

**W215BY MINOR CHANGE  
TO IF CHANNEL 268**

This application seeks a minor modification to the licensed W215BY facility to IF channel 268. The proposed facility will serve as a non-fill in translator for NCE station WRSN at Rising Sun, MD (facility ID #173256) via translator W284BE.

**Allocation discussion:**

All exhibits utilize the V-Soft provided FCC 30 second terrain database.

- E1 Channel study
- E1A W215BY interference plot to the WLIF 2nd adjacent channel station.
- E1B Aerial photographic view of interference contour
- E1C Antenna vertical elevation pattern
- E2 HAAT and 60 dBu tabulation
- E3 TowerAir

A channel study is included as E1 demonstrating compliance with §74.1204 with the exception of 2nd adjacent channel station WLIF on 270B. E1A, E1B and the discussion provided herein address the disproval of interference. Note that 0.018 kW is less than the maximum MERP of 0.055 kW permitted by §74.1235 (see E2).

**WLIF analysis:**

The W215BY channel 268 facility will be located inside the protected contour of second adjacent channel station WLIF on 270B. Therefore, an interference analysis has been conducted based on the U/D ratio of +40 dB at the proposed site. The WLIF (50, 50) contour at the proposed site is 74.74 dBu and the resulting interference contour is 104.74 dBu at 172.4 meters with a depression angle of 16.2 degrees. The reduced ERP based on the PSI 2 bay 0.75 wavelength spaced antenna's f factor of 0.760 is 0.010 kW yielding an interference contour of 128.5 meters at 14.2 meters above ground. The vertical clearances at this depression angle and every ten degrees through 90 are provided below.

Depression Angle (Deg.)	F	ERP X F <sup>2</sup> kW	Int = 104.74 dBu meters	Vertical Clearance AGL (m) (Int X sin Ang - 50)
16.2	0.760	0.0100	128.5	14.2
<b>20</b>	<b>0.650</b>	<b>0.0076</b>	<b>112.0</b>	<b>11.7</b>
30	0.331	0.0020	57.5	21.3
40	0.043	0.0000	00.0	50.0
50	0.149	0.0004	25.7	30.3
60	0.227	0.0009	38.6	16.6
70	0.205	0.0008	36.4	15.8
80	0.118	0.0003	22.3	28.0
90	0.001	0.0000	00.0	50.0

Clearly, these interference contours at a minimum of 11.7 meters above ground will not reach any populated area or major highways as is evident from the aerial photograph of the site included as E1B. Based on this showing, a waiver of Section 74.1204 is requested in accordance with *Living Way Ministries, Inc.* (FCC 08-242).

**RF Exposure Calculation:**

The proposed facility will utilize a two bay PSI FML 0.75 wavelength spaced antenna at 50 meters AGL on an existing tower. The RF contribution of the proposed translator was calculated to be 0.52  $\mu$ Watts/cm<sup>2</sup> using the formula included below and a worst case vertical factor of 1.0. This is 0.26% of the maximum permissible 200 microwatts/cm<sup>2</sup> exposure for general population/uncontrolled exposure, and well below 5% of that limit which requires consideration.

$$S \text{ (RF in } \mu\text{Watts/cm}^2\text{)} = \frac{33.4 (F^2 \text{ Vertical Factor}) X (H \text{ ERP} + V \text{ ERP})}{R^2 \text{ (distance to radiation center in meters-2 m)}}$$

## E1 CHANNEL STUDY

REFERENCE  
39 13 35.0 N.  
76 05 20.0 W.

CH# 268D - 101.5 MHz, Pwr= 0.018 kw, HAAT= 62.5 M, COR= 69 M  
Average Protected F(50-50)= 5.34 km  
Omni-directional

