.146	-9.0	0.682	-3.325
-88.0	0.001	-60.828	-48.0	0.112	-18.995	-8.0	0.743	-2.583
-87.0	0.001	-60.828	-47.0	0.099	-20.093	-7.0	0.799	-1.950
-86.0	0.001	-60.828	-46.0	0.083	-21.568	-6.0	0.850	-1.415
-85.0	0.001	-60.828	-45.0	0.066	-23.581	-5.0	0.894	-0.974
-84.0	0.002	-54.807	-44.0	0.047	-26.536	-4.0	0.931	-0.618
-83.0	0.003	-50.816	-43.0	0.027	-31.530	-3.0	0.961	-0.346
-82.0	0.004	-47.448	-42.0	0.004	-47.143	-2.0	0.982	-0.154
-81.0	0.006	-44.350	-41.0	0.018	-34.664	-1.0	0.996	-0.038
-80.0	0.008	-41.584	-40.0	0.043	-27.417	0.0	1.000	0.000
-79.0	0.011	-39.244	-39.0	0.067	-23.482	1.0	0.996	-0.038
-78.0	0.014	-37.021	-38.0	0.092	-20.770	2.0	0.983	-0.153
-77.0	0.018	-35.027	-37.0	0.116	-18.740	3.0	0.961	-0.345
-76.0	0.022	-33.164	-36.0	0.139	-17.134	4.0	0.931	-0.618
-75.0	0.027	-31.481	-35.0	0.161	-15.860	5.0	0.894	-0.972
-74.0	0.032	-29.946	-34.0	0.181	-14.829	6.0	0.850	-1.415
-73.0	0.037	-28.537	-33.0	0.199	-14.006	7.0	0.799	-1.948
-72.0	0.044	-27.203	-32.0	0.215	-13.370	8.0	0.743	-2.582
-71.0	0.050	-25.968	-31.0	0.226	-12.904	9.0	0.682	-3.325
-70.0	0.057	-24.841	-30.0	0.234	-12.607	10.0	0.617	-4.188
-69.0	0.065	-23.782	-29.0	0.238	-12.473	11.0	0.550	-5.193
-68.0	0.072	-22.802	-28.0	0.237	-12.517	12.0	0.481	-6.361
-67.0	0.080	-21.905	-27.0	0.230	-12.748	13.0	0.411	-7.728
-66.0	0.088	-21.078	-26.0	0.219	-13.200	14.0	0.341	-9.347
-65.0	0.097	-20.308	-25.0	0.201	-13.920	15.0	0.272	-11.305
-64.0	0.105	-19.614	-24.0	0.178	-14.983	16.0	0.205	-13.752
-63.0	0.112	-18.995	-23.0	0.149	-16.540	17.0	0.141	-16.993
-62.0	0.120	-18.427	-22.0	0.114	-18.867	18.0	0.081	-21.840
-61.0	0.127	-17.926	-21.0	0.073	-22.712	19.0	0.025	-32.147
-60.0	0.133	-17.491	-20.0	0.027	-31.431	20.0	0.027	-31.481
-59.0	0.139	-17.125	-19.0	0.025	-32.201	21.0	0.073	-22.730
-58.0	0.144	-16.827	-18.0	0.081	-21.840	22.0	0.114	-18.867
-57.0	0.148	-16.602	-17.0	0.141	-16.993	23.0	0.149	-16.540
-56.0	0.150	-16.452	-16.0	0.205	-13.752	24.0	0.178	-14.990
-55.0	0.152	-16.374	-15.0	0.272	-11.310	25.0	0.201	-13.920
-54.0	0.152	-16.391	-14.0	0.341	-9.351	26.0	0.219	-13.200
-53.0	0.150	-16.496	-13.0	0.411	-7.731	27.0	0.230	-12.748
-52.0	0.146	-16.709	-12.0	0.481	-6.364	28.0	0.237	-12.517
-51.0	0.141	-17.040	-11.0	0.550	-5.195	29.0	0.238	-12.473
						30.0	0.234	-12.607

