

Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of

AMERICAN TELEPHONE File Nos. 25-DSS-ML-90
AND TELEGRAPH 26-DSS-ML-90
COMPANY 27-DSS-ML-90

Application for Modification of
Construction Permits and Licenses
for the Telstar 401, 402 and 403
Satellites

ORDER AND AUTHORIZATION

Adopted: September 13, 1990 Released: September 19, 1990

By the Chief, Domestic Facilities Division:

I. INTRODUCTION

1. American Telephone and Telegraph Company (AT&T) has applied to modify the authorizations for its Telstar 401, 402 and 403 domestic fixed-satellites. GTE Spacenet Corporation (GTE)¹ filed comments with respect to the application. For the reasons discussed below, AT&T's application is granted.

2. AT&T was authorized to construct, launch and operate its Telstar 401 and 402 satellites in November 1988; Telstar 403 was authorized as an on-ground spare.² The authorizations were modified in March, 1990.³ These satellites are hybrid satellites operating in both the 4/6 GHz (C-band) and the 12/14 GHz (Ku-band) frequency bands. Telstar 401 is assigned to the 97° W.L. orbital location and Telstar 402 is assigned to 89° W.L.

3. AT&T seeks authority to implement the following technical modifications of its system: 1) to change the Ku-band transponder configuration; 2) to add a ground controlled on-board switching capability to convert independently any of the upper four Ku-band 54 MHz transponders in either polarization into two independent 27 MHz transponders; and 3) to add a power boost capability to all of its C-band and 6 of its Ku-band transponders of each polarization. In addition, AT&T requests extension of milestone deadlines to accommodate the modified construction schedule of its satellite vendor. Each of these requests is addressed below.

II. DISCUSSION

A. Ku-Band Transponder Configuration

4. AT&T is currently authorized to construct its satellites with eight 54 MHz transponders and twelve 36 MHz transponders in the Ku-band. AT&T proposes to modify its Ku-band transponder frequency plan so that each satellite would have sixteen 54 MHz transponders in both the vertical and horizontal polarizations. AT&T states that this modification would satisfy customer de-

mand. It also asserts that this change would result in greater flexibility in coordinating the Telstar 4 satellites with adjacent satellite operators who have already been authorized to launch space stations with 54 MHz Ku-band transponders.

5. No oppositions to AT&T's request to modify its Ku-band transponder configuration were filed. GTE states that AT&T's new Ku-band frequency plan is consistent with its own Ku-band segmentation approach. Further, AT&T believes that its proposed transponder plan will facilitate coordination and allow it to better serve its customers. The Commission has not adopted a standard transponder frequency plan at Ku-band because it believes that coordination between adjacent satellites can be accomplished without circumscribing an operator's flexibility in serving its customers. AT&T's proposed change appears to be compatible with adjacent operations and no unusual coordination problems seem likely. Accordingly, AT&T's request to modify its Ku-band transponder configuration is granted.

B. Optional 27 MHz Transponders

6. AT&T also requests authority to add ground controlled on-board switching capability which would permit the conversion of any of the upper four Ku-band 54 MHz transponders into two independent 27 MHz transponders. AT&T states that this option offers more efficient use of power than would a design requiring a customer to place two carriers in a single 54 MHz channel. Allowing the channel capacity to be used either with 54 MHz or 27 MHz transponders would, according to AT&T, give more flexibility in meeting customers' needs as well as allow better coordination with adjacent satellite operators.

7. Although GTE does not object to AT&T's proposal to change its transponder frequency plan, GTE is concerned that when these transponders are switched into the 27 MHz mode, the potential for AT&T video interference into GTE's co-polarized video transponders is increased. According to GTE, this increased interference potential arises from the fact that an additional video center frequency will have to be avoided in coordinating the transponders that are switched into the 27 MHz mode. Thus, while not objecting, GTE states that AT&T will have to coordinate the use of these transponders in a manner that reduces interference to GTE's operations.

8. In response, AT&T agrees to coordinate with GTE to prevent any unacceptable interference resulting from its proposed modifications. This is consistent with Commission policy that mandates that licensees of new satellites coordinate services with in-orbit satellites prior to beginning operations.⁴ AT&T is required to conform to Commission policy and has indicated its willingness to do so. Thus, AT&T's request to add a ground controlled on-board switching capability is granted.

C. Power Boost Capability

9. The Telstar satellites were originally authorized to employ a power boost capability on six C-band and six Ku-band transponders. This capability would allow AT&T to increase transponder power at C-band from 10 watts to 20 watts and at Ku-band from 60 watts to 120 watts. According to AT&T, the power increase would be gained from transponders carrying traffic that does not require the nominal transponder power. Further, it states that total power consumption on each satellite would not be

changed. AT&T's proposed modification would incorporate this power boost capability on all twenty-four of its C-band transponders as well as on the upper six 54 MHz Ku-band transponders. AT&T asserts that none of these alterations would change any of the significant technical parameters already approved by the Commission or would create increased interference potential.

10. GTE expresses concern that increasing the C-band power boost capability to all the C-band transponders would increase the potential for interference into its sensitive C-band single channel per carrier (SCPC) traffic. GTE states that it is unclear from AT&T's application how many of the C-band transponders could be expected to operate in the high-power mode at any one time. GTE's Spacenet III satellite will be adjacent to Telstar 402 and has been operational since 1988. Thus, asserts GTE, its coordination flexibility is limited and the increase in potential high-power C-band transponders will be difficult to coordinate effectively if AT&T plans to use this capability on transponders corresponding to those used by GTE for SCPC traffic.

