

In the Matter of)
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)
Amendment of the Commission's Rules to)
Establish Rules and Policies Pertaining)
to a Non-Voice, Non-Geostationary)
Mobile-Satellite Service)

CC Docket No. 92-76 ✓

REPORT AND ORDER

Adopted: October 21, 1993

Released: November 16, 1993

By the Commission: Commissioner Barrett issuing a statement.

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I. Introduction

1. By Notice of Proposed Rulemaking (Notice),¹ we proposed the revision of Part 25 of the Commission's Rules to accommodate the licensing and operation of a non-voice, non-geostationary (NVNG) mobile-satellite service (MSS).² In response to the Notice, seven parties filed comments and seven parties replied.³ By this Order, we adopt those regulations, with some modification.

2. There are three applicants seeking Commission authorization to operate NVNG mobile-satellite systems: STARSYS Global Positioning, Inc. (STARSYS), Volunteers in Technical Assistance (VITA) and Orbital Communications Corporation (ORBCOMM). NVNG systems will be capable of providing nation-wide, two-way data communications and position location services, using low-cost and extremely portable transceivers. Potential applications, as envisioned by the applicants, are myriad, ranging from tracking of stolen vehicles to ubiquitous, real-time personal and business communications. In January, the Commission allocated spectrum to the NVNG mobile-satellite service, and adopted the Notice proposing regulations to govern its implementation. Although not wholly free of controversy, the comments in this rulemaking expressed general satisfaction with the substance of the rules proposed. This common support, particularly in light of the technical complexities of the NVNG service, is due in large part to the cooperation of those affected parties who assisted the Commission in the development of regulations through the negotiated rulemaking process.⁴ The parties' willingness to participate in the Commission's initial negotiated

¹ Amendment of the Commission's Rules to Establish Rules and Policies Pertaining to a Non-Voice, Non-Geostationary Mobile Satellite Service, 8 FCC Rcd 6330 (1993).

² We also proposed a minor addition to Part 2 of the Rules.

³ A list of commenters is attached as Appendix A. In addition to those statements filed during the requested comment and reply periods, two parties also filed Supplemental Comments to which one party replied. In its May 26 Reply, dbX Corporation (dbX) submitted detailed technical comments. The parties filing Supplemental Comments object to this Reply, alleging that it is not based on newly-available information and should have been submitted earlier in the comment cycle to allow them an opportunity to respond. dbX subsequently objects to the acceptance of the two Supplemental Comments. We will consider them all. Section 1.415(d) of the Commission's Rules, 47 C.F.R. 1.415(d), states that additional comments may be filed in a rulemaking proceeding only if authorized by the Commission. Because of the complex nature of the dbX Reply, we believe that the parties should be allowed to respond. The consideration of all of the disputed pleadings will improve the record in this proceeding. We thus reject the notion that acceptance of the Supplemental Comments undermines the integrity of our process, and will accept them as part of the record.

⁴ A list of participants in the Commission's negotiated rulemaking in Docket CC 92-76 is available in Attachment 2 to the Report of the Below 1 GHz LEO Negotiated Rulemaking Committee (Report), dated September 16, 1992.

rulemaking process, to expend the considerable effort required and to effect reasonable compromises when necessary, has greatly assisted Commission staff and has streamlined this rulemaking process.

II. Discussion

A. Applications for Space Station Authority.

3. System size. While the comments express support for virtually all of the space station application technical requirements that were recommended by the Negotiated Rulemaking Committee (Committee), modifications were suggested to some subsections of 25.142. Proposed section 25.142(a)(1) requires an NVNG applicant to specify the precise number of space stations that it will launch and operate in its proposed system. VITA suggests that applicants instead be granted authority to launch and operate a requested range of satellites, with a minimum of two. VITA alleges that this flexibility in system design will allow a licensee to choose, as its service develops, the number of satellites that most effectively and efficiently reaches its intended customer base. In essence, VITA's proposal would give licensees a predetermined "set aside" for future expansion.⁵ While this flexibility could enhance the commercial viability of an NVNG system, it could also hinder the plans of future NVNG MSS providers. System size, particularly when a system has a small number of satellites, will have a decided impact on future entry. For example, the Committee noted in its Report that additional NVNG systems could likely be able to share the same orbit(s) with VITA's two satellite system if station keeping and other sharing methods are employed. Such an accommodation would be difficult, if not impossible, if licensees are given carte blanche unilaterally to increase system size, even within preordained parameters. Conversely, if a system operator decides that its customers will be best served by the minimum number of satellites specified in its license, any potential for additional service will lie fallow for the remainder of the license term. We therefore continue to believe that it is prudent to require applicants to specify precisely the number of satellites reasonably anticipated to meet their needs. There were no further comments regarding sections 25.142(a)(1) and (2), and we adopt them as proposed.

4. Emissions limitations. STARSYS asks the Commission to clarify that proposed section 25.142(a)(3) merely requires NVNG systems to comply with section 25.202(f) emissions limitations on out-of-band transmissions, and does not prohibit the retransmission of signals from a source outside of the system. We agree that clarification is necessary. As discussed in the Notice, our primary concern in the development and inclusion of this rule has been the control of in-band emission levels.⁶ An NVNG satellite, which is designed to receive signals from small, omnidirectional antennae, will receive not only those signals intended for retransmission by the system, but any signals within its broad operating footprint that are transmitted on the same frequencies. In the

⁵ The VITA proposal would conversely allow a future applicant unilaterally to reduce the size of its intended system. We assume, however, that the basic intent of this proposal is to allow room for system expansion.

⁶ Out-of-band emissions are already controlled by §25.202(f).

case of NVNG systems, it is likely, for example, that transmissions from Canadian terrestrial paging systems operating in the 148-149.9 MHz band will be received by U.S. licensed NVNG systems, which are authorized to operate in those same frequencies. Retransmission of these "out-of-system" signals by the NVNG satellite at 137-138 MHz and 400 MHz could ultimately increase the system's power flux density levels at the earth's surface. This could in turn result in harmful interference to other authorized users of the affected frequency bands. We have therefore amended section 25.142(a)(3) to conform to our expressed intent of protecting in-band services from harmful interference due to unacceptable power flux density levels. Although we originally noted our intent to prohibit entirely the retransmission of any out-of-system signals by an NVNG satellite, we have modified this position and have adopted a method that will allow applicants greater flexibility in the implementation of their systems. Specifically, new section 25.142(a)(3) prohibits the retransmission of signals received by an NVNG satellite from a source outside of the system at power flux density levels exceeding those described by the applicant in response to the preceding section 25.142(a)(2). We thereby will limit the harmful effect of unintended signal retransmissions, but will permit the licensee to determine its preferred method of meeting those limits.⁷ We believe that this rule is necessary to protect other authorized users in the 137-138 MHz and 400 MHz bands from excessive interference resulting from undesired emissions, yet will allow reasonable opportunity for system operators to develop various transmission schemes. We therefore adopt section 25.142(a)(3) as modified.

