

speculative and are not likely to be implemented.³⁴ Thus, the foreign systems identified by Orbcomm cannot be considered to be competitive with U.S.-licensed NVNG MSS systems.

C. There are Very Limited Substitutes for Little LEO Services

As is demonstrated above, terrestrial wireless, Big LEOs, geostationary satellites and foreign NVNG MSS systems will not have an appreciable impact on the competitive structure of the NVNG MSS industry. Many of the segments of demand that could be served by NVNG MSS operators will remain unserved if the Commission fails to license new competitive NVNG MSS systems capable of providing near real-time services. Other segments will be served by only one or two suppliers. This type of non-competitive market structure will not serve the public interest in the United States.

All the parties understand that the characteristics of NVNG MSS demand and NVNG MSS suppliers will determine the structure and degree of competitiveness. An important factor is the number of firms that produce and sell NVNG MSS services. A duopoly is not likely to provide the consumer with a competitively set price that is at or near the cost of producing the good. If there were many competitors, the suppliers would be at an advantage if they could set and maintain a price above the competitive level, as a monopolist might. However, it would be almost impossible to coordinate such an effort. Even if such coordination were possible, it would violate the U.S. antitrust laws. Here, where there are only two possible suppliers, it is more likely that the suppliers will recognize their interdependence and keep prices above the competitive level. Under most theories of price setting when only a few firms are involved, suppliers will not offer competitive prices.

³⁴ For instance, the speculative nature of Tongasat is well known.

There are several factors associated with the NVNG MSS that reduce the likelihood that Orbcomm and GE Starsys will actively compete. First, in light of the limited substitutes, Orbcomm and GE Starsys are the only two potential suppliers of most NVNG MSS services.³⁵ Two suppliers make it extremely unlikely that competitive prices will be established. Second, these two suppliers will likely offer similar services and features, which will further encourage anticompetitive behavior. Third, the shortage of allocated spectrum for the NVNG MSS provides a significant barrier to entry. Thus, existing suppliers will not need to competitively respond to the possibility of new entry. Finally, the lack of good substitutes makes it more likely that firms will be able to maintain prices above the competitive level. Taken together, these analyses lead to the simple conclusion that the consumer would be better off if the Commission were to license additional NVNG MSS suppliers capable of offering a full array of NVNG MSS services.

D. The Public Interest would not be Served by the Grant of the Pending Second Round Modification Requests of Orbcomm and GE Starsys

1. Grant of the Orbcomm Application will not Serve the Public Interest

The grant of the Orbcomm modification request would make it impossible to license a new NVNG MSS system in the 137 - 138 MHz band capable of providing near real-time services. In order to grant Orbcomm's request, the Commission would need to assign Orbcomm a significant amount of spectrum in this band, leaving insufficient spectrum to support a new near real-time system, thus depriving the public of access to additional competitive NVNG MSS systems.³⁶

³⁵ As Leo One USA noted in its comments, there is no indication that GE Starsys has commenced construction of its system. If this system ultimately is not implemented, consumers would be left with a monopoly provider of services.

³⁶ Orbcomm's modification request is particularly ironic in light of the fact that in order to accommodate
(continued...)

Orbcomm argues that grant of its amendment to add twelve satellites as well as 90 additional kHz of spectrum will allow it to raise its service availability and reliability by having more (a total of 48) satellites in orbit. It is illogical for the Commission to believe that Orbcomm has any intention other than warehousing spectrum in an effort to forestall competition based on the knowledge that Orbcomm currently plans to launch only 28 satellites, not the 36 authorized in its license.³⁷ This reduction in the number of operational satellites to 28 will reduce system availability,³⁸ reliability, and capacity below that which Orbcomm is licensed to offer.

Nevertheless, Orbcomm argues that exclusion of the first round licensees would be bad public policy. It contends that the benefits from the grant of the Orbcomm second round application outweigh the benefits to be realized from licensing new NVNG MSS systems. According to Orbcomm, its modification application will increase its currently authorized frequencies by 4%.³⁹ It further states that the public benefits associated with this small increase include dramatic increases in service availability in the northern and southern latitudes by approximately 50% or more and enhanced service within the continental United States.

It is hard to understand how U.S. consumers would be better served by the grant of the Orbcomm modification than by the licensing of new NVNG MSS systems. The ability to serve

³⁶ (...continued)

Orbcomm, the Commission would need to displace more efficient NVNG MSS systems that would be able to provide the capabilities Orbcomm hopes to obtain through its amendment.

³⁷ See *infra* App. A, Orbcomm Offering Memorandum at 1.

³⁸ See *infra* Appendix B for availability charts on Orbcomm's 36 satellite system versus Orbcomm's 28 satellite system.

³⁹ This figure is incorrect. As noted in Leo One USA's Petition to Deny Orbcomm's modification application, the real increase is 28% (90/320 kHz). Petition to Deny of Leo One USA at 8 n. 5, File No. 28-SAT-MP/ML-95 (filed Feb. 24, 1995).

consumers in northern latitudes cannot outweigh the interests of the vast majority of American consumers in having competitive choices in purchasing NVNG MSS services. There are limited population and business activities in most regions above 60° latitude. The needs in those regions will be met by the introduction of the second round systems which will have limited service offerings there. It is extremely difficult to make a case that the public interest would be better served by Orbcomm's improved service to northern latitudes when the result is eliminating tremendous consumer benefits for the rest of the country from the introduction of new competition.

