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Before the
Federal Communications Commission
Washington, DC 20554

In the Matter of

Flexibility for Delivery Of Communications by Mobile-Satellite Service Providers In the 2 GHz Band, the L-Band, and the 1.6/2.4 GHz Band	)	IB Docket No. 01-185
Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service	)	ET Docket No. 95-18

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To: The Commission

COMMENTS OF
THE UNOFFICIAL BONDHOLDERS COMMITTEE
OF GLOBALSTAR, L.P.

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COMMENTS OF THE UNOFFICIAL BONDHOLDERS COMMITTEE OF GLOBALSTAR, L.P.

EXECUTIVE SUMMARY

As more fully set forth herein, the Unofficial Bondholders Committee ("Bondholders") of Globalstar, L.P. ("Globalstar"), strongly urges the Federal Communications Commission ("Commission") to grant Mobile-Satellite Service ("MSS") licensees authority to operate ancillary terrestrial components ("ATC") integrated with their MSS satellite systems. The FCC and the MSS industry have spent substantial resources over the past decade creating the Big LEO and 2 GHz MSS spectrum allocations. The Bondholders invested $1.45 billion of the $4.5 billion spent by Globalstar to develop its currently operating 48-satellite Big LEO MSS system.[1]

The MSS Industry Provides Substantial Public Interest Benefits to the American Public

As recognized by the Commission when it allocated spectrum to MSS, the MSS industry possesses unique potential to benefit the American public. Unlike the terrestrial wireless industry, MSS is capable of providing ubiquitous mobile services to all parts of the United States and most of the rest of the world. This functionality makes MSS providers, such as Globalstar, ideally suited to provide mobile voice and data services to a variety of entities. First, Globalstar can provide mobile communications to the numerous rural Americans that are unserved or underserved by terrestrial wireless networks. Satellite phones allow these individuals to enjoy the same personal security as mobile phone subscribers in less rural areas. Second, Globalstar supports the telecommunications needs of industries that require always-available mobile communications or that operate in remote locations, such as the aeronautical, construction, maritime, transportation, oil exploration, and utility industries. Third, local, state, and federal

[1] Globalstar also holds a 2 GHz MSS license.

government personnel, including especially law enforcement, emergency management and rescue personnel and border patrols, require the ubiquitous and robust communications offered by MSS providers, such as Globalstar. The value of Globalstar's satellite phones was clearly demonstrated during the rescue efforts following the September 11 terrorist attacks, when terrestrial wireless and wireline systems were either destroyed or overburdened.

In addition, MSS providers support the telecommunications and aerospace industries and further the United States' leadership in these fields. The MSS industry is responsible for billions of dollars of spending on telecommunications technologies, hardware development, and aerospace infrastructure. Moreover, in addition to these domestic benefits, Globalstar provides remote areas of underdeveloped countries their first access to telecommunications.

Commission Grant of ATC Authority Will Reinvigorate the MSS Industry

MSS reception indoors and in urban areas tends to be poor. The Bondholders believe that this factor has limited Globalstar's subscribership, and, in combination with the recent sharp economic downturn, has artificially decreased Globalstar revenues. ATC authority will enable Globalstar to overcome these reception problems and will place Globalstar on sound financial footing. Without ATC authority, it is unlikely that Globalstar will be able to raise sufficient capital to launch its second generation satellite constellation. If this proves to be the case, the American public would lose all of the public interest benefits offered by Globalstar.

By contrast, grant of ATC authority will jump start a self-reinforcing spiral of decreasing prices and increasing subscribership that will ensure Globalstar's long-term financial soundness. By resolving Globalstar's urban and indoor reception problem, ATC authority will increase Globalstar's subscribership. As a result, Globalstar will be able to decrease its equipment and per-minute prices both due to economies of scale and because Globalstar will be able to spread

its sunk costs over its broader subscriber base. This will, in turn, further increase Globalstar's subscribership, which will enable Globalstar to further decrease its prices. These price reductions will enable some rural families to obtain mobile service for the first time.

Also, the increased subscribership and revenues that ATC authority will cause, will enable Globalstar to raise additional capital. This influx of capital will enable Globalstar to develop new, industry-specific hardware and to upgrade its Big LEO system. Globalstar's bent-pipe satellite technology allows Globalstar to adopt new technologies from the ground. In addition, Globalstar can use this new capital to defray equipment costs to further lower prices and thereby increase subscribership.

The Commission Should Grant Globalstar Maximum Operational Flexibility

The Commission has established a policy of providing licensees with the maximum possible operational flexibility in order to enable the licensees to best serve their markets and most efficiently use their assigned spectrum. Grant of ATC authority provides additional operational flexibility to MSS licensees and is consistent with, and mandated by, FCC policy and precedent. ATC authority will enable Globalstar to more efficiently use its spectrum assignments by constructing urban terrestrial networks to reuse spectrum nationwide in the areas that will generate the most traffic as Globalstar's subscribership expands. In addition, Globalstar may be able to dynamically share spectrum between its ATC and MSS networks to obtain further spectrum-use efficiencies.

