

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

In the Matter of)	
)	
Service Rules for the 698-746, 747-762 and 777-792 MHz Bands)	WT Docket No. 06-150
)	
Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band)	PS Docket No. 06-229
)	

**COMMENTS OF THE
SATELLITE INDUSTRY ASSOCIATION**

The Satellite Industry Association (“SIA”) hereby files these Comments in response to the *Third Further Notice of Proposed Rulemaking* released by the Commission on September 25, 2008 in connection with the above-referenced proceedings.¹ SIA believes that satellite services should be an essential and easily accessible component of the nationwide, interoperable broadband public safety communications network. Satellites offer unique capabilities, such as ubiquitous coverage and immunity from terrestrial disasters, that meet the critical needs of emergency response providers.²

¹ See *Service Rules for the 698-746, 747-762 and 777-792 MHz Bands, Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band*, FCC 09-230 (September 25, 2008) (“*Third FNPRM*”).

² See, e.g., *Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks, Report and Recommendations to the FCC*, at 10-11 (“Satellite networks appeared to be the communications services least disrupted by Hurricane Katrina. As these networks do not heavily depend upon terrestrial-based infrastructure, they are typically not affected by wind, rain, flooding or power outages. As a result both fixed and mobile satellite systems provided a functional, alternative communications path for those in the storm-ravaged region.”).

For these reasons, SIA supports the Commission’s proposal to retain the requirement that a D Block licensee must make available at least one handset with an integrated satellite solution. To ensure that satellite-enabled devices will be made available on a timely basis and in a wide variety of technological forms, SIA further proposes that: 1) dual-mode devices satisfying this requirement be made available within a reasonable period after licensing, as determined in the Network Sharing Agreement (“NSA”); and 2) the Commission expand this requirement to include at least one model of each major device type with a minimum of 20% of all models being satellite-enabled, rather than limiting the requirement to a single handset.

SIA also supports the Commission’s grant of additional flexibility to a D Block licensee to use satellite facilities in meeting certain network resiliency and coverage requirements and requests that the Commission clarify that the terms of meeting both these alternative requirements should be specified in the NSA. Without such a qualification, the determination of whether a D Block licensee satisfies an applicable requirement may be difficult to discern and could effectively frustrate the Commission’s underlying purpose for granting such flexibility.

Background

Satellite Industry Association. SIA is a United States-based trade association providing worldwide representation of the leading satellite operators, service providers, manufacturers, launch services providers, remote sensing operators, and ground equipment suppliers. SIA is the unified voice of the United States satellite industry on policy, regulatory, and legislative issues affecting the satellite business.³

³ SIA Executive Members include: Arrowhead Global Solutions Inc.; Artel Inc.; The Boeing Company; DataPath, Inc.; The DIRECTV Group; Hughes Network Systems LLC; ICO Global Communications; Integral Systems, Inc.; Intelsat, Ltd.; Iridium Satellite LLC; Lockheed Martin Corp.; Loral Space & Communications Inc.; Mobile Satellite Ventures LP; Northrop

700 MHz Proceeding. In May 2008, as a result of the failure to award a license for the D Block spectrum in Auction 73, the FCC invited comments, *inter alia*, on whether it remained in the public interest to require a public/private partnership as a condition of the license for the D Block spectrum and, if so, what obligations that licensee should have with respect to the shared 700 MHz public/private communications network.⁴ The Commission also sought comment on whether it should permit the D Block licensee to use satellite services to help meet license requirements, such as build-out and performance obligations,⁵ and the factors it should consider

Grumman Corporation; SES Americom, Inc.; and TerreStar Networks Inc.. Associate Members include: ATK Inc.; Comtech EF Data Corp.; Constellation Networks Corp.; EchoStar Satellite LLC; EMC Inc.; Eutelsat Inc.; iDirect Government Technologies, Inc.; Inmarsat Inc.; Marshall Communications Corp.; New Skies Satellites, Inc.; Panasonic Avionics Corporation; Spacecom Ltd.; Spacenet Inc.; Stratos Global Corp; SWE-DISH Space Corp; Telesat; and WildBlue Communications, Inc. Additional information can be found at www.sia.org.

