

**Before the  
FEDERAL COMMUNICATIONS COMMISSION  
Washington, D.C. 20554**

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

**REPLY COMMENTS OF SPACE DATA CORPORATION**

Space Data Corporation (“Space Data”) replies to comments filed in response to the Third Further Notice of Proposed Rulemaking in the above-captioned proceeding (“*700 MHz Third NPRM*”) regarding the re-auction of the 700 MHz D Block and the establishment of a shared, interoperable public safety and private broadband network (the “Shared Network”).<sup>1</sup> Commenters continue to express grave concerns regarding the ability of the Shared Network to meet the needs of the public safety community in terms of coverage and network resiliency while also making the D Block economically viable at auction. Non-terrestrial wide area technologies, such as Space Data’s near space SkySite<sup>®</sup> platform, represent one alternative that could assist in the economic and efficient construction of the Shared Network to satisfy public safety and commercial needs. Several commenters agree that the availability of alternatives such as non-

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<sup>1</sup> 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*, Third Further Notice of Proposed Rulemaking, WT Docket No. 06-150, PS Docket No. 06-229, FCC 08-230 (Sept. 25, 2008) (“*700 MHz Third NPRM*”). All comments filed in response to the *700 MHz Third NPRM* on November 3, 2008 will hereinafter be short-cited unless otherwise indicated.

terrestrial technologies would have significant public interest benefits.<sup>2</sup> The rules as proposed in the 700 MHz *Third NPRM*, however, would prohibit licensees from using non-terrestrial technologies except in the most limited circumstances. Accordingly, the Commission’s 700 MHz rules should allow the implementation of any technologies that can meet the D Block service requirements and provide licensees with the flexibility to use innovative technologies. Allowing technological flexibility presents the best approach to ensuring that public safety and consumers reap the full benefits of the Shared Network.

**I. NON-TERRESTRIAL TECHNOLOGIES CAN BE USED TO RESOLVE THE CONFLICTS BETWEEN PUBLIC SAFETY AND COMMERCIAL CONCERNS.**

**A. The Commission Should Not Further Diminish The D Block Build Out Requirements.**

The Public Safety Spectrum Trust Corporation (“PSST”) and several other public safety groups propose a modified build out schedule for the D Block which: (1) adds a seven year build out requirement to the Commission’s four, ten and 15 year benchmarks, (2) increases modestly the percentage of population that must be covered by the benchmarks in regions with 100 or more people per square mile, and (3) decreases the percentage of population that must be covered in regions with fewer than 10 people per square mile.<sup>3</sup> Space Data supports the public safety community’s efforts to strengthen the D Block build out requirements so that the Shared Network reaches as many people and geographic areas as possible. The public interest however, will not be served by reducing the coverage requirements in regions with fewer than 10 people per square mile.

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<sup>2</sup> See, e.g., New EA Comments at 4; MSV Comments at 4-6; Satellite Industry Association Comments at 5-8; Regional Planning Committee Twenty (“Region 20”) Comments at 11; AASHTO et al. Comments at 13; US Cellular Comments at 7; Leap Wireless Comments at 11-12.

<sup>3</sup> See PSST Comments at 17-18.

As Space Data and others previously noted, the reduced population coverage requirements proposed in the *700 MHz Third NPRM* would leave millions of people and 75 percent of the continental U.S. without coverage. Strengthening the build out requirements would help ensure that the Shared Network covers a larger portion of the United States earlier. The increased build out requirements should not deter potential bidders so long as there are technologies that can be used to economically and efficiently build out the Shared Network to cover even the sparsest areas.<sup>4</sup> For the same reason, the coverage requirements in the most rural regions do not need to be relaxed.

For example, Space Data previously described in detail how its near space SkySite platforms (in effect, an “antenna in the sky”) and other non-terrestrial technologies are ideal to provide economic wireless broadband coverage in rural and underserved areas where the Shared Network’s terrestrial towers cannot reach.<sup>5</sup> As Space Data explained in greater detail in its Comments, to ensure that D Block licensees can take advantage of these efficiencies, the Commission must: (1) permit licensees to use non-terrestrial technologies in conjunction with terrestrial technologies to satisfy the Commission’s population-based build out requirements, and (2) ensure that the Commission’s technical rules do not inadvertently prohibit a D Block licensee from using non-terrestrial technologies.<sup>6</sup>

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<sup>4</sup> See, e.g., Leap Wireless Comments at 12 (supporting the use of non-terrestrial technologies to meet coverage requirements).

