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CRS Report for Congress

Public-Private Partnership for a Public Safety Network: Governance and Policy

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Summary

This report summarizes salient points of the FCC rules regarding the creation of a public-private partnership to build and manage a national communications network for public safety use. The Communications Act of 1934, as amended, empowers the FCC to set rules for auctions and to take steps to ensure the safety of the public. The FCC has used this authority to create a governance structure allowing a Public Safety Broadband Licensee to share spectrum rights with a commercial enterprise and to collaborate in the construction and management of a shared network. The two licensees and the network will operate according to requirements set out by the FCC as part of its rulemaking for the auction of frequencies within the 700 MHz band, known as Auction 73. These frequencies are being vacated by television broadcasters in their switch to digital technologies.

As mandated by the FCC, the partnership is to build a shared network on spectrum capacity assigned to two separate entities. One partner will be a not-for-profit corporation, created for this purpose, that will hold a Public Safety Broadband License. The other partner will be the winning bidder for a national license, known as the D Block, that will be offered as part of the 700 MHz auction. Both licensees will be required to conform to rules set by the FCC in creating a Network Sharing Agreement (NSA). The NSA will in effect be the business plan and the contractual foundation for the shared network.

The proposed structure for a public-private partnership would create a monopoly franchise for a national network for public safety. Under the umbrella of the Communications Act, the FCC will undertake to monitor and regulate the actions of the Public Safety Broadband Licensee and the companies formed to manage the obligations of the D Block license holder. Congressional oversight of the public-private partnership therefore is placed squarely within the jurisdiction of the committees dealing with communications.

The 700 MHz auction, Auction 73, ended on March 18, 2008. There was only one bid for the D Block, well below the reserve price set for that license. The FCC has a number of options about how to proceed with the final assignment of the D Block. The Subcommittee on Telecommunications and the Internet of the House Committee on Energy and Commerce has announced plans for a hearing to review the 700 MHz auction and the disposition of the D Block.

There appears to be no policy in place to bridge the gap between the FCC rules for the network sharing agreement and the laws passed by Congress that direct the Office of Emergency Communications, within the Department of Homeland Security, to put in place a national capacity for emergency communications and interoperability. These laws notably include the 21st Century Emergency Communications Act of 2006 (P.L. 109-295, Title V, Subtitle D) and the Implementing Recommendations of the 9/11 Commission Act of 2007 (P.L. 110-53).

Contents

Introduction 1

Creating a Partnership 2
Regulatory Governance Through Service Rules 2

Public Safety Broadband License 3
Selection and Establishment of the Public Safety Broadband Licensee 4
Board of Directors 5
Oversight 5
Right to Revoke License 6
Duration of License 6
Obligations of the Public Safety Licensee 6

The Commercial Partner 7
D Block License 7
Minimum Bids 7
Assignment of License: Network Sharing Agreement 8
Timetable for Negotiations 8
Assignment of License: Corporate Structure 8
Cancellation of License 9
Duration of License 9
Network Build Out and Performance Levels 9
Build Out Benchmarks 9
Performance Guarantees 10

Network Sharing Agreement 10
FCC Network Requirements 11
Other Obligations and Stipulations 12
Fees 12
Duration of Agreement 12
Modification of the Agreement 12

Rules for Managing Spectrum 13

Rebanding Public Safety Spectrum at 700 MHz 14
Relocating Public Safety Networks 14
Costs Associated With the Relocation 14
Freeze on New Operations 15
Determining Reimbursement of Costs 15
Paying Reimbursements 16
Wideband Operations 16

Public Comments and Petitions 17
Public-Private Partnership 17
Lower Reserve Price for the D Block 17
Eliminate Default Penalties 18
Omit Specific Standard for Signal Coverage 18

Require New Networks 18
No Profit, No Loss 18
Circulate Statement of Requirements Before Auction 19
Clarify Coverage Requirement Obligations 19
Rebanding 19

Auction Results 20

Scenarios for Sharing 21

Congressional Oversight 22
Governance through Regulation 22
Governance by a Federal Corporation 23

Conclusion 24
Market Mechanisms and Regulated Monopolies 25

Public-Private Partnership for a Public Safety Network: Governance and Policy

Introduction

This discussion of governance for a public-private partnership focuses on preparations by the FCC to auction 62 MHz[1] of radio frequencies in the 700 MHz band of radio spectrum in conformance with requirements in the Deficit Reduction Act.[2] The FCC issued rules, in a *Second Report and Order*,[3] concerning the allocation of this spectrum, the upcoming auction, the final disposition of spectrum assigned for public safety use, and the creation of a public-private partnership to build and operate a nationwide network for public safety users, with agreements for sharing spectrum.

The decision to create a partnership was centered on two conclusions, endorsed by the Federal Communications Commission (FCC) and the majority of stakeholders: 1) that a network with national coverage would meet public safety needs for robust communications capabilities, information, and interoperability; and 2) that sharing spectrum with commercial users would benefit public safety by providing new sources of funding,[4] economies of scale in building the needed network, and access to additional spectrum in times of large-scale emergencies, among other benefits.

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[1] Spectrum allocations are assigned within bands that are divided into bandwidths or channels based on assigned frequencies. Electromagnetic radio waves are usually identified by frequency, measured in cycles per second, or hertz. Standard abbreviations for measuring frequencies include kHz — kilohertz or thousands of hertz; MHz — megahertz, or millions of hertz; and GHz — gigahertz, or billions of hertz. The 700 MHz band plan (698 MHz to 806 MHz) refers to those channels that are assigned to technologies that transmit signals at speeds within or near 700 million cycles per second.

[2] P.L. 109-171, Sec. 3003 (a) (2).

[3] FCC, *Second Report and Orde*r, July 31, 2007, WT Docket No. 96-86. The full notice was released August 10, 2007; the Public Notice for comment on proposed auction rules was released August 17, 2007 (AU Docket # 07-157).

[4] Cyren Call Communications Corporation, in ex parte comments filed with the FCC on June 4, 2007, set the cumulative capital expenditure for building a public-private network at $18 billion, of which roughly a third of the cost would be for enhancements for public safety use. An estimate from Northrop-Grumman Corporation places the cost at $30 billion, when service applications are included. (Statement by Mark S. Adams, Chief Architect Networks and Communications at WCA 2007, Washington, DC, June 14, 2007.) These estimates do not include the cost of radios.

Creating a Partnership

Since it initiated auctions in 1994, the FCC has consistently provided auction rules that allow it to establish financial requirements for potential bidders, to set aside licenses for specific classes of bidders, to provide economic incentives, and to use other tools for managing the auction process.[5]

In addition to setting up rules for the auctions it conducts, the FCC also establishes and enforces service rules for the use of licenses. Among the provisions of service rules for advanced wireless services there is typically a requirement that licenses be put to use within a specific number of years. Service rules can also be used to specify technologies, uses, or users. Over the years these rules have often focused specifically on cell phone networks and their technologies, with the goal of providing widely accessible cell phone service. For the upcoming auction, the FCC expanded the scope of its service rules to include a plan that mandates spectrum sharing between a public safety spectrum license holder and a commercial licensee. The commercial licensee will be obligated to build a network to satisfy public safety needs as well as those of its commercial customers.

Regulatory Governance Through Service Rules

The FCC followed past procedures in the creation of service rules to establish the structure for a public-private partnership as part of its preparation for the auction of licenses in the 700 MHz band. In its review of background and discussion of its decisions, in the *Second Report and Order*, the FCC tried to anticipate the problems that might arise in building and operating a shared network and to preclude difficulties by providing a regulatory framework that sets and enforces rules and requirements. The regulatory framework for a public-private partnership comprises sets of binding requirements for organization, performance, and compliance for three interlocking components:

- Public Safety Broadband Licensee holding 10 MHz of spectrum at 700 MHz.
- Commercial partner, the winning bidder for the D Block, which is a national license for 10 MHz of spectrum at 700 MHz.
- Network Sharing Agreement (NSA) that the two licensees are required to create in order to build and manage a shared network.

