



Positioning Corporation

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Communications Division
Satellite Radio Branch

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Federal Communications Commission
Office of the Secretary

May 18, 1990

45-DSS+P/ML-90

Donna R. Searcy, Secretary
Federal Communications Commission
1919 M Street, N.W.
Washington, D.C. 20554

Attention: Ms. Cecily C. Holiday, Chief
Satellite Radio Branch
Room 6324

Re: Application for modification of the Geostar-3 RDSS space
station authorization

Dear Ms. Holiday:

Enclosed is an original and nine copies of an application requesting a modification of GPC's current authorization to construct, launch and operate a space station in the radiodetermination satellite service (RDSS). The purpose of this application is to request modification of GPC's outstanding authorization for its third dedicated RDSS satellite to (a) conform the satellite-to-control center frequencies to the allocations made at the 1987 World Administrative Radio Conference for the Mobile Services, and (b) extend the required dates of completion of construction and launch.

No filing fee is required with this application pursuant to §1.1105 of the Commission's rules and regulations.

Please contact Ronald J. Lepkowski at (202)-778-6008 if you have any questions concerning this filing.

Sincerely,

Robert D. Briskman
General Manager

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Federal Communications Commission
Office of the Secretary

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

In the Matter of the Application of)
)
GEOSTAR POSITIONING CORPORATION) File No.
)
For Modification of the Geostar-3)
Space Station Authorization.)

APPLICATION

Pursuant to Sections 308, 309 and 319 of the Communications Act of 1934, as amended, 47 USC §§ 308, 309 and 319, Geostar Positioning Corporation (GPC) requests a modification of the authorization granted by the Commission in *Geostar Corporation*, Mimeo 6144 (released August 7, 1986) to construct, launch and operate its third space station in the radiodetermination satellite service (RDSS). The purpose of this modification is to (a) conform the satellite-to-control center frequencies to the allocations made at the 1987 World Administrative Radio Conference (WARC) for the Mobile Services, and (b) extend the required dates of completion of construction and launch.

A complete description of GPC's dedicated RDSS system is contained in the *Geostar Satellite System Compendium of Application and Technical Information* that was filed on April 5, 1985. The Commission has since approved a modification of the Geostar-3 satellite to increase the bandwidth of the control center-to-satellite link to 6525-6606.625 MHz, see *Geostar Positioning Corporation*, FCC 90-88 (March 14, 1990), and there is a pending application to modify this satellite to add eight switchable transmit and receive antenna beams covering Mexico, the Caribbean, and Central and South America, see application File Nos. 1145/1146/1147-DSS-MP-89 and CSS-89-003-(3). In addition, GPC filed an updated FCC Form 430, *Common Carrier and Satellite Radio Licensee Qualification Report*, on March 28, 1990. These materials are incorporated by reference into this application.

In its *Report and Order* in Gen. Docket No. 89-103, FCC 89-282 (October 19, 1989), the Commission amended its rules and regulations to change the 5 GHz downlink feeder link allocation for RDSS from 5117-5183 MHz to 5150-5216 MHz to bring this allocation into conformance with the Final Acts of the 1987 Mobile WARC. The proposed modification to the Geostar-3 authorization will conform the 5 GHz frequency plan to this new allocation. The specific

details of the proposed modified 5 GHz radio frequency and polarization plan is presented as Exhibit 1. The two telemetry and beacon carriers with a nominal bandwidth of 100 kHz are centered at 5141.5 and 5224.5 MHz, and thus are outside of the 66 MHz information transmission bandwidth. As was the case in the *Compendium* and the Commission's authorization in *Geostar Corporation, supra*, these telemetry beacons will be used on a secondary non-interference basis and the power level of these transmissions provides a protection ratio of at least 30 dB N/I to any microwave landing systems that might operate on these frequencies. See *Compendium* at page 31. Except for this shift in assigned frequencies, all other parameters of the 5 GHz satellite-to-control center links remain the same as described in the *Compendium*.

