

FARREN K. SHOAF

MOCKSVILLE, NORTH CAROLINA

LONG FORM APPLICATION FOR TRANSLATOR FOR WDSL(AM),
MOCKSVILLE, NORTH CAROLINA

ENGINEERING NARRATIVE

This application meets the protection requirements for all stations, authorizations and applications except for second-adjacent station WKKT, channel 245C in Statesville, North Carolina. Please refer to the attached Channel Study. Also, see the attached Vertical Elevation Pattern study (V-Soft X-File).

An attached map shows that the proposed translator 60 dBu contour is within the WDSL 2 mV/m contour.

The power density two meters above ground level has been calculated using FCC program FM Model. Input parameters are:

Channel 243

Antenna is ERI SHPX4F which is an Opposed U (EPA type 3)

Height above a persons head = 31 meters

ERP = 100 watts ERP H and V

Number of elements = 4

Element spacing = 1 wavelength

The Power Density two meters above ground level (31 meters below antenna) is 0.69167 $\mu\text{W}/\text{cm}^2$ which is 0.35 percent of the ANSI recommended level of 200 $\mu\text{W}/\text{cm}^2$. Under §1.1307, this power level is exempt from environmental processing (the "Five Percent Rule).

SECOND-ADJACENT CHANNEL PROTECTION.

Second-adjacent channel station WKKT places a 68.18 dBu signal at the proposed site. The interfering contour (108.18 dbu) will not cause interference to any potential listener of WKKT.

Referring to the attached XField graph and Tabulation, the first, second and third downward minor lobes of the proposed translator extend only to sixty-three meters from the tower base. As shown on the attached aerial photograph, this distance is on the WDSL property. Beyond the WDSL property, the main lobe is a minimum height above ground 10.767 meters (35.33 feet). This is above the old farm house which is the only occupied building within range of the interfering contour (refer to graph).

The WDSL studio building is on the radio station property. Other buildings showing in the photograph are storage buildings or small utility buildings which the applicant sells as part of his business.

In view of the foregoing, the proposed translator will not cause interference to WKKT because of a lack of population as provided in §74.1204(d) and as defined in Living Way Ministries. If a waiver of the rule regarding contour overlap of contours with WKKT is required, it is hereby requested.