

Non-Interference Compliance

Regarding Facility id 147992

Channel 237

Description of Exhibit 12 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 and 5 include a plot and 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 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.

Note: The transmit site for this proposal is a grain elevator 280ft (85m) tall with a 20 ft (6m) pole mounted on the top. The aerial photo and USGS map show buildings and US Interstate 84 within the 363m zone of predicted interference. The tallest building within this zone is no more than 35 ft (10.7m) tall. The only occupied portion of the McKinnen Station Grain Elevator is the ground floor. This proposal provides 27.2m (89ft) of ground clearance which is more than enough to provide the necessary clearance to the nearby buildings and road so 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.

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.

Application_id	File Number	Callsign	Contour at Tower	Min. Contour
1005414	BMLH20041227ACE	KIOK	69.7	69.7
37436	BLH19811222AI	KKSR	72.9	72.4

Minimum F(50,50) Contour of Adjacent Station within
Proposed Translator's Standard Interfering Contour **69.7**

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 **69.7 dBμ**, this makes the proposed translator's worst-case interfering contour **109.7 dBμ**. By the free-space equation, this contour is calculated to extend a maximum of **363.1 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 **27.2 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.

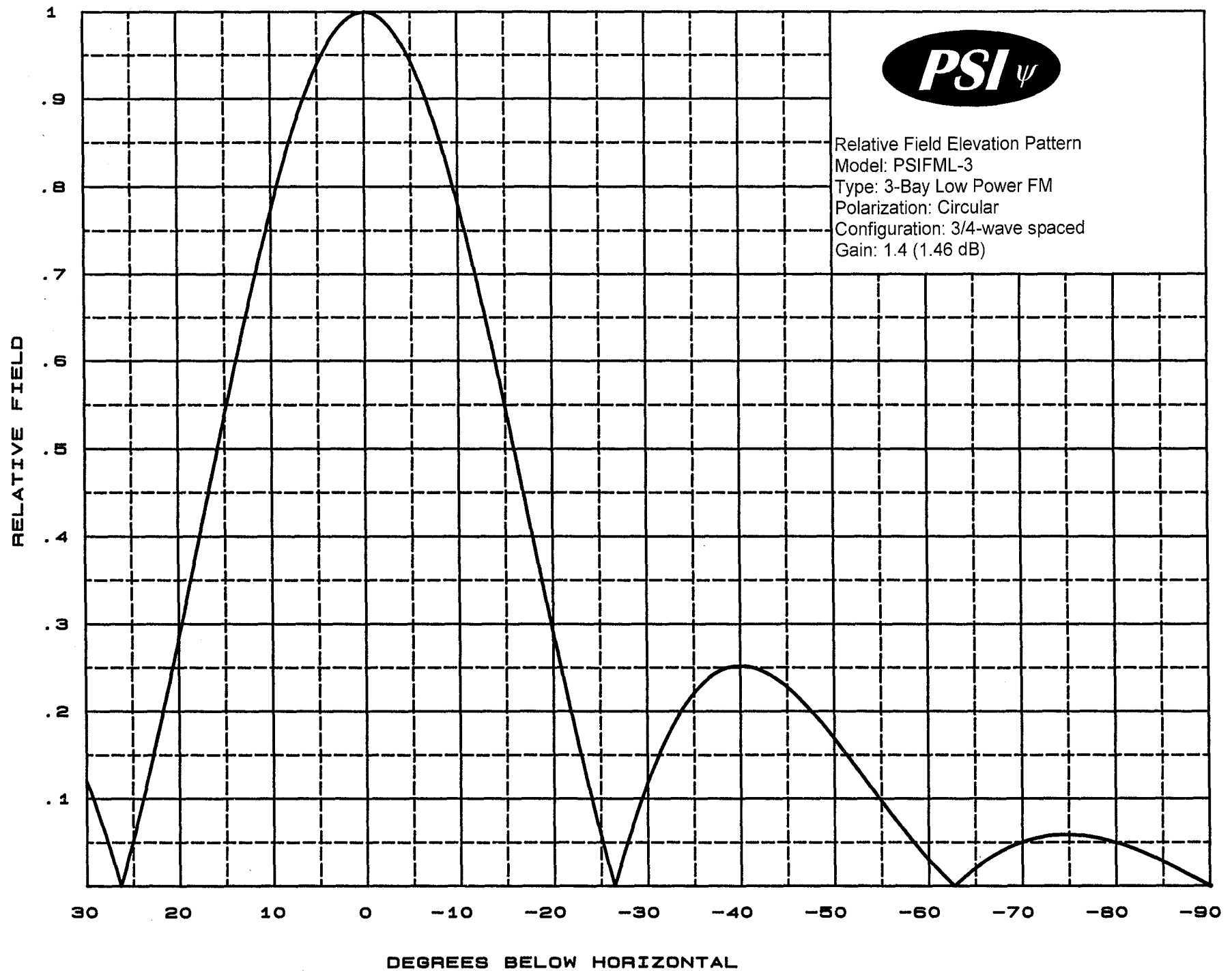
Note: The transmit site for this proposal is a grain elevator 280ft (85m) tall with a 20 ft (6m) pole mounted on the top. The aerial photo and USGS map show buildings and US Interstate 84 within the 363m zone of predicted interference. The tallest building within this zone is no more than 35 ft (10.7m) tall. The only occupied portion of the McKinnen Station Grain Elevator is the ground floor. This proposal provides 27.2m (89ft) of ground clearance which is more than enough to provide the necessary clearance to the nearby buildings and road so 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.

