

**WMGL MINOR CHANGE APPLICATION  
CHANGING CHANNEL TO 297C3  
CONTINGENT WITH WNKT APPLICATION  
BPH-20070119AEM TO  
CHANGE CITY OF LICENSE TO  
EASTOVER, SC ON 298C2**

**I. WMGL Contingent application**

This technical report has been developed in support of a minor change application for WMGL on channel 269C3 to change channels to non-adjacent and same class channel 297C3 in accordance with the provisions of Section 73.3573 as recently modified in MB Docket No. 05-210.

The application is filed contingent with the WNKT application change of city of license to 298C2 at Eastover, SC. In fact, the WMGL application relies on the WNKT modification to clear the spectrum on 297C3 and is mutually exclusive with the licensed WNKT facility on 298C at St. George, SC. Clearly, the two applications are both mutually exclusive with the existing WNKT facility and the grant of the WMGL application requires the grant of the WNKT application (BPH-20070119AEM) as amended simultaneously with this filing.

**II. Application allocation analysis and use of Longley-Rice to establish 70 dBu**

All terrain utilized in this report were obtained from the V-Soft NGDC thirty (30) second terrain database. All contours and allocation exhibits were developed using V-Soft FMCommander and Probe 3 computer programs. A tabulation of average terrain on the eight (8) equally spaced radials is included as Exhibit E1D. The proposed WMGL 297C3 facility (16.5 kW/ 125 meters HAAT) is fully spaced to all

facilities with the exception of the licensed WNKT application. A channel study for the proposed facility is included as Exhibit E1. The reduced ERP facility produces a maximum C3 60 dBu of 39 km.

The proposed facility will comply with Section 73.315 based on the use of Longley-Rice (see Exhibits E1B and E1C). The terrain on the 243 degree radial to the western boundary of Ravenel has a *Delta h* of 6 meters (less than 20 meters), and the predicted Longley-Rice 70 dBu exceeds the FCC predicted 70 dBu by more than 10% on all of the relevant azimuths qualifying the use of Longley-Rice in accordance with Commission policies. Longley-Rice contour predictions were calculated using the V-Soft Probe 3 software and the very conservative "first occurrence". Probe 3 calculations have been routinely accepted by the Commission in the prediction of Longley-Rice contours.

Exhibit E1A demonstrates that the proposed Longley-Rice contour will encompass 100% of the population and 98.1% of the area of Ravenel, SC. The proposed facility is to be collocated at an existing tower at coordinates:

**(NAD 27) N 32-54-18 W 79-55-19 (ASR #1048263).**

### **III. Fully spaced allocation reference point:**

A fully spaced allocation reference point is provided for the WMGL 297C3 facility at:

**(NAD 27) N 32-46-46 W 80-09-42.**

A channel study is included as E2 demonstrating full 73.207 clearance to all facilities at the reference point. City grade 70 dBu coverage is demonstrated in E2B and a site map for the reference point is included as E2C.

### **IV. Blanketing:**

The 115 dBu blanketing contour is calculated to be 1.6 km. The applicant accepts responsibility for correction of any objectionable interference or blanketing problems in accordance with Commission rules.


### **V. Antenna System and RF Calculations:**

WMGL will be mounted on an existing tower (ASR#1048263) at 116 meters AGL utilizing an ERI or equivalent six bay, full wavelength spaced circularly polarized antenna. The maximum RF contribution for WMGL was calculated to be 5.8 microwatts/cm<sup>2</sup> utilizing the Commission's FMMODEL program at a height of 2 meters above ground level. This level is 2.9% of the general public maximum exposure level of 200 microwatts/cm<sup>2</sup>.

Collocated WWVZ's 50 kW/ 141M AGL- 6 bay full wavelength spaced Shively antenna contributes 8.8 microwatts/cm<sup>2</sup> at 46.7 meters or 4.4% of the maximum permissible public exposure. Therefore, the combined contribution for both facilities is 7.3% of the maximum. Clearly, the combined radiation is within the maximum limit for general public exposure.

