

0291-EX-ST-1999

September 2, 1999
G-8930-RBD-1142

Federal Communications Commission
Experimental Radio Service
P.O. Box 358320
Pittsburgh, PA 15251-5315

Subject: Request for Special Temporary Authorization (STA)
HIRF - Lightning Seattle, WA



Gentlemen:

This request for a Special Temporary Authorization (STA) is submitted in accordance with CFR 47, Part 5.56. It's purpose is to perform High Intensity Radiated Field (HIRF) Testing on a new derivative of Boeing aircraft. Previous HIRF testing has been conducted at this location. A copy of that license (KA8XNF) is enclosed.

1. **Name and Address:**
The Boeing Company
Frequency Management M/C 3U-AJ
P.O. Box 3707
Seattle, WA 98124-2207
2. **Need for Special Action:** This STA is required to conduct High Intensity Radiated Field (HIRF) tests on a Boeing 767 ER in accordance with directives listed in Exhibit 1. The testing window is for a duration of three weeks.
3. **Type of Operations:** The tests to be conducted between 100 Hz and 50 MHz are direct drive, swept carrier wave transfer function tests on production airplanes. These tests require driving a transmission line formed by the airplane parked over a wire grid return. Current is driven onto the aircraft by directly attaching the output of a 25 watt amplifier to the nose, wing tip, or engine nacelle. A "stepped swept" test is required

to measure as many aircraft and cable resonance's as possible. Testing using widely spaced discrete frequencies would miss critical resonant frequencies. The dwell time per frequency point will be a maximum of 75 milliseconds per point, based on 401 points in a 30 second maximum sweep. The maximum number of sweeps per test will be 64.

4. **Time and Date:** Testing is planned to occur between the dates of December 1, 1999 and February 25, 2000. If approved, Boeing will coordinate the use of frequencies and dates for testing with the appropriate agency Frequency Management Office(s).
5. **Class of Station:** XR
Call Sign: TBD
Nature of Service: Experimental
6. **Location (Only checked boxes apply):**
 - ☒ Boeing Field International, Seattle, WA. This is a Company facility located at the following coordinates: 47°32'21"N 122°18'44"W.
 - ☐ Glasgow Industrial Airpark, Glasgow, MT. This is a Company facility located at the following coordinates: 48°25'21"N 106°32'10"W.
 - ☐ Paine Field, Everett, WA. This is a Company facility located at the following coordinates: 47°54'12"N 122°17'12"W
 - ☐ Renton International Airport, Renton, WA. This is a Company facility located at the following coordinates: 47°29'42"N 122°12'18"W
 - ☐ Tuscon International Airport, Tuscon AZ. 32°07'00"N 110°56'24"W
 - ☐ Yuma International, Yuma, AZ. This location is a Company owned facility located at coordinates: 32°39'23" N 114°36'22"W.
7. **Equipment Manufacturer:** RF Power Labs M125L
8. **Frequency Bands:** 100 Hz - 50 MHz
9. **Power Output to Antenna:** 25 watts
10. **Emission:** N0N

11. **Antenna height:** Less then 18 feet above ground level
 Antenna Type: Direct Drive, as described in paragraph 3 above
 Gain: 10dB
 Beamwidth: Less then 60° at the ½ power point
 Polarization: Various
 Direction: 360° North

Should you require additional information, please contact Bob Douglass at 253-657-6421 or bob.douglass@boeing.com email.



Sheldon R. Bentley
Manager, Spectrum Management
Boeing Shared Services Group
253-657-6713

Enclosures:

FCC Form 159
Check #: 497896
Exhibit One (Pertinent HIRF Directives)
Previous License (KA8XNF)