By separate applications filed today, GPC is requesting (a) modification of its authorizations for the first two dedicated RDSS satellites to allow a pair of dedicated RDSS satellites to be launched simultaneously from the shuttle on a single payload assist module at the end of 1993 and at the end of 1994, (b) authority to construct two additional dedicated RDSS satellites to be paired with the first two dedicated satellites as part of the 1993 and 1994 dual-satellite launches, and (c) authority to construct and operate an RDSS transmit/receive package on board a host satellite.

In light of this schedule, GPC requests a modification of its RDSS system authorization to allow the Geostar-3 RDSS space station to be placed into operation in accordance with the following schedule of milestones, subject to NASA scheduling:

Construction completed:	October 1995
Launch:	December 1995
In-service:	January 1996.

GPC will file additional applications at a later date for similar multibeam RDSS satellites to provide back-up to the Geostar-3 satellite and to satisfy future growth requirements.

In *Geostar Corporation, supra*, the Commission determined that the public interest would be served by the construction, launch and operation of GPC's RDSS system. By its applications filed today, GPC is proposing a revised but comprehensive implementation plan for its RDSS system.

GPC is currently engaged in detailed negotiations with a satellite operator to have a transmit/receive RDSS payload incorporated into a host satellite presently scheduled for launch in 1992. With this two-way package and the existing RDSS relays on board the GTE Spacenet III and GSTAR III satellites, GPC will be able

to provide full RDSS service, including satellite ranging and support of handheld user terminals, by the August 1993 date currently specified by the Commission for full RDSS system implementation.

With the technically innovative approach of launching two RDSS satellites simultaneously with the same payload assist module from the shuttle, GPC will incrementally increase the service capacity and reliability of its RDSS system in an economical manner. This is a financially prudent approach to system implementation that better matches in-orbit capacity with actual market development.

Finally, GPC is proposing to launch its multibeam Geostar-3 satellite at the end of 1995. At that time, traffic levels should have risen to the point where the most effective use can be made of the investment required for such a high capacity satellite.

GPC believes that the public interest will be served by this proposed RDSS implementation plan because it incrementally matches in-orbit capacity with the expected level of service demanded. Moreover, this implementation plan allows GPC to provide full RDSS service to its subscribers in a timely and economical manner without any loss in service quality or reliability.

Correspondence concerning this application should be addressed to:

Geostar Positioning Corporation
1001 22nd Street, N.W. - Suite 500
Washington, D.C. 20037

Attention: Robert D. Briskman
General Manager
(202)-778-6002

with a copy to applicant's counsel:

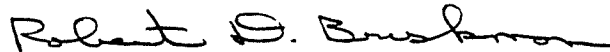
Michael Yourshaw, Esquire
Wiley, Rein & Fielding
1776 K Street, N.W.
Washington, D.C. 20006
(202)-429-7028.

This application is a minor action which is categorically excluded from environmental processing under §1.1306 of the Commission's rules and regulations because this RDSS space station:

- (1) does not involve a site location specified under §§1.1307(a)(1)-(5);
- (2) does not involve high intensity lighting under §1.1307(a)(6); and
- (3) does not result in human exposure to radio frequency radiation in excess of the applicable safety standards specified in §1.1307(b).

The Applicant waives any claim to the use of any particular frequency or of the electromagnetic spectrum as against the regulatory power of the United States because of the previous use of the same, whether by license or otherwise, and requests a modified authorization in accordance with this application. The undersigned, individually and for the Applicant, certifies that the statements made in this application are true, complete and accurate to the best of his knowledge and belief, and are made in good faith.