5. Financial Qualification. Section 25.142(a)(4) establishes the financial qualification requirements for applicants in the NVNG mobile satellite service. Specifically, an applicant must demonstrate the current financial ability to construct, launch and operate for one year the first two satellites in its system. VITA urges the Commission to adopt a separate financial showing for smaller applicants, noting that it is unfair to require applicants with modest system plans to demonstrate the same financial wherewithal of applicants with larger, more expensive proposals. VITA therefore suggests that we require an applicant proposing to launch five or fewer satellites to demonstrate the financial ability to construct, launch and operate for one year only the first satellite in its system. ORBCOMM suggests that adoption of VITA's suggestion may unduly complicate the rules, and alleges that the company's concerns can adequately be addressed through waiver of the final rules. While this rule will require a smaller system applicant to demonstrate a proportionately high percentage of its necessary capital, we do not believe that it is unfair or unduly harsh. The financial requirements that we are adopting today are not as rigorous, for example, as those in the fixed satellite services.⁸ Further, there

⁷ Signal demodulation-remodulation at the space station, while a possible solution to any problems arising from out-of-system retransmissions, may not be a licensee's preferred method of reducing power flux density levels. For example, a licensee may alternatively employ notched filters, "hard limiting" methods such as clipping circuits, or other techniques to eliminate any undesired in-band signal emissions.

⁸ See, e.g., §25.140(b), which requires domestic fixed satellite applicants to demonstrate the current ability to construct, launch and operate for one year

is little reason to distinguish among large and small system proposals, as a small NVNG system may utilize as much of this very limited spectrum resource as a larger system.⁹ Accordingly, we agree that adoption of this modification may unduly complicate the rules, and could jeopardize the public interest in the availability of NVNG services and the efficient use of the spectrum allocated to this service. VITA may seek a waiver of this standard, at which time we would consider whether the size of its system and the noncommercial nature of its operations warrant an exception being made.

6. VITA further requests that we accept, as meeting the financial qualification requirements of section 25.142(a)(4), copies of grant commitment letters or other evidence of external funding commitments. It is apparent that a binding grant commitment letter would fall well within the intent, albeit not the precise wording, of the existing regulation. While we agree with ORBCOMM that it would unduly complicate our rules to establish a separate category of funding possibilities for "noncommercial" applicants, we believe that grant commitments in general may provide the same level of financial certainty as those other submissions currently accepted as demonstrating an applicant's financial qualification. As in the case of other acceptable debt or equity financial showings, the grant commitment must be specifically described, and must not rest upon contingencies that require further action by the parties. We therefore amend Section 25.140 of our rules to add a new paragraph which specifically permits an applicant to submit evidence of grants, or other external funding commitments, in support of its application.¹⁰ We further adopt section 25.142(a)(4) as set forth in Appendix B,¹¹ as well as section 25.114(c)(18), which cross-references this new subsection.

7. Replacement space stations. STARSYS, VITA and Space Technology Systems International (STSI) comment on the specifics of our proposal to allow licensees, upon prior written notice to the Commission, to replace space stations during the system license term. Proposed section 25.142(a)(5) will allow

each individual satellite proposed. At worst, as in the case of VITA's two-satellite proposal, the NVNG financial qualification standard would be no more onerous than that imposed on fixed satellite applicants. Indeed, the costs of constructing and launching a low-earth orbit satellite are likely to be significantly less than the construction and launch costs of a geostationary satellite.

⁹ Even a small NVNG system will require significant use of this very limited spectrum resource. See ORBCOMM's Comments, in which they allege that a two satellite system, which would be visible in the U.S. for approximately 20% of the time, will consume the same interference budget for coordination with other systems as a twenty satellite system, which could provide nearly full time availability in the U.S.

¹⁰ See §25.140(d)(2)(iii).

¹¹ We have amended this section slightly from that originally proposed by citing further Commission decisions regarding licensing requirements for international satellite systems.

operators at their discretion to replace failed or expired space stations with technically identical counterparts at any time during the license term. The commenters urge that, instead of requiring space stations to be technically identical to those replaced, a replacement space station be only "operationally equivalent" to its predecessor in terms of its interference potential. In support of this concept, STARSYS notes that evolving manufacturing efficiencies and technical advancements are inevitable, and will facilitate greater system utility and efficiency. Thus, state-of-the art replacement satellites may have different, albeit equivalent, technical parameters. Adoption of this "operationally equivalent" standard, they argue, will promote the continual upgrade of space station systems, to the benefit of the operators and their customers. While we believe that both technical innovation and operator flexibility serve the public interest, we must, consistent with our statutory obligation, assure the continued compatibility of NVNG systems with those of other licensed spectrum users. If a space station design differs from that initially examined and approved, we are not only obligated, but are also in the best position, to determine neutrally whether the existing and replacement space stations are indeed operationally equivalent. We do not believe, on balance, that it will be unduly burdensome for operators to request license modification if they desire to upgrade or in any other way change their licensed satellite design. This requirement will not impede technical innovation in satellite design, but is necessary to ensure the fulfillment of our statutory mandate. Therefore, absent an accompanying request for license modification, we will require replacement space stations launched during the license term to be technically identical to those replaced. We accordingly adopt section 25.142(a)(5) as proposed.

8. Intersystem coordination. The commenters did not object to, or request modification of, our proposed rules sections 25.142(b)(1) and (2). These subsections require applicants to coordinate their systems with Federal government users prior to authorization. Nor was there any objection to the remainder, expressed in section 25.142(b)(4), that NVNG services may be subject to certain provisions of the Communications Act relating to safety and distress communications. We continue to believe that these portions of sections 25.142 are in the public interest, and adopt them with minor modification.¹² dbX and Leo One Corporation (Leo One)¹³ alleges, however, that proposed sections 25.142(b)(3) does not place the NVNG licensees under a sufficiently strict obligation to coordinate their systems with those of future licensees. dbX thus requests that (1) each NVNG license bear a condition requiring the licensee to negotiate coordination agreements in good faith with subsequent licensees, (2) the coordinating parties file written progress reports with the Commission every three months detailing their efforts, and (3) these final coordination agreements be publicly available for use by future licensees.