### **VI. Conclusion:**

It is concluded that the proposed WMGL modifications are in full compliance with Commission rules and policies.

  
**Charles M. Anderson April 12, 2007**  
**1519 Euclid Avenue**  
**Bowling Green, KY 42103**  
**270-782-0246**

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## E1 WMGL 297C3 CHANNEL STUDY

## REFERENCE

32 54 18.0 N.

79 55 19.0 W.

CLASS = C3

Current Spacings

## DISPLAY DATES

DATA 04-11-07

SEARCH 04-11-07

----- Channel 297 - 107.3 MHz -----

Call	Channel	Location		Azi	Dist	FCC	Margin
WNKT	LIC 298C	St. George	SC	295.6	46.94	176.0	-129.06 (1)
WNKT	RSV 298C2	Eastover	SC	326.9	121.38	117.0	4.38 (2)
WNKT.A	APP-N 298C2	Eastover	SC	319.0	126.84	117.0	9.84
WQSD	LIC 296C2	Briarcliff Acres	SC	37.5	145.02	117.0	28.02
WGZR	LIC-N 295C1	Bluffton	SC	229.3	114.98	76.0	38.98
WMCD	LIC 297C3	Claxton	GA	246.7	203.21	153.0	50.21
WGTR	LIC 300C2	Bucksport	SC	46.2	111.47	56.0	55.47
WTCB	LIC-D 294C1	Orangeburg	SC	316.7	134.47	76.0	58.47
AL595064	RSV 300C2	Port Royal	SC	229.3	114.98	56.0	58.98
WLOW	LIC 300C2	Port Royal	SC	229.3	114.98	56.0	58.98
WVSZ	LIC-N 297A	Chesterfield	SC	355.5	201.95	142.0	59.95
WJMZ-FM.C	CP -N 297C0	Anderson	SC	312.4	290.97	226.0	64.97

(1) WNKT moving to Eastover, SC on 298C2 in contingent application.

(2) WNKT 298C2 allocation reference point amended to N 33-49-07 W 80-38-24.

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### E1A WMGL 70 DBU COVERAGE

Latitude: 32-54-18 N  
Longitude: 079-55-19 W  
ERP: 16.50 kW  
Channel: 297  
Frequency: 107.3 MHz  
RCAMSL Height: 127.0 m  
Site Elevation: 11.0 m  
Horiz. Pattern: Omni  
Vert. Pattern: No  
Prop Model: Longley/Rice  
Climate: Cont temperate  
Conductivity: 0.0050  
Dielec Const: 15.0  
Refractivity: 311.0  
Receiver Ht AG: 9.1 m  
Receiver Gain: 0 dB  
Time Variability: 50.0%  
Sit. Variability: 50.0%  
ITM Mode: Broadcast

FCC 70 DBU

**RAVENEL 2000 CENSUS BOUNDARIES  
LONGLEY-RICE 70 DBU ENCOMPASSES  
100% OF THE POPULATION AND 98.1%  
OF THE AREA**

FCC 60 DBU

LONGLEY-RICE 70 DBU

WMGL

243.0°

Scale 1:250,000

0 3 6 9 km

Summerville

Goose Creek

Harahan

North Charleston

Charleston

Mount Pleasant

Sullivan's

Charleston

Ravenel

Hollywood

Meggett

## E1B LONGLEY-RICE 70 DBU VS FCC 70 DBU CALCULATION

Call Letters: WMGL

Latitude: 32-54-18 N

Longitude: 079-55-19 W

ERP: 16.50 kW

Channel: 297

Frequency: 107.3 MHz

AMSL Height: 127.0 m

Elevation: 11.0 m

Horiz. Antenna Pattern: Omni

Vert. Elevation Pattern: No

Type of contour: Signal Calculated

Using the first occurrence method at 70.0 dBu

Bearing (deg)	LR Dist (km)	FCC DIST (km)	%Increase
---------------	--------------	---------------	-----------