Antenna Manufacturer: PSI
Antenna Model: FML-3(.75)
CORAGL: 86 m
Maximum ERP: 0.25 kW
Interfering Contour: 109.7 dBμ
Max Int. Contour Distance: 363.1 m
Min Ground Clearance: 27.2 m

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	.941	221.4	341.6	340.3	56.2
10	.777	150.9	282.1	277.8	37.0
15	.543	73.7	197.1	190.4	35.0
20	.287	20.6	104.2	97.9	50.4
25	.055	0.8	20.0	18.1	77.6
30	.120	3.6	43.6	37.7	64.2
35	.222	12.3	80.6	66.0	39.8
40	.252	15.9	91.5	70.1	27.2
45	.227	12.9	82.4	58.3	27.7
50	.168	7.1	61.0	39.2	39.3
55	.096	2.3	34.9	20.0	57.5
60	.030	0.2	10.9	5.4	76.6
65	.021	0.1	7.6	3.2	79.1
70	.050	0.6	18.2	6.2	68.9
75	.059	0.9	21.4	5.5	65.3
80	.050	0.6	18.2	3.2	68.1
85	.028	0.2	10.2	0.9	75.9
90	.001	0.0	0.4	0.0	85.6
Minimum Clearance above TGL:					27.2 m



Relative Field Elevation Pattern
Model: PSIFML-3
Type: 3-Bay Low Power FM
Polarization: Circular
Configuration: 3/4-wave spaced
Gain: 1.4 (1.46 dB)