¹² We have modified §25.142(b)(4) to identify more precisely those situations in which NVNG operations may be subject to §§321(b) and 359 of the Communications Act.

¹³ STSI concurred in Reply comments.

9. At the outset, we reiterate our firm belief that the good faith coordination efforts of all spectrum users are essential to the development and efficient use of the electromagnetic spectrum. We believe, however, that our intersystem coordination rule, in conjunction with existing policy, will provide the relief desired by dbX. New section 25.142(b)(3) requires licensees and permittees, at the Commission's request, to cooperate fully in the coordination and accommodation of future systems.¹⁴ By this rule, we may require licensees to coordinate not only with future licensees, but with future applicants as well. While we will continue initially to rely on the good faith efforts of existing spectrum users to cooperate with new licensees, we have stated our intent to intervene at an early stage if such cooperation is not forthcoming, or if earlier coordination would be particularly helpful.¹⁵ Accordingly, we believe that this proposal will enable us to assure good faith cooperation on the part of all parties providing, or seeking to provide, NVMG MSS.

10. With regard to the request to file periodic written reports on the status of coordination negotiations, we do not believe that such reports will create greater incentives for licensees to coordinate with each other, and may simply complicate the process with an inconclusive paper trail. If a licensee is not cooperative, we expect to be so informed by the aggrieved party. At that point, we will, as we have stated in the past, assist in the coordination process, or grant such other relief as seems appropriate.¹⁶ Finally, we agree with STARSYS that the relative benefits of making coordination agreements publicly available are unlikely to outweigh the potential damage to licensees through the release of confidential and proprietary data. Data made publicly available by the Commission would unavoidably become accessible to the world at

¹⁴ In response to concerns expressed by dbX and STSI, we will specifically require licensees to coordinate their frequency modulation compatibility with future licensees. We expect coordination discussions among frequency division multiple access/time division multiple access (FDMA/TDMA) licensees to include at least a description of the existing licensee's channel assignment scheme in the frequency and time domains, and the maximum number of simultaneous transmissions. Among code division multiple access (CDMA) spread spectrum licensees, we anticipate the identification of the existing licensee's code family, the pre-selected codes and the maximum number of simultaneous transmissions in a service area.

¹⁵ Furthermore, since frequencies are not exclusively assigned to any licensee, the coordination process may result in a reduction of the operational flexibility of an existing system. For example, in the case of an FDMA system, the total number of accessible service channels may be reduced in the uplink to accommodate feeder links for each system. However, such a reduction should not affect the system capacity, because we expect that the system will be limited to a maximum number of simultaneous users less than the total number of available channels. In the case of a CDMA system, the interference power into the downlink may be increased in some band segments to accommodate future feeder links as well.

¹⁶ dbX suggests that if parties fail to coordinate, they should be required to default a prearranged amount of spectrum/power. We do not believe that preordained, inflexible penalties are desirable.

large. This could prejudice the negotiating posture of the licensees in their domestic, and perhaps myriad international, coordination efforts. As ORBCOMM notes, the existing applicants were able to coordinate their systems without benefit of exact data regarding existing systems. We believe that, in light of our ability to require pre- and post-licensing coordination efforts, and our willingness to provide informal assistance if necessary, future applicants will have ample access to the data necessary to design and implement their systems. Accordingly, we adopt section 25.142(b)(3) as proposed.

11. Reporting requirements. Finally, objection was raised to the reporting requirement set forth in proposed section 25.142(c).¹⁷ STARSYS believes that this requirement is unnecessarily burdensome, and unlikely to generate useable information that cannot readily be obtained by the Commission should the need arise. It argues that the potential damage from disclosure of commercially sensitive information far outweighs any potential benefit to be gained therefrom.¹⁸ We believe that STARSYS underestimates the value to the Commission of the data submitted by licensees in similar semi-annual reports. For example, review of this information is the primary manner by which we assess the commercial and technical development of a particular satellite service. This assists us in analyzing spectrum utilization matters, such as the availability of service on a common carriage basis and consumer demand for particular service options. Further, we are required by law annually to report on competitive market conditions in the mobile communications marketplace.¹⁹ We thus conclude that the solicitation and review of this type of information is important to fulfilling our responsibilities under the Communications Act. While we understand STARSYS's reluctance to file commercially sensitive data, system usage information is intended for use by the Commission and can reasonably be shielded from public dissemination by requests for confidential treatment.²⁰ To lessen the burden on licensees, we have modified the proposed rule, and now request only the annual submission²¹ of that information we believe necessary to enable us to meet our public interest responsibilities and legislative directives. Accordingly, we adopt a modified section 25.142(c), which requires submission

¹⁷ dbX believes that this proposed rule should require licensees to submit additional information upon which to base a detailed analysis of an operator's actual spectrum usage. The proposal is discussed in paragraphs 19 and 20, *infra*.

¹⁸ VITA agrees with STARSYS, and questions whether the value of such information to the Commission will outweigh the licensee's cost of additional recordkeeping and paperwork.

¹⁹ See Omnibus Budget Reconciliation Act of 1993, Pub. L. No. 103-66, Title VI, §6002(b), 107 Stat. 312 (approved August 10, 1993); H.R.Rep. No. 103-213, 103rd Cong., 1st Sess. (1993) (Conference Report).

²⁰ See 47 C.F.R. §0.459.

²¹ dbX suggests that submission of this information on an annual date certain will assist the Commission in making relative and comprehensive assessments of the various operations. We agree, and will include a specific date for submission of these annual reports in the new rule.

of the following information on June 30 of each year: (1) a listing of non-scheduled space station outages lasting more than thirty minutes and the cause(s) of such outages; (2) a detailed description of the utilization made of the in-orbit satellite system; and (3) identification of any space stations not available for service or otherwise not performing to specifications, the cause(s) of these difficulties, and the date any space station was taken out of service or the malfunction identified.