file: FML 4-bay elevation tabulation

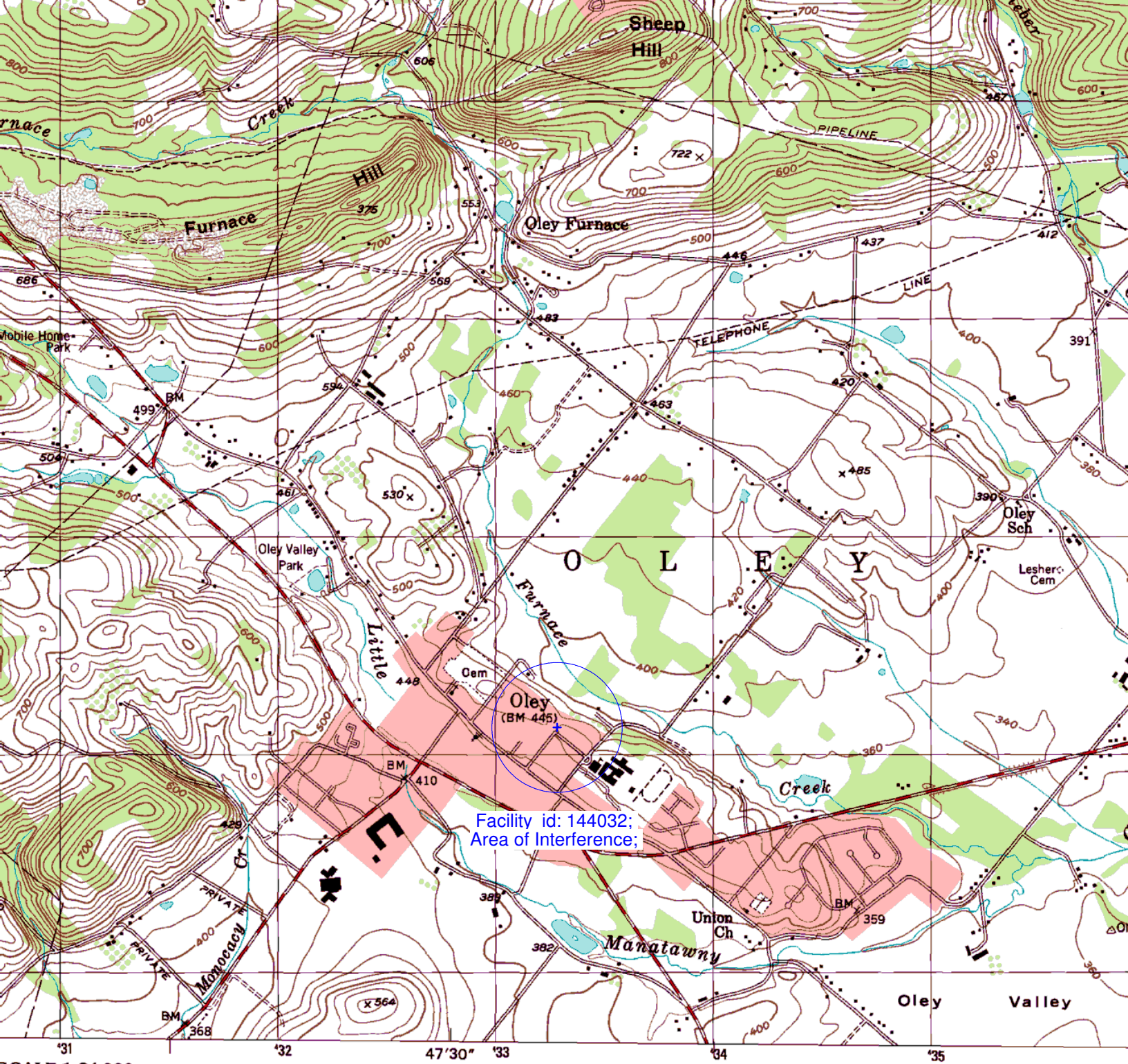
revision: A

Date: 1/28/08

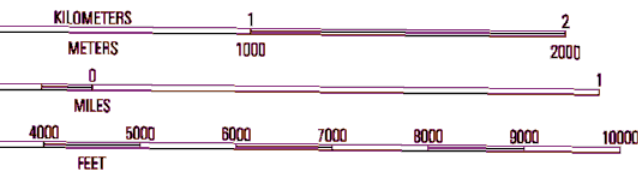
**Adjacent Channel Study**  
**For Station NEW, Facility\_id: 144032**

