

0186-EX-ST-2000

Servants of the Cross

Sky-Hy Conference Center ♦ 32 Sky-Hy Drive ♦ Topsham, Maine 04086

eMail: servant@servant.net ♦ Web: www.servant.net ♦ Phone: 207-725-7577 ♦ Fax: 207-725-7678

May 5, 2000

FEDERAL COMMUNICATIONS COMMISSION
Experimental Radio Service
P.O. Box 358320
Pittsburgh, PA 15251-5320

Gentlemen,

We wish to apply for Special Temporary Authority to operate a 250 watt FM broadcast station for six months or less.

Need for Special Action:

We feel that an STA would be appropriate in our situation for the following two reasons:

A perusal of the attached interference studies will reveal that our proposal is considerably short spaced to the first adjacent channel station WYAR, channel 202A (see Attachment 2, page 5). However, the 72 km minimum spacing requirement is based on full 6 kw class A stations, whereas our proposal is 250 watts and the potentially interfering station is only 100 watts. As you can see in Attachment 6, page 9 the contour plots of stations at these power levels in no way overlap. In addition, we propose vertical polarization whereas WYAR is horizontally polarized. Attachment 7, page 10 shows the contours considering only the horizontal component of our proposal, which is presumed to be 0.00625 kW or 1/40 of the vertical ERP.

As seen in Attachment 5, page 8 our request is also short spaced to the 54th adjacent channel 255B, WTPN in Brunswick. We feel that our low power level will probably preclude any interference to WTPN listeners, whereas our proposal location is in a rural area surrounded mainly by swamp and woodland containing very few listeners. From the FCC FM and NTSC TV Propagation Curves Calculation program we see the following:

KW ERP	Distance in km	HAAT in meters	dBu (50,50)	dBu (50,10)
0.250	7	57	65.735	65.735
6	15	57	66.362	66.606
48	7	122	95.304	95.304
48	15	122	81.906	82.038

Since the signal strength of a 250 watt station at 7 km is essentially the same as the signal strength of a 6 kW station at 15 km, it would seem reasonable to presume that any interference or lack thereof would also be identical. Receiver IF interference from WTPN for a minimal number of our listeners is a distinct possibility.

Type of Operation to be Conducted:

Non-commercial educational FM broadcasting.

Purpose of Operation:

The purpose of the requested STA is to experimentally determine the practicality of operating a 250 watt station on 88.1 MHz at the coordinates given below and to collect data on interference or lack thereof.

Time and Date of Proposed Operation:

We propose to begin 24 hour test broadcasting on September 15, 2000 and continue for six months or until undue interference is experienced, whichever comes first.

Class of Station:

This would normally be considered a class A FM broadcast station.

Nature of Service:

We propose to broadcast Christian music and educational programs, Brunswick and Topsham Maine being the target audience.

Location of Proposed Operation:

The transmitter and studio would be located in Sky Hy Lodge, Servants of the Cross, Pleasant Hill Road, Brunswick, Maine, coordinates: N 43 59 30 W 69 58 40.

Equipment to be Used:

Crown FM-250 transmitter, 1 each.

Frequency to be Used:

88.1 MHz, Channel 201A

Effective Radiated Power:

250 watts, vertical polarization only

Emission Type:

180F3 (180K0F3E)

Overall Height Above Ground of Antenna Structure:

The antenna would be mounted 100 feet (30.5 meters) up on a 150 foot (45.7 meter) tower. See Attachment 9, page 12 for a sketch.

Human Exposure to RF Radiation:

Attachment 8, page 11 is a printout of the OET Power Density program for FM band radiation exposure showing that the power density never exceeds $15 \mu\text{W}/\text{cm}^2$ at the closest point of a building occupied by the general public or 4 meters above ground under the tower. This is well within the maximum permissible exposure limit of $200 \mu\text{W}/\text{cm}^2$ for the general population. See also Attachment 9, page 12 for a sketch showing the building and tower.

FAA Aeronautical Study:

FAA Form 7460-1 "Notice of Proposed Construction or Alteration" has been filed with the FAA New England Region ANE520.

Conclusion:

In view of the above, it would seem not unreasonable for the FCC to grant this Special Temporary Authority request.

Thank you for your consideration of this request.

Sincerely,

SERVANTS OF THE CROSS

A handwritten signature in cursive script, reading "Normand R. Houde". The signature is written in dark ink and is positioned above the printed name and title.

Normand R. Houde
President