As elaborated in the rules, all three of these components must be tailored to meet guidelines set by the FCC. Contracts and other legal agreements must be approved by the FCC;[6] compliance is subject to oversight;[7] and disputes are to be

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[5] See CRS Report RL31764, *Spectrum Management: Auctions*, by Linda K. Moore.

[6] As stipulated in the rules covering both of the licensees and the Network Sharing Agreement. See discussion in text of this report.

[7] FCC, *Second Report and Order*, released August 10, 2007, paragraph 523.

resolved through the FCC, in accordance with the Communications Act of 1934, or through litigation.[8]

The following overview of the FCC's *Second Report and Order*, and subsequent orders, highlights issues for policy makers that regard public safety communications. This report is not an exhaustive study of all provisions that pertain to public safety nor does it cover the parts of the order dealing with the purely commercial licenses that are to be auctioned as well.[9]

Public Safety Broadband License

Congress directed the FCC to allocate 24 MHz of spectrum within the 700 MHz band for public safety use as part of the transition from analog to digital television, which would free these airwaves.[10] The initial planning for public safety use of frequencies at 700 MHz began in 1997 and concluded with the submission of the final report of the Public Safety National Coordination Committee (NCC) in 2003. The NCC operated as a Federal Advisory Committee[11] to the FCC, developing technical and operational standards for the 700 MHz band and structuring the management of licenses through regional committees. The existing governance for these channels is made up of 55 Regional Planning Committees (RPCs), loosely coordinated through the efforts of the National Public Safety Telecommunications Council (NPSTC).[12]

The band plan originally intended to carry public safety radio traffic at 700 MHz has been revised to create two different licensing approaches. With the support of NPSTC[13] and others, the FCC negotiated modifications to the band plan that reflect changes in technology and public safety needs. One block of the revised band plan will be for narrowband (primarily voice) applications and the other for broadband applications. Channels have been reassigned to support narrowband operations in 12 MHz of paired spectrum, at 769 - 775 MHz and 799 - 805MHz.[14] These channels will be administered by states and localities through the existing regional committee

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[8] *Ibid.*, paragraph 529. Possible recourse for failure to complete a Network Sharing Agreement are discussed in paragraphs 508 and 509.

[9] See CRS Report RS22218, *Spectrum Use and the Transition to Digital TV*, by Linda K. Moore.

[10] The Balanced Budget Act of 1997, 47 U.S.C. § 309 (j) (14). For a discussion of the DTV transition see CRS Report RL34165, *The Transition to Digital Television: Is America Ready?* by Lennard G. Kruger.

[11] The role and organization of Federal Advisory Committees is addressed in CRS Report RL30260, *Federal Advisory Committees: A Primer*, by Stephanie Smith.

[12] See [http://www.npstc.org/index.jsp]. Viewed January 17, 2008.

[13] See, for example, NPSTC position paper on 700 MHz, released July 6, 2007, at [http://www.npstc.org/documents/NPSTC%20Public%20Safety%20700%20MHz%20Position%20Paper%2007052007.pdf]. Viewed January 17, 2008.

[14] *Second Report and Order*, paragraph 322.

structure. All RPCs with approved band plans are required by the FCC rule making to submit amended band plans.[15] The networks built on the narrowband frequencies will be financed through long-standing procedures that use a combination of local, state, and federal funds.

Spectrum will be allocated for broadband communications (high speed data transmission, video, and voice) in 10 MHz of frequencies at 763 - 768 MHz and 793 - 798 MHz.[16] These frequencies will be assigned to a Public Safety Broadband Licensee that will also be responsible for the administration of two guard bands, each covering one megahertz, at 768 - 769 MHz and 798 - 799 MHz.[17] Guard bands are created to act as buffers against interference from other operations on nearby frequencies.

The Public Safety Licensee will be obligated to meet a number of requirements. These requirements focus mainly on three areas: the formation of a not-for-profit corporation to hold the license; the responsibilities of this non-profit organization — including establishing standards and participating in the creation of the Network Sharing Agreement; and compliance. The cost of building the national network using the spectrum held by the broadband licensee will be shouldered by its commercial partner, although there could be system enhancements or other components funded by the public sector.

In order to accommodate the new band plan, some public safety network operators will have to modify equipment already purchased for use on 700 MHz frequencies. Some of the cost of these changes will be covered by the commercial D Block licensee.[18] (Discussed below, in section on 700 MHz rebanding.)

Selection and Establishment of the Public Safety Broadband Licensee

The FCC selected the Public Safety Broadband Licensee, based on criteria such as not-for-profit corporate status; absence of commercial interests, either in the holding of the license or its management; and broad representation of public safety entities.[19] In anticipation of receiving the public safety license, a group of public safety associations formed the Public Safety Spectrum Trust Corporation (PSST). The Trust hired Cyren Call Communications Corporation to act as its advisor and liaison in negotiating with the D Block licensee. The PSST was subsequently awarded the nationwide Public Safety Broadband License.[20]

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[15] *Ibid.*, paragraph 346.

[16] *Ibid.*, paragraph 322.

[17] *Ibid.*, paragraph 322.

[18] *Ibid.*, paragraph 322.

[19] *Ibid.*, paragraph 373.

[20] FCC, *Order*, November 19, 2007, PS Docket No. 06-299.

Board of Directors. Representation on the Board of the Directors of the Public Safety Broadband Licensee is to consist of members from named organizations representing public safety[21] and at-large members selected jointly by the FCC bureaux for Public Safety and Homeland Security and for Wireless Telecommunications. In the *Second Report and Order*, the FCC provided a list of 11 organizations designated to appoint board members and allowed for two at-large members, creating a board of 13 members.[22] In a later *Order on Reconsideration*,[23] the FCC changed the composition of the board, adding three representatives from named organizations,[24] eliminating one representative,[25] and increasing the number of at-large members from two to four. The FCC chose to eliminate NPSTC as a named member of the board because of the overlap of its membership with the composition of the associations that were given permanent status on the board.[26] The four organizations selected by the FCC to serve as at-large members on the Board of Directors are the American Hospital Association, the National Fraternal Order of Police, the National Association of State 9-1-1 Administrators, and the National Emergency Number Association.[27]

Oversight. As part of the FCC's oversight, PSST, as selected licensee, will be required to file quarterly financial reports with the FCC, with copies to the chiefs of the Public Safety and Homeland Security Bureau and the Wireless Telecommunications Bureau.[28] The licensee must meet criteria for its articles of

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[21] Revised list (September 24, 2007) provides for one voting member each from the Association of Public-Safety Communications Officials - International (APCO), the National Emergency Number Association (NENA), the International Association of Chiefs of Police (IACP), the International City/County Management Association (ICMA); the National Governors Association (NGA); the National Association of State EMS Officials (NASEMSO); the Forestry Conservation Communications Association (FCCA); the American Association of State Highway and Transportation Officials (AASHTO); and the International Municipal Signal Association (IMSA).

[22] *Second Report and Order*, paragraph 374.

[23] FCC, *Order on Reconsideration*, September 24, 2007, WT Docket No. 96-86.

[24] These are FCCA, AASHTO and IMSA.

[25] National Public Safety Telecommunications Council (NPSTC).

[26] *Order on Reconsideration*, paragraph 5. NPSTC membership includes a governing board with representation from these associations that are to be represented on the board of the public safety licensee organization: AASHTO, APCO, FCCA, IACP, and IMSA. The board is advised by liaison organizations that include, the FCC, the NTIA, FEMA, DHS offices of Emergency Communications and of Interoperability and Compatibility, SAFECOM (also from DHS), the departments of Agriculture, Interior, and Justice, and the Telecommunications Industry Association (TIA). For more information on membership and organizational structure, see [http://www.npstc.org/orgchart.jsp]. Viewed January 17, 2008.