Orbcomm also argues that the public would be better served if its modification application were granted because it would allow Orbcomm to export additional services to Europe. This is truly a parochial argument in which the only real beneficiary would be Orbcomm. It is hard to imagine that Orbcomm's improved ability to serve northern latitude countries in Europe will have an appreciable impact on the U.S. balance of trade. Additionally, U.S. manufacturers' exports are not likely to increase significantly as a result of the grant of this modification request. It is interesting to note that two of the companies licensed to manufacture Orbcomm subscriber equipment are foreign owned--Panasonic (Japan) and Stellar Electronics Ltd. (Israel).⁴⁰ Thus, two of the principle beneficiaries from exporting Orbcomm subscriber equipment will be Panasonic (a Japanese company) and Stellar (an Israeli company).

2. Grant of the GE Starsys Application will not Serve the Public Interest

Likewise, grant of the GE Starsys modification will prevent introduction of new NVNG MSS systems. GE Starsys proposes that the entire 150 kHz in the 149.9 - 150.05 MHz band "be made

⁴⁰

See infra App. A, Orbcomm Offering Memorandum at 3.

available to all NVNG MSS applicants, including GE Starsys for feeder uplinks, on a non-exclusionary basis with the requirement that geographical coordination be maintained."⁴¹ GE Starsys makes this proposal without reference to any sharing studies. Even a minimal amount of analysis demonstrates that this proposal is not feasible.⁴²

GE Starsys states that if it is not authorized to operate a 50 kHz channel in the 149.9-150.05 MHz band it will be required to operate feeder links in the 148-149.9 MHz band. According to GE Starsys, this will weaken the already low GE Starsys space-to-earth downlink margin by approximately 10%. There is no information in the GE Starsys comments on how this reduction in margin would impact GE Starsys' business plan or the public interest in obtaining access to competitive NVNG MSS service.⁴³

⁴¹ Comments of GE Starsys at 21-22.

⁴² NVNG MSS systems, including the GE Starsys system, use footprint coverage antennas on their satellites for receiving feeder uplink signals and medium gain, directional antennas at earth stations for transmitting these signals. Thus, the potential for inter-system interference exists whenever a satellite of one system is near to a satellite of any other system. In fact, interference will occur whenever nearby satellites, from different systems, are receiving uplinks from their respective feeder uplink stations. As the result of size and complexity constraints, NVNG MSS feeder uplink antennas have 10-dB beamwidths in excess of 50°. Therefore, at typical NVNG MSS altitudes, satellites within one million meters of each other will experience harmful interference when both are receiving transmissions from their respective feeder stations. To mitigate this effect would require geographical separation distances of greater than 3,000 kilometers. If one system were to operate two feeder uplink stations, one on each coast, the frequencies could not be reused anywhere else in CONUS. Based on these constraints, if the GE Starsys modification were granted, the Commission would not be able to license any additional TDMA/FDMA systems because there would not be any available uplink feeder link channels. This would prevent the introduction of new competitive NVNG MSS systems.

⁴³ VITA has not provided any basis for the Commission to conclude that it needs additional spectrum to meet its humanitarian goal. Given that FACS, a commercial NVNG MSS system proponent, controls at least 50% of VITA's capacity, it's difficult to reach a conclusion that VITA needs more spectrum.

3. The Public Interest will be Better Served by the Licensing of New NVNG MSS Operators

The net economic benefit to the U.S. economy resulting from grant of the Orbcomm or GE Starsys modification requests pale when compared to economic benefits associated with new NVNG MSS systems. If the Commission were to license two or three new systems, it would result in construction of close to 100 new satellites. The U.S. is the world leader in small satellite design and construction, and, therefore, U.S. industry would likely benefit from these new systems. Additionally, U.S. launch providers, as well as subscriber equipment manufacturers, would directly benefit from these new systems. Finally, any new licensee would have to establish operational, technical and marketing staffs, all of which would translate into new jobs for American citizens. The same cannot be said if the Orbcomm or GE Starsys modification requests are granted. Add to this the benefits associated with the introduction of new competitive NVNG MSS systems, and it is hard to make a public interest case in favor of granting the Orbcomm or GE Starsys modifications.

E. The Commission May Revise the Eligibility Rules in the Second Processing Round for NVNG MSS Licenses

The Commission should reject the Orbcomm/GE Starsys claim that the Commission would engage in impermissible retroactive rulemaking if it were to adopt rules revising the eligibility criteria for NVNG MSS licenses in the second round processing group. Orbcomm relies on the decision in *Bowen v. Georgetown University Hospital*⁴⁴ in support of this claim. Orbcomm's reliance is misplaced as *Bowen* is inapposite to this proceeding. In *Bowen*, the parties acknowledged that the adopted rule in fact was retroactive, and the issue before the Court was whether Congress had

⁴⁴ 488 U.S. 204 (1988).

explicitly authorized the Secretary of Health and Human Services to enact retroactive Medicare cost limit rules.⁴⁵ In 1981, the Secretary had issued a cost-limit rule for calculating the wage index used to reflect the salary levels of hospital employees. The rule was invalidated in 1983 on the basis of the Department of Health and Human Service's violation of the notice and comment provisions of the Administrative Procedure Act. The Secretary conceded the invalidity of the rule and reimbursed the hospitals for sums paid based on the prior rule. Then in 1984, the Secretary proposed a new rule with the same requirement and specifically proposed to apply the new rule retroactively by trying to recoup sums that had been paid back to the hospitals as a result of the district court decision. In this case, there was no dispute that the rule operated retroactively, and thus the only issue was whether the Medicare Act authorized retroactive rulemaking. The Supreme Court found that the Medicare Act did not expressly encompass the power to promulgate retroactive rules and invalidated the 1984 rule.⁴⁶