236.0	34.4	23.4	47.0
237.0	35.0	23.4	49.6
238.0	35.5	23.3	52.4
239.0	36.1	23.3	54.9
240.0	36.5	23.3	56.7
241.0	36.5	23.3	56.7
242.0	36.6	23.3	57.1
243.0	36.6	23.3	57.1
244.0	36.7	23.3	57.5
245.0	36.9	23.3	58.4
246.0	36.9	23.3	58.4
247.0	37.0	23.3	58.8
248.0	36.8	23.4	57.3
249.0	34.4	23.4	47.0
250.0	33.1	23.4	41.5
251.0	33.2	23.5	41.3
252.0	33.3	23.5	41.7

## **E1B LONGLEY-RICE 70 DBU TABULATION**

**Call Letters: WMGL**

**Latitude: 32-54-18 N**

**Longitude: 079-55-19 W**

**ERP: 16.50 kW**

**Channel: 297**

**Frequency: 107.3 MHz**

**AMSL Height: 127.0 m**

**Elevation: 11.0 m**

**Horiz. Antenna Pattern: Omni**

**Vert. Elevation Pattern: No**

**Type of contour: Signal Calculated**

**Using the first occurrence method at 70.0 dBu**

<b>Bearing (deg)</b> -----	<b>Distance (km)</b> -----	<b>HAAT (m)</b> -----
236.0	34.4	125.2
237.0	35.0	124.9
238.0	35.5	124.5
239.0	36.1	124.2
240.0	36.5	124.0
241.0	36.5	123.8
242.0	36.6	123.8
243.0	36.6	123.7
244.0	36.7	123.7
245.0	36.9	123.8
246.0	36.9	124.1
247.0	37.0	124.5
248.0	36.8	125.1
249.0	34.4	125.5
250.0	33.1	125.9
251.0	33.2	126.1
252.0	33.3	126.3

## **E1B FCC 70 DBU TABULATION**

**Call Letters: WMGL**

**Latitude: 32-54-18 N**

**Longitude: 079-55-19 W**

**ERP: 16.50 kW**

**Channel: 297**

**Frequency: 107.3 MHz**

**AMSL Height: 127.0 m**

**Elevation: 11.0 m**

**Horiz. Antenna Pattern: Omni**

**Vert. Elevation Pattern: No**

**Type of contour: FCC Location Variability: 50.0 % Time Variability: 50.0 %**

**Field Strength: 70.00 dBuV/m**

**V-Soft 30 Second US Database**

<b>Bearing (deg)</b>	<b>Distance (km)</b>	<b>HAAT (m)</b>
-----	-----	-----
236.0	23.4	125.2
237.0	23.4	124.9
238.0	23.3	124.5
239.0	23.3	124.2
240.0	23.3	124.0
241.0	23.3	123.8
242.0	23.3	123.8
243.0	23.3	123.7
244.0	23.3	123.7
245.0	23.3	123.8
246.0	23.3	124.1
247.0	23.3	124.5
248.0	23.4	125.1
249.0	23.4	125.5
250.0	23.4	125.9
251.0	23.5	126.1
252.0	23.5	126.3



## **E1B WMGL FCC 60 DBU TABULATION**

**Latitude: 32-54-18 N**

**Longitude: 079-55-19 W**

**ERP: 16.50 kW**

**Channel: 297**

**Frequency: 107.3 MHz**

**AMSL Height: 127.0 m**

**Elevation: 11.0 m**

**Horiz. Antenna Pattern: Omni**

**Vert. Elevation Pattern: No**

**Type of contour: FCC (50,50)**

**Field Strength: 60.00 dBuV/m**

**V-Soft 30 Second US Database**

<b>Bearing (deg)</b>	<b>Distance (km)</b>	<b>HAAT (m)</b>
-----	-----	-----
236.0	39.3	125.2
237.0	39.3	124.9
238.0	39.2	124.5
239.0	39.2	124.2
240.0	39.1	124.0
241.0	39.1	123.8
242.0	39.1	123.8
243.0	39.1	123.7
244.0	39.1	123.7
245.0	39.1	123.8
246.0	39.2	124.1
247.0	39.2	124.5
248.0	39.3	125.1
249.0	39.3	125.5
250.0	39.4	125.9
251.0	39.4	126.1
252.0	39.4	126.3

