

## **Non-Interference Compliance**

Regarding Facility id 150415

Channel 286

### **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.

Page 4 includes a tabulation of the vertical radiation pattern for the proposed antenna provided by the antenna manufacturer.

Page 5 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 6 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 7 of this exhibit is an aerial photo of the vicinity surrounding the proposed translator's tower site.

**Note: The tallest buildings within the zone of predicted interference are less than 25ft (7.6m) in height. This proposal provides 23.8m (78.1ft) of ground clearance, 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
1246785	BMLH20080521AAQ	WRFQ	71.2	70.6
584316	BLH20011012AAX	WCOO	66.1	66.1
Minimum F(50,50) Contour of Adjacent Station within Proposed Translator's Standard Interfering Contour				<b>66.1</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 **66.1 dBμ**, this makes the proposed translator's worst-case interfering contour **106.1 dBμ**. By the free-space equation, this contour is calculated to extend a maximum of **549.5 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 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 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 **23.8 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.

**Note: The tallest buildings within the zone of predicted interference are less than 25ft (7.6m) in height. This proposal provides 23.8m (78.1ft) of ground clearance, 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-2(.75)
CORAGL:	146 m
Maximum ERP:	0.25 kW
Interfering Contour:	106.1 dBμ
Max Int. Contour Distance:	549.5 m
Min Ground Clearance:	23.8 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	.975	237.7	535.8	533.7	99.3
10	.903	203.9	496.2	488.7	59.8
15	.792	156.8	435.2	420.4	33.4
20	.650	105.6	357.2	335.6	23.8
25	.493	60.8	270.9	245.5	31.5
30	.331	27.4	181.9	157.5	55.1
35	.178	7.9	97.8	80.1	89.9
40	.043	0.5	23.6	18.1	130.8
45	.068	1.2	37.4	26.4	119.6
50	.149	5.6	81.9	52.6	83.3
55	.202	10.2	111.0	63.7	55.1
60	.227	12.9	124.7	62.4	38.0
65	.226	12.8	124.2	52.5	33.4
70	.205	10.5	112.6	38.5	40.1
75	.168	7.1	92.3	23.9	56.8
80	.118	3.5	64.8	11.3	82.1
85	.061	0.9	33.5	2.9	112.6
90	.001	0.0	0.5	0.0	145.5
Minimum Clearance above TGL:					<b>23.8 m</b>

**Propagation Systems Inc.**

Elevation Pattern Tabulation

Antenna: PSIFML-2 Special

Bay spacing: 3/4 wave

Angle	Field	dB	Angle	Field	dB	Angle	Field	dB
-90.00	0.001	-60.000	-50.00	0.149	-16.513	-10.00	0.903	-0.883
-89.00	0.012	-38.221	-49.00	0.135	-17.364	-9.00	0.921	-0.713
-88.00	0.025	-32.201	-48.00	0.120	-18.405	-8.00	0.937	-0.561
-87.00	0.037	-28.679	-47.00	0.104	-19.677	-7.00	0.952	-0.429
-86.00	0.049	-26.207	-46.00	0.086	-21.289	-6.00	0.964	-0.315
-85.00	0.061	-24.285	-45.00	0.068	-23.404	-5.00	0.975	-0.219
-84.00	0.073	-22.748	-44.00	0.048	-26.425	-4.00	0.984	-0.139
-83.00	0.085	-21.443	-43.00	0.027	-31.481	-3.00	0.991	-0.079
-82.00	0.096	-20.349	-42.00	0.005	-46.848	-2.00	0.996	-0.036
-81.00	0.107	-19.378	-41.00	0.018	-34.664	-1.00	0.999	-0.009
-80.00	0.118	-18.538	-40.00	0.043	-27.417	0.00	1.000	0.000
-79.00	0.129	-17.792	-39.00	0.068	-23.365	1.00	0.999	-0.009
-78.00	0.139	-17.125	-38.00	0.094	-20.529	2.00	0.996	-0.036
-77.00	0.149	-16.522	-37.00	0.121	-18.329	3.00	0.991	-0.079
-76.00	0.159	-15.984	-36.00	0.149	-16.531	4.00	0.984	-0.139
-75.00	0.168	-15.508	-35.00	0.178	-14.998	5.00	0.975	-0.219
-74.00	0.176	-15.072	-34.00	0.207	-13.669	6.00	0.964	-0.315
-73.00	0.184	-14.685	-33.00	0.237	-12.489	7.00	0.952	-0.429
-72.00	0.192	-14.335	-32.00	0.268	-11.431	8.00	0.937	-0.561
-71.00	0.199	-14.026	-31.00	0.299	-10.475	9.00	0.921	-0.713
-70.00	0.205	-13.752	-30.00	0.331	-9.602	10.00	0.903	-0.882
-69.00	0.211	-13.518	-29.00	0.363	-8.801	11.00	0.884	-1.072
-68.00	0.216	-13.315	-28.00	0.395	-8.061	12.00	0.863	-1.279
-67.00	0.220	-13.146	-27.00	0.428	-7.377	13.00	0.841	-1.508
-66.00	0.224	-13.009	-26.00	0.460	-6.742	14.00	0.817	-1.757
-65.00	0.226	-12.904	-25.00	0.493	-6.151	15.00	0.792	-2.029
-64.00	0.228	-12.834	-24.00	0.525	-5.599	16.00	0.765	-2.322
-63.00	0.229	-12.800	-23.00	0.557	-5.083	17.00	0.738	-2.639
-62.00	0.229	-12.794	-22.00	0.589	-4.603	18.00	0.710	-2.979
-61.00	0.228	-12.829	-21.00	0.620	-4.154	19.00	0.680	-3.344
-60.00	0.227	-12.898	-20.00	0.650	-3.736	20.00	0.650	-3.736
-59.00	0.224	-13.009	-19.00	0.680	-3.344	21.00	0.620	-4.154
-58.00	0.220	-13.158	-18.00	0.710	-2.979	22.00	0.589	-4.603
-57.00	0.215	-13.351	-17.00	0.738	-2.639	23.00	0.557	-5.083
-56.00	0.209	-13.600	-16.00	0.765	-2.323	24.00	0.525	-5.599
-55.00	0.202	-13.894	-15.00	0.792	-2.029	25.00	0.493	-6.151
-54.00	0.194	-14.260	-14.00	0.817	-1.759	26.00	0.460	-6.742
-53.00	0.184	-14.685	-13.00	0.840	-1.510	27.00	0.428	-7.377
-52.00	0.174	-15.192	-12.00	0.863	-1.281	28.00	0.395	-8.061
-51.00	0.162	-15.795	-11.00	0.884	-1.072	29.00	0.363	-8.801
						30.00	0.331	-9.602