DISPLAY DATES  
DATA 09-20-14  
SEARCH 09-20-14

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*
270B Baltimore	WLIF	LIC _CX MD	298.3 118.0	45.39 BLH20130702ABE	39 25 07.6 76 33 16.1	13.500 292	5.8 384	69.1 Cbs Radio Wlif, Inc.	34.2	-24.3* (1)
268B Fredericksburg	WBQB	LIC DCN VA	229.1 48.3	150.61 BLH19910701KC	38 19 57.0 77 23 41.0	50.000 150	141.2 186	68.2 Centennial Licensing Ii, L	4.0	57.1
266B Washington	WWDC	LIC _C_ DC	253.5 72.9	87.27 BMLH20130909ABL	38 59 59.0 77 03 27.0	22.500 232	6.1 313	67.3 Amfm Radio Licenses, L.L.c	75.9	19.3
267B Lancaster	WROZ	LIC _C_ PA	333.4 153.0	100.65 BLH20010126AAK	40 02 04.0 76 37 08.0	7.400 379	73.9 517	63.0 Hall Communications, Inc.	21.4	26.7
267A Milford	WNCL	LIC _CN DE	128.1 308.4	66.53 BLH19901119KH	38 51 21.0 75 29 02.0	3.000 100	36.3 109	24.0 Delmarva Broadcasting Comp	25.0	35.2
269A Canton	WJKS	LIC _CX NJ	70.4 250.9	68.54 BMLH20030407ABQ	39 25 51.0 75 20 13.0	3.300 91	37.9 103	25.0 Qc Communications, Inc	25.4	36.3
268B Trenton	WKXW	LIC _CX NJ	45.1 226.0	167.81 BMLH20070926AKD	40 16 58.0 74 41 11.0	15.500 275	128.6 311	66.8 Townsquare Media Trenton L	34.0	76.7
265D North East	W265BG	LIC _C_ MD	11.0 191.1	44.59 BLFT20051101AAY	39 37 12.0 75 59 21.0	0.010 116	0.2 177	7.5 Priority Radio, Inc.	39.2	36.7
265A Hurlock	WAAI	LIC _CN MD	165.4 345.6	69.12 BLH19990902AAO	38 37 28.0 75 53 20.0	1.300 153	2.0 158	23.9 Mts Broadcasting, L.c.	61.7	44.9

Terrain database is FCC NGDC 30 Sec , R= 73.215 qualifying spacings or FCC minimum Spacings in KM, M= Margin in KM  
In & Out distances between contours are shown at closest points. Reference zone= East Zone, Co to 3rd adjacent.  
All separation margins (if shown) include rounding  
Ant Column: (D= DA Standard, Z= DA 73.215, N= Not DA 73.215, \_= Omni), Polarization (C,H,V,E), Beamtilt(Y,N,X)  
"\*"affixed to 'IN' or 'OUT' values = site inside protected contour.  
Reference station has protected zone issue:

(1) See E1A, E1B and technical report for disproval of interference.

**W215BY**

BLFT20080701AFB  
Latitude: 39-13-35 N  
Longitude: 076-05-20 W  
ERP: 0.01 kW  
Channel: 268  
Frequency: 101.5 MHz  
AMSL Height: 69.0 m  
Elevation: 19.0 m

E1A

PROPOSED W215BY CHANNEL 268 REDUCED ERP  
INTERFERENCE CONTOUR = 104.74 DBU = 128.5 M  
AT A MINIMUM OF 11.7 METERS ABOVE GROUND.  
SEE E1B AND TECHNICAL REPORT FOR  
DISPROVAL OF INTERFERENCE TO WLIF.