B. Applications for Transmitting Earth Station Authority.

12. Specific earth station, or transceiver, licensing requirements are set forth in section 25.135. The commenters universally support the concept of the issuance of a blanket license for NVNG user transceivers.²² Prior to issuance of this blanket transceiver license, an applicant must demonstrate that transceiver operations will not interfere with existing and authorized uses of the affected or adjacent frequencies. Further, as proposed in the Notice, certain transceivers will be required to bear a label prohibiting their use aboard commercial aircraft. This prohibition has been included to preclude potential interference of NVNG transceivers with navigation and other aircraft functions. There was no opposition to these provisions, and we continue to believe that they are appropriate for the protection of existing frequency users. We therefore adopt section 25.135(a) and (b) essentially as proposed.²³

13. Sections 25.135(c) and (d) clarify the basic tenets that NVNG transceivers operating in the United States must communicate with or through U.S. authorized space stations only, and that such communications must be authorized as well by the space station licensee or an authorized vendor. STSI asks that we devise a rule that will allow domestically authorized user transceivers to access foreign-licensed NVNG space station systems.²⁴ We do not believe that this type of arrangement should be dealt with by regulation. In the past, arrangements for U.S. licensees to access foreign space stations for either domestic or international use have been made on a bilateral, government-to-government basis. We believe that we will best be able to determine the extent to which such access should be permitted by continuing this approach. The rules that we adopt today would not preclude entering into arrangements for such access with countries that license non-geostationary satellite systems and permit roaming by areas having technically compatible transceivers designed to operate with systems licensed in the United States.

14. Once authorized to access a U.S.-licensed space station system, a roaming user's transceiver operations will be deemed to fall within the

²² See para. 15, *infra*.

²³ Section 25.135(b) has been modified slightly to clarify that this subsection does not apply to transceiver units whose receivers are incapable of radiating in the 108-137 MHz frequency band.

²⁴ LEO ONE concurs.

umbrella of the blanket earth station license²⁵ held by the system operator or service vendor authorized by the system licensee. Because of the large number of technically identical terminals, and the likely short-term use of a roaming unit within the United States, it would be an unnecessarily onerous burden to require issuance of a separate license to each individual transceiver user. By placing the ultimate responsibility for transceiver operations upon the system operator or service vendor as earth station licensee, we believe that the public interest can be well protected²⁶ without inhibiting the use of these units by unnecessary licensing burdens.²⁷ Thus, we adopt sections 25.135(c) and (d) as proposed.²⁸

C. License Terms and Renewals.

15. Earth stations. NVWG subscriber user transceivers will be authorized pursuant to "blanket" earth station licenses, whereby a single licensee will be responsible for the operations of a specific number of technically identical units. As proposed in the Notice, the ten-year license term will commence on the date that the earth station license is granted. There were no objections to these provisions, and we adopt sections 25.115(d) and 25.133(b) as proposed.

16. Space stations. As in the case of NVWG earth stations, we have proposed a blanket licensing approach to the authorization of NVWG space stations. Entire satellite systems in this service will be licensed to operate for periods of ten years, commencing upon the date that the licensee certifies that its first satellite is successfully placed into orbit and operational.²⁹ The operating license of all other system satellites launched within the ten year period will expire on that same date.³⁰ Applications to renew a space station system license must be filed by the end of the seventh year of the existing system license. As STARSYS and ORBCOMM point out, this period of time will allow the Commission sufficient time to act on replacement applications, will give interested parties adequate notice of an operator's intent, and will not unduly force existing licensees into premature decisions.

²⁵ Blanket transceiver licenses are authorized by §25.115(d), adopted today.

²⁶ Each transceiver's access to the space station can be individually controlled by the licensee.

²⁷ This approach also will permit foreign users to acquire and operate transceivers in the United States without individual licensing.

²⁸ We also adopt §25.130(b) which cross-references new §25.135.

²⁹ Section 25.120(d)(2). The applicant's space station construction permit and its subsequent launch and operating license, while embodied in the same document, are distinct authorizations.

³⁰ This will encompass all space stations launched during the ten year license term, as discussed at para. 7, supra.

17. In the Notice, we stated that NVNG licensees, like licensees in other satellite services,³¹ will generally be given replacement system authority if the frequencies remain available for use by comparable types of systems. Two of the applicants request that we codify this system replacement expectancy, noting that not only are NVNG systems expensive to construct and operate, but that NVNG customers deserve the assurance of continued service availability. Accordingly, STARSYS and ORBCOMM suggest adoption of a rule that will assure system operators of reauthorization so long as they have a record of consistent regulatory compliance. At a minimum, STARSYS argues, we should incorporate a rule that embodies our policy generally to authorize replacement systems if the frequencies remain available. As we stated in the Notice, any number of intervening circumstances may inhibit our grant of replacement authority. We are therefore reluctant to attempt to define the exact terms under which we will grant replacement system authority ten years hence. For example, at that time, we may have devised efficiency standards, which could interfere with our ability to reauthorize an existing type or size of system. Rather than attempt to create at this time an exhaustive list of conditions precedent to the grant of replacement authority, which list may alternatively prove to be either too inclusive or too exclusive, we continue to believe that our general policy will most accurately meet the public interest. This policy will provide NVNG operators with assurance that we generally intend to grant replacement system authority, but will not hobble our ability to examine all factors that may ultimately prove relevant to such a grant. Accordingly, we adopt proposed sections 25.120(d) and (e) in their entirety.

D. System Construction/Milestones.

18. Space station system licensees will be required to notify us when their first system satellite is launched and operational. Milestone deadlines, which are the dates by which construction of a system must be commenced and completed and satellites launched, will not be codified but will be established in each individual license. This will allow us to consider an individual applicant's circumstances when developing these guidelines. As a general matter, a permittee must commence construction of the first two satellites of its system within one year of grant of the construction permit, and begin construction of all remaining satellites within three years of grant. Construction of the first two satellites must be completed within four years of grant and the entire system must be launched and operational within six years. VITA urges the Commission to modify its milestone proposal to reflect the realities of smaller systems. The company suggests that it is unduly burdensome to insist that a permittee of a small system be compelled to commence construction of such a proportionately high number of satellites within the first year. Instead, VITA suggests that a system permittee proposing to operate five satellites or fewer be required to commence construction of only a single satellite within the first year. While we decline to create a specific policy regarding system milestones for permittees proposing to operate fewer than six satellites, we agree with VITA's general assessment. It is this type of situation that underlies our determination not to codify absolute milestone

³¹ Licensees in the fixed-satellite service, for example, have no codified replacement expectancy.

limits, but to retain the flexibility to consider all factors involved in their imposition. STARSYS, while supporting VITA's suggestion, urges the Commission to ensure that milestone commitments be fairly and similarly imposed. ORBCOMM, noting that our newly-adopted financial qualification requirements are perhaps too lax, warns us to enforce these commitments strictly. In light of the expressed concern over the adequacy of the allocated spectrum and the possibility of warehousing this scarce resource, we do indeed intend to continue our longstanding policy of equitably imposing, and enforcing, milestone commitments.