# **Adjacent Channel Study** **For Station W286AY, Facility\_id: 150415**

## **Co-channel through third adjacent:**

Application_id	Facility_id	Prefix	ARN	Call	Licensee	Class	City	State	Status	ERP	RCAMSL	Channel	Adj	Dist	Overlap
1343396	153420	BLFT	20091109ABT	W285DV	EDGEWATER BROADCASTING, INC.	D	CHARLESTON	SC	LIC	0.17	39	285	1	30	2.9469
584316	50729	BLH	20011012AAX	WCOO	L.M. COMMUNICATIONS II OF SOUTH CAROLIN	C2	KIAWAH ISLAND	SC	LIC	50	135	288	2	38	1.4918
1246785	38901	BMLH	20080521AAQ	WRFQ	CITICASTERS LICENSES, INC.	C1	MOUNT PLEASANT	SC	LIC	100	202	283	3	40.8	1.4918
626748	38901	Null	Null	WRFQ	CITICASTERS LICENSES, INC.	C1	MOUNT PLEASANT	SC	USE	0	0	283	3	40.8	1.4918
1132048	38901	BXLH	20060606AFU	WRFQ	CITICASTERS LICENSES, INC.	C1	MOUNT PLEASANT	SC	LIC	25	161	283	3	40.8	1.4918
289582	50729	RM	8474	WCOO	L.M. COMMUNICATIONS II OF SOUTH CAROLIN	C2	KIAWAH ISLAND	SC	USE	0	0	288	2	40.4	0
1510588	153420	BPFT	20120802ABP	W285DV	EDGEWATER BROADCASTING, INC.	D	CHARLESTON	SC	APP	0.018	202	285	1	40.8	0
1345471	6485	BLH	20091216ACT	WGFG	MILLER COMMUNICATIONS, INC.	C3	BRANCHVILLE	SC	LIC	12.5	193.6	287	1	74.6	0
1251487	6485	Null	Null	WGFG	MILLER COMMUNICATIONS, INC.	C3	BRANCHVILLE	SC	USE	0	0	287	1	81	0
200700	40705	BLH	19940705KC	WLHH	LOW COUNTRY RADIO, LLC	C3	RIDGELAND	SC	LIC	16	128	285	1	88	0
289402	40705	Null	Null	WLHH	LOW COUNTRY RADIO, LLC	C3	RIDGELAND	SC	USE	0	0	285	1	88.1	0
1388189	66643	BLH	20100709AHP	WPDT	GLORY COMMUNICATIONS, INC.	C3	COWARD	SC	LIC	18	142	286	0	110.9	0
1394014	66643	BXMLH	20100825ADI	WPDT	GLORY COMMUNICATIONS, INC.	C3	Coward	SC	LIC	1.3	163	286	0	116.5	0
183148	66974	BLH	19930325KA	WRHQ	THOROUGHbred COMMUNICATIONS, INC.	C3	RICHMOND HILL	GA	LIC	11	150	287	1	132.6	0
300852	66974	Null	Null	WRHQ	THOROUGHbred COMMUNICATIONS, INC.	C3	RICHMOND HILL	GA	USE	0	0	287	1	136.5	0
696386	19472	BLH	20031030AAR	WNOK	CAPSTAR TX LLC	C1	COLUMBIA	SC	LIC	90	419	284	2	145.3	0
624453	19472	Null	Null	WNOK	CAPSTAR TX LLC	C1	COLUMBIA	SC	USE	0	0	284	2	145.3	0
217985	3120	BLH	199601115K	WDAR-FM	QANTUM OF FLORENCE LICENSE COMPANY, L	C3	DARLINGTON	SC	LIC	17	166	288	2	152.7	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
292839	31939	Null	Null	WSCC-FM	CLEAR CHANNEL BROADCASTING LICENSES, INC	C3	GOOSE CREEK	SC	USE	0	0	232	54	40.2	28.2
592290	31939	BLH	20020118AAA	WSCC-FM	CLEAR CHANNEL BROADCASTING LICENSES, INC	C3	GOOSE CREEK	SC	LIC	25	105	232	54	40.8	28.8
1007927	54503	BLH	20040818AAI	WSPX	GLORY COMMUNICATIONS, INC.	A	BOWMAN	SC	LIC	3.5	172	233	53	60.4	50.4
300728	54503	Null	Null	WSPX	GLORY COMMUNICATIONS, INC.	A	BOWMAN	SC	USE	0	0	233	53	64.4	54.4
1429286	146391	BLFT	20110526AHC	W233AW	PARTNERS BROADCAST GROUP, LLC	D	BEAUFORT	SC	LIC	0.25	108	233	53	79.5	69.5