The current proceeding before the FCC is readily distinguishable from *Bowen*. Here the Commission proposes to apply new eligibility rules prospectively to pending NVNG MSS applicants. This is not retroactive rulemaking. Orbcomm's argument is flawed because it assumes the Commission's proposed rule is retroactive. However, a rule is retroactive only if it "takes away or impairs vested rights acquired under existing laws, or creates a new obligation, imposes a new duty, or attaches a new disability, in respect to transactions or considerations already past."⁴⁷ A

⁴⁵ *Id.* at 208.

⁴⁶ *Id.* at 215-16.

⁴⁷ *Landgraf v. USI Film Products*, 511 U.S. 244, 269 (1994) (quoting *Society for the Propagation of the Gospel v. Wheeler*, 22 F. Cas. 756, 767 (No. 13, 156) (CC NH 1814)).

statute or rule is not retroactive merely because it draws upon antecedent facts for its operation.⁴⁸ *Alexander* is instructive in this regard. *Alexander* dealt with a rule adopted by the Department of Education ("Department") relating to the implementation of the Student Loan Default Prevention Initiative Act. Schools wishing to participate in the guaranteed student loan ("GSL") program had to apply to the Department for certification as eligible institutions. The Department adopted a rule which stated that a school would lose eligibility for the GSL program if the Department determined that the school's default rate for student loans for each of the three most recent fiscal years exceeded the threshold rate provided by statute. The cosmetology schools challenged the rule as impermissible retroactive rulemaking because it upset their alleged vested right to continued GSL eligibility. The court disagreed, finding that the member schools had no vested right to future eligibility to participate in the GSL program.⁴⁹ The court found that this lack of a vested right readily distinguished the case from *Bowen*.⁵⁰ The court stated that a rule requiring the Department to look at past default rates in determining future eligibility did not operate retroactively.⁵¹ Thus, the court did not have to proceed to the next step of determining whether Congress had authorized the Department of Education to enact retroactive rules.

Similarly, the Commission's adoption of a rule to revise the eligibility criteria for NVNG MSS licenses is not retroactive rulemaking. Although the rules proposed by the Commission may consider some antecedent facts (i.e. whether an applicant currently holds a license for NVNG MSS

⁴⁸ See *Association of Accredited Cosmetology Schools v. Alexander*, 979 F.2d 859, 865 (D.C. Cir. 1992).

⁴⁹ *Id.* at 864.

⁵⁰ *Id.*

⁵¹ *Id.* at 865-66.

service) in determining future eligibility for a license, the rule is not retroactive because it does not affect a vested right of any of the applicants. The presumption against retroactive rulemaking is grounded and based on a respect for vested rights. However, unlike *Bowen*, in this case no vested rights are affected by the Commission's proposed new rules. No applicant has a vested right to a second round license. Moreover, no applicant has a vested right to a hearing on its application unless it is qualified to hold the license by meeting all the Commission's eligibility requirements. It is axiomatic that the Commission has the authority to modify rules affecting eligibility of applicants for licenses and to apply those rules to pending applicants.⁵² In *Storer Broadcasting*, Storer's application was dismissed without a hearing on the same day that the Commission amended its broadcast multiple ownership rule such that Storer's pending application could not be granted without violating the rule.⁵³ The Court found that Storer was not entitled to a hearing because its application no longer met the basic requirements for a license.⁵⁴ In *Hispanic Information & Telecommunications Network v. FCC*,⁵⁵ the Commission modified its rules relating to the eligibility of applicants for Instructional Fixed Television Service stations. The Commission was concerned that local interests were not receiving licenses and issued new rules establishing a one year local priority period that provided that local applications filed during the one year period, as well as all pending local applications, would be preferred to any mutually exclusive application filed by a

⁵² See *United States v. Storer Broadcasting Co.*, 351 U.S. 192 (1956).

⁵³ *Id.* at 197.

⁵⁴ *Id.* at 205.

⁵⁵ 865 F.2d 1289 (D.C. Cir. 1989).

nonlocal entity.⁵⁶ A pending nonlocal applicant challenged the rule after it was denied a license. The court found that the Commission properly interpreted the rule and that the pending nonlocal applicant was not entitled to a license. "The filing of an application creates no vested right to a hearing; if the substantive standards change so that the applicant is no longer qualified, the application may be dismissed."⁵⁷ As the above discussion illustrates, no vested rights of the pending applicants are affected by the Commission's proposed rules relating to the eligibility criteria for second round NVNG MSS licenses. As a result, the rules are not retroactive and no analysis under *Bowen* is necessary.⁵⁸

Moreover, despite Orbcomm's argument to the contrary, a rule is also not retroactive merely because it upsets expectations based in prior law.⁵⁹ Orbcomm's claim that it believed it would be eligible for a second round license is not a vested right or interest that must be protected. Rules frequently unsettle ones' expectations, but this is not sufficient to invalidate a rule.