E. Frequency Assignments.

19. We have proposed that each applicant specify precisely the frequencies that it intends to use for its service and feeder links. If the proposed operations appear compatible with other authorized uses, we will license the applicant to use the requested frequencies on a non-exclusive basis. This section raised considerable controversy. Arguing that the spectrum sharing scheme proposed by the applicants in the negotiated rulemaking will result in both an undesirable duopoly³² and spectrum warehousing, dbX proposes that we instead (1) make frequency assignments based on our assessment of an applicant's "real near term requirements,"³³ and (2) allow system expansion only after a licensee is able to demonstrate a specific level of system usage. dbX has presented a sample spectrum sharing proposal that increases the potential for future entry (vis-a-vis the sharing plan proposed by the applicants) by reducing the existing applicants' proposed system capacity. dbX fails, however, adequately to address the possibility that such further reduction in system capacity³⁴ may jeopardize the viability of these proposed systems. Indeed, STARSYS states that further cuts in capacity would threaten its system's viability. We have no reason to doubt STARSYS's assessment. This is a first generation service. We do not know how quickly, or in what manner, the service will grow. The applicants have presented us with their own best estimates regarding their actual spectrum usage requirements. Different, arbitrarily imposed limits on system size could force a licensee into what may very well be an artificially, and unsupportably, low system capacity.

³² dbX cites a General Accounting Office Report for the proposition that a market with only two providers is unlikely to have a competitively set price. We agree with ORBCOMM that dbX ignores the facts that (1) interservice competition exists from terrestrial and satellite-based systems, and (2) intraservice competition will exist among not only the current, but also future, systems and resellers. See Notice at para. 35.

³³ RadioMail Corporation agrees that initial frequency assignments must similarly be limited. Such an incremental approach to frequency assignment, it alleges, will ensure that the maximum number of systems have access to the spectrum. But see para. 20, infra.

³⁴ As VITA points out, the existing applicants have already decreased their proposed system capacity to effect the spectrum sharing arrangement that they proposed in the negotiated rulemaking.

20. If inadequate capacity is licensed initially, the problem is not easily resolved. Once LEO satellite systems are placed in orbit, they cannot, as ORBCOMM points out, be expanded to meet demand until the next generation is launched. By that time, expansion may be hindered by other factors. Licensees will have six years to commence operation of their systems. By the time they are launched and filled to the capacity suggested by dbX, there may be no room for these first generation systems to expand. Indeed, system capacity may have to be decreased over time as U.S.-authorized NVNG systems coordinate their operations with those of neighboring jurisdictions.³⁵ If we grant licensees access to only a bare minimum amount of spectrum,³⁶ it is thus conceivable that their systems will prove too limited to serve customer needs or achieve commercial viability. While maximum entry has always been a major concern in the evolution of this service, it must not take precedence over our ability to license viable systems.

21. We would be more likely to entertain the notion of imposing our own limits on a licensee's spectrum usage and power levels if we had sufficient information regarding the ultimate commercial and technical development of the NVNG MSS, or if the first round applicants proposed to use all of the available spectrum. However, we are not prescient, and the applicants do not propose to occupy the entire NVNG spectrum resource. Some unassigned NVNG spectrum remains available under the applicants' sharing proposal, additional allocated spectrum should become available for use in 1997 and beyond,³⁷ and the majority of the spectrum that will be non-exclusively assigned to licensees can be used by future licensees as well.³⁸ Accordingly, we will continue to leave decisions regarding appropriate system size and configuration to the applicants themselves.³⁹

³⁵ This includes coordination with the terrestrial, as well as NVNG MSS, services of affected administrations.

³⁶ Or similarly limit acceptable power levels.

³⁷ See Report, *supra*, at p. 9.

³⁸ Both ORBCOMM and STARSYS continue to assert their abilities to share their proposed service link frequencies with future systems. Because we believe that ORBCOMM's proposed Dynamic Channel Activity Assignment System can effectively allow sharing of the proposed service link frequencies, we will not adopt dbX's suggestion that the pool of channels available to an individual FDMA/TDMA operator for mobile-to-satellite links be limited to 40. Nevertheless, should service link sharing not prove satisfactory, the Commission may establish such limits.

³⁹ While we do not believe that it is necessary to place prescribed limits on system power levels or the amount of available operating frequency, we may find it necessary to relocate a licensee's operations within the spectrum in an effort to coordinate future systems. In addition, dbX offered suggestions, which we have implemented herein, that could similarly facilitate future entry, and will not unduly burden or impede the plans of existing applicants. See n. 14, *supra*.

F. Spectrum Efficiency.

22. From its inception, the Commission has been charged with making available to the American people a rapid and efficient communications service.⁴⁰ With that in mind, we have undertaken from the beginning of this rulemaking the development of rules that will further the efficient use of the NVNG MSS spectrum. During the course of the negotiated rulemaking, the Committee debated at great length the possibility of imposing concise spectrum efficiency requirements upon NVNG space station operators. These discussions failed to elicit a sound, mutually agreeable solution. Accordingly, we proposed in our Notice to defer the imposition of efficiency standards until we can examine the technical and commercial development of the service.

23. As an initial matter, the commenters unanimously agree that it is inadvisable at this time to mandate a single modulation and accessing technique for this service. There is no current need, and indeed no factual basis upon which, to do so. ORBCOMM, however, urges our reconsideration of an efficiency standard that the company has advanced throughout the course of this rulemaking. Generally, that standard would require system operators to make service available in the United States at least 75% of the time. This proposal, as well as others, was discussed at length in the negotiated rulemaking. During those meetings, the Committee was unable even to define the concept of efficiency as it relates to this service. The problems that plagued the Committee during its deliberation of this subject remain. We have no experience with commercial NVNG MSS systems operating in these frequency bands. Without experience, we do not know which technologies will even prove workable, much less preferable, as different services attempt to coexist within this particular spectrum. Further, we do not know how consumer demand for services will evolve in the NVNG MSS. In any event, it is not "efficient" to mandate at this time either use of a technology that may not work, or a level of available service that may not be supported by the market. We do expect to address the issue of efficiency standards in future proceedings.⁴¹

G. Miscellaneous.

24. Regulatory Treatment. In the Notice, we proposed that applicants be allowed to request classification as either common or private carriers. In accordance with existing policy, the Commission would then determine whether such classification would be in the public interest.⁴² The comments universally

⁴⁰ Section 1 of the Communications Act of 1934, as amended, 47 U.S.C. §151.

