## Exhibit EE-2 Engineering Statement in Support of: FCC Form 349

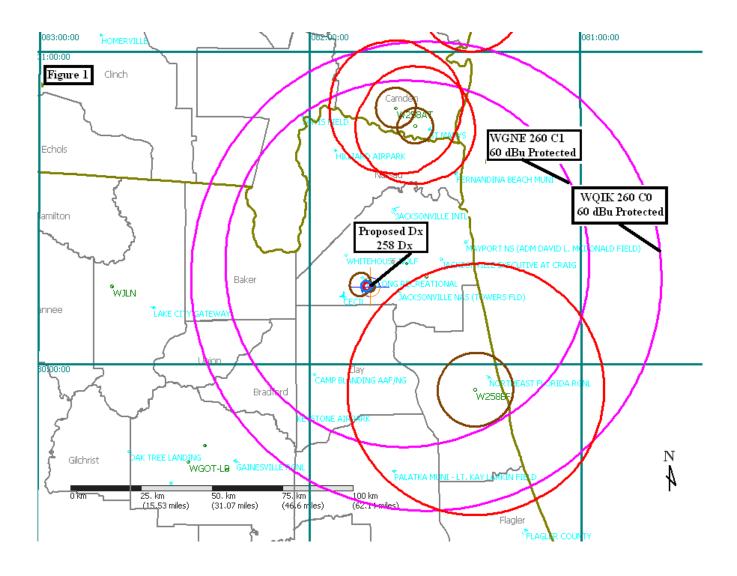
Application for authority to construct or make changes in an FM Translator or FM Booster Station (For a New FM Translator)

This Exhibit supports a long form application, with Minor Modifications, to an existing application by Barry J. Magrill (the applicant) for a new FM translator serving the community of Jacksonville, FL. The facility ID is 157039 and the file number is currently BNPFT-20030317MIS. A subsequent application is pending which is BNPFT20130830ART. This new application seeks operation on the tower proposed in a previous application and a change to channel 258\* which is clear of LPFM applicants. The proposed facility will operate at the 41 m AGL and with a power of 3 Watts. A directional pattern is proposed using a Scala CL FM-H

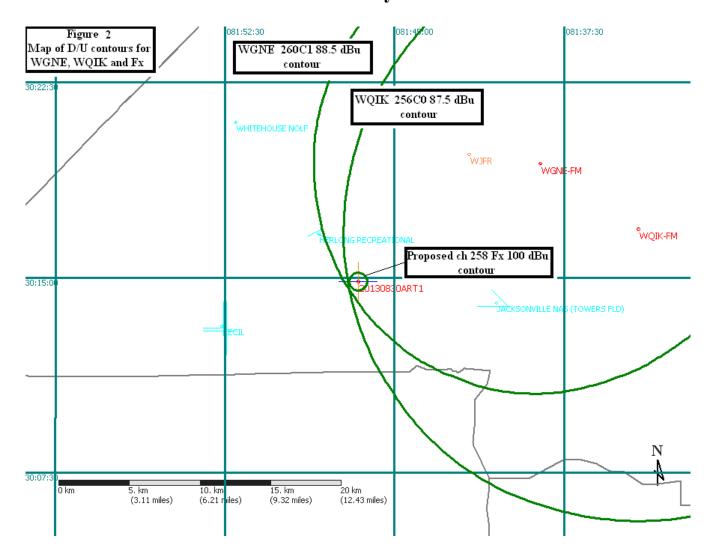
This application was prepared using FCC 30-arc-second terrain data.

Figure 1 is a map showing the proposed and affected stations on ch 258 and its adjacences. There are two stations that overlap second adjacent spacing, WGNE and WQIK. Thus **a**  $2^{nd}$  **Adjacency waiver is requested.** Figure 4 shows the protected 60 dBu contours from both full power stations with respect to the proposed translator. The protected contour level for WGNE is 88.5 and the protected contour level for WQIK is 87.5. These two contours completely encompass the proposed translator's interfering (100 dBu) contour. Second adjacent channels use 40 dB for a D/U analysis. 40 dB was added to the two full power protected contours. This yields 87.5 + 40 = 127.5 for WQIK and 88.5 + 40 = 128.5 for WGNE. The weaker signal (127.5) is the more fragile one. The interfering contour from the translator does not make it to the ground nor does it get to a plane 2 meters above the ground. A more rigorous proof is given below in the D/U analysis.

Additionally, all translators clear the contours of the proposed 3 watt station.