WMGL

325418.0 N.

795519.0 W.

Delta h= 6.0M, Interval=.1, COR AMSL= 127 M M

Attenuation= 1.7 dB

Radial length = 37.3 km (Delta h calculation begins at 10 km)

000.0	003.7	000.1	003.5	000.2	003.4	000.3	003.4	000.4	003.3	000.5	003.1
000.6	002.8	000.7	002.5	000.8	002.2	000.9	001.7	001.0	001.2	001.1	000.6
001.2	000.0	001.3	000.0	001.4	000.0	001.5	000.0	001.6	000.0	001.7	000.0
001.8	000.0	001.9	000.0	002.0	000.0	002.1	000.0	002.2	000.0	002.3	000.0
002.4	000.0	002.5	000.0	002.6	000.0	002.7	000.0	002.8	000.0	002.9	000.0
003.0	000.0	003.1	000.0	003.2	000.0	003.3	000.0	003.4	000.0	003.5	000.0
003.6	000.0	003.7	000.0	003.8	000.0	003.9	000.0	004.0	000.0	004.1	000.0
004.2	000.0	004.3	000.0	004.4	000.0	004.5	000.0	004.6	000.0	004.7	000.0
004.8	000.5	004.9	001.1	005.0	001.8	005.1	002.5	005.2	003.3	005.3	004.1
005.4	004.8	005.5	005.5	005.6	006.0	005.7	006.0	005.8	006.0	005.9	006.0
006.0	006.0	006.1	006.0	006.2	006.0	006.3	006.0	006.4	006.0	006.5	006.0
006.6	006.0	006.7	006.0	006.8	006.0	006.9	006.0	007.0	006.0	007.1	006.0
007.2	006.0	007.3	006.0	007.4	006.0	007.5	006.0	007.6	006.0	007.7	006.0
007.8	006.0	007.9	006.0	008.0	006.0	008.1	006.0	008.2	006.0	008.3	005.6
008.4	005.4	008.5	005.1	008.6	005.0	008.7	004.9	008.8	004.9	008.9	004.9
009.0	005.0	009.1	005.2	009.2	005.5	009.3	005.8	009.4	005.9	009.5	005.8
009.6	005.7	009.7	005.7	009.8	005.8	009.9	005.9	010.0	006.0	010.1	006.0
010.2	006.0	010.3	006.0	010.4	006.0	010.5	006.0	010.6	006.0	010.7	006.0
010.8	006.0	010.9	005.9	011.0	005.8	011.1	005.7	011.2	005.8	011.3	005.9
011.4	006.0	011.5	006.0	011.6	006.0	011.7	006.0	011.8	005.9	011.9	005.7
012.0	005.4	012.1	005.0	012.2	004.6	012.3	004.2	012.4	003.6	012.5	003.0
012.6	002.4	012.7	001.8	012.8	001.4	012.9	001.0	013.0	000.6	013.1	000.4
013.2	000.2	013.3	000.1	013.4	000.0	013.5	000.0	013.6	000.0	013.7	000.0
013.8	000.0	013.9	000.0	014.0	000.0	014.1	000.0	014.2	000.0	014.3	000.0
014.4	000.0	014.5	000.0	014.6	000.0	014.7	000.0	014.8	000.0	014.9	000.0
015.0	000.0	015.1	000.0	015.2	000.0	015.3	000.0	015.4	000.0	015.5	000.0
015.6	000.0	015.7	000.0	015.8	000.0	015.9	000.0	016.0	000.0	016.1	000.0
016.2	000.0	016.3	000.0	016.4	000.0	016.5	000.0	016.6	000.0	016.7	000.0
016.8	000.0	016.9	000.0	017.0	000.0	017.1	000.0	017.2	000.0	017.3	000.0
017.4	000.0	017.5	000.0	017.6	000.0	017.7	000.0	017.8	000.0	017.9	000.0