⁴¹ ORBCOMM urges us at least to require applicants to make some showing of spectrum efficiency. While it seems unreasonable at this time to require applicants to develop or observe a prescribed methodology, we believe the annual reports will serve this purpose. See para. 11, supra.

⁴² In making this determination, the Commission looks to an array of public interest considerations. See, e.g., Second Report and Order in Gen. Docket 84-1234, 2 FCC Rcd 485, 490 (1987) (because only a single mobile satellite service license would be granted, the space segment operator was placed under an

supported this proposal. Since adoption of the Notice, section 332 of the Communications Act, 47 U.S.C. §332, has been amended to establish a new category of mobile services called "commercial mobile services" (CMS).⁴³ Section 332 now requires that CMS providers be treated as common carriers, but the Commission has authority to forebear from most Title II regulation for CMS providers.⁴⁴ Subsection 332(c)(5), however, states that the Commission may continue to determine whether the provision of space segment capacity by satellite systems to CMS providers should be treated as common carriage.⁴⁵ Accordingly, we believe that we continue to have the discretion to make determinations regarding the regulatory classification of NVNG space station licensees. As we stated in the Notice, NVNG services are not inherently common carrier in nature under the guidelines of the NABUC I decision.⁴⁶ Accordingly, we will not require NVNG space station licensees to provide system access to CMS providers on a common carriage basis. However, earth station licensees will be treated as common carriers if their service offerings fall within the new definition of CMS.⁴⁷ We also proposed that NVNG licensees operating as common carriers should be subject to streamlined regulation. We will adopt that proposal, as we believe that it will ease the regulatory burden on NVNG licensees, without harm to the public interest. Thus, all NVNG common carrier space and earth station licensees will be subject to streamlined regulation. In addition, we note that the issue of forbearance from tariff regulation of domestic CMS providers is now under consideration in the CMS Notice.

obligation to provide service on a non-discriminatory, common carriage basis): see also Second Report and Order in Gen. Docket 84-689, 104 FCC 2d 650, 665-666 (1986) (radiolocation is not inherently common carrier in nature under the test of National Association of Regulatory Utility Commissioners v. FCC, 525 F.2d 830 (D.C.Cir.); cert. denied, 425 U.S. 999 (1976) (common carrier obligations would impede the ability of mobile satellite service operators to tailor services to meet their customers' needs).

⁴³ Omnibus Budget Reconciliation Act of 1993, supra, n. 19.

⁴⁴ Matters pertaining to the definition and regulation of commercial mobile services are generally being considered in a separate docket. See Notice of Proposed Rule Making to Implement Title VI of the Omnibus Budget Act of 1993, Docket No. 93-252, FCC 93-454 (released October 8, 1993) ("CMS Notice"). The Commission may not forebear from enforcing §§201, 201 and 208 of the Communications Act as to CMS providers.

⁴⁵ Amended section 332(c) does not alter or affect the regulatory treatment of Comsat required by Title IV of the Communications Satellite Act of 1962. Communications Act §332(c)(4), 47 U.S.C. §332(c)(4). NVNG space and earth station licensees that intend to provide international common carrier services must further secure certification pursuant to Section 214 of the Communications Act, 47 U.S.C. §214.

⁴⁶ National Association of Regulatory Utility Commissioners v. FCC, 525 F.2d 630 (D.C.Cir.) cert. denied 425 U.S. 999 (1976).

⁴⁷ See CMS Notice, supra n. 44.

25. Application amendments. In the Notice, we suggested that applicants be given 90 days in which to amend their applications to conform to the new regulations. STARSYS argues that it is unrealistic to expect applicants to make all necessary changes in system design and business plans and to secure reasonable financial commitments within ninety days of adoption of final rules. It therefore proposes that applicants be given nine months in which to meet the newly-imposed financial showing. dbX argues that initial applicants will not be disadvantaged because it has been apparent for some time that all existing applicants can be accommodated within the available spectrum and are thus likely to be licensed. We agree with dbX that financial arrangements could well have commenced prior to the completion of this rulemaking. While the final rules have only been established today, their probable substance has been largely apparent for some time. In light of the fact that the financial qualification standard adopted today is not onerous, we do not feel that it will be in the public interest to bifurcate and extend the amendment period, and thus further to delay licensing of these systems. We therefore will allow applicants in this processing round 90 days from the effective date of these regulations in which to file all conforming amendments and fees for system construction, launch and operation.

26. STARSYS also requests clarification that all system amendments necessary to bring applications into conformance with these newly-imposed rules will be accepted without procedural disadvantage to the applicants. For example, if certain of these amendments were deemed, under ordinary circumstances, to be "major" amendments,⁴⁸ the entire application would be considered newly-filed as of the date of the amendment. The application would then no longer be eligible for consideration in this processing round, because of its failure to be properly on file as of the original application cut-off date. Therefore, we clarify that to the extent that amendments are necessary because of obligations that we have imposed upon applicants after the cut-off date, the amendments will be accepted without adverse consequence. We emphasize, however, that only necessary amendments will be accepted unconditionally. All others will be treated under the existing procedural regulations.

27. International obligations. dbX requests that we impose license conditions on NVNG MSS service providers, requiring the successful completion of both domestic⁴⁹ and international coordination of their systems prior to grant. The International Telecommunication Union (ITU) has established a procedure governing the coordination of mobile satellite systems. That procedure assures that worldwide coordination is accomplished in a manner that places the burden on both the affected administration and the administration seeking

⁴⁸ See Section 25.116(b).

⁴⁹ The rules adopted herein will require applicants to demonstrate successful coordination with Federal government users prior to grant. And, as in the past, we will not issue licenses to parties who will not, in our opinion, be able to coordinate their systems with existing and authorized users.

coordination to cooperate in the resolution of conflicts.⁵⁰ ITU regulations do not, however, require successful coordination of a system prior to licensing by an individual administration.⁵¹ Such a requirement could empower another administration to employ dilatory tactics merely to impede implementation of U.S. systems.