W215BY

WLIF CONTOUR = 64.74 DBU

Mayfair Dr

Leeds Ct

Devon Dr

Kennedy Dr

Roosevelt Dr

Lincoln Dr

Vickers Dr

Edge of Town Dr

Scale 1:5,000

0 0.07 0.13 0.2 km

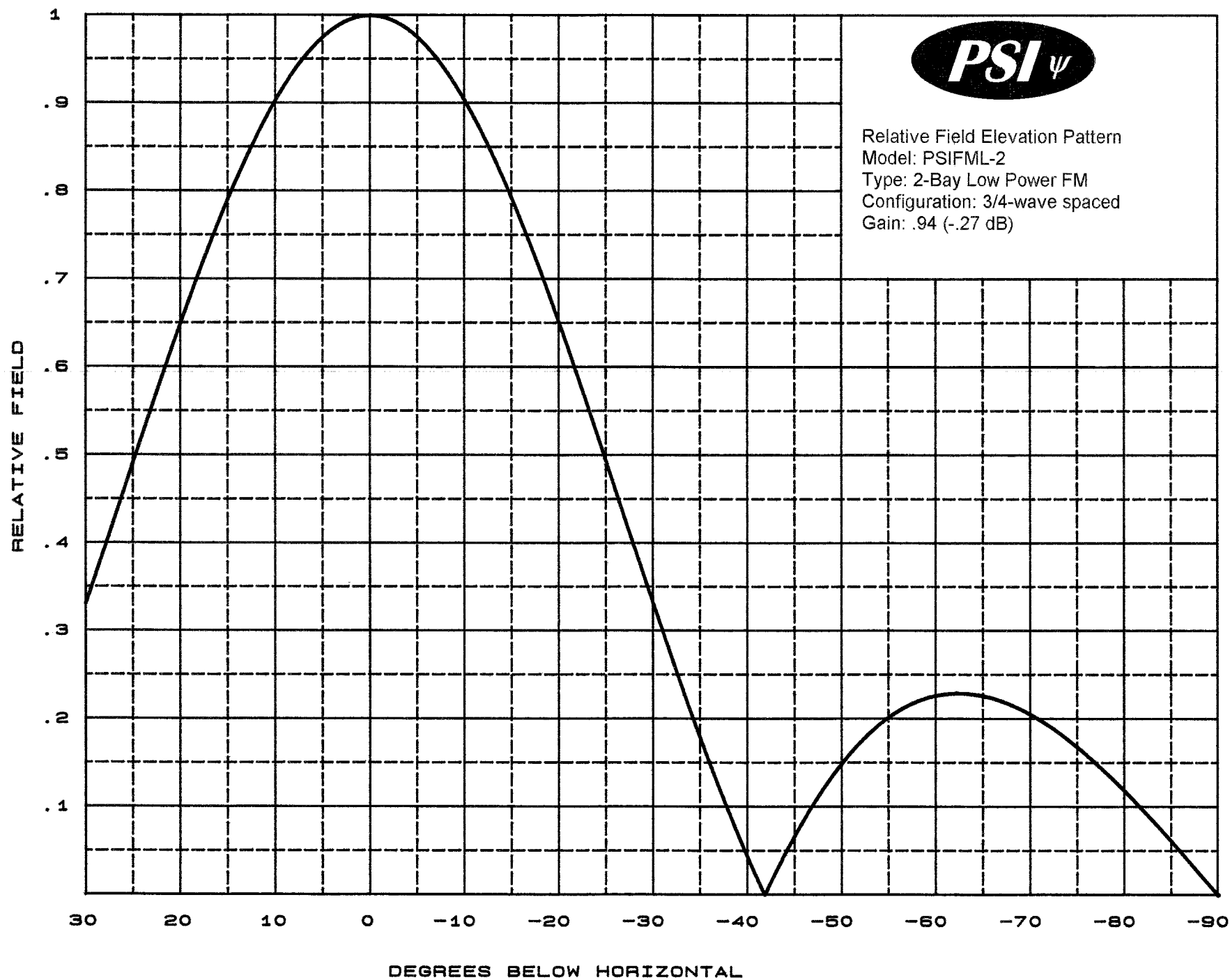


Google earth

feet  
meters









**Propagation Systems Inc.**  
 Elevation Pattern Tabulation  
 Antenna: PSIFML-2 Special  
 Bay spacing: 3/4 wave

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
-90.0	0.001	-60.000	-50.0	0.149	-16.513	-10.0	0.903	-0.883
-89.0	0.012	-38.221	-49.0	0.135	-17.364	-9.0	0.921	-0.713
-88.0	0.025	-32.201	-48.0	0.120	-18.405	-8.0	0.937	-0.561
-87.0	0.037	-28.679	-47.0	0.104	-19.677	-7.0	0.952	-0.429
-86.0	0.049	-26.207	-46.0	0.086	-21.289	-6.0	0.964	-0.315
-85.0	0.061	-24.285	-45.0	0.068	-23.404	-5.0	0.975	-0.219
-84.0	0.073	-22.748	-44.0	0.048	-26.425	-4.0	0.984	-0.139
-83.0	0.085	-21.443	-43.0	0.027	-31.481	-3.0	0.991	-0.079
-82.0	0.096	-20.349	-42.0	0.005	-46.848	-2.0	0.996	-0.036
-81.0	0.107	-19.378	-41.0	0.018	-34.664	-1.0	0.999	-0.009
-80.0	0.118	-18.538	-40.0	0.043	-27.417	0.0	1.000	0.000
-79.0	0.129	-17.792	-39.0	0.068	-23.365	1.0	0.999	-0.009
-78.0	0.139	-17.125	-38.0	0.094	-20.529	2.0	0.996	-0.036
-77.0	0.149	-16.522	-37.0	0.121	-18.329	3.0	0.991	-0.079
-76.0	0.159	-15.984	-36.0	0.149	-16.531	4.0	0.984	-0.139
-75.0	0.168	-15.508	-35.0	0.178	-14.998	5.0	0.975	-0.219
-74.0	0.176	-15.072	-34.0	0.207	-13.669	6.0	0.964	-0.315
-73.0	0.184	-14.685	-33.0	0.237	-12.489	7.0	0.952	-0.429
-72.0	0.192	-14.335	-32.0	0.268	-11.431	8.0	0.937	-0.561
-71.0	0.199	-14.026	-31.0	0.299	-10.475	9.0	0.921	-0.713
-70.0	0.205	-13.752	-30.0	0.331	-9.602	10.0	0.903	-0.882
-69.0	0.211	-13.518	-29.0	0.363	-8.801	11.0	0.884	-1.072
-68.0	0.216	-13.315	-28.0	0.395	-8.061	12.0	0.863	-1.279
-67.0	0.220	-13.146	-27.0	0.428	-7.377	13.0	0.841	-1.508
-66.0	0.224	-13.009	-26.0	0.460	-6.742	14.0	0.817	-1.757
-65.0	0.226	-12.904	-25.0	0.493	-6.151	15.0	0.792	-2.029
-64.0	0.228	-12.834	-24.0	0.525	-5.599	16.0	0.765	-2.322
-63.0	0.229	-12.800	-23.0	0.557	-5.083	17.0	0.738	-2.639
-62.0	0.229	-12.794	-22.0	0.589	-4.603	18.0	0.710	-2.979
-61.0	0.228	-12.829	-21.0	0.620	-4.154	19.0	0.680	-3.344
-60.0	0.227	-12.898	-20.0	0.650	-3.736	20.0	0.650	-3.736
-59.0	0.224	-13.009	-19.0	0.680	-3.344	21.0	0.620	-4.154
-58.0	0.220	-13.158	-18.0	0.710	-2.979	22.0	0.589	-4.603
-57.0	0.215	-13.351	-17.0	0.738	-2.639	23.0	0.557	-5.083
-56.0	0.209	-13.600	-16.0	0.765	-2.323	24.0	0.525	-5.599