018.0	000.0	018.1	000.0	018.2	000.0	018.3	000.0	018.4	000.0	018.5	000.0
018.6	000.0	018.7	000.0	018.8	000.0	018.9	000.0	019.0	000.0	019.1	000.0
019.2	000.0	019.3	000.0	019.4	000.0	019.5	000.0	019.6	000.0	019.7	000.0
019.8	000.0	019.9	000.0	020.0	000.0	020.1	000.0	020.2	000.0	020.3	000.0
020.4	000.0	020.5	000.0	020.6	000.0	020.7	000.0	020.8	000.0	020.9	000.0
021.0	000.0	021.1	000.0	021.2	000.0	021.3	000.0	021.4	000.0	021.5	000.0
021.6	000.0	021.7	000.0	021.8	000.0	021.9	000.0	022.0	000.0	022.1	000.0
022.2	000.0	022.3	000.0	022.4	000.0	022.5	000.0	022.6	000.0	022.7	000.0
022.8	000.0	022.9	000.0	023.0	000.0	023.1	000.0	023.2	000.0	023.3	000.0
023.4	000.0	023.5	000.0	023.6	000.0	023.7	000.0	023.8	000.0	023.9	000.0
024.0	000.0	024.1	000.0	024.2	000.0	024.3	000.0	024.4	000.0	024.5	000.0
024.6	000.0	024.7	000.0	024.8	000.0	024.9	000.0	025.0	000.0	025.1	000.0
025.2	000.0	025.3	000.0	025.4	000.0	025.5	000.0	025.6	000.0	025.7	000.0
025.8	000.0	025.9	000.0	026.0	000.0	026.1	000.0	026.2	000.0	026.3	000.0
026.4	000.0	026.5	000.0	026.6	000.0	026.7	000.0	026.8	000.0	026.9	000.0
027.0	000.0	027.1	000.0	027.2	000.0	027.3	000.0	027.4	000.0	027.5	000.0
027.6	000.0	027.7	000.0	027.8	000.0	027.9	000.0	028.0	000.0	028.1	000.0
028.2	000.0	028.3	000.0	028.4	000.0	028.5	000.0	028.6	000.0	028.7	000.0
028.8	000.0	028.9	000.0	029.0	000.0	029.1	000.0	029.2	000.0	029.3	000.4
029.4	001.0	029.5	001.7	029.6	002.4	029.7	003.3	029.8	004.0	029.9	004.7
030.0	005.4	030.1	005.9	030.2	006.0	030.3	006.0	030.4	006.0	030.5	006.0
030.6	006.0	030.7	006.0	030.8	006.0	030.9	006.0	031.0	006.0	031.1	006.0
031.2	006.0	031.3	006.0	031.4	006.0	031.5	006.0	031.6	006.0	031.7	006.0
031.8	006.0	031.9	006.0	032.0	006.0	032.1	006.0	032.2	006.0	032.3	006.0
032.4	006.0	032.5	006.0	032.6	006.0	032.7	006.0	032.8	006.0	032.9	006.0
033.0	006.0	033.1	006.0	033.2	006.0	033.3	006.0	033.4	006.0	033.5	006.0
033.6	006.0	033.7	006.0	033.8	006.0	033.9	006.0	034.0	006.0	034.1	006.0
034.2	006.0	034.3	006.0	034.4	006.0	034.5	006.0	034.6	006.0	034.7	006.0
034.8	006.0	034.9	006.0	035.0	006.0	035.1	006.0	035.2	006.0	035.3	006.0
035.4	006.0	035.5	006.0	035.6	006.0	035.7	006.0	035.8	006.0	035.9	006.0
036.0	006.0	036.1	006.0	036.2	006.0	036.3	006.0	036.4	006.0	036.5	006.0
036.6	006.0	036.7	006.0	036.8	006.0	036.9	006.0	037.0	006.0	037.1	006.0
037.2	006.0	037.3	006.0								