28. In a similar vein, Leo One urges the Commission to consult with "appropriate ITU organizations" before the promulgation of final rules that, it alleges, may foreclose competition and promote spectrum inefficiency. While the United States is an active participant in a number of global fora, including the ITU and its Radiocommunications sector, we believe that it is unnecessary and imprudent to await further global action on LEO MSS issues prior to the promulgation of wholly domestic regulations. Such a delay would needlessly hamper the efforts of domestic licensees to make available to the U.S. public these innovative services. As we stated in the Notice, we will follow the coordination procedures prescribed for non-geostationary satellite systems;⁵² will work with the global community to promote LEO services through discussion of sharing techniques and other technical issues; and will continue to require our licensees to meet both their international obligations and any national requirements imposed by other licensing administrations. Because we will require our licensees to comply with international procedures, including the national requirements of any other licensing administrations, the efforts of these other jurisdictions to implement NVNG service within their own territories will remain within their control.⁵³

29. Distress and safety communications. The Interagency Committee on Search and Rescue (ICSAR)⁵⁴ notes that NVNG offers the potential to greatly improve emergency communications to benefit search and rescue (SAR) and disaster response operations, and recommends that NVNG applications address certain SAR concerns. Specifically, ICSAR suggests that applicants in the NVNG MSS disclose how their systems will: (1) determine the grid coordinates of any distress signal received; (2) determine and direct messages to the appropriate search

⁵⁰ ITU Resolution No. 46 (WARC-92) (Res. 46) notes that "[a]ffected administrations, as well as the administration seeking coordination, shall make all possible mutual efforts to overcome the difficulties in a manner acceptable to the parties concerned." Res. 46, §2.8A.

⁵¹ Or indeed, even prior to launch, as long as the licensee operates on a non-interference basis with authorized users. See International Radio Regulation 342.

⁵² As set forth in ITU Resolution No. 46 (WARC-92).

⁵³ Other administrations will thus be assured "equitable and standard conditions of access" to meet their domestic needs, in accordance with ITU Resolution No. 70 (WARC-92).

⁵⁴ ICSAR is made up of representatives from seven Federal agencies, including the Federal Communications Commission. This Committee has search and rescue responsibilities under the United States National Search and Rescue Plan.

and rescue organization for assistance; and (3) design the communications interface with search and rescue organizations to utilize the public switched data network. In reply, STARSYS initially notes that the NVNG mobile-satellite service is not a designated safety service.⁵⁵ In light of this fact, the company suggests that the costly service options described by ICSAR should be undertaken voluntarily by the licensees only if a market for these services appears to exist. We agree with ICSAR that NVNG services have the potential to complement existing safety services.⁵⁶ We note, however, that the NVNG services are not intended to replace existing international safety services and cannot be used in lieu of distress beacons, such as emergency locator transmitters or emergency position indicating radio beacons, that are required to be carried by international agreement or statute.⁵⁷ We agree, therefore, with STARSYS that ICSAR's proposal to mandatorily require NVNG applicants to show specific methods of interconnection to route distress communications to SAR organizations is not necessary. System operators have adequate incentives to work to meet demands identified by ICSAR in a timely and cost-effective manner. We therefore do not believe that it is necessary to impose upon NVNG applicants the requirements suggested by ICSAR. We expect, however, that NVNG system operators who choose to offer distress communications capability will coordinate their efforts with ICSAR and SAR organizations.

30. Public notice requirement. The Commission has also proposed to modify its rules to specify that its public notice requirements do not apply to assignments or transfers of space station authorization that do not involve a substantial change of control. The only comments received regarding this proposal were favorable. Because this amendment merely codifies our existing practice, and will in no way adversely impact the public interest, we adopt section 25.151(c)(5) as proposed.

III. Final Regulatory Flexibility Analysis

31. Need for Rules and Objective. We have codified proposed rules that will permit the licensing and regulation of new mobile-satellite systems. Our objectives have been to promote efficiency and innovation in the licensing and use of the electromagnetic spectrum, to develop competitive and innovative communications systems, and to promote effective and adaptive regulations.

⁵⁵ Although not a designated safety service, NVNG system operators have certain obligations relating to maritime distress communications in accordance with 47 U.S.C. §§321(b) and 359. See §25.142(b)(4) adopted herein.

⁵⁶ Much like cellular radio, which in certain areas can be used to contact the U.S. Coast Guard by pressing *CG on the cellular phone.

⁵⁷ Compulsory equipment carriage requirements are established in portions of the Commission's Rules, as well as by statute. See, for example, 47 C.F.R. §§80.801 et seq.; Ch. IV, International Convention on the Safety of Life at Sea, 32 U.S.T. 47, T.I.A.S. 9700 (1974).

32. Issues Raised by the Public in Response to the Initial Analysis.

No comments were received specifically in response to the Initial Regulatory Flexibility Analysis. We have, however, taken into account all issues raised by the public in response to the proposed rules. In certain instances, we have eliminated or modified our proposed rules in response to those comments.

33. Alternatives that Would Lessen Impact.

The minimal regulatory burden that we have imposed is necessary in order to carry out our duties under the Communications Act and other Federal statutes. We have modified a rule to require the annual, instead of semi-annual, submission of data, which will lessen the reporting burden on licensees. We will continue to examine these requirements in an effort to eliminate unnecessary regulations and to minimize significant economic impact on small businesses.

IV. Conclusion and Ordering Clauses

34. By our action today, we are establishing licensing and operating procedures for the non-voice, non-geostationary mobile satellite service. This new satellite service will offer affordable and innovative communications options to the American public.

35. Accordingly, IT IS ORDERED that Parts 2 and 25 of the Commission's Rules are amended as specified in Appendix B, effective 30 days after publication in the Federal Register.

36. IT IS FURTHER ORDERED that the applicants will be given 90 days from the effective date of these regulations to file conforming amendments and all necessary fees.

FEDERAL COMMUNICATIONS COMMISSION


William F. Caton
Acting Secretary

APPENDIX A

Comments Filed

dhX Corporation
Interagency Committee on Search and Rescue
Leo One Corporation
Orbital Communications Corporation
Space Technology Services International
STARSYS Global Positioning, Inc.
Volunteers in Technical Assistance

Reply Comments Filed

dhX Corporation
Leo One Corporation
Orbital Communications Corporation
Radiomail Corporation
Space Technology Services International
STARSYS Global Positioning, Inc.
Volunteers in Technical Assistance

Supplementary Comments Filed

dhX Corporation
Orbital Communications Corporation
STARSYS Global Positioning, Inc.

