

ENGINEERING STATEMENT
IN SUPPORT OF AN APPLICATION FOR
CONSTRUCTION PERMIT FOR AUXILIARY OPERATION
WJKI(FM), BETHANY BEACH, DELAWARE
CHANNEL 278A 4.3 KW DA 91.4 METERS

JULY 2015

This engineering statement has been prepared on behalf of Great Scott Broadcasting, licensee of FM broadcast station WJKI, Bethany Beach, Delaware in support of an application for construction permit for an auxiliary operation.

At present WJKI, (Facility ID Number 30858), is licensed (BLH-19960611KA) to operate on Channel 278A (103.5 MHz) with 1.45 kW effective radiated power (ERP) and 146 meters antenna height above average terrain (HAAT). The present licensed facilities are equivalent to 3 kW ERP and 100 meters HAAT. WJKI has filed an application (BPH-20150626AAS) to relocate the antenna site for its main operation. Now WJKI is filing an application for an auxiliary operation.

The following information provides pertinent data for the proposed WJKI auxiliary operation.

Name of the Licensee:	Great Scott Broadcasting			
Station Location:	DE-Bethany Beach			
Channel:	278A			
Hours of Operation:	Unlimited			
Transmitter:	Type Accepted			
Antenna Type:	2-Bay Directional			
Antenna Coordinates:	North Latitude:	38 deg	34 min	45 sec
	West Longitude:	75 deg	17 min	04 sec
Transmitter output power:	As required to achieve authorized ERP			
Effective Radiated Power (ERP):	4.3 kW 6.33 dBk			

Elevation of the site above mean sea level:	7.6 meters
Overall Height of the Tower Above Ground:	97.5 meters
Height of Radiation Center Above Ground:	93.0 meters
Height of Radiation Center Above Mean Sea Level:	100.6 meters
Height of Radiation Center Above Average Terrain (HAAT):	91.4 meters
Antenna Structure Registration Number:	1060051

The attached map (Figure 1) shows the predicted 1.0 mV/m contour for the proposed WJKI auxiliary operation in relation to 1.0 mV/m contour for the station's main licensed operation. Figure 1 indicates the proposed WJKI auxiliary 1.0 mV/m contour would be wholly within the station's main licensed 1.0 mV/m contour.

Environmental Protection Act

Since the proposed WJKI operation would be from an existing tower ASR #1060051), the environmental concerns listed in Section 1.1307(a) of the Commission's Rules are not pertinent; therefore, those issues have not been addressed.

An evaluation has been made to determine compliance with the Commission's specified standards for human exposure to RF fields as set forth in the OET Bulletin No.65 dated August 1997. For a maximum effective radiated power of 8.6 kW (H+V) and a radiation center of 93 meters above ground level, the proposed WJKI operation would have less than 9 microwatts per square centimeter ($\mu\text{W}/\text{cm}^2$) RF field at 2 meters above the base of tower assuming an antenna field factor of 0.5 in the downward direction. The Commission's guidelines for the FM band are 1,000 $\mu\text{W}/\text{cm}^2$ for the

occupational/controlled, and $200 \mu\text{W}/\text{cm}^2$ for the general population/uncontrolled environment.

According to the applicant, the present tower has a security fence around the tower. The above analysis indicates that members of the public and personnel working around the tower of the proposed WJKI auxiliary operation would not be exposed to RF fields exceeding the Commission's guidelines. With respect to work performed on the tower, station WJKI, in coordination with other users on the tower, will establish procedures to ensure that workers are not exposed to RF fields above the Commission's guidelines, by reducing or turning off the power, as appropriate. For the reasons stated above, we believe this proposal complies with Section 1.1307(a) and (b) of the Commission's Rules; therefore, under Section 1.1306, it is categorically excluded from environmental processing.

WJKI-AUX Antenna Pattern

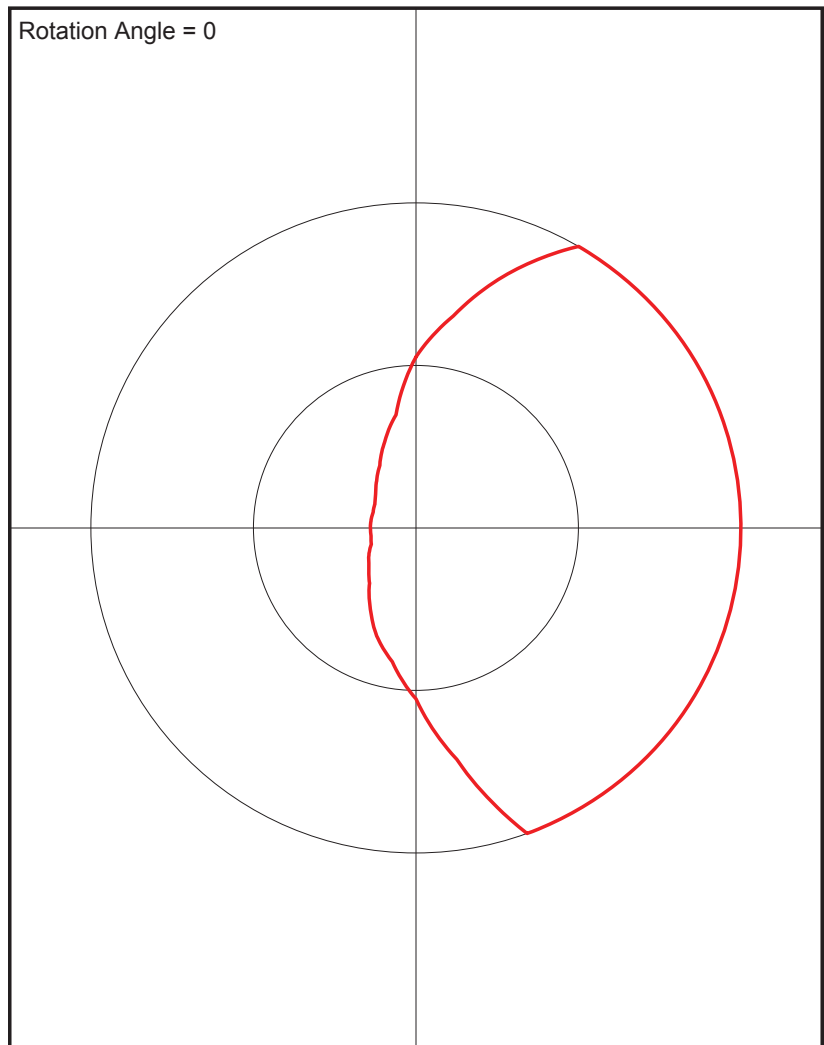
Pre-Rotation Antenna Pattern....

