ARTEX
A Chelton Group company

Taking the *"SEARCH"* Out of Search and Rescue

06-03-02

EXPERIMENTATION DESCRIPTION EXHIBIT

Question 7 of FCC Form 442 (electronic version) asks for a narrative statement describing in detail the following:

a. The complete program of research and experimentation proposed including description of equipment and theory of operation.
b. The specific objectives sought to be accomplished.
c. How the program of experimentation has a reasonable promise of contribution to the development, extension, expansion, or utilization of the radio art, or is along lines not already investigated.

The information requested in a, b, and c above would certainly apply to the ordinary Experimental Licensee. However, Artex does not do "experimental research" as such, but simply uses its current experimental license (for Canby, OR) to do qualification testing of Emergency Locator Transmitters (ELTs) and their antennas. This is done in accordance with 47 CFR 5.3(g), which states that stations operating in the Experimental Radio Service will be permitted to conduct operations in the "testing of equipment in connection with production or regulatory approval of such equipment".

Artex Aircraft Supplies is requesting that our current Experimental License be expanded to add a second transmitter site to conduct qualification testing. The second transmitter will be located on the premises of an FCC service provider (Northwest EMC) and offers Artex capabilities and conveniences not available at the original transmitter site in Canby, OR.

ELT qualification testing is required by the FAA (TSO-C91a, which includes by reference RTCA DO-183, Paragraph 2.4.2.2) and the FCC (47 CFR 87.199(b)). In particular, RTCA document DO-183 requires measurements of radiated power at an open field site to qualify the transmitter and antenna. The ELT system under test, including the transmitter, antenna, and coax cable is measured against a reference system. The reference consists of a quarter-wave monopole antenna (with ground plane), a 50mW signal source and coax cable representative of that used with the ELT system under test. The reference is set-up at the open field site and radiated power is measured and recorded. The reference system is then replaced with the ELT system. Radiated power data from the ELT system is then collected and compared to that of the reference system. The ELT system passes the test if its radiated power is equal to or greater than the radiated power from the reference system.

The above procedure describes the most cost effective (and convenient) way to measure radiated power that Artex engineering is aware of.