Moreover, grant of ATC is a "win-win" proposition. The Commission only should authorize MSS licensees to operate ATC networks once the licensees have constructed and launched MSS satellite systems and have satisfied the applicable coverage requirements. By taking such action, the Commission can guarantee that ATC networks increase total ATC/MSS

network coverage while remaining ancillary to MSS satellite systems. Further, if the Commission adopts appropriate interference protection regulations, ATC authority will not prejudice the ability of any in-band or adjacent-band licensees to utilize their spectrum.

The Commission Should Not Grant ATC Authority to Non-MSS Licensees

The Commission's proposal to grant ATC licenses to non-MSS licensees should not be adopted because it would undermine the entire premise of the Commission's MSS ATC proceeding. The Commission made clear that it intends to facilitate the use of MSS spectrum by MSS licensees. Grant of ATC authority to independent entities will not provide any benefits to MSS licensees and could prejudice their use of their spectrum assignments.

It is unlikely that an ATC licensee and an MSS licensee will be able to sufficiently coordinate their facilities and operations to share spectrum. Instead, any spectrum used by the ATC licensee is likely to be unavailable to the MSS licensee. A grant of ATC authority to non-MSS licensees, therefore, effectively is a reassignment of MSS spectrum without the benefit of incumbent relocation. In addition, Globalstar's experience operating dual-band cellular/satellite phones has demonstrated the administrative difficulties of attempting to provide terrestrial service to satellite subscribers using a terrestrial network operated by an independent license. Also, because Globalstar would not enjoy the benefits of ATC authority if the Commission assigns ATC authority to independent entities, the Bondholders believe that it is unlikely that Globalstar would be able to raise additional capital under such circumstances. Finally, recent Commission precedent supports providing incumbent licensees with additional operating authority to satisfy consumer needs, rather than reallocating and auctioning the spectrum to new licensees to do so.

For the reasons stated herein, MSS licensees should be granted ATC authority.

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COMMENTS OF
THE UNOFFICIAL BONDHOLDERS COMMITTEE
OF GLOBALSTAR, L.P.

I. INTRODUCTION

The Unofficial Bondholders Committee ("Bondholders") of Globalstar, L.P. ("Globalstar"), by their attorneys and pursuant to Section 1.415 of the rules of the Federal Communications Commission ("Commission"),[2] hereby submits these Comments in response to the Commission's Notice of Proposed Rulemaking ("NPRM") in the above-captioned proceeding.[3] In its NPRM, the Commission proposes to authorize certain Mobile-Satellite Service ("MSS") licensees to operate ancillary terrestrial components ("ATC") to their MSS satellite networks.

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[2] 47 C.F.R. § 1.415

[3] Flexibility for Delivery of Communications by Mobile Satellite Service Providers in the 2 GHz Band, the L-Band, and the 1.6/2.4 GHz Band, Notice of Proposed Rulemaking, IB Docket No. 01-185, ET Docket No. 95-18, FCC 01-225 (rel. Aug. 17, 2001) ("NPRM").

Globalstar constructed, launched, and operates a 48-satellite nongeostationary constellation that provides MSS in the 1.6/2.4 GHz band (the "Big LEO System") throughout the world.[4] Globalstar's Big LEO System is one of only two MSS systems that currently are operating in the Big LEO Band.[5] In addition to its Big LEO System, the Commission recently issued Globalstar a license to launch and operate an MSS satellite system in the 2 GHz Band.[6] The Bondholders have invested approximately $1.45 billion in Globalstar and thus have a substantial interest in the outcome of this proceeding.

The Bondholders urge the Commission to authorize MSS licensees to operate ATC networks in conjunction with their MSS satellite networks and using their existing MSS spectrum assignments. The Bondholders strongly believe in the promise of the MSS industry to provide ubiquitous mobile telecommunications capabilities to the American public, which telecommunications capabilities will not be, and cannot be, provided by any other segment of the telecommunications industry. ATC authority will provide MSS licensees, such as Globalstar, with the financial and operational flexibility necessary to ensure that the American public continues to receive the substantial public interest benefits provided by MSS.

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[4] The license for the Big LEO System is held by L/Q Licensee, Inc., which indirectly ultimately is owned by Loral Space & Communications, Ltd. and QUALCOMM Incorporated, both of which are investors in Globalstar. See Loral/Qualcomm Partnership, L.P. For Authority to Construct, Launch, and Operate Globalstar, a Low Earth Orbit Satellite System to Provide Mobile Satellite Services in the 1610-1626.5 MHz/2483.5-2500 MHz Bands, Order and Authorization, 10 FCC Rcd 2333 (1995) ("Globalstar Big LEO Authorization").

[5] Iridium Satellite, LLC ("Iridium") also operates a Big LEO MSS satellite system. Iridium has applied to transfer its space station license to a new controlling party and the proceeding is pending before the Commission. Motorola Satellite Communications, Inc., Order and Authorization, 10 FCC Rcd 2268 (1995). No other Big LEO licensee yet has launched an MSS system.

[6] Application of Globalstar, L.P. For Authority to Launch and Operate a Mobile-Satellite Service System in the 2 GHz Band, Order and Authorization, DA 01-1634 (rel. July 17, 2001).

