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Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554

In the Matter of	)	
	)	
COMSAT RSI, Inc.	)	Files Nos. 4797-EX-ML-95
	)	4798-EX-ML-95
Application for Modification of	)	
Experimental Radio Licenses	)	
Call Signs KM2XRE and KK2XFV	)	

To: The Office of Engineering and Technology
Experimental Licensing Branch

CONSOLIDATED PETITION FOR LIMITED RECONSIDERATION

COMSAT RSI, Inc. ("CRSI"), by its attorneys and pursuant to Section 1.106 of the Commission's Rules, hereby petitions for limited reconsideration of the October 11, 1995 letters of the Chief of the Experimental Licensing Branch (the "Branch") granting in part the above-referenced applications.[1] While CRSI accepts the use of the frequencies authorized by the Grants-in-Part,[2] CRSI seeks limited reconsideration of

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[1] Letter from H. John Morgan, Chief, Experimental Licensing Branch, to COMSAT RSI, Inc., File No. 4797-EX-ML-95, Call Sign KM2XRE (dated October 11, 1995) ("KM2XRE Grant-in-Part"); Letter from H. John Morgan, Chief, Experimental Licensing Branch, to COMSAT RSI, Inc., File No. 4798-EX-ML-95, Call Sign KK2XFV (dated October 11, 1995) ("KK2XFV Grant-in-Part") (collectively the "Grants-in-Part").

[2] The Grants-in-Part listed, from among those frequencies that RSI had requested, those that were "not accepted." RSI therefore understands that it has authority to use the requested frequencies not listed in the Grants as "not accepted", *i.e.*, 962, 1025, 1084, 1150, 1214 and 1536-1669, 3400-4200, 5600-6500, 72-8400, 800-8999, and 9201-9600 MHz for KM2XRE and 962, 1025, 1084, 1150, 1214 and 1536-1669 MHz for KK2XFV.

the Branch's denial of its request to use 1088 and 1213 MHz and 1520-1535 MHz.[3] The addition of 1088 and 1213 MHz will further the public interest by facilitating CRSI's program of testing the TACAN antennas of the Federal Aviation Administration ("FAA") and the U.S. Navy, as well as associated commercial and foreign customers. Use of these frequencies will not cause an undue threat of harmful interference to TACAN facilities in the field. These tests will ensure that newly deployed TACAN antennas will operate to promote air traffic safety.

Use of the 1520-1535 MHz range is needed to test antennas for mobile satellite communications. Completion of the testing using these frequencies will further the public interest by promoting the continued development of mobile satellite communications in this country.

I. BACKGROUND

On May 3, 1995, CRSI filed applications to modify its experimental radio licenses KM2XRE located in Arcola, Virginia and KK2XFV in Sterling, Virginia (the "Applications"). The Applications sought additional frequencies of operation in the 960-1215 MHz and 1500-1670 MHz bands, among others, to allow CRSI to fulfill its

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[3] CRSI will shortly be filing an application for modification of experimental stations KKZXFV and KMZXRE regarding operations centered at 1030 and 1090 MHz. That modification application will pertain to programs testing antennas for air traffic safety and will involve issues and frequencies distinct from those raised in this petition for reconsideration. The Branch should process that application and this petition separately.

contractual obligations. These include obligations with the United States Government to test TACAN antennas for the FAA and shipboard TACAN antennas for the Department of Defense ("DoD").[4]

On October 11, 1995, the Branch granted the Applications, but only in part. Two of the frequencies requested to test TACAN antennas for which CRSI was denied authority were 1088 and 1213 MHz. Instead, the Branch granted use of 1084 and 1214 MHz. The Grants-in-Part provided no reason for the rejection of 1088 and 1213 MHz. In addition, the Branch denied use of 1520-1535 MHz, which was to be used to test the antenna patterns of mobile satellite communications antennas. CRSI now seeks reconsideration of the rejection of these frequencies -- 1088, 1213, and 1520-1535 MHz -- and respectfully requests the authority under both KM2XRE and KK2XFV to use those frequencies in its testing programs.