## E1D WMGL PROPOSED HAAT TABULATION

N. Lat. = 325418.0 W. Lng. = 795519.0

HAAT and Distance to Contour - FCC Method - NGDC 30 SEC

Azi.	AV EL	HAAT	ERP kW	dBk	Field	60-F5
------	-------	------	--------	-----	-------	-------

000	0.0	127.0	16.5000	12.17	1.000	39.52
045	6.1	120.9	16.5000	12.17	1.000	38.77
090	0.0	127.0	16.5000	12.17	1.000	39.52
135	0.3	126.7	16.5000	12.17	1.000	39.48
180	0.0	127.0	16.5000	12.17	1.000	39.52
225	1.3	125.7	16.5000	12.17	1.000	39.36
270	5.3	121.7	16.5000	12.17	1.000	38.88
315	4.1	122.9	16.5000	12.17	1.000	39.02

Ave EI= 2.13 M HAAT= 124.87 M AMSL= 127 M

## E2 WMGL 297C3 FULLY SPACED ALLOCATION REFERENCE POINT

REFERENCE		DISPLAY DATES
32 46 46.0 N.	CLASS = C3	DATA 04-11-07
80 09 42.0 W.	Current Spacings	SEARCH 04-11-07
----- Channel 297 - 107.3 MHz -----		

Call	Channel	Location		Azi	Dist	FCC	Margin
WNKT	LIC 298C	St. George	SC	329.7	39.49	176.0	-136.51
WNKT	RSV 298C2	Eastover	SC	339.1	123.56	117.0	6.56(1)
WNKT.A	APP-N 298C2	Eastover	SC	330.8	125.26	117.0	8.26
WGZR	LIC-N 295C1	Bluffton	SC	226.5	88.98	76.0	12.98
WMCD	LIC 297C3	Claxton	GA	247.8	177.13	153.0	24.13
WLOW	LIC 300C2	Port Royal	SC	226.5	88.98	56.0	32.98
AL595064	RSV 300C2	Port Royal	SC	226.5	88.98	56.0	32.98
WQSD	LIC 296C2	Briarcliff Acres	SC	40.5	169.99	117.0	52.99
WTCB	LIC-D 294C1	Orangeburg	SC	327.9	131.67	76.0	55.67
WJMZ-FM.C	CP -N 297C0	Anderson	SC	317.4	284.83	226.0	58.83
WVSZ	LIC-N 297A	Chesterfield	SC	1.6	215.32	142.0	73.32
WJMZ-FM	LIC 297C	Anderson	SC	314.1	311.03	237.0	74.03
WYFA	LIC-Z 296C3	Waynesboro	GA	285.1	176.54	99.0	77.54
WGTR	LIC 300C2	Bucksport	SC	48.4	137.42	56.0	81.42
WPLA.A	APP 297C1	Green Cove Springs	FL	206.0	307.63	211.0	96.63
WPLA	LIC 297C1	Jacksonville	FL	206.0	307.63	211.0	96.63
WPLA	RSV 297C1	Green Cove Springs	FL	206.0	307.63	211.0	96.63

(1)Reference point modified to N33-49-07 W 80-38-24 in contingent WNKT application.

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**E2B WMGL**

BLH20031112ADE

Latitude: 32-46-46 N

Longitude: 080-09-42 W

ERP: 25 kW

Channel: 297

Frequency: 107.3 MHz

HAAT = 100 Meters

Site Elevation: 5.0 m

Horiz. Pattern: Omni

Vert. Pattern: No

Prop Model: None

**UNIFORM 297C3 70 DBU FROM  
ALLOCATION REFERENCE POINT**

**RAVENEL, SC 2000 BOUNDARIES**

Scale 1:300,000

0 4 8 12 km