II. THE DEVELOPMENT OF A THRIVING U.S. MSS INDUSTRY IS IN THE PUBLIC INTEREST

Globalstar currently provides many of the benefits to the American public that the Commission contemplated when it first allocated the Big LEO and 2 GHz bands and the investment community began investing billions of dollars in the MSS industry. Unfortunately, Globalstar currently provides service to a relatively small number of subscribers compared to its ultimate potential. This greatly reduces the public interest benefits that are provided to the American public by Globalstar. The Bondholders believe that the Commission dramatically could expand the public interest benefits provided by Globalstar and simultaneously strengthen the entire MSS industry by granting ATC authority to MSS licensees. Such a grant would expand MSS subscribership, thereby enabling more Americans to benefit from MSS. Further, ATC authority will attract additional capital to the MSS industry. This will enable Globalstar and other currently operating MSS providers to introduce new and innovative services utilizing nascent technologies, and will enable new service providers to launch their satellite networks.

A. The Public Interest Benefits That Were Anticipated From the Development of a Commercial MSS Industry Remain Readily Achievable and Will Be Accomplished by Globalstar and Other MSS Providers

1. The Bondholders agree with the Commission that MSS providers have the potential to provide substantial public interest benefits to the American public

Over the past decade, the Commission devoted many thousands of hours to establishing the Big LEO and 2 GHz MSS allocations domestically and internationally based on the premise that the services provided by licensees operating in these allocations will serve the public interest.[7] Many years ago, the Commission boldly articulated the public interest benefits that it

[7] In 1992, in response, in part, to applications filed in 1990 by Ellipsat Corporation ("Ellipsat") and Motorola Satellite Communications, Inc. ("Motorola") seeking MSS space station licenses in the 1.6/2.4 GHz band, the Commission initiated a negotiated rulemaking to examine whether to allocate a portion of the band for MSS. The rules recommended by the negotiated rulemaking

anticipated would be provided eventually by the Big LEO licensees. The following excerpt from the Commission's 1994 order creating the Big LEO service is a prescient and accurate description of the capabilities possessed today by Globalstar's Big LEO System.

> [T]he Big LEO service can offer an almost limitless number of services, including ubiquitous voice and data mobile services, position location services, search and rescue communications, disaster management communications, environmental monitoring, paging services, facsimile transmission services, cargo tracking, and industrial monitoring and control. Domestically, this service will help meet the demand for a seamless, nationwide and eventually global communications system that is available to all [and] that can offer a wide range of voice and data telecommunications services. In addition to enhancing the competitive market for mobile telecommunications services in areas served by terrestrial mobile services, this new mobile satellite service will offer Americans in rural areas that are not otherwise linked to the communications infrastructure immediate access to a feature-rich communications network. Moreover, Big LEO systems can extend these benefits throughout the world, and can provide those

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committee formed the basis for a formal notice of proposed rulemaking released by the Commission in 1994, which proposed the existing Big LEO MSS allocation in the 1.6/2.4 GHz band. The Commission released a report and order establishing service rules for the allocation later that year and issued the first Big LEO MSS licenses in 1995. See 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, Report and Order, 9 FCC Rcd 5936 (1994) ("Big LEO Order").

The 2 GHz MSS allocation initially was proposed by the Commission in a 1995 notice of proposed rulemaking released in response to petitions for rulemaking filed by Celsat, Inc., TRW, Inc. and Personal Communications Satellite Corporation in 1992, 1993, and 1994, respectively. In 1997, the Commission established a cut-off date for the filing of 2 GHz MSS applications. Following a series of additional orders and further notices of proposed rulemaking, in 2000, the Commission issued orders promulgating service rules and a spectrum assignment mechanism for the 2 GHz MSS allocation, and promulgating incumbent licensee relocation rules. The Commission issued 2 GHz MSS licenses in July of this year. See Amendment of Section 2.106 of the Commission's Rules to Allocate Spectrum at 2 GHz for Use by the Mobile-Satellite Service, Notice of Proposed Rulemaking, 10 FCC Rcd 3230 (1995) (proposing a 2 GHz MSS allocation) ("2 GHz NPRM"), Second Report and Order and Second Memorandum Opinion and Order, 15 FCC Rcd 12315 (2000) (promulgating 2 GHz band reallocation rules) ("2 GHz Relocation Order"); Establishment of Policies and Service Rules for the Mobile Satellite Service in the 2 GHz Band, Report and Order, 15 FCC Rcd 16127 (promulgating 2 GHz service rules and establishing a spectrum assignment mechanism) ("2 GHz Order").

In addition to the many thousands of hours devoted by the Commission to the domestic Big LEO and 2 GHz MSS proceedings described above, the Commission also spent substantial resources representing the United States' interests in the numerous World Administrative Radio Conferences held over the past ten years to establish the international 1.6/2.4 GHz and 2 GHz MSS allocations.