**Co-channel through third adjacent:**

App_id	Fac_id	File_Number	Call	Licensee	Class	City	State	Status	ERP	RCMSL	Chan	Adj	Dist	Overlap
77438	53973	BMLH-19850405KC	WISX	AMFM RADIO LICENSES, L.L.C.	B	PHILADELPHIA	PA	LIC	22.5	291	291	2	61.5	0.3692
1551544	151079	BNPFT-20030317AIX	NEW	NORTHEASTERN PENNSYLVANIA EDUCATIONAL TE	D	READING	PA	APP	0.099	151	296	3	12.9	0
1567389	139920	BNPFT-20130814ACQ	NEW	BEACON BROADCASTING CORP.	D	KUTZTOWN	PA	APP	0.055	206	293	0	16	0
1551017	139920	BNPFT-20030314BXS	NEW	BEACON BROADCASTING CORP.	D	KUTZTOWN	PA	APP	0.055	207	293	0	16	0
1549095	157515	BLFT-20130401ADH	W293BW	KEVIN M. FITZGERALD	D	GERMANSVILLE	PA	LIC	0.239	208	293	0	33.2	0
1567820	157515	BPFT-20130807ABU	W293BW	KEVIN M. FITZGERALD	D	SCHNECKSVILLE	PA	APP	0.0121	212	293	0	33.9	0
1567385	139237	BNPFT-20130814ACR	NEW	BEACON BROADCASTING CORP.	D	LEHIGH TOWNSHIP	PA	APP	0.027	306	292	1	44.8	0
1551028	139237	BNPFT-20030314CHW	NEW	BEACON BROADCASTING CORP.	D	LEHIGH TOWNSHIP	PA	APP	0.027	306	292	1	44.8	0
1567362	157147	BNPFT-20130805AAV	NEW	FOUR RIVERS COMMUNITY BROADCASTING CORPO	D	EASTON	PA	APP	0.08	153	294	1	58.3	0
1549164	157147	BNPFT-20030317KIG	NEW	FOUR RIVERS COMMUNITY BROADCASTING CORPO	D	EASTON	PA	APP	0.08	153	294	1	58.3	0
1564791	143253	BNPFT-20030313AQE	NEW	TEMPLE UNIVERSITY OF THE COMMONWEALTH SY	D	COLUMBIA	PA	APP	0.055	168	294	1	65.1	0
135821	64842	BLH-19891127KA	WZCY-FM	RADIO LICENSE HOLDING CBC, LLC	B	HERSHEY	PA	LIC	14	425	294	1	72.9	0
505499	88753	BLH-20000628AED	WPZX	THE SCRANTON TIMES, L.P.	A	POCONO PINES	PA	LIC	6	605	290	3	78.5	0
1435930	20842	BMLH-20110708ACF	WWIQ	MERLIN MEDIA LICENSE, LLC	B	CAMDEN	NJ	LIC	38	185	295	2	79	0
573902	54689	BMLH-20010716AAK	WVYY	CONNOISSEUR MEDIA LICENSES, LLC	A	BELVIDERE	NJ	LIC	1.2	426	296	3	81.6	0
432230	39605	BLH-20000113AAR	WFYY	MMP LICENSE LLC	B	BLOOMSBURG	PA	LIC	10.5	591	293	0	81.6	0



SCALE 1:24 000



FOUR INTERVAL 20 FEET

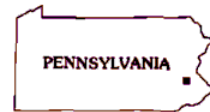
DETTIC VERTICAL DATUM OF 1929

IN FEET TO METERS, MULTIPLY BY 0.3048

WITH NATIONAL MAP ACCURACY STANDARDS

SURVEY, P.O. BOX 25286, DENVER, COLORADO 80225

PHIC MAPS AND SYMBOLS IS AVAILABLE ON REQUEST



QUADRANGLE LOCATION

1	2	3
4		5
6	7	8

1 Hamburg  
2 Kutztown  
3 Topton  
4 Temple  
5 Manatawny  
6 Reading  
7 Birdsboro  
8 Boyertown

ADJOINING 7.5' QUADRANGLE NAMES

INTERIOR - GEOLOGICAL SURVEY, RESTON, VIRGINIA

#### ROAD CLASSIFICATION

Primary highway  
hard surface .....  
Secondary highway  
hard surface .....  
Light-duty road, hard  
improved surface .....  
Unimproved road .....