It is often the case that a business will undertake a certain course of conduct based on the current law, and will then find its expectations frustrated when the law changes. This has never been thought to constitute retroactive lawmaking, and indeed most economic regulation would be unworkable if all laws disrupting prior expectations were deemed suspect.⁶⁰

⁵⁶ The Commission did modify the rules to provide that nonlocal entities whose applications were pending would be given ninety days to amend their applications to include a local entity within their ownership structure.

⁵⁷ 865 F.2d at 1294-95.

⁵⁸ Since the proposed rules are not retroactive, Orbcomm's comments regarding whether the Telecommunications Act of 1996 authorizes the Commission to issue retroactive rules are irrelevant.

⁵⁹ See *Landgraf*, 511 U.S. at 269.

⁶⁰ *Chemical Waste Management, Inc. v. EPA*, 869 F.2d 1526, 1536 (D.C. Cir. 1989).

The first round applicants' expectations of future eligibility for the second round do not make the Commission's proposed rule retroactive.

In addition, Orbcomm's argument that it was not provided sufficient notice that it may not be eligible for a second round license is without merit. Orbcomm relies on *McElroy Electronics Corp. v. FCC*⁶¹ for the proposition that it was not given sufficient notice that it would not be eligible for a second round license and, thus, the Commission is somehow precluded from applying revised eligibility criteria to exclude it from the second round. *McElroy* is readily distinguishable from the facts of this proceeding. In *McElroy*, the Commission issued an order that the court determined was not clear as to when license applicants could file an application to serve areas unserved by existing cellular licensees. The applicants argued that the order provided that applications to serve unserved areas could be filed five years from the date of the first construction permit granted in a metropolitan service area and thus filed applications after that five year window expired.⁶² The Commission argued that the initial order was clear that applicants could not file an application until the Commission established a set date and procedures for processing such applications.⁶³ Since no date or procedures had been established, the Commission dismissed the party's applications as premature. The court found that based on the order, the applicants did not have reasonable notice that unserved area applications would not be accepted under the Commission's general notice and cut-off procedures upon the termination of the expansion period and, thus, their applications should not have

⁶¹ 990 F.2d 1351 (D.C. Cir. 1993).

⁶² *Id.* at 1359.

⁶³ *Id.*

been dismissed by the Commission as premature.⁶⁴ *McElroy* did not address the authority of the Commission to modify its rules and specifically articulated that the issue before the court was not what the Commission has the authority to do, but rather what a specific order previously issued by the Commission could reasonably be construed to have done.⁶⁵

In this case, no one disagrees that the first round applicants were entitled to file an application for a second round license based on the initial eligibility rules. However, the Commission has proposed to modify the eligibility rules. As stated above, the Commission has the authority to revise eligibility criteria and apply those rules to pending applications. The parties have been afforded notice and an opportunity to comment on the new rules. The first round applicants have thus been afforded the process they are due. They have no vested right to a second round license or a hearing on their application. Thus, Orbcomm's notice arguments are inapplicable to the facts of this proceeding.⁶⁶

III. PUBLIC INTEREST WILL BEST BE SERVED BY LICENSING GLOBAL NVNG MSS SYSTEMS CAPABLE OF OFFERING NEAR REAL-TIME SERVICES

FACS argues in its comments that near real-time services cannot be provided when a time-sharing technique is employed. To support those comments, FACS commissioned Autometric

⁶⁴ *Id.* at 1363-64.

⁶⁵ *Id.* at 1359.

⁶⁶ It should be noted that little harm would be caused to Orbcomm if it were declared ineligible to participate in the second processing round. Based on its comments, it is difficult to identify any investment Orbcomm made because of its ability or lack thereof to be considered in the second NVNG MSS processing round. In fact, Orbcomm understood very clearly that its modification request may not be granted. Given this fact, it would have been foolish for Orbcomm to make any expenditures on the presumption that its application would be granted. The only resources that Orbcomm has used are the costs associated with preparing and prosecuting its application in this proceeding. As the Commission is aware, Orbcomm submitted its application with a \$17,220 filing fee while Leo One USA, CTA, FACS and E-SAT submitted filing fees of \$245,970.

Incorporated ("Autometric") to prepare a study ("FACS Study") analyzing the Commission's time-sharing proposal. This study concludes that a new system time-sharing with VITA will experience outages 22% of the time. Likewise, the study concludes that outages resulting from time-sharing with the NOAA and DOD METSAT systems will occur 35% of the time.⁶⁷

As Leo One USA demonstrates below, however, Autometric's study prepared for FACS did not fully evaluate all the techniques available to mitigate the outages associated with the Commission's time-sharing proposal. Specifically, the FACS Study did not consider frequency hopping when an NVNG MSS satellite overlaps the footprint of a NOAA or DOD METSAT. Using this technique, when an NVNG MSS satellite and a METSAT satellite footprint are about to overlap, the NVNG MSS satellite can immediately switch to a new frequency channel that is not being used by the overlapping METSAT satellite. This is possible because each METSAT satellite operates on a single separate set of frequencies to avoid interference between METSAT satellites in the same system. For instance, the NOAA METSAT M uses different channels than NOAA METSAT N.⁶⁸ When this frequency hopping technique is employed, the percentage of time an NVNG MSS system is available when time-sharing with a METSAT dramatically increases.