> countries that have not been able to develop a nationwide communications service an "instant" global and national telecommunication infrastructure. This network can be used to provide both basic and emergency communications to their entire populations. Big LEO systems may prove to be a critical component in the development of the global information highway.[8]

Further, the Commission described similar public interest benefits that it anticipated would result from the licensing of 2 GHz MSS systems.

> These satellite systems will provide new and expanded regional and global data, voice, and messaging services using the 2 GHz frequency band . . . . The 2 GHz MSS systems also will enhance competition in mobile satellite and terrestrial communications services, and complement wireless service offerings through expanded geographic coverage. 2 GHz MSS systems will thereby promote development of regional and global communications to unserved communities in the United States, its territories and possessions, including rural and Native American areas, as well as worldwide.[9]

The Bondholders share the Commission's belief in the public interest benefits that can be provided by MSS providers. They believe that Globalstar's Big LEO System provides many of these advantages now and will be able to greatly expand the public interest benefits that it offers to the American people as Globalstar's subscribership increases and the capital markets resume funding MSS ventures. Consistent with this belief, the Bondholders have spent approximately $1.45 billion dollars to fund the construction of Globalstar's satellite system, which cost, in total, approximately $4.5 billion to construct, launch and operate.

2. <u>ATC Authority Will Enable Globalstar to Realize Fully its Potential to Provide Public Interest Benefits to the American Public</u>

The value to the public of the services currently provided by MSS providers such as Globalstar, and the potential for these providers and other new MSS licensees to offer new and customized services, has not yet been fully realized. Nevertheless, the remarkable potential of

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[8] Big LEO Order, ¶ 2.

MSS is unchanged. MSS's potential has not decreased since the Commission initially allocated and assigned the Big LEO and 2 GHz spectrum. The Bondholders are confident that, with additional funding and, more importantly, the time that this funding will buy, Globalstar will realize fully the MSS public interest benefits imagined by the Commission. Given the downturn in the United States economy and the telecommunications sector in particular, it has become increasingly difficult to fully fund the substantial capital outlay necessary to launch and operate a global satellite system. By authorizing Globalstar to operate ATC networks using its Big LEO and MSS spectrum assignments, the Commission can ease these funding difficulties, which will improve the MSS services offered by Globalstar and enable Globalstar to increase its subscribership. The Bondholders believe that such a grant will attract additional capital to the MSS industry and assist Globalstar to develop further the market for its Big LEO services, thereby increasing subscribership.

On the other hand, if the Commission does not grant Globalstar ATC authority, the Bondholders believe that it is unlikely that the capital markets will fully fund the deployment by Globalstar of a second generation Big LEO constellation. If this is the case, the public interest benefits enjoyed by Globalstar's existing subscribers, and that will be enjoyed by the hundreds of thousands of subscribers that Globalstar anticipates serving over the next several years, may end when Globalstar's constellation reaches the end of its useful life. To avoid this result, the Commission should provide Globalstar and other MSS licensees with the maximum possible operational flexibility by authorizing ATC. Doing so will ensure that the public ultimately will receive the full panoply of MSS benefits that the Commission envisioned over a decade ago when it first established the Big LEO and 2 GHz MSS allocations.

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[9] 2 GHz Order, ¶ 1.

B. Globalstar and Other MSS Providers Currently Provide Substantial Public Interest Benefits to the American Public, Which Benefits Only Will Increase With Time

MSS providers, such as Globalstar, are able to provide ubiquitous telecommunications services. Outside of the MSS industry, no other telecommunications provider can make this claim. This capability is the primary source of the public interest benefits derived from MSS and it makes MSS providers uniquely qualified to provide telecommunications services to a variety of different entities and locations, which are more fully described below. To ensure that these entities will continue to benefit from MSS's ubiquitous coverage, the Commission should provide MSS licensees with the maximum possible flexibility in the use of their assigned MSS spectrum. The grant of ATC authority by the Commission not only will enable MSS providers to improve their existing service offerings, but such authority also will ensure the continued ubiquitous availability of MSS satellite services. If, as the Bondholders believe, the capital markets will not fund second generation MSS satellite networks in the absence of a Commission grant of ATC authority, the varieties of subscribers discussed below will lose access to the ubiquitous telecommunications provided by the MSS industry.

1. MSS providers, such as Globalstar, are rural and unserved Americans' only option for mobile services

MSS providers offer the only source of complete mobile voice and data telecommunications coverage available to rural and unserved Americans. Terrestrial wireless providers, such as cellular and PCS licensees, offer service to all urban areas and most small towns. However, the network coverage of these networks in some suburban areas and most rural areas is far from complete. Vast tracts of land are not served by any terrestrial wireless provider at all and never will be due to zoning restrictions and the prohibitive cost of running utilities to remote sites and erecting the numerous antenna towers that would be necessary to provide

comprehensive coverage.[10] Further, terrestrial wireless customers do not benefit from the aggregate coverage of all terrestrial wireless providers because customers only subscribe to a single service.[11] Thus, MSS providers offer the only mobile voice and data services available to the millions of Americans that are not served by mobile voice or data services or that only have access to mobile networks with inadequate local coverage.