[27] FCC, *Public Notice*, "Public Safety and Homeland Security Bureau and Wireless Telecommunications Bureau Announce the Four At-Large Members of the Public Safety Broadband Licensee's Board of Directors," November 9, 2007, DA 07-4593.

[28] *Second Report and Order*, paragraph 377.

incorporation and bylaws, as specified in the *Second Report and Order* rules.[29] The FCC has judged that it is appropriate for it to provide, as needed, "extensive" oversight to ensure that these corporate governance stipulations are met.[30]

Right to Revoke License. The FCC considered a number of options to assure that the public safety license holder would receive the level of services needed for a robust emergency communications network. Suggestions that the public safety licensee be able to request the reassignment or re-auction of the D Block license, if cooperation and progress was deemed unsatisfactory, were rejected.[31] The FCC has reserved for itself the right to re-assign the commercial license, if necessary, under circumstances detailed in the rule making.[32] It also has asserted its authority to revoke the license awarded to the Public Safety Broadband Licensee if it fails to meet its obligations under the Network Sharing Agreement or otherwise does not comply with FCC rules and regulations.[33]

Duration of License. Unless revoked, the public safety license will be valid for ten years, effective February 17, 2009, the scheduled date on which analog television broadcasts on the 700 MHz band must end. The license is renewable.[34]

Obligations of the Public Safety Licensee

The selected public safety licensee, having met the initial requirements for qualification, will have additional tasks set for it by the FCC. General responsibilities include:[35]

- Negotiate a Network Sharing Agreement with its commercial partner, the qualifying, winning bidder for the D Block.
- Administer access to the network for public safety users, including assessment of usage fees.
- Represent the interests of its public safety constituents that utilize the network.
- Negotiate purchase agreements with vendors that provide savings through economies of scale, or other benefits. This responsibility does not limit the licensee's right to determine and approve equipment specifications.
- Approve, in consultation with D Block licensee, the equipment and applications that may be used on the network. The licensee has the sole authority to determine the acceptability of equipment or applications. State and local entities must seek approval from the

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[29] *Ibid.*, paragraph 375.

[30] *Ibid.*, paragraph 376.

[31] *Second Report and Order*, paragraph 509.

[32] *Ibid.*, paragraphs 509 and 523 - 526.

[33] *Ibid.*, paragraph 527.

[34] *Ibid.*, paragraph 385.

[35] *Ibid.*, paragraph 383.

licensee before linking their systems or equipment to the broadband network.
- Coordinate stations accessing narrowband and broadband frequencies.
- Oversee and implement the relocation of some users required by rebanding of parts of the 700 MHz band.
- Decide, at its sole discretion, whether or not to allow federal public safety agencies access to the broadband network.
- Review requests for construction or use of wideband networks in areas that will not be served by the new broadband network. (Wideband refers to enhanced narrowband systems that allow for some data transmissions in addition to voice communications.)
- Facilitate negotiations to build network sites on public land owned by states or localities.

The Commercial Partner

The commercial partner in the public-private partnership will be the winning bidder for Block D, one of the licenses to be offered at the auction of 700 MHz band licenses, designated Auction 73. The FCC ruled that eligible bidders for Block D that qualify as small businesses under existing FCC rules will be entitled to a bidding credit (a reduction in the amount due on the wining bid) of 15% for companies with average attributable gross revenues of $40 million in the past three years and 25% for companies with average annual earnings of no more than $15 million.[36] Many start-up companies could qualify as designated entities under this designation.

D Block License

The D Block will be a single, nationwide license for frequencies at 758 - 763 MHz and 788 - 793 MHz, a total of 10 MHz.[37]

Minimum Bids. The FCC directed the Wireless Telecommunications Bureau to set reserve prices for each block of licenses to be auctioned.[38] It suggested that the reserve price for the D Block be set at $1.33 billion. Based on winning bids for a previous auction, the D Block has a presumed value of $1.7 billion but the FCC rules recommended that the amount be discounted to reflect the additional service rules and requirements for the D Block license holder.[39] The rules state that the FCC

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[36] *Ibid.*, paragraph 536.

[37] *Ibid.*, paragraph 65.

[38] *Ibid.*, paragraph 304. The Wireless Telecommunications Bureau subsequently set the reserve price for Block D at $1.33 billion in a notice released October 5, 2007: "Auction of 700 MHz Band Licenses Scheduled for January 24, 2008," DA-074171, AU Docket No. 07-157.

[39] *Ibid.*, paragraph 305.

will re-auction licenses if reserve prices are not met during Auction 73. This could include the D Block.[40]

Assignment of License: Network Sharing Agreement. The winning bidder will not be assigned the D Block license until it has met specific requirements established by the FCC such as completion of a Network Sharing Agreement with the Public Safety Broadband Licensee.[41] The negotiations for the NSA are to begin on the date that the winning bidder files its long form application (post-auction, the long form provides additional information pertaining to each license won at auction). The FCC has required that, within six months from that date, the NSA will have been completed by the negotiating parties and approved by the FCC.[42] The FCC also required a separate agreement that would grant the Public Safety Broadband Licensee 1) right of first refusal if network assets are to be sold and 2) the option to purchase the network assets at fair market value if the D Block license is cancelled or terminated.[43]

Timetable for Negotiations. The winning bidder for the D Block is required to file a report with the FCC, within ten days of the commencement of negotiations for the NSA, certifying that good faith negotiations have begun and are being actively pursued. A timetable of at least the first 30 days of negotiation meetings is to be provided at that time. After three months, both licensees will begin to provide detailed monthly reports on negotiations. The FCC may demand additional reports as needed. Two members of the FCC staff are to be present as neutral observers at all stages of the negotiation.[44]

Assignment of License: Corporate Structure. Another requirement for receiving the D Block license is the formation of separate legal entities, one to hold the D Block license, one to own the network assets, and one to serve as an operating company. The operating company will enter into agreements to lease spectrum rights from the company owning the D Block and to lease secondary rights to the public safety spectrum.[45] These companies must be "bankruptcy remote," as attested to by bankruptcy counsel retained by the D Block license winner.[46] A typical corporate structure that would be bankruptcy remote could consist of a holding company and subsidiary companies with the assets of each company protected from the possible insolvency of any other company in the group. Other specific-purpose companies might also be included within the corporate structure. All must be approved by the FCC.

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[40] *Ibid.*, paragraph 306.

[41] *Ibid.*, paragraphs 314 and 448.

[42] Measures to be taken if the agreement is not completed within six months are outlined in the *Second Report and Order*, especially paragraphs 504 and 508.

[43] *Second Report and Order*, paragraph 525.

[44] *Ibid.*, paragraphs 506 and 507.

[45] *Ibid.*, paragraph 520.

[46] *Ibid.*, paragraph 518.