APPENDIX B

Title 47 of the Code of Federal Regulations, Parts 2 and 25, are amended as follows:

1. The authority citation for Part 2 continues to read as follows:

AUTHORITY: Sec. 4, 302, 303 and 307 of the Communications Act of 1934, as amended, 47 U.S.C. Sections 154, 154(i), 302, 303, 303(r), and 307, unless otherwise noted.

2. A new paragraph is added, in alphabetical order, to Sections 2.1 and 25.201 to read as follows:

~~Non-Voice, Non-Geostationary Mobile-Satellite Service.~~ A mobile-satellite service reserved for use by non-geostationary satellites in the provision of non-voice communications which may include satellite links between land earth stations at fixed locations.

3. The Table of Contents for Part 25 is revised to read as follows:

PART 25 - SATELLITE COMMUNICATIONS
Subpart A - General

Sec.

- 25.101 Basis and scope.
- 25.102 Station authorization required.
- 25.103 Definitions.
- 25.104 Preemption of local zoning of earth stations.
- 25.105 - 25.108 [Reserved]
- 25.109 Cross-reference.

Subpart B - Applications and Licenses

- 25.110 Filing of applications, fees, and number of copies.
- 25.111 Additional information.
- 25.112 Defective applications.
- 25.113 Construction permits.

- 25.114 Applications for space station authorizations.
- 25.115 Applications for earth station authorizations.
- 25.116 Amendments to applications.
- 25.117 Modification of station license.
- 25.118 Assignment or transfer of control of station authorization.
- 25.119 Application for special temporary authorization.
- 25.120 License term and renewals.

EARTH STATIONS

- 25.130 Filing requirements for transmitting earth stations.
- 25.131 Filing requirements for receive-only earth stations.
- 25.132 Verification of earth station antenna performance standards.
- 25.133 Period of construction; certification of commencement of operation.
- 25.134 Licensing provisions of very small aperture terminal (VSAT) networks.
- 25.135 Licensing provisions for earth station networks in the non-voice, non-geostationary mobile-satellite service.

SPACE STATIONS

- 25.140 Qualifications of domestic fixed-satellite space station licensees.
- 25.141 Licensing provisions for the radiodetermination satellite service.
- 25.142 Licensing provisions for the non-voice, non-geostationary mobile-satellite service.

PROCESSING OF APPLICATIONS

- 25.150 Receipt of Applications.
- 25.151 Public notice period.
- 25.152 Dismissal and return of applications.

- 25.153 Repetitious applications.
- 25.154 Opposition to applications and other pleadings.
- 25.155 Mutually exclusive applications.
- 25.156 Consideration of applications.

**FORFEITURE, TERMINATION, AND REINSTATEMENT
OF STATION AUTHORIZATION**

- 25.160 Administrative sanctions.
- 25.161 Automatic termination of station authorization.
- 25.162 Cause for termination of interference protection.
- 25.163 Reinstatement.

Subpart C - Technical Standards

- 25.201 Definitions.
- 25.202 Frequencies, frequency tolerance and emission limitations.
- 25.203 Choice of sites and frequencies.
- 25.204 Power limits.
- 25.205 Minimum angle of antenna elevation.
- 25.206 Station identification.
- 25.207 Cessation of emissions.
- 25.208 Power flux density limits.
- 25.209 Antenna performance standards.
- 25.210 Technical requirements for space stations in the Fixed-Satellite Service
- 25.211 Video transmissions in the Domestic Fixed-Satellite Service.
- 25.212 Narrowband transmissions in the Fixed-Satellite Service.
- 25.251 Special requirements for coordination.
- 25.252 Maximum permissible interference power.

- 25.253 Determination of coordination distance for near great circle propagation mechanisms.
- 25.254 Computation of coordination distance contours for propagation modes associated with precipitation scatter.
- 25.255 Guidelines for performing interference analyses for near great circle propagation mechanisms.
- 25.256 Guidelines for performing interference analyses for precipitation scatter modes.

Subpart D -- Technical Operations

- 25.271 Control of transmitting stations.
- 25.272 General inter-system coordination procedures.
- 25.273 Duties regarding space communications transmissions.
- 25.274 Procedures to be followed in the event of interference.
- 25.275 Particulars of operation.
- 25.276 Points of communication.
- 25.277 Temporary fixed earth station operations.

Subpart E - Developmental Operations

- 25.300 Developmental operation.
- 25.308 Automatic Transmitter Identification System (ATIS)

Subparts F - G -- [Reserved]

**Subpart H - Authorization To Own Stock in the
Communications Satellite Corporation**

- 25.501 Scope of this subpart.
- 25.502 Definitions.
- 25.503 - 25.504 [Reserved]
- 25.505 Persons requiring authorization.
- 25.506 - 25.514 [Reserved]
- 25.515 Method of securing authorization.

- 25.516 - 25.519 [Reserved]
- 25.520 Contents of application.
- 25.521 Who may sign applications.
- 25.522 Full disclosures.
- 25.523 Form of application, number of copies, fees, etc.
- 25.524 [Reserved]
- 25.525 Action upon applications.
- 25.526 Amendments.
- 25.527 Defective applications.
- 25.528 - 25.529 [Reserved]
- 25.530 Scope of authorization.
- 25.531 Revocation of authorization.

4. The authority citation for Part 25 continues to read as follows:

AUTHORITY: Sections 101 - 404, 76 Stat. 419 - 427; 47 U.S.C. 701 - 744, Sec. 4, 48 Stat. 1066, as amended; 47 U.S.C. 154. Interprets or applies sec. 303, 48 Stat. 1082, as amended; 47 U.S.C. 303.

5. Section 25.114 is amended by revising paragraph (c)(18), and adding a new paragraph (c)(27), to read as follows:

§ 25.114. Applications for space station authorizations.

(c) * * * *

(18) Detailed information demonstrating the financial qualifications of the applicant to construct and launch the proposed satellites. Applications for domestic, and NVNG MSS, satellite systems shall provide the financial information required by § 25.140(b)-(e) or § 25.142(a)(4). Applications for international satellite systems authorized pursuant to Establishing of Satellite Systems Providing International Communications, 50 FR 42266 (October 18, 1985), 101 FCC 2d 1046 (1985), recon. 61 RR2d 649 (1986), further recon. 1 FCC Rcd 439 (1986), shall provide the information required by that decision.