2. Globalstar phones provide both subscribers and non-subscribers an invaluable communications tool during emergencies

Globalstar phones can be used by subscribers to summon emergency or public safety personnel when wireline or terrestrial wireless phones are not available or are not operable. From calling medical and rescue personnel to assisting a stranded hiker suffering from a traumatic injury, to relieving the damaged and clogged wireline and terrestrial networks during a man-made or natural catastrophe—the potential circumstances under which a Globalstar satellite

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[10] The data collected by the Commission regarding the geographic coverage of terrestrial wireless services is collected by county. Thus, if any terrestrial wireless provider serves any portion of a county, the Commission considers the entire county to be served. This fiction may be convenient for purposes of data gathering, but it masks the fact that vast expanses of land remain unserved or inadequately served by wireless providers. See In the Matter of Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993: Annual Report and Analysis of Competitive Market Conditions With Respect to Commercial Mobile Services, Sixth Report, FCC 01-192, ¶ 29 (rel. July 17, 2001) (noting that "analysis overstates the total coverage in terms of both geographic areas and populations covered"). In many rural counties, terrestrial wireless coverage is limited to towns and major thoroughfares. Much of the counties' geographic area remains unserved. Anyone that has attempted to use a terrestrial mobile phone while travelling by automobile in less densely populated areas understands how incomplete terrestrial coverage truly is.

[11] Admittedly, this problem is mitigated by roaming agreements between terrestrial wireless providers. However, even with the extensive use of roaming agreements in the terrestrial wireless industry, no terrestrial wireless customer has access to all terrestrial wireless coverage nationwide due to the multiple spectrum bands and modulation technologies used by the five national wireless providers. A review of the coverage maps for the largest terrestrial mobile providers, which can be found on their websites, demonstrates how incomplete their networks are, even taking roaming agreements into account. In addition, to benefit from roaming, terrestrial customers must purchase and carry dual-mode and tri-mode phones and often be willing to pay high roaming charges.

phone can save lives are limitless. Moreover, as Globalstar's subscriber base increases, the likelihood that a Globalstar satellite phone will be in the vicinity of an emergency will increase, even if the victim is not a subscriber. Thus, this important public interest benefit of Globalstar phones is not limited to Globalstar subscribers.

3. Globalstar phones are uniquely suited to provide telecommunications services to public safety and emergency personnel

Globalstar phones offer unparalleled functionality, flexibility, and availability to emergency, law enforcement, and public safety personnel. Local, state, and the federal governments all operate extensive and effective public safety and law enforcement infrastructures to protect all Americans during crises, both anticipated and unimaginable. These personnel can never know in advance what life-threatening situations they will face and thus can never predict what communications capabilities they will require. For this reason, they must have access to the most versatile mobile telecommunications tools available. Globalstar phones are uniquely suited for use by these personnel.

Unlike terrestrial wireless networks, Globalstar phones do not have coverage gaps in the remote areas in which rescue personnel often are required to work due to the lack of other safety infrastructure in such areas. Further, Globalstar's phones are not dependent on local telecommunications infrastructure, which may be disabled in an emergency situation. MSS is a very "survivable" technology. The only terrestrial infrastructure necessary to operate MSS systems is gateway earth stations. Compared to the thousands of cell towers needed by a terrestrial wireless system, MSS systems need very few such gateway earth stations. Globalstar uses only 26 worldwide, including only one in the contiguous United States and two in Canada.

As a result, earth stations are much easier to protect against attacks than other terrestrial communications infrastructure and are much less likely to be the victims of natural disasters.[12]

The value of satellite phones was immediately apparent on September 11, 2001. The destruction of the World Trade Center and the damage to the Pentagon either disabled (in New York City) or overwhelmed (in New York City and in the Washington metropolitan area) terrestrial wireless networks. Because satellite phones are not dependent on local terrestrial infrastructure, emergency management and rescue personnel that were outfitted with satellite phones never lost their ability to remain informed and connected. By contrast, other such personnel were forced to wait for terrestrial wireless and wireline networks to be restored to obtain necessary communications capabilities beyond local area handheld radios.[13] Both Globalstar and Iridium immediately scrambled to route as many satellite phones as possible to Manhattan and Northern Virginia for use by emergency personnel, including firefighters, law enforcement personnel, emergency management staff, and medical facilities.[14]

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[12] Shawn Young and Dennis K. Berman, Trade Center Attack Highlights Problem In Telecom Sector's Legacy of Monopoly, WALL ST. J., Oct. 9, 2001 (noting that the market dominance and centralized facilities of Verizon enabled the September 11 terrorist attacks to disrupt 30% of Lower Manhattan's phone and data traffic).

[13] For example, the media roundly criticized the Washington, D.C. government for failing to use their satellite phones. The District government had purchased ten satellite phones to enable key city officials to remain in contact in an emergency situation. However, the phones were never distributed to the District officials and thus were not immediately available on September 11. Carol D. Leonnig & Steve Twomey, D.C. Developing New Emergency Plans in Response to Last Week's Breakdown, WASH. POST, Sept. 18, 2001.