-55.0	0.202	-13.894	-15.0	0.792	-2.029	25.0	0.493	-6.151
-54.0	0.194	-14.260	-14.0	0.817	-1.759	26.0	0.460	-6.742
-53.0	0.184	-14.685	-13.0	0.840	-1.510	27.0	0.428	-7.377
-52.0	0.174	-15.192	-12.0	0.863	-1.281	28.0	0.395	-8.061
-51.0	0.162	-15.795	-11.0	0.884	-1.072	29.0	0.363	-8.801
						30.0	0.331	-9.602

file: FML 2-bay elevation tabulation

revision: A

Date: 1/28/08

## E2 MERP SHOWING

N. Lat. = 391335.0 W. Lng. = 760520.0  
HAAT and Distance to Contour,  
FCC, FM 2-10 Mi, 51 pts Method - FCC 30 SEC

Azi.	AV EL	HAAT	dBk	60-F5
000	9.8	59.2	-17.45	5.21
030	10.0	59.0	-17.45	5.20
060	10.6	58.4	-17.45	5.18
090	7.7	61.3	-17.45	5.29
120	8.2	60.8	-17.45	5.28
150	6.3	62.7	-17.45	5.35
180	5.0	64.0	-17.45	5.39
210	2.5	66.5	-17.45	5.49
240	4.6	64.4	-17.45	5.41
270	4.5	64.5	-17.45	5.41
300	3.1	65.9	-17.45	5.47
330	5.4	63.6	-17.45	5.38

\*Maximum of 0.055 kW permitted at this MERP.

Ave El= 6.47 M HAAT= 62.53 M AMSL= 69 M



## E3 TOWAIR Determination Results

### \*\*\* NOTICE \*\*\*

TOWAIR's findings are not definitive or binding, and we cannot guarantee that the data in TOWAIR are fully current and accurate. In some instances, TOWAIR may yield results that differ from application of the criteria set out in 47 C.F.R. Section 17.7 and 14 C.F.R. Section 77.13. A positive finding by TOWAIR recommending notification should be given considerable weight. On the other hand, a finding by TOWAIR recommending either for or against notification is not conclusive. It is the responsibility of each ASR participant to exercise due diligence to determine if it must coordinate its structure with the FAA. TOWAIR is only one tool designed to assist ASR participants in exercising this due diligence, and further investigation may be necessary to determine if FAA coordination is appropriate.

#### DETERMINATION Results

**Structure does not require registration. There are no airports within 8 kilometers (5 miles) of the coordinates you provided.**

#### Your Specifications

##### NAD83 Coordinates

Latitude	39-13-35.0 north
Longitude	076-05-20.0 west

##### Measurements (Meters)

Overall Structure Height (AGL)	57
Support Structure Height (AGL)	0
Site Elevation (AMSL)	19

##### Structure Type

GTOWER - Guyed Structure Used for Communication Purposes

#### [Tower Construction Notifications](#)

Notify Tribes and Historic Preservation Officers of your plans to build a tower.

CLOSE WINDOW