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

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
-90.0	0.001	-60.000	-50.0	0.168	-15.500	-10.0	0.777	-2.194
-89.0	0.006	-44.795	-49.0	0.181	-14.829	-9.0	0.817	-1.761
-88.0	0.012	-38.775	-48.0	0.194	-14.240	-8.0	0.853	-1.379
-87.0	0.017	-35.329	-47.0	0.206	-13.714	-7.0	0.886	-1.049
-86.0	0.023	-32.869	-46.0	0.217	-13.266	-6.0	0.916	-0.766
-85.0	0.028	-31.047	-45.0	0.227	-12.881	-5.0	0.941	-0.529
-84.0	0.033	-29.622	-44.0	0.235	-12.562	-4.0	0.962	-0.338
-83.0	0.038	-28.467	-43.0	0.242	-12.308	-3.0	0.978	-0.190
-82.0	0.042	-27.510	-42.0	0.248	-12.126	-2.0	0.990	-0.085
-81.0	0.046	-26.705	-41.0	0.251	-12.010	-1.0	0.998	-0.021
-80.0	0.050	-26.073	-40.0	0.252	-11.968	0.0	1.000	0.000
-79.0	0.053	-25.559	-39.0	0.251	-12.004	1.0	0.998	-0.021
-78.0	0.055	-25.169	-38.0	0.248	-12.126	2.0	0.990	-0.085
-77.0	0.057	-24.887	-37.0	0.242	-12.336	3.0	0.978	-0.190
-76.0	0.058	-24.682	-36.0	0.233	-12.657	4.0	0.962	-0.338
-75.0	0.059	-24.614	-35.0	0.222	-13.092	5.0	0.941	-0.529
-74.0	0.059	-24.637	-34.0	0.207	-13.676	6.0	0.916	-0.766
-73.0	0.058	-24.772	-33.0	0.190	-14.432	7.0	0.886	-1.049
-72.0	0.056	-25.027	-32.0	0.170	-15.414	8.0	0.853	-1.379
-71.0	0.054	-25.411	-31.0	0.146	-16.700	9.0	0.817	-1.759
-70.0	0.050	-25.968	-30.0	0.120	-18.427	10.0	0.777	-2.194
-69.0	0.046	-26.733	-29.0	0.090	-20.871	11.0	0.734	-2.683
-68.0	0.041	-27.731	-28.0	0.058	-24.704	12.0	0.689	-3.233
-67.0	0.035	-29.081	-27.0	0.023	-32.754	13.0	0.642	-3.848
-66.0	0.028	-30.954	-26.0	0.015	-36.745	14.0	0.593	-4.534
-65.0	0.021	-33.656	-25.0	0.055	-25.217	15.0	0.543	-5.301
-64.0	0.012	-38.221	-24.0	0.098	-20.213	16.0	0.492	-6.156
-63.0	0.003	-50.816	-23.0	0.142	-16.928	17.0	0.441	-7.116
-62.0	0.007	-42.949	-22.0	0.189	-14.460	18.0	0.389	-8.196
-61.0	0.018	-34.880	-21.0	0.238	-12.484	19.0	0.338	-9.425
-60.0	0.030	-30.546	-20.0	0.287	-10.839	20.0	0.287	-10.834
-59.0	0.042	-27.541	-19.0	0.338	-9.425	21.0	0.238	-12.484
-58.0	0.055	-25.217	-18.0	0.389	-8.199	22.0	0.189	-14.460
-57.0	0.068	-23.307	-17.0	0.441	-7.116	23.0	0.143	-16.919
-56.0	0.082	-21.711	-16.0	0.492	-6.159	24.0	0.098	-20.200
-55.0	0.096	-20.335	-15.0	0.543	-5.301	25.0	0.055	-25.193
-54.0	0.111	-19.124	-14.0	0.593	-4.536	26.0	0.015	-36.745
-53.0	0.125	-18.051	-13.0	0.642	-3.850	27.0	0.023	-32.754
-52.0	0.140	-17.106	-12.0	0.689	-3.234	28.0	0.058	-24.704
-51.0	0.154	-16.253	-11.0	0.734	-2.683	29.0	0.090	-20.871
						30.0	0.120	-18.438

file: FML 3-bay elevation tabulation

revision: A

Date: 1/28/08

Adjacent Channel Study **For Station K237DS, Facility_id: 147992**

Co-channel through third adjacent:

Application_id	Facility_id	Prefix	ARN	Call	Licensee	Class	City	State	Status	ERP	RCAMSL	Channel	Adj	Dist	Overlap
1005414	12455	BMLH	20041227ACE	KIOK	NEW NORTHWEST BROADCASTERS LLC	C	RICHLAND	WA	LIC	100	736	235	2	54.6	1.4918
37436	35717	BLH	19811222AI	KKSR	KUJ LIMITED PARTNERSHIP	C	WALLA WALLA	WA	LIC	94	1221	239	2	62.4	1.4918
1239114	150562	BLFT	20080317AID	K237DM	JEFF HUFFMAN	D	WALLA WALLA	WA	LIC	0.115	394	237	0	57	0
1131219	150553	BLFT	20060524AHZ	K237DP	JEFF HUFFMAN	D	KENNEWICK	WA	LIC	0.034	379	237	0	59.7	0
74032	12455	BLH	19841113KW	KIOK	TRIATHLON B/C OF TRI-CITIES LIC INC	C	RICHLAND	WA	LIC	4.6	130	235	2	63.6	0
1153316	12455	BXLH	20061010ADV	KIOK	NEW NORTHWEST BROADCASTERS LLC	C	RICHLAND	WA	LIC	4.6	170.1	235	2	66.8	0

Intermediate Frequencies (53 and 54 channels difference):

Application_id	Facility_id	Prefix	ARN	Call	Licensee	Class	City	State	Status	ERP	RCAMSL	Channel	Adj	Dist	Clr
1104995	164224	BLH	20051006ABI	KRJT	PACIFIC EMPIRE RADIO CORP.	A	ELGIN	OR	LIC	0.115	1641	290	53	78	68