II. USE OF 1088, 1213, AND 1520-1535 MHz WOULD BE CONSISTENT WITH THE PUBLIC INTEREST

A. 1088 and 1213 MHz

1088 and 1213 MHz are critical to the successful completion of CRSI's testing program being conducted for the FAA to support safe and reliable aeronautical radionavigation in this country's skies and for DoD to enhance the military's

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[4] As explained in Attachment 1 hereto (an exhibit to both Applications), the FAA contract for the design, development, fabrication and testing of the TACAN antenna is number DTFA01-90-C-00025. With regard to DoD's shipboard TACAN antennas, the contract numbers are N00019-88-C-0210/N00019-93-C-0132.

radionavigation operations. The two frequencies in question were chosen in cooperation with the FAA and DoD to ensure that the antennas would pass all of the government's specifications, and test procedures (approved by the using agencies) have been generated. The public interest would thus be served by adding these two frequencies to the experimental licenses. Indeed, 1088 and 1213 are part of an allocation of spectrum designated on a worldwide basis for not only the use, but the development of, airborne electronic aids to air navigation, including directly associated ground base facilities, such as the TACAN antennas CRSI will test.[5] It is undeniable that the use of the frequencies in question would be consistent with that purpose. Without the ability to use these two frequencies, it is unclear that CRSI can meet its contractual obligations to the FAA and DoD in the most efficient and effective manner possible.[6]

Significantly, operation at 1088 and 1213 MHz will not present any increased risk of harmful interference to existing aeronautical radionavigation facilities. The TACAN antennas being tested will not be transmitting on the frequencies requested during the testing. Rather, they will operate in a receive-only mode. Test radiators with highly focused beams, *i.e.* large gain horns or parabolic antennas,[7] will be

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[5] 47 C.F.R. § 2.106 n.US224.

[6] Indeed, 1214 MHz, for which authority was granted, is *outside* the range of TACAN operation.

[7] The width of the TACAN antenna test source beam will be no greater than 5 degrees at the half-power point at the frequencies in question.

directed "at the horizon" toward the TACAN antennas being tested[8] to evaluate antenna patterns and modulation of the signal *on the receive end.* As explained in the Applications, the testing signals will have a relatively low power of 4 watts EIRP and, unlike TACAN radiation, will be non-modulated. Thus, assuming that an aircraft antenna were to detect the testing signal, it would not confuse the test source with a modulated TACAN signal.

Testing at the Sterling site (KK2XFV) will be even less prone to cause interference. Testing will be entirely within doors in a metallic building. Due to the attention provided by the roof and walls, CRSI conservatively estimates that the actual radiated power outside the test facility will actually be at least 40 dB below 4 W EIRP.

For all of the above reasons, the potential for interference to existing aeronautical radionavigation from the testing operations at both sites will be negligible.

B. 1520-1535 MHz

To complete its existing contractual obligations with Westinghouse to test mobile satellite antennas, CRSI will require authority to operate at 1520-1535 MHz at both the Arcola and Sterling locations, KM2XRE and KK2XFV, respectively. Like the testing at 1088 and 1213 MHz, the antennas will operate in a receive-only mode. A highly directionalized non-modulated beam will be directed "toward the horizon" at the mobile satellite antennas under going tests. Low power will be employed at both sites,

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[8] *See* Attachment 2 hereto (Exhibit C to the KM2XRE Application).

only 40 mW EIRP. As with the testing of TACAN antennas, all testing operations will be indoors at the Sterling site, providing an effective attenuation of at least 40 dB. Accordingly, the potential for interference to other users of the 1520-1535 MHz band will be limited.

III. CONCLUSION

In conclusion, CRSI respectfully submits that limited reconsideration of the Grants-in-Part would be in the public interest. CRSI's licenses KM2XRE and KK2XFV should be modified to add frequencies 1088 and 1213 MHz and 1520-1535 MHz for use as described herein.

Respectfully submitted,

COMSAT RSI, INC.

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Its Attorneys

November 13, 1995

Exhibit 1

COMSAT RSI, Inc. is applying for the modification of its current license under Call Sign KK2XFV so that the United States Government may design, develop, fabricate and test TACAN antenna and shipboard TACAN antenna. With regard to the United States Government designing, developing, fabricating and testing TACAN antenna, the agency placing the contract is the Federal Aviation Administration under contract number DTFA01-90-C-00025. The engineer in charge of this project is Farhad Habibi at COMSAT RSI, Inc., 1501 Moran Road, Sterling, Virginia 20166; Mr. Habibi may be reached via telephone at (703) 450-5680.

With regard to the United States Government designing, developing, fabricating and testing shipboard TACAN antenna, the agency placing the contract is the Department of Defense and the contract numbers are N00019-88-C-0210/N00019-93-C-0132. The engineer in charge of the project is Michael Bourne of the same address and telephone number as Mr. Habibi.

The station is located at 1501 Moran Road, Sterling, Virginia 20166, with geographic coordinates at 38 degrees 59 minutes and 43 seconds North Latitude and 77 degrees 26 minutes and 49 seconds West Longtitude.