Interstate Route



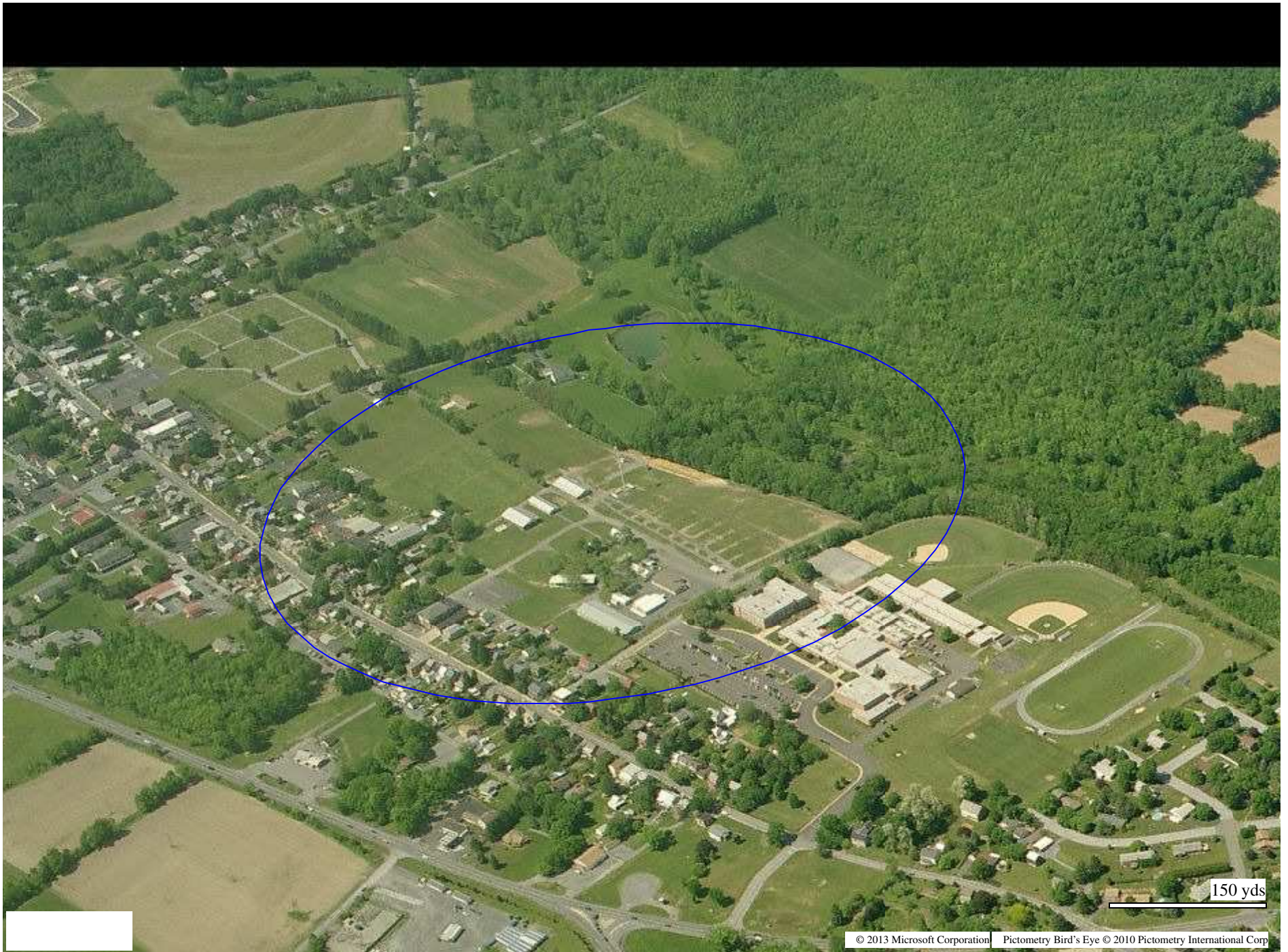
U.S. Route



FLEETWOOD, PA

1999

NIMA 5864 IV NE-SERIES V831



150 yds