The commercial partner in the public-private partnership will therefore be a corporate structure comprised of quasi-independent companies, each with a designated function. These entities and any leasing or other commercial agreements created to implement the partnership will be "subject to the Communications Act, as amended, and the Commission's rules and regulations."[47] The parties to this corporate structure and its various components, as required or authorized by the FCC, will have the responsibility to build out the shared network, as specified in the Network Sharing Agreement and the FCC rule making.[48]

Cancellation of License. Failure to meet the obligations of the NSA, network build out deadlines, or other rules established by the FCC could lead to the revocation of all or part of the D Block license and its reassignment by the FCC.[49] Cancellation would be treated as a default on the part of the license-holder, which would be obligated to pay a penalty, currently set at 10% of auction price.[50]

Duration of License. Unless revoked, the D Block license will be valid for ten years, effective February 17, 2009, the scheduled date on which analog television broadcasts on the 700 MHz band must end. As long as the licensee complies with the rules established by the FCC, it will be eligible to apply for license renewal.[51]

Network Build Out and Performance Levels

The commercial corporation formed as required by the FCC will be fully responsible for building the public safety network, using spectrum held by the public safety licensee and the D Block license holder.[52] This build out will conform to FCC requirements and to specific requirements negotiated with the public safety licensee in the Network Sharing Agreement.[53] Modifications to these requirements may be permitted, subject to approval of all parties concerned, including the FCC.[54]

Build Out Benchmarks. The FCC established benchmarks for a population-based build out. The first benchmark is four years from February 2009, by which time the network should reach 75% of the population to be served by the national D Block license. By the end of seven years (2016), 95% of the population, nationwide, is to have coverage. At the end of ten years (2019), 99.3% of the population is to be

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[47] *Ibid.*, paragraph 518.

[48] *Ibid.*, paragraph 519.

[49] *Ibid.*, paragraph 522.

[50] FCC, Public Notice, "Revised Procedures for Auctions 73 and 76: Additional Default Payment for D Block Set at Ten Percent of Winning Bid Amount; Disputed Issues in the Negotiation of Network Sharing Agreement," November 2, 2007, DA 07-4514 at [http://hraunfoss.fcc.gov/edocs_public/attachmatch/DA-07-4514A1.pdf].

[51] *Ibid.*, paragraphs 457-459.

[52] *Ibid.*, paragraph 366.

[53] *Ibid.*, paragraph 438.

[54] *Ibid.*, paragraphs 386 and 443.

covered. Population measurements will be based on currently available U.S. Census data.[55]

To assure the FCC's minimum standards for coverage are met, it has required the NSA to include a build-out schedule for major highways, interstates, and incorporated communities with a population over 3,000.[56] To monitor progress in build outs to specific areas, the FCC further required an estimated cost for each area.[57]

The D Block licensee has the responsibility of confirming to the FCC that the benchmarks have been met. Failure to meet benchmark deadlines could lead to cancellation of the license.[58]

Performance Guarantees. To bolster coverage in rural areas, the D Block licensee is required to offer at least one handset that includes an integrated satellite solution for public safety use.[59] The D Block licensee must provide sufficient robustness in signal carriage to assure that its population coverage requirements are met as well as the coverage and availability requirements established in the NSA. The NSA is also to establish requirements for service to public safety users and for network performance and reliability. The D Block licensee is prohibited by the FCC from discontinuing or degrading service to its public safety customers unless the change has either been requested by the network users or approved by the FCC. The commercial license holder must give thirty days advance notice of any unrequested discontinuance or degradation of network service.[60]

Network Sharing Agreement

The Network Sharing Agreement (NSA) is the keystone of the public-private partnership and its rules are the contractual mortar that unites the two licensees. Adherence to the agreement is a regulatory condition for both the commercial and the public safety licensees.[61] The FCC will review the NSA and must approve all of its components.[62] Although the FCC allows the two parties leeway in negotiating the agreement, it has set various requirements, such as network coverage requirements

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[55] *Ibid.*, paragraph 437.

[56] *Ibid.*, paragraph 440.

[57] *Ibid.*, paragraph 453.

[58] *Ibid.*, paragraph 443.

[59] *Ibid.*, paragraph 438.

[60] *Ibid.*, paragraph 521.

[61] *Ibid.*, paragraph 448.

[62] *Ibid.*, paragraph 364.

noted above, that must be included in the NSA. In particular the FCC included minimum standards for the network as part of the *Second Report and Order*.[63]

FCC Network Requirements

To assure that the network meets the needs of public safety, the FCC established a list of requirements that must be addressed through the NSA. These are:

- Specifications for a platform that provides broadband mobile voice, video, and data and includes current and evolving technologies that have features for public safety users, as well as commercial uses.
- Specifications that assure communications interoperability across agencies, jurisdictions, and geographic areas.
- Sufficient signal coverage to meet public safety standards, such as service reliability of 99.7% or better.
- Sufficient robustness to meet reliability and performance standards of public safety, including features such as hardening of transmission facilities and antenna towers to withstand harsh weather and disaster conditions and back-up power to maintain operations for "an extended period of time."
- Sufficient capacity to meet the needs of public safety during emergency situations and periods of heavy usage without degrading service, for example by blocking calls or slowing transmissions. The FCC's expectation is that the network will use spectrum efficient technologies to achieve this.
- State-of-the-art security and encryption technologies.
- Automatic prioritization of public safety communications over commercial uses in real time, and prioritization of public safety communications by type, with the highest priorities going to safety of life and property, and to homeland security.
- Capabilities consistent with current and evolving operational needs of public safety for specific features, such as push-to-talk, that meet the specifications of the Public Safety Broadband Licensee.
- Operational control of the public safety network by the Public Safety Broadband Licensee "to the extent necessary to ensure public safety requirements are met."
- Right of the Public Safety Broadband Licensee 1) to determine and approve the specifications of public safety equipment that is used on the network and 2) to purchase its own subscriber equipment from any vendor.
- Provision, by the D Block Licensee, of at least one integrated handset for public safety use that works on 700 MHz and satellite frequencies.[64]

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[63] *Ibid.*, paragraph 405.

[64] This and preceding bullet points are covered in *Second Report and Order*, paragraph 405.

- Adoption of a common standard for nationwide broadband interoperability that must be used by all public safety users that participate in the network.[65]

Other Obligations and Stipulations

Guidelines and obligations are stipulated by the FCC in its rule making. Both licensees must agree to act in good faith in their negotiations to create the Network Sharing Agreement.[66] Other components of the NSA covered by FCC rules include the establishment of a fee structure and the duration of the agreement.

Fees. The FCC has ruled that all service fees must be specified in the NSA. These fees would include fees for normal network service and for priority access to commercial spectrum capacity in times of emergency. The FCC opined that the two licensees should be left to negotiate "reasonable rates" in good faith, and provided examples of what it considers to be reasonable. These include expectations that the fee structure will have "financial incentives for the commercial licensee" based on the number of subscribers from the public safety sector and that priority access fees will be structured to protect public safety participants from unforeseen or unbudgeted payment obligations.[67] Other guidelines for a reasonable pricing structure include affordable rates that are priced in line with comparable commercial services, but at lower rates for public safety.[68] The FCC's stated expectation is that the D Block licensee, when negotiating fees with its public safety partner, will provide terms that best serve the public safety goals established in the *Second Report and Order*. The FCC reiterated some of the tools available to it to ensure that NSA disputes are resolved, which it can apply to assure that the fees charged meet its expectations of what is reasonable.[69]

Duration of Agreement. The NSA is to be in effect for a term not to exceed ten years, beginning February 17, 2009. This term corresponds to the duration of the D Block license. The NSA may be renewed along with the D Block license. The FCC will decide whether to renew or modify the NSA at the same time that it considers renewal of the D Block license.[70]

Modification of the Agreement. Modifications to the NSA or other agreements that are part of the public-private partnership structure must be approved by the FCC Commissioners, in case of major changes, or by the Chiefs of the Wireless Bureau and the Public Safety and Homeland Security. Approval must be

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[65] *Ibid.*, paragraph 364.

[66] *Ibid.*, paragraph 447.

[67] *Ibid.*, paragraph 450.

[68] *Ibid.*, paragraph 451.

[69] *Ibid.*, paragraph 452.