[14] Satellite Phones Showcased In Crisis, SATELLITE NEWS, Sept. 17, 2001 ("A New York hospital requested and was given several Globalstar handsets as a backup service." . . . "'A number of government agencies and medical organizations have approached us,' [Globalstar's Senior Director of Communications] said. 'We have given whatever we can provide.'"); Sarah Silver, Demand for Satellite Phones Rises, L.A. TIMES, Sept. 21, 2001 (noting that Globalstar staff received a police escort across the Canadian border to deliver satellite phones from a Toronto warehouse to New York City after the September 11 terrorist attack); Press release, Globalstar USA, Globalstar USA Responds to the September 11 Tragedy, Sept. 24, 2001 (noting that Globalstar USA donated the use of over 100 satellite phones and unlimited airtime to New

Thankfully, catastrophes of the magnitude of September 11 are extremely rare. Nevertheless, the need to be prepared for such incidents is very real. Hence, in the aftermath of September 11, Globalstar received numerous inquiries from public safety and law enforcement groups nationwide that witnessed the value of satellite phones to emergency personnel responding to major disasters. Globalstar has made its phones available and affordable to such personnel.[15] Of course, the benefits to emergency personnel of satellite phones are not limited to catastrophic events. Emergency and law enforcement personnel have no control over when and where emergency or national security situations will occur.[16] Satellite phones, such as

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York City rescue workers and additional phones to rescue workers in Washington, D.C. within hours of the tragedy); Marty Katz, Hand-Held Satellite Telephones Resurface in Wake of Tragedy, N.Y. TIMES, Sept. 24, 2001 (noting that Globalstar had a surge of use in New York City immediately after September 11, and that Iridium delivered 50 mobile satellite phones to the Pentagon and 12 "racks" of stationary satellite phones and 1,200 mobile satellite phones to New York City); Cynthia L. Webb and Yuki Noguchi Noguchi, When Phones Failed, New Technology Filled the Void, THE WASH. POST, Sept. 13, 2001 ("Motient Corp. of Reston reconfigured several hundred satellite phones for the Red Cross and the Federal Emergency Management Agency to enable emergency workers to communicate over its proprietary network, said Walter V. Purnell Jr., Motient's president and chief executive.").

[15] Dick Kelsey, Satellite Phone Interest Renewed After Attack Rescue Use, NEWSBYTES NEWS NETWORK, Sept. 25, 2001 ("'Our phones basically work virtually anywhere, whereas terrestrial-based systems like cell phones only work within the limited radius of cellular transmission towers,' [a Globalstar spokesman] told Newsbytes. 'If something happens to those towers, that's it.' . . . '[W]e've had enormous interest from a variety of companies re-evaluating communications in case of emergency,' [the spokesman] said."); Press release, Globalstar USA, Globalstar USA Responds to the September 11 Tragedy, Sept. 24, 2001 (noting that Globalstar USA offers special pricing to the American Red Cross and to local, state, and federal government agencies); Attacks Give Satellite Telephones 'New Life', SATELLITE WEEK, Oct. 1, 2001 ("Since attacks, Iridium and Globalstar have reported boost in sales and interest from potential clients. Iridium CEO Gino Picasso said system utilization was up 25% and new activations were 4 times level of previous week. Globalstar spokesman said there was 'spike' in usage in N.Y. following attacks: 'We sold several hundred phones, principally in New York City, and there was a surge of demand worldwide.'").

[16] For example, demand for hand-held satellite phones has increased from federal law enforcement officials, including the Federal Bureau of Investigation and the Secret Service. In addition, Globalstar phones could are ideally suited for other government law enforcement personnel that often operate in remote areas, including park police, drug enforcement agents, and the border patrol. See Sarah Silver, Demand for Satellite Phones Increases in Anticipation of Military Strikes, ASSOCIATED PRESS NEWSWIRES, Sept. 24, 2001 ("Globalstar said it is getting

Globalstar's, are equally functional no matter when or where they are needed. Although the number of satellite phones that ultimately will be required by emergency and law enforcement personnel is not sufficient independently to support the MSS industry, the benefits provided to the American public by the availability of these phones to emergency and law enforcement personnel are absolutely invaluable.

4. A Variety of Industries Benefit From Globalstar's MSS Services

Globalstar's satellite phones and data terminals are uniquely suited to provide telecommunications services to a variety of industries that depend on always-available mobile communications or that operate in remote locations. Globalstar provides ubiquitous coverage, unlike terrestrial wireless services, and is more mobile and far less expensive than satellite services provided via Very Small Aperture Terminals operating in the Fixed-Satellite Service. The Bondholders anticipate that Globalstar's MSS products will be more widely adopted in the near future by industries that Globalstar already serves and also will be adopted by participants in additional industries as the value of MSS becomes more apparent.[17] Globalstar either currently provides, or is ideally suited to provide, services to the following industries:

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queries from the FBI and the Secret Service, television networks and corporations. 'We're providing connectivity in remote areas where there's just nothing, and this investigation will take people to all kinds of remote locations where they need to be in touch,' [a Globalstar spokesman] said."); see also Globalstar Reports Results for Second Quarter of 2001, M2 PRESSWIRE, Aug. 14, 2001 ("The U.S. Federal Protective Service, part of the General Services Administration, used Globalstar phones to support their security work during the Summit of the Americas held in April. Phones were used to enable agents to stay connected from remote locations along the U.S./Canada border."); ENEL of Italy Becomes Major Globalstar Customer, M2 PRESSWIRE, July 26, 2001 ("In the United States, local, state and federal government agencies continue to sign up for Globalstar service. In the last few weeks, Orange County, California and the State of Nevada have collectively purchased several hundred Globalstar phones, and New York State has ordered several of the company's recently introduced encryption units.").