⁴ See *Service Rules for the 698-746, 747-762 and 777-792 MHz Bands, Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band*, WT docket No. 06-150, PS Docket No. 06-229, 22 FCC Rcd 8047 (2008) (“*Second FNPRM*”); see also *Service Rules for the 698-746, 747-762 and 777-792 MHz Bands, WT Docket No. 06-150, Revision of the Commission’s Rules to Ensure Compatibility with Enhanced 911 Emergency Calling Systems, CC Docket No. 94-102, Section 68.4(a) of the Commission’s Rules Governing Hearing Aid-Compatible Telephones, WT Docket No. 01-309, Biennial Regulatory Review – Amendment of Parts 1, 22, 24, 27, and 90 to Streamline and Harmonize Various Rules Affecting Wireless Radio Services, WT Docket 03-264, Former Nextel Communications, Inc. Upper 700 MHz Guard Band Licenses and Revisions to Part 27 of the Commission’s Rules, WT Docket No. 06-169, Implementing a Nationwide, Broadband, Interoperable Public Safety Network in the 700 MHz Band, PS Docket No. 06-229, Development of Operational, Technical and Spectrum Requirements for Meeting Federal, State and Local Public Safety Communications Requirements Through the Year 2010, WT Docket No. 96-86, Declaratory Ruling on Reporting Requirement under Commission’s Part 1 Anti-Collusion Rule, WT Docket No. 07-166, 22 FCC Rcd 15289, at ¶ 463 (2007) (“*700 MHz Second Report and Order*”).*

⁵ *Second FNPRM*, at ¶¶ 100-01.

in granting any such flexibility.⁶ A number of entities, including SIA, submitted comments supporting the use of satellite facilities as part of the shared public/private partnership.⁷

In the *Third FNPRM*, the Commission sets out its proposed final rules based on the comments it solicited and also seeks further comment on a number of related issues. As an initial matter, the Commission tentatively concludes that it should continue to require, as a license condition, that a D Block licensee must enter into a public/private partnership with the Public Safety Broadband Licensee (“PSBL”).⁸ With respect to satellite handsets, the Commission proposes to retain its current requirement that a D Block licensee must make available to public safety users at least one handset that includes an integrated satellite solution.⁹ The Commission does not propose a deadline for meeting this requirement and instead proposes that the issue be resolved in the NSA between a D Block licensee and the PSBL.¹⁰

⁶ *Id.* at ¶ 100.

⁷ *See, e.g.*, Comments of National Public Safety Telecommunications Council (“NPSTC”), at 43 (June 20, 2008) (NPSTC “supports the notion of incorporating satellite or other non-terrestrial networks in at least one handset.”); Comments of the New York City Police Department, at 10 (June 19, 2008) (“In rural and remote areas, deployable broadband network assets can be prepositioned for use during a large scale event[, and] the inclusion of a satellite backhaul component can link these deployable networks.”); Comments of the Public Safety Spectrum Trust Corporation, at Att. C p.3 (June 20, 2008) (“The goal is to construct a highlight reliable and available network that is better than commercial wireless networks today, yet economically viable[, and] this can be achieved through a variety of means such as . . . backup reliance on satellite coverage.”); *see also* Comments of Leap Wireless International, at 13 (June 20, 2008); Comments of Mobile Satellite Users Association (June 20, 2008); Comments of Mobile Satellite Ventures Subsidiary LLC, at 2 (June 20, 2008); Comments of Inmarsat PLC, at 4-5 (June 20, 2008).

⁸ *See Third FNPRM*, at ¶ 51.

⁹ *Id.* at ¶ 131. Regional licensees are not precluded from relying on the same handset model to meet this requirement.

¹⁰ *Id.*

With respect to the use of satellite facilities as part of the shared 700 MHz public/private network, the Commission proposes granting some additional flexibility to a D Block licensee. In lieu of meeting the Commission requirement to designate and maintain “critical” cell sites,¹¹ the Commission proposes to allow a D Block licensee and the PSBL to agree on other methods to improve network resiliency, including the use of satellite facilities.¹² Similarly, in meeting the requirement to provide coverage of major highways, interstates, and incorporated communities with populations greater than 3,000 by the end of the first 15-year license term, to the extent such areas are beyond what is required to meet population benchmarks, the Commission proposes that a D Block licensee may satisfy this requirement through non-terrestrial means, such as Mobile Satellite Service (“MSS”).¹³ The Commission also seeks comments on the general matter of whether additional satellite capability would further enhance the shared 700 MHz public/private network and whether the Commission should grant additional flexibility in meeting license obligations if a D Block licensee integrates a satellite component with the network.¹⁴

Discussion

SIA, along with a number of other parties in this proceeding, believes that satellite services should be an essential and easily accessible component of the nationwide, interoperable broadband public safety communications network.¹⁵ Satellites offer unique characteristics, such

¹¹ A cell site designated as critical is required to have battery backup power of 8 hours and generators with a fuel supply sufficient to operate the generators for at least 48 hours. *Id.* at ¶ 117.

¹² *Third FNPRM* at ¶ 119.

¹³ *Id.* at ¶ 155.