[70] *Ibid.*, paragraph 449.

received in advance of any action, after both licensee partners have agreed to the modifications.[71]

Rules for Managing Spectrum

The Public Safety Broadband Licensee is authorized by the FCC to lease access to the frequencies covered by its license exclusively to the D Block licensee, on a secondary, unconditionally preemptible basis.[72] This means that the D Block network commercial users will be able to transmit on available frequencies in the public safety band only when there is no demand from the primary, public safety users, and that any demand from public safety is to be immediately met by terminating the commercial traffic and yielding to the public safety user. This privilege of secondary access is to be accorded to the D Block licensee as part of the interlocking agreements that constitute the public-private partnership.[73] For example, the Public Safety Broadband Licensee is required to lease spectrum to the D Block licensee, and the D Block licensee is required to build a network for public safety use.[74] The FCC will require a spectrum manager leasing arrangement for the full term of the ten-year license. This form of lease places the responsibility for compliance fully on the lessee, the D Block license holder.[75] As part of its spectrum management obligations, the D Block licensee will be required to assure that public safety users will not experience harmful interference, interruption, or degradation of service due to commercial operations in the public safety spectrum band. One prerequisite for this level of assurance is a requirement by the FCC that the network be designed to assign priority to first responders automatically, with immediate preemption or exclusion from access to the network by commercial users.[76]

In return for allowing commercial usage of its bandwidth, public safety will have the right to real time access, on an emergency basis, of the spectrum licensed to the D Block.[77] The obligation to provide this priority access is one of the service rules attached to the D Block license. The definition of what constitutes an emergency is to be part of the NSA. In situations not covered by the NSA, where an agreement between the two licensees about what constitutes an emergency cannot be reached, the public safety licensee can appeal to the FCC to declare that an emergency exists that requires access to D Block frequencies.[78]

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[71] *Ibid.*, paragraph 454.

[72] *Ibid.*, paragraph 414.

[73] *Ibid.*, paragraph 416.

[74] *Ibid.*, paragraph 415.

[75] *Ibid.*, paragraph 417.

[76] *Ibid.*, paragraph 418.

[77] *Ibid.*, paragraph 426.

[78] *Ibid.*, paragraph 427.

Rebanding Public Safety Spectrum at 700 MHz

In order to accommodate both narrowband and broadband networks for public safety, the FCC revised the original band plan for the 24 MHz allocated to public safety.[79] In addition to opening the way for a shared spectrum agreement between the public safety community and the private sector, the FCC resolved other spectrum management issues that are not discussed in this summarizing report. Among the FCC decisions of consequence to the operation of public safety networks in the 700 MHz band are:

- Move some networks already in the preliminary stages of build out, requiring a certain number of technical adjustments to equipment and software.
- Require the D Block licensee to pay for the costs of these adjustments.
- Cap at $10 million the amount of allowable reimbursement to public safety network operators by the D Block licensee.
- Prohibit new operations of narrowband systems on 700 MHz public safety networks that will be relocated as a consequence of the rebanding.
- Limit building and use of wideband networks.

Relocating Public Safety Networks

The new band plan for public safety in the 700 MHz band has created two separate sets of paired spectrum blocks. One set of paired frequencies will be used for narrowband communications, the other set has been designated for the new, broadband network to be built by the public-private partnership. Because parts of the 700 MHz band intended for public safety use are not encumbered by broadcasters, some states have begun to build narrowband networks that use the 700 MHz capacity. Base stations and radios will have to be modified if they have already been programmed to operate on frequencies that are being reassigned to the broadband network. These frequencies must be vacated by February 17, 2009, or as soon after that date as possible, so that they will be immediately available for broadband use.[80]

Costs Associated With the Relocation. As part of the rule making process, Motorola, Inc., a leading provider of public safety equipment, provided the FCC with a cost estimate for a rebanding plan proposed by the NPSTC.[81] The NPSTC plan would have covered equipment already installed, on order, or planned. Motorola set the cost of the retuning at $9.45 million, which amount would cover all

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[79] *Ibid.*, paragraphs 325 - 326.

[80] *Ibid.*, paragraph 332.

[81] Letter from the National Public Safety Telecommunications Council, June 25, 1007, WT Docket No. 96-86.

installations projected to be in place by July 2008.[82] The FCC decided that the D Block licensee would be obligated to cover the costs of rebanding [83] but took several measures to control the cost. A cap of $10 million in reimbursements was established. To assure that costs stayed below that threshold, the FCC ruled that only systems and radios in operation as of 30 days after the adoption of the *Second Report and Order* would be covered. The cut-off date, therefore, was August 30, 2007. By limiting the number of base stations and radios that would have to be reprogrammed, the FCC figured that the estimated cost would be around $6 million, based on a pro-rating of the cost assumptions presented by Motorola. The FCC reasoned that this would provide leeway, if costs had been under-estimated, to assure that the total cost remained under the $10 million cap.[84]

Freeze on New Operations. To further control costs for relocation expenses, the FCC prohibited new operations on affected narrowband frequencies after August 30, 2007.[85]

Determining Reimbursement of Costs. The FCC set out rules for calculating actual costs and reimbursements. As with the negotiation of the Network Sharing Agreement, the public safety licensee and the commercial D Block licensee are obligated to reach an agreement that must be reviewed and approved by the FCC;[86] the two licensees must prepare a plan for relocation and an agreement on costs for rebanding. The licensees are given 30 days to reach agreement on the plan.[87]

To receive reimbursement, displaced public safety network operators must meet a number of conditions. For example, they must provide information, accurate as of August 30, 2007, that is to be accompanied with a certification of accuracy. This information covers:

- Total number of mobile narrowband mobile and portable handsets in operation on the affected frequencies.
- Total number of base stations serving the narrowband handsets.
- Contact information for each identified set of handsets and base stations.
- Geographical area of operation of mobile and portable units.
- The location of the base stations.

The D Block licensee will be responsible for reimbursing only the minimum cost for necessary changes to base stations, mobiles, and portables, and not for any

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[82] Letter filed by Motorola, Inc., June 29, 2007, WT Docket No. 96-86.

[83] *Second Report and Order*, paragraph 336.

[84] *Ibid.*, paragraph 341.

[85] *Ibid.*, paragraph 339.

[86] *Ibid.*, paragraph 340. The Chief of the FCC's Public Safety and Homeland Security Bureau is assigned the responsibility of reviewing and approving the rebanding plan.

[87] *Ibid.*, paragraphs 336 and 504.

unrelated improvements. Specifically, the FCC does not require the D Block licensee to assume responsibility for costs related to reassigning channels or other changes to the Regional Planning Committee plans.[88] The rule making does acknowledge the possibility that some reimbursement may be forthcoming for the Public Safety Broadband Licensee's cost related to the rebanding program.[89]

Paying Reimbursements. The D Block licensee and the public safety licensee are expected to agree on the total costs (not, however, to exceed $10 million) that are to be reimbursed for changes necessitated by rebanding. This amount must be submitted to the FCC as part of the required relocation plan, with certification from the two license holders and the relevant equipment vendors that all parties agree to the negotiated prices and that no changes will be made.[90] The amount, once approved by the FCC, must be paid into a trust account established by the Public Safety Broadband Licensee, no later than the date of execution of the Network Sharing Agreement. The public safety licensee will have the responsibility of administering the account and making payments in accordance with the agreed reimbursement schedule. No payments can be made from the trust account, however, until the D Block license has been conferred to the winning bidder.[91] The winning bidder for the license is the provisional winner until all requirements set by the FCC have been satisfied.

Wideband Operations

The FCC has ruled that public safety network operators wishing to operate wideband systems (enhanced capacity for narrowband channels), must obtain a waiver. The waiver request must contain an application for authorization; a letter from the Public Safety Broadband Licensee confirming that the wideband operations will not be inconsistent with broadband deployment plans; agreed upon conditions of operation; a transition plan to the broadband network;[92] and certification that it will not seek reimbursement (from the D Block licensee) for costs incurred in a future transition to broadband operations.[93] Grants for waivers will only be given for wideband operations within the narrowband frequencies; except under rare circumstances, no wideband operations will be permitted in the broadband frequencies.[94] Devices used on the wideband network must be interoperable with the

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[88] *Ibid.*, paragraph 338.