[17] Moreover, as discussed infra, grant of ATC authority will facilitate Globalstar's access to the additional capital needed by Globalstar to fund the development of new, industry-specific hardware. Such hardware will enable Globalstar to market its service to new industry sectors.

- Aeronautical Users. Like Iridium, Globalstar's satellite network is capable of providing the Federal Aviation Administration ("FAA") with live, real-time access to flight data and cockpit conversations, thus potentially enabling air traffic controllers to intervene in emergency situations. Further, this service can enables investigators to replay the events occurring on an airplane immediately prior to a crash without the need to locate and recover the plane's black box.[18] In addition, several companies began developing aeronautical communications systems that would utilize Globalstar's space segment to provide on commercial, corporate, and private aircraft data and voice services to the cockpit and to passengers.[19]

- Broadcasters. Most of the major U.S. television networks have purchased Globalstar phones for their domestic and foreign news bureaus. Globalstar's phones are ideally suited to assist foreign correspondents in the Middle East to cover the United States' reprisals for the September 11 terrorist attacks. In addition, ABC News purchased a number of phones for use in the southern U.S. during hurricane season when other forms of communications may be knocked out.[20] Also, the Golf Guys radio program, which is syndicated to some 550 radio stations across the U.S. and around the world, filed reports from several recent golf tournaments using a Globalstar phone. Further, Globalstar phones were used from remote locations around the world by the cast and crew of NBC's television show, Lost.[21]

- Construction. Construction companies that undertake projects in areas not yet served by fixed or wireless telecommunications networks can benefit from Globalstar's MSS services. For example, Baltic Construction Company has deployed both fixed and mobile

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[18] See Rob Kaiser, Iridium Phones Answer the Call, CHICAGO TRIBUNE, Sept. 24, 2001 (noting that Iridium is involved in preliminary discussions with the Commission regarding "transmitting black box voice and data recordings to locations on the ground").

[19] See, e.g., ARNAV Systems, Inc. Selects Globalstar Satellite Service, M2 PRESSWIRE, Oct. 12, 2000; Press Release, Airshow, Inc., Airshow To Deliver High-Speed Data To Aircraft, April 24, 2001; Press Release, In-Flight Network LLC, Sept. 14, 2000 (In-Flight subsequently abandoned this project and ultimately folded).

[20] See ENEL of Italy Becomes Major Globalstar Customer, M2 PRESSWIRE, July 26, 2001.

[21] See Globalstar Reports Results for Second Quarter of 2001, M2 PRESSWIRE, Aug. 14, 2001.

phones for voice and data communications along a railway system through the Amur Region of Russia.[22]

- Forestry. Globalstar's phones can be used in the timber industry for communications with remote logging outfits. In addition, both the U.S. Forest Service and the British Columbia Ministry of Forests in Canada have recently purchased Globalstar phones.[23]

- Oil exploration and transport. Oil exploration, transport, and drilling facilities, such as off-shore oil rigs and transcontinental pipelines, tend to be located in remote locations not served by fixed or wireless telecommunications. Globalstar's MSS services are used to provide voice and data communications to exploratory teams and drilling facilities. For example, Simil Petrobras, the Brazilian national petroleum company, and Caspian Pipeline Consortium, Sakhalin Energy, and Tyumen Oil Geophysics—three Russian companies—recently selected Globalstar phones for use in remote areas and from offshore oil platforms.[24] In addition, Globalstar's services can be used for automated monitoring of gas pipelines.

- Maritime Users. Globalstar offers products expressly designed for maritime use. Two North American cruise ship lines began to install Globalstar phones on selected passenger vessels, initially for use by crew members for emergency communications. Certain boats also will make phones available for passenger use. In addition, Alaska Tankers, a cargo line, agreed to install and use Globalstar phones for use on vessels at sea between Alaska and the West Coast. Also, many private boat owners have purchased Globalstar's maritime services.[25]

- Transportation. Globalstar's Big LEO System can be used by cargo and passenger transportation companies to monitor the status of their truck and bus fleets and provide uninterrupted communications with the drivers. Further, mobile communications devices

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[22] See ENEL of Italy Becomes Major Globalstar Customer, M2 PRESSWIRE, July 26, 2001.

[23] See id.

[24] See id.

[25] See Globalstar Reports Results for Second Quarter of 2001, M2 PRESSWIRE, Aug. 14, 2001.

also could be developed for trains and are in the process of being developed for passenger cars.

- Utilities. Utility maintenance crews need to be able to remain in touch with their network control centers even while working on the most remote portions of the utilities' gas, electric, or water distribution networks. For example, Ente Nazionale per l'Energia Elettrica (ENEL), the largest electric power utility in Italy, recently ordered 4,500 Globalstar phones. In addition, repair crews for AO Tyumenenergo, an electric power company in Russia, are now using Globalstar phones while servicing high-voltage power lines in isolated locations.[26]

5. MSS Providers Support the Aerospace Industry—an Industry in Which the U.S. is a World Leader

Besides benefiting their subscribers and the American public, MSS providers, such as Globalstar, also benefit the U.S. aerospace and communications industries, which, in turn, benefits the U.S. economy. MSS providers and their financial backers have expended over ten billion dollars on satellites, mobile and fixed earth stations, software development, and launch vehicles. They have supported an industry where U.S. leadership is unquestioned by providing numerous jobs, developing and advancing technologies, and generating aerospace infrastructure. This type of economic invigoration and technological leadership were among the benefits that the Commission cited when it initially established the Big LEO and 2 GHz MSS allocations.[27]

Further, the reinvigorated MSS industry that would result from a grant by the Commission of ATC authority would continue to expend very substantial sums on U.S.-designed

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[26] See ENEL of Italy Becomes Major Globalstar Customer, M2 PRESSWIRE, July 26, 2001,.

[27] Big LEO Order, ¶¶ 4-5 ("The Big LEO service also has the potential to stimulate significant economic growth both in the United States and abroad. . . . The United States has led the world in developing and implementing satellite technology. We expect many of the economic, cultural, and other gains we have seen in the fixed-satellite industry to be reflected in the new mobile satellite industry."); 2 GHz NPRM, ¶ 1 ("This proposed new allocation of spectrum for MSS should . . . stimulate economic development; and, create new high technology jobs in the United States.")

and manufactured satellites, mobile earth terminals, launch vehicles, and communications technologies. For example, a grant of 2 GHz ATC authority is likely to cause one or more 2 GHz satellite systems to be launched that might not otherwise be built. The design, construction, launch, and operation of these systems will pump billions of dollars into the U.S. aerospace industry.

C. MSS Providers, Such as Globalstar, Are the Only Likely Source of Telecommunications for Remote Communities in Developing Countries

In addition to the benefits provided to the American public, the MSS industry has the ability to provide needed telecommunications services to remote areas in third world countries that currently are completely unserved by telecommunications companies. Although the financial health of the MSS industry is likely to be primarily supported by industrial countries, and in particular the United States, the benefits that MSS providers, such as Globalstar, can bring to underdeveloped nations are profound. The Commission recognized the importance of the development of the MSS industry to underdeveloped countries when it initially created the Big LEO and 2 GHz services.[28] Moreover, the additional economies of scale that can be generated through the use of Globalstar phones throughout the world benefit both Americans and citizens of underdeveloped nations by reducing equipment prices through volume production.

Globalstar offers what is effectively a satellite payphone that can be installed in the most remote villages and towns in the world without the need for substantial additional infrastructure. For example, Globalstar recently installed 180 fixed satellite phones in remote communities across Venezuela. These previously underserved communities immediately began using the

[28] Big LEO Order, ¶ 1 ("This new mobile satellite service—the "MSS Above 1 GHz" or "Big LEO' satellite service—has the potential to provide not only a variety of new services to users in the United States, but to provide integrated communication services to all parts of the world, including those that are now grossly underserved.").

Globalstar phones between 2,000 and 5,000 minutes per month causing Globalstar's total minutes of use in Venezuela to immediately increase over 300%. Other fixed phone installations elsewhere in Latin America are receiving similar usage.[29]

III. ATC AUTHORITY HAS THE POTENTIAL TO REINVIGORATE THE MSS INDUSTRY

The Bondholders believe that the significance of ATC authority to Globalstar and the rest of the MSS industry will be far reaching. ATC authority will enable Globalstar to overcome the operational and technical shortcomings that have inhibited more rapid adoption by the public of Globalstar's satellite communications services. The consumer benefits that can be derived from ATC will increase Globalstar's subscribership thereby enabling Globalstar to decrease its prices, which will, according to the most basic principles of supply and demand, further increase Globalstar's subscribership. The Bondholders believe that this self-reinforcing spiral of increasing subscribership and decreasing pricing may be the panacea needed by the MSS industry to break out of the financial doldrums that have thus far plagued the industry in its short commercial history.

Specifically, ATC will broaden Globalstar's addressable market by overcoming its indoor and urban reception problems. In addition, the decrease in equipment and service prices that will result from ATC authority will make Globalstar's services much more affordable to, and therefore accessible by, rural Americans. Moreover, ATC authority will enable the MSS industry to attract the additional capital that it needs to fully develop potential, but currently underdeveloped MSS markets. For example, the availability of additional capital will enable

[29] See ENEL of Italy Becomes Major Globalstar Customer, M2 PRESSWIRE, July 26, 2001; Globalstar Reports Results for Second Quarter of 2001, M2 PRESSWIRE, Aug. 14, 2001.