Exhibit B

COMSAT RSI, Inc. is applying for the modification of its current license under Call Sign KM2XRE so that the United States Government may design, develop, fabricate and test TACAN antenna and shipboard TACAN antenna. With regard to the United States Government designing, developing, fabricating and testing TACAN antenna, the agency placing the contract is the Federal Avaition Administration under contract number DTFA01-90-C-00025. The engineer in charge of this project is Farhad Habibi at COMSAT RSI, Inc., 1501 Moran Road, Sterling, Virginia 20166; Mr. Habibi may be reached via telephone at (703) 450-5680.

With regard to the United States Government designing, developing, fabricating and testing shipboard TACAN antenna, the agency placing the contract is the Department of Defense and the contract numbers are N00019-88-C-0210/N00019-93-C-0132. The engineer in charge of the project is Michael Bourne of the same address and telephone number as Mr. Habibi.

The station is located in Arcola, Virginia, with geographic coordinates at 38 degrees 59 minutes and 40 seconds North Latitude and 77 degrees 31 minutes and 0 seconds West Longtitude.

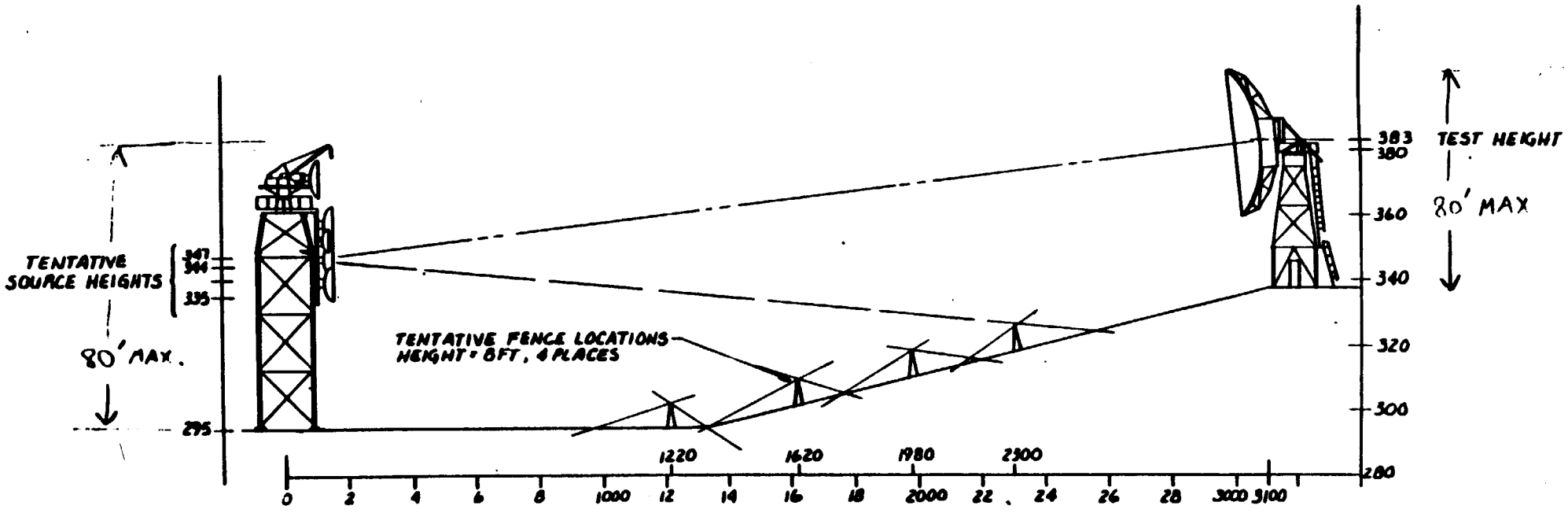

Exhibit C

Vertical Profile **CONFIGURATION**

Attachment 2

Federal Communications Commission
Experimental Licensing Branch
Washington, D.C. 20554

March 22, 1996

COMSAT RSI, INC.
ATTN: Edward A. Yorkgitis, Jr.
1200 19th Street NW, Suite 500
Washington, DC 20036

Dear Sir or Madam:

This letter refers to experimental license KM2XRE.

Recently, the Commission released a public notice regarding use of the 1910 - 1930 MHz band. A copy of this public notice is enclosed. The Commission will no longer grant experimental licenses authorizing use of the 1910 - 1930 MHz band, except for applications consistent with use of the spectrum for low power, unlicensed PCS devices. Accordingly, although your experimental license KM2XRE authorizes use of all or portions of the 1910 - 1930 MHz band, any operations in this band that are not consistent with use of the spectrum for unlicensed PCS *must cease immediately.*

Please direct any inquiries to the Experimental Licensing Branch at the address on the letterhead, mail stop 1300E1, or at 202-418-2479.

Sincerely,

H. John Morgan
Chief
Experimental Licensing Branch

Enclosure