GTE

GTE Spacenet Corporation
1700 Old Meadow Road
McLean, VA 22102
703 848-1000

11-DSS-MP/ML-90
12-DSS-STA-90

December 15, 1989

Ms. Donna R. Searcy
Secretary
Federal Communications Commission
1919 M Street, N.W., Room 222
Washington, D.C. 20554

Re: Application for Modification of Authority to Construct the GSTAR IV Domestic-Fixed Satellite

Dear Ms. Searcy:

Transmitted herewith for filing on behalf of GTE Spacenet Corporation is an original and required copies of its Application in the above-captioned matter.

Should any questions arise, please contact the undersigned at (703) 848-1515.

Sincerely,

Terri B. Natoli

Terri B. Natoli
Industry Relations Manager

TBN/kmc

Enclosures

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

Application For	)
Modification of Authority	)
To Construct The GSTAR IV	)
Domestic-Fixed Satellite	)

Application For Modification of Construction Permit

GTE Spacenet Corporation ("GTE Spacenet"), pursuant to Title III of the Communications Act of 1934, as amended, 47 C.F.R. § 301 et. seq, hereby requests that the Commission modify the Construction Permit for the GSTAR IV satellite to permit it to substitute a 27 watt Traveling Wave Tube Amplifier (TWTA) for a 20 watt TWTA on one GSTAR IV transponder.

1. GTE Spacenet's GSTAR IV satellite was authorized for construction in 1981[1] and initially authorized for launch in 1987.[2] The satellite is currently in the final phases of its construction cycle and is scheduled for launch in early-to-mid 1990.[3]

2. GTE Spacenet hereby requests that the Commission modify the construction permit for GSTAR IV to enable GTE Spacenet to substitute a 27 watt TWTA for a 20 watt TWTA on Transponder 16. This 27 watt TWTA is identical in design to those initially authorized in 1981 for incorporation on two other GSTAR IV transponders, i.e. Transponders 1 and 3. This modification will increase the

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1 84 F.C.C. 2d 562 (1981).

2 2 F.C.C. Rcd. 55 (1987).

3 Order and Authorization, GTE Spacenet Corporation, FCC 88-378, released December 7, 1988.

downlink EIRP of Transponder 16 by a maximum 1.4dBW, resulting in an expected peak EIRP of 45.9dBW. Since the presently-authorized peak EIRP level for the 20 watt transponders on GSTAR IV is 44.5dBW, the requested change will have a negligible impact on the GSTAR IV operational environment.[4]

3. GTE Spacenet is proposing this modification to take advantage of a spare 27 watt TWTA purchased earlier in the GSTAR program which will permit GTE Spacenet to enhance the performance of the satellite and to allow users to purchase lower-cost ground equipment.

4. GTE Spacenet has analyzed the potential for adjacent satellite interference as a result of this proposed modification, and has concluded that no impact will occur. As evidenced by the Commission's most recent orbital processing round,[5] the increased power level on Transponder 16, as modified, will fall well below the level authorized for other Ku-Band domestic satellites including GTE Spacenet's replacement GSTAR satellite.

5. This modification can be implemented at no cost to GTE Spacenet as a result of the fact that the previously-authorized 20 watt TWTA has the same morphic shape and mounting footprint as the proposed 27 watt TWTA.

6. In order to incorporate this proposed modification into the satellite without delaying completion of construction of the GSTAR IV satellite, as well

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[4] The 27 watt TWTA uses more power and produces more heat than the 20 watt TWTA. Empirical analysis has shown that both of these effects can be easily assimilated by the existing GSTAR IV power and thermal margins without operational impact. No secondary design changes are necessary as a result of this configuration.

[5] See e.g. Order and Authorization, GTE Spacenet Corporation, FCC 88-378, released December 7, 1988; Order and Authorization, Hughes Communications Galaxy, Inc., FCC 88-379 released December 7, 1988; Order and Authorization, National Exchange Satellite, Inc., FCC 88-380, released December 7, 1988; Order and Authorization, GE American Communications, Inc., FCC 88-377 released December 7, 1988.

as its subsequent launch, GTE Spacenet requests that the Commission grant it a waiver under Section 319(d) of the Communications Act of 1934, as amended, by January 1, 1990. GTE Spacenet understands that any action it may take pursuant to such a waiver will be at its own risk.

7. Correspondence concerning this application should be addressed to the undersigned.

8. As required by Section 304 of the Communications Act of 1934, as amended, GTE Spacenet waives 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.

Wherefore, for the foregoing reasons, GTE Spacenet submits that the proposed modification will serve the public interest and requests that the Commission grant this application. Pursuant to Section 319(d) of the Communications Act of 1934, as amended, GTE Spacenet further requests a waiver by January 1, 1990, in order that it may incorporate this 27 watt TWTA into the GSTAR IV satellite in a manner which ensures the timely completion of construction and launch of the satellite.

Respectfully submitted,

GTE SPACENET CORPORATION

Terri B. Natoli

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Troy D. Ellington

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December 15, 1989

CERTIFICATION OF PERSON RESPONSIBLE
FOR PREPARING ENGINEERING INFORMATION
SUBMITTED IN THIS APPLICATION

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

By: Ronald A. Dalebout

Ronald A. Dalebout
Director, Satellite Engineering

GTE Spacenet Corporation
1700 Old Meadow Road
McLean, Virginia 22102

Dated this 7th day of December, 1989.

Barbara Petersen
Notary Public

My Commission Expires:
March 24, 1992