<sup>5</sup> See Space Data Comments at 4-12; Comments of Space Data Corporation, WT Docket No. 06-150, PS Docket No. 06-229, at 3-8 (filed June 20, 2008); Reply Comments of Space Data Corporation, WT Docket No. 06-150, PS Docket No. 06-229, at 9-13 (filed July 7, 2008). Space Data’s SkySite communications system already is operational throughout the South Central United States on narrowband PCS spectrum.

<sup>6</sup> Specifically, the Commission should (1) amend the definition of “base station” in Section 27.4 of the rules to include “alternative technologies that perform the same functions as land stations,” and(2) provide that any technical requirements in Sections 27.50 – 27.70 of the rules that apply to base stations, fixed stations, fixed towers, or tower antennas similarly apply to non-traditional technologies that perform the same functions as base stations or towers. See Space Data Comments at 10-12.

**B. The Commission Should Not Relax The D Block Hardening Requirements.**

The Commission should not reduce the number of cell sites designated as “critical,” and thus subject fewer sites to certain robustness and hardening requirements, as some commenters request.<sup>7</sup> The public safety community agrees that the Shared Network must continue to operate before, during and after an emergency and expressed significant concern regarding the resiliency of the Shared Network. Space Data joins the public safety community in urging the Commission to increase the number cell sites designated as critical and adopt more stringent hardening requirements.<sup>8</sup>

As the *700 MHz Third NPRM* acknowledges, available cost-effective non-terrestrial technologies can ensure reliability and continuity during emergencies, particularly when a disaster may have damaged or destroyed terrestrial cell sites.<sup>9</sup> For example, SkySite platforms can be delivered quickly to and deployed over affected areas (assuming a SkySite network is not already in place).<sup>10</sup> In fact, two SkySite platforms can be carried on a commercial aircraft as carry-on luggage and a briefcase-sized version of the ground station for the SkySite platforms also exists. With a bottle of lifting gas to inflate the SkySite platform’s balloon, a wide area SkySite platform network can be activated within two hours.<sup>11</sup> This response time is significantly shorter than that required to drive or airlift cellular towers on wheels (often called COWs) to affected areas. Furthermore, SkySite platforms would not require dual-mode or new handsets. Rather, users could continue to use their existing 700 MHz equipment. With these

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<sup>7</sup> See, e.g., Leap Wireless Comments at 10-11.

<sup>8</sup> See, e.g., PSST Comments at 20-21; APCO Comments at 15; NATOA et al. Comments at 16.

<sup>9</sup> *700 MHz Third NPRM*, ¶ 118.

<sup>10</sup> The U.S. military uses Space Data’s SkySite platforms for just this reason.

<sup>11</sup> See AASHTO et al. Comments at 13 (supporting the use of non-terrestrial technologies for network hardening requirements so long as the technologies can deploy within four hours of an emergency and are capable of being transported by air).

types of inexpensive solutions available to the D Block licensees, the Commission's proposed rules regarding hardening critical cell sites do not need to be relaxed, and, in fact, could be strengthened.

The Commission also should not expand the "one satellite handset" rule (which requires that at least one handset available to public safety include satellite capability) to require at least one model for each major device type and half of all models made available to public safety have satellite capability.<sup>12</sup> Assuming MSV's estimate that adding satellite functionality will cost \$3.00 per handset is accurate, incorporating satellite capability in half of the equipment models available to public safety could cost millions of dollars. Further, the requirement ignores other less expensive alternatives that might ensure wide area coverage, and contradicts long-standing Commission policy of favoring technology neutral rules. Rather, the public safety broadband licensee and D Block licensees are in the best position to determine the type and nature of equipment that will be most suitable for public safety needs.

