

TECHNICAL SUMMARY
APPLICATION FOR CONSTRUCTION PERMIT
FM TRANSLATOR STATION W239CL
GOLDEN GATE, FLORIDA
CHANNEL 221 (92.1 MHZ) 0.25 KW (DA)

1. Application Purpose/Eligibility To Change Frequency: It is proposed to change from current channel 239 (95.7 MHz) to non-adjacent channel 221 (92.1 MHz) in order to mitigate interference to the licensed operation of LPFM station WSGB-LP on channel 239 (95.7 MHz) at Lehigh Acres, FL (BLL-20180104AAH, Facility ID 194387) pursuant to the FM translator interference Report And Order (MB Docket 18-119, effective date August 13, 2019). It is also proposed to change transmitter site and modify facilities.

2. Fill-in Translator Coverage & Minor Change Compliance: The proposal will be a fill-in translator for AM station WNPL on 1460 kHz at Golden Gate, FL (BL-20090320AHD, Facility ID 160167). Figure 1 is a map demonstrating that the proposed 60 dBu contour is entirely within the greater of the WNPL daytime 2 mV/m contour and a 25 mile circle from the WNPL transmitter site as required for fill-in compliance. In addition, the herein proposed 60 dBu contour overlaps the 60 dBu contour for currently licensed W239CL operation (BLFT-20170412AAL) which complies with the FCC's minor change rules.

3. Section 74.1204 compliance: Figure 2 is an allocation study for channel 221 based on Section 74.1204. Figure 2 lists the results of a numerical analysis of the potential for contour overlap to all nearby co-channel, first, second and third-adjacent channel facilities as well as IF related stations. For the purposes of the numerical study, the maximum HAAT (296 meters) and ERP (0.25 kW) values were used in determining the maximum distance in any direction to the predicted coverage and interfering contours. Figure 3, Sheet 1, demonstrates that the proposal complies with the contour overlap provisions of Section 73.1204 of the FCC rules, except with respect to stations WJYO and WFSX-FM.

Specifically, the proposal does not comply with the contour overlap provisions of Section 73.1204 of the FCC rules with respect to third adjacent channel station WJYO (Ch. 218A, Fort Myers, FL) and second adjacent channel station WFSX-FM (Ch. 223C2, Estero, FL). Figure 3, Sheet 2, depicts the overlap area between the proposed interfering 100 dBu, f(50,10) contour and the WJYO protected 60 dBu, f(50,50) contour ("100 dBu overlap area"). The 100 dBu overlap area has also been shown on a Google Earth map attached as Figure 4. As indicated by Figure 4, there are no occupied buildings or major roads within the 100 dBu overlap area. Therefore, the proposal complies with the lack of population criteria under section 74.1204(d).

Furthermore, based on the undesired-to-desired (U/D) signal strength interference ratio methodology, which is permitted by the FCC per *Living Way Ministries, Inc.*, it has been determined that no actual interference would occur due to lack of population under Section 73.1204(d) with respect to WFSX-FM. Specifically, the calculated WFSX-FM f(50,50) field strength at the proposed site is 93.7 dBu. Using the 40 dB U/D ratio contained in Section 73.1204 of the FCC rules, the proposed f(50,10) interfering signal is 133.7 dBu. The proposed antenna will be located 291 meters (955 feet) above ground level on the tower. Assuming free-space propagation and a vertical plane relative field of 1.0 (worst case assumption), the interfering 133.7 dBu signal will extend only 24 meters (79 feet) from the transmitting antenna. Thus, the proposed W239CL interfering signal to WFSX-FM will not reach ground level and, therefore, will contain no population.

4. RFR Compliance: The proposed facilities were evaluated in terms of potential radiofrequency radiation (RFR) exposure at ground level to workers and the general public. The radiation center for the proposed antenna will be located 291 meters above ground level. The total ERP is 0.5 kW (horizontal & vertical polarization). A worst-case vertical plane relative field value of 1.0 is presumed for the antenna's downward radiation (for angles below 60 degrees downward). The calculated power density at a point 2 meters above ground level is 0.2 uW/cm^2 which is only 0.1% of the FCC's recommended limit of 200 uW/cm^2 for FM frequencies for an uncontrolled environment. Therefore, based on the responsibility threshold of 5%, the proposal will comply with the RF emission rules.

Access to the transmitting site is restricted and appropriately marked with RFR warning signs. Furthermore, as this is a multi-user site, a formal RFR protection protocol is in effect in the event that workers or other authorized personnel enter the restricted area or climb the tower to ensure that appropriate measure will be taken to assure worker safety with respect to RFR exposure. Such measures include limiting the exposure time, wearing protective clothing, reducing power to an acceptable level or termination of transmitter output power all together until workers leave the restricted area.