## D/U Analysis

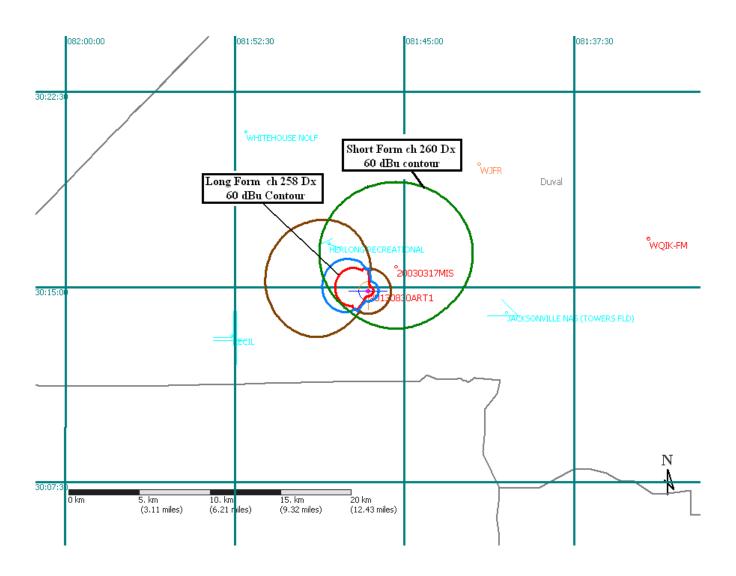


The minimum contour to receive interference, is 127.5 dBu. At 3 watts, the radiation from the antenna is 149.9 dBu. The difference between the protected contour and the maximun radiation of the antenna is 22.4 dB which translates to 3.14 meters of travel based on the "free space equation". An isotropic emitter is assumed. The free space formula that was used is: "Path loss (dB) = 32.44 + 20 Log (MHz) + 20 Log D(km) + G (tx) + G (rx)". G(tx) is 0 due to the isotropic radiator and the gain of the receiver is assumed to be 0. Path loss =  $32.44 + 20 \log 100 \text{MHz} + 20 \log D \text{ km}$ .  $20 \log 100 \text{ is } 40.40 + 32.44 \text{ is}$  72.44. Path loss =  $72.44 + 20 \log D \text{ (km)}$  also  $22.4 \text{dB} = 72.44 \text{dB} + 20 \log D$ . 72.44 - 22.4 = 50.04. Path loss =  $50.04 + 20 \log D(\text{km})$ . Antilog base 10 of (50.04/20) = D(km), for (22.4dB) D = 3.14 m The antenna height is 41 meters. Therefore, the minimum height of the interference would occur

37.8 meters above the land surface. There is nothing within 3 meters of the tower. There is a building nearby, however, it is a single story structure more then 3 meters away. No interference reaches any population, major roadway or occupied structure, so 47CFR73.1204 is satisfied.

Figure 3

Required Overlap of 60 dBu Contours



The required overlap of the 60 dBu contours is demostrated in the map above. The 60 dBu from the original short form (green) covers the 60 dBu contour (red) of the long form proposal.

## **NEPA**

This proposal is for a facility on an existing monopole. The proposed tower has another occupant on it. The proposed translator is in compliance with 47CFR Section 1.1306 with regards to radio-frequency exposure, in that the rf levels anticipated are less than 1% of the maximum public exposure limits. The translator contributes less than 5% of the total exposure limit for uncontrolled environments and so is categorically excluded. Should work be necessary on this tower the applicant will reduce power or shut down and will coordinate with the other owners of rf emitters on the tower. The calculations are show below. First I assume that the extremely low power 3 Watts ant the relatively high antenna height will result in a categoric exclusion. Therefore, I will treat the rf separately from other rf sources on the tower. The height of the C/R of the antenna is 41 meters. The height over head is 41m-2m or 39 meters. The power level from the antenna is 0.003kW. Doubling that to account for reflections from the ground that may occur in phase with the direct ray we have 0.006kW. This is multiplied by 33.41 which yields 0.20046kW. The distance is then squared which gives 1521m<sup>2</sup>. Dividing the power by the square of the distance yields 0.0001317kW/m<sup>2</sup>. By multiplying by 100, one changes a decimal fraction to a percent. In this case 0.013% when you multiply this number by 5 you obtain the exposure in terms of the uncontrolled public environment. This is 0.06585%. It is excluded and no further calculations are needed

Barry J Magrill, President/Applicant PE FL Reg 45305 8 August 2013 Engineering Exhibit EE-1Engineering Statement in Support of: FCC Form 349

Application for authority to Construct or make changes in an FM

Translator or FM Booster Station (For a New FM Translator)

(discussion of minor change status)

This amendment is to change the frequency specified in the Tech Box (and wherever specified in the

application) to Channel 258, and is filed based on the belief that it is an acceptable minor change

amendment. The applicant believes this to be a minor change for several reasons. The applicant's

originally specified frequency in its 2003 filing was Channel 260 (which the applicant had to leave

because of the relocation of WGNE on 260 to Jacksonville). Channel 258 is second adjacent to

Channel 260. The FCC's Public Notices on the Auction 83 window have made it clear that the 2003

short-form is the base for determining what is a minor change.

The FCC's engineering database continues to list the applicant's original Channel 260 short-form

application, as well as the later amended designation of Channel 262 in its full 349. LPFM applicants

were required to protect the Channel 260 application, not the amended designation of Channel 262,

during the LPFM filing window. Since the close of the LPFM filing window, the applicant has

determined that Channel 258, which because of theoretical LPFM preclusion was closed to the

applicant during its August 2013 filing window, is fully available to the applicant without conflict with

any full power FM, FM translator or LPFM authorization or pending application.

Should this be determined by the FCC to not be a minor change amendment, the applicant requests that

this proposed change be dismissed and that the previous application be returned to the processing

queue. .

Barry J Magrill, President/Applicant

PE FL Reg 45305

19 December 2013

## Tech Box

1)	channel	258				
2)	Primary Station	1.	FID 68201 WGSG- May	yo, FL 89.5 MH	Z	
3)	Delivery Method		Off Air			
4)Antenna Location Coordinates (NAD 27) 30-14-50 N Lat 81-46-38 W Long						
5)	ASRN 1210773					
	6) Tower site location elevation AMSL 24.4 meters					
	7) Overall tower heig	ht abov	e ground	47.5 me	ters	
8)	Height of Radiation Center above ground 41 m H AGL					
9)	ERP 0.003k	W				
10)	Transmitting Antenna	ı	Scala CL FM	[-Н		
11)	Fill in Translator	No				
12)	2) Interference Yes a) Section 74.1204 Checked See EE-2 b) Section 74.1205 unchecked					
13)	Unattended operation	Yes				
14)	(4) Multiple Translators Yes					
15)	NEPA Yes Please see EE-2					