This frequency hopping technique was outlined in detail in Appendices E and F of Leo One USA's initial comments in this proceeding. Leo One USA has reviewed the FACS Study on time

⁶⁷ It should be noted that FACS' conclusions about outages are not supported by the Commission's analysis in the Notice. Specifically, FACS indicates system availability of 78% when time-sharing with the VITA system (Comments of FACS at Att. A), whereas the Notice concludes availability will be 96% (Notice at para. 47). Similarly, FACS concludes availability of 65% when sharing with NOAA and DOD METSAT, while the Commission determined the new system could use the NOAA bands or the DOD bands 84.5% of the time.

⁶⁸ The NOAA M is the AM satellite and the NOAA N is the PM satellite. These two satellites operate on different channels.

sharing with the NOAA satellites in the 137 - 138 MHz band and determined that a more complete analysis incorporating frequency hopping would illustrate the viability of the Commission's proposal.⁶⁹ Leo One USA has conducted its own analysis and recently retained Autometric⁷⁰ to engage in additional analysis of the Commission's band sharing proposal which would incorporate frequency hopping into their earlier study which was conducted for FACS.⁷¹ Both the Leo One USA study and the new Autometric study, which appear at Appendices C and D respectively to these reply comments, conclude that with the incorporation of frequency hopping techniques when sharing with the NOAA METSATs in the 137 - 138 MHz band, availability increases to nearly one hundred percent. Therefore, the Commission's proposal for licensing new competitors on the basis of time sharing with the NOAA METSAT is a viable means for introducing new near real-time competition to the NVNG MSS marketplace. The same analysis applies to time-sharing between an NVNG MSS system and the DMSP METSAT. However, because there are only two DMSP METSAT channels, it is necessary to pair this spectrum with the VITA downlink spectrum to insure that near real-time service can be provided to the public.

Leo One USA supports the comments that conclude the public interest will best be served by the licensing of new NVNG MSS systems capable of offering near real-time services. Leo One USA has demonstrated in its original Comments and these Reply Comments that near real-time

⁶⁹ See *infra* Appendix C for Leo One USA's analysis of this issue and Appendix D for the new Autometric analysis.

⁷⁰ Leo One USA agrees with FACS that Autometric has substantial capabilities in evaluating satellite orbit dynamics.

⁷¹ The FACS Autometric analysis used the FACS constellation, referred to as TYPSAT, for examination of the sharing environment with NOAA. In order to provide a direct comparison with this earlier study, Leo One USA instructed Autometric to apply the frequency hopping technique to the FACS system, thereby establishing the actual level of improvement from frequency hopping.

services can be achieved when time-sharing in either the VITA and DMSP paired spectrum or the NOAA spectrum and has proposed a specific channel plan that optimizes the use of the available spectrum. This approach will allow the Commission to meet its public policy objective for this proceeding of enhancing competition, lowering prices and increasing service options for customers.⁷²

IV. THE COMMISSION SHOULD USE THRESHOLD FINANCIAL QUALIFICATIONS AND ELIGIBILITY STANDARDS BEFORE PROCEEDING TO AN AUCTION

Many of the commenters concentrate on the problems associated with auctions for global satellite systems such as the NVNG MSS.⁷³ A number of commenters note that the use of competitive bidding does not relieve the Commission of the "obligation in the public interest to continue to use engineering solutions, negotiations, threshold qualifications, service regulations, and other means in order to avoid mutual exclusivity in application and licensing proceedings."⁷⁴ Leo One USA agrees that auctions should be avoided if there is any practical means to do so. As outlined below, the use of strict eligibility and financial qualifications may eliminate mutual exclusivity and allow this proceeding to be resolved.

A. The Commission Should Immediately Dismiss the Pending Applications of all Existing Licensees and Applicants Affiliated With Existing Licensees

As Leo One USA has demonstrated in this proceeding, the public interest will not be served if the existing licensees are allowed to participate in the present processing round. The grant of the Orbcomm, GE Starsys and VITA applications would preclude the licensing of new NVNG MSS

⁷² See Notice at para. 2.

⁷³ See, e.g., Comments of Satellite Industry Association.

⁷⁴ Comments of L/Q Licensee at 10 (citing 47 U.S.C. §309(j)(6)(E)), see also, e.g., Comments of FACS at 36; Comments of Iridium LLC at 10; Comments of E-SAT at 3.

systems capable of providing near real-time service on a global basis. The competitive analyses of the commenting parties provide sufficient evidence that the Commission should immediately dismiss the applications of Orbcomm, GE Starsys and VITA. Additionally, none of the commenters has provided any reason why the attribution rules should not be adopted as proposed. Consequently, the Commission should also dismiss the application of GE American Communications, Inc. ("GE Americom").⁷⁵ Finally, the application of FACS should be dismissed as a result of its parent's affiliation with VITA.⁷⁶ Leo One USA agrees with CTA that "[t]he FAI/VITA joint operating agreement clearly meets the Commission's standards for affiliation."⁷⁷ This is because (i) VITA cannot claim "unfettered" use of its satellite and (ii) VITA does not have day-to-day control over satellite operations. More importantly, all the financial obligations for construction, launch and operation of the satellite are the responsibility of FACS. This arrangement forces the Commission

⁷⁵ In its comments, GE Starsys indicates that it will seek dismissal of the pending application of GE Americom.

⁷⁶ FACS' parent, Final Analysis Inc. ("FAI"), has entered into a joint operating agreement with VITA.