[89] *Ibid.*, paragraph 342.

[90] *Ibid.*, paragraph 342.

[91] *Ibid.*, paragraph 343.

[92] *Ibid.*, paragraph 491.

[93] *Ibid.*, paragraph 495.

[94] *Ibid.*, paragraph 492.

broadband network.[95] Licenses for operation granted for wideband operations will be valid for five years.[96]

Public Comments and Petitions

Comments and Petitions for Reconsideration filed with the FCC, regarding the *Second Report and Order*, reflect a variety of viewpoints on various aspects of the rule. Comments regarding auction rules that deal with matters other than public safety are not discussed in this report.

Frontline Wireless, Inc., a start-up company that qualified as a designated entity, was widely expected to be a leading bidder for the D Block but did not apply to participate in the auction. The reason most often cited in the press was that the company was unable to obtain financing. Explanations given for the reluctance of investors include the high risk associated with dealing with the public safety licensee — including the possible forfeiture of 10% of the auction price — and the high cost of completing the build-outs and coverage deadlines established by the FCC.[97] Concerns about these requirements were expressed by Frontline, among others, in comments filed with the FCC. Observations dealing with the topics of the creation of the public-private partnership and the requirements for rebanding are summarized below.

Public-Private Partnership

Among the comments that relate to the creation of a public-private partnership, those on behalf of AT&T, Inc., Frontline,[98] and Cyren Call are among those relevant to this report. Issues raised by one or more of these companies included proposals to reduce risk and uncertainty for the commercial partner.[99]

Lower Reserve Price for the D Block. The general argument, applied also to the C Block, is that bidders will underbid for the C and D Block licenses with the expectation that, if the price thresholds are not met, the licenses will be reauctioned with terms that are more favorable to the licensee. Therefore, the eventual highest bidder may not meet the "highest and best use" standard that is the expected outcome of auctions.

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[95] *Ibid.*, paragraph 495.

[96] *Ibid.*, paragraph 496.

[97] "Frontline Wireless 'Closed for Business': Demise Seen As Bad Sign for New 700 MHz Auction Bidders," by Brian Hammond, TR Daily, January 8, 2008.

[98] Frontline, Inc. is a consortium with significant participation from Silicon Valley investors. The company, joined by Google, Inc. and others, pressed for open access and wholesale networks on 700 MHz licenses. See [http://www.frontlinewireless.com]. Viewed January 17, 2008.

[99] FCC, WT Docket No. 96-86.

Eliminate Default Penalties. Another expressed concern was about the default penalties that might be applied if negotiations for a Network Sharing Agreement fail. The FCC had raised the possibility of declaring the D Block license winner in default and applying the existing auction-rule penalties for default.[100] Comments urged that this penalty should not be applied unless the winning bidder has negotiated in bad faith, as the license may be denied for reasons outside the winning bidder's control. The risk and uncertainty could hinder the efforts of companies to secure financial backing for their auction participation. In response, the FCC set the amount of the penalty at 10% of the auction price. If the reserve price of $1.33 billion is the auction price for the D Block license, the amount forfeited — if a Network Sharing Agreement is not successfully concluded, for example — would be $133 million.

Omit Specific Standard for Signal Coverage. Also in the interest of improving certainty for the license bidders, several comments criticized the FCC's decision to provide an example of a specific standard for signal coverage. Among the requirements that the FCC listed for the Network Sharing Agreement is one for sufficient signal coverage to meet public safety standards, such as service reliability of 99.7% or better.[101] Some comments advised the FCC to let the licensees agree to performance measurements for signal coverage and not mention a specific standard. Cyren Call suggested that 95% is a more appropriate guideline,

Require New Networks. Both to assure a level playing field among potential builders and to provide the latest technology for the network, Frontline wanted the FCC to require that network build out be entirely new infrastructure. If an incumbent with an extensive network wins the D Block license, then it might meet the build out deadlines for service coverage by incorporating existing infrastructure. This could provide a competitive advantage to incumbents with large networks that presumably would need to raise less cash to meet their obligations in the partnership than new entrants or smaller networks that will have to invest more in infrastructure. Furthermore, even though existing networks might be able to meet minimum standards for performance, set by the FCC or negotiated between the two licensees, an older network, arguably, would under-perform in comparison to a fully new, state-of-the-art network.[102]

No Profit, No Loss. Frontline also proposed that the FCC require a separate, not-for-profit entity in the D Block stable of subsidiary companies to provide a framework for certain financial arrangements between the D Block licensee and the Public Safety Broadband Licensee. Specifically, Frontline urged the FCC to open a comment period regarding a "no profit, no loss" proposal. As described by Frontline, the not-for-profit corporation would negotiate prices with the public safety licensee based on specific costs plus a "modest administrative fee" for its operational expenses. Billable costs would be offset by credits based on the amortized value of secondary use of spectrum for commercial use; alternatively, the public safety

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[100] *Second Report and Order*, paragraph 508.

[101] *Ibid.*, paragraph 405.

[102] Petition for Reconsideration, September 24, 2007, WT Docket No. 96-86.

licensee could be compensated directly for the value of access to its spectrum. Frontline suggested a formula that would charge public safety for access to the network based on recovering: 1) amortized, incremental fixed costs of building the shared network to public safety standards; and 2) ongoing operating expenses for maintaining the shared network for public safety.[103]

Circulate Statement of Requirements Before Auction. Both Cyren Call[104] and AT&T[105] urged that the Statement of Operational Requirements (SOR) be completed and circulated before the auction.

Clarify Coverage Requirement Obligations. Cyren Call requested that the FCC specify that the mandated coverage requirements are to be treated as a single obligation for both licensees and can be satisfied with deployments on either spectrum block.[106]

Rebanding

Two petitions were filed requesting that the FCC allow reimbursement for rebanding radios for systems installed after August 30, 2007, the cut-off date for reimbursement. The petitions were from the Commonwealth of Virginia[107] and from Pierce Transit, a municipal corporation responsible for public transportation in and around Pierce County, Washington.[108] The petitioners argued that they had substantial investments in systems that are well on their way to completion; that they could not freeze development in the short term without jeopardizing public safety; and that they would be severely punished, financially, if they had to absorb the costs of rebanding associated with completing their network plans and maintaining public safety communications. Motorola filed comments in support of Virginia and Pierce Transit, suggesting that the FCC could extend the time during which entities would be entitled to reimbursement, without adding undue costs to the D Block license-holder or interfering with the transition to new frequencies by February 2009.[109] Additionally, the National Association of Telecommunications Officers and Advisors (NATOA) filed comments supporting the arguments of Virginia and Pierce Transit, noting that NATOA had earlier filed comments urging that any rebanding plan "must not impose any additional costs on public safety entities."[110]

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[103] *Ibid.*

[104] Press Release, October 5, 2007, *op. cit.*

[105] Petition for Reconsideration and Clarification, September 24, 2007, WT Docket No. 96-86.

[106] Petition for Reconsideration and for Clarification, September 24, 2007, WT Docket No. 96-86.

[107] Petition for Reconsideration, September 24, 2007, WT Docket No. 96-86.

[108] Petition for Reconsideration, September 24, 2007, WT Docket No. 96-86.

[109] Comments of Motorola, Inc., October 17, 2007, WT Docket No. 96-86.

[110] Comments of the National Association of Telecommunications Officers and Advisors, (continued...)

