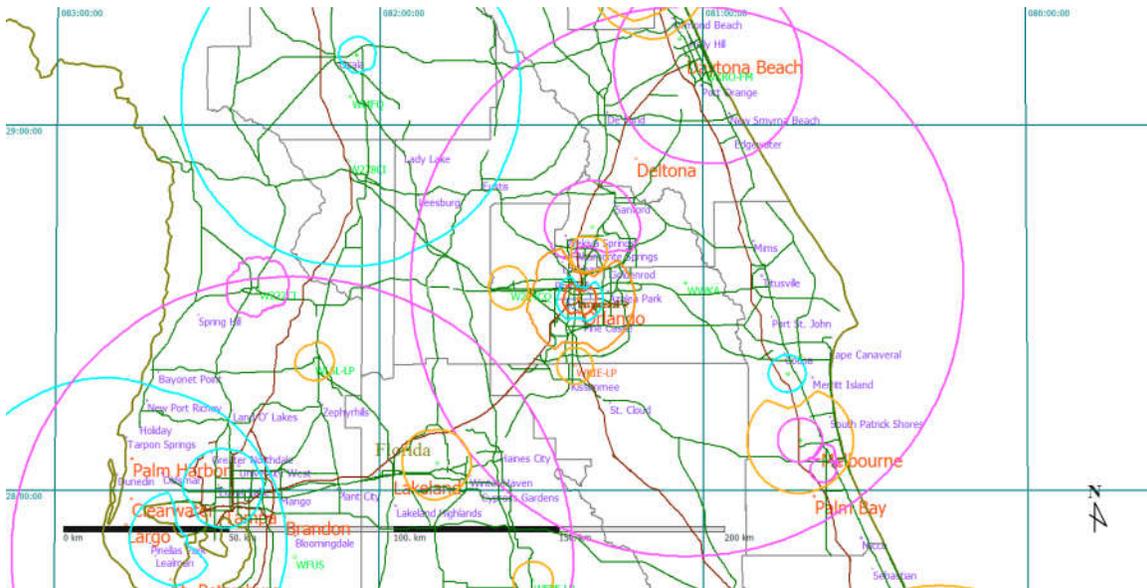


Engineering Report (EE-1): Engineering Statement in support of
FCC FORM 349

APPLICATION FOR AUTHORITY TO CONSTRUCT OR MAKE CHANGES IN AN FM TRANSLATOR OR FM
BOOSTER STATION
(For a New FM Translator)

Unity Broadcasting, LLC., owner of WNTF (AM), Bithlo, FL (FID 14556) seeks a new auction 99 translator. Their proposed translator will operate on channel 224 and is shown below to produce no interference to other broadcasters. It will operate with a power of 20 Watts on ch 224. The site has an elevation of 32.6 meters AMSL based on its current ASRN 1029718 and the antenna has a C/R of 50 meters AGL. There are no AM stations within 2.0 miles. From the map below, one can see that the proposed ch224 translator clears the spacing requirements for 47CFR74.1204 with the exception of the 2nd adjacencies. Therefore, a “living way” waiver is requested as described further below.



The above map's color coding means:

Gold = co-chnl 40 dBu interfering,

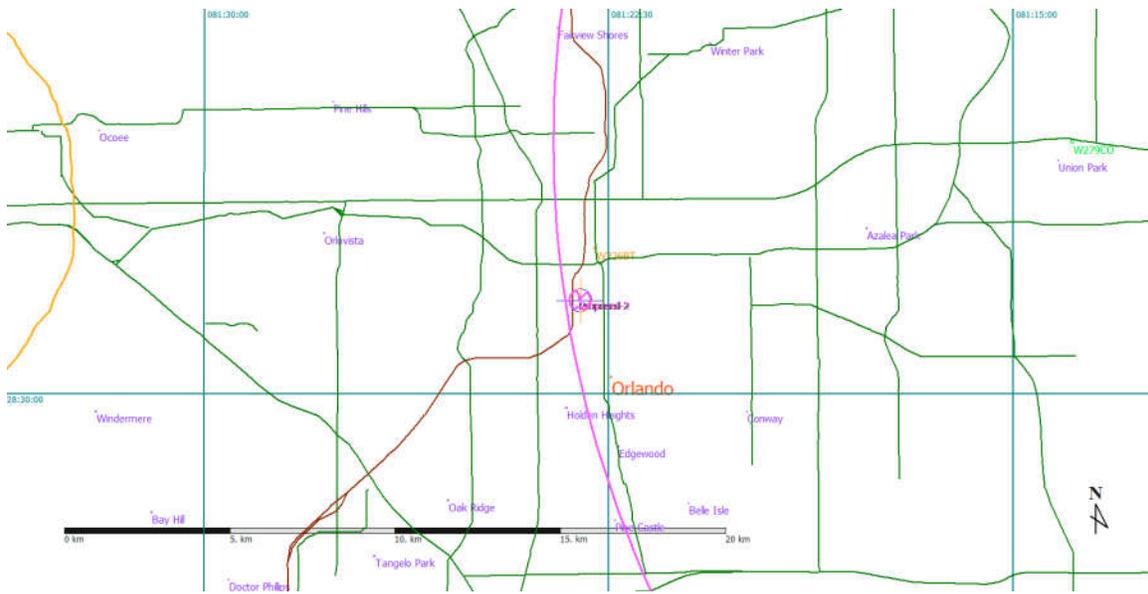
Cyan = 1st Adj 54 dBu interfering,

Violet = 2nd or 3rd Adj 100dBu interfering contour.

Similar colors of the affected stations must not cross those of the proposed station.

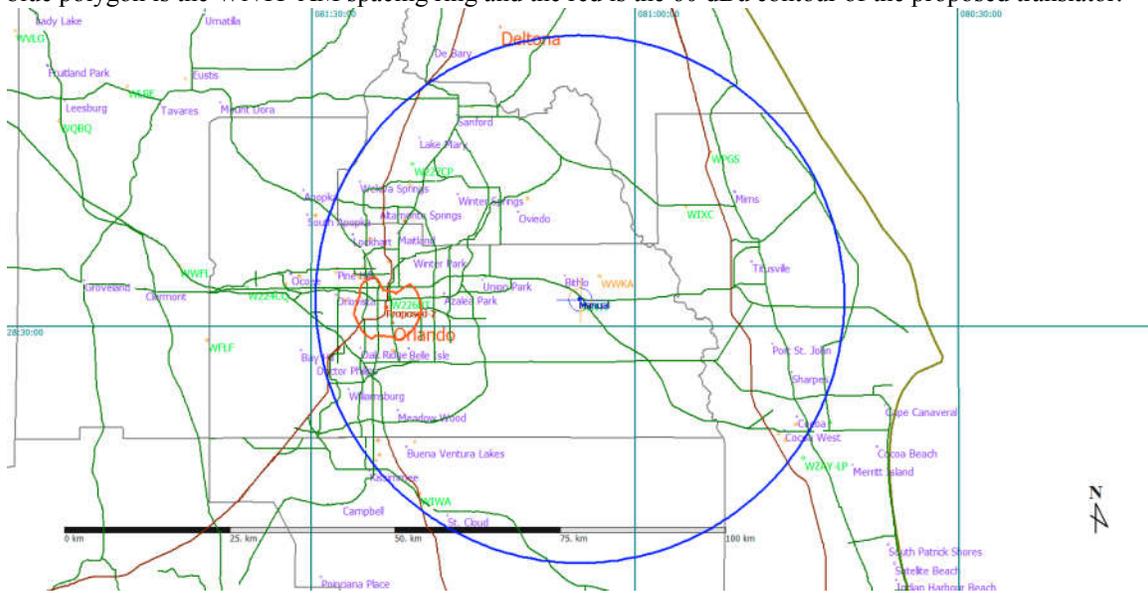
None cross the interference curves of the proposed translator except the 2nd and 3rd Adj signals. This proposed translator is clear of 74.1204 interference with a waiver as depicted in the map below. The protected contours of W226BT (2nd Adj) and WWKA (2nd Adj) both encompass the interfering contour of the WNTF proposed translator. The weakest signal is the WWKA 82.6 dBu contour, therefore that one is examined for D/U compliance.

Second/Third Adjacent Channel Analysis



The above map shows the relationship of the proposed interfering 122.6 dBu contour with the protected contour 82.6 dBu contour of WWKA. The antenna will be single bay PSI FMC-DA or equivalent antenna. A D/U analysis is submitted as a spreadsheet titled Appendix A showing that interference does not reach the ground, nor any elevated roadway or multi-story building.

The proposed translator's service grade signal is completely within the WNTF 25 mile spacing ring . The blue polygon is the WNTF AM spacing ring and the red is the 60 dBu contour of the proposed translator.



NEPA The rf exposure from the proposed translator is 2.718 uV/cm² based on "FM Model". This is about 1% of the public exposure limits set forth in the OET Bulletin 65. Exposure levels less than 5% are

categorically excluded. No changes are proposed for the tower which is an existing structure, nor are changes proposed to the surrounding landscape.

The antenna is a single bay, directional PSI FML-DA or similar antenna whose C/R is 48 meters above a 2 meter person.

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

This translator will operate as a fill-in facility for WNTF AM, a standard broadcast station licensed to Bithlo, FL .

The maximum ERP is limited by Interference.

The proposal is sufficiently distant from all facilities mentioned in 73.1030(a), (b) & (c) so that notification under 73.1030 is not required.

Respectfully submitted,

Barry Magrill, PE
FL Reg 45305
30 JUL 2017