⁷⁷ Comments of CTA at 5.

to conclude that FACS is affiliated with VITA.⁷⁸ If these applicants are eliminated, it may be possible to resolve this proceeding without resorting to auction.⁷⁹

B. The Commission Should Require Pending NVNG MSS Applicants to Demonstrate the Financial Qualifications to Construct, Launch and Operate for One Year the Entire Proposed Satellite System

In the Notice, the Commission proposes to require pending applicants to demonstrate their financial qualifications to construct, launch and operate for one year their entire proposed satellite system. It bases this proposal on the view that "in cases where there are more applicants than the spectrum can accommodate, a grant to an under-financed space station applicant may preclude a capitalized applicant from implementing its system, and delay service to the public."⁸⁰ This is precisely the case here. There are three pending applications to implement large near real-time systems and one application seeking to implement a small six satellite system.⁸¹ All of these requirements cannot be met in the currently allocated spectrum. FACS argues that strict financial

⁷⁸ The problems with the VITA/FAI arrangement are amply demonstrated when analyzing the sharing arrangements in this proceeding. The Commission proposes that a new licensee time-share with VITA. As VITA notes in its comments, it presently has pending a first-round application for a second satellite. Based on the FAI/VITA agreement, FAI will have rights to 50% of the effective capacity of both VITA satellites. This would result in VITA being able to use the effective capacity of one satellite and FAI being able to use the capacity of a second satellite. This arrangement presents a serious conflict of interest. As FACS points out in its comments, the introduction of VITA's second satellite, ostensibly to support the capacity required for FACS' provision of commercial services via a first round licensee, would diminish the ability of a new NVNG MSS applicant to time-share with VITA. Comments of FACS at Exh. 2, p. 5. It would be in the interest of FACS to frustrate the operations and plans of a competitor seeking to use these bands.

⁷⁹ If E-SAT is financially qualified and operates in TDMA mode sharing with GE Starsys, mutual exclusivity can be eliminated and auction avoided.

⁸⁰ Notice at para. 39.

⁸¹ If the Commission cannot resolve mutual exclusivity through the application of its eligibility and attribution role, there can be little doubt that all proposed systems cannot be accommodated in the existing band.

qualifications are inappropriate because full systems cannot be licensed.⁸² It is important to note, however, that FACS' own, independent technical experts, Autometric, have concluded in a study prepared for Leo One USA that it is feasible to operate the proposed FACS system as filed at the FCC, in the 137 - 138 MHz band downlink, on a shared basis with NOAA satellites and still achieve the FACS' system's full capabilities.⁸³

FACS also believes that strict financial standards are inappropriate for the NVNG MSS because early revenues can be used to pay for final system implementation. CTA argues that it would be unfair to require second round applicants to meet the strict Domsat financial standard after the first round licensees were required to meet a much lesser standard.⁸⁴ GE Starsys and Orbcomm believe that the Commission should use the strict Domsat financial qualification standard but apply it prospectively to prevent what they argue would be retroactive rulemaking.⁸⁵ As discussed below, strict financial qualification is the only suitable standard for the NVNG MSS.

1. Mutual Exclusivity Currently Exists

In the past, the Commission has granted waivers or applied more liberal financial qualification standards *only* when mutual exclusivity did not exist. The Commission has consistently reasoned that it would not be in the public interest to permit "an applicant without available resources to attempt to arrange or complete financing after grant [if it] will prevent

⁸² Comments of FACS at 42-43.

⁸³ *See infra* App. B and D.

⁸⁴ Comments of CTA at 15-17.

⁸⁵ Comments of GE Starsys at 26-27; Comments of Orbcomm at 34.

currently qualified applicants from promptly constructing proposed systems."⁸⁶ There is agreement in the comments that the CTA, E-SAT, FACS and Leo One USA systems as proposed cannot all be accommodated in the existing bands. No one has proposed any band plan that can accommodate three large systems and E-SAT's CDMA system. Even in the case of E-SAT, it is impossible to state there is an absence of mutual exclusivity. E-SAT's coordination with the existing licensees could impact the coordination of the other second round systems with those licensees, preventing grant of all the applications. Specifically, there are not enough available downlink channels to enable the provision of three systems capable of providing near real-time services. In this situation, the FCC's failure to impose strict financial qualification standards would be an abrupt departure from existing precedent and would permit underfinanced entities to preclude implementation of well financed systems, thus preventing the implementation of a new, near real-time system. As Leo One USA has demonstrated repeatedly, this would not serve the public interest.

2. Section 309(j) of the Communications Act Encourages the Commission to Use Threshold Qualifications

A number of the commenters cite section 309(j)(6)(E) of the Communications Act of 1934, as amended,⁸⁷ as imposing an obligation on the Commission to seek technical solutions to resolve mutual exclusivity. However, these commenters conveniently omit the reference to *threshold qualifications* contained in the very same section. The legislative history surrounding this provision states that:

⁸⁶ *Licensing Space Stations in the Domestic Fixed-Satellite Service*, CC Docket No. 85-135, *Report and Order*, slip op. at 7-8 (released Aug. 29, 1985) ("1985 Domsat Order").