Respectfully submitted,

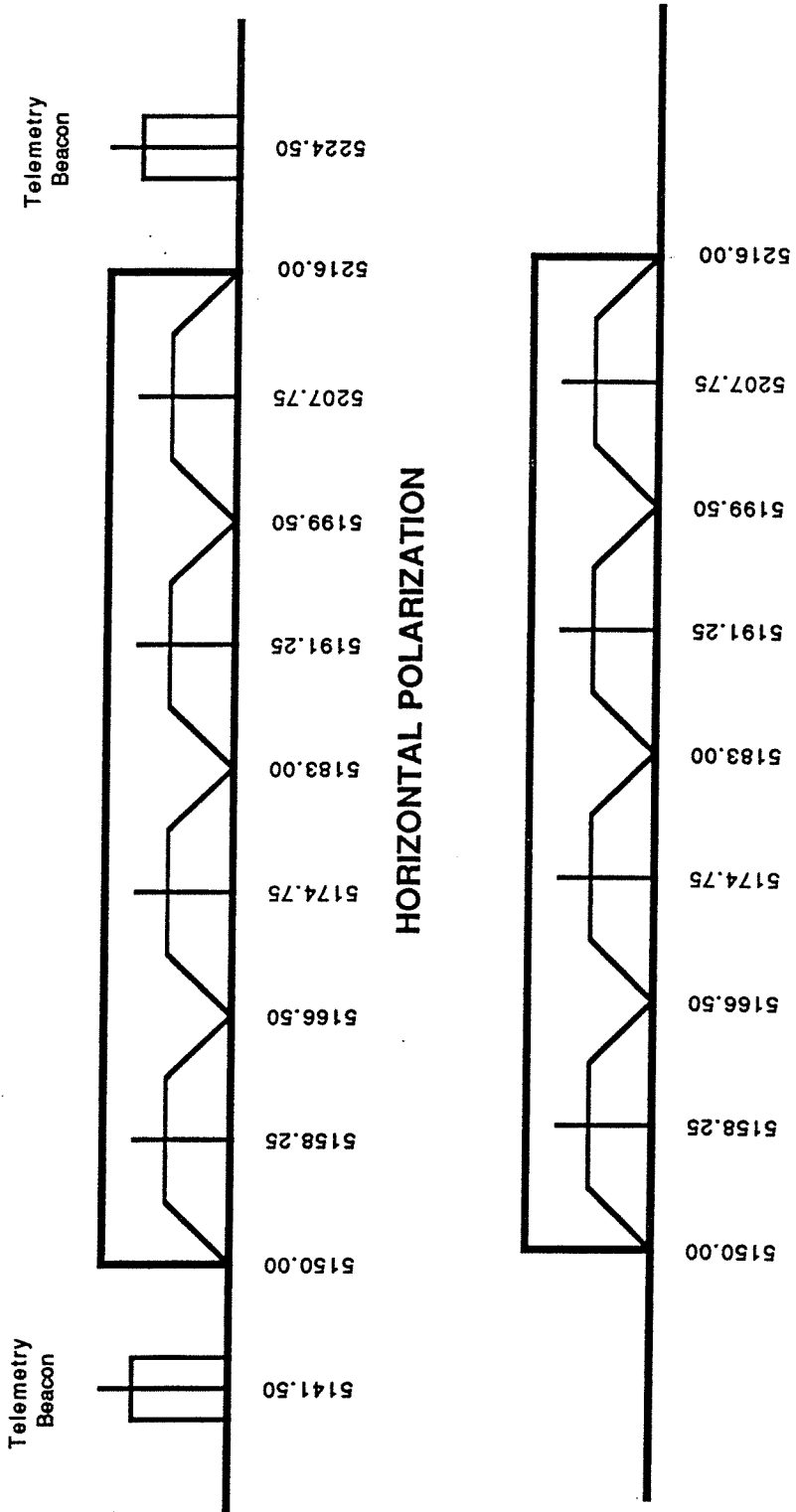


GEOSTAR POSITIONING CORPORATION
Robert D. Briskman
General Manager

Attachments: Technical Certification
 Technical Description

May 18, 1990.

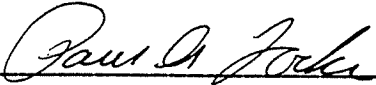
Technical Description
Exhibit 1



**GEOSTAR POSITIONING CORPORATION
RDSS 5 GHz FREQUENCY PLAN**

TECHNICAL CERTIFICATION

I hereby certify that I am the technically qualified person responsible for the preparation of this application; that I am familiar with Part 25 of the Commission's Rules and Regulations; that I have either prepared or reviewed the technical information contained in this application; and that it is complete and accurate to the best of my knowledge and belief.



Paul A. Locke
Vice President, Systems Engineering

Date: May 18, 1990