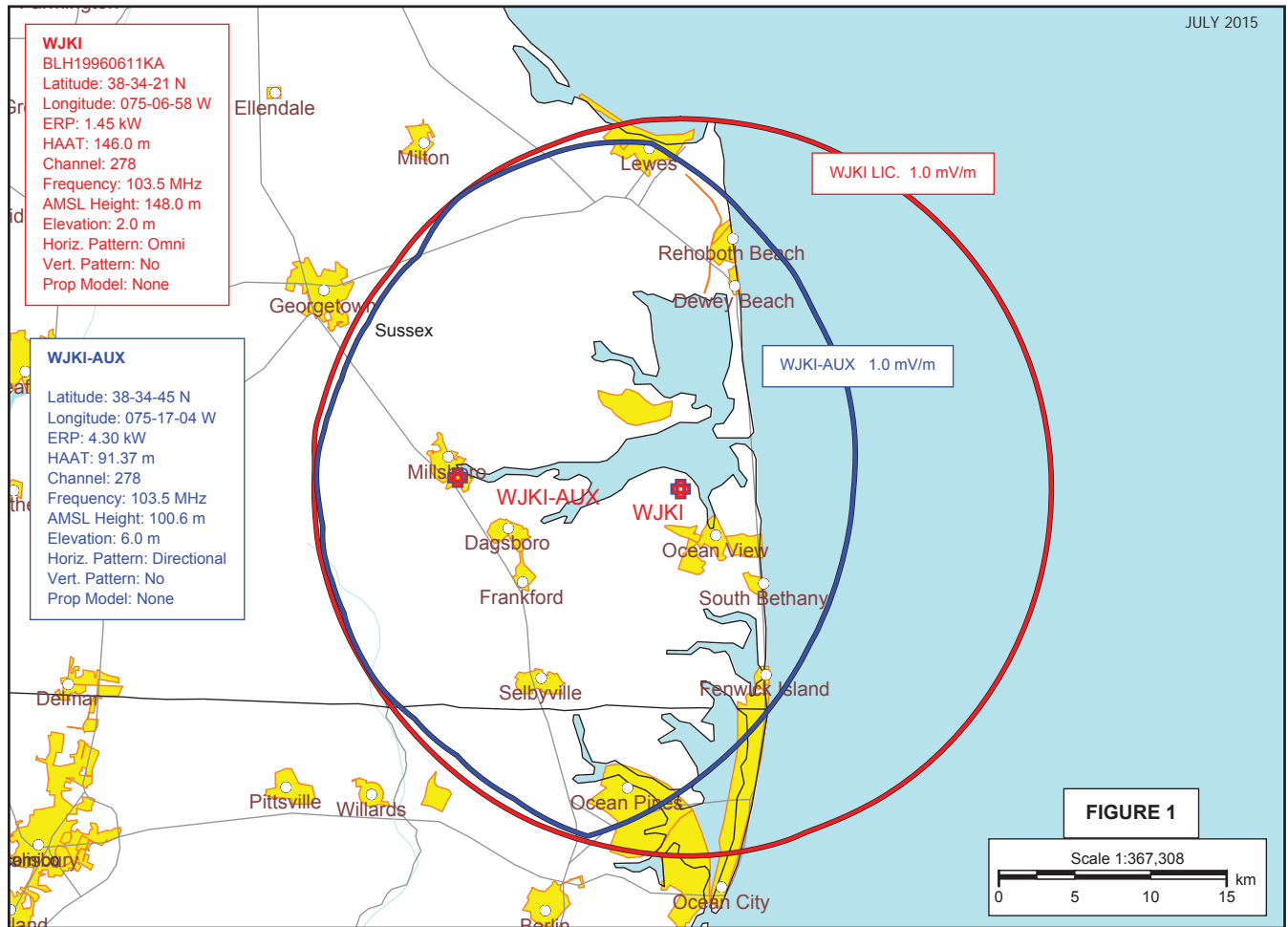
Azimuth (deg)

Relative Field

0.0	0.526
10.0	0.662
20.0	0.833
30.0	1.0
40.0	1.0
50.0	1.0
60.0	1.0
70.0	1.0
80.0	1.0
90.0	1.0
100.0	1.0
110.0	1.0
120.0	1.0
130.0	1.0
140.0	1.0
150.0	1.0
160.0	1.0
170.0	0.723
180.0	0.526
190.0	0.418
200.0	0.353
210.0	0.281
220.0	0.222
230.0	0.188
240.0	0.167
250.0	0.146
260.0	0.14
270.0	0.14
280.0	0.14
290.0	0.14
300.0	0.146
310.0	0.161
320.0	0.188
330.0	0.222
340.0	0.281
350.0	0.353

Rotation Angle = 0





COMPUTED 1.0 mV/m CONTOURS FOR WJKI(FM), BETHANY BEACH, DELAWARE