⁸⁷ 47 U.S.C. §§151 *et. seq.*

The licensing process, like the allocation process, should not be influenced by the expectation of federal revenues and the Committee encourages the Commission to avoid mutually exclusive situations, as it is in the public interest to do so. The ongoing MSS (or "Big LEO") proceeding is a case in point. The FCC has and currently uses certain tools to avoid mutually exclusive licensing situations, such as spectrum sharing arrangements and the *creation of specific threshold qualifications*, including service criteria. These tools should continue to be used when feasible and appropriate.⁸⁸

Thus, the Act requires the Commission to consider threshold qualifications as a tool to avoid mutual exclusivity. In the Big LEO proceeding, the Commission used threshold qualifications, requiring all Big LEO applicants to demonstrate the financial qualifications to construct, launch and operate the *entire* satellite system.⁸⁹ The Commission imposed this requirement as a means to eliminate mutual exclusivity in accordance with the directions from Congress. The Commission itself stated that it interprets Section 309(j)(6)(E) "to mean that the Commission is obliged to attempt to eliminate mutual exclusivity."⁹⁰ As in the Big LEO proceeding, the Commission is obliged by Congress to use the strict Domsat financial qualifications standard to avoid mutual exclusivity for the NVNG MSS.

3. Liberal Financial Qualification Standards do not Work

A review of the Commission's experience with liberal financial qualification standards demonstrates that they do not work. As the Commission noted in the Big LEO proceeding,

⁸⁸ H.R. Rep. No. 111, 103 Cong. 1st Sess. (1993), *reprinted in* 1993 U.S.C.C.A.N. 572, 585-586 (emphasis added).

⁸⁹ *Amendment of the Commission's Rules to Establish Rules and Policies Pertaining to a Mobile Satellite Service in the 1610 - 1626.5/2483.5 - 2500 MHz Frequency Bands*, 9 FCC Rcd 5936 (1994) ("Big LEO Licensing Order").

⁹⁰ *Id.* at 5966.

"licensees without sufficient available resources spend a significant amount of time attempting to raise the necessary financing and that those attempts often end unsuccessfully."⁹¹ The Commission has experienced numerous examples of this situation during the past fifteen years involving companies such as Advanced Business Communications, Inc.;⁹² United States Satellite Systems, Inc.;⁹³ Rainbow Satellite, Inc.;⁹⁴ Geostar Corporation;⁹⁵ National Exchange Satellite, Inc.;⁹⁶ and Norris Satellite Inc.⁹⁷ All of these companies received FCC licenses but failed to arrange the necessary financing. There is nothing unique to the NVNG MSS that provides the Commission with any basis to conclude that liberal financial qualifications would work here.

4. Applicants Should be Required to Demonstrate Qualifications for Their Licensed System Only

FACS argues that the Commission should allow applicants to use the existing NVNG MSS financial qualification standard since the Commission cannot now license large systems capable of providing near real-time services.⁹⁸ Furthermore, it believes that although NVNG MSS operators

⁹¹ *Id.* at 5948.

⁹² *Advanced Business Communications, Inc.*, FCC 85-87 (released Feb. 27, 1985).

⁹³ *United States Satellite Systems, Inc.*, Mimeo No. 2584 (Com. Car. Bur. released Feb. 24, 1985).

⁹⁴ *Rainbow Satellite, Inc.*, Mimeo No. 2583 (Com Car. Bur. released Feb. 14, 1985).

⁹⁵ *In re Applications of Geostar Corporation for Authority to Construct, Launch and Operate Space Stations in the Radiodetermination Satellite Service*, 1986 WL 290766 (Com. Car. Bur. released Aug. 7, 1986) (authorizing Geostar to construct and launch space stations in the Radiodetermination satellite service). *See* Big LEO Licensing Order, 9 FCC Rcd at 5948, n. 35 (noting that Geostar declared bankruptcy five years after its licenses were issued and had not built any of its satellites).

⁹⁶ *National Exchange Satellite, Inc.*, 7 FCC Rcd 1990 (Com. Car. Bur. 1992).

⁹⁷ *Norris Satellite Communications, Inc.*, 7 FCC Rcd 4289 (1992) (granting Ka band system license); *Norris Satellite Communications, Inc.*, 11 FCC Rcd 5402 (1996) (declaring license null and void).

⁹⁸ Comments of FACS at 42.

should be provided the opportunity to implement systems in phases, the applicants should be allowed to demonstrate financial qualifications for all phases now using the existing NVNG MSS financial qualification rules. Leo One USA believes the Commission should require each applicant to demonstrate financial qualifications for the entire system that the applicant seeks to implement. If the applicant does not have the financial resources to implement a large, near real-time system, it could choose to implement a significantly smaller system which would not have the same spectrum requirements as larger near real-time systems.⁹⁹

5. First Round Licensees will not have Any Appreciable Advantage Because they were Able to Demonstrate Financial Qualifications with Only Two Satellites

CTA argues that imposing a more stringent financial qualification standard on second round licensees "would hobble competition,"¹⁰⁰ but its reasoning is unclear. The demonstration of financial qualifications merely requires the applicant to demonstrate it has access to the resources to construct, launch and operate for one-year the proposed satellite system. This requirement would not affect the relevant competitive standing of first round licensees vis-a-vis second round licensees. In fact, the Commission in the past has instituted more stringent financial qualifications, even though applicants in previous processing rounds received their licenses pursuant to a less stringent standard.¹⁰¹ This was done without any appreciable impact on the market, and there is no evidence here that the result would be different.

⁹⁹ Near real-time systems require significantly more channels than non real-time systems so that there is not self-interference from the overlapping beams that are necessary to ensure the provision of near real-time service.

¹⁰⁰ Comments of CTA at 16.

¹⁰¹ *See, e.g.*, 1985 Domsat Order.