Auction Results

The auction grossed $19,592,420,000. Rules for blind bidding included anti-collusion provisions that will remain in effect until early April. Until the anti-collusion restrictions are lifted, there will be no public discussion of actions taken by potential and actual bidders. All of the licenses except for the D Block, intended for shared use with public safety, were successfully auctioned. The D Block received a single bid of $472,042,000, well below the minimum price of $1.3 billion the FCC established for that license. In the rules established for the auction, the FCC allowed for the possibility of re-auctioning the D Block with different requirements, but reserved the right to make a decision based on its determination of public interest.[111] In an Order adopted and released on March 20, 2008, the FCC directed the Wireless Telecommunications Bureau not to proceed with the re-auction of the D Block because it is "in the public interest to provide additional time to consider all options ..."[112]

In announcing plans to hold a hearing on the auction results, Representative Edward J. Markey, chairman of the Subcommittee on Telecommunications and the Internet of the House Committee on Energy and Commerce, included this statement:

> In addition, with respect to the so-called 'D-block' license, which embodied a public safety mission and which has failed to meet the reserve price for this auction, the upcoming hearing will allow the subcommittee to fully review several issues. I believe that any new auction for the 'D-block' should be consistent with an overarching policy goal of advancing public safety objectives and ultimately achieving a state-of-the-art, broadband infrastructure for first responders. In developing a plan for a re-auction of the 'D-block,' the FCC should also take into account the auction results to gauge the level of new competition achieved. Policymakers should also analyze whether a need for a high reserve price continues to exist. Moreover, I believe we must fully review the nature and authority of the public safety spectrum trust and whether this model should be retained or modified, the length of the license term, the build-out requirements and schedule of benchmarks for such build-out, the opportunities for ensuring further openness in wireless markets, the penalties associated with failure to fulfill license conditions, and other issues.[113]

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[110] (...continued)
2007, October 17, 2007, WT Docket No. 96-86.

[111] FCC, *Second Report and Orde*r, WT Docket No. 96-86, August 10, 2007 release, paragraphs 306-307.

[112] FCC, *Order*, AU Docket No. 07-157, March 20, 2008 at [http://hraunfoss.fcc.gov/edocs_public/attachmatch/FCC-08-91A1.pdf]. Viewed March 20, 2008.

[113] "Markey Plans Hearing on Wireless Auction Results & Public Safety Issues," March 18, 2008 at [http://markey.house.gov/index.php?option=content&task=view&id=3295&Itemid=125]. Viewed March 19, 2008.

The hearing will help frame the public discussion of what changes might be required. As noted in the above section on public comments, several of the FCC's rules were criticized by potential bidders, in particular those requirements that were not directly connected to public safety needs, such as the steep penalty if a Network Sharing Agreement was not successfully negotiated. There are also questions as to why the FCC did not seek to temper some of public safety's build-out requirements with reasonable compromises. Deadlines for network completion in remote areas, for example, could have been conditional on public safety commitments to use the network in that area. Although the tenor of some comments suggests that a major re-working of the auction rules is needed to attract high-value bids, that presumes the goal of the D Block auction was to get a high dollar value for the license. The stated goal for the public-private partnership, and by extension the auction of the D Block, has been to get the highest possible performance for the public safety partner in the context of a for-profit business model for the commercial partner. In competitive markets, it can be expected that the price of the D Block license will have to be discounted to reflect higher costs and risks to investors. The FCC, in fact, recognized this in setting the D Block auction reserve; it could be that it failed to give sufficient weight to hidden costs and unneeded risks. There is also speculation that well-capitalized potential bidders, such as Verizon Wireless and AT&T, Inc., refrained from bidding on the well-founded assumption that no other bidders could meet the reserve price of $1.3 billion, and that therefore the license would be put up for re-auction on more favorable and more negotiable terms. Some even suggest that the FCC, unwittingly or deliberately, assisted that strategy by imposing draconian rules. The FCC, on the other hand, has joined those who speculate that actions by Cyren Call, acting on behalf of public safety, improperly scared away potential investors. As reported by the press, FCC Chairman Kevin Martin announced at a March 20 briefing that he would ask the FCC's Inspector General to probe allegations of wrongdoing by Cyren Call.[114]

Scenarios for Sharing

Many of the discussions about the merits of sharing a network that serves both public safety and commercial markets have assumed that the commercial users will be consumers, such as teenagers with an interest in downloading videos to a mobile device. Consumers are, however, only one category of potential customer for a shared network. RACOM, for example, operates a private network geared to public safety use. Operating in five states, but primarily serving communities in Iowa, the company serves public safety agencies, 911 call centers, utility companies, private contractors, industrial plants and other commercial users.[115] Access to a nationwide network with the security features and robustness that will be required for public safety opens the possibility of appealing to many types of non-consumer, commercial customers. Successful management of the public-private network will include the

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[114] "Verizon, AT&T Account for Most 700MHz Bids," Communications Daily, March 21, 2008.

[115] See [http://www.racom.com/companyinfo.htm]. Viewed January 17, 2008. RACOM is part of the team assembled by Cyren Call to advise the Public Safety Spectrum Trust Corporation.

ability to attract and serve a variety of customers whose different needs (peak load, speed, encryption, etc.) can be stacked to get maximum utility. For example, the sporadic needs of a volunteer firefighter brigade might be matched with the predictable flow of a financial institution downloading non-time-critical financial records.

Congressional Oversight

In the *Second Report and Order*, the FCC has assigned itself the role of champion and protector for public safety interests, nationwide emergency communications, and interoperable networks. Under the umbrella of the Communications Act, it will undertake to monitor and regulate the actions of the Public Safety Broadband Licensee and the companies formed to manage the obligations of the D Block license holder. Congressional oversight of the public-private partnership therefore is placed squarely within the jurisdiction of the committees dealing with telecommunications.[116]

Governance through Regulation

In extending the scope of its authority to write service rules for auctions,[117] the FCC has made a commitment to oversee and adjudicate the operation of a network that, when completed, could have an asset value in the tens of billions of dollars. A large part of that asset will be under the control of the Public Safety Broadband Licensee, which will be governed by its Board of Directors in accordance with FCC regulations. Of the fifteen voting members of the board, four are appointed directly by the FCC. In its plans for oversight of the public-private partnership, the FCC has announced its intention of enforcing existing rules or creating new rules as circumstances warrant in the future. Measures to enforce the rules include litigation, revocation of license, or other means that might be supported by a reading of the Communications Act.[118] The role of Congress, in accepting this arrangement, will be to provide guidance to the FCC commissioners through the various means available to it.

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[116] Senate, Committee on Commerce, Science, and Transportation; House of Representatives, Committee on Energy and Commerce.

[117] The Balanced Budget Act of 1997 gives the FCC authority to conduct auctions, set performance requirements, and evaluate the qualifications of licensees [47 U.S.C. § 309 (j), especially, (3), (4) and (5)].

[118] The FCC seems to presume private equity or hedge fund ownership of the D Block companies as it does not mention how it would use the Communications Act to protect the interests of shareholders in a publicly traded company.

Governance by a Federal Corporation

Congress has the option to consider chartering a federal government corporation, a quasi-governmental organization, or other legal entity.[119] This entity could manage the public safety network as an equal to its commercial partner. It could be given powers that include negotiating agreements for sharing, building and managing its share of the network, collecting fees from users, and acquiring spectrum, as appropriate. This is essentially the role that, currently, are among those to be assigned by FCC service rules to the companies that the commercial license holder is required to create.

Instead of relying on its commercial partner for funds, a federal corporation could borrow from the Treasury as well as raising funds through bonds and other financial instruments, which would be repaid from the revenue stream of service fees. Such an entity could, if needed, buy out its private sector partner if it defaulted on its obligations. Its favored access to financial markets could also secure funding even if a change in market dynamics leads to a reduction in investment capital flows. It would, to use the FCC's term, be bankruptcy remote. Benefits of a federal government corporation could be weighed against disadvantages such as financial demands on the U.S. Treasury if the federal government is obliged to honor the corporation's debt obligations, or concerns about the impact of federal participation in commercial wireless markets.

