COMSAT World Systems

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June 23, 1999

Ms. Magalie Salas
Secretary
Federal Communications Commission
445 12th Street, N.W.
Washington, D.C. 20554

RE: Renewal of experimental authorization (KA2XHN)

Dear Ms. Salas:

COMSAT Corporation, by its COMSAT World Systems business unit (COMSAT) herein files its request for renewal of its KA2XHN experimental license and authorization.

As set forth in its attached report, COMSAT continues to use its wideband mobile experimental authorization to determine the overall viability off wideband mobile satellite services. Renewal of COMSAT's experimental authorization is extremely important to our customers, including the U.S. Navy, which is planning expanded testing in the 1999-2001 timeframe.[1]

Future testing is expected to focus on the emergence of inter-related technologies in such fields as emergency telemedicine, the development of enhanced gyroscope stabilizing mechanisms and antenna manufacture. Accordingly, renewal of CWS's experimental authority, as requested herein, will promote the public interest.

[1] COMSAT's experimental authority is for space segment only. Satellites include INTELSAT satellites in the AOR, POR and IOR. We note that two of the INTELSAT satellites used for the experiment, the INTELSAT 513 and 813 have been transferred from INTELSAT to New Skies Satellites, N.V. (NSS). We request that COMSAT's extended experimental authority include these two NSS satellites in addition to INTELSAT satellites in the AOR, POR and IOR.

Respectfully submitted,
COMSAT Corporation
COMSAT World Systems

By _____
Robert A. Mansbach
Its Attorney

Attachments

REPORT ON TESTING OF WIDEBAND MOBILE SERVICES UNDER PART V EXPERIMENTAL AUTHORITY

Pursuant to its current experimental authorization, CWS is in the process of conducting three major wideband mobile (WBM) tests involving the transmission of voice and data signals at C-band frequencies. The purpose of these tests is to determine the technical and commercial feasibility of providing various WBM services. The services being provided are generally of a type which could not be offered via INMARSAT, due to bandwidth limitations inherent in L-band satellite networks. Experience to date with these experiments has been positive, both in terms of satisfying mobile communications requirements and with regard to the technical feasibility of using C-band frequencies for mobile applications.

One of the experiments now underway is called Project Challenge Athena III. For this test, the Navy is using various beam configurations to provide 1.544 Mbps full-duplex, digital communications services to the USS George Washington, and other ships assigned to the Atlantic and Pacific fleet. Shipboard earth stations for this test are being provided by Maritime Telecommunications Network and Harris.

The high bandwidth communications being provided to the Navy ships have allowed the provision of a variety of services. Specific applications include:

- Full-time availability of a ship-to-shore and shore-to-ship T-1 carrier
- An average of 240 video images transmitted per week
- An average of 10-12 digitized x-rays sent ashore for consultation per week. (In at least one case, transmission of an x-ray and the associated consultation with a doctor at the National Institutes of Health avoided the need for medical evacuation of an injured sailor.)
- Support of 8-12 shipboard pay phones enabling sailors to call home. For the 16 hours per day the phones are made available, they are in use 98% of the time.
- Availability of 24 "official-use" phones for secure and other military communications

- Support for intelligence data broadcasting systems

- Transmission of public affairs photographs and stories

While perhaps some of these applications could have been supported in the past, WBM service allows them all to be offered simultaneously. Further, a sophisticated multiplexing network aboard the Navy ships allows capacity to be transferred from one application to another on a real-time, as needed basis.

In addition to the above ten "large deck" Navy ships included in the Challenge Athena III program, the Navy has implemented a trial pay phone service on numerous other ships using phone debit cards to allow the crew to communicate with family and friends. All of the major US telecommunication carriers have participated in this trial involving over a dozen Navy ships of a size smaller than aircraft carriers. The United States telecommunication carriers are evaluating business cases to develop a revenue producing service. COMSAT is currently providing four full transponders plus another partial transponder for the Challenge Athena III Program. Two of these transponders provide non-preemptible station kept global beam coverage in the Atlantic and Pacific Ocean regions. Also, the Navy has recently asked COMSAT to provide end-to-end satellite services to Navy ships operating in the Indian Ocean Region as a part of its commercial Wideband Satellite Program. This capacity is required in the IOR for ships operating in the Indian Ocean, Persian Gulf and Mediterranean Sea.

In another test, CWS is providing WBM service to LDI/Sea Tech ("Sea Tech"). Sea Tech is using INTELSAT C-band capacity and a Scientific Atlanta antenna to provide 64 kbps circuits to cruise ships; up to eight voice and data channels are being derived from each circuit. These channels are being used for passenger phone calls and ships' administrative business. This service has the potential to allow ship-owners, for the first time, to tally receipts on a daily basis, sell tickets on board ship, and conduct other functions not feasible without wideband capacity. Moreover, WBM service has the potential to lower the cost of passenger phone calls.

Renewal of CWS's experimental license will enable it to continue experiments currently in place and to begin to develop a wider variety of maritime applications in a test environment. For example, future testing will contribute invaluable information on the use of FSS frequencies in the maritime environment, examine the feasibility of steerable spot beams and further

assess unique military applications of the service. Specifically, during the period 1999-2001 the Navy will implement the follow-on program to project Athena III with an ATS (Afloat Telecommunications System) program and the testing WBM communications to 20 additional ships other than aircraft carriers, utilizing various shipboard earth station sizes and designs. New service providers are also expected to test WBM service at various transmission rates using shipboard earth stations from several different manufacturers.

Accordingly, renewal of experimental authority will encourage the testing and development of these promising new services and thereby promote the public interest.