

APPLICATION FOR STATION LICENSE
AND PROGRAM TEST AUTHORITY
CODCOMM, INC.
WFRQ FM RADIO STATION
CH 228A - 93.5 MHZ - 6.0 KW (DA)
HARWICH PORT, MASSACHUSETTS
March 2013

TECHNICAL STATEMENT

This Technical Statement was prepared on behalf of Codcomm, Inc. ("Codcomm") licensee of radio station WFRQ, Channel 228A, Harwich Port, Massachusetts. Codcomm holds an outstanding construction permit to modify the WFRQ facilities (BPH-20120716ADH). Codcomm herein submits a license application to cover the outstanding permit. As the permitted facility uses a directional antenna system, it is requested that the Commission review this application and authorize WFRQ to operate at full power. Upon submission of this instant application, operation under limited program tests will commence at 50% of authorized power. A calculation of the transmitter power output of the WFRQ transmitter is attached as Exhibit A.

There are eight operating conditions/restrictions on the WFRQ permit. Condition #1 states:

"The permittee/licensee, in coordination with other users of the site, must reduce power or cease operation as necessary to protect persons having access to the site, tower or antenna from radiofrequency electromagnetic fields in excess of the FCC guidelines."

Codcomm will comply with this condition.

Condition #2 states:

**** This is a Section 73.215 contour protection grant ***
***** as requested by this applicant ******

Codcomm understands and concurs with this condition.

Condition #3 states:

"BEFORE PROGRAM TESTS ARE AUTHORIZED, the permittee/licensee must submit an affidavit from a licensed surveyor to establish that the directional antenna has been oriented at the proper azimuth."

Exhibit B is an affidavit from a land surveyor that the antenna is oriented as specified by Shively.¹

Condition #4 states:

"BEFORE PROGRAM TESTS ARE AUTHORIZED, the permittee/licensee must submit an affidavit that the installation of the directional antenna system was overseen by a qualified engineer. This affidavit must include a certification by the engineer that the antenna was installed pursuant to the manufacturer's instructions and list the qualifications of the certifying engineer."

Exhibit C is a statement from an engineer stating that the WFRQ antenna was assembled and installed in accordance with Shively's specifications.

Condition #5 states:

"BEFORE PROGRAM TESTS ARE AUTHORIZED, the permittee/licensee must submit an exhibit demonstrating that the measured directional antenna pattern complies with the appropriate community coverage requirements of 47 C.F.R. Sections 73.315 or 73.515 (See 47 C.F.R. § 73.316(c)(2)(ix)(B))."

Condition #6 states:

"BEFORE PROGRAM TESTS ARE AUTHORIZED, the permittee/licensee must submit the results of a complete proof-of-performance to establish the horizontal plane radiation patterns for both the horizontally and vertically polarized radiation components. This proof-of-performance may be accomplished using the complete full size antenna, or individual bays therefrom, mounted on a supporting structure of identical dimensions and configuration as the proposed structure, including all braces, ladders, conduits, coaxial lines, and other appurtenances; or using a carefully manufactured scale model of the entire antenna, or individual bays therefrom, mounted on an equally scaled model of the proposed supporting structure, including all appurtenances. Engineering exhibits must include a description of the antenna testing facilities and equipment employed, including appropriate photographs or sketches and a description of the testing procedures, including scale factor, measurements frequency and equipment calibration."

1) 105° true orientation, as indicated on the installation drawing included in the Shively proof.

Condition #7 states:

“The RMS of the composite measured relative field horizontal plane directional antenna pattern must encompass at least 85% of the RMS of the composite relative field horizontal plan directional antenna pattern authorized by this construction permit.”

Condition #8 states:

“The relative field strength of neither the measured horizontally nor vertically polarized radiation component shall exceed at any azimuth the value indicated on the composite radiation pattern authorized by this construction permit.

A relative field strength of 1.0 on the composite radiation pattern herein authorized corresponds to the following effective radiated power:

6.0 kilowatts

Principal minimum and its associated field strength limit:

250 degrees True: 1.406 kilowatts

280-290 degrees True (clockwise: 1.199 kilowatts”

Conditions #3, #4, #5, #6, #7, and #8 relate to the use of the WFRQ directional antenna system. Exhibit D is an antenna proof of performance from Shively Labs (“Shively”) for the Shively 6810-2R-SS(0.5)-DA antenna, demonstrating that the antenna system is in compliance with the requirements and limits contained in the WFRQ permit. The measured pattern is within 85% of the envelope pattern submitted with the construction permit application. Exhibit E is a coverage map demonstrating that the measured pattern provides a 70 dBu contour over the city of Harwich Port, Massachusetts, in compliance with §73.315 of the Rules.

Based on the foregoing, it is believed that Codcomm, Inc., is in compliance with the Commission’s rules and that all conditions have been met. Therefore, Codcomm requests program tests be allowed with full authorized power for WFRQ.