Legislating a charter for a federal government corporation or similar entity could give Congress new opportunities for oversight. Typically, oversight is undertaken by committees with jurisdiction over the type of activity performed by the corporation. Jurisdiction of the Tennessee Valley Authority, for example, is shared between the Senate Committee on Environment and Public Works and the Subcommittee on Water Resources and Environment of the Committee on Transportation and Infrastructure in the House of Representatives. Joint oversight of a governmental corporate entity could provide a mechanism for coordinating the statutory obligation of the Department of Homeland Security to provide support for emergency communications with the FCC's responsibility to manage the spectrum used by public safety.

Currently, the FCC is using its regulatory authority over spectrum use and auctions to take action in an area (improvement to public safety communications) that Congress assigned to the Department of Homeland Security (DHS). In Title VI of the Homeland Security Appropriations Act, 2007 (P.L. 109-295), Subtitle D — the 21st Century Emergency Communications Act of 2006 — Congress created an Office of Emergency Communications and the position of Director, reporting to the Assistant Secretary for Cybersecurity and Communications, to oversee the planning of a national capability to support communications for public safety and others in the

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[119] Several CRS reports discuss federal government corporations and quasi-governmental organizations, including CRS Report RL30365, *Federal Government Corporations: An Overview*, and CRS Report RL30533, *The Quasi Government: Hybrid Organizations with Both Government and Private Sector Legal Charters*, both by Kevin Kosar.

emergency response community.[120] In the law, Congress specified that, in reviewing interoperable emergency communications plans, the Director of the Office of Emergency Communications must exclude the review of spectrum allocation and management.[121] Additional provisions for the management of a public safety network were included in the Implementing Recommendations of the 9/11 Commission Act of 2007 (P.L. 110-53).

Conclusion

For the last decade, the primary method by which the Federal Communications Commission (FCC) has assigned access to radio spectrum has been through the auctioning of licenses for specific frequencies in designated geographical areas. Previously, some licenses for early cell phone networks were distributed at modest cost to individual purchasers — many of them selected through lotteries — who then sold the licenses, which were often resold at high prices to large wireless companies.[122] The earlier practice of assigning licenses to qualified operators based on merit had worked acceptably when the licenses were primarily for radio and television. However, this system broke down as technology and consumer demand created a boom in cell phone use.[123] Congress legislated competitive bidding for licenses partly in response to changes in the nature of the cell phone industry. No similar mechanism was devised in response to the changing needs of public safety communications.

Some argue that public safety should be required to pay for their spectrum licenses. The danger in this approach is that agencies might buy only what they need for day-to-day operations. The extra capacity that is wasted most of the time is, in a crisis, never sufficient. Losing that cushion of communications operability would be folly from the perspective of national, state and regional policies for emergency preparedness and response. Yet, without incentives, local responders would be reluctant, and possibly unable, to pay for extra frequencies for emergencies. A volunteer fire department, for example, where the members are possibly already paying for their own radios, can not reasonably be asked to subsidize spectrum assets that would primarily be used in a county or regional disaster. One solution to this dilemma — how to maximize market efficiency and also meet important policy goals for public safety and homeland security — is a public-private partnership that both maximizes the value of public safety spectrum licenses and also provides access to additional capacity when needed.

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[120] P.L. 109-295, Title VI, Sec. 671(b) ‘Title XVIII, ‘Sec. 1801 ‘(a) and ‘(b).

[121] P.L. 109-295, Sec. 671, “Sec. 1801 “(c) “(12).

[122] The distribution of licenses for cell phone networks from the early days of the technology until the introduction of auctions is described in *Wireless Nation: The Frenzied Launch of the Cellular Revolution in America*, by James B. Murray, Jr. Perseus Press, 2001, 2002.

[123] There were over 245 million cell phone subscribers in October 2007; statistic updated regularly at [http://www.ctia.org/].

Market Mechanisms and Regulated Monopolies[124]

The winning bidder of the spectrum license designated for sharing with public safety users will acquire not only the right to build a network but also the exclusive right to serve a captive market of first responders. The value of a near-guaranteed subscriber base and a predictable cash flow of subscriber fees is one of the attributes of a network shared with public safety that could attract the attention of investors, especially private equity groups seeking high returns over the long-term.[125] A market-driven solution, relying on private investment, is therefore seen by many as a viable solution for funding part of a public safety network.

However, several elements of competitive market structures are missing from the public-private partnership. One missing element is competition. There are some examples of privately-owned networks in the United States that serve public safety, such as RACOM, mentioned above, but they are local in nature. At present there are no policy incentives — in fact, there are actual disincentives — to create a national network using existing public safety licenses. Given existing infrastructure and technology, creating such a network could be a Herculean, maybe even impossible, task, but FCC policy precludes many potentially viable solutions. It has made an exception for the 700 MHz network, but otherwise the FCC prohibits public safety users from sharing spectrum assignments with other users unless they are also public safety agencies. To cite another example of barriers to competitive activity, in some cases state laws prohibit utilities from sharing their networks with public safety users, even though there are a number of successful sharing arrangements in operation around the country. Also, many public agencies and municipal corporations are precluded from buying spectrum at auction by rigorous state and local rules for funding. These are some examples of policies that constrain opportunities for competition.

With the public-private partnership, the FCC is creating a form of regulated monopoly. At the same time, it is pursuing policies that quash the potential for the development of a competitor to the public-private network it is helping to incubate. Frontline's proposal for a policy of "no profit, no loss," therefore, can be seen as a response to the possibility of monopoly profits. In classic economic models of supply and demand, a monopoly profit represents the financial advantage accruing to a single supplier that has the ability to set prices based solely on demand.

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[124] Among recent articles on public safety and competition that discuss alternative policy approaches, including those used here as examples, are: *Sending Out an S.O.S.: Public Safety Communications Interoperability as a Collective Action Problem*, by Jerry Brito; *Fundamental Reform in Public Safety Communications Policy*, by Jon M. Peha; and *Communicating During Emergencies: Toward Interoperability and Effective Information Management*, by Philip J. Weiser. All appeared in the March 2007 edition of the Federal Communications Bar Journal, Indiana University School of Law-Bloomington and the Federal Communications Bar Association, Vol. 59, No. 3.

[125] Statement by Morgan O'Brien, Cyren Call briefing for CRS, April 3, 2007. Public safety has been referred to also as an "anchor tenant." (For example, statement by Dr. Stagg Newman, Chief Technology Office, Frontline Wireless, in a presentation at WCA 2007, Washington, DC, June 14, 2007.)

The role of federal (and state and local) funds as part of the business model for a shared network provides another question mark about the extent to which free market conditions will prevail. There have been statements that the partnership will seek federal funding for radios, demonstration projects, development costs for interoperable solutions, and other needs. Pricing agreements have yet to be negotiated but various statements from Cyren Call, as manager of the public safety licensee's interest, have urged that a reimbursement plan (possibly through FEMA) be put in place so that the D Block license holder will be compensated when it turns over the use of its frequencies in response to a catastrophic event. It could be preferable, from the perspective of public policy, that such a reimbursement plan — if it is created — specifically include other existing or future sharing arrangements.

Another policy option could include funding research and development for new, spectrum-efficient technologies, such as cognitive radio. New technologies can create new markets and opportunities for new entrants.

While supporting and pursuing the worthy goal of a national network that seeks to address public safety communications needs in an optimal manner, policy makers could consider additional policy tools for achieving this goal. These policy initiatives need not address specific concerns with the public-private partnership now being put in place but could expand the debate to consider new possibilities. Policies that encourage competition for the public safety communications consumer could enable a more efficient market. A more efficient market could counterbalance the monopolistic tendencies of a sole provider for a nationwide interoperable network that must otherwise be held in check through regulation.