

ENGINEERING REPORT RE  
MINOR CHANGE APPLICATION FOR FM STATION  
WGOD-FM, CHARLOTTE AMALIE, VI  
CHANNEL 250B (97.9 MHz) - 29 kW (H&V) – 442 METERS

*Exhibit E - FCC 301 Application – December 2002*

#### INTRODUCTION

This engineering report has been prepared on behalf of Three Angels Corporation (TAC), licensee of FM radio station WGOD-FM, Charlotte Amalie, VI and is in support of its minor change application for a construction permit to change the effective radiated power (ERP) and antenna height above average terrain (HAAT). Currently, WGOD-FM is licensed for operation on Channel 250B (97.9 MHz) with 50 kilowatts (H&V) ERP and 475 meters HAAT, utilizing a non-directional antenna.

Although there is no change in the antenna site, there is a minor correction in the geographic coordinates. The corrected geographic coordinates are the result of converting the NAD-83 coordinates shown in the antenna structure registration to NAD-27 datum. The change in ERP and HAAT are the result of a catastrophic failure and collapse of the previous tower structure and antenna and the replacement of a shorter tower and smaller antenna. The replacement tower is 50.9 meters overall height above ground level compared with the previous height of 93.9 meters. The previously licensed 10 bay antenna was replaced with a 6 bay antenna. It is proposed to authorize operation of the station with 29 kW ERP and 442 meters HAAT and operate from the present transmitter site using a six bay non-directional antenna system.

Additionally, WGOD-FM will continue to operate as a Class B FM station pursuant to Section 73.210 of the Commission's Rules.

#### ANTENNA SITE

The licensed antenna site of WGOD-FM is located on Dorothea Mountain approximately 2.5 km northwest from Charlotte Amalie, Saint Thomas, US Virgin Islands. The geographic coordinates (NAD-27) corresponding to Antenna Structure Registration No. 1235917 are as follows:

North Latitude: 18° 21' 24"

West Longitude: 64° 57' 59"

Since there is no change in the antenna site and the map<sup>1</sup> showing the site is on file at the FCC, it is not being submitted with this application.

#### EQUIPMENT DATA

Transmitter: Type-approved

Antenna: Shively, Type 6813, 6-Bay, circularly polarized

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<sup>1</sup> WGOD-FM license file, Figure 3-A, September 1975.

# KHANNA & GUIL, Inc. – BROADCAST CONSULTANTS

Engineering Statement of WGOD-FM, Charlotte Amalie, VI

## POWER DATA

Power input to antenna = 8.8 kW

Antenna power gain = 3.28

Effective Radiated Power = 29 kW

## ELEVATION DATA

Elevation of the site above mean sea level: 423.7 meters

Overall height of the supporting structure above ground level: 50.9 meters

Height of antenna radiation center above ground level: 42.3 meters

Height of antenna radiation center above average terrain: 442 meters

## ALLOCATION SITUATION

The WGOD-FM licensed antenna site complies with the minimum separation requirements listed in Section 73.207 of the Commission's rules as a Class B FM station.

## TOPOGRAPHIC DATA

The 2 to 10 mile (3.2 to 16.1 km) elevation data for the eight cardinal radials was obtained from the WGOD-FM license file at the Commission.

## MAIN STUDIO LOCATION

The main studio will be located within the predicted 3.16 mV/m contour of WGOD-FM.

## ENVIRONMENTAL STATEMENT

Since this proposal does not require any change in the existing site and the applicant has installed the side-mounted FM antenna on an existing tower, the environmental concerns listed in Section 1.1307(a) of the Commission's Rules are not pertinent; consequently, those issues have not been addressed in this proposal.

However, an evaluation to determine compliance with the FCC specified standards for human exposure to RF fields as set forth in the OST Bulletin No. 65 dated August 1997. For a combined effective radiated power of 58 kW and an antenna radiation center of 42.3 meters above ground level, the proposed FM operation would have a maximum of 48 microwatts per square centimeter ( $\mu\text{W}/\text{cm}^2$ ) RF field level at 2 meters above ground level based on a downward relative field of 0.2.

The Commission guidelines for the FM band are  $1000 \mu\text{W}/\text{cm}^2$  for the occupational/controlled environment and  $200 \mu\text{W}/\text{cm}^2$  for the general population/uncontrolled environment. Therefore, members of the public and personnel working around the proposed transmitting facility will not be exposed to RF fields exceeding the Commission's guidelines. A fence is currently installed around the tower to block the unauthorized access to the tower. With respect to work performed on the tower structure, the proposed FM station will establish procedures, including reducing or turning off the power, to ensure the workers are not exposed to RF fields above the Commission's guidelines.

For the reasons stated above, this proposal does not involve any action specified in Section 1.1307(a) and (b) of the Commission's Rules; therefore, under Section 1.1306, it is categorically excluded from environmental processing.