11. Increasing the power boost capabilities on all C-band transponders and the upper six Ku-band transponders will affect coordination with adjacent satellites separated by two and four degrees. However, the extension of power boost capability will not make coordination insurmountable. As with all licensees of new satellites, AT&T is required to coordinate its operations with the operation of in-orbit satellites before it brings its satellites into service. No operators other than GTE who are assigned to locations adjacent to Telstar 4 satellites have raised any concerns or objections regarding potential interference. GTE does not oppose the application and AT&T agrees to cooperate fully in coordinating the proposed modifications to its satellites with GTE.

12. However, to the extent that AT&T may be operating with satellite power flux density levels above those routinely authorized at C-band or at Ku-band, AT&T must bear the burden of obtaining operational agreements with adjacent licensees who are operating satellites with routinely authorized power density levels. If AT&T cannot obtain agreement, it will be required to reduce its power levels to those routinely authorized. The satellite power routinely authorized increases with each satellite generation. Satellites considered to have high power in one generation of spacecraft may become routine in the next generation. The transition period where satellites of one generation operate in close proximity to satellites of a second generation provides the most challenge in maintaining compatible operations. In the Ku-band, the Commission established a high power arc as one method to overcome these problems because coordination efforts between operators were not successful. In this case, coordination efforts should be pursued to obtain compatible operations between AT&T's satellites and adjacent satellites. Approving the flexibility to operate at increased power does not assure operations at increased power actually can occur. AT&T acknowledges its coordination requirements, and nothing in its satellite operations to date suggests it will not fulfill its responsibilities.

13. AT&T's modification will provide enhanced service to its customers and any potential interference problems should be able to be solved through coordination with adjacent satellite operators. The modification will serve

the public interest and therefore AT&T's request to increase the number of transponders with the power boost capability on the Telstar 4 satellites is granted.

D. Milestone Extensions

14. AT&T's final request is to extend the milestone dates for completion of construction and launch dates of all three of the Telstar 4 satellites. The requested changes are as follows:

Telstar 401 - to complete construction - from September 1992 to March 1993; launch - from December 1992 to May 1993.

Telstar 402 - to complete construction - from September 1993 to January 1994; launch - from December 1993 to March 1994.

Telstar 403 - (ground spare) to complete construction - from March 1993 to July 1993.

15. AT&T asserts that the extensions of its milestone dates are necessary because the satellite vendor requires additional time to incorporate the technical modifications requested in this application. According to AT&T, these modifications and the resulting delays are due to circumstances beyond its control which are based on changes in marketplace demand. In addition, AT&T states that another factor contributing to the delay was the unexpected length of discussions with the vendor and the launch provider which were complicated by recent launch failures. According to AT&T, because construction of its satellites has already begun, because the extensions requested are brief, and because these satellites are needed to provide continuous service when the Telstar 3 satellites reach the end of their useful lives, there is no issue of warehousing orbit locations. No comments were filed addressing AT&T's extension requests.

16. Generally, extensions of implementation milestone dates are granted only when the delay in implementation is due to circumstances beyond the control of the licensee. This is to prevent orbital locations from being held by licensees who have not yet decided whether to proceed with their plans, at the exclusion of others who would use that location. Warehousing deprives the public of access to the orbit spectrum resource. Although economic considerations and business judgments such as those cited by AT&T in support of its extension have not been considered circumstances beyond a licensee's control, grant of AT&T's application would not be inconsistent with the rationale underlying the implementation schedule and would further the public interest.

17. AT&T has already commenced construction of the Telstar 4 satellites and is contractually obligated to pay its satellite vendor.⁵ Moreover, there is no reason to believe that AT&T might abandon its Telstar 4 system which is intended, in part, to provide continued service to its large customer base when the Telstar 3 satellites are retired. Finally, AT&T's requested extensions are brief. Thus, grant of the extensions will not allow AT&T to "warehouse" locations and thereby block entry by other qualified entities.⁶ Permitting AT&T to incorporate the technical features requested by its customers will serve the public interest. AT&T's requests for extensions are therefore granted.

18. The authorizations for these satellites are modified as follows:

	Complete Construction	Launch
Telstar 401	March 1993	May 1993
Telstar 402	January 1994	March 1994
Telstar 403	July 1993	

19. Accordingly, IT IS ORDERED that Application File Nos. 25/26/27-DSS-ML-90 ARE GRANTED and American Telephone and Telegraph IS AUTHORIZED to modify the technical specifications of its Telstar 401, 402 and 403 satellites as proposed in its application.

20. IT IS FURTHER ORDERED that the construction and launch schedules for American Telephone and Telegraph's Telstar 4 satellites are extended as indicated in paragraph 18 of this order.

FEDERAL COMMUNICATIONS COMMISSION

James R. Keegan
Chief, Domestic Facilities Division
Common Carrier Bureau

FOOTNOTES

¹ GTE's Spacenet III satellite operating at 87° W.L. will be two degrees away from Telstar 402 which is assigned to operate at 89° W.L.

² American Telephone and Telegraph Company, 3 FCC Rcd 6980 (1988).

³ American Telephone and Telegraph Company, 5 FCC Rcd 1184 (1990).

⁴ American Telephone and Telegraph, *supra* n. 3.

⁵ *See, e.g.*, MCI Communications Corporation, 2 FCC Rcd 233 (1987), at para. 5.

⁶ In every instance where the Commission has denied an extension request based on economic factors, construction of the satellite had not begun, raising questions regarding the licensee's intention to proceed. *See, e.g.*, MCI Communications Corporation, *Id.*; American Telephone and Telegraph Company, 2 FCC Rcd 4431 (1987).