## **II. D BLOCK LICENSEES SHOULD BE ALLOWED TO LEVERAGE EXISTING 3G TECHNOLOGIES TO CONSTRUCT THE SHARED NETWORK.**

Space Data agrees with other commenters that the D Block licensees should be allowed to use third generation ("3G") technologies to construct the Shared Network and later upgrade to fourth generation ("4G") technologies.<sup>13</sup> 4G technologies such as WiMAX and LTE may not be ready to roll out on a nationwide basis for several years, leaving public safety and commercial users without wireless broadband service. As Qualcomm noted, 3G technologies such as EV-DO and HSPA already are proven wireless broadband technologies and many public safety entities already use commercial EV-DO and HSPA networks for their critical broadband

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<sup>12</sup> See MSV Comments at 9.

<sup>13</sup> See, e.g., APCO Comments at 12-13; Qualcomm Comments at 8-12.

applications. Allowing D Block licensees to leverage existing, proven 3G technologies in the construction of the Shared Network will facilitate faster deployment and coverage to the millions of end users that currently lack broadband capability.

### **III. NARROWLY TAILORED PACKAGE BIDDING AND OTHER CHANGES TO AUCTION PROCEDURES WOULD PROMOTE PARTICIPATION IN THE D BLOCK AUCTION.**

Contrary to the assertions of Leap Wireless and U.S. Cellular, package bidding could offer significant incentives to potential bidders and facilitate participation in the D Block re-auction.<sup>14</sup> As Space Data and New EA, Inc. previously explained, package bidding provides bidders with additional flexibility to combine groups of licenses together that best suit their individual business needs. Without the flexibility of package bidding, potential bidders may limit their participation in the auction.<sup>15</sup>

The Wireless Telecommunications Bureau (“Bureau”) can narrowly tailor the license packages in the case of the D Block to ensure that the larger wireless carriers are not provided with unfair advantage over smaller bidders. For example, the license packages could be limited to geographically contiguous regions. Further, bidders could be allowed to only group licenses that cover an aggregate population of 15 million or less. These proposals would restrict bidders from combining into one package the larger urban regions, but would allow bidders to combine the most rural regions. It is important that a bidder be able to group the more sparsely populated regions to achieve the critical mass of customers and economies of scale necessary to implement a viable business plan that focuses on serving rural markets. Using package bidding in this limited scenario would allow bidders to bid on rural licenses without risking their ability to execute a business plan if they fail to win critical licenses.

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<sup>14</sup> Leap Wireless Comments at 5; US Cellular Comment at 6.

<sup>15</sup> See Space Data Comments at 14-15; New EA Comments at 5.

Space Data agrees with the PSST that bidding credits would stimulate participation in the D Block auction and promote greater and faster build out of the Shared Network.<sup>16</sup> Space Data proposed in its Comments specific bidding credits that would be awarded to licensees that commit to building the Shared Network more quickly and provide greater coverage than required in the construction requirements.<sup>17</sup> Such bidding incentives would help offset the costs associated with building the Shared Network in rural areas where it is more costly to construct a network.

Space Data also supports NTCH, Inc.'s proposal to offer deeper bidding discounts for designated entities.<sup>18</sup> Potential bidders, particularly smaller companies, will have significant challenges securing financing in the current economic climate. Deeper designated entity discounts would facilitate small company participation in the auction. Similarly, the Commission should not adopt additional financial security requirements, such as a letter of credit, which only increase the obstacles for potential bidders to secure financing. The Commission's rules already provide remedies that address defaults on auction payments or the inability of a licensee to satisfy the terms of the network sharing agreement, Commission rules, or its license.

#### **IV. CONCLUSION.**

The Commission should ensure that its rules are technology neutral and do not discriminate against any technologies that can satisfy the service requirements for the Shared Network. D Block licensees should be given the flexibility to use innovative technologies so that they can construct and operate the Shared Network in the most economic and efficient manner

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<sup>16</sup> See PSST Comments at 19.

<sup>17</sup> See Space Data Comments at 12-14.

<sup>18</sup> See NTCH Comments at 11-13.

possible. Such flexibility will facilitate additional participation in the re-auction of the D Block, as well as faster build out of the Shared Network over more areas, particularly in rural and sparsely populated regions.

Respectfully submitted,

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