6. A New Financial Qualification Standard would not be Retroactive Rulemaking

Orbcomm and GE Starsys argue that the imposition of a new financial qualification standard would be retroactive rulemaking for the same reasons that elimination of first round licenses would be retroactive rulemaking.¹⁰² That argument was not valid when applied to licensee eligibility and is equally inapplicable to a new financial qualification standard.

V. New NVNG MSS Systems Can Share with Orbcomm in the 148 - 149.9 MHz Band and with GE Starsys in the 137 - 138 MHz Band.

The Commission, in the Notice, proposes that new NVNG MSS systems share the 148.81 - 149.9 MHz band with Orbcomm and the 137 - 138 MHz band with Starsys. Orbcomm contends in its comments that there would be significant problems raised if new NVNG MSS systems were allowed to share with Orbcomm the 148.81 - 149.9 MHz band.¹⁰³ Likewise, GE Starsys argues that the introduction of additional systems in the 137 - 138 MHz band will affect its operations. A close review of the previous statements of these licensees as well as a technical analysis of the possible sharing arrangements reveals that the arguments of Orbcomm and GE Starsys are merely self-serving and designed to limit competitive opportunities.

A. Sharing with Orbcomm in the 148 - 149.9 MHz Band.

In the past, Orbcomm has repeatedly indicated that it could share this band with other FDMA/TDMA systems in the 148 - 149.9 MHz band.¹⁰⁴ However, Orbcomm, in its comments,

¹⁰² See *supra* part II(D) at 18.

¹⁰³ Comments of Orbcomm at 41-42.

¹⁰⁴ The Report of the Negotiated Rulemaking Committee concludes that "DCAS FDMA spectrum should be able to accommodate additional applicants." Below 1 GHz Report at 8 (Sept. 16, 1992) ("Below (continued...)

states that it does not believe a new system could effectively share the 148.81 - 149.9 MHz band.¹⁰⁵ It contends that a new system may not be able to find a sufficient number of unoccupied channels for reliable interference-free subscriber uplinks in the upper half of the 148 - 149.9 MHz band. In support of this argument, Orbcomm provides some limited information on band activity in charts attached to its comments. Specifically, it monitored channel activity on six different occasions for periods ranging from 10 to 12 minutes. Even though these charts do not present statistically significant information, contrary to Orbcomm's conclusion, they seem to demonstrate that sharing is feasible. This is because Orbcomm failed to take into consideration several factors. First, the charts specify the number of available channels in the entire 148 - 149.9 MHz band, not just the 148.905 - 149.9 MHz segment. Changes that occur in the 148 - 148.905 MHz segment are irrelevant to sharing in the 148.905 - 149.9 MHz segment. Second, the charts show that the number of unoccupied channels ranges from 80 to 500 over a three-hour period on a given day. This corresponds to from 200 to 1,250 kHz of available spectrum. In terms of Orbcomm's 10 kHz uplink channels, this translates into 20 to 125 available channels. The average values, over the six charts, are 650 kHz of available spectrum equivalent to 65 10 kHz uplink channels. Third, the data points in the charts appear every 15 seconds. Leo One USA plans to completely scan the band every 0.5 seconds, 30 times more often than Orbcomm's data in its charts. The higher rate scanning will facilitate the identification of additional clear channels. Fourth, during the 10 to 12 minute duration represented by each chart, each Orbcomm satellite moved one-tenth of the way around the globe.

¹⁰⁴ (...continued)
1 GHz Report"). See letter from Albert Halprin to Ms. Charyl Tritt, Chief Common Carrier Bureau, of 9/22/92; Supplemental Comments of Orbcomm at 6, CC Docket 92-76 (filed June 18, 1993).

¹⁰⁵ Comments of Orbcomm at 41-42.

This changes the population of land mobile users being observed, increasing the likelihood that clear channels can be identified. Finally, the satellite footprints of the systems sharing the band will not be coincident. Thus, they will see different populations of land mobile users. This is extremely significant in that the systems will have different pools of unoccupied channels available, which will further minimize the potential for inter-system interference. These factors all illustrate that a significant number of channels will be available to Orbcomm and other licensed users of the 148.81 - 149.9 MHz band.

Furthermore, the 148.81 - 149.9 MHz band is the only uplink spectrum that can serve on a world-wide basis all three service categories: aeronautical, maritime and terrestrial. Restricting new NVNG MSS systems from operating in this spectrum would severely limit these systems' ability to compete with Orbcomm and Starsys. As Leo One USA proposed in Appendix F to its comments, all FDMA/TDMA users should be provided access to the 148.81 - 149.9 and the uplink spectrum allocated at WRC-95 (399.9 - 400.05 MHz, 455 - 456 MHz and 459 - 460 MHz band). Leo One USA believes that the inclusion of WRC-95 uplink spectrum will enhance sharing for those parties operating in the 148 - 149.9 MHz band (e.g. Orbcomm, Little LEO System A and Little LEO System B). While the WRC-95 spectrum is either limited by Region (455 - 456 MHz and 459 - 460 MHz are only allocated in Region 2) or service category (399.9 - 400.05 MHz is not allocated for aeronautical or maritime service), the incorporation of this spectrum into the channel plans of TDMA/FDMA users will enhance sharing by all TDMA/FDMA operators. Adopting this approach will allow systems to maximize the use of the 148.81 - 149.9 band for those services that require