¹⁴ *Id.* at ¶ 119.

¹⁵ *See supra* note 7.

as ubiquitous coverage and immunity from terrestrial disasters, that meet the critical needs of emergency response providers.¹⁶

Ubiquitous satellite coverage, as a component of the shared 700 MHz public/private network, would ensure that all geographic areas (including skies and waterways),¹⁷ no matter how remote, have available communications infrastructure at all times.¹⁸ This is particularly important in light of the Commission's proposal to reduce the coverage requirements for the D

¹⁶ See, e.g., Letter, Pembroke Pines Fire Department (October 22, 2008) (“In my experience, satellite technology has repeatedly shown itself to be the most reliable form of communication. When disaster strikes, I take some comfort knowing that my satellite phone will allow me to stay connected.”); Letter, Mississippi Department of Public Safety, at 1 (May 22, 2008) (“Immediately following the destruction of Hurricane Katrina, Satellite communications [were] the only reliable means of communicating in the State.”); Letter, Washington State Emergency Management Division, at 1 (May 22, 2008) (“Satellites continue to demonstrate their importance in serving hard to reach geographic areas or underserved areas in the United States for basic and emergency communications[, which] is especially true in the State of Washington, within our mountainous areas.”); see also *supra* note 7.

¹⁷ See *Procedures to Govern the Use of Satellite Earth Stations on Board Vessels in the 5925-6425 MHz/3700-4200 MHz Bands and 14.0-14.5 GHz/ 11.7-12.2 GHz Bands, Report and Order*, FCC 04-286 (January 6, 2005) (establishing licensing and service rules for Earth Stations on Vessels in the C-band and Ku-band); *Service Rules and Procedures to Govern the Use of Aeronautical Mobile Satellite Service Earth Stations in Frequency Bands Allocated to the Fixed Satellite Service, Notice of Proposed Rulemaking*, FCC 05-14 (February 9, 2005) (proposing rules for operation of aircraft earth stations in the Ku-band); *Boeing Company, Order and Authorization*, 16 FCC Rcd 22645 (Int'l Bur. & OET, 2001) (permitting operation of two-way mobile terminals aboard aircraft in the Ku-band); *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 Bands, Report and Order*, 18 FCC Rcd 1962, at ¶ 1 (2003) (noting that MSS systems can provide mobile services “on land, in the air and over the oceans”).

¹⁸ See *Extending Wireless Telecommunications Services To Tribal Lands, Report and Order and Further Notice of Proposed Rulemaking*, 15 FCC Rcd 11794, at ¶ 13 (2000) (“Satellites also provide communications opportunities for communities in geographically isolated areas, such as mountainous regions and deep valleys, where rugged and impassable terrain may make service via terrestrial wireless or wireline telephony economically impractical.”); *700 MHz Second Report and Order*, at ¶ 463 (“Satellite services also can enable public safety users to communicate in rural and remote areas that terrestrial services do not reach.”).

Block network.¹⁹ Hundreds of thousands of square miles of the United States are likely to be outside the coverage of the D block network, even after fifteen years. A satellite overlay would provide immediately available, communications capacity to those (and other) areas to the benefit of public safety users.²⁰ In addition, due to their nationwide footprint, satellites are the most effective technology for providing point-to-multipoint services, such as dispatch service, over a wide area.

Satellite networks are immune from the kinds of natural and man-made disasters that affect terrestrial infrastructure.²¹ Many satellite operators also have in-orbit spares in the event of a satellite failure and deploy their ground stations in geographically diverse locations to avoid a single point of failure. Thus, satellite links can be maintained during failures in the power grid or damage to underground cables or terrestrial microwave towers.²² When disaster strikes, satellite infrastructure that has been integrated into a public safety network can be relied upon to

¹⁹ See *Third FNPRM*, at ¶ 149.

²⁰ See *id.* at ¶ 156 (ensuring the availability of at least one satellite-enabled handset for public safety use can facilitate public safety access to the network in low or zero-population areas where the terrestrial network has not been construction); *700 MHz Second Report and Order*, at ¶ 463 (“[E]ven under the most aggressive performance requirements we impose herein on the D Block licensee, there will remain a number of geographic areas without coverage for a number of years.”).

²¹ See, e.g., *700 MHz Second Report and Order*, at ¶ 463 (“Satellite technology can provide the only means of communicating where terrestrial communications networks have been damaged or destroyed by wide-scale natural or man-made disasters.”); Hearing on Communications in a Disaster Before the S. Comm. on Commerce, Science and Transportation 109th Cong. 7 (2005) (statement of FCC Chairman, Kevin J. Martin) (“If we learned anything from Hurricane Katrina, it is that we cannot rely solely on terrestrial communications.”).

²² See, e.g., *Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks, Report and Recommendations to the FCC*, at 10-11 (“As [satellite] networks do not heavily depend upon terrestrial-based infrastructure, they are typically not affected by wind, rain, flooding or power outages.”).

bridge the dangerous gaps in communications caused by failing terrestrial infrastructure, by providing an immediately available communications path and assisting in restoral of the terrestrial network through backhaul of wireless systems.²³ Thus, for example, when local wireline, wireless, and broadcast terrestrial-based communications systems were impacted by Hurricane Katrina, satellite systems were still able to provide critical communications capabilities in the disaster area.²⁴

With respect to the specific proposals in the *Third FNPRM*, SIA supports the Commission’s proposal to retain the requirement that a D Block licensee must make available at least one handset with an integrated satellite solution. As the Commission previously concluded in adopting this requirement, “satellite service can be a valuable component of a public safety communications network.”²⁵ Moreover, as other commenters in this proceeding have demonstrated, the cost of providing a dual-mode chipset is very modest, potentially as low as \$3 per device.²⁶

²³ Some satellite systems can be used as the backhaul to restore communications of wireless systems used by public safety personnel, enabling them to communicate with both private networks and the Public Switched Telephone Network. This restoral capability is a critical functionality that would be invaluable to Public Safety personnel in an emergency situation.

²⁴ See *700 MHz Second Report and Order*, at ¶ 463 (“[S]atellite service providers . . . reported substantial increases in the use of their services in and around New Orleans in the wake of Hurricane Katrina.”); *Independent Panel Reviewing the Impact of Hurricane Katrina on Communications Networks, Report and Recommendations to the FCC*, at 10-11.

²⁵ *700 MHz Second Report and Order*, at ¶ 463.

²⁶ See Letter from Mobile Satellite Ventures Subsidiary, LLC to Marlene H. Dortch (October 2, 2008); see also Comments of Ericsson Inc., at 28 (June 20, 2008).

SIA further proposes that: 1) dual-mode devices satisfying this requirement be made available within a reasonable period after licensing, as determined in the NSA;²⁷ and 2) the Commission expand this requirement to include at least one model of each major device type with a minimum of 20% of all models being satellite-enabled, rather than limiting the requirement to a single handset. It is important that satellite-enabled devices be made available on a timely basis to ensure that public safety organizations desiring satellite services have access to such devices when they are ready to make their equipment purchasing decisions. Dual-mode devices need to be available in a number of models and in different technological forms, not just a single handset, in order to ensure that public safety entities are able to choose from a range of devices to meet their operational needs.

SIA also supports the Commission's grant of additional flexibility to a D Block licensee to use satellite facilities in meeting certain network resiliency and coverage requirements and requests that the Commission clarify that the terms of meeting both these alternative requirements should be specified in the NSA.²⁸ Without such a qualification, the satisfaction of the applicable requirement may be difficult to discern and effectively frustrate the underlying purpose for granting such flexibility. For example, as currently proposed, it is unclear what quality or level of MSS would meet the coverage requirement or what type of contractual

²⁷ The Commission's current proposals require only that the PSBL and a D Block licensee address the terms and timeframe for the availability of dual-mode handsets in their NSA. *See Third FNPRM*, at ¶ 131.

²⁸ The Commission's current proposals specify only that the PSBL and a D Block licensee may agree on methods to improve certain network resiliency requirements and do not address their ability to negotiate flexibility regarding certain coverage requirements. *See id.* at ¶¶ 119, 155.

arrangement a D Block licensee must have to demonstrate that it is providing “complete service to major highways, interstates, and [certain] incorporated communities” through MSS.²⁹

²⁹ *Id.* at ¶ 155. Moreover, the option to rely on a satellite component to meet this coverage requirement, as proposed in the *Third FNPRM*, is an end-of-term requirement, making problematic any required corrective action to ensure such coverage by the end of the fifteen-year term.

Conclusion

For the reasons discussed above, SIA supports the Commission's proposal to retain the requirement that a D Block licensee must make available at least one handset with an integrated satellite solution and further proposes that: 1) dual-mode devices satisfying this requirement be made available within a reasonable period after licensing, as determined in the NSA; and 2) the Commission expand this requirement to include at least one model of each major device type with a minimum of 20% of all models being satellite-enabled, rather than limiting the requirement to a single handset. SIA also supports the Commission's grant of additional flexibility to a D Block licensee to use satellite facilities in meeting certain network resiliency and coverage requirements and requests that the Commission clarify that the terms of meeting both these alternative requirements should be specified